World War II History

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A Marine "by Inclination and by Training": A Virginia Lawyer Goes to War

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Abstract: *My father, Roger G. B. Broome, died on 18 January 1945 when I was four months old. This paper examines how and why a colorblind, malaria-ridden, flat-footed young lawyer, and father of two, forced his way into combat in the South Pacific. It begins with his struggle for a commission in the US Marine Corps followed by his long campaign to leave staff jobs and get a fighting command. His stubborn determination and pursuit of glory ended on the bloody battlefields of Saipan where he earned two purple hearts, a Navy Cross, and a lingering death from wounds. This paper is based on my father's official Marine Corps record, on his correspondence, on interviews with Marines, on published accounts and memoirs, on official histories of the Saipan campaign (where he is mentioned), and on documents from the National Archives and the USMC Military History Center.*

Introduction

On 18 January 1945, my father, Major Roger G. B. Broome, USMCR, died in Bethesda Naval Hospital from the effects of wounds received on Saipan six months earlier. I, the "goodbye baby" he never got a chance to know, grew up to become a naval historian.[1] But the ache left by the absence of a father, whose life ended just as mine began, never disappeared. And when, by an unexpected turn of fate, I met Marines who had served with my father, I focused the research skills I had honed studying naval technology to the search for my lost hero.

Using the extensive collection of my father's vivid, colorful, and articulate letters, the testimony of surviving Leathernecks who served with him, official records and other sources, I reconstructed the life of a University of Virginia Law School graduate who refused to let colorblindness stop him from obtaining a commission in the US Marine Corps. I was determined to understand why my father, who did not have to face combat, chose to do so anyway. In the course of this search I also had to come to terms with the brutality of the fighting in the Central Pacific.

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[1] The reference to "goodbye babies" comes from, among other sources, Robert C. Sickels, *The 1940s* (Westport, CT: Greenwood Press, 2004), 21.

Military historians, many prone to celebrate the "Greatest Generation," seldom examine the heartbreak that remains long after the guns fall silent.

For years before the United States entered World War II my father had seen the conflict coming and was determined to get into the fight. From 1938 to 1941 he pleaded, politicked, and provoked his way to a medical waiver for his defective vision. Once commissioned, and on the outbreak of war, he spent five months in Brazil with the 17th Provisional Company where he came down with recurring malaria.[2] On his return to the States, my father's superiors decided to tap into his education by sending him to staff school at Newport, Rhode Island.[3]

Upon completion of the course, and in spite of the medical problems that continued to punctuate his military career, he struggled to move out of the staff jobs he was assigned. His efforts to get into the fight for which he was convinced he was best suited both "by inclination and by training" continued, even after his son was born in April 1943.

Fatherhood did not diminish his ardor to engage the enemy directly.

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[2] Gordon L. Rottman, *U.S. Marine Corps World War II Order of Battle: Ground and Air Units in the Pacific War, 1939-1945* (Westport, CT: Greenwood Press, 2002)189; Maj. General Commandant to CO, 17th Provisional Co., 15 Dec. 1941, file 17th Provisional Co., box 50, Record Group 127 (RG127), National Archives, College Park, MD. (NA2); Roger G. B. Broome, Chronological Record of Service, Official Military Personnel File, Headquarters Marine Corps: Official Miscellaneous Correspondence and Orders Jacket (hereafter RGBB/OMPF), National Personnel Records, National Archives and Records Administration, St. Louis, MO (henceforth NPR RGBB/OMPF, NPR. By the time the 17th Provisional Company left Brazil in Apr. 1942 the incidence of malaria in the company was almost one hundred percent.

[3] Commanding General to Capt. RGBB, Orders, 29 July, 1943, Official Records 2, RGBB/OMPF, NPR; Fitness Report of 4 Aug. 1943, signed by Brig. Gen. J. L. Underhill, Fitness Reports, RGBB/OMPF, NPR. From Newport, Broome was assigned as Assistant D-2 (intelligence) to the Headquarters Company, East Coast Echelon of the newly formed 4th Marine Division at Camp Lejeune. "I was promised that this D-2 job was temporary" he wrote his wife on 15 June, "and that I would get a line job with troops. Very few people are here yet and almost no troops. The Adjutant thinks it will be four or five months before we move out." RGBB to JLB, 15 Jun. 1943.


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During the invasion of Kwajalein in the Marshall Islands in January 1944 my father served reluctantly as aide to General Harry Schmidt commanding the 4th Marine Division.[4]

But his fixation on the Marine Corps warrior ethos compelled him to risk his life by proving himself on the battlefield. After the Kwajalein campaign, with the 4th Division back on Maui on leave, my father's persistent appeal for a combat command was finally successful. On 15 June 1944 he went ashore at the head of the Regimental Weapons Company, 24th Marines, on their next campaign, the invasion of Saipan in the Marianas.[5]

Saipan's capture would provide America with submarine bases close to Japanese supply lines as well as providing a springboard for amphibious operations against the next objectives: Iwo Jima and Okinawa. Most importantly, possession of the airfields on Saipan, on neighboring Tinian, and on Guam, would put American bombers within striking distance of the Japanese Home Islands in preparation for their invasion. Tokyo was well aware of Saipan's strategic importance and poured troops and resources into the island, fortifying and strengthening defensive positions.

"Tomorrow morning we go in after our enemy," my father had written the night before the attack. "It will be a heavy blow for him and will go a very long way

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[4] Chronological Record of Service, RGBB/OMPF, NPR; Fitness Reports, RGBB/OMPF, NPR.

[5] For Saipan and other Pacific campaigns see, among others: Capt. John C. Chapin, *Breaching the Marianas: The Battle for Saipan*, Marines in World War II Commemorative Series (Washington, D.C.: Marine Corps Historical Center, 1994); Col. Joseph H. Alexander USMC, "Saipan's Bloody Legacy," *Leatherneck* (June 1994); Maj. Carl W. Hoffman, Saipan: *The Beginning of the End* (Historical Division Headquarters U.S. Marine Corps, 1950); Edwin Howard Simmons, *The United States Marines: A History*, 3rd ed. (Annapolis, MD: Naval Institute Press, 1998); J. Robert Moskin, *The U. S. Marine Corps Story* rev.ed. (New York: McGraw-Hill Book Company, 1987); Robert Debs Heinl, Jr., *Soldiers of the Sea: The United States Marine Corps, 1775-1960* (Annapolis, MD: United States Naval Institute, 1962); Allan R. Millett, *Semper Fidelis: The History of the United States Marine Corps*, revised and expanded ed. (New York: The Free Press, 1991); Albert A. Nofi, *Marine Corps Book of Lists: A Definitive Compendium of Marine Corps Facts, Feats and Traditions* (Conshohocken, PA: Combined Publishing, 1997); Jeter A. Isely and Philip A. Crowl, *The U. S. Marines and Amphibious War* (Princeton: Princeton University Press, 1951); Col. Joseph H. Alexander, *Utmost Savagery: The Three Days of Tarawa* (Annapolis, MD: Naval Institute Press, 1995) and Alexander, *Storm Landings: Forcible Seaborne Assaults in the Pacific War* (Annapolis, MD: Naval Institute Press, 1996); S.E. Smith, ed., *The United States Marine Corps in World War II* (New York: Random House, 1969); George B. Clark, *The Six marine Divisions in the Pacific* (Jefferson, NC: McFarland & Company, Inc., 2006); Harold J. Goldberg, *D-Day in the Pacific: The Battle of Saipan* (Bloomington and Indianapolis: Indian University Press, 2007).

towards finishing the war. That is what we are all striving for so hard, and now at last we have a real chance to take a big step forward."[6]

The landing was bitterly contested. Control of the ridge line about a mile inland and parallel to the beach, and especially of Mount Tapochau lying in the center of the island with its view of the entire scene, gave the Japanese a commanding position which they used effectively to direct their fire down on the struggling American forces. The marines pushed on through the hell of exploding shells, wrecked landing craft, blasted pillboxes and the dead and dying. By nightfall, after heavy fighting in the vicinity of Charan Kanoa, the 4th Division, having taken the town, dug in for the night. The division had already suffered eight hundred casualties, the toll rising to two thousand after only twenty-four hours of battle.[7]

The next day, D+1, the 24th Regiment held a beachhead at least 1,000 yards deep but they were still easy targets stuck on the plain and with poor observation of the enemy. Cover was scarce and later that day the 1st Battalion commander, was killed almost instantly when a close round sent a shell fragment into his head. Pfc. Ralph Teague of my father's Regimental Weapons Company remembers "dead, wounded and killings all around. Shelling was heavy and several of my friends were killed. One got his head shot off."[8] Between 1999 and 2000, twenty-three of my father's men responded to a questionnaire I sent them. Their recollections proved invaluable in reconstructing what my father went through on Saipan, particularly as the intensity of the fighting meant that he himself only had time to write once.

For the next two weeks the Regimental Weapons Company, supporting the 24th Marines, fought their way the entire length of the island.[9] Speaking of my father, Pfc. George Foster recalled that "The major was a leader who would go first rather than an officer who would direct from the rear." Foster remembered when "Maj.

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[6] Roger G. B. Broome (RGBB), my father, to Jane Louise Broome (JLB), my mother, 14 Jun. 1944. Most personal correspondence cited in this paper is between RGBB and JLB and is in my possession. There are over two hundred and fifty letters from my father and almost as many from my mother.

[7] All statistics on the Saipan campaign in this paper are from Goldberg, *D-Day in the Pacific*, and Clark, *The Six Marine Divisions in the Pacific*.

[8] Private Teague noted his experiences on Saipan in his response to my questionnaire as did Sergeant Herndon, Pfc. Alonso Adamz, Pfc. George Foster, Cpl. Jack Langsdorf, Cpl. Clifford Huehn, Sgt. Walter Stamets, Sgt. Francis Dolan, and Pfc. William Crane.

[9] Simmons, *United States Marines*, 156; Moskin, Marine Corps Story, 557; Smith, *United States Marine Corps*, 598-603.

Broome arranged for RW [Regimental Weapons] to fall back from the front and get a much needed bath in a stream."[10] According to Foster this caused some friction with the regimental commander, Col. Franklin A. Hart, even though, reports had already reached regimental headquarters that "men are in poor shape worn out and passing out from heat exhaustion."[11] Cpl. A. J. "Jack" Langsdorf, who won two bronze stars for his extraordinary efforts on Saipan, knew my father better than most as he was always just a step behind him carrying a radio so that he could be in close touch with all units.

Roger "did what he said he'd do," recalled Langsdorf. "He looked out for his troops sometimes by ignoring orders from regimental headquarters!" Langsdorf was on the switchboard one evening, and as he later unabashedly admitted, "one of the advantages of the telephone job is you can listen in. Not supposed to, but we all did. A call came in for the major from Col. Hart, and I listened:"

> "Roger," said Col. Hart, "I need some help from your people to guard my Command Post tonight. I want you to send six men to my company HQ for guard duty." There was a slight pause. Then the Major replied, "Colonel, all my men have spent the full day in the line. Your people have been in their safe CP. They should be in good shape for your night duty." The Colonel replied he wanted front line experience at his CP. The Major replied, "Colonel, all my people have spent the full day. They will also be doing their stint on watch here tonight. I have no one to send to you." Colonel Hart said, "That's an order." The Major replied, "I'm a reserve and all my men are reserves and they are doing their daily duty. You find your guard in your own company." We heard no more from Colonel Hart that night.[12]

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[10] Author's questionnaire, George Leo Foster, Huntsville, NC. The bath story is corroborated by writer's questionnaire and interview with former Plt. Sgt. Vincent Basile, Stoneham, MA, 21 Sept. 1999. "He [Broome] was up front;" adds Cpl. Clifford Gale Huehn, of Harris, IA, "wouldn't send men where he wouldn't go." Cpl. Alfonso Constantine Adams of Albany, NY remembers Broome as "a Marine's Marine respected by all."

[11] Unit Report 18 June, file A26-3, 24th Mar. Regt. Unit Reports, box 336, RG127, NA2. Small unit reports written in the field and describing the actions of the 24th Marines on Saipan, sometimes almost minute by minute, are to be found in box 336, RG127, NA2. The most useful of these, forwarded to Headquarters in May 1945, were edited only to substitute place and unit names for the code names used at the time. Also invaluable are the "Incidents, messages, orders, etc." found in file A26-4, box 336, which record messages sent among all the units of the regiment. See also box 91, Record of Ground Combat Units 22-25 Marines, and boxes 341, 342, 343 , 344, Geographic Files relating to Saipan and Tinian.

[12] Author's questionnaire, A. J. Langsdorf, St. Louis, MO.

Regimental headquarters was not the only group to experience the major's wrath. "On Saipan we were constantly getting artillery rounds that appeared to be falling short," recalls Cpl. Clifford G. Huehn. "Major Broome called artillery several times bawling them out. One day when we got several rounds short he called artillery and said if they didn't stop hitting us we were coming back and have a shoot out with them."[13] Apparently, this endeared my father even more to his men. So, too, did the nickname they soon acquired 'Broome's Mechanized Raiders.'[14]

The fighting was almost continuous as the marines dislodged their implacable foe from one cane field after another, from ravine after ravine and from cave after cave. Lack of sleep and heavy casualties placed additional burdens on those who were left. Coupled with the stultifying heat and humidity the result was widespread physical exhaustion. Leaving the capture of Aslito Airfield to the army, the marines swept inland in the face of strong artillery fire and tank attacks. Skirting the marshy ground around small, shallow, Lake Susupe, they smashed their way through to the shores of Magicienne Bay on the eastern side of the island, splitting the Japanese forces in two.

The following day the division shifted its direction of attack from east to north, pushing up the coast with their right flank on Magicienne Bay and their left some hundreds of yards from the lake. One of the most difficult aspects of the Saipan campaign for many marines was the presence, encountered for the first time in the Pacific war, of large numbers of civilians, native islanders as well as Japanese. Pfc. William Crane remembered heading into a clearing, about 400 yards across, behind tanks and half tracks. When one of the tanks fired a shell at a couple of small buildings at the edge of the trees, a bunch of children and four women came running out. They waited, cowering, until Crane ran up and when he saw they were not Japanese but islanders the young Texan surprised them even more by reassuring them in Spanish.[15]

On 21 June, after almost a week of extreme exertion, my father finally had a moment to scrawl a quick note to his wife. "I'm alive and well," he wrote, "and

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[13] Author's questionnaire, Clifford G. Heuhn, Harris, IA. Typical of such reports was that from the 2nd battalion, 19th June noting "Numerous casualties from own arty and mortar fire." Incidents, Message, Orders, etc., file A26-4, 24th Mar. Regt., Unit R-1 Journal 15 June-13 July '44, box 336, RG127, NA2.

[14] Letter from Sgt. William O. Koontz to Mrs. Jane Broome, 28 Mar. 1945. My mother received many such letters from the men of my father's company after his death.

[15] Author's interview with William A. Crane, 23 Oct. 1997, San Antonio, TX.

happy to be so. You tell our boy that his daddy is too mean to get hurt. Hope and pray that things are going all right with you sweetheart. Your picture is with me always." Still pushing north, my father was slightly wounded on 27 June, earning a Purple Heart.[16] Several days later, according to his citation, he "organized and coordinated an attack with infantry units to bring up his 37-mm. gun platoon, outflank a hostile position and capture it."[17]

Sgt. James L. Herndon characterized his sense of Saipan as "American marines, wounded and bandaged, coming off the front line; dead Japanese; the stench of death in the air; destroyed aircraft; the ever-present flies; having to eat with mosquito netting covering our bodies; sleeping on cold, wet ground."

By the end of June, the 4th Division had suffered 4,347 casualties, close to a quarter of its strength, but the struggle continued. Some days later, according to his citation, my father,

> …acting on his own initiative.…[he] personally took a 75-mm. self-propelled gun and, bringing effective fire to bear on Japanese holed up in inaccessible caves, successfully attacked and enabled the infantry to advance. Daring and courageous in his determination to close with the enemy at every opportunity, Major Broome carried out many hazardous reconnaissance missions under every type of enemy fire and, by his brilliant combat tactics and indomitable fighting spirit, aided essentially in the success achieved by our forces.[18]

By D+23 8 July the day before organized resistance on Saipan ended, the 4th Marine Division was winning the "Marpi Point Marathon." This was a race for the rocky northern tip of the island, soon to become infamous for mass suicides. On that day the 2nd and 24th Marines were to push across the plain on the northeastern edge of the island skirting the dominating heights of Mt. Marpi and heading for the sea. The Marine Corps's account of this action notes that in order to allow the 1st Battalion, 24th Marines to move ahead with all available men, Major Broome

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[16] Citation signed by Maj. Gen. Julian C. Smith.

[17] Citation signed by Lt. Gen. Holland M. Smith, in possession of author; USMC Temporary Citation signed by Lt. Gen. H.M. Smith awarding Maj. Roger G.B. Broome the Navy Cross. Official copy in possession of the writer. The wording of the two citations differs, but not significantly. See also Unit Report 1812 hrs., 6 July 1944, file A26-4, 24th Mar. Regt. Unit R-1 Journal, 15 June 13 July 1944, box 336, RG127, NA2.

[18] Citation signed by Lt. Gen. Holland M. Smith.

"volunteered to assume, with two 37mm guns and a few riflemen, a position from which to protect the right flank as the unit swept to the coast."[19] The account continues that once the infantry had departed

> …Broome's isolated position was rushed by a numerically superior group of Japanese. During the skirmish, the 37mm crews fired their pieces at ranges of 10 to 20 yards, taking up the brief slack between rounds by throwing grenades and firing small arms. For a time the issue was in doubt, but the Marines held. This exceptional employment of a weapons unit was necessary and effective in this situation.[20]

It was shortly after this action that my father, his executive officer Captain Loreen Nelson, and Pfc. Crane were hit by machine gun fire in a firefight with a number of Japanese dug into a cave.[21] The next day, 9 July, the island was declared secure.

The cost of victory on Saipan was high: there were some 16,000 total American casualties including dead, wounded and missing. This was close to the strength of an entire marine division. The 24th Marines lost 1,389 men killed or wounded, more than either of the other two regiments of the 4th Division, and their loss of 75 officers was also the highest. Within five months, however, squadrons of B-29 bombers took off from the Marianas to bomb Tokyo. Although the end was more than a year away, the capture of Saipan was a vital turning point in the war. Looking back, Gen. Holland Smith, the Task Force commander, proclaimed Saipan "the

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[19] Maj. Carl W. Hoffman, *Saipan: The Beginning of the End*, 239. Curiously, no mention is made of the whereabouts of the 37mm platoon commander.

[20] Hoffman, *Saipan*, 240.

[21] R.A. Tenelly, "Major's Rescue," 27 September 1944. This is a typewritten account in the writer's possession bearing the identification "#312" and written by Staff Sergeant Dick Tenelly of Washington, D.C., a Marine Corps combat correspondent, formerly of the *Washington Daily News*, (hereafter "Major's Rescue"). Tenelly's account, apparently, was based largely on information from Gunnery Sgt. William O. Koontz, who came on the scene after the action had begun. This account is corroborated by writer's interview with Pfc Crane who was with Maj. Broome and Capt. Nelson and was also severely wounded. See Kathleen Broome Williams, "That Wasn't Bravery, Hell, I was Scared to Death: The Story of Marine Pfc. William A. Crane," *Naval History 15*, No.5 (October 2001). See also, Leckie, *Strong Men Armed*, 334-36, for a strikingly similar ambush of Lt. Col. Justice Chambers, 25th Marines, 4th Div. (Medal of Honor winner on Iwo Jima), and Evans Carlson. Even experienced fighters were not immune from surprise, illustrating the difficulties faced by inexperienced leaders such as Roger Broome. For a similar account in which Lt. Col. Rathvon "Tommy" Tompkins "…risked his life to make a hasty reconnaissance of the front lines," and was awarded the Navy Cross for the subsequent successful action see: Goldberg, *D-Day in the Pacific*, 108.

decisive battle of the Pacific offensive." The Japanese may well have agreed. Radio Tokyo marked the loss of the island by declaring a national week of mourning.

My father was extricated from the battlefield and was flown to U.S. Naval Hospital #10 in Hawaii, overlooking Pearl Harbor, where he remained until September.

A medical report explains the nature of his injuries:

> He had been shot through the left hip by an enemy rifle bullet [that shattered the hip and femur and paralyzed his bladder and rectum]. Examination showed him to be critically ill…with a small wound of entrance over the sacrum, and a very large, foul, destructive wound of exit on the left thigh. On 30 July…a guillotine amputation was done at the hip. After a stormy convalescence he is making a gradual recovery. Today, he is able to travel. Because he is incontinent, he should travel via air, with an escort.[22]

[22] Record of Service, RGBB/OMPF, NPR; Report of Medical Survey, US Naval Hosp. Aiea Heights, T.H., 5 Sept. 1944, Official Records 2, RGBB/OMPF, NPR. Additional details are from the Report of Death, Bureau of Medicine and Surgery, Navy Department, 15 Feb. 1945, Official Records 2, RGBB/OMPF, NPR.

From Hawaii my father was flown to Bethesda Naval Hospital in Maryland, arriving on 20 September, the day before I was born in Virginia, a hundred or so miles away.[23] He clung to life for another four months in increasing pain, finally succumbing to complications from his wounds. He died on 18 January 1945.[24]

The war left some 183,000 American children without fathers.[25] Some fathers did not have choices about their military service but many, like my father, did. And they served willingly. "My father did his honor thing," one war orphan observed looking back. "He didn't have to go. You know how it is to hear that? My father could have kept out of combat."[26] Although my father's letters make clear how much he cared for my mother and for my brother and me, it was not enough to stop him from fighting the way he wanted to: in the front lines.

In telling this story I have had to take the measure of a lost life and the price exacted by war. Although two Purple Hearts and a Navy Cross for valor are testament to my father's warrior spirit, I have had to let go of the one-dimensional

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[23] RGBB/OMPF, Official Records 2, Dispatch from NAVHOSP TREAUREISLAND to NATIONAL NAVMEDCEN BETHESDA, 21 Sep. 1944.

[24] USNAVHOSP Bethesda to SECNAV, 18 Jan. 1945, Official Records 2, RGBB/OMPF, NPR.

[25] The 183,000 war orphans statistic is from Jane Mersky Leder, *Thanks for the Memories: Love, Sex and World War II* (Dulles: Potomac Books, 2009), 140. Other sources give the same number.

[26] Calvin L. Christman, ed., Lost in the Victory (Denton, TX: University of North Texas Press, 1998), 104.

war hero of my childish imagination. Instead, I have come to embrace the intelligent, opinionated, complex, and sometimes difficult man I found.

I still do not understand everything about why my father knew he had to fight. But I have found what I was looking for. The words of two of my father's very dear friends help explain. "I shall always remember Roger's courage," John Reilly wrote to my mother when he heard of my father's death:

> I believe it's one of the most glorious things I have ever seen. I am no witness to his physical courage to any large degree; of that there is abundant evidence. But of his moral courage during his last six months I saw enough to make me know that he was of the stuff of which true heroes are made. This can be but slight consolation to you now; but what better or finer thing can you have to tell your children of their father in the days to come?

"His was no empty gesture," wrote Louisa Morton, "he knew exactly what he was fighting for."[27] In the end, that is enough for me.

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She has just completed a memoir about her father, a World War II Marine, forthcoming from the Naval Institute Press in 2013, and is presently at work on a new naval technology project.

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[27] These two quotes are from among the many letters my mother received after my father's death, all of which are now in my possession.

Beyond the Water's Edge: Investigating Underwater Wrecks from the Battle of Saipan

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Abstract: *The importance of investigating WWII wrecks in the Pacific cannot be overshadowed by the more readily visible and identifiable remains of war on land. The waters surrounding the Pacific Islands, in particular the Marianas, are littered with clues about WWII from individual military acts to small-scale unit movements. Many of these sites are not susceptible to the same interference or development as sites on land. As a result they are better preserved and can provide more information to elucidate the history of the war. A project investigating shipwrecks, aircraft wrecks, and submerged vehicles from the Battle of Saipan has been underway for the past three years. The results of this archaeological and historical research suggest there is clear, tangible evidence of individual acts, unit movements and large-scale tactics hidden beneath the waters. This paper provides examples of what we can learn about the Battle of Saipan beyond the water's edge.*

Introduction

The importance of investigating underwater wrecks related to World War II (WWII) in the Pacific cannot be overshadowed by the more readily visible and identifiable remains of the war that exist on land. The lagoons and waters surrounding the Pacific Islands, and in particular the Marianas, are littered with clues about WWII, from individual military acts to small-scale unit movements. Many of these sites are not susceptible to the same interference or development as sites on land, and as a result, are better preserved and can provide more information to elucidate the history of the Battle of Saipan (1944).

A project to investigate and record shipwrecks, aircraft wrecks, and submerged assault vehicles from the Battle of Saipan has been underway for the past three years. Conducted by archaeologists from Flinders University (Adelaide, South Australia) and Ships of Exploration and Discovery Research, Inc., a non-profit organization in Corpus Christi, Texas, the project was partially funded through a United States (U.S.) National Park Service American Battlefield Protection grant. Research consisted of intensive survey and recording of over 25 underwater sites in Saipan's lagoon and the results of this archaeological and historical research suggest that there is clear, tangible evidence of individual acts, unit movements and

large-scale tactics hidden beneath the waters. This paper will provide examples of what we can learn about the Battle of Saipan beyond the water's edge.

Battlefield Seascapes

A seascape is more than just an extension of the landscape as a unit of study seascapes are about how sea and culture influence each other (Gosden and Pavlides 1994; McNiven 2003). It includes natural features such as lagoons, reefs, channels, and coral growth, as well as cultural features such as human-made channels, navigational beacons, shipping routes, and wrecks. Thus the battlefield seascape includes all of the natural and cultural features that relate to the specific context of a battle. Part of the project to investigate underwater archaeological sites associated with the Battle of Saipan included examining the seascape and landscape in a holistic way, considering both the natural and cultural features that influenced decisions from the top down to the individual, and in turn how they were manipulated for the specific purposes of winning the battle. The following is a brief description and appraisal of some of the features and actions identified in the seascape.

Figure 1 shows the distribution of sites investigated and identified in relation to the island and the landing beaches. Interestingly, most of the underwater sites are not located in the landing beach areas where one might expect them; instead they are in the deeper waters of the central portion of the lagoon. A lack of sites along the landing beaches may be the result of post-battle clean-up and development, as these are popular resort beaches and rusting hunks of metal would have been seen as both unsightly and dangerous. Nevertheless, the sites that have been identified in the area of the landing beaches are tanks and landing craft the very vehicles used in the invasion.

Further to the north is where many of the aircraft wrecks and shipwrecks are located. Given the location of the sea plane base north of the village of Garapan, it comes as no surprise that the remains of sea planes are found in the general vicinity. These include a Japanese Kawanishi H8K (code named "Emily") located just northwest of the sea plane ramps and a Japanese Aichi E13A (code named "Jake"), as well as a U.S. Martin PBM Mariner and a U.S. PB2Y Coronado located just to the west.

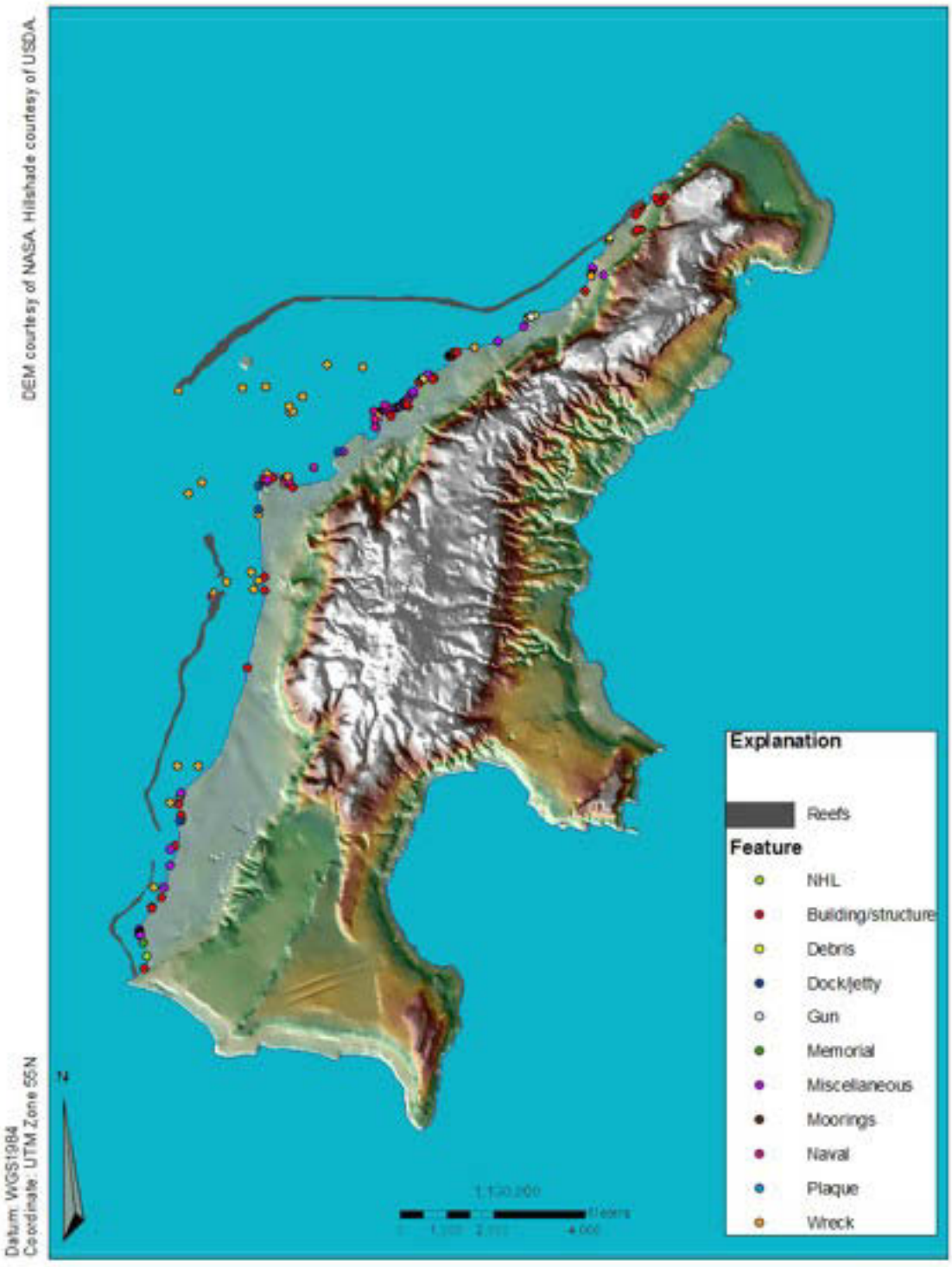

Figure 1 The distribution of archaeological sites investigated (Courtesy of Ships of Exploration and Discovery, Inc.; Map by Rachel Katz).

Aircraft wrecks are difficult to characterize particularly because they quite literally fall out of the sky and land where their terminal velocity takes them. For archeologists it is difficult to confirm the movements of an aircraft at the time of its loss so it is complicated to address its association. Unless a positive identification via serial numbers and corresponding historical documentation on its activities exist, the exact circumstances of an aircraft's mission can only be pieced together via archeological evidence. Such is the case with a TBM Avenger which lies inverted with its landing gear extended in 10 feet of water on the fringing reef (Figure 2). Very little of the original fabric remains due to the highly active environment in which it sits. Questions arise as to why it is on the reef and why its landing gear is engaged? Was it attempting a carrier landing just outside the reef when it lost engine control, ran out of fuel or was shot down?

Figure 2 TBM Avenger located on reef (Courtesy Ships of Exploration and Discovery, Inc.; Photo by Valeo Films).

In the case of the four sea planes (Aichi E13A, PBM Mariner, Kawanishi H8K and PB2Y Coronado), it can be said with near certainty that they were linked to the location of the sea plane ramps. A U.S. report (U.S. Air Force 1944:6) pertaining to a May 1944 aerial reconnaissance mission just prior to the battle reveals that several Aichi E13A and Kawanishi H8K were located at the sea plane base two of which are represented in the archaeological record. In addition to the four planes mentioned, the debris field in the water surrounding the sea plane base is significantly comprised of parts associated with sea planes.

Shipwrecks in the lagoon are equally telling about the battlefield seascape, the activities they were engaged in and the reasons for which they came to grief. The Japanese freighter (presumably *Shoan Maru*) and the possible Japanese auxiliary submarine chaser were both moored in the harbor and known to have been hit and disabled during pre-invasion air strikes. Archaeological investigation has revealed that the disarticulated condition and the locations of these shipwrecks corroborate these historical accounts.

The existence of several Japanese Daihatsu landing craft scattered in the waters just northwest of Garapan may in fact represent the remnants of a specific engagement. On 18 June 1944, Japanese forces attempted a counter-attack from the naval base at Tanapag Harbor. Japanese troops were loaded onto 35 barges and sent southward from Garapan toward the U.S. landing beaches. The U.S. Destroyer *Phelps*, with a contingent of landing craft gunboats and amphibian tractors intercepted this fleet, sinking 13 and deterring the rest (www.ibiblio.org/hyperwar/USN/USN-Chron/USN-Chron-1944.html). While this account describes barges, it is likely that they are referring to landing craft and that the landing craft identified during the archaeological survey may be those involved in the unsuccessful counter-attack.

The site of a LVT (A)-4 located near Garapan may also be linked to a discrete event or engagement. LVTs were called upon to deliver supplies and ammunition to the troops fighting on the front lines of Tanapag Plains by approaching from the water directly (Bartholomees 1948:8-13). They also evacuated casualties via water from the area of the attack (Bartholomees 1948:11-13). The location of the LVT (A)-4 in Tanapag Lagoon, near where the battle at Tanapag Plains occurred, may represent one of those vessels used in the support effort.

Alternatively, another skirmish that involved LVTs occurred on 13 July 1944, when U.S. forces staged a miniature amphibious landing on Mañagaha Island in Tanapag Lagoon (Bailey 1976:180). Marines from the 6th Marine Division attacked the island using five LVT (A)-4s, leading the way for an additional 25 LVTs (Bailey 1976:180). Thus the LVT (A)-4 documented during this project may have been involved in the battle for Mañagaha Island.

The mapping of the battlefield seascape can be a useful exercise as it allows researchers to more fully understand the events that occurred in the air and on land, as well as in the water. It completes the picture and provides additional

complimentary information about the use of the sea which played a crucial role in the War in the Pacific and particularly the Battle of Saipan. By looking at the complete set of sites within their landscape and seascape we can see patterns of activity as well as identify and explore discrete, isolated events.

Individual Acts and Unit Movements

Identifying the individual and small groups that are often not part of the bigger history, is an area where archaeology can make a serious contribution to the historical narrative. Often the individual is left out of government documents and can only be found in memoirs and diaries. However, archaeology provides a useful tool for identifying specific behaviors and sometimes even illuminates the mindset of individuals, thus allowing researchers to build a more nuanced understanding of the battlefield. One example of this can be seen in the archaeological investigation of a LVT (A)-4 site. Historical accounts relate LVT crews modified their vessels prior to combat in order to prolong their lives and the lives of their vehicles (Barker 2004:253; Bailey 1976:163-168). Because these vehicles and men were often the first line of invasion and therefore the subject of the most intense enemy fire, they had to be cautious and take steps to ensure their vehicles were capable of taking on such a task. Crews learned from previous battles in the Pacific what modifications would increase their chances of survival.

In Saipan, archaeological investigations of one LVT (A)-4 indicate that the crew did in fact modify their vessel in several ways (Arnold 2010). One example of this was the addition of sheets of steel boilerplate on the bow to reinforce and protect it from sharp coral and small caliber rounds. This information was gained through measuring the metal with calipers and comparing its thickness with manufacturing specification data. Another modification came in the form of a makeshift armor shield for the .50 caliber machine gun mount in the turret (Figure 3). This modification provided protection to the operator and ensured that his head was not exposed when delivering fire. Another firepower-related modification came with the addition of a .30 caliber coaxial machine gun to the area in front of the radio operator's seat. This allowed for an increase in frontal attack and suppressive fire during beach invasions. The addition of this machine gun and the other features appeared on later production models and is perhaps a direct result of the modifications made by LVT crews in Saipan. In fact, these modifications proved so successful that they were incorporated into a later LVT model which became known as the "Marianas Model" (Mesko 1993:30).

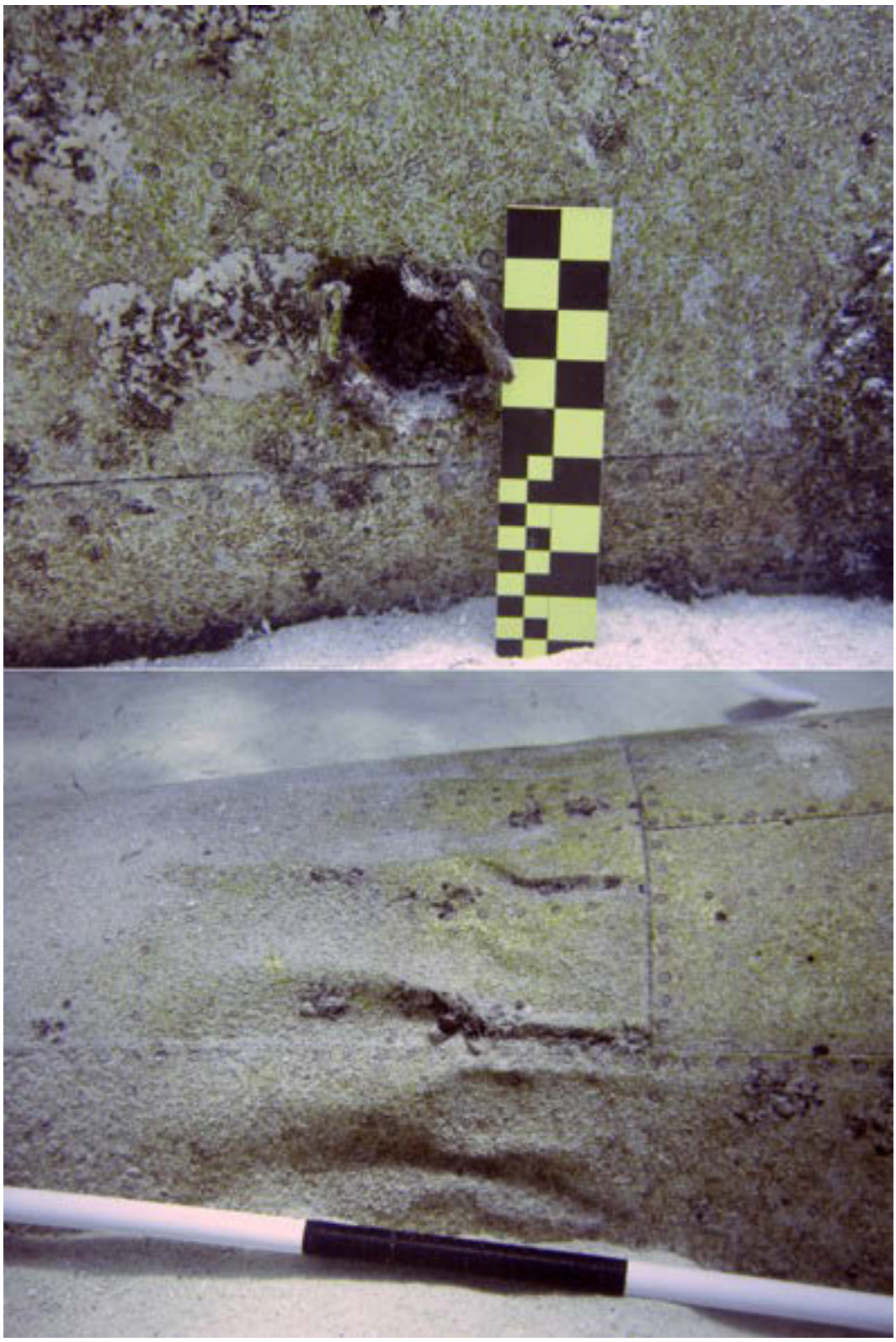

Figure 3 LVT (A)-4 showing the armor shield and .30 caliber machine gun mount (Courtesy Ships of Exploration and Discovery, Inc.; Photo by Mike Tripp).

Archaeology can also reveal information about discard behaviors. For example, the U.S. military established guidelines concerning what to do in the event that an LVT was no longer serviceable. The Army's technical manual for LVT (A)-4s outlines the proper steps for the evacuation of equipment and destruction of the vehicle to prevent enemy use (Department of the Army 1951:565-569). Through a careful examination of the vehicle and this manual, archaeologists can determine if individuals or units complied with the rules or otherwise. For instance, the manual states that during the process of disposal one should place a "3-pound charge against the right fuel tank between the engine and bulkhead" (Department of the Army 1951:568). While the bulkheads and support beams for the turret of the LVT (A)-4 might have collapsed due to natural factors, the possibility exists that these impacts are a result of the disassembling procedure outlined in the manual. This disposal method may have caused the bulkhead to collapse under the turret and resulted in the lateral supports giving way under the weight of the turret.

Further, the LVT turret is stripped of the Howitzer gun, sighting optics, transverse mechanics and firing controls. The removal of these items during the disposal process is explicitly stated in the manual; "All items of sighting and fire control equipment, including such items as periscopes, telescopes, and binoculars, are costly, difficult to replace, yet relatively light; hence, whenever practicable, they should be conserved and evacuated rather than destroyed" (Department of the Army 1951:565-569).

Other support for the disarming and disposal pattern includes the lack of equipment present in the engine compartment such as valve covers and cylinder heads which would need to be manually removed. This is further evidenced in the missing splashguards, as the fender assembly appears to have been cut in order to easily remove the splashguards on both sides. Another indication of disabling and discard are the presence of holes located in a weak point in the pontoon (i.e. near the step pockets). These holes may have been caused by placing explosives inside the pontoon or possibly by large caliber weapons. Again both of these methods are outlined in the disposal process of the manual (Department of the Army 1951).

It can be assumed that the large portions of missing deck are the result of salvage efforts rather than battlefield scars. A direct hit by enemy fire would have caused damage resulting in jagged, rough and inconsistent edges. The LVT displays none of these characteristics in the areas where the metal is no longer present. Further,

the missing areas of the cab may have been cut away to increase access to salvage the LVT's machinery.

Again, it takes a careful examination of the underwater remains and their fragments to move beyond the bigger history of the war and battle to identify individual's actions and behavior. However, these are the details that bring the events of the battle to life and penetrate the minds of those who we hope to engage. The value of studying these fragments cannot be simply condensed to what they can add to the bigger story their contribution lies in reminding us of the existence of other stories that have not yet been captured in the documentary evidence.

Site Identity: Filling the Gaps

The Battle of Saipan has left us with an overabundance of sources in multiple languages that are studied by a range of academic disciplines. The question is, can the archaeology of such a documented event contribute to this discourse? As mentioned previously the study of aircraft wrecks is complicated because the details of particular sorties and exact locations of crash sites are not so straightforward. As such, archaeological investigations can help to identify aircraft, reveal the cause of a crash and in some instances elucidate what happened to the crew. This can be significant in terms of its ability to include families and survivors by putting these crashes into context and providing closure to a painful experience. Thus, the archaeology of aircraft has the ability to personalize history (Holyoak and Schofield 2002).

Over the course of the project a few of the unknown wrecks in the lagoon have been positively identified through a combination of careful archaeological examination and historical research. An aircraft wreck that was first recorded in 1984 (Pacific Basin Environmental Consultants 1984:12-13) and visited again in 1990 (Carrell 1991:508), was re-examined during this project. Preliminary investigations in 1984 postulated that the remains were of a Japanese aircraft (Type 99 2EFB "Cherry"). However during the recent survey the site was positively identified as a U.S. aircraft (Martin PBM Mariner). The Martin PBM Mariner was a U.S. flying boat used in offensive campaigns in several regions of the world during WWII. Mariners were involved in all major campaigns in the Pacific, including the Battle of Saipan, where they participated in attacks on Japanese submarines, freighters and aircraft (Hoffman 2004:xiii). They were particularly important in the post-battle activities in Saipan and Tinian as they were used to retrieve downed

airmen from B-29 missions. Due to their large fuel tanks they had a capacity to travel long distances and patrol the seas these were known as "dumbo missions."

One of the characteristics that led to the identification of the aircraft wreck as a Martin PBM Mariner included the configuration of the aircraft's dihedral wing (Figure 4). Though many types of sea planes were used in the Pacific Theater, few featured this angled wing type. Ultimately measurements of key features such as wingspan supported the identification. In addition, the models of gun turrets on the site matched with gun turrets typically used in Mariners and confirmed the final conclusion that this aircraft is a Mariner flying boat.

Figure 4 Martin PBM Mariner, note dihedral wing (Courtesy Ships of Exploration and Discovery, Inc., Photo by Valeo Films).

Another recently located aircraft wreck is likely the remains of a U.S. PB2Y Coronado. Though this site was previously unknown to archaeologists, it was found with the aid of local captains who have known its location for years. After carefully mapping the site and reviewing all relevant data, the identification has been tentatively suggested as a PB2Y Coronado. This identification was made based on the windscreen configuration and several unique characteristics such as port hole placement along the hull of the aircraft. Further, English language control panels and serial numbers support the identification of a U.S. plane.

The identification of these aircraft wrecks and the details of the wrecking event that can be gleaned through the archaeological record provide a starting point for piecing together the fragmented record of aerial engagement during the Battle of Saipan. Additional historical research has shown that it is likely that the units and individuals involved in these wrecks will be revealed, and in some instances answers may be provided to those who are still seeking information about those they lost.

Post-Battle Activities

Intensive post-battle activities in the 1940s and 1950s, and even today's activities of progress and development, had and have long-term effects on the material remains of the battle. The disappearance of this material culture has great influence on the stories that can be told about the past. If these remains vanish, the memories of the battle may also disappear. Of course, there will always be the written records, but it

is important to recognize the close connection between the material objects and the memory of the event.

During the post-battle clean up of the harbor, much of the wreckage from the war was salvaged and removed, particularly if it was a hazard to navigation or development. Specific examples of these activities can be seen in the archaeological record and often can compound the difficultly of the identifying, mapping and understanding of sites. For example the Japanese freighter (presumably *Shoan Maru*) was cut down to the waterline because it was considered a navigational hazard (Carrell et al. 2009:377). Evidence of salvage cuts can be seen throughout the site in the form of straight weld cuts and disarticulated plates of hull and decking lying around the site.

Another activity that altered sites in Saipan occurred from 1949 to 1962 when the Central Intelligence Agency (CIA) had control over much of the northern half of the island. Under the cover of the U.S. Navy, a CIA facility known as the Naval Technical Training Unit was established whose primary mission was to provide training in communications, counter-intelligence, psychological warfare techniques, and sabotage including the use of explosives (Lansdale 1961:649). The remains of *Shoan Maru* were reportedly used for explosives training by this organization.

Today the Japanese freighter site is disarticulated due to the effects of explosives and salvage efforts. However the major elements such as the engines and boilers, steering gear, and superstructure are located in the general area of their original position. Nevertheless, piecing the "jigsaw puzzle" back together is difficult when pieces are missing or reshaped.

Another site that shows signs of post-battle salvage and demolition is the remains of a possible Japanese auxiliary submarine chaser. It was also reported to have been impacted during post-battle clearing for salvage and navigation hazards, which further complicates the wreck's identification (Southeastern Archaeological Research, Inc. [SEARCH] 2008:67). According to NOAA navigation chart 81076, the ship lies in an area that was cleared to a depth of 10 ft (3.04 m). The site's location and extensive destruction to the site suggests it may also have been used in the 1950s for demolition training by the CIA.

Signs of demolition are obvious on this site; in fact, the entire aft portion of the ship is missing. No engines, boilers or any of the stern section components such as the steering mechanism are present. It is possible that the upper deck of the bow also has been cut away from the vessel. Thus it is easy to see that this site has been heavily impact by post-battle activities.

A second site located nearby and identified by Southeastern Archaeological Research (SEARCH), Inc. in 2008 may in fact be the remains of portions of the aft end of the vessel. Located on the opposite side of the channel to the submarine chaser this site includes large portions of hull plating that match the type of construction on the auxiliary submarine chaser. Another possibility is that this could be the site of a second auxiliary submarine chaser known to have sunk during the battle. However without locating the second site or matching exact pieces of hull planking, it will be difficult to determine their identity further.

Yet another mystery is the site an Aichi E13A "Jake." While no historical records of intentional disposition of the Aichi E13A have been located to date, archaeological evidence suggests that this aircraft may have been intentionally deposited on the seabed rather than a victim of an in-air disaster. To start, the plane is remarkably intact, which is inconsistent with an aircraft that has crashed due to a disabling or malfunction in the air. Additionally there are clues that point to a deliberate disposal. For example, what appear to be exit points for bullets can be found near the tail of the aircraft. Because of their location in the tail section where there is an absence of operational machinery, the bullet holes do not appear to have caused any substantial damage to the aircraft that would have resulted in its sinking or crashing (Figure 5). Typically, when aircraft sink they proceed nose first due to the weight of the engine. If this aircraft was purposefully sunk, it is possible that it did not initially sink when placed in the water due to air pockets remaining in the tail. Bullets might have been shot at the aircraft's tail in order to hasten the disposal and sinking of the plane. A similar process was utilized during the "scuttling" of a PBY Catalina Flying Boats off Rottnest Island, Australia where tomahawks were used to create holes in the side of the aircraft to assist in its sinking (McCarthy 1997:7).

While this remains a working hypothesis there is other evidence to suggest possible intentional disposal. Aft of the bullet holes, a small section of crimping is also present on the tail. It is suspected that this could be due to lifting the aircraft on or off a vessel or towing it with the use of a chain or rope. As the aluminum

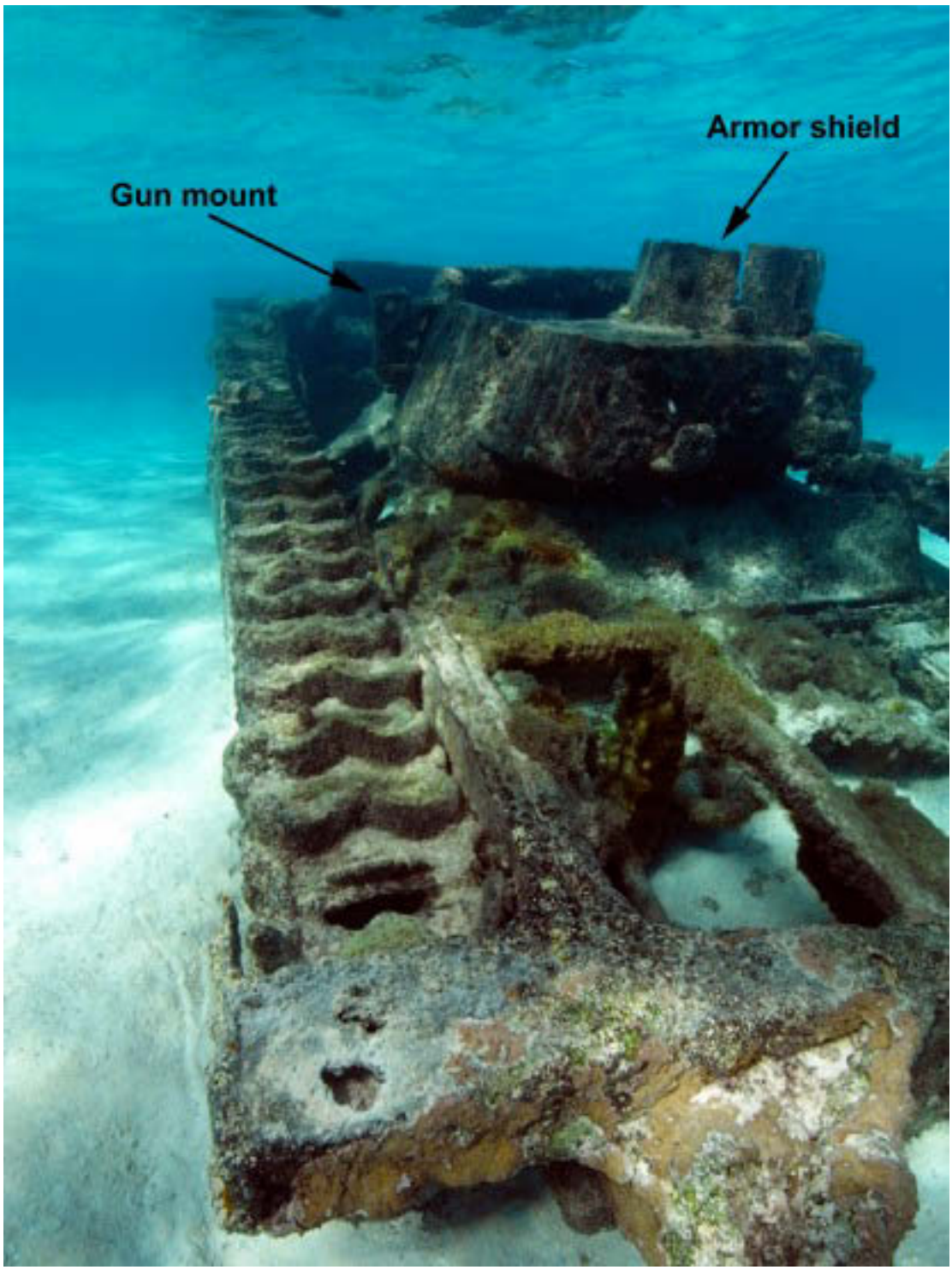

Figure 5 Aichi E13A showing bullet exit point (top) and crimped section of tail (bottom) (Courtesy Ships of Exploration and Discovery, Inc.; Photos by Sam Bell).

alloy that comprises the aircraft exterior is made of malleable material, a large chain or rope could easily create the crimping noted on this aircraft wreck. Further, adjacent to the Aichi E13A is an unattached section of landing gear that could not be associated with the aircraft, as the Aichi E13A was a float plane and did not have landing gear. As the landing gear is fairly large, it is suspected to be from aircraft of substantial size, yet circle searches on site did not uncover any additional aircraft parts that may be associated with the landing gear. Nevertheless, its presence on site adds to the hypothesis that this area was used as a dumping ground for discarded aircraft parts. Disposal practices were often scattered in post-battle scenarios, and detailed records of these disposals are sparse; however, the intentional sinking of surplus or damaged aircraft can be documented in the archaeological record and is a useful avenue of future research, particularly with regards to post-battle activities (Veronico et al. 2000:11).

Conclusion

The archaeology of the underwater battlefield provides a complimentary narrative to the terrestrial battlefield and offers a more holistic way of telling the history of the Battle of Saipan. It recognizes that objects and material culture accomplish more than just filling in the details they elucidate smaller stories such as individual actions and engagements and speak of aspects that were important in the everyday life of the participant. Finally, it reminds us of what is still out there to be uncovered and that objects can evoke strong impressions and generate reflection on a subject that includes both violence and valor.

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Constructing Rota's World War II Landscape: The Chudang Palii Japanese Defensive Complex

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Abstract: *At the request of the Commonwealth of Northern Mariana Islands and with funding from the National Park Service, SEARCH completed an archaeological survey of the Chudang Palii Japanese World War II Defensive Complex on Rota Island. Rota was a Japanese possession during World War II, and fortified for a possible US invasion that never occurred. The complex is composed of 133 historic features, including antiaircraft guns, unexploded shells and bombs, tunnels, walls, enclosures, sake bottles, a teapot, and a rice bowl. This paper discusses the archival research and fieldwork used to create an innovative and exciting report for the documentation and analysis of this defensive complex. The report forms the foundation for future planning decisions for the complex as well as the first step in the public interpretation of the site.*

Introduction

Southeastern Archaeological Research, Inc. (SEARCH) of Newberry, Florida, conducted a survey of the Chudang Palii Japanese World War II Defensive Complex (Site 1021-9) in the Mananana Region of Rota from May 21, 2011, to June 5, 2011, under contract to the Commonwealth of the Northern Mariana Islands, Department of Community and Cultural Affairs, Division of Historic Preservation (DHP). A portion of the defensive complex was originally documented by Swift et al. (1992). The 1992 archaeological survey encountered a well-preserved Japanese defensive complex consisting of caves, tunnels, trenches, terraces, and stone walls. In late 2007, the Historic Preservation Office (HPO) conducted a brief reconnaissance of the area and confirmed that Site 1021-9 extends beyond the 1992 survey boundary. Based on discoveries made during the 1992 survey and 2007 visit, the HPO designated a survey boundary for identification and documentation of archaeological resources for the World War II era Imperial Japanese defensive complex. The designated boundary extends both east and west of the previously documented resources and includes an area of approximately 32 hectares (79 acres). The SEARCH project was funded by a Historic Preservation Grant administered by the National Park Service (NPS). This paper is drawn from the

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research, fieldwork, and report completed for the DHP by SEARCH. It has two primary sections, with the first portion of the paper being a historic context of Rota, chiefly of the World War II era, and the second half presents the fieldwork findings and analysis.[2]

The Past: Rota Historic Context

The history of Rota illustrates the island's role in the larger geo-political arena. This history will first briefly discuss the colonial history of Rota, then discuss the Imperial Japanese fortification of the island and how that illustrated the changes in Japanese military tactics. We will then discuss American attacks on the island to support the American invasion of Guam and Saipan, and finally the surrender of Rota and its post war history.

Colonial History of Rota

For nearly four centuries after initial European contact, the Mariana Islands were a colony of Spain. Erupting in 1898, the Spanish-American War had repercussions for the Marianas. The small Spanish garrison on Guam was unaware that a war was underway; therefore, US ships under Commodore George Dewey easily took the island in 1898. Dewey made no attempt to secure Rota, Tinian, Saipan, Pagan, and other smaller islands. In the 1899 treaty ending the war, Spain relinquished Guam to the United States while the other northern islands remained under Spanish rule. Within the same year, however, Spain sold its remaining Marianas possessions, along with the Carolines, to Germany for $25 million, ending nearly four centuries of Spanish rule in the region. In the coming decade and a half, the Germans made significant infrastructural improvements in the Northern Marianas, but the Japanese, who came to control 90 percent of trade with these islands by 1905, presented a sustained threat to German power. World War I, though fought on distant shores, altered the fate of the northern, or German, Marianas. With the outbreak of the war, Germany became consumed with affairs in Europe, and as a consequence, the German Marianas were left defenseless. Driven by imperial aspirations and justified by its alliance with Great Britain, Japan moved to take advantage of Germany's inattentiveness. In 1914, Japan occupied the German Marianas without resistance from Germans stationed there (Russell 1984).

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[2] The authors would like to thank Mertie Kani, Eloy Ayuyu, and Ronnie Rogers for their invaluable assistance with this project. Without their untiring work and assistance, the Chudang Palii Japanese World War II Defensive Complex might have been relegated to the dustbin of history. Thank you.

Increasingly militaristic and expansionist, Japan sought to strengthen its presence in the Pacific in the 1930s. Japan lost its mandate over the Marianas and neighboring island groups in 1933 after Japan withdrew from the League of Nations. Now that their jurisdiction was *de facto*, the military moved to fortify the islands. Aslito Airfield, located on the south end of Saipan, and a seaplane base at Flores Point (northeast of Garapan) were constructed in the 1930s. Barracks, ammunition storage, air raid shelters, and facilities preparatory for an offensive war were installed elsewhere on Saipan in 1941 (Russell 1984).

The Evolution of Imperial Japanese Island Defense Strategy

Shortly after the December 7, 1941, attack on Pearl Harbor in Hawaii, the Japanese initiated air attacks over Guam, which they had been monitoring since November. With this prize under its belt, the Japanese Imperial Army and Navy were able to mount aggressive operations with success across the Pacific in the early years of the war (Rogers 1995; Rottman 2004). Because of the nature of the Japanese Empire's newly acquired strategic holdings in the Pacific Ocean, including the Marianas, the Japanese military developed a strategy to defend the islands against possible invasion. Before the successful invasions by the US military in 1943 and 1944, the Japanese military believed that the only way to defend an invasion of an island was to stop the invaders before they reached the beaches (War Department 1944:140). Because of conventional wisdom that saw the apparent difficulty of an amphibious invasion, Japanese coastal defense doctrine during the early part of World War II relied on an offensive strategy of attacking the invaders by setting up fortifications along the beach to stop invasions before they could reach inland (War Department 1944:140). Because of the different terrains encountered by the Japanese on the different islands, the Army did not establish a uniform pattern of defense structures, but organized them to conform to the surrounding terrain and tactical needs (War Department 1944:155).

US military intelligence described the Japanese tactics for defending volcanic islands such as Rota in the following manner:

> The defense of volcanic islands consists of beach positions, heavy naval guns up to 12-inch size, and mobile reserves. Beach defenses consist of observation posts, strong points, and obstacles, but these are not to be considered a perimeter defense. Large-sized units are held as reserves and are employed in counterattacking at threatened points. The defenders have the advantage [sic] of dominant observation, knowledge of the terrain, and large amounts of supplies. In addition to this, they

> have maneuver room, and if driven into the hills are quite capable of carrying out harassing operations for long periods. Airstrips are located on the volcanic island bases, and both land-based and naval aircraft are used in the defense. Anti-aircraft artillery is used in the defense of harbors and landing fields. Army troops, as well as Special Naval Landing Forces, are likely to be encountered on these bases (War Department 1944:128).

Examinations of the Japanese defenses on Saipan, Tinian, and Guam illustrate this reliance on beach and coastal defenses. Swift et al. (1992:12) argue that the Japanese garrisons on these islands had no fallback positions, there was no plan for counterattacks, and the Aslito Airfield (Saipan) was undefended against ground troops. The defenses on Rota were different than those found on the other Mariana Islands. One reason for this change in defensive tactics was that the reliance on beach and coastal defenses did not work. Swift et al. (1992:12) observe that on Rota the Japanese constructed a defense network using the interior cave systems in the upland terrace areas, including the Chudang Palii Japanese World War II Defensive Complex (Site 1021-9) project area, rather than relying solely on the construction of coastal defenses.

Crowl (1960:63) suggests that one reason for the different defense strategy at Rota was that the Japanese had more time for defense development on Rota. Since the island was not invaded in the summer of 1944, the Japanese had until September 1945 to develop the defensive fortifications. Crowl states that the Japanese would use a defense strategy similar to that seen at Rota during the invasions of the Pacific islands of Iwo Jima and Okinawa, which both resulted in massive loss of American lives (Moore and Hunter-Anderson 1988:25).

Most likely the defenses at Rota were constructed differently for several reasons. First, because of a lack of landing beaches, the Japanese could locate the defenses elsewhere. Second, after it became apparent that the Americans would not invade the island, the Japanese could focus on anti-aircraft defenses and utilize the natural caves of the ridgeline for added protection. Third, because of a lack of materials and military personnel after the US invasions of Guam and Saipan in 1944, the Japanese garrison at Rota had to utilize local materials and whatever ideas and skills it had on the island to craft the new defenses. These three reasons resulted in the construction of defenses that differed from the typical pre-1945 Japanese doctrine but met the needs of the defensive force.

The Development of the Defense at Rota

To oversee the defense of the Marianas, the Imperial Japanese Navy established the 5th Special Base Force. Realizing the American strategy, Imperial Japanese Navy officials commenced a large airbase construction program in the Marianas and Caroline Islands, including the construction of one airfield at Rota. By March 1944, the defensive plans were expanded. The Imperial Japanese Central Pacific Area Fleet issued an order "to build rapidly a large number of bases so as to make possible the immediate development of great aerial strength" (Crowl 1960:61). The airfield at Rota, located on the northern plateau, north of Sinapalo village, was to be able to handle 48 planes and be supported by integrated land fortifications, anti-aircraft positions, and plane shelters (Crowl 1960:60 61).

To support these new troops, the Japanese constructed fortifications to defend Rota. Rota's defenses included emplacements along the coast with secondary positions behind the beach defenses and along the inland cliff lines. The standard Japanese fortifications in the Mariana Islands included "concrete and rock pillboxes, gun emplacements in caves, and other defensive features such as concrete air raid shelters and bunkers" (Moore and Hunter-Anderson 1988:127).

As part of the defense of islands, the Japanese utilized dual-purpose guns for both anti-boat and anti-personnel missions as well as for anti-aircraft defense. The Type 10 (1921) 120-mm dual-purpose gun, probably manufactured in Japanese arsenals, was one of the most widely used on smaller islands. The Japanese military usually mounted Type 10 guns on a concrete pedestal that had a large base plate buried in the floor of each gun pit to provide a stable foundation (War Department 1945:93, 95). Remains of a similar set up were identified at Chudanf Palii. In addition to the Type 10, the Japanese mounted three Type 96 (1936) twin-mount 25-mm anti-aircraft and anti-tank automatic cannons at Chudang Palii.

The natural limestone caves were used by the Japanese as well as the residents of Rota for shelters. For example, Jiro Takemura, a Japanese national who was employed with Rota Sugar manufactory in 1937 and later served as the head of the Japanese civilian stockade on Rota after the war, stated that the Accountants' Department of the Imperial Japanese Navy Defense Force was headquartered in the Pali'i tunnel (Dixon et al. 2002:B-5). The location of the defensive fortifications along the ridge is in keeping with the standard operating procedure of the Imperial Japanese military. Caves were used primarily for defensive fortifications by the Japanese forces, as well as for water sources, places of refuge by the civilian

A Type 10 (1921) 120 mm dual purpose gun (left) and a Type 96 (1936) twin-mount 25 mm anti-aircraft and anti-tank automatic cannon (right), both located at Chudang Palli.

population, and hiding places by Japanese stragglers following the war. The Japanese military forces excavated numerous artificial caves, which vary widely in extent, design, and engineering. They also modified many natural caves for wartime use. For example, on Guam most of the caves were part of the defensive fortifications installed to repulse the American invasion, and were typically converted into pillboxes and gun emplacements (Taboroši and Jenson 2002).

In addition to the larger fortifications, the Japanese forces booby-trapped the caves in Rota as part of the island defense. Archaeological studies have identified "numerous strategically placed boreholes filled with picric acid, a highly sensitive bulk explosive detonated by heat, shock, or friction, whose trigger mechanism has deteriorated" (Taboroši and Jenson 2002).

Aerial reconnaissance of Rota carried out by the US Marine Corps on August 18, 1944, examined the high lands including the Chudang Palii Japanese World War II Defensive Complex (Site 1021-9) project area (HQ 21st Marines 1944:2 3). The report described the terrain as "rugged and precipitous containing the key terrain of the island in the high plateau at TA 155, 156, 143, 144, and 145" with a good road (probably the oxcart road) that runs over the plateau to the airstrip to the west. Interestingly, the Marines located no enemy activity in the area, but did receive some anti-aircraft fire from guns to the east (HQ 21st Marines 1944:2 3). The absence of identifiable fortifications in the project area in August 1944, further supports the idea that the fortifications in the project area were constructed in late 1944 or 1945 since they were not identified during the reconnaissance run. Since the Chudang Palii Japanese World War II Defensive Complex (Site 1021-9) had 25-mm and 120-mm cannons that were both capable of anti-aircraft fire, one would

have expected them to fire on the Marine reconnaissance aircraft if they were operational.

Unlike the larger islands of the Marianas, Rota was not initially heavily fortified by the Imperial Japanese military during World War II. On December 9, 1941, the Japanese Guam Invasion fleet from Haba Jima and Saipan rendezvoused at Rota; however, none of the forces occupied the island (Rottman 2002:394). The size of the Japanese occupation force present on Rota after the start of World War II is under debate. Moore and Hunter-Anderson (1988:19) indicate that there was little information concerning the size and makeup of the Japanese garrison at Rota prior to 1944. However, Peck (1986:5) suggests that there were only six Japanese soldiers on Rota in January 1944. Moore and Hunter-Anderson (1988:19) disagree with this low number because the construction of the military airfield would have required a larger military engineering detachment than six soldiers. Using information provided in Crowl (1960:60), Moore and Hunter-Anderson (1988:19) and Denfeld (1997:129) estimate that there were less than 3,000 Japanese troops on Rota in June 1944. These troops and supplies that arrived in June were the last reinforcements to reach Rota prior to the Japanese surrender (Moore and Hunter-Anderson 1988:19).

The islands of the Marianas were seen as points in a larger patrol network and did not require Japanese Army troops for their defense. After the fall of the Marshall Islands, the Japanese military began to reinforce the Mariana Islands. The importance of protecting the Mariana Islands was illustrated when Japanese leaders stated that "the Mariana Islands are Japan's final defensive line. Loss of these islands signifies Japan's surrender" (Shaw et al. 1966:442). US Marine Corps intelligence indicated that before February 1944 the Imperial Japanese Navy was in charge of the defense of Guam and the other Mariana Islands. The intelligence also indicated that the 54th Guard Unit (KEIBITAI; 警備隊) was the nucleus of the defense of Guam, so it is possible that a similar situation existed on Rota (HQ, Fleet Marine Force Pacific 1944:43). Naval documents show that elements of the 56th Guard unit (KEIBITAI; 警備隊) were located at Rota and Tinian. Guard units were naval units that served as the "nuclei for the defense of the area in which they are located" (CinCPac-CinCPOA Bulletin 11-45:3, 9 10).

In addition to the 56th Guard Unit, the Imperial Japanese Navy had the 223rd Construction Battalion (SETSUEITAI; 設営隊) located at Rota and Saipan. Like the

US Navy Construction Battalion (Seabees), the Japanese construction battalions were "highly mobile independent units, fully equipped for major construction tasks" (CinCPac-CinCPOA Bulletin 11-45:18). The Japanese construction battalions were often assigned to fleets, which used them to construct airfields and field fortifications on islands such as Rota (CinCPac-CinCPOA Bulletin 11-45:18–19).

US Navy intelligence reported that Imperial Japanese naval ground troop units, such as those present on Rota, cooperated with the Japanese Army in organizing and manning defensive operations. However, after the Marianas campaigns of June 1944, the Imperial Navy decreased the use of naval ground units, probably because of the serious losses they suffered in the Gilberts, Marshalls, New Guinea, and the Marianas (CinCPac-CinCPOA Bulletin 11-45:1).

The South Marianas Area Group Headquarters received the 6th Expeditionary Force, which sailed from Pusan and reached Guam in late March. This unit totaled about 4,700 men drawn from the 1st and 11th Divisions of the Kwantung Army. However, in June 1944, the Japanese reorganized the 6th Expeditionary Force creating the 48th Independent Mixed Brigade (IMB) under the command of Major General Kiyoshi Shigematsu, and the 10th Independent Mixed Regiment (IMR) commanded by Colonel Ichiro Kataoka. On June 23, the 1st Battalion of the 10th IMR (the former 2nd Battalion, 1st Infantry Regiment, 1st Division) plus one company of the 3rd Battalion, 1st Field Artillery Regiment, and the 3rd Company, 1st Engineer Regiment (all former units of the former 1st Division) were relocated to Rota to reinforce the island (HQ, Fleet Marine Force Pacific 1944:45). The Army also planned to send the 3rd Battalion, 18th Infantry Regiment from Guam to Rota as a counter-invasion force; however, because of US maritime patrols, the regiment never left Guam (Rottman 2002:393–394). Shaw et al. (1966:444) state that while the 1st Battalion, 10th IMR was located on Rota, because it could be transported to Guam by barges, several orders of battle have the unit on both islands.

To garrison the island, the Japanese military placed the defense of Rota under the 29th Division on Guam. On June 23, 1944, the 1st Battalion, 10th IMR was tasked with garrisoning Rota. Also, the Imperial Navy had a detachment of the 56th Guard Unit headquartered on Tinian and Rota. After the loss of Tinian, the units from the 56th were absorbed by the 41st Guard Unit on Truk. It is believed that units from the 56th Guard Unit constructed most of the cliff defense on Rota (Denfeld 1997; Rottman 2002:393–394).

Following the American invasion and occupation of the Marshall Islands in 1944, Japanese civilians on Rota were evacuated to Japan, and over 2,000 Japanese troops were stationed on the island to prepare defenses against an invasion. A headquarters for the Japanese commander, Major Shigeo Imagawa, was located on the high ground of the island near Sabana. The defensive construction program included the development of a large series of caves connected by tunnels in the Ginalangan cliffs and farther south above Songsong village, where a cave was built to house a hospital. There were also tunnel and cave systems reportedly developed in other places on the island, including under the Japanese airfield, which is the main Rota Airport today (Gaddis 2004:50).

During one of the air battles over Rota, Zenji Abe, a Japanese Naval aviator, crashed on Rota. After the war, Abe described how the Navy could not rescue him because all the airlines and sea lanes were controlled by the Americans. Because he was the highest-ranking naval officer on the island, he found himself in command of the 1,600-man naval garrison for 14 months until the surrender of the island in September 1945. Abe commented that the army garrison of 700 troops was under an Army Major (Abe 1994:53 54). Abe did not comment on the defenses on the island or the status of the troops.

Based on prisoner-of-war interviews, the US military believed the cliff line fortifications near Sinapalo were garrisoned by naval personnel. The infantry battalion, commanded by Major Tokunaga, was headquartered at Taruka (on the north coast near Teteto), and Navy Lieutenant Onizuka had his headquarters in Rota village (Songsong) (Hunter-Anderson et al. 1988:23).

US Attacks on Rota in Support of Operation FORAGER and After (1944-1945)
In late 1943, the United States began planning for the capture of the Mariana Islands. However, the US military did not have accurate intelligence on the Mariana Islands, including Rota, until late February 1944, when carrier strikes were ordered against the islands (HQ, Fleet Marine Force Pacific 1944:1). A Marine Corps intelligence report from April 1944 stated, "There are no known major defenses on the island, but caves in the rocky cliffs could contain defense positions not disclosed by last photographs made in February. Its only value is for an observation post or gun mounts" (Intelligence Section, Fifth Amphibious Force 1944). While there were no defense positions observed, the intelligence section warned that there probably were some fortifications on Mount Tapingot (Wedding Cake Mountain), and that the Japanese were probably constructing some on the island.

Although Rota was not invaded, the US military did conduct air raids on the island from June 1944 until the end of the war to neutralize the airfields and airpower on the island. During Operation FORAGER, part of the plans of the Navy's Fifth Fleet included "an initial attack by carrier-based air forces on SAIPAN, TINIAN, ROTA, GUAM and PAGAN for the purpose of destroying enemy aircraft and air facilities in these positions" (United States Fleet 1944:74-7). On the first day of the attack (June 11), Fast Carrier Task Force launched strikes against Saipan, Tinian, Guam, Rota and Pagan. The targets of these raids were aircraft and associated facilities, the ships, the anti-aircraft batteries, the coast defense weapons, cane fields. Airstrikes continued through the rest of the months of June and July in an effort to destroy any aircraft on the island and to neutralize the airfield (United State Fleet 1944:74-9). While the mission of the navy was to neutralize the Japanese forces on Rota, they lacked some of the necessary weapons to destroy the fortifications (United States Fleet 1944:74-30-31).

For a while it appeared that the bomb runs to Rota were routine, because the enemy anti-aircraft fire initially was feeble; however, the Japanese anti-aircraft gunners began to hit the raiding US planes. Some of the US planes managed to return to their base, and others were shot down outright (Garand and Strobridge 1971:428 429).

With the withdrawal of the Japanese fleet from the Marianas, the threat to US forces there was sharply reduced, and it became possible to return parts of the Fast Carrier Task Force to the Marshalls for replenishment. The arrival of Army P-47s at Saipan, together with the escort carriers in support there, made few strikes necessary at Saipan by fast carrier planes (US Strategic Bombing Survey 1946:215-216).

By January 1945, the US military estimated that 4,000 Japanese troops manned the defenses of Rota. However, the G-2 reported that US forces usually encountered no anti-aircraft fire from Rota. Allied pilots conducting attacks on Rota during the first week of January 1945 indicated that the runway remained inoperable and other military targets on the island had been destroyed (US Army Forces, Pacific Ocean Areas, G-2 1945). In keeping the enemy airstrips on Rota and Pagan Islands in daily disrepair, the Corsairs of MAG-21, acting as fighter-bombers, played a vital part in protecting the new B-29 Superfortress bases on Saipan, Tinian, and Guam from enemy air action (Garand and Strobridge 1971:429).

The Surrender of Rota

After the dropping of the two atomic bombs in early August 1945, the Empire of Japan surrendered on August 15, 1945 (the time in Tokyo), leaving Rota one of several isolated Japanese garrisons scattered throughout Micronesia. The US military began dropping leaflets urging the isolated Japanese garrisons to surrender (Poyer et al. 2001:252). On August 26, 1945, the USS *Currier* and the USS *Osmus* (both Buckley-class destroyer escorts) sailed to Rota to conduct preliminary negotiations with the Japanese commanding officer, Major Imagawa, for the surrender of the garrison (Hunter-Anderson et al. 1988:33). On September 2, 1945, Major Imagawa and Zenji Abe surrendered the Japanese Imperial Forces to Colonel H. N. Stent, USMC, the representative of the Island Commander Guam, aboard USS *Heyliger* (John C. Butler-class destroyer escort) off Rota Island. The US forces found 2,651 Japanese Army troops, 13 Japanese naval enlisted men, and one naval officer, as well as a civilian population of 5,562 persons, divided among 1,019 Japanese, 3,572 Okinawans, 181 Koreans, and 790 native Chamorros (Abe 1994:54; US Department of Navy 1946:177).

On September 3, 1945, 605 members of the 9th Anti-Aircraft Artillery Battalion (USMC) landed by Landing Craft, Tank (LCT) on Rota to occupy the island. Colonel Gale T. Cummings was appointed the temporary island commander (Tyson 1977:122). The Marines continued to occupy the island until September 29, when they transferred control of the island to a small naval force of 424, including two Navy officers, two Navy enlisted men, five Marine enlisted men, and five Guamanian policemen. One month later, the occupation forces were reduced to a Naval Military Government Unit alone, consisting of three officers and 30 enlisted men (US Department of Navy 1946:177 178). To aid in the construction and repair work of the island, the Navy sent one company of the 48th Construction Battalion (Seabees) to Rota for a few weeks during September and October 1945 (Bureau of Yards and Docks 1947:416). The 300 Seabees began repairing the Rota Airstrip on September 4. By September 26 the strip was open for emergency landings, and the final repairs to the runway were completed on October 1. By the start of the next month, the Seabees had expanded the runway to 5,000 feet and flights were scheduled between Guam and Rota every other day (US Department of Navy 1946:178).

US forces found that the isolation of Rota had caused difficulty among the civilian population, as well as among the Japanese military personnel. While the civilian population of Rota was in relatively satisfactory health, they lacked proper clothing and imported food. Because of the regular bombing of the island by US forces, the

people lived in the caves. The Japanese national, Jiro Takemura stated that a large shelter called Mangan-yama was located between Rubok and Kamisuiden. The natural limestone cave held approximately 800 people, and other smaller caves were also used (Dixon et al. 2002:B-5). Coinciding with the arrival of the Americans, the people were gradually relocated back to their former village sites and cultivated areas. The Americans also provided surplus military clothing to the population (US Department of Navy 1946:177).

Toward the end of October 1945, the US Commercial Company requested the Military Government's approval to study the possibilities of developing the phosphate, bauxite, and manganese deposits on Rota (CINCPAC 1946:178). In 1947, President Harry S. Truman's Executive Order No. 9875 of July 18 "delegated authority and responsibility for the civil administration of the trust territory to the Secretary of the Navy on an interim basis" (Truman 1947). Later that year, a committee of the Secretaries of State, War, the Navy, and the Interior recommended that administrative responsibility for the trust territory be transferred to a civilian agency. On July 1, 1951, Truman approved that transfer of the Trust Territory of the Pacific Islands to the Department of the Interior (Truman 1951). Although the islands were a trust territory, because of their strategic significance the Northern Mariana Islands remained under military control until 1961 (US Census Bureau 2000). In 1962, President Kennedy signed Executive Order 11021, which placed all the islands solely under the Department of the Interior. The Commonwealth of the Northern Marianas (CNMI) was formed on November 3, 1968 (Gaddis 2004:51–52).

The Present: In-depth Interior Defensive Complexes on Rota

While much has been written about the changing Japanese doctrine of island defense from destroying the enemy at the beach to one of an in-depth system, less research has focused on how the interior portion of the in-depth defensive system was implemented by the troops, sailors, and their commanding officers (COs) on the ground (Denfield 1988, Denfield 2002, Moore and Hunter-Anderson 1988, Peck 1984, Rottman 2003, Swift et al. 1992). Rottman (2003:14) noted that there is variability in Japanese defensive position design and construction, and that local initiatives were the rule rather than the exception. While there may be local (island) standardization in design and materials used, the standardization was based upon five basic elements: (1) material shortages, (2) types of available materials, (3) weather conditions, (4) preferences and concepts of local COs, and (5) skills of the available military personnel. Both Rottman (2003:14) and Denfield (2002:1) note that in spite of the variation caused by the above mentioned factors, that defensive

position designs remained basically the same, tempered by materials used, terrain, and individual decisions made by local COs.

Rota is unique in the Marianas, having two such interior defensive networks forming what has been termed a "Maginot-line type" fixed defensive system (Peck 1984:20). In an unsourced Japanese military document quoted by Peck (1984:20):

> Initially the [Rota] garrison had attempted to strengthen the island's beach defense in order to meet the enemy at the water's edge. With the fall of Guam in August 1944, however, it was obvious that such measures were futile. The mainline of resistance was, therefore, pulled back 60 to 300 yards from the beaches and construction began that month on a series of tunnels which were to connect its various segments. Because of the hardness of the rocky soil, the work was very slow at first, averaging not much more than three meters a day. Work was speeded up with the use of dynamite obtained from the South Seas Development Company and from explosives extracted from unexploded enemy bombs. At As Manila[3] the garrison was able to take advantage of a natural cave to build a recessed fortification. By war's end over 3,300 meters of tunnels[4] had been excavated, most of which could withstand the force of up to 250 kiloton bombs.

Questions that this paper will try to address include what types of defensive properties were constructed, who constructed them, how were they constructed, what materials were used, where were they constructed, and was there an overarching plan the Japanese military used to implement that system as the tides of war dramatically turned against them in 1944 and 1945.

Ginalangan Defensive Complex

The first comprehensive study of an interior defensive system in the present-day Commonwealth of the Northern Marianas Islands (CNMI) was done by Darlene R. Moore and Rosalind L. Hunter-Anderson (1988) who surveyed the Ginalangan Defensive Complex on Rota. The project area consisted of approximately 25 hectares (62 acres) in northern Rota along the limestone cliff line known as Ginalangan, which forms the southern boundary of the northern plateau near Sinapalo Village (Figure 2). The survey resulted in the documentation of the

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[3] Peck (1984:24) speculates that "As Manila" is an error, and the author is referencing Ginalangan.

[4] Peck (1984:24) assumes that the 3,300 meters is in reference to all tunnels constructed on Rota, not just those at Ginalangan.

Ginalangan Historic District, which consists of 13 property types in 9 Japanese World War II complexes and 9 isolates.

The complexes are located along different places along the limestone cliff line, with Complexes 1, 2, and 3 situated along the cliff line or at the base of the cliff near the central portion of the district. A plateau below Complexes 1, 2, and 3, holds eight of the isolates, including three revetments[5], two vehicles, and three water tanks. Along the southern part of the district are Complexes 4 and 5 along with one isolate. The northwestern part of the district is composed of Complexes 6, 7, and 8 and Isolate 7 along the cliff line or at the base of the cliff. Complex 9 is located at the top of the cliff line. The complexes and isolates are made up of more than 104 individual features and a rich collection of artifacts, including bulwarks, caves, concrete slabs, pillboxes, live and spent ammunition, rakes, shovels, dishes, small glass medicine jars, glass bottles, shoes, sinks, and toilets.

Chudang Palii Defensive Complex

A second interior defensive system on Rota has also been documented, located approximately 2000 meters due west of the Ginalangan Defensive Complex.

The Chudang Palii Japanese World War II Defensive Complex is a 31-acre complex[6] located in the Mananana Region of Rota and extends for over a kilometer along the base of Chudang Palii, a prominent limestone bluff.

The complex is located between 300 and 400 meters elevation along the north side of Mount Sabana, which reaches a maximum elevation of approximately 500 meters. The road to Sabana (Highway 11) partially bounds the complex on the north and east sides. This defensive complex is characterized by limestone plateaus and escarpments. Chudang Palii, a limestone escarpment, defines the complex and consists of a steep limestone cliff that rises 20 to 90 meters on the upper portion, which gives way to a steep to moderately steep talus slope. The base of the talus slope terminates on a lower plateau. The complex is enveloped by limestone jungle, with the very southeastern edge of the complex dominated by dense grasses, typical of former Japanese-era agricultural fields.

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[5] Moore and Hunter-Anderson (1988:38) define a revetment as "a free-standing, open-ended stacked rock wall enclosure, forming a rough "U" or square shape in plan. Use of revetments was for protection of large equipment and fuel. Wall height varies from 1.3m to 1.9m; wall width ranges from.50m to 1.5m. Areas vary from 12sq.m to 50.0sq.m.

[6] The 31-acre defensive complex is only a portion of the 79 acres that were surveyed as part of the survey reported by Mohlman et al. (2011).

Chudang Palii and Ginalangan Japanese World War II Defensive Complex locations.

The Chudang Palii Japanese World War II Defensive Complex project area from the road to Sabana (Highway 11) with Chudang Palii shown in the background.

Approximately 1,400 meters long and 100 meters wide, the defensive complex is composed of 131 features. Of those 131 features, 118 are organized into 11 spatially discrete areas (these areas are similar to Moore and Hunter-Anderson's [1988] "complexes") and 13 features not clearly organized into discrete areas. The majority of features are clustered in the western 1,000 meters of the complex, with a 250 meter gap before the last set of features are encountered. The complex consists of anti-aircraft guns, dry-laid rock walls, tunnels, enclosures, terraces, ramps, ammunition clusters, and multiple Japanese glass sake/beer bottles.[7]

[7] The proliferation of sake/beer bottles is explained by Rota's sugar mill being converted to a distillery by the Japanese (Peck 1986:8).

Figure 4. A ramp (top) and tunnel entrance (bottom) are two examples of the property types at Chudang Palii

Property Types

Between Ginalangan and Chudang Palii, researchers classified 23 Japanese military defensive property types (Figure 4; Table 1). At Ginalangan, Moore and Hunter-Anderson (1988) noted 13 different property types, including bulwarks, caves, concrete slabs, parapets, pillboxes, pits, revetments, rock-faced terraces, stone steps, stone wall enclosures, stove bases, vehicles, and water tanks. In total, over 300 meters of rock-faced terraces, 400 linear meters of tunnels and caves, a 150-meter-

long stone and cement parapet, 27 enclosures, 11 stone and concrete bulwarks, 6 series of steps, 4 concrete pillboxes, 4 concrete water tanks, 4 stone revetments, 3 concrete slabs, 3 pits, 2 large vehicles, and a possible cement and rock stove base were noted. Associated with these property types were a variety of artifacts, including live and spent ammunition, rakes, shovels, picks, pry bars, motors, generators, pumps, pipes, batteries, metal and ceramic pots, dishes, small glass medicine jars, glass bottles, soap dishes, shoes, sinks, and toilets. At Chudang Palii, 15 property types were identified, including 27 walls (one wall not included in this 27 is classified as a "parapet"), 27 caves and tunnels, 13 enclosures, 10 terraces, 9 overhangs, 7 stairs, 5 ramps, 5 anti-aircraft guns, 4 trenches, 4 depressions, 2 berms, 2 platforms, 1 bulwark, 1 chamber, and 1 rock shelter. Chudang Palii's artifact assemblage was considerably smaller with significantly less diversity vis-à-vis Ginalangan, and included numerous glass sake/beer bottles, spent ammunition, rice bowls, pipes, corrugated tin, the head of a pickax, a tea pot, and a naval insignia from a uniform.

Table 1. Japanese Military Property Types

Property Type	Present in Ginalangan	Number of occurrences in Ginalangan	Present in Chudang Palii	Number of occurrences in Chudang Palii
Anti-Aircraft Guns	No	0	Yes	5
Artifacts	Yes	Numerous	Yes	Less Numerous
Berms	No	0	Yes	2
Bulwarks	Yes	11	Yes	1
Caves/tunnels	Yes	39	Yes	27
Chamber	No	0	Yes	1
Concrete slabs	Yes	3	No	0
Enclosures	Yes	27	Yes	13
Overhangs	No	0	Yes	9
Parapets	Yes	1	Yes	1
Pillboxes	Yes	4	No	0
Pits/Depressions	Yes	3	Yes	4
Platforms	No	0	Yes	2
Ramps	No	0	Yes	5
Revetments	Yes	4	No	0
Rock shelter	No	0	Yes	1
Stone steps	Yes	6	Yes	7
Stove bases	Yes	1	No	0
Terraces (rock-faced)	Yes	Not reported	Yes	10
Trenches	No	0	Yes	4
Vehicles	Yes	2	No	0
Walls	Yes	Not reported	Yes	37
Water tanks	Yes	4	No	0

Laborers

The historical research and physical evidence does not provide a clear answer as to who built the defensive networks on Rota. According to Rottman (2003:15), local laborers were typically used for constructing support facilities, chopping wood, and transporting materials throughout the Japanese Pacific Empire during World War II, but Japanese military personnel were responsible for constructing fighting and defensive positions. During the war, Rota was inhabited by four distinct groups, including the Imperial Japanese Army; the Imperial Japanese Navy; Japanese, Okinawan, and Korean civilians; and local Chamorros, with different sources attributing military construction projects to one or more groups.

Several sources indicate that the Japanese military used primarily local Chamorros for labor on the military construction projects (Moore and Hunter-Anderson 1988; Peck 1986, 1988; Petty 2001). In the Marianas, the Japanese military usually required that each household provide one person per day to the construction efforts (Hunter-Anderson et al. 1988:18). Antonio Borja, a native Tinian merchant marine, was conscripted into the Japanese Army at Rota and forced to dig tunnels for cannons. Borja commented the work schedule was from seven in the morning until midnight, six days a week for 18 months (Petty 2001:62–63).

Peck (1986:6) noted that beginning in 1944, the majority of Rota's able-bodied Chamorro men were enlisted to work on the island's defenses. Peck put the number of able-bodied men on Rota at 26, since the majority of Chamorro men had been relocated to Guam, Tinian, and Saipan to work on military projects on those islands. Given that the U.S. liberated 790 Chamorros on Rota at the end of the war, 26 may be an understatement. The men worked seven days a week on military projects, from sunup to sundown. Manual M. Ogo, a Chamorro who lived on Rota throughout the war, noted that Chamorro men were involved in the construction of a tunnel under Tatacho Village, and other tunnels under Songsong Village, Ginalangan, Tatgue, Agusan, and Machong (Peck 1986:6). Ogo's first conscripted construction duty was stringing telephone lines from one military post to another on the island.[8] Along with other Chamorros and Japanese soldiers, Ogo dug up pengua trees and assembled them into faux anti-aircraft guns along the beaches to fool the American military, a Japanese tactic done on other islands throughout the Pacific. In December 1944, Ogo was reassigned to dig a tunnel

[8] White ceramic insulators were found in and around the Chudang Palii defensive complex, the possible last vestiges of these telephone lines as the copper telephone wires were removed by residents shortly after the war was over (Peck 1988:6).

under the Tachao military camp. The tunnel was to hide the Japanese soldiers and to assist in defending the camp.

Jiro Takemura, a Japanese civilian who worked on Rota from 1937 to 1946, mentioned laborers involved in World War II military construction during an interview as part of a cultural resources survey of Highway 100. Takemura noted that there were three anti-aircraft cannons on Rota, with only one remaining today (Dixon et al. 2002). These cannons might be in reference to the 140mm anti-aircraft gun and the associated anti-aircraft bunkers located along Highway 100 facing Sasanhaya Bay. Takemura stated that the bunkers for these cannons were expanded natural caves. Takemura noted that the Nishio corps of the Navy Defense Guard Forces arrived on Rota in March 1944, and they were responsible for having built parts of the cannon foundations at the Rota phosphate factory and having assembled the parts in a cave. In notes added to the interview with Takemura, Wakako Higuchi, the interviewer, acknowledged that the Japanese military were responsible for the expansion work done in a cave utilized by the Accountants' Department of the Navy Defense Force Headquarters. Japanese civilians did utilize caves as shelters during air raids, but neither Higuchi nor Takemura elaborated if the civilian utilized caves were constructed by civilians or military. The only mention of Japanese civilians and Chamorros involved in military construction was for the building of the air field. Peck (1986:9) noted that 400 Japanese civilians were impressed into labor shortly after January 1945, growing sweet potatoes and harvesting coconuts, mangos, bananas, and African snails to feed the starving population of Rota.

Given the extent of defenses on the islands, particularly at Ginalangan and Chudang Palii, it is assumed that both Japanese military and Chamorros were involved in their construction. The qualitative differences between the two may reflect the lack of available building supplies and the use of military personnel and civilians not schooled in Japanese military engineering at Chudang Palii versus Ginalangan.

Construction techniques and materials

Both the physical evidence and historical records provide fairly clear evidence that the defensive networks required considerable manual labor, supplemented with tools and some dynamite, but probably no fuel or electric-powered equipment, and utilized the materials at hand, possibly appropriated by the military from other areas of the island or from the earth and rocks available at the construction sites.

More the norm then the exception, the Japanese military made extensive use of locally available building materials to construct fortifications throughout the empire (Rottman 2003:24). Japanese military-issued construction materials such as concrete and steel typically went to command posts, communication centers, and coast defense gun positions, with nearly everything else constructed of readily available materials.

Dry-laid limestone rock wall (above) and pickax head (below) found at Chudang Palii.

In the Marianas, the Japanese funneled imported building materials to Guam, Saipan, and Tinian, and once supply lines were cut in June of 1944, the Japanese military on Rota utilized whatever was at their disposal to construct its defenses (Moore and Hunter-Anderson 1988:127). What is common to Ginalangan and Chudang Palii, is that both were primarily constructed by hand utilizing mostly locally available materials, particularly earth and limestone rock.

Both complexes have dry-laid limestone rock walls (referred to as "stacked" in Moore and Hunter-Anderson 1988), meaning that no mortar was used to bind the rocks together, and there is no overall bond pattern within the wall matrix. These walls were assembled by hand. Similarly, ramps at Chudang Palii were created from parallel dry-laid limestone rock walls with earth and small limestone pebbles filling the interior. Revetments at Ginalangan were made from stacks of rocks, while depressions and pits at both complexes had small rock stacks offering some protection to the occupants.

Despite both having dry-laid walls, Ginalangan has much more concrete, rebar, metal, and wood in its overall material composition than Chudang Palii, showing a greater degree of imported materials and available construction resources; whereas, Chudang Palii has almost no evidence of imported building materials. According to Lewis Manglona, a Rota native who witnessed the construction of the island's defensive networks while in his late 30s, the qualitative difference in construction techniques and materials between Ginalangan and Chudang Palii (referred to as the Finafen area) is due to Chudang Palii being constructed late during the war "when panic and exhaustion ruled the way things were constructed" (Peck 1984:24).

In both complexes, hand tools were documented, with the head of a pickax and a pulley found in Chudang Palii while pry bars, picks, rakes, shovels, chains, pulleys, pulley clamps, and a lug wrench were found in Ginalangan (Moore and Hunter-Anderson 1988:42, 124). The tools were not only used in constructing the walls, terraces, tunnels, caves, etc., but also they were used in assembling the guns. In Chudang Palii, Manglona noted that one 120mm and one 25mm anti-aircraft gun were lowered by cables and winches to their caves from the upper plateau (Peck 1984:24).

One historic account notes that more than 3,300 meters of caves and tunnels existed on Rota by the conclusion of the war, weaving their way like tapeworms

throughout the island and both complexes. Digging by hand would have been slow going, and according to Peck (1984:20), the Japanese military used dynamite from the South Seas Development Company and explosives taken from unexploded American bombs to assist in tunnel construction. Peck (1984:20) also noted that existing natural caves were augmented and enhanced as recessed fortifications. After interviewing Manual M. Ogo about his experiences of digging a Japanese military tunnel in Rota during the war, Peck (1986:7) wrote:

> The work was brutal and painful, for the tunnel was being hand-chiseled inch by inch through solid rock; and it demolished its workers in short order, for the coral dust suffocated them and brought on uncontrollable attacks of coughing and breathlessness. The heat in the tunnel was intolerable and the pressure for haste unrelenting.

Like Rota, the Japanese Imperial Army and Navy extensively used caves on Peleliu (Denfeld 1988:37-38,97-102). The cave/tunnel system on Peleliu was studied by the US military, providing a cave typology (Table 2). The caves are named by their shape corresponding to a letter of the alphabet. Additionally, different cave types were built by the Japanese Imperial Navy, the Japanese Imperial Army, or both, allowing for caves/tunnels on other islands to be identified and assigned to different branches of the Japanese military.

Who designed and built the caves Imperial Japanese Army, Imperial Japanese Navy, conscripted local Chamorros is not fixed. According to a 1983 study of the Ginalangan complex, the observed "caves conform to official Japanese Naval tunnel standards (of the Suidatai Unit) with 'U' shaped tunnels functioning as combat and shelter areas and 'L' shaped tunnels for housing generators, mortars, and 75 mm guns" (Peck 1984:24). The Navy design and building of the complexes is also supported by (Denfeld 1997 and Rottman 2002), who believe that the Navy's 56th Guard Unit was heavily involved in building the island's defenses. However, only 17 of the 66 caves in Gingalangan and Chudang Palii fit into one of the Peleliu cave typologies. Ten of the 17 are exclusively Army, while the remaining seven were styles built by both the Army and the Navy. The remaining 49 caves appear to fit none of the designs.

While some of the caves/tunnels in Chudang Palii were definitely constructed from whole cloth, many of the caves/tunnels appear more augmented than completely constructed as evidence by their not following any of the Imperial Japanese Navy or Army standardized cave designs. The lack of an apparent standardized design may

Table 2. Japanese Military Cave Types

Cave Type	Army/ Navy constructed	Function	Other characteristics	Peleliu	Ginalangan	Chudang Palli
C	Unknown	Unknown	N/A	No	5	0
E	Navy	Shelter for enlisted men	N/A	Yes	0	0
H	Navy	Communications, command post, or shelter	N/A	Yes	0	0
I	Army	Small unit shelters, storage of food and ammo, and house light machine guns and rifle positions	Dug one on top of the other to provide enfilade fire into the valleys below	Yes	0	0
J	Army	Combat	N/A	Yes	1	6
L	Army	Small unit shelters, storage of food and ammo, and house light machine guns and rifle positions, mortar positions	N/A	Yes	0	1
T	Army	Small unit shelters, storage of food and ammo, and house light machine guns and rifle positions, and mortar positions	N/A	Yes	1	1
U	Army and Navy	Combat	N/A	Yes	0	3
V	Unknown	Unknown	N/A	No	1	0
W	Army	Field hospitals and personnel shelters	N/A	Yes	0	0
Y	Army and Navy	Combat	N/A	Yes	1	3
Rectangular	Army	Storage	N/A	Yes	0	0
Natural, augmented, or ambiguous shape	Unknown	Tactical	Floors leveled, flooring sometimes provided, and protection added at the mouths such as oil drums filled with coral stone	Yes	30	13

Table adapted from Denfeld (1988:37).

also indicate the lack of formal training by the builders, the lack of resources to design complex tunnel systems, or a combination of the two. It appears that if either the Japanese Imperial Army or the Japanese Imperial Navy had a hand in the design and construction of the tunnels at both complexes, this hand did not have as tight of a grip in design as it did in forcing laborers to construct the caves.

Location

By its very nature, an in-depth interior defensive network was located on the interior of an island. However, the geography of the island, the supplies and materials available to local commanders, and the amount of time between the decision to build the network and the US invasion dictated the how, where, what, and the why of the network's location. Inaccessibility and camouflage were two very important deciding factors in the placement of Japanese defensive positions (Rottman 2003:15-16), and Chudang Palii and Ginalangan had both. Both defensive complexes are located in the interior of the island, along the ridgeline of limestone cliff faces, camouflaged by a thick jungle blanket (Denfield 2002:12,40; Mohlman et al. 2011:2; Moore and Hunter-Anderson 1988:32-33). Much of the western edge of Chudang Palii is characterized by large limestone crags, making an assault from the

west treacherous for any invader. Anti-aircraft guns and cave positions constructed into the side of a not quite sheer limestone cliff face made it difficult to attack from above or below.

The Ginalangan and Chudang Palii cliff and jungle areas were important natural features in the establishment and development of the defensive complexes, providing aerial camouflage, ground defensive positions, and excellent views of the southern and north-central coastlines as well as the present-day Rota airport, built partly atop the World War II-era Japanese airfield (Moore and Hunter-Anderson 1988:32). At its closest point, Ginalangan is approximately 850 yards from the shore while Chudang Palii is 2,300 yards from the shore. Both complexes are considerably further away from the Rota shoreline than the unsourced Japanese military document quoted in Peck (1984:20) had stated; it had noted Rota's interior defensive positions were placed anywhere from 60 to 300 yards from the beaches. It is not clear if this Japanese military document was referencing Ginalangan and Chudang Palii, or some other unidentified defensive positions. As to elevation, Ginalangan is located between 200m and 250m elevation, while Chudang Palii is located between 300m and 400m elevation. While elevation is clearly an important aspect of location, the elevation has a difference anywhere from 50m to 150m, and neither are located on the highest elevation on the island which is Mount Sabana at 500m where the Japanese command post was located.

The jungle is an often lamented aspect of cultural resource survey work in the Marianas, but the jungle was a very important aspect of location for the defensive networks.

The Japanese were known for their effective use of camouflage, hiding personnel, equipment, and guns with natural materials used to thwart even veteran invaders (Rottman 2003:41). Aerial photographs of Rota from 1944 and 1946 show that both complexes were wrapped in jungle, with neither readily visible to US aerial reconnaissance. A 1944 US target map made from aerial photographs shows little activity at either complexes, either indicating that neither had been completed or that the jungle proved to be an effective canopy concealing Japanese construction activities (Moore and Hunter-Anderson 1988:20).

Limestone jungle at Chudang Palii. Note Eloy Ayuyu in foreground and Geoffrey Mohlman in background.

Overarching Japanese Plan

From the two complexes, is there a discernible method to the madness in the construction and design of interior defensive networks on Rota from 1944 to 1945? While researchers classified 23 Japanese military defensive property types between the two complexes, only nine property types were documented in both: artifacts, bulwarks, caves/tunnels, enclosures, parapets, pits/depressions, stone steps, terraces, and walls. It should be noted that 37mm, 75mm, and possibly 120mm guns were noted at Ginalangan (Peck 1984:23), but they were not found by Moore and Hunter-Anderson (1988) and not included in this analysis. As to materials used, both complexes utilized local resources including existing caves, limestone rock, and earth fill to construct their defensive systems. While Ginalangan did have limited use of imported building materials, including concrete and steel, this appears to show that Ginalangan was started before Chudang Palii when such materials were available. Hand tools, winches, cables, and some explosives were utilized in the construction of both complexes, but it was manual labor, without the assistance of fuel or electric-operated equipment, that supplied the energy required to build the system.

Oral history interviews indicate that Chamorros were forced to build many of the defensive positions, including tunnels, throughout Rota, but given the small size of the able-bodied male Chamorro population and the larger Japanese military, particularly Army, presence, it is assumed that both Japanese military and Chamorros were involved in the construction efforts. It seems unlikely that there was a formalized plan, including engineering or architectural drawings, to

implement and guide the development of the defensive complexes beyond possible rough field sketches. Roughly only 26 percent of the caves in Ginalangan and Chudang Palii fit into the Peleliu Japanese military cave typology, indicating that this formalized Japanese military design system was not extensively used in the Rota complexes. However, both complexes utilized the cliff lines and jungles to their greatest advantage, similar to other Japanese interior defenses on Peleliu, Iwo Jima, and Okinawa. Despite lacking engineering drawings, this does not preclude fundamental Japanese defensive doctrine from influencing gun emplacements, pill box locations, or trench networks, but more research will need to be done on the individual components, their placements within the overall complexes, and their relationships to each other to better understand this influence.

The Future: Public Outreach

The documentation of both the Ginalangan and the Chudang Palii Japanese World War II Defensive Complexes were completed for the CNMI Division of Historic Preservation as part of its efforts to identify and protect significant archaeological, historic, and cultural resources. Chudang Palii was listed in the National Register of Historic Places (NRHP) on May 1, 2012. To continue with this effort, it is recommended that Ginalangan also be listed in the NRHP.

The Chudang Palii Japanese World War II Defensive Complex (Site 1021-9) offers a significant opportunity for CNMI in general, and Rota particularly, to tell the important story of Rota during World War II. Combined with other World War II sites spread across the island, ranging from the 140mm Naval Gun along Route 100 (Site RT-5-42) to Ginalangan, Chudang Palii has the ability to add to the collective Rota story told to tourists and locals alike (Gaddis 2004:77 82). For the Ginalangan Historic District, Moore and Hunter-Anderson (1988:128) recommended developing a portion of the complex as a park, including interpretive trails, maps, and signs. Moore and Hunter-Anderson (1988:129) also recommended providing guided tours through these areas.

With the exception of the 120mm gun located adjacent to the road to Sabana, such public visitations to Chudang Palii are not recommended. This is due, in part, to the unstable nature of the majority of the features since they have no reinforcement or binding mortar to hold them together. Even during the limited clearing done to identify and photograph features for the present survey, loose rocks regularly dislodged from wall matrixes. Additionally, the landscape does not afford itself to visitation by tourists or the casual visitor.

Public outreach recommendations for Chudang Palii include several approaches:

1. Presently, a sign exists at the 120mm gun located adjacent to the road to Sabana. An additional sign should be established at the gun site discussing the complex to compliment the sign already present.
2. A brief (less than five minutes) podcast could be developed that discusses Chudang Palii. The podcast could be linked to the Historic Preservation Office website, from which tourists and residents could download it prior to visiting the site. It is envisioned that the podcast would be one of many developed for all signed sites on Rota. Each sign could be numbered, and each podcast would have the corresponding number so that visitors could easily jump to a podcast associated with a particular sign.
3. Develop a page on the HPO website that provides information about Chudang Palii. A Quick Response (QR) code (a matrix barcode) could be affixed to the extant sign, and anyone with a smartphone that has a reader application could scan the code, which takes the user to the HPO website, where he or she can view the information. Eventually, web pages could be developed for all sites on Rota with corresponding QR codes attached to each sign, providing a virtually limitless supply of additional information for tourists and residents.
4. Beyond the sign, two other places on Rota provide the perfect opportunity for public interpretation of the Chudang Palii Japanese World War II Defensive Complex.
    a. The first is the Rota International Airport where a Rota cultural and natural sites display already exists. Information regarding Chudang Palii should be added to the display.
    b. The second place for public interpretation on Rota is the HPO. Like the Rota International Airport, the local HPO has displays regarding the cultural resources on Rota. Schoolchildren and community members visit the HPO, and this is an excellent opportunity to provide the larger Rota community with information regarding the Chudang Palii. Along with a display about Rota during World War II, a complimentary handout about the complex could be produced such as a postcard with an image on the front and historical information on the back. Such postcards also can be made for other visitor areas and sites, creating a postcard "tour" of Rota. These postcards could be provided at the HPO, the airport, and other locations on Rota.

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Archaeological Investigations of World War II Era Japanese Seaplane Base at Puntan Flores, Island of Saipan, CNMI

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Abstract: *Recent archaeological survey and monitoring investigations undertaken in conjunction with a U.S. Environmental Protection Agency program to clean-up diesel fuel contamination in and around the Commonwealth Utility Corporation's (CUC) Power Plant facilities at Puntan Flores, Island of Saipan, Commonwealth of the Northern Marianas Islands (CNMI) have recorded previously unidentified features related to the Japanese Seaplane Base constructed in 1934-35. Construction and expansion of this seaplane facility represents a significant milestone in the militarization of the Japanese Mandated Territories and the role of this facility during World War II is important piece of Saipan's history. This paper will summarize the history of this facility and relate the documentary information with both previously identified and recently identified archaeological features.*

Introduction

In 2011, Micronesian Archaeological Research Services (MARS) and ARCGEO Inc. undertook archaeological survey and monitoring investigations in conjunction with a U.S. Environmental Protection Agency program to clean-up diesel fuel contamination in and around the Commonwealth Utility Corporation's (CUC) Power Plants 1 and 2 located within the Lower Base Industrial Park, Puntan Flores, Island of Saipan, Commonwealth of the Northern Marianas Islands (CNMI) (DeFant 2011 and 2012). These investigations uncovered previously unrecorded features associated with the World War II Era Puntan Flores Japanese Seaplane Base. Construction and expansion of this Seaplane facility in the years before WWII represents a significant milestone in the militarization of the Japanese Mandated Territories and the role of this facility in that War is important piece of Saipan's history.

Background

The island of Saipan is located approximately 1,412 mile (2,273 km) southeast of Japan within the Mariana Islands archipelago (Figure 1). The island measures c. 13 miles (21 km) long and 4 miles (6.5 km) wide, with an overall area of c. 46 square

miles (122 km^2). The ruins of the Japanese Seaplane Base on Saipan are located on Puntan Flores along the island's northwestern coastal plain (Figure *2*). Puntan Flores is immediately north of the Puerto Rico Port facility and immediately seaward (west) of the Sadog Tasi area. Most of what was once the seaplane base is today home to CUC's Power Plants 1 and 2. The North Seaplane Ramp is currently used for boat construction and the South Seaplane Ramp is used by a tourist boat excursion company.

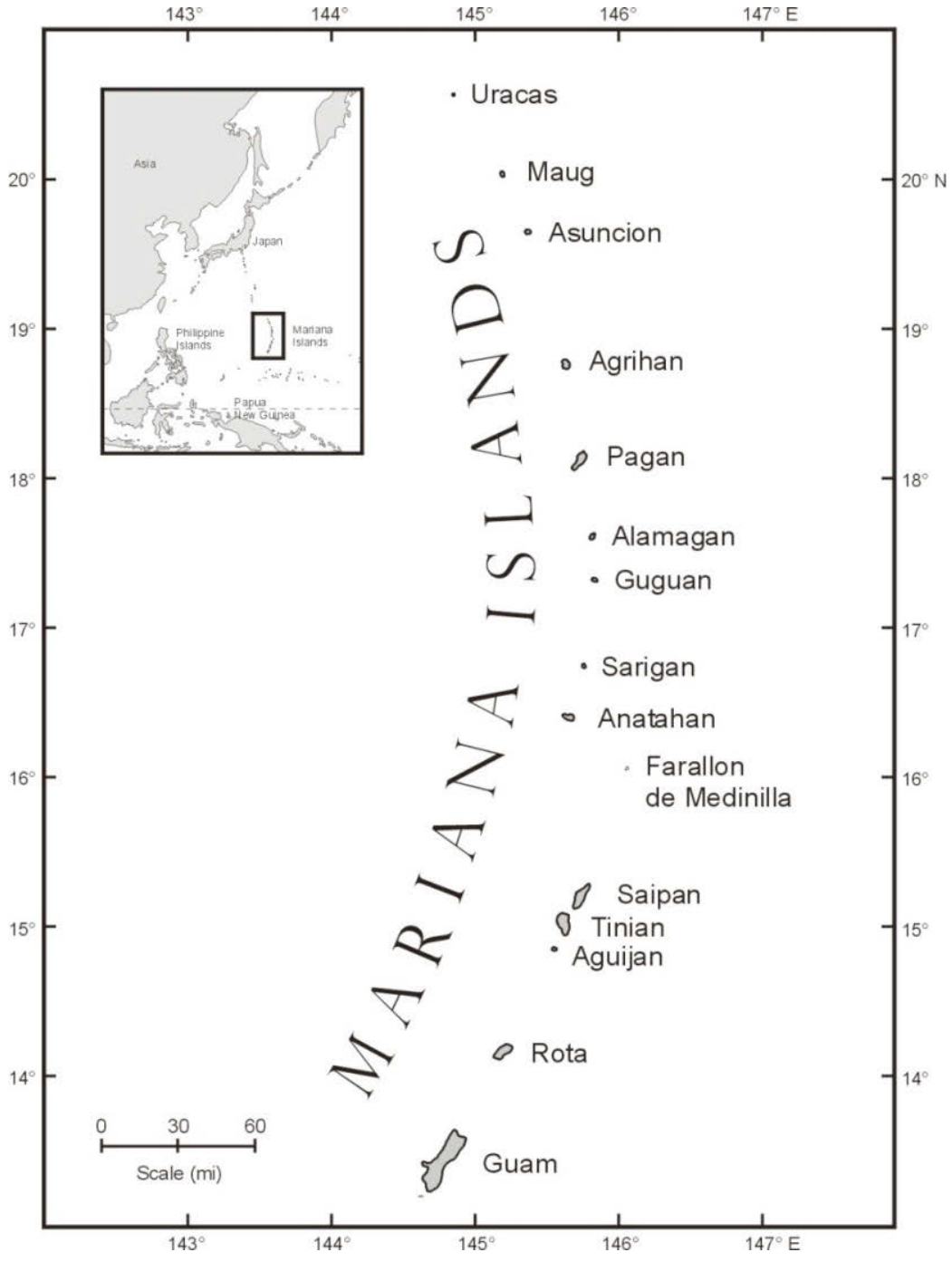

Figure 1. Location Map of Saipan (Courtesy of Barry Smith)

Figure 2. Location of Puntan Flores Japanese Seaplane Base (USGS Quad)

The following summary of relevant documentary sources is almost exclusively derived from U.S. published sources and archives. Documentary research regarding the history of the Puntan Flores project area was conducted within the CNMI-HPO library, the CNMI Archives at the Northern Marianas College, the Micronesian Area Research Center at the University of Guam, and the MARS Office library. Travis Takashi Miyagi also reviewed the National Archives of Japan and the Japan Center of Asian Historical Records. Unfortunately no relevant information was identified within the Japanese archives. The historical sources cited in this article are thus largely confined to U.S. sources and particularly U.S. Military Intelligence sources. This data is therefore not only incomplete, but also severely limited to a narrow perspective that was both indirect and heavily biased. Largely missing from this documentary research is the data and perspective of not only the Japanese who constructed and used the Puntan Flores facility but also the Chamorro and Carolinian inhabitants of Saipan who participated in the construction and maintenance of this facility. Further investigation of Japanese documentary sources relevant to the Puntan Flores Base and the role of Saipan's indigenous population should be regarded as a high priority for future research efforts.

Japanese commercial enterprise on the Island of Saipan and the rest of the Northern Marianas Islands started in the late 19th Century and continued during the German administration of the islands between 1899 and 1914. By 1910, most of the commercial traffic through the Saipan's port was Japanese.

Japanese military forces took possession of the Northern Marianas from Germany during World War I and the islands were governed by a Japanese Naval Administration until 1922 when a Japanese civilian government was established in accordance with a League of Nations Mandate (Clyde 1935:66; Peattie 1988:64; Russell 1988:13). Japanese control of the Northern Marianas Islands continued until their seizure by American Military Forces in 1944.

The 1920s witnessed the rapid development of the islands by Japanese economic interests; particularly the Nan'yo Boeki Kabushikigaisha (South Sea Trading Company or NKK) under the direction of Japanese entrepreneur Matsue Haruji. Sugar cane production was the backbone of this economic boom and its development was included the large-scale Japanese immigration to the islands (Higuchi 2012). By 1938, 59,000 Japanese, mostly Okinawan, had immigrated to the Northern Marianas Islands in comparison to only 200 foreigners during the German Administration (Yanaihara 1940:31).

During the late 1920s and 1930s, significant portions of Saipan's northwestern coastal plain were incorporated into the growing Japanese sugarcane plantation industry. These developments included the construction of a narrow-gauge railroad line inland of the shoreline. Before 1935 there is no information directly related to the utilization of Punton Flores. Although Bowers' (1950:Fig.41) ca. 1930 land-use map indicates that the coastal plain immediately inland of Punton Flores consisted of 'native farm areas'.

In 1933 the Japanese Foreign Minister walked out of a League of Nations assembly, in at least partial reaction to Western press stories that suggested that construction of the Aslito airport facility on Saipan and improvements to Saipan's port facility were intended to militarize the island in contradiction to the League's mandate stipulations (Peatte 1988:243). This event according to Peatte (1988:243-245) set forth a chain of events that led Japan to formally withdraw from the League and the Washington Naval Treaty a few years later. It also heralded a period of rapid infrastructure development in the Japanese Mandated Territories that included dual purpose civilian and military projects.

Published sources, including Crowl (1960:54) and Denfeld (1997:7), state that construction of the Japanese seaplane base at Puntan Flores started in 1934 and was completed in 1935. However, Higuchi (Personal Communication 2012) has discovered a Japanese documentary source that indicates construction began much earlier. These sources include a photograph of the Puntan Flores Seaplane Base under construction that is dated 1931. Peattie (1988: 248) suggested that construction was likely the primary responsibility of the civilian authorities with assistance from Japanese military engineers. Higuchi (2012:10), on the other hand, believes that the NKK civil engineers constructed the seaplane facility on behalf of the Japanese Navy.

The Chamorro and Carolinian inhabitants of Puntan Flores were likely relocated to Garapan before commencement of construction. It is also likely that Saipan's indigenous population participated in the construction of this base and worked on this base following its completion. According to Peattie (1988: 248), the Japanese constructed similar seaplane bases in 1934 in both Yap and Palau. According to Higuchi (Personal Communication 2012) the Puntan Flores Seaplane facility was referred to in Japanese sources as either the Sadog Tasi or Tanapag Seaplane Field.

No documentary sources were identified regarding the function and nature of the Puntan Flores Base before 1941. It can, nevertheless, be inferred that this facility was constructed to serve both a military and civilian function. For most, if not all, of the 1930s the Puntan Flores Base exhibited the Northern Seaplane Ramp. The Southern Seaplane Ramp appears to have been added in 1940 or 1941 (Higuchi Personal Communication 2012).

Starting in 1935, the Puntan Flores Seaplane Base was irregularly used by Kawanishi H6K Type 97 seaplanes operated by the civilian airline Dai Nippon Koku K.K. (Greater Japan Airlines) (Spennemann 2000). Regular service between Saipan, Yokohama and Palau was established by late 1938 or early 1939. This civilian air service continued following the beginning of the Pacific War in 1941 and included a regular Yokohama-Saipan-Chuuk-Ponape-Jaluit route. There is no indication that military aircraft were permanently based at Puntan Flores before 1939, nevertheless, it is likely that Japanese seaplanes at least periodically used this facility during this period.

Between 1939 and 1940, the Japanese Military started formal militarization of its Micronesian possessions (Peattie 1988). This process likely included the permanent

stationing of military seaplanes and expansion of the base facilities. By 1941 the Puntan Flores base was comprised of sixty-five buildings including two seaplane ramps, steel hangers, shops, semi-underground ammunition magazines, barracks, warehouses, and nine air raid shelters (Denfeld 1997:7,9).

On December 8, 1941, seaplanes planes from the Puntan Flores base participated in a bombing attack on the Island of Guam (Denfeld 1997:11). These aircraft were likely four-engine Kawanishi H6K Type 97 (Allied code-named "Mavis") seaplanes (Figure 3) and/or Aichi E13A (Allied code named "Jake") single engine seaplanes (Figure 4). Over the next few years, Saipan served as a staging area for Japanese troops, ships, and planes (Russell 1988:19). The total number of Japanese Military personnel on the island was likely no more than a few hundred. On February 12, 1943, six four-engine seaplanes from the Puntan Flores Base flew out of Ponape on a bombing raid on the American base at Roi-Namur (Peatte 1988:278). With the fall of the Marshall Islands in early 1944, Saipan and the rest of the Marianas were rapidly fortified and the Japanese garrison was increased to over 30,000 troops (Russell 1988:20).

Figure 5 is a U.S. Military targeting intelligence map of the Puntan Flores Seaplane Base presumably based upon aerial photography and prepared before the June 1944 invasion of Saipan (Joint Intelligence Center 1944). These aerial photo interpreted features include thirty-five structures, including two steel frame hangers, a radio tower, anti-craft batteries, machine gun emplacements, bath houses, a recreation hall, barracks, repair shops, sentry posts, and various other command and support buildings.

The Imperial Navy's new four-engine Kawanishi H8K Type 2 (Allied named "Emily") (Figure 6) was likely deployed to the Puntan Flores Base immediately following its introduction in 1942. This four-engine long-distance patrol and attack seaplane supplemented the less heavily armed Kawanishi H6K ("Mavis") seaplanes. U.S. Military interpretation of aerial photographs taken immediately before the June 1944 invasion of Saipan (quoted in McKinnon and Carrell 2011) indicate that at time the Puntan Flores Base contained ten Kawanishi H8K ("Emily") seaplanes, eight Aichi E13A ("Jake") single engine seaplanes, and three Kawanishi H6K ("Mavis") seaplanes. Recent underwater archaeological investigations have identified a submerged "Emily" approximately 1,500 m northwest of the Puntan Flores seaplane ramps and a submerged "Jake" approximately 3,000 m west of the seaplane ramps (McKinnon and Carrell 2011).

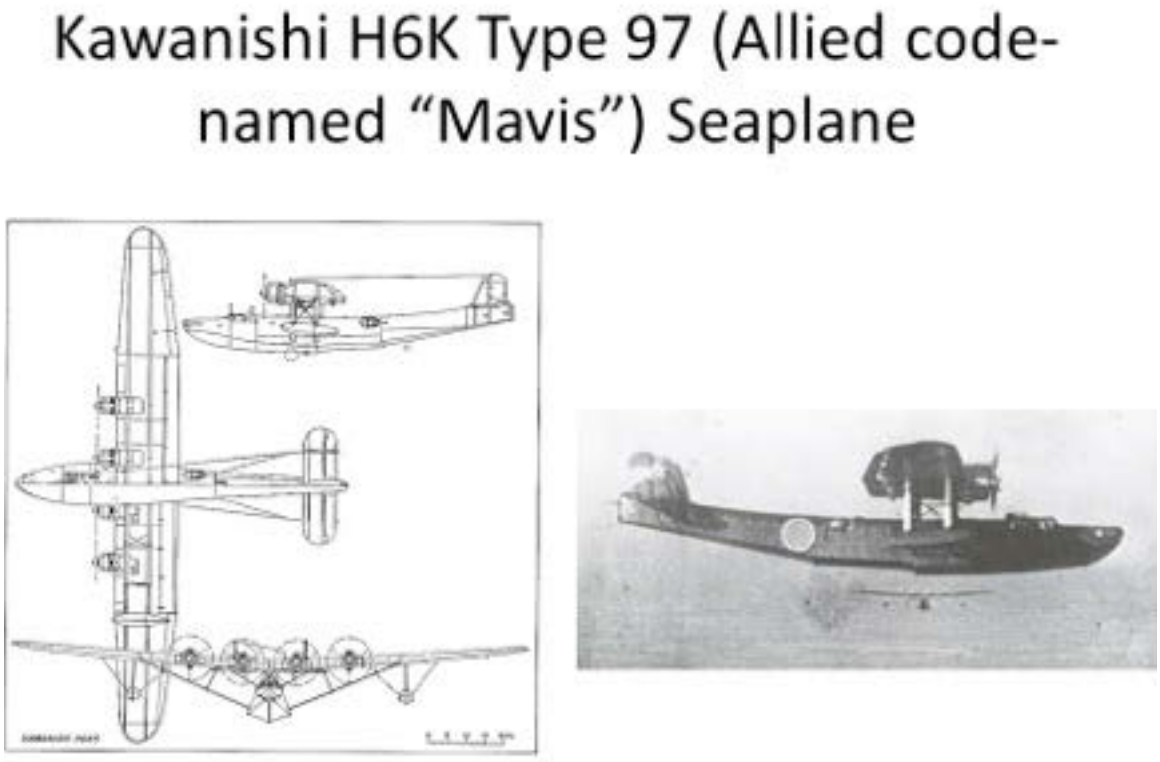

Figure 3. Photo and Diagram of “Mavis” Seaplane

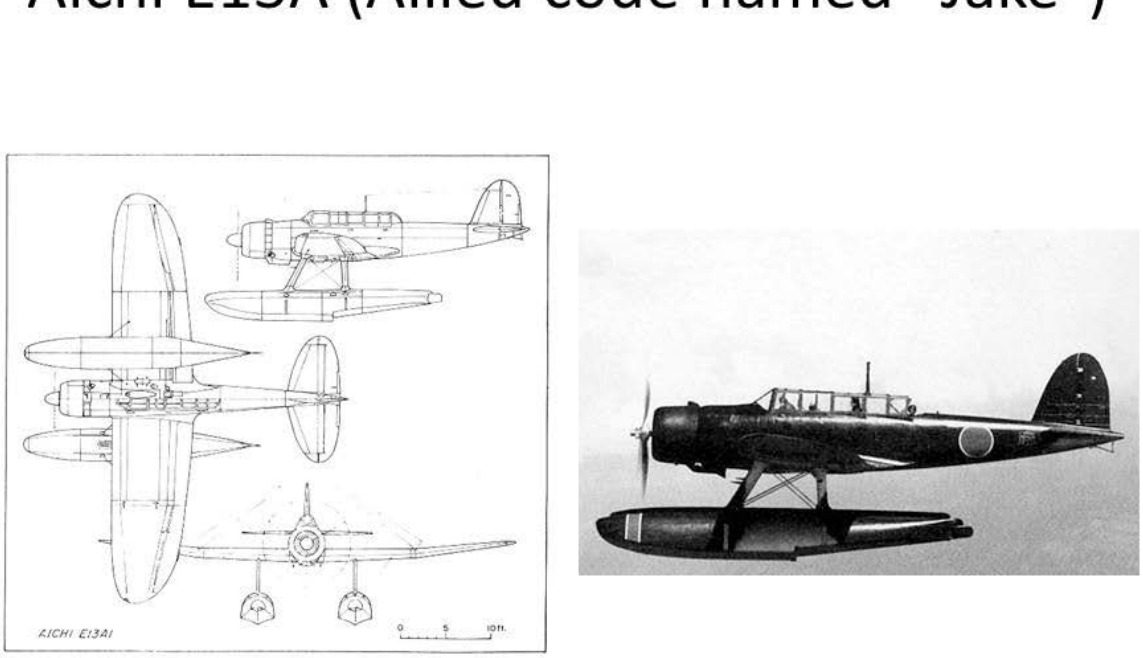

Figure 4. Photo and Diagram of “Jake” Seaplane

Figure 5. Map of Puntan Flores Japanese Seaplane Base (Joint Intelligence Center 1944)

Kawanishi H8K Type 2
(Allied code named "Emily")

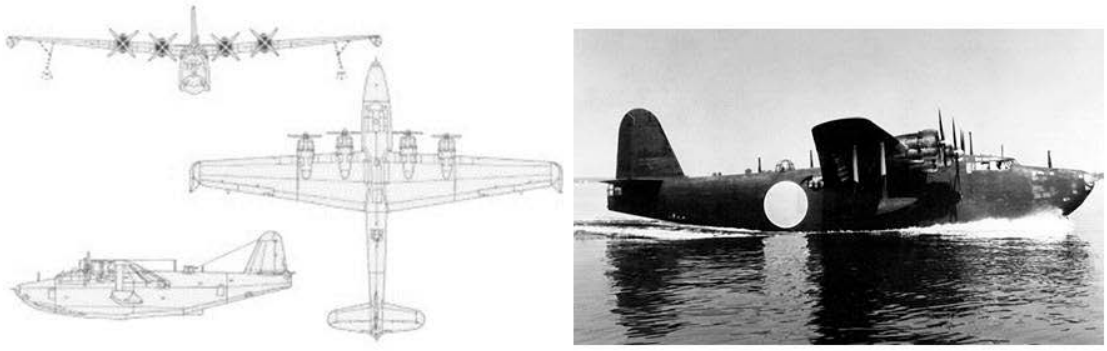

Figure 6. Photo and Diagram of "Emily" Seaplane

Starting in early 1944 carrier-based planes of the U.S. Navy's 58th Task Force conducted aerial bombardment and strafing of Japanese Military positions on Saipan.

These attacks focused upon Aslito Airfield in the southern portion of the island and the Puntan Flores Seaplane Base along the northwestern coastline. In June 1944 Puntan Flores was defended by the Special Naval Landing Force and 5th Base Force under the command of Admiral Nagumo who had his headquarters at the seaplane base (Denfeld 1997:23,26). On the ridge 3,000 yards east of the base there were positioned three Type 10 88 mm and two Type 10 120 mm antiaircraft guns. These weapons were destroyed during pre-invasion bombardment of the island (Denfeld 1997:27).

On June 15, 1944, the American invasion of Saipan started with the landing of amphibious assault teams on the southwestern beaches. American Marine and Army forces quickly overran the Aslito Airfield facility and then slowly moved northward across the rugged well defended terrain that dominates the central portion of the island.

In the early morning of June 18, 1944, soldiers of the Japanese Army's 1st Battalion, 18th Infantry boarded 35 barges at the Flores base with the intention of landing behind the U.S. lines to the south. This attempt was interrupted with fire from U.S. warships. Thirteen barges were destroyed and the surviving barges returned to Puntan Flores (Denfeld 1997:60). McKinnon and Carrell (2011:92) have proposed that two submerged Japanese Daihatsu landing craft located approximately 2,000 m west of Puntan Flores are likely associated with this event.

Following intense bombardment of the Puntan Flores Seaplane Base by American aircraft, warships, and infantry artillery units, the Base was captured by elements of the 27th Infantry Division on July 4, 1944. Remaining Japanese forces retreated northward to form a defensive perimeter in the Tanapag area. The Island of Saipan was finally declared secured on July 9th.

Within days of its capture U.S. construction battalions began converting the Puntan Flores base into a U.S. seaplane base (Crowl 1960:442) (Figure 7). This base was officially named U.S. Tanapag Naval Air Base (NAB) which constituted part of the sprawling Camp Calhoun complex which represented a massive logistical supply depot supporting the U.S. war efforts elsewhere in the Pacific. A map of

Figure 7. Aerial Photo Puntan Flores Base Circa. 1945 (CNMI HPO Library)

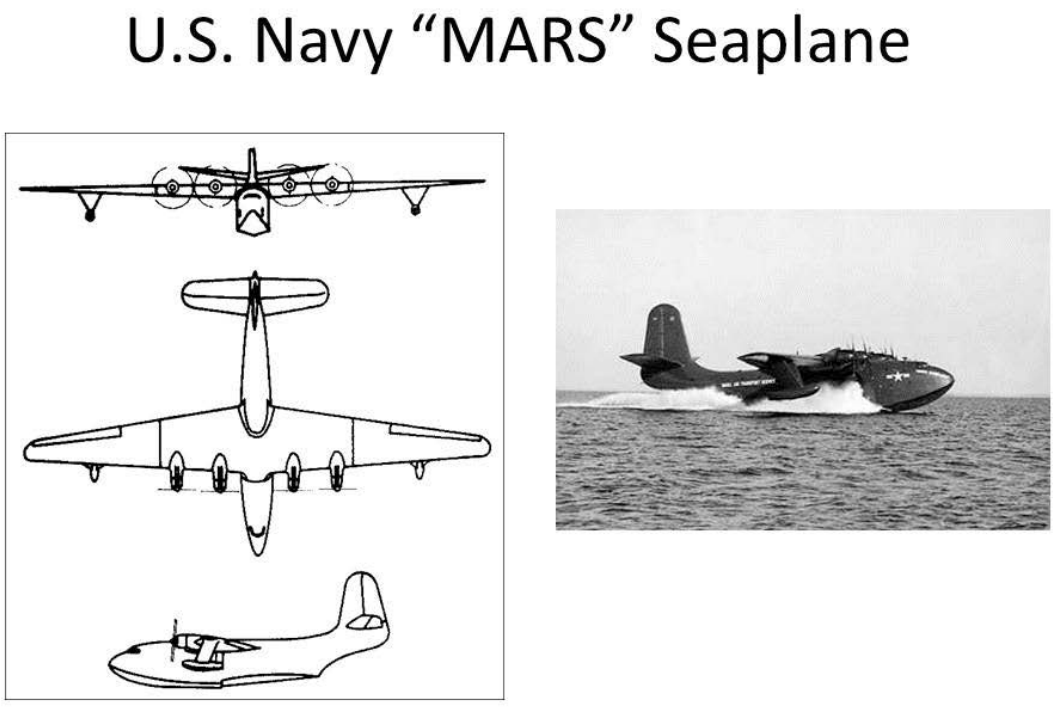

Figure 8. Photo and Diagram of "MARS" Seaplane

Saipan based on 1949 aerial photographs (U.S. Army 1952) indicates that a large complex of structures were located along the coast from Puntan Flores north towards Tanapag. The Tanapag NAB facility included aircraft overhaul shops, an accessory overhaul shop, line maintenance facilities, sixty-four seaplane moorings, a traffic control operations tower, and a pistol range (U.S. Army Forces Middle Pacific 1946). Four engine "MARS" seaplanes were used by this base (Figure 8). The base commander, Captain Henry T. Stanley, was a naval aviator who received his wings in 1917 and in 1949-1950 he received the Gray Eagle award for the longest serving naval aviator at that time (Duane Colt Denfeld Personal Communication 2012). The seaplane base was closed in 1949.

Saipan was administered by the U.S. Navy until 1951, when it became part of the U.S. Trust Territory of the Pacific Islands administered by the U.S. Department of the Interior. In 1978, the Northern Marianas Islands were given Commonwealth status by the U.S. Congress.

Between 1952 and 1962, the Puntan Flores base was used by the U.S. Navy Technical Training Unit (NTTU). It was likely at this time that the area became known as Lower Base. The NTTU command facilities were located above Puntan Flores in the area today known as Capitol Hill. The NTTU is widely believed to have been a Central Intelligence Agency organization involved in the training of Chinese Nationalists guerrillas.

In 1970 the Puntan Flores area became the Lower Base Industrial Park (Denfeld 1997:215). In addition to power generation facilities this industrial park eventually contained several government offices, private businesses, and a number of garment factories.

Archaeology of Puntan Flores Japanese Seaplane Base

The Puntan Flores Japanese Seaplane Base (designated CNMI Site No. SP-1-15-7-0106) was initially investigated in 1987 by personnel from the CNMI Historic Preservation Office. These investigations resulted in the identification of fourteen features including air raid shelters, seaplane ramps, storage bunker, pillbox, cistern, ammunition storage structures, and a destroyed seaplane. Unfortunately, the only remaining copies of this report were destroyed in a fire in 1993. Only a few site forms on file with the CNMI Historic Preservation Office survived (CNMI HPO 1987).

Figure 9. Photo of Diesel Fuel Cleanup

In July 2011, ARCGEO Inc. and Micronesian Archaeological Research Services (MARS) undertook an archaeological assessment of a proposed U.S. Environmental Protection Agency program to cleanup diesel fuel contamination in and around the CUC Power Plants 1 and 2 located on Puntan Flores (DeFant 2011) (Figure 9). ARCGEO and MARS subsequently conducted archaeological monitoring of the contamination cleanup excavations between September 21, 2011, and November 15, 2011(DeFant 2012).

The investigations conducted by DeFant (2011; 2012) were largely limited to the contamination remediation excavation areas and consequently did not include the full extent of the Japanese Seaplane Base. Nevertheless, these investigations did identify number features related to this facility both exposed upon the current ground surface and buried underneath the power plant complex. Figure 10 illustrates the backhoe excavated trenches and test pits monitored during the diesel fuel remediation project and Figure 11 illustrates the Japanese Seaplane features identified.

The identification of Japanese constructed features, as opposed to post-1944 American features, was particularly challenging. Many of the surviving Japanese structures are easily identifiable due to their similarity with other structures of a

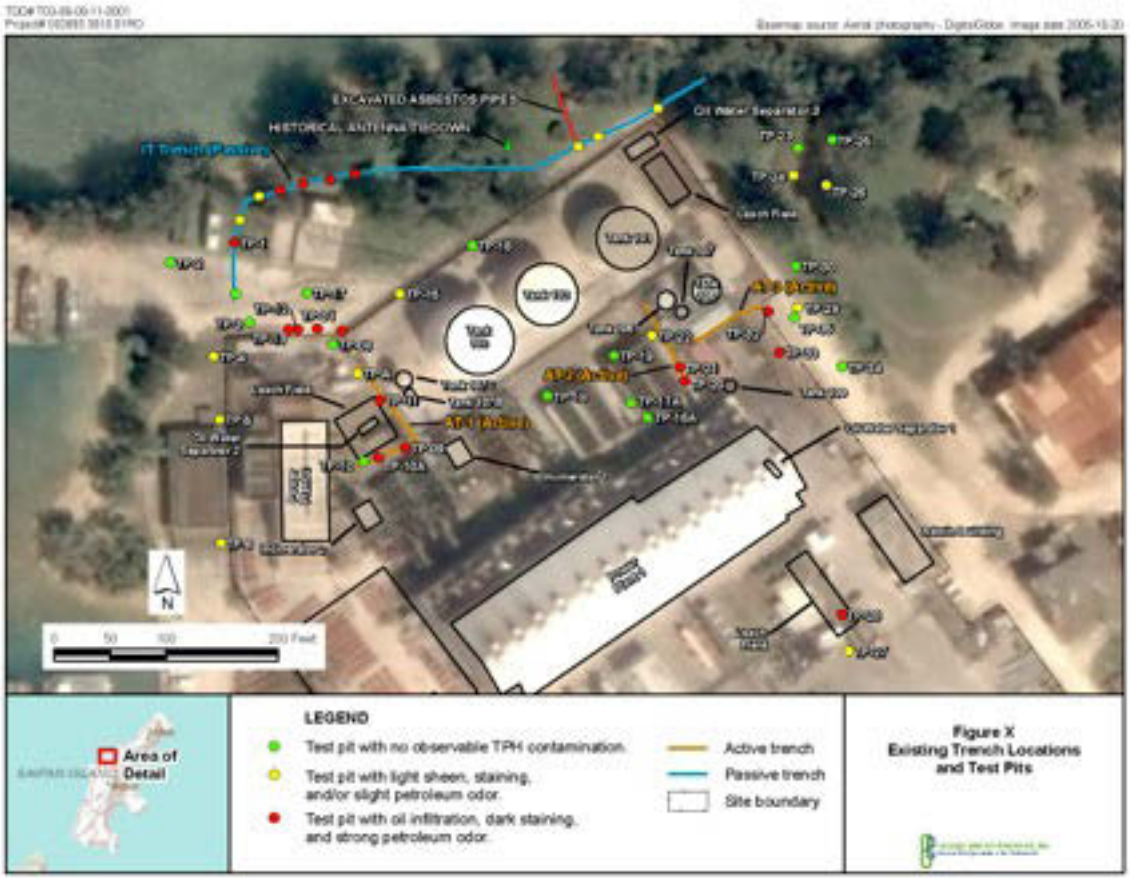

Figure 10. Map of Trenches and Test Pits Monitored by DeFant (2012)

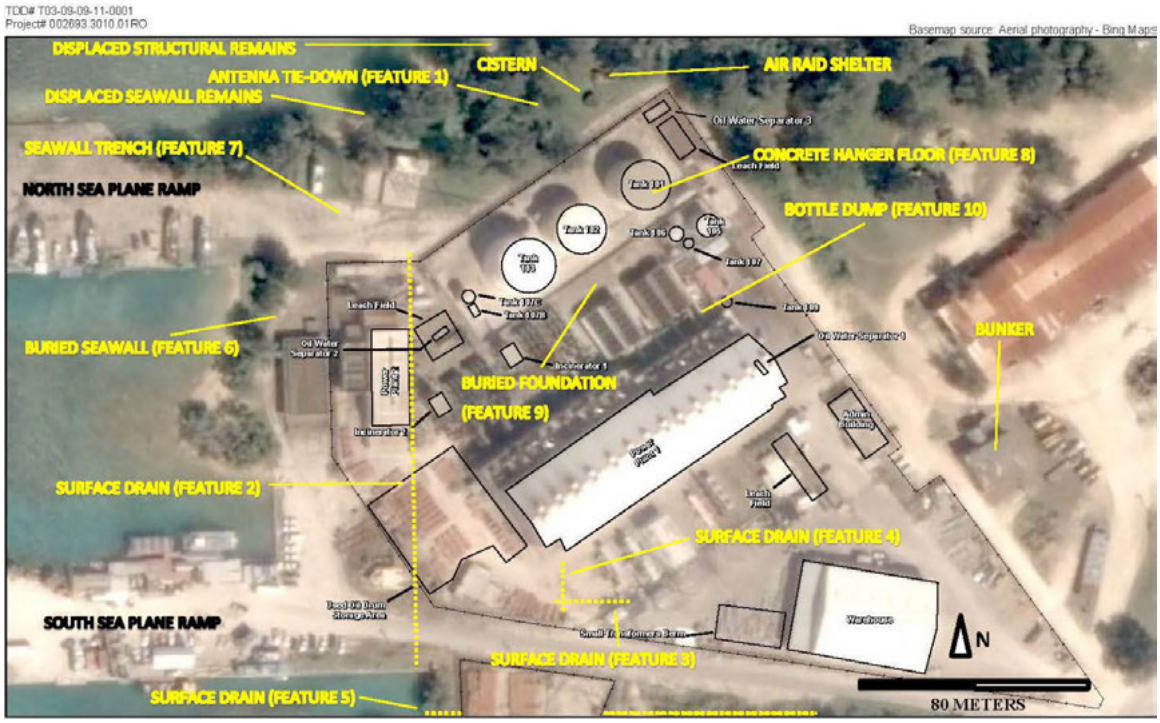

Figure 11. Map of Japanese Military Features Identified

similar origin. For example, Japanese Military air raid shelters, cisterns, and bunkers at Puntan Flores are virtually identical to extant Japanese structures at Aslito Field on Saipan (Denfeld and Russell 1984). These Japanese Era structures are also relatively easy to identify given the common use during this period of an extremely coarse concrete aggregate covered with a fine concrete veneer and the use of smooth rebar reinforcement as opposed to the ribbed rebar used by the Americans. However, the differentiation of Japanese versus American origins for the seaplane ramps, apron ways, floors, and drainages was more difficult to discern. Superficially the Japanese and American concrete used in these infrastructural features appears virtually identical in color and texture. The Japanese apron ways and seaplane ramp surfaces do nevertheless exhibit a greater degree of erosion representative of their greater age and utilization. Moreover, under magnification the American concrete has a glassy appearance while the Japanese concrete has a pronounced fine grained sandy appearance.

Japanese Seaplane Base related archaeological features identified during the investigations conducted by DeFant (2011; 2012) include the North and South Seaplane ramps with associated apron ways, an air raid shelter, a concrete above ground cistern, a concrete pad apparently used as a tie-down for a radio antenna, a subsurface foundation feature related to the North Seaplane Ramp seawall, four concrete drainage features, an ammunition or fuel storage structure, the floor of the North Ramp aircraft hangar, buried portions of the seawall between the ramps, a beer bottle dump feature, an unidentified structural foundation, and a scatter of displaced concrete structural elements.

The North and South Seaplane Ramps measure approximately 152 m (500 ft) long by 42 m wide (138 ft) (Figure 12). Extensive repairs to these features presumably by the U.S. Military are evident. The base of the North Ramp was significantly widened by the U.S. Military within a year of capturing the base. Portions of the original Japanese apron ways that extended from the ramp to the hanger facilities are preserved intermittently around the modern power plant facility and between Power Plants 1 and 2 in particular.

The Japanese Air Raid Shelter measures 19 m (62 ft.) long, 3.05 m (10 ft.) wide, and 2.0 m (6.5 ft.) high (Figure 13). This structure appears identical to the Japanese Air Raid Shelters preserved at Aslito Field on Saipan. The configuration of this air raid shelter corresponds with what Denfeld (1981:87) described as a Japanese Naval Airfield Shelter. These concrete reinforced structures exhibited three 25 mm thick

Figure 12. Photo of North Seaplane Ramp (looking west)

Figure 13. Photo of Air Raid Shelter (looking east)

Figure 14. Photo of Cistern (looking east)

Figure 15. Photo of Fuel Bunker (looking southwest)

steel doors with gas locks and observation ports. The Japanese Cistern (Feature 4) is located approximately 4.4 m (14.4 ft) south of the Air Raid Shelter (Feature 3). This circular above ground cistern measures 5.0 m (16.4 ft) in diameter and is 2.35 m (7.7 ft.) high (Figure 14). Both the air raid shelter and the cistern exhibit numerous pock marks indicative of .50 caliber machine gun strafing by attacking U.S. Military aircraft.

A Japanese concrete bunker is located approximately 230 m (755 ft.) east of the South Seaplane Ramp. This reinforced concrete structure measures approximately 18 m (60 ft.) long, 12 m (39 ft.) wide and 4 m (13 ft.) high (Figure 15). A set of detailed plan and profile illustrations of this structure dated July 20, 1944, identify it as a gasoline storage building (Figure 16) (CNMI HPO 1987). Originally this building was buried under soil for either camouflage or protection from air attacks. The U.S. Military converted this building into a base for their control tower structure (Figure 17). This structure is currently used for storage of CNMI government records.

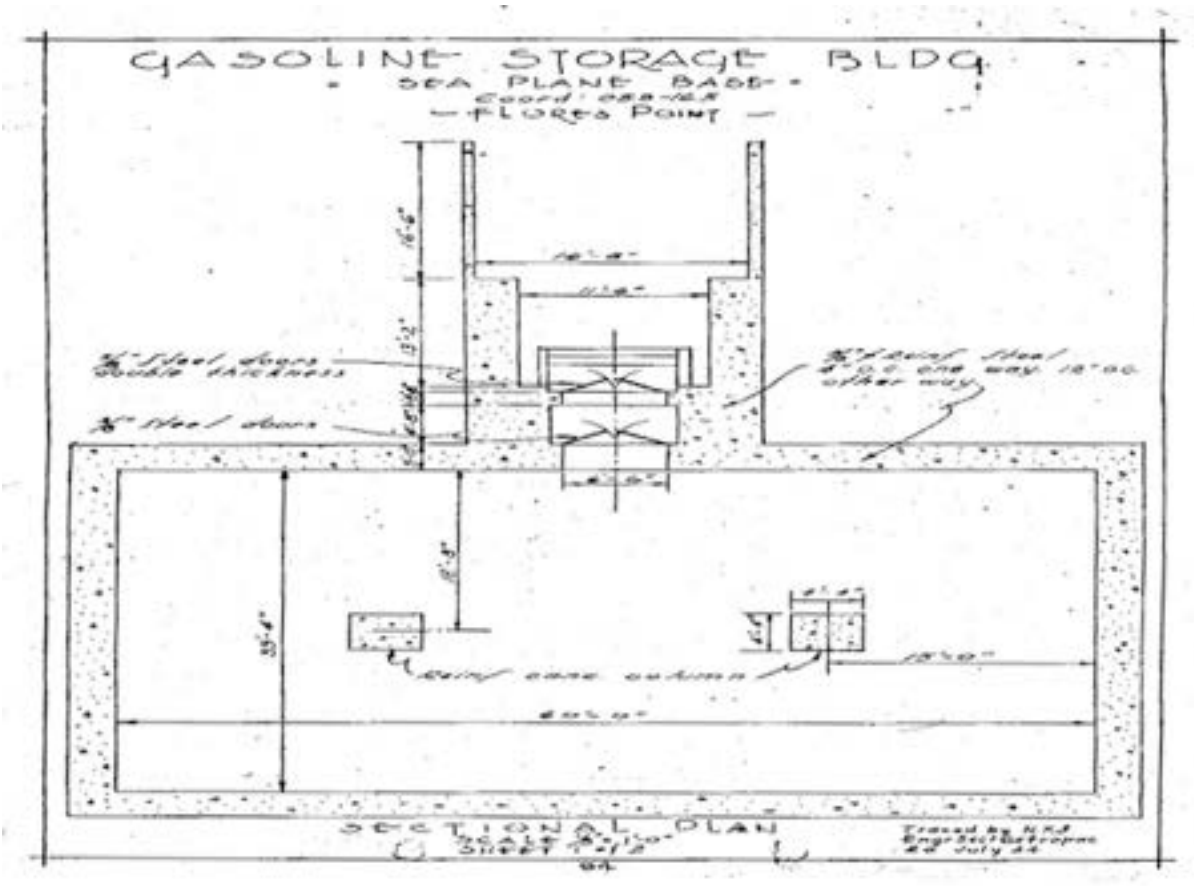

Figure 16. 1944 Diagram of Fuel Bunker (CNMI HPO 1987)

Figure 17. Photo of Fuel Bunker Circa. 1944 (looking southwest)

Approximately 17 m (55.8 ft.) west of the cistern an irregular piece of concrete, designated Feature 1, was exposed upon the ground surface. This feature measures 3.1 m (10.2 ft.) by 2.4 m (7.8 ft.) (Figure 18). A thick iron hook is set into the concrete near the center of the concrete. The exposed concrete is of a similar color and texture to that exhibited by the Japanese seaplane ramp and cistern feature. A map of the Japanese Seaplane Base (see Figure 5) and aerial photos of the Japanese base published in Life Magazine (Life Magazine 1944) indicate that a radio tower was constructed in this area as part of the Japanese Seaplane Base. This feature was consequently identified as most likely a tie-down for this antenna. Figure 19 illustrates the location of this feature in relation to the air raid shelter and cistern.

Figure 18. Photo of Concrete Antenna Tie-down (looking west)

Figure 19. Photo of Concrete Antenna Tie-down (foreground)

Feature 2 represents a still functioning north-south drainage feature that runs approximately 140 m (559 ft.) from the edge of the apron behind the North Ramp to an outfall along the south side of the South Ramp. Significant portions of this drainage feature have been paved over. This feature consists of a concrete lined trench covered with removable concrete covers that on average measure 48 cm long, 46 cm wide, and 25 cm thick (Figures 20 and 21). A 10 cm metal pipe runs from the north end of this drainage feature west to the seawall between the two seaplane ramps.

Features 3 and 4 are east-west and north-south running segments of drainage located approximately 50 m (164 ft.) east of Feature 1 along the apron that extended inland of the South Seaplane Ramp. Feature 5 is an east-west running drainage located approximately 35 m (115 ft.) south of Feature 4 and extending inland from an outfall south of the South Seaplane Ramp. All of these drainage features appear identical in construction. The full extents of Features 3, 4, and 5 could not be determined since they were either destroyed or covered by modern power plant facilities.

The concrete drainages discussed above are remarkably simple yet, well-engineered, and resilient structures features that would have been every effective in channeling rainfall off of the extensive apron ways. Apparently this drainage system was used by U.S. Tanapag NAB Seaplane facilities following the invasion of Saipan in 1944 and continued to be at least partially functioning in the years since.

Feature 6 is a small exposed portion of the seawall that links the North and South Seaplane Ramps. The remainder of this seawall is likely preserved underneath fill that has been deposited in this area.

Feature 7 is a subsurface pit exposed in both the east and west walls of a diesel fuel recovery remediation that crossed the apron way near the current base of the North Seaplane Ramp. This feature measured approximately 1 m wide and 1.5 m deep (Figure 22). This pit was filled with broken pieces of concrete similar in material and shape to the blocks that form the Japanese wall that defines the margins of both seaplane ramps. Similar pieces of concrete were also noted in the same diesel fuel remediation trench located approximately 25 m (82 ft.) to the north. Comparison of aerial photos taken of the Puntan Flores Base before and after the U.S. invasion in 1944 indicates that the U.S. Military widened the base of the North Seaplane Ramp in this vicinity. It is therefore possible that Feature 7 represents the

Figure 20. Photo of Drainage Feature (looking south)

Figure 21. Photo of Drainage Feature (looking west)

Figure 22. Photo of Pit Feature (looking east)

Figure 23. Photo of Displaced Pieces of Seaplane Ramp

foundation of the wall that ran along the northern edge of this ramp during the Japanese era. Figure 23 illustrates several displaced pieces of the seaplane ramp wall there were discovered in a trench approximately 15 m north of Feature 7.

Feature 8 represents a portion of a concrete floor discovered underneath CUC Fuel Tank 101 following its removal. This floor extends over only the southern portion of the fuel tank foot print and consists of individual adjoining concrete slabs measuring 1.9 m by 1.7 m (Figures 24 and 25). A core test of this concrete feature indicated that it is 24 cm thick. The concrete constituting this floor is identical to samples examined from other Japanese Era features at the site. Considering the location of this feature it appears to represent a portion of the northern side of the Japanese metal hanger structure located behind the North Seaplane Ramp. According to aerial photo interpretation of this structure it measured approximately 120 ft. (36 m) by 120 ft. (36 m) (Joint Intelligence Center 1944).

Figure 24. Photo of Hanger Concrete Floor (looking north)

Figure 25. Photo of Hanger Concrete Floor (looking west)

Feature 9 is an unidentified concrete structure identified 65 cm below ground surface in a diesel fuel remediation test pit approximately 28 m (92 ft.) southwest of Feature 8. This concrete feature measures approximately 1.3 m long, 55 cm wide, and 60 cm high (Figure 26). This feature extends into the south wall of the excavation and appears to be a foundation for a structure. It is possible that this feature could represent a foundation located at the southwest corner of the Japanese Hanger structure associated with Feature 8. The distance between this feature and the northern edge of Feature 8 is approximately 36 m which is the estimated width of this structure.

Feature 10 is a concentration of Japanese bottles recovered from a diesel fuel remediation trench approximately 35 m (115 ft) south of Feature 8 and 26 m (85 ft.) east of Feature 9. A total of 15 bottles were recovered from approximately 1 m below ground surface. It is assumed that these bottles were buried in a trash pit although no such feature was identified. Of the 15 bottles recovered nine appear to be beer bottles embossed with "KIRIN BREWERY CO, LTD" (Figure 27); three are Dainippon Brewery Co. Ltd. Beer bottles; two are milk bottles embossed with "守山文化牛乳-Shuzan Bunka Gyunyu" (Shuzan Culture Milk) and 意匠登録- Isho Toroku (Design Right). One bottle is embossed with "レートフード-Reeto Fuudo" on one side and "LAIT FOOD" on the other side.

Figure 26. Photo of Unidentified Feature (looking south)

Figure 27. Photo of Japanese Kirin Beer Bottle

In addition to the features mentioned above, the northern shoreline of Puntan Flores exhibits the scattered displaced concrete structural remains representative of one or more structures. One of appears to have been a small fortified structure likely to have been used for either observation or light arms defense.

Conclusions

The archaeological investigations summarized above included only a very limited portion of what originally constituted the Japanese Seaplane Base at Puntan Flores. The features identified include only those obvious structures (i.e. seaplane ramps, apron ways, air raid shelter, cistern, fuel bunker, drains) in the immediate vicinity of CUC Power Plant facilities and those buried features uncovered during the limited diesel fuel contamination excavations illustrated in Figure 10. Without question many more features associated with this base are located to the east of this study area as well as underneath the existing power plant facilities. What the investigations conducted to-date illustrate is that a significant portion of this historic site has survived.

Further effort should also be directed towards locating Japanese documentary sources related to the Puntan Flores Seaplane Base. The majority of the documentary sources cited in this article come from U.S. Military Intelligence sources that are incomplete particularly in regard to the period before 1944. These future research efforts should also include an effort to elaborate on the role of Saipan's indigenous population in the construction and maintenance of the seaplane facility.

The high quality of construction evident in the features associated with the Japanese Seaplane Base at Puntan Flores are in sharp contrast to the hastily built, expedient, fortifications that the Japanese Military constructed on Saipan starting in early 1944 (Denfeld 1988). The U.S. Navy forces that occupied Puntan Flores beginning in 1944 obviously recognized the quality of this construction, despite the damage from repeated bombardment, and chose to repair and use as much of these Japanese facilities as was possible.

The Puntan Flores Japanese Seaplane Base played a significant role in both the 20th Century history of Saipan and the WWII Pacific War. It is hoped that further investigations will be conducted to identify extant features associated with this site and if possible preserve them for possible interpretive development. Interpretive development of the seaplane ramp features, air raid shelter, cistern, and bunker

structures is strongly recommended given the importance of this site to the people of Saipan and the potential for heritage tourism on Saipan.

Acknowledgements

In conducting the archaeological survey, monitoring, and feature recording fieldwork tasks associated with the Puntan Flores investigations I had the pleasure of working with Archaeologists Travis Takashi Miyagi and Tsutomu Miyagi of ARCGEO. Susan Camacho of ARCGEO and Judy Amesbury of MARS were also of great assistance in supporting our fieldwork endeavors. Environmental Protection Agency on-Scene Coordinators Michelle Rogow and Chris Reiner were very supportive of our work and were of invaluable assistance. I'd also like to thank EPA Hydrologist Dr. Terrence Johnson. Bryan Chernick, Pam Marcyes and the entire crew of Environmental Quality Management, Inc. were also of tremendous assistance with the fieldwork investigations. Adam Smith and Chis Myers of Ecology & Environment, Inc. provided GPS data for the features identified.

In researching the documentary history of the Puntan Flores Base, I am particularly indebted to Duane Colt Denfeld, Historian with Fort Lewis Army Base, who took the trouble to search his files and send me invaluable information regarding the Japanese and American Seaplane Bases. I would also like to thank Wakako Higuchi, who generously shared with me her research regarding the Puntan Flores Seaplane Base. Travis Takashi Miyagi described and translated the Japanese bottles recovered and Darlene Moore of MARS analyzed the prehistoric pottery recovered. Juan Diego Camacho and Mertie Kanai of the CNMI Historic Preservation Office generously shared their information regarding the history of the Puntan Flores area and provided me with copies of informative photographs included in their files. Max Simian of CUC provided a great deal of information regarding the Japanese Era features at Puntan Flores and also shared some historic photos of the area. Scott Russell of the CNMI Humanities Council, Sam McPhetres of Northern Marianas College, Jason Burns of SEARCH, and Geoffrey Mohlman of SEARCH were also of assistance in this research.

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Indigenous Memories of the Japanese Occupation and the War in Guam

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Currently there are several memorial services and ceremonies for the victims of the Japanese occupation and World War II (WWII) in Guam every July. For instance, there are memorial services at Manenggon Valley, the site of a Chamorro concentration camp, and the celebratory events of "Liberation Day".

On December 8, 1941 Guam was bombed by Japanese military aircraft. Two days later Japanese military forces landed, overtook and occupied Guam. The Japanese occupation of Guam lasted for two years and eight months. Then on July 21, 1944, U.S. forces landed on Guam and the battle for Guam began. In post war Guam, "July 21" became the day where the "liberation" of Guam from the Japanese occupation is celebrated.

In this presentation, I will outline the indigenous memories of the Japanese occupation and WWII in Guam. I will also examine the representation of these memories in various events and survivors' stories. Specifically, I would like to pay particular attention to the way memories of the Japanese occupation and the war are passed down through these events and stories. For that reason, it is important to take into account the political circumstances in post war Guam. These circumstances have had an effect on current war memories. An analysis of the political relations between Guam and the U.S. is also significant for observing the representation of the Japanese occupation and the war in Guam.

First of all, I will explain the circumstances of Chamorros in the end of the Japanese occupation and the war. In the last days of the Japanese occupation, Japanese forces were gradually forced into a corner because the war turned against Japan. The situation of the Japanese troops in Guam was also getting worse, which brought about brutalities and atrocities toward the indigenous people of Guam. Japanese soldiers took food from Chamorro people to feed the troops, and Chamorro people were forced to move to concentration camps set up by the Japanese military forces. In books about the general history of such as "*Guam, A*

Complete History of Guam," "*Destiny's Landfall"* and "*Guahan Guam"*, authors said that most Chamorros were forced to walk a very long and rugged way to concentration camps[1]. Manenggon Valley was the one of the major camps. Moreover, at Tinta, Faha, Fena, Chagui'an and other places, pro-American Chamorros and other young Chamorro men were killed by Japanese forces because of the potential threat of secret communication with U.S. forces.

The Japanese military headquarters in Guam could not communicate with the Japanese forces in Saipan during that time. U.S. forces would be upon them soon and they became nervous about the landing of the U.S. military forces. That's why the brutalities and atrocities by the Japanese military forces occurred frequently in the end of the occupation. On July 21, 1944, the U.S. military forces landed on Guam and then the battle against the Japanese military forces continued for about 20 days. The U.S. forces "reoccupied" Guam on August 10, 1941.

As I explained above, memorial services and ceremonies take place in Guam every July since WWII was over. As an example of the memorial services given for the people who suffered and died in the Japanese occupation of Guam and the war I would like to describe the Manenggon Memorial Service. I visited Guam in July 2011 and observed memorial services and ceremonies including the one at Manenggon. Two important points for considering how the passing on of war memories come to mind.

Firstly, I want to describe the people who took part in the memorial services which may be reflected by the society on Guam. A variety of participants were there, such as the survivors of the Manenggon concentration camp, senators of the Guam Legislature, U.S. military officers, Japanese officials and voluntary Japanese who live in Guam, and many others. I thought it remarkable that such a variety of people participated in the memorial for Chamorros who suffered and died in the concentration camp.

The memorial service consisted of several parts including a torch lighting, reflections by survivors, a memorial mass, laying of wreaths and other such things.

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[1] Carano, Paul & Sanchez, Pedro C., *A Complete History of Guam*, the Charles E. Tuttle, 1964, pp. 286-288.; Sanchez, Pedro C., *Guahan Guam: The History of our Island*, Sanchez Publishing House, 1987, pp.220-223, pp.227-228.; Rogers, Robert F., *Destiny's Landfall: A History of Guam*, University of Hawai'i Press, 1995, pp.171-172.

Manenggon Memorial Service

Manenggon Memorial Service

It is notable that the Consul General of Japan and other Japanese voluntary groups attended the memorial service in recent years.

Secondly, I will describe the reflections of the survivors who experienced the internment at Manenggon. The service took place exactly where the Chamorro people suffered so they spoke about their experiences in the same place where it happened. It would be easy for survivors to recall their own situation in those days but in their narrative during the memorial service they spoke of the experiences of many people who were at the camp showing that these memories are being passed down. When we listened to them telling their stories in front of an audience, it helped turn our thoughts to the real experiences behind the narrative. As the example above shows, all sorts of practices were done with regard to preserving and passing on war memories in Guam.

In addition, I would like to describe the representation of "Liberation Day" in Guam, especially the Liberation Parade. In post war Guam, "July 21" became the day to celebrate the "liberation" of Guam from the Japanese occupation. A big parade is held, and quite a number of people take part in the event. There are themes of the celebrating "Liberation Day" every year, for example, the theme of 2011 Liberation Day is "Our Man'amko…Our Legacy"[2]. Here is a list of others from recent years:

Year	Theme
2004	Freedom and Progress
2005	Our Freedom, Our Family, Our Community
2006	Sustaining our Freedom, Honoring our Heroes
2007	The Spirit of Freedom
2008	Inafa'maolek: Inaguiya yan Kinenpredi Para Todu Sharing Love and Understanding for All
2009	We are Guam...A Legacy of Our Ancestors
2010	Honoring our Heroes
2011	Our Man'amko....Our Legacy

[2] "*Man'amko*" is Chamorro language, and it means the elder in English.

Guam Liberation Day Parade

Float in the Guam Liberation Day Parade

There are a variety of floats in the parade, and it is also significant to remark all kinds of people participated in the Liberation Parade such as the survivors who suffered in the occupation and the war, the Governor and senators of Guam, the personnel of Guam National Guard and the U.S. military forces, the personnel of government agencies and other groups and people.

In particular, it is interesting to take notice of the "Liberation Queen". I suppose that the "Liberation Queen" is not just a winner of a beauty contest because the candidates of the contest often join the memorial services and ceremonies as to the occupation and the WWII in Guam. It suggests that there might be some kind of relationship between the contest and the passing on of war memories.

In conclusion, I would like to point out that the surviving war memories could be influenced by the political circumstances of Guam particularly given the fact of the large presence of U.S. military forces on Guam. As I mentioned before, the personnel of Guam National Guard and the U.S. military forces take part in the memorial services for Chamorros who suffered and died in the wartime and the events of "Liberation Day".

On the one hand, U.S. troops might be seen as "the liberator" in Guam, but on the other hand, they took about one third of the island from the Chamorro people to use as military land soon after the war. U.S. Navy and Air Force bases have continued to occupy the land of Chamorros until now.

In short, we can't know the issue of surviving war memories in Guam without paying close attention to the U.S. military forces still on Guam. In addition, more examples are needed to better analyze preserving and surviving war memories in Guam in a future study as there are complicated circumstances involved in this issue.

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As an undergraduate student at Shimane University, the consideration was about the relation between Guam and Japan, but it is not enough to understand the situation on Guam during wartime and the postwar period. Therefore, Arai will also discuss the tripartite relation between Guam, Japan and the United States.

"The Scene of Liberation"

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HACHA We Are War Stories

"We are shaped by war stories" is the beginning line of Chamorro writer Victoria Leon Guerrero's short story *Of a Tree of People*. It is a statement that illustrates well the position of Chamorros today in relation to both their history and the United States.[1] World War II is the most traumatic and impactful event in recent Chamorro history. Analyzing it can help us understand so much of the ways that Chamorros exists today. The past 114 years of Chamorro history are divided into two epochs *"antes di gera"* and *"despues di gera"*[2] attesting to its primacy in shaping how Chamorros see the present and the past. World War II thus becomes "the war" and can be invoked as a single word reply to answering any number of Guam history questions related to land, military service, military bases, the Chamorro social calendar, Chamorro identity and the identity of Guam itself.

This importance of this historical moment does not however necessarily lead to a nuanced understanding of it. As such World War II in Guam continues to be the most researched, most recalled, most recounted, but as I would argue, the least understood moment in Guam history. As an object of history it is something that is hypervisible and hypervisceral, eliciting a flood of emotions and responses arranged in a very narrow spectrum. Hypervisibility refers to the how the representation of something can appear to be secure and obvious, and that it feels as if interpreting it in an alternative way is surely impossible.[3]

This is the paradox that so many communities face about their relationships to the foundational events that create them. While there is a constant need to return to the event, to understand it and to connect it to the present moment, there is also a need to not analyze it too much; because of the ways it may conflict with the

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[1] Leon Guerrero, V. (2008). *Of a Tree of People*. Unpublished Master's Thesis: Mills College.

[2] Vicente M. Diaz, "Deliberating "Liberation Day": Identity, History, Memory and War in Guam," *Perilous Memories: The Asia Pacific War(s)*. T. Fujitani, Geoffrey M. White and Lisa Yoneyama Eds., (Duke University Press, Durham, North Carolina, 2001).

[3] Yen Le Espiritu, "The 'We-Win-Even-When-We-Lose' Syndrome: U.S. Press Coverage of the Twenty-Fifth Anniversary of the 'Fall of Saigon'," *American Quarterly*, (58:2), June 2006, 329-352. Natalia

identities that people accept as natural today.[4] While Leo Tolstoy did once note "Happy people have no history" the argument that ignorance can be bliss only extends so far. The downside to a lack of knowledge or understanding of one's history is that it can leave you vulnerable and weak for manipulation. Those who don't know where they come from are easily susceptible in believing whatever historical narrative best fits with their historical expectations.

In Guam, I would argue that Chamorros exist in one such relationship to their World War II history. It is something that is constantly discussed and invoked, but because of the way it is not truly understood people often find themselves only celebrating or remembering certain aspects and completely missing others. This leads to a very skewed representation of the World War II experience, in particular Liberation Day, which leads to the contemporary identities of Chamorros being skewed as well.[5]

In order to achieve a greater understanding of the relationship between World War II as a historical event and Chamorros today, we must go beyond the recounting of events and the collecting of interviews. We must go past the sorts of methodologies that treat it as just a simple historical happening. We must extend the analysis into the realm of unintended effects and unexpected influences. We have to instead see it as something hegemonic, or something that has risen to the point where we do not only influence it, but it can be considered to have a force of its own. For an event such as World War II in Guam we need to perceive the network of discursive ties that don't only affect those who were present at that time, but can continue to shape the meaning for generations after.

In this essay I would like to analyze Guam's liberation or the American reoccupation in 1944 as not just any historical moment, and not even just as a historical moment that is very significant, but rather one that achieves a new level of ideological salience in Chamorro life. I would argue that the American return to Guam in 1944 has become central in the ways in which political and identity based articulations amongst Chamorros are determined. It is for that reason that I like to refer to a certain stereotypical or prototypical image of July 21st, 1944 as not just any moment, but rather a scene, or to be precise a *scene of liberation.* As such it is

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[4] Ernest Renan, "What is a Nation?" The Nation and Narration, Homi K. Bhabha (ed). (London: Routledge, 1990), 8-22. Homi K. Bhabha, The Location of Culture, (London: Routledge, 2004).

[5] Michael Lujan Bevacqua, These May or May Not Be Americans: The Patriotic Myth and Hijacking of Chamorro History on Guam, (M.A. Thesis, University of Guam, 2004).

something which goes far beyond simply influencing Chamorros or creating in a historical sense who they are today, but actually help provide the limits for their identity and their ability to see the past, present and future.

HUGUA Meet Me in Mannengon

The scene in question is a familiar one to most on Guam. It has been recounted in so many ways and through so many voices. Each year in the month of July, the island cobbles together the scattered memories of thousands of Chamorro survivors to re-create this emotionally charged scene. It is one that few can leave behind without feeling affected in some way, especially for those whose family members experienced it.

I find the most comprehensive description of it comes from Chamorro scholar Laura Souder Betances in her article "Psyche Under Siege,"

> Drenched by heavy rains, up to their ankles in mud, heads bowed low, spirits sagging, the Chamorros at Manengon, Maimai, Tai, Talofofo, and Inarajan were desperately clinging to a last ray of hope. In the silence of the night, Pete Rosario began to sing several lines of a song he had composed 'Sam, Sam, my dear Uncle Sam, won't you please come back to Guam.' It was 1944; the Japanese Imperial Forces had occupied Guam for nearly three years. The brutalities and atrocities of a cruel war on an innocent people had taken their toll…The Japanese herded Chamorros in long arduous marches into concentration camps. Many died. Exhausted, vulnerable, weakened by malnourishment and disease, the Chamorros waited like sheep.
>
> Prayers were answered in that rain-soaked month of July with the second coming of dear old Uncle Sam. Sam came back with thousands of troops to reclaim 'our land' for democracy. The joys of 'liberation' were sweet. Chamorro survivors of World War II embraced all that was American with overwhelming gratitude and profound respect. Uncle Sam and his men were worshipped as heroes, and rightfully so. No one who lived through the tyranny of the Japanese occupation went unscathed. Survival became synonymous with American Military Forces.
>
> …Uncle Sam brought freedom from the Japanese. Yes, he brought food to the hungry: K-rations like spam, corned beef, cheese, pork and beans, bacon, powdered eggs, and powdered milk some of which have become island staples. Yes, he brought medicines to the sick and rebuilt the hospitals and clinics to minister to the health needs of the people. Yes, he

> brought clothes to the needy through the American Red Cross, a welcome relief to most whose only wardrobe consisted of the clothing on their backs. Yes, he provided shelter to the homeless, first pup tents and Quonset housing, and then wooden houses with tin roofs. Yes, he built schools and provided jobs.[6]

Not all Chamorros experienced the liberation of Guam in the same way. The majority of Chamorros were taken to Mannengon and other concentration camps, but the point of this analysis is not to deal with the specific historical details. A scene is not a historically accurate depiction of a moment, but a combination of discursive forces and historical fragments that creates something that becomes more real than the historical reality. Even if a Chamorro in World War II was not given Spam or powdered milk by US Marines and was not taken to a concentration camp and then looked into the faces of beaming, larger than life liberators, the moment of Chamorro desperation and American liberation described above still holds sway over their memories and their identities. Even for those who weren't there, this particular moment feels the most real and the most potent, even if it wasn't how your grandparents or parents experienced it or oversimplifies things greatly.

TULU Chatliberation Day - June 20, 1898

In order to better understand the ways in which a particular moment, such as July 21st, 1944 might become elevated into a scene, we can compare it to other historically important moments in Guam History. The two most likely contenders would be first the American takeover from Spain in 1898 and the passage of the Organic Act in 1950. In this context we should recall that an event is only as important as the discourse that surrounds it. If something happens but no active discourse forms to give it permanence, then even if a gathering of historians might judge it to be significant, the potential meaning will be stifled. It may to most people, mean little or nothing and have no effect on how they understand or navigate the world.

Both the Spanish American War and the Organic Act passage are moments that you could argue are more significant in the formal process by which Chamorros become part of the United States. The first event is when the territory of Guam is first acquired by the United States. The second is an event whereby Chamorros,

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[6] Laura Torres Souder, "Psyche Under Siege: Uncle Sam, Look What You've Done to Us." Sustainable Development or Malignant Growth? (Suva, Fiji. Marama Publications, 1994), 193-194.

who had been US nationals with no rights, governed by an autocratic US military regime for close to 50 years were at last afforded US citizenship and a local civilian government. They represent the beginning and the end of the American colonial period of Guam History, an era where the United States Navy ruled the island through an autocratic one-man regime and Chamorros had no rights and were subject to any whim of a Naval Governor.[7] In the first 50 years of American control over Guam the 32 months of Japanese occupation and the devotion that Chamorros felt for the United States were exceptional feelings. In truth Chamorros regarded the United States with a cautious distance, understanding clearly that while their colonizer could offer them some things, it was not offering them inclusion, it was not offering them a chance to be Americans.[8]

While both of these events are foundational in terms of creating the relationship that Chamorros have with the US today, the amount of discourse that exists to sustain their significance pales in comparison to that of World War II. The Organic Act has no holiday for it and there was never any concerted attempt to gain the oral history of Chamorros who experienced the American takeover in June of 1898. In everyday speech, neither of these events carries the same rhetorical weight as Liberation Day. They are both regarded as significant, but Chamorros are not familiar with the actual structure of these events, while they can easily recount the suffering of their ancestors in concentration camps, their tears drowned by the rain, waiting for America's return.

In his article "Red, Whitewash and Blue: Painting Over the Chamorro Experience" former Guam Congressman and scholar Robert Underwood discusses how part of the elevation of Liberation Day to such an important event in Guam History is due to the fact that it provides both vibrantly positive group meaning (Chamorros as a people suffered and survived together) as well as exciting heroic meaning (Chamorros are heroes because they survived and didn't give up hope).[9] The fact that Chamorros can claim to have participated in World War II and Liberation Day is the fundamental difference between the Spanish American War and the passage of the Organic Act.

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[7] Robert Rogers, Destiny's Landfall A History of Guam. (University of Hawaii Press, Honolulu, 1999).

[8] Penelope Bordallo Hofschneider, Campaign for Political Rights on the Island of Guam, 1898-1950. (CNMI Division of Historic Preservation, Saipan, Commonwealth of the Northern Mariana Islands, 2001).

[9] Robert Underwood, "Red, Whitewash and Blue: Painting over the Chamorro Experience," Pacific Daily News, 17 July 1977, 6-8.

Both of these are unilateral expressions of power and meaning. The US acted and Guam was changed as a result. The events do not create the impression of Chamorros being a true and active part of the United States, but instead reinforce the idea that they are an object of American power; or in other words, just a territory to be governed and managed. They are inspiring moments only if you assume that the goal of Chamorro life is to be somehow attached to the United States, in whatever way possible. Outside of this there is not much to celebrate.

World War II offers a very different set of discursive variables that can allow Chamorros to feel as if they made important contributions and that they should be recognized by others for their suffering and endurance. Chamorros are heroic, Americans are heroic, it is like an action movie in which romance happens to quickly so fast, it is objectively almost silly to watch, but is so conventional and in a way understandable because of the intensity of their short lived love.[10] Given the comfortable way in which Chamorro sees themselves as inseparable from the United States, it feels almost lurid to recall how it was not always so. As Robert Underwood reminds us in his article "Teaching Guam History in Guam High Schools," "The Chamorro people were not Americans, did not see themselves as American-in-waiting, and probably did not care much about being American."[11]

Chamorros overcame this pre-World War II reticence for many reasons. In this context what is central is the narrative that they supported the United States in its liberation of Guam, and that their loyalty empowered and aided in the efforts. This means that there is a very clear and very inspiring place for Chamorros in the commemoration of World War II. They were not mere bystanders or cheerleaders, but they were serious, albeit minor actors. Chamorros suffered, power was exercised upon them, but this trauma could also be transformed into "sacrifice" and it could be used to argue that Chamorros had given up their very lives for the United States.

This aspect allowed Chamorros to use their war experiences to draw attention to themselves in ways the other two events disallow. Chamorros could invoke their suffering *gi i Tiempon Chapones* and insist on being respected or recognized. Underwood further argues that this patriotism and loyalty became a "hammer"

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[10] Bevacqua, These May or May Not…

[11] Robert Underwood, "Teaching Guam's History in Guam High Schools," in Guam History Perspectives, ed. Lee Carter, Rosa Carter, William Wuerch (University of Guam, Mangilao, Guam, 1997), 7.

through which Chamorros could obtain political rights and access to US Federal programs.[12] Because they were loyal and suffered for the US they deserved to be treated more favorably than just any backwater colony. Elite Chamorros, business, political and social leaders worked hard to ensure that the return of the US military in 1944 was remembered in a particularly patriotic way, and few Chamorros publicly chose to challenge that.[13]

FATFAT The Chenchule' Fallacy

Thus we come to the present moment where Liberation Day is a collage of parades, carnivals, beauty queens, community pride, family barbecues and local reason #1 why someone on Guam might be proud to be an American. This centralization of this historical moment in the forming of contemporary Chamorro identity has numerous effects, some of which are more obvious than others.

The power of commemoration is that it can force a community to constantly return to a historical moment and eventually that moment will achieve a certain venerable force simply because it exists. People will respect it and commemorate simply because they are expected to; this holiday, this memorial exists and so it must be important. The way that a historical moment is wrapped in discourse is so important however, in helping shape what sort of identity based assumptions people take from that event, even when they are not actively commemorating it. As already stated, the key is not the event itself, but always the discourse that gives it meaning.[14]

If for example July 21st of each year was celebrated by the island as "reoccupation day" then it could clearly be important, but the method of commemoration would most likely change. Instead of it being an event where the United States triumphantly returns to save the Chamorro people, it would be an event that recognizes how the US return was predicated primarily on defeating the Japanese and reacquiring their territory of Guam. If this was the case it is possible that Reoccupation Day would still compel Chamorros to assume identities that are "grateful" but most likely not ones that are "loyal."

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[12] Patchen Markell, Bound by Recognition, (Princeton: Princeton University Press, 2003).

[13] Underwood, "Red, Whitewash and Blue…"

[14] Keith Lujan Camacho, Cultures of Commemoration: The Politics of War, Memory and History in the Mariana Islands, (Ph.D. Dissertation, University of Hawai'i, Manoa, 2005).

To paraphrase Chamorro Studies scholar Vince Diaz, Liberation Day is covered with a "thick veneer" of meaning.[15] On the surface it appears to be a very simple celebration. This is only true however at first glance. When one looks more closely it is difficult not to see the mass of complexity and contradiction in the event and how it is commemorated. The problem however is that the simplistic veneer often helps keep the event unanalyzed.

The enthusiastic ways in which Chamorros celebrate Liberation Day obscure much about the nature of the event itself. As Chamorros are not forced to celebrate the day or compelled by any outside force to remember July 21st 1944 in a certain way, it is easy to assume that it is unnecessary to give it any extra critical thought. Chamorros are willing, gleeful participants in this commemoration, what is there is analyze when clearly the thousands that show up for each parade are the answer?

In her article "Psyche Under Siege" Laura Souder Betances argues that Chamorros become attached to the US and to Uncle Sam through their war experience by integrating their experiences into their existing cultural beliefs dealing with reciprocity. For her the return of the US was understood through the Chamorro concept of chenchule'.

According to Guampedia, the most comprehensive online resource for information on Chamorro and Guam history:

> *Chenchule'* refers to the intricate system of social reciprocity at the heart of ancient and contemporary Chamorro society. *Chenchule'* is a support system of exchange in which families express their care and concern for each other, as well as a sense of obligation to each other while working together to help each family meet its needs. It signifies the core Chamorro value of mutuality expressed in innumerable ways and is meant to sustain the integrity of the Chamorro family and community. *Chenchule'* is further rooted in the core value of *inafa'maolek* that promotes interdependence within the community so as to provide for the well-being of the whole, rather than that of the individual.[16]

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[15] Vicente M. Diaz, Repositioning the Missionary: Rewriting the Histories Colonialism, Native Catholicism, and Indigeneity in Guam, (Honolulu: University of Hawai'i Press, 2010), 27.

[16] Kelly G. Marsh, MA and Julian Aguon, ' Chenchule': Social Reciprocity', referenced August 1, 2012, © 2009 Guampedia™, URL: http://guampedia.com/chenchule/

This definition gives us a sense of the epistemological underpinnings of *chenchule'*, but the Department of Chamorro Affairs in their *Hale'-ta* series, provides a much more direct characterization. *Chenchule'* refers to "assistance given to a person or family in the form of money or appropriate items for the occasion."[17] *Chenchule'* is something that follows Chamorros as they conduct their social lives. It is a living memory of aid given and received in times of scarcity and plentitude that is meant to help sustain the relationships between people. If you help a neighbor or a relative clear a field for planting, at some point in the future there is an expectation that this action will later be reciprocated in some way. The focus of this system is not on the debts however, but the need to maintain the relationships between the actors and benefactors. In this way it might seem appropriate to invoke the metaphor of *chenchule'* in order to understand why Chamorros invest so much energy in commemorating and celebrating Liberation Day. The return of the Americans in 1944 was a gift through which Chamorros and the United States establish a clear reciprocal bond that endures up until today.

Liberation Day was such a massive form of help that it might appear to break the system. The favor was so enormous and monumental that it was a debt that could not be repaid through the simple clearing of lands, the thatching of a roof or a check in an envelope at a christening. It required so much more. In the years since World War II, Chamorros appeared ready and willing to give up everything in order to satisfy this debt. In exchange for their salvation from the Japanese, Chamorros dramatically changed themselves and their island in order to maintain this new relationship. They started to give things up in order to prove their Americaness. Language, land, culture, life, family, were amongst the many things that were sacrificed on the altar of postwar Americaness.

The problem with the explaining of Liberation Day and its influence on postwar Guam through the context of *chenchule'*, is the misleading way it confuses the concept. *Chenchule'* is not akin to owing your entire life and being to someone. It is not the sort of debt in which another owns your life. Although some people strive for proportionality in their *chenchule'* exchanges, it is not necessary. If someone saves your life, it does not mean you owe him or her your life. If someone gives you a thousand dollars it is not as if you must pay back the exact amount. The

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[17] Department of Chamorro Affairs Research, Publication, and Training Division. Chamorro Heritage: A Sense of Place; Guidelines, Procedures and Recommendations For Authenticating Chamorro Heritage. Hagåtña: Department of Chamorro Affairs Research, Publication, and Training Division, 2003.

chenchule' system creates equals through the exchanges, even if one is richer or more fortunate than the other. The gifts that one gives do not make them better, even if they are superior or exceptional. And at the same time the ability to give a massive present does not make the recipient subordinate.

There are exchanges of money, resources and aid, but the connections and not the power relations are the focus. It is not meant to make you forever indebted, in the sense of chaining you to a particular gift, but rather that the regular reciprocating of gifts will establish an enduring tie that will hopefully bind families together even unto the next generation. If we examine the ways in which Liberation Day is articulated, and what it means for Chamorros and their attachment to the United States; the way it is cited by Chamorros as being the reason for military service, patriotism, loyalty and fear of decolonization, we that a particular gift and a particular debt endure and that the relationship is not allowed to move past it, even multiple generations later.

The idea that Chamorros would somehow eternally be indebted to the US is an affront to the idea of *chenchule'*. If we were the translate the enormity of the Liberation Day *chenchule'* metaphor into more everyday interactions, it would akin to someone helping you at a party and they help you so much that you decide to abolish your own family and become part of theirs. In concluding this section although *chenchule'* can help us understand some parts of the power that Liberation Day has over Chamorro life and their identities, it is still insufficient and potentially misleading.

LIMA Ma Satba HIT pat Ma Satba HAM

After having established the importance of this moment and reviewed some of the literature that has helped us understand it over the years, we can now start to analyze it as a "scene." The notion of a scene comes from psychoanalysis.[18] It is something first articulated by Sigmund Freud in his attempts to describe the ways in which people experience certain foundational moments in their growth, and that their identities will remain attached to that scene even after it is far in their past.[19]

A scene is not a literal moment, but rather the way in which a certain particular historical moment achieves a certain valorized character and can end up feeling

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[18] Sigmund Freud, The Interpretation of Dreams, (Madison, NC: Empire Books, 2011).

[19] Slavoj Zizek, Looking Awry: An Introduction to Jacques Lacan through Popular Culture, (Cambridge, MA: MIT Press, 1991).

more real than the reality of the history it is meant to represent. It becomes reduced to a series of elements that draw people into them, even if they didn't experience them themselves. The scene remains hegemonic in the sense that it plays a central role in structuring meaning for subjects that are attached to it. As such it is always something that you are required to return to and you are unconsciously compelled to articulate your identity in relation to that scene. The way that scene is understood and interpreted become the spectrum from which you can act in reasonable and rational and irrational and maladjusted ways. Even though it happened several generations ago, there are ways that you could argue it is still here with us and that Chamorros are forced to constantly refer to that scene in order express themselves and make statements which those around will interpret as acceptable.[20]

I first began to consider the effects of this historical moment as more than just a moment after an exchange I had with an elderly Chamorro man, a survivor of World War II. While talking about his experiences of surviving the war and his gratitude to the US he made a seemingly normal statement about the US saving him and other Chamorros, *"Ma satba hit."* Translated, it means, "they (the Americans) saved us (from the Japanese)." This sort of sentiment is common, it is a common mantra from those who experienced Japanese brutality and looked upon the arriving American troops as saviors. But there is one interesting feature of this statement that may go unnoticed by most, and allows me to consider it what psychoanalysts call a sinthome. A sinthome, according to Lacanian Psychoanalyst Slavoj Zizek is a statement that functions in the same way a capstone holds up a structure. The statement far more than simply expressing the structure of an ideological formation, actually provides a narrative pointing in stitching it together.[21] As such, "ma satba hit" reveals far more than it seems.

In Chamorro the "us" pronoun is either inclusive and exclusive. For example, in the sentence "they saved us," the "us" can be either exclusive *ham,* which means "us, but not you (the person you are speaking to)," or the inclusive *hit,* "us, including both of us." The fact that this war survivor used the inclusive pronoun, saying that America saved both him and me, reveals something about the way that history, or rather

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[20] Robert Underwood, "Consciousness and the Maladjusted People of Guam," Chamorro Self-Determination. Laura Souder, Robert Underwood, eds. Hagatna, Guam, Chamorro Studies Association, 1991.

[21] Slavoj Zizek, The Ticklish Subject: The Absent Centre of Political Ontology, (London, Verso, 1999), 176.

particular moments or scenes from history, do not remain so, but in fact structure, or hegemonize, the possibilities of the present. It speaks to the way the present must somehow return to that moment in order to find meaning. I wasn't there, I wasn't literally saved, but the moment doesn't just remain in the past, it extends out to give meaning to even those who came decades and generations later. Even if I don't claim to be attached to the scene, Guam today nonetheless sees me as connected to it and defined by it.

GUNUM Subject/Object Relations

The scene itself can be reduced to two basic subject positions. There is the Chamorro, the passive victim of war. The destitute barely subject who can do nothing else but wait for sustenance, wait for salvation. Towering above this Chamorro is the United States Marine, the soldier. He beams with power, with prowess, with authority and agency. His uniform is covered not just in sand, mud and blood, but also stained with glorious ideals like freedom, democracy. He brings to Guam so much that is not just appreciated, but by the rules of the event itself is *necessary.* As Souder notes, he does not just bring with him, the tools which make life possible, as the soldier, the military is survival, he brings with him life.[22] There is no life without him.

The Chamorro was heroic during the war, and suffered and endured in their own quiet ways, but in this moment they are defined primarily through their ability to receive the great gift of freedom from the United States. Their only real act in this moment is their ability to see the United States and to recognize its liberating ability. Chamorro doesn't appear to hold much agency other than to witness American greatness, be loyal to it and receive its gifts.

The US, most prominently through the image of the soldier continues to liberate Guam. Everything that is perceived to "come from" the United States can be seen and felt through this lens. The Spam, cigarettes and powdered milk of long ago become the 8,000 Marines, federal receiverships and food stamps of today. The limiting factor of this relationship is that is deprives the suffering Chamorro of any agency. The problems that Chamorros face, whether they be Japanese occupation, economic downturns, political corruption, etc. are all viewed as things best fixed

[22] Souder, "Psyche Under Siege…"

through US intervention. Every potential problem can be solved through increased loyalty to and assistance from the US.[23]

This sort of assumption is understandable given that the Chamorro possesses little to nothing according to the scene of liberation. It has rags for clothes, hunger, sadness, desperation and a fierce devotion to the US. It offers little, solves little. It is no wonder then that Chamorros rushed in postwar Guam to offer up anything and everything to the US as a sacrifice, hoping to expedite their Americanization.

FITI Displacism

One way in which we could see this dynamic clearly was in the way in which Chamorros for years struggled to "objectively" understand the most recent proposed military buildup to Guam. As announced in 2010, the buildup would consist of the transfer of 8,000 Marines and their 9,000 dependents from Okinawa to Guam, the stationing of an Army Missile Ballistic Defense Task Force, and the construction of a berth of nuclear powered aircraft carriers in Apra Harbor.[24] Every piece of evidence about it indicated that it would either be mixed in terms of its overall effects on the island, or cause serious social, environmental and economic problems.[25]

In other words all studies that took the buildup seriously indicated that it was absolutely not a golden ticket. Yet Chamorros had difficulty taking this position publicly because of the pull of that scene of liberation. According to that scene, what the US gives, especially in the form of the military, saves. It cannot be bad since it gives and sustains life. Chamorros who would probably not benefit in any direct way from the buildup nonetheless felt compelled to support and praise it as something that would make economic dreams come true for the island. It was almost a surreal coincidence that the Marines who are slated to be transferred to Guam include the 3rd Marine Expeditionary Force famous for liberating Guam. A power of the scene is that every potential military increase can be made to feel as if it is those same Marines. Every buildup can be interpreted as similar to that of

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[23] Michael Lujan Bevacqua, Everything You Wanted to Know About Guam But Were Afraid to Ask Zizek, (M.A. Thesis, University of California, San Diego, 2007).

[24] Department of Navy and Department of Army. The Record of Decision for Guam and CNMI Military Relocation including Relocating Marines from Okinawa, Transient Nuclear Aircraft Carrier Berth, Air and Missile Defense Task Force. September 2010.

[25] Michael Lujan Bevacqua, "Manmachalapon: The Breakdown of Guam's Military Buildup," a paper presented at the 2010 University of Guam CLASS Research Conference.

1944, just with different targets (Chinese, ecnomic hard times). And each has the potential to be welcomed as necessary and life-saving in the same way.

One haunting dynamic from this scene is the notion that the Chamorro is now fundamentally incomplete; that it cannot and can never again exist on its own. It must always exist as a shadow of the United States. Throughout my research amongst Guam Chamorros and their conceptions of decolonization this notion was very paramount.[26] Even though the US has figured in a very small percentage of the existence of Chamorros, their presence appears to have colonized almost every inch of the Chamorro psyche. The rhetoric of one famous Chamorro politician and activist Francisco Baza Leon Guerrero shows this change. In 1937, while testifying before a Congressional committee in Washington D.C., he argued that while Chamorros enjoyed having a strong relationship to the US they could easily sustain themselves as they had for thousands of years.[27] He noted that while the world had changed, the land was still the same.

After experiencing the trauma of World War II, Leon Guerrero's opinion seemed to change. In his postwar testimony to the US Congress he argued very famously that "the only 'ism' on Guam is Americanism." He did say this explicitly in order to assert that there was no other ideological "ism" such as Communism contesting Guam, but this statement can be considered a sinthome in terms of expressing a structural change in discourse during that era. The statement reveals that there is only on true force in Guam after the war, and that is the United States. Beyond him arguing that Communism was not a force in Guam, he was indirectly arguing that the Chamorro had lost its presence in the island as well. No longer was the Chamorro something that could exist on its own, it had now been engulfed by the United States and now needed the United States in order to survive.

Chamorros existed as a people and as a society for thousands of years before the US ever existed. Even after Spanish colonization where they were forced to give up significant aspects of their culture and experience very traumatic changes, they continued to assert a minimal distance between themselves and their three successive colonizers (Spain, the US and Japan). Since World War II however, due as I would argue to the hegemonic status of this scene of liberation, that ability to

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[26] Bevacqua, Everything You Wanted to Know…

[27] Mike Phillips, "Land," from, Political Status Education and Coordination Commission, Kinalamten Pulitikat: Sinenten I Chamorro: Issues in Guam's Political Development: The Chamorro Perspective, (Hale-Ta Series, Hagatna, Guam, 1996), 5.

perceive colonialism and to understand the colonial difference has been washed away.[28]

GUALO Screaming Impossibilities

The relationship between the Chamorro and the US that is derived from this scene is not equal, but constantly slides downward. The Chamorro doesn't have a mature, objective relationship with the US, but one that is constantly riddled with fear of losing the US. This scene becomes problematic and more clearly limiting when we began to think about it in the context of decolonization, or Guam achieving a more equitable and fair political status. This scene deprives the Chamorro of agency, it creates the feeling that Chamorros don't have such rights to decolonization, that they couldn't do it, that they shouldn't do it.

As the Chamorro is incomplete, the scene itself and the relationship it proposes between the US and Guam supplies the consistency for the existence of the Chamorro, then by default there is no Chamorro without these liberators, no possibility for it without the United States. In discussions of decolonization this limit becomes very apparent in the ways in which decolonization is associated with suicide, and the possibility of anything outside of the United States is aligned with death and nothingness.[29] Given the scene itself, no other agents, no other possibilities seem to be allowed.

To imagine Guam without the United States means to erase the soldiers from this image, and with them the gifts that they bear, the life and the survival they represent. It means to leave the Chamorro wallowing in destitution, starvation, disease. It means to sentence the Chamorro to a horrible death.

Decolonization must therefore be resisted as the antithesis to life. Sometimes this resistance takes the form of assuming the meaninglessness of the local. Where the particularity of the local is bared for all to see as being incomplete, and to rely on the Chamorro alone, Chamorro culture, history and other objects is not enough to live, to survive. To this end, in discussions about decolonization Chamorros resistant to it in any form, will make clear the necessity of the United States by

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[28] Partha Chatterjee, The Nation and its Fragments: Colonial and Postcolonial Histories, (Princeton, Princeton University Press, 1993).

[29] Fred Garcia, "Decolonization Movement…A Suicide," KUAM Community Commentary, http://www.kuam.com/interact/communitycommentary/articles/fredgarfanhasunet-12200301.asp, 20 December 2003. Site Accessed 20 May 2009.

revealing the Chamorro without the United States as pathetic, as simple, as backwards, as static.

This resistance leads to the most tragically hilarious constructions. In my Masters Thesis in Ethnic Studies I conducted numerous interviews with Chamorros in California and Guam on the topic of decolonization, and this dynamic of decolonization = suicide or being an impossible thing was constantly reiterated. For one Chamorro, decolonization, the possibility of a life not inevitably dependent upon the United States was ridiculous because the running of the island would therefore amount to partying and cooking meat on grills. "Are we going to run this island by barbecuing? By throwing fiestas?"[30] Guam cannot be run on barbecue alone, and apparently for this gentlemen a Chamorro apart from the United States is a barbecuing subject. These constructions read like anthropological inventories of artifacts and practices. The potentially decolonized Guam and Chamorro is quickly attached to some ancient object and that object is therefore shown to be unequipped to deal with the realities of modern life.

As one young Chamorro explained to me, "We were a proud people, who understood the land and the sea. But *umbree ga'chong*, how are you gonna fight terrorists with a fishing spear? Or with a *fosinos?* We can't do it on our own."[31] In other instances the absence of America reduces Guam to literal chaos. During discussions I have heard the most interesting paranoid fantasies about what would take place if America left Guam. They range from Chamorro governors selling drugs through government offices and ruling the island like dictators to communist China invading the day after the Americans leave. It is only the constant returning/arriving of the Americans which keeps this chaos of war and breakdown of social order from coming about. Sometimes however, the articulations aren't laughable, but traumatically simple, such as this statement by an elderly Chamorro, "*Lahi-hu,* without America, we're nothing."[32]

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[30] Fulanu, Interview with Author, Inarajan Fiesta, Inarajan, Guam, 6 May 2004.

[31] Fulanu, Interview with Author, Cup & Saucer, Hagatna, Guam, 9 June 2004. Umbree ga'chong: "C'mon friend." Fosinos: An indigenous gardening tool, used for weeding, picking fruit or breaking up dirt clods.

[32] Adolf Sgambelluri, Personal Communication, PDN Building, Hagatna, Guam, 2 December 2002. Lahi-hu: "my boy."

SIGUA Colonizer and Child

Decolonization in this scene of liberation is an impossibility. The Chamorro becomes trapped in a type of colonial logic, one famously illustrated in a prewar image "Most Like His Dad Everyday." The image comes from *The Guam Newsletter*, Guam's first newspaper published by the United States Navy. In the image we find Uncle Sam standing tall, dressed in his typical American flag suit and hat. Beisde him is a dark, ambiguously sexed Chamorro child, in a generic white dress. The height of the Chamorro and Uncle Sam is almost equal but only because the Chamorro is standing atop a pile of blocks. These blocks represent America's colonization of Guam and civilizing of the Chamorro. On them you find the words describing the great achievements that the United States has brought to the people, such as utilities, telephones, sanitation, etc. Uncle Sam stands atop a single thin block that brags about his mastery over "advancement."

The intent of the image is to portray that the United States had accomplished much in molding the Chamorro, and that it was possible one day it could measure up to and be equal to the United States.[33] Within this representation there is a hidden colonial logic. Although the comic is predicated on illustrating how the Chamorro is progressing and "moving up" and becoming more like the United States, the imagery itself indicates that the Chamorro is actually frozen in time and has been robbed of its ability to grow and evolve. The Chamorro can only change through what Uncle Sam provides him. Its Americanization is not connected to any internal process but is dependent upon it been given more blocks, more gifts to bring it higher.

The scene of liberation possesses a similar structure. The Marine can enter and leave the scene, as the moment existed based on the assumption of his ability to arrive and to save. The Chamorro is afforded no such luxury. The ability for the Chamorro to move lies with the colonizer, as he leads so the Chamorros can change. As decolonization is meant to be a fundamental movement stemming from the colonized it is something that this scene is meant to disallow.

As a political being the Chamorro is grossly incomplete; its existence kept secure and solid by the presence of the US. In an ironic fashion the Chamorro in the scene of liberation is reduced to the lump of brown flesh that prewar Naval Governors would refer to in their reports; docile, lazy, free from desire for progress

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[33] Anne Perez Hattori, Colonial Dis-Ease: US Navy Health Policies and the Chamorros of Guam, 1898-1941, (Honolulu, University of Hawai'i Press, 2004).

or change.[34] The prewar Naval governors argued Chamorros had no ability to changes themselves or improve themselves and that it would have to be America who would do it for them. The scene of liberation is the watershed moment in Chamorros accepting this colonial premise, in giving up their alterity and autonomy as a people and accepting the colonial lie that they are impossible without their colonizer.

MANOT'FULU Guaha leche, guaha Spam…lao taya' decolonization…
The scene of liberation engulfs the colonized and is a moment where decolonization is meant to die as it is a process whereby Chamorros are meant to have at least one right, one shred of existence that cannot be accounted for by the beaming liberator. It is a choice that the world agrees they have inherently, whether or not their colonizer wants to admit it or not and sometimes even despite the fact that the colonized don't want to accept it.[35]

The decolonizing impulse is rooted in the idea that the colonized still exists in some way outside of the colonizer. It requires not just a feeling of loathing and disgust for the colonizer, but a positioning of oneself beyond what his imperial ideology accounts for.[36] That is where the colonized can finally perceive the possibility of decolonization. Depending on the situation the colonized may see themselves as capable of much or capable of little, but the scene of liberation requires that they see what they have only through their relationship to the US, and that to choose otherwise is akin to choosing death over life, starvation over full bellies, desperation and suffering over comfort and prosperity.

The most intriguing way that this manifests is how the Americanization that Chamorros on Guam feel does not make them feel as if they deserve to be full Americans. Despite the loyalty and devotion that Chamorros feel for the US there is little to no movement on Guam for the island to become a state or become a full, respected and recognized member of the union they love so much and choose to

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[34] Governor of Guam, Annual Report, 1904, 2-3.

[35] United Nations Fourth Committee, Delegates Urge Eradication of Colonialism during Second Decades, As Fourth Committee Urges Debate, http://www.un.org/News/Press/docs/2004/gaspd284.doc.htm, 4 October 2004. Site Accessed 15 January 2010.

[36] See Chapter 8, Michael Lujan Bevacqua, Ghosts, Chamorros and Non-Voting Delegates: GUAM! Where the Production of America's Sovereignty Begins! (Ph.D. Dissertation, University of California, San Diego, 2010).

fight and die for in such high numbers.[37] The scene explains this as well. Although you could argue that Chamorros acted heroically and very bravely during World War II and did much to save themselves, the scene requires you to acknowledge that all of this is dependent upon the US returning to provide the full liberation. The small acts of resistance and endurance are nice and inspiring, but as one Chamorro survivor noted in an interview, "Without the US coming back, Chamorro resistance is futile."[38]

Even should the colonized make a choice to become part of the colonizer that also requires a shred of agency the scene doesn't admit to. It requires that the Chamorro be able to act to take the place of the American, even should the American themselves not want it. It requires the Chamorro to be able to understand what is best for themselves and taken on the responsibility of liberating themselves.

Guam has reached a point in its existence where the current colonial relationship cannot take it any further. The handouts can support it, but they cannot help it grow, they cannot help it move to a different level. Chamorros from Guam today find themselves in a position that is no longer supposed to exist. They live somewhat comfortably in what is left of formal colonialism in the world. The scene prevents them from perceiving the need or the possibility to change things.

Manot'Fulu A New Scene

In his *Thinking Out Loud* series that Robert Underwood gave to commemorate the end of his term as a non-voting delegate for Guam in Congress, he made a very important argument that few people have taken seriously in the 10 years since. He argued that the Chamorro patriotism that bloomed so ferociously in the constant cultivating of that Chamorro war experience has taken Guam far by territorial standards, but is simply no longer effective.[39] The patriotism of Chamorros may at once have been unique or exceptional but now it is expected and commonplace and so trotting out before the US Congress the glorious bodies that Chamorros

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[37] Michael Lujan Bevacqua, "The Exceptional Life and Death of a Chamorro Soldier: Tracing the Militarization of Desire in Guam, USA," Militarized Currents: Toward a Decolonized Future in Asia and the Pacific, Setsu Shigematsu and Keith Lujan Camacho (eds.), (Minneapolis: University of Minnesota Press, 2010).

[38] Jeff Barcinas, Personal Communication, Dulce de Nombre de Maria Cathedral, Hagatna, Guam, 17 October 2008.

[39] Robert Underwood, Uncle Sam, Sam, My Dear Old Uncle Sam, Won't you Please Be Kind to Guam. Thinking Out Loud Lecture Series. 20 August 2003, University of Guam, Mangilao, Guam.

have sacrificed for the US is by now passé. He argues that for decades Chamorros would go to Washington D.C. and sing "Sam, Sam My Dear Uncle Sam Won't You Please Come Back to Guam," but today a new song, one which is not built upon their war experience is needed to take Chamorros and Guam any further.[40]

I would argue that Chamorros also need a new scene from which to understand their identities as well. One which does not commit them to a terribly unequal relationship with the US, but one which will allow them to see themselves as deserving a chance to evolve politically, and will help them see the long-term need for decolonization.

[40] Robert Underwood, Harmonizing With Uncle Sam: A New Rap or a Swan Song. Thinking Out Loud Lecture Series. University of Guam, Mangilao, Guam. 31 August 2003.

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His thoughts can be most frequently found on his blog "No Rest for the Awake - Minagahet Chamorro," which he first started in 2004.

Amelia Earhart in the Marianas: A Consideration of the Evidence

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Abstract: *Ever since the 1937 disappearance of American aviation pioneers Amelia Earhart and Fred Noonan – or at least since World War II, rumors have been rife about their appearance in Japanese custody on various Micronesian islands, particularly Saipan. We examine the evidence brought forth by various authors for different "Saipan Custody" hypotheses and present an assessment of the likelihood that any of them represent what actually happened to Earhart and Noonan.*

The Mystery

One of the abiding historical mysteries of the twentieth century in the Pacific is that of "what happened to Amelia Earhart." Earhart, a pioneer in American aviation, and her equally pioneering navigator Fred Noonan, disappeared on July 2nd 1937 en route from Lae, New Guinea to Howland Island in their two-engine aluminum Lockheed Electra 10E, during an attempt to circle the globe at the equator. Earhart's last generally accepted radio message, received at Howland by the US Coast Guard cutter *Itasca* waiting offshore, indicated that she believed she was somewhere along a line bearing 157° 337°, generally referred to as a "line of position" (LOP), running through the island's charted location. Earhart said they were flying "on line north and south." After their loss a vigorous search failed to find them, and in the decades since a number of hypotheses have been advanced for what happened to them.

Among the best known hypotheses is a set of overlapping propositions that they were captured somewhere in the Micronesian islands then under Japanese administration, and incarcerated on Saipan (or in one account Tinian) where in most accounts they died or were executed and were then buried[1]. In this paper we

[1] A few stories have Earhart at least surviving the war and returning to the U.S.. We examine these stories only to the extent they bear on Earhart's/Noonan's presence in the Marianas.

attempt a systematic description, analysis and critique of the eight stories that in various configurations constitute the "Earhart-in-the-Marianas" hypothesis.

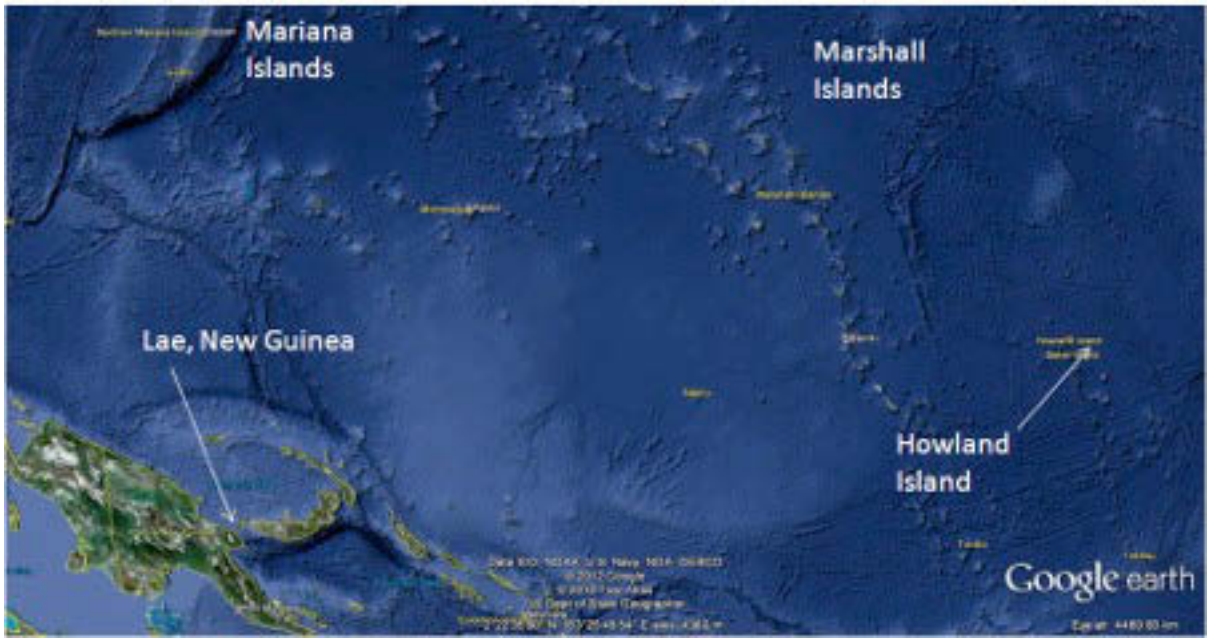

Figure 1: Main Locations Referred To (Source: Google Earth)

The Authors

In the interest of full disclosure, we acknowledge that we are active participants in the work of The International Group for Historic Aircraft Recovery (TIGHAR), which for the last 24 years has been collecting and analyzing evidence related to what we call the Nikumaroro Hypothesis that Earhart and Noonan landed and died on Nikumaroro in the Phoenix Group, Kiribati. We think that the historical, archaeological, and other data we have collected strongly suggests that the Nikumaroro Hypothesis is correct. This fact will probably cause some proponents of Earhart-in-the-Marianas to reject the analysis reported here out of hand; we can do nothing about this. We can only assure readers that we have tried very hard to prepare this paper with open minds, and we ask that it be read in the same spirit.

The Sources

In preparing this paper we have reviewed all the books we could find positing that Earhart and Noonan were in the Marianas, together with a number of media accounts, letters, emails and manuscripts filed with TIGHAR; these sources are discussed below.

Boundaries on Our Research

We have limited our consideration to those stories that have Earhart and Noonan spending some time on Saipan and/or Tinian as captives of the Japanese. We have

not dealt with stories about their capture and death in the Marshall Islands or Chuuk except where these stories involve their transport to Saipan. We have not considered those that put them in New Guinea or New Britain, or with those that have them being taken straight to Japan. Nor have we considered those notions that do not feature incarceration at all for example the Nikumaroro Hypothesis or the hypothesis that Earhart and Noonan splashed down in the Pacific and sank.

The Eight Stories

What we call the Earhart-in-the-Marianas Hypothesis is reflected in eight interrelated stories, though not all proponents of the hypothesis subscribe to all eight in all respects, and some more or less contradict others. The eight stories are:

- That Earhart and Noonan flew their Electra 10E directly to Saipan from Lae, New Guinea;
- That Earhart and Noonan landed elsewhere in Micronesia and were brought to Saipan;
- That the Electra was at Aslito Airfield (now Saipan International Airport);
- That Earhart (and in some versions, Noonan) was incarcerated at the Garapan jail;
- That Earhart was incarcerated or otherwise kept elsewhere on Saipan;
- That U.S. Military personnel found physical evidence of Earhart on Saipan and elsewhere in Micronesia;
- That Earhart and Noonan died or were executed on Saipan or Tinian, and were buried there; and
- That the U.S. government covered up the facts of the matter.

Below, we will examine each of the eight stories.

Earhart and Noonan Flew to Saipan

The Story and its Evolution:

There are several versions of the story that Earhart and Noonan flew the Electra directly from Lae, New Guinea to Saipan.

Paul L. Briand, Jr. published his account in his 1960 book *Daughter of the Sky; The Story of Amelia Earhart.* It is based on the eyewitness account of former Saipan resident Josephine Blanco Akiyama, who said that as a young girl she saw a silver plane fly over and later saw a Caucasian couple surrounded by Saipanese. She said the two were led away by Japanese soldiers, that shots rang out and the soldiers returned alone. Briand concluded that Ms. Akiyama had seen Earhart and Noonan; his book proposes that problems with navigation equipment during the night

resulted in Earhart turning north instead of flying east, and that Noonan, either incapacitated or asleep, failed to correct the error. When the sun rose, Briand posits that they looked for land and saw Saipan. Being out of fuel, they ditched in the harbor at Tanapag, where they were captured by the Japanese and executed as spies.

Another version of the story was published in 1969 by Joe Davidson in *Amelia Earhart Returns from Saipan*. Davidson recounts the efforts of a group of investigators from the Cleveland, Ohio area led by Donald Kothera. They first tried to find an aircraft Kothera had seen on Saipan after the war, and which he thought, in retrospect, might have been Earhart's, but also recorded the stories of residents. Davidson's version of the "flew to Saipan" story was derived largely from the eyewitness account of Antonio Diaz, who said that in 1937 he was directed by the Japanese to help move a plane that had crashed into some trees near Tanapag Harbor at about 3:00 in the morning. Kothera and his colleagues showed Diaz pictures of Earhart and Noonan as well as the Electra; he said he thought they looked like the people and plane he had seen. Diaz said he thought the plane, which was not badly damaged, had been loaded on a ship in the harbor but he did not know what had happened to the fliers.

A third version of the story was told by Thomas E. Devine in his 1987 book *Eyewitness: The Amelia Earhart Incident,* and repeated in 2002 with elaboration in *With Our Own Eyes* by Mike Campbell (with Devine). Devine a self-identified eyewitness to the Electra's presence and burning at Aslito Airfield in July 1944 (See below), believed that weather and radio problems produced miscalculations that sent the plane north rather than east. Devine was convinced that Earhart and Noonan flew directly to Saipan, where they were captured and killed; Campbell seems a little less sure, and devotes considerable space to considering the alternative that the plane came down in the Marshalls and was brought to Saipan by the Japanese (See below).

The Evidence

As noted, Paul Briand's primary evidence is the account of Josephine Blanco Akiyama, who said that as an eleven-year-old girl she saw a plane go down in Tanapag harbor, from which came a tall man and a woman with short hair and dressed like a man, the first westerners she had ever seen. In 1946 she related the story to her employer, a dentist for whom she worked; it made news in 1960 when it was published in the *San Mateo* (California) *Times*. Briand concludes that the

"American woman and her tall male companion could have been none other than Earhart and Fred Noonan" (Briand 1960;196).

Joe Davidson mentions Ms. Akiyama's story, which has the Electra ditching in Tanapag Harbor around noon, but he concentrates on the eyewitness testimony of Antonio Diaz, who has the plane landing near the beach at around three o'clock in the morning. Diaz said he did not see the plane land but the fliers were "one man and one woman wearing a jacket and pants." He said their Japanese captors identified them as Americans, that they were not injured in the landing, and that he had no knowledge of what happened to them. He said the plane was hardly damaged except that it crashed into some trees, and he was engaged to help build a coral road to transport the plane from where it crashed to the harbor. This work, he reported, took two weeks, and the plane was then loaded aboard a ship. He said he was told that it was taken to Japan. The recollections of Antonio Diaz are the only reported evidence for this story.

The initial evidence for Devine's version of events comprises his own recollections, which feature learning that the Electra was in a locked hangar at Aslito Field in July 1944, then seeing it in the air, and then seeing it on fire near the hangar. He said he clearly saw the plane's serial number, NR 16020, which became "etched in my memory." He also reported being told about, and seeing, a gravesite said to be Earhart's and Noonan's. Some two dozen corroborating eyewitness and other accounts are presented in Campbell's book. Neither Devine's nor Campbell's book provides evidence for the confusion aboard the Electra that Devine thought brought it to Saipan. Apparently Devine took the fact that he recalled seeing it there in flying condition as prima facie evidence that it had been flown there.

Earhart and Noonan Were Captured Elsewhere and Brought to Saipan
The Story and its Evolution:
In late 1960, the Office of Naval Intelligence (ONI) assigned a Special Agent, Joseph M. Patton, to evaluate the Earhart-in-the-Marianas stories about which investigators from the mainland were starting to inquire. Patton interviewed a number of people on Saipan, including members of the family of Josephine Blanco Akiyama and people who had held positions of authority during the Japanese administration. He concluded that:

> *A preponderance of hearsay evidence, and the statements of people who were in the area in 1937, failed to indicate that Subject (sic: Earhart) crashlanded her airplane on Saipan, or that she was buried at Saipan. The hearsay evidence advanced by two informants set forth supra: Jesus Salas and Jose Villagomez,*

> *tended to indicate that the Japanese at Saipan had known at least the approximate location of Subject's crash to have been in the Marshall Islands* (Patton 1960:9).

In *The Search for Amelia Earhart,* published in 1966, Fred Goerner began with Josephine Blanco Akiyama's story, but after years of study came to believe that Earhart had come down and been captured in the Marshalls. Navy veterans told him a story they had heard from a trusted Majuro schoolteacher named Elieu Jibambam, who had heard it from a Japanese friend named Ajima. Some time before the war, Jibambam said Ajima had told him, a white woman flier had run out of gas and landed between Jaluit and Ailinglapalap. Goerner concluded that she landed at nearby Mili Atoll. The story said a Japanese fishing boat picked her up and took her to Jaluit, whence she was taken to Kwajalein and then to Saipan. Mr. Jibambam apparently told this story as early as 1944 to U.S. Navy Lt. Eugene T. Bogan (No author 1944; Goerner 1966:163-5).

Goerner believed that Earhart was on an "unofficial" spy mission and had flown over Chuuk (then known as Truk) before heading toward Howland. He says that the Electra was fitted with extra-powerful engines that would permit her to travel this extra distance in the allotted time. He surmises that when she was unable to find Howland, she headed northwest hoping to reach the Gilberts, but ended up in the Marshalls where she ditched.

According to Joe Klaas, as set forth in his 1970 book *Amelia Earhart Lives*, the Electra was shot down by the Japanese at Orona (then called Hull Island) in the Phoenix group on July 2, 1937. Like Goerner, Klaas and his primary source, retired Air Force officer Joe Gervais, hypothesize that Earhart flew over Chuuk on a spy mission and then flew toward Howland. Klaas posits that they went to the Phoenix Islands looking for Kanton (then known as Canton Island) with its improved runway, where they could land safely and lie low while the Navy searched for them at the same time checking out the Marshalls to see whether the Japanese were fortifying them. But the Japanese, he proposes, had an aircraft carrier in the Phoenix Islands, and shot the Electra down near Orona. They were captured at Orona and eventually taken to Saipan.

Klaas goes beyond Goerner in proposing that Earhart was flying a more advanced aircraft than the Electra. He suggests it could have been a secret copy of the new XC-35, which Lockheed flight-tested in May 1937. The XC-35 had a pressurized fuselage and would have been able to fly higher and faster than the Electra.

In 1985, Vincent Loomis published his version of Earhart's capture at Mili Atoll: *Amelia Earhart, The Final Story*. His scenario is based on an analysis of her final flight by Paul Rafford, Jr. Rafford concluded that Earhart was blown off course toward the north during the night as she flew toward Howland Island after passing over Nauru. When she reached the 157-337 line of position she was well north of Howland, which she was unable to locate after searching along the line for about an hour. She then flew back toward the west expecting to find one of the Gilbert Islands, but she was farther north than she thought and her course took her to Mili Atoll in the Marshalls. She ditched the aircraft near one of the islands and was captured by the Japanese. They took her and Noonan to Saipan in a fishing boat.

The Loomis version differs from the others in that he does not hypothesize spying or secret aircraft modifications or substitutions. Rafford does posit that before departing Lae, Earhart changed her intended route of flight slightly to pass over Nauru, because Noonan allegedly had been drinking (Loomis 1985: 8) and could not be relied upon to navigate during the first portion of the flight (Loomis 1985: 97-99; 116). He speculates that Earhart was able to get to Nauru without Noonan's help, and then flew toward Howland. By the time they were getting close to Howland and needed to know whether they had reached the 157-337 line of position, he has Noonan sober and able to do his job. He assumes they determined that they were on the line, but that unknown to them, the wind had blown them about 150 miles north of Howland. From there they flew westward and ended up at Mili Atoll when their fuel ran out.

Three years after Loomis published his account, T.C. "Buddy" Brennan III published *Witness To The Execution: The Odyssey of Amelia Earhart*. Brennan has Earhart and Noonan crashing and being captured at Mili Atoll and brought to Saipan, where late in the war Earhart, at least, was executed and buried.

Randall Brink also subscribed to the Mili Atoll story in his 1994 book, *Lost Star, The Search for Amelia Earhart*. Brink has Earhart on a spy mission for the U.S. government, flying a new aircraft with secret cameras. More powerful than the Electra, it was capable of flying from Lae to Chuuk and on to Howland. Even though the plane had advanced direction-finding capability, and thus should have been able to locate the *Itasca*, at some point Earhart turned back, wound up in the Marshalls and ditched at Mili. Earhart and Noonan were captured by the Japanese and put aboard the Japanese ship *Kamoi*. They were taken to Jaluit and then to

Kwajalein. From there they were flown to Saipan. Brink contends they were held on Saipan for a time but were eventually imprisoned elsewhere. He does not believe the Japanese would have executed Earhart, but offers no conclusions about her ultimate fate.

In his 2002 *With Our Own Eyes: Eyewitnesses to the Final Days of Amelia Earhart,* Mike Campbell provides a fairly comprehensive summary of the Marshall Islands stories, but in the end expresses uncertainty in the face of his mentor Thomas Devine's conviction that Earhart and Noonan flew directly to Saipan and landed there.

The possibility that Earhart was engaged in a mission to spy on Japanese activities in Chuuk is alluded to by several of the authors, though most make little of it. A "special section" of the online "CNMI Guide" (No author, n.d.) summarizes many of the eyewitness and other informant accounts discussed elsewhere in this paper, and implies that Earhart and Noonan might have been captured at Chuuk and transported to Saipan.

The Evidence

The evidence cited for the various versions of this story mostly comprises informant testimony, some by eyewitnesses, but much of it second- or thirdhand. In some cases, authors say that documentary evidence exists to support their assertions, but we have been unable to confirm the existence of such documents.

Patton's information came from two informants on Saipan: Jesus Salas and Jose Villagomez. Patton said Salas told him that while imprisoned in Garapan he had overheard Japanese police talking about "a white woman's airplane crashing at or near Jaluit Atoll" (Patton 1960:8). Sheriff Manuel Sablan told Patton that Villagomez had told him that he had overheard a similar conversation (Patton 1960:6).

Goerner collected a number of anecdotal accounts about white people in Japanese custody on Saipan before or during the war. He also spoke with a former Lockheed employee who told him he had helped modify the Electra to house secret cameras in the lower fuselage, and that more powerful engines and more fuel capacity were added. Goerner spoke directly with Elieu Jibambam, who said he had not seen the fliers himself but his good friend Ajima had seen them captured in the Marshalls. Goerner said that in 1964 he saw State Department files that convinced him the Electra's engines were more powerful than the 550 horsepower Wasps with which it was originally equipped, and that Fleet Admiral Chester Nimitz told him that

Earhart had gone down in the Marshalls. In Washington he tried unsuccessfully to confirm some of Devine's stories about seeing the Electra on Saipan. After his time in Washington, he and his colleagues sat down and reached a consensus regarding Earhart's fate. Based on what they considered a preponderance of the evidence, they concluded that Earhart and Noonan were on a spying mission over Chuuk and had gone down in the Marshalls where they were captured.

It is difficult to determine why Klaas thinks Earhart was shot down near Orona. The island is close to the 157-337 line of position through Howland, but so are other islands in the Phoenix group. His book includes three frames from what he identifies as U.S. Navy 16mm footage taken near Orona in 1937, which he says show a Japanese flag flying over aircraft wreckage. His book also includes photos of the wreckage of a plane owned by Earhart's friend and colleague Paul Mantz that crashed in Southern California; Klaas argues that this was Earhart's original Electra the one he proposes was secretly replaced with the XC-35.

Klaas cites the eyewitness testimony of various Saipan residents to establish Earhart's and Noonan's presence there. These sources are mainly those referenced by other researchers. However, he discounts reports that Earhart and Noonan were killed or died on Saipan.

The evidence in support of the Loomis hypothesis is largely different from the others. Loomis bases his assessment on the work of Rafford, a navigation expert who shows how the Electra could have been blown about 150 miles north of Howland, and from there could have flown westward to the Marshalls. Loomis cites the eyewitness testimony of Marshallese who said they saw the Electra ditch near one of the Mili Atoll islands. He also recounts a story told by Bilimon Amaran, who was a medical corpsman in the Japanese Navy before and during the war. Amaran said he treated an injured male flier aboard a Japanese cargo ship at Jaluit. He says there was a female with the man and the plane they had been flying, with one wing broken, was on the afterdeck of the ship. Amaran did not know what happened to the fliers after he saw them, but other witnesses cited by Loomis said they saw them on Saipan and thought that they had died there. To support his belief that Earhart considered Noonan an unreliable navigator on the Lae-to-Howland leg, Loomis relates Lae radio operator Harry Balfour's reported recollections that Noonan "was on a bender" during the three-day layover in New Guinea, and "was put on board with a bad hangover ..." Loomis links this report with the fact that

"(w)hen her husband's last wire arrived at Lae, querying Amelia about the cause of the delay, she wired back a terse 'Crew unfit.'" (Loomis 1994:8)

The evidence cited by Buddy Brennan in his 1988 book begins with his visit to the Marshall Islands in 1981. Brennan was a Houston businessman and veteran of Korea and World War II; he visited Majuro hoping to recover and restore old Japanese airplanes. There, he met a Mr. Tanaki, who told him that a friend who had worked on the crew of the Japanese patrol ship *Koshu* said the ship had been sent to find "the American airplane that crashed." Brennan thought that the airplane must have been Earhart's, and after some study he returned with a team to the Marshalls. On this visit, additional interviews led him to focus on a spot between Mili Atoll and Jaluit rather than on Majuro as the place where islanders first spotted the Electra. From there, his informants told him, the airplane's crew were taken to Kwajalein, then Chuuk, Saipan, and, ultimately, mainland Japan. Brennan later discarded the notion that the captives were taken to Japan, instead concluding that they ended their days on Saipan.

Brennan cites much of the same eyewitness testimony reported by others, but also puts considerable weight on secondhand or generalizing statements by authoritative people in the Marshalls. His faith in these statements is apparently based on the conclusion that the individuals involved "couldn't possibly have collaborated" with one another. Among others, Brennan quotes Oscar de Brum, then First Secretary to the President of the Republic of the Marshall Islands (RMI), as saying that "there's no question they went down in the Marshalls" (Brennan 1988:76).

Randall Brink's account of the Earhart disappearance is closest to that of Goerner. However he also says he had input from people associated with substituting a different aircraft for the Electra and installing advanced radio and direction finding capability. Brink quotes a number of post-loss radio receptions reported by amateur radio operator Walter McMenamy to suggest that Earhart broadcast for several days after landing in the Marshalls. McMenamy reported hearing Earhart broadcasting as she was captured by a Japanese officer of whom she said, "He must be at least an admiral" (Brink 1994:151). Brink presents a photograph taken over Taroa in the Marshalls in 1944 that he says shows the Earhart plane, missing one wing, sitting on a concrete revetment (Brink 1994: unnumbered page after page 160). He cites several of the witnesses quoted by other researchers who reported seeing Earhart and Noonan on Saipan but contends that none ever reported seeing

them executed. He does not believe they died on Saipan but provides no evidence to support this conclusion.

Mike Campbell's book provides a useful summary not only of the sources cited in other books, but of a number of less well-known stories as well. These include a 1989 verbatim transcript of Bilamon Amaron's story, published in the February 1996 *Amelia Earhart Society Newsletter* by Joe Gervais and Bill and John Prymack, along with a number of more or less corroborative stories collected by Gervais, Prymack, Loomis, Joe Klaas and others, previously published in the *Newsletter* or in other on-line sources. He gives considerable attention to a 1993 letter from Fred Goerner to J. Gordon Vaeth, in which Goerner expressed reservations about Amaron's account and raised concerns about how Marshallese and other Micronesian eyewitness stories may have been tainted by repeated questioning. Goerner's letter also provides some background to Nimitz's statement, which was apparently based on something the admiral was told by his close friend Capt. Bruce L. Canaga. Interestingly, according to Campbell, Goerner said Canaga had described an abortive 1938 plan by the Office of Naval Intelligence (ONI) to use the excuse of seeking to determine Earhart's fate as cover for an infiltration of the Marshalls (Campbell 2002:157).

The highly speculative "special section" of the online "CNMI Guide" (No author, n.d.) cites only one piece of actual evidence the message received from Earhart by Lae at 07:18 GMT, when she reported she was some 740 nautical miles (roughly 850 statute miles) away; the unidentified author says this message should not have been audible at Lae, suggesting that Earhart was not where she said she was (and by implication, was en route to Chuuk).

The Electra Was at Aslito Field

The Story and its Evolution:

The story that Earhart's Electra was at Aslito Field in 1944 was first propounded in 1987 by Thomas E. Devine in *Eyewitness: The Amelia Earhart Incident*. According to Devine, he came ashore on Saipan in July 1944 as the top NCO in the 244th Army Postal Unit and went with his commanding officer to Aslito Field shortly after their arrival. There, he said, they encountered a group of enlisted men, evidently on guard duty outside a hangar. Their commander seemed military but wore a white shirt open at the collar. Devine said he overheard conversation indicating that Amelia Earhart's plane was inside the locked hangar. He said he asked one of the Marine guards if this was true and received confirmation that it was. Devine said he

later realized that the man in the white shirt was Secretary of the Navy James V. Forrestal.

Devine recalled that later in the day he met one of the Marine guards, who said, "They're bringing up Earhart's plane" but then changed the subject. A few hours later, Devine said, he saw a civilian plane fly over, with two engines and double tail fins. Devine said he could clearly read the plane's identification number: NR 16020, which he did not at the time know to be the number on Earhart's Electra.

After dark, Devine said, he and another member of his unit surreptitiously returned to Aslito, which he had been told was "off-limits." Here he says he saw the plane that had flown over. He said they walked up to it, tried unsuccessfully to get inside, and again saw the NR 16020 number on the tail. He said he saw about a dozen cans of fuel nearby.

After returning to his bivouac, Devine said he heard a muffled explosion at Aslito Field. Going to a vantage point, he said he could see a blazing fire; he concluded that the plane he had visited earlier was now aflame. Devine was convinced that the plane, although not destroyed, was burned to make it impossible to identify it as Earhart's.

All this happened, Devine said, on his first day on Saipan in mid-July 1944. He kept the matter to himself until 1962, when he sought permission to visit Saipan and unearth Earhart's and Noonan's remains whose location he thought he knew based on what he had been told by an Okinawan woman. In trying to convince the Navy that he had valuable information, he recounted what he said he had seen at Aslito Field, and later built *Eyewitness* based on this story and his pursuit of Earhart's grave.

The Evidence

When Devine published his book in 1987, his version of events at Aslito was the only evidence that they had occurred. In *Eyewitness,* Devine closes with a plea for anyone to contact him who might be able to confirm what he reported, even if "you merely hold memories in the shadows" (Devine 1987:179). This appeal produced a number of responses, notably from Henry Duda. Duda had been on Saipan in 1944 as a PFC in the 2nd Marine Provisional Rocket Detachment and said he had seen a man who others identified as Forrestal (Campbell 2002:16). Duda became a vigorous supporter of Devine's efforts to solicit more eyewitness accounts from

former servicemen. Some two dozen accounts were published in 2002 by Mike Campbell (with Devine), in the book titled *With Our Own Eyes.* Some of these accounts related to Earhart's and Noonan's putative graves and other aspects of Devine's overall story, but several men reported seeing a civilian airplane at Aslito or in the air. Some of the accounts are quite vivid and detailed, and some servicemen report recognizing or being told that the aircraft was Earhart's.

Earhart Was at the Garapan Prison

The Story and its Evolution

However she got there, and whether or not the Electra was on Saipan, there are reports that Earhart was incarcerated in the prison at Garapan. In at least one story Noonan was there as well.

Goerner reported that Jesús Salas, a farmer on Saipan and presumably the Salas interviewed by Patton, was put in Garapan prison in 1937 and remained there until U.S. Marines released him in 1944. He told Goerner that a white woman was placed in a cell next to his for a few hours in 1937. He said his guards told him that she was a captured American pilot. Salas said he saw her only once, but his description was similar to those given by others on Saipan for the American woman. He recalled that after a time the woman was removed to a hotel in which the Japanese kept political prisoners.

Loomis spoke with Florence Kirby and Olympio Borja on Saipan in 1979. They told him that their grandfather had been imprisoned for three months in 1937 in a cell that was not far "from the one that was said to be occupied by the American woman pilot" (Loomis 1985:94). Loomis visited the ruins of the prison and saw the cell that tourists are told is the one in which Earhart was held. In 1981 Loomis returned to Saipan and spoke with Ron Diaz, then sixty-five years old. Diaz said he had seen "a white woman in the back of a truck with Japanese men with her" (Loomis 1985:110). He did not recall seeing a white man with her. He said he had been told by friends that the woman had been taken from the water, and that he was also told she had been taken to Garapan prison.

Loomis reports that Ana Villagomez Benavente of Saipan said that while visiting her brother at Garapan prison, she saw an American woman captive there. "She was an American ... I saw her at least three times" (Loomis 1985:132). Ms. Villagomez Benevente also said she washed clothes for the woman while she was housed at a hotel in Garapan City. In the apparently verbatim 1977 transcript of an interview with Ms. Villagomez Benavente by Fr. Arnold Bendowske, she reports

washing clothes for the woman during her hotel residence, but refers to the jail only when rather aggressively led to do so by her interviewer (Bendowske 1977: 14-15)

The June 10, 1992 Bangor (Maine) *Daily News* published a story about former Navy nurse Mary Patterson, who was stationed on Saipan in 1946 and reported being told by an unidentified Chamorro informant of an American woman and man who were held and tortured at the Garapan prison (Curran 1992).

The Evidence

The evidence for Earhart's presence at the Garapan prison comprises stories by first- and secondhand informants as discussed above, bolstered by one piece of semi-documentary data and one piece of "hard evidence."

The semi-documentary evidence is discussed in print most recently by Mike Campbell, though it has been reported elsewhere. Campbell writes that in 1975 Thomas Devine received information from a Chicago-based Earhart researcher named William Gradt, who among other things provided "a copy of a photograph of etchings found on a wall inside a cell in the Garapan prison." The illustration of these etchings in Campbell's book is apparently a tracing; it shows what appear to be a conjoined "A" and "E" surrounded by obscure markings that look to the authors like eroded Japanese characters but have been interpreted by one of Campbell's correspondents as symbols consistent with Earhart's astrological chart and presumed situation (Campbell 2002:90-95). Campbell says that Devine saw the inscription but made nothing of it until contacted by Gradt. The senior author of this paper made a cursory search for it in 2004 but could not find it and was told that it had deteriorated.

The "hard" evidence is a small steel door, with "A. Earhart" and the date "July 19 1937" carved into it. According to Campbell (2002:98-102) as well as a letter Ms. Deanna Mick wrote to the National Air and Space Museum's Thomas Crouch on April 4, 1994, and 2012 correspondence with the senior author, it was given to Ms. Mick by Saipan resident Ramon San Nicholas when Ms. Mick and her husband returned to the mainland after running a charter air service they had set up in 1978 on Saipan (c.f. Mick 1994; Campbell 2002:98-9). Devine apparently regarded the door as evidence that Earhart was imprisoned at Garapan, identifying it as having covered a small rectangular food service opening let into the barred front of a cell.

Earhart Was Held Elsewhere on Saipan

The Story and its Evolution:

Various authors report that Saipan residents saw a white woman flier in Japanese custody before the war without specificity about where she was held. The recollections of several people, however, have her housed in the Kobayashi Royokan Hotel in Garapan City. In summary, the story is that sometime in 1937 a white man and woman were brought to the Japanese military police headquarters in Garapan for questioning. From there the woman was taken to the Garapan prison, while the man was taken to the Muchot Point military police barracks. After only a few hours at the prison, the woman was taken to the hotel, which had been taken over in 1934 by the Japanese to house political prisoners.

The Evidence

The evidence for the presence of Earhart at the hotel is anecdotal. Several witnesses have been quoted by multiple sources as outlined below:

Matilde (Fausto Arriola) Shoda San Nicolas lived with her parents in a home adjacent to the hotel in 1937 and 1938. She said she saw the white woman many times as she walked in the yard. She thought the woman had been at the hotel several months. Near the end of her stay the woman seemed to be ill and often visited the outhouse in the yard. Then Ms. San Nicolas saw the woman no more, and was told by a servant from the hotel that she had died of dysentery. Shortly before the woman died, she gave a gold ring with a white stone to Ms. San Nicolas's sister but it was lost after the war. This version of the story with minor variations is reported by Goerner, Davidson, Klaas, Loomis and Devine. Several of the investigators spoke with Ms. San Nicolas personally, and Fr. Arnold Bendowske had a verbatim transcript made of his 1977 interview with her (identified as Matilde Fausto Arriola). When Goerner in 1961 showed her photos of fifteen different women clipped from magazines and newspapers, he reports that Ms. San Nicolas "unhesitatingly chose the likeness of Earhart. She reportedly said, 'This is the woman; I'm sure of it, but she looked older and more tired'" (Goerner 1966:101).

José Pangelinan said he had seen the American man and woman on Saipan before the war. He said the man had been held at the military police stockade area while the woman was held at the hotel. He said that the woman had died of dysentery and the man had been executed the following day. He had not witnessed either death, but had been told by Japanese that the two had been buried together in an unmarked grave. Goerner interviewed Pangelinan; Klaas and Devine also relate his version of events.

Ana Villagomez Benavente earned money by doing laundry for the people held in the hotel. She said she saw the white woman "upstairs on the veranda" but was given the laundry by the "landlords." After a time there was no more laundry from the woman, and Ms. Villagomez Benavente was told that she had been taken elsewhere. Both Loomis and Devine include versions of Ms. Benavente's story in their books, and Fr. Bendowske's transcripts include an interview with her.

Joaquina M. Cabrera also did laundry for the Japanese and the prisoners at the hotel. Her story as documented by Goerner: "One day when I came to work they were there ... a white lady and man. The police never left them. The lady wore a man's clothes when she first came. I was given her clothes to clean. I remember pants and a jacket. It was leather or heavy cloth, so I did not wash it. I rubbed it clean. The man I saw only once. I did not wash his clothes. His head was hurt and covered with a bandage, and he sometimes needed help to move. The police took him to another place, and he did not come back. The lady was thin and very tired. Every day more Japanese came to talk with her. She never smiled to them but did to me. She did not speak our language, but I know she thanked me. She was a sweet, gentle lady. I think the police sometimes hurt her. She had bruises and one time her arm was hurt. She held it close to her side. Then, one day...the police said she was dead with disease" (Goerner 1966:239). Klaas and Devine include references to Mrs. Cabrera's story.

Antonio G. Cabrera lived on the main floor of the hotel in 1937. He reported seeing the white man and woman there, under surveillance by the Japanese. He said they were only there for about a week and were taken away. He recounted his story to Joe Gervais in 1960, as documented by Klaas.

U.S. Military Personnel Found Physical Evidence of Earhart
The Story and its Evolution:
Several U.S. military personnel involved in the taking of Saipan and other Micronesian islands reported finding physical items whose existence was consistent with the belief that Earhart was captured by the Japanese on Saipan or at least held there.

Some Marines and GIs reported finding photographs of Americans, including Earhart, sometimes displayed on walls of buildings abandoned by the Japanese on Saipan and other islands; one described finding a map marked with her intended course of flight. Others described finding photos of Earhart on the bodies of dead or living Japanese soldiers. Robert Wallack, a Marine who took part in the invasion

of Saipan, reported finding an attaché case in Garapan containing papers that appeared to him to be related to the world flight. Others reported finding a suitcase and an Earhart diary on Kwajalein, where some stories have Earhart being taken after she ditched in the Marshalls and before she was taken to Saipan.

The Evidence

Although the items described are tangible artifacts, almost none can now be found, so the available evidence for the "found objects" stories is largely anecdotal. Reports of such items are summarized below:

In 1960, Briand reports the "rumor" that "in July of 1944, during the invasion of Saipan ... the Marines found in an abandoned Japanese barracks a photograph album filled with snapshots of Amelia Earhart in her flying clothes. It is known that Earhart carried a camera with her on the world flight but not that she was carrying a photograph album filled with pictures of herself" (Briand 1960:191).

Goerner, in his 1966 book, reports that several GIs wrote to him after his trips to Saipan were publicized. Harry Weiser of New York was on Saipan during the invasion. He reported finding a small snapshot of Earhart tacked to one wall of a Japanese house. Weiser took the photo and some larger publicity prints of American actors. The photo of Amelia was published in the *New York Daily News* in November 1961. It turned out to have been taken in Honolulu in 1937 (Goerner 1966:169-70). Why it was found on the wall on Saipan is unknown.

Frederick Chapman of New York wrote to Goerner to say that he had seen snapshots of Earhart on Saipan during the invasion and thought that some of his buddies might still have some (Goerner 1966:172).

Ralph R. Kanna of New York was involved in interrogating prisoners during the Saipan invasion. He said that one prisoner had in his possession a photo, not a magazine clipping, which showed Earhart standing near Japanese aircraft on an airfield. Kanna said the photo was forwarded through channels to the Intelligence Officer. According to Kanna, the prisoner said that the woman in the picture had been captured along with a male companion and both had been executed (Goerner 1966:172).

Robert Kinley of Virginia wrote to Goerner that he had found a photograph of Earhart with a Japanese officer tacked on a wall on Saipan. He said he had lost the

photo in July 1944 when he was wounded. He recalled that the photo showed Earhart standing in an open field with a Japanese soldier, and he thought that the latter was wearing some kind of combat or fatigue cap with a single star in its center (Goerner 1966:186-7).

W.B. Jackson of Pampa, Texas told Goerner that, "in February 1944, on the Island of Namur, Kwajalein Atoll, Marshall Islands, three Marines brought a suitcase from a barracks. They reported that the room they had found it in was fitted up for a woman, with a dresser in it. In the suitcase they found a woman's clothing, a number of clippings of articles on Amelia Earhart, and a leather-backed, locked diary engraved *10-Year Diary of Amelia Earhart*. They wanted to pry open the diary but when Jackson explained who Amelia was, how the government had searched for a trace of her, and that this should be taken to Intelligence, they closed the suitcase and started toward the Regimental Command Post with it. That is the last Jackson saw or heard of it" (Goerner 1966:277-8).

In 1994 Randall Brink published the account of Robert E Wallack of Connecticut who was a Marine on Saipan in 1944. In Garapan, Wallack said he entered what may have been a Japanese Government building. He found a locked safe, which he and others blew open with explosives. "After the smoke cleared," he said, "I grabbed a brown leather attaché case, with a large handle and a flip lock. The contents were official looking papers, all concerning Amelia Earhart, maps, permits and reports apparently pertaining to her around-the-world flight. I wanted to retain this as a souvenir, but my Marine buddies insisted that it may be important and should be turned in. I went down the beach where I encountered a naval officer and told of my discovery. He gave me a receipt for the material, and stated that it would be returned to me if it were not important. I have never seen the material since" (Brink 1994:159). This account also appears in Campbell's 2002 book and in a statement by Wallack in the Smithsonian Institution's Veteran's History Project (Wallack n.d.).

At least two reports documented in TIGHAR's files do not appear to have been published elsewhere:

The New Hampshire *Sunday News* on July 14, 1991 reported that the discovery of an old newspaper clipping on Earhart's disappearance had motivated 70-year-old ex-Marine Ivan George Gibbs to remember finding an area on Saipan during the "mopping-up" phase of the 1944 invasion that was littered with Japanese ledger

books and human bones, including a small diary that Gibbs and another Marine concluded was Earhart's. Gibbs said they gave it to a Marine colonel and never saw it again. The contents of the diary were not reported in the *Sunday News* (Hammond 1991).

In a letter to the Smithsonian Air and Space Museum's Thomas Crouch dated March 20, 1992, Raymond Irwin, a veteran of the Saipan invasion, described finding a small dugout at Aslito containing a map he thought might be associated with Earhart (Irwin 1992). He included a photocopy of the map with his letter, which Dr. Crouch shared with TIGHAR. The map depicts the western Pacific and shows the boundaries of Japan's League of Nations Mandate, labeled in Japanese. It is hand-marked with an "x" at the approximate location of Howland Island. A handwritten note by Mr. Irwin says that on the original, there is a mark "by the Japanese who put in the route track and Japanese writing in blue ink." (Irwin 1992). The blue ink did not reproduce in the photocopy. Mr. Irwin also enclosed a photocopy of an armband marked with Japanese characters, and said he had also found flags and photographs.

Earhart and Noonan Were Executed (or Died) and Were Buried on Saipan or Tinian

The Story and its Evolution

There are several variations on the story that Earhart and Noonan died or were killed on Saipan (or Tinian) and were buried there. Briand says they were shot but does not indicate how or where they may have been buried. Brennan reports Earhart's execution by firing squad. Others say that Earhart died of dysentery, that Noonan was beheaded, and that they were buried individually or in a common grave. Various locations of the putative gravesite have been identified by informants, and some of them have been excavated with both positive and negative results.

The Evidence

Briand reports that Josephine Blanco Akiyama told him she saw a man and a woman dressed like a man in Japanese custody at Tanapag Harbor. "The American woman who looked like a man and the tall man with her were led away by the Japanese soldiers. The fliers were taken to a clearing in the woods. Shots rang out. The soldiers returned alone." (Briand 1960:194) There is no mention of burial. During his first visit to Saipan in 1960, Goerner interviewed over 200 Saipanese; the testimony of thirteen of them could be "pieced together" to support Ms. Akiyama's story. None of these accounts supported the Briand version that the

white fliers had been shot. None of the Saipanese said they knew what had finally happened to the mysterious white people, but "several felt that either one or both of them had been executed." (Goerner 1966: 49)

Prior to his second visit, Goerner heard from Thomas Devine, who related the story (later recounted in his own book) that he said he had heard regarding the grave of a white man and woman who "came from the sky a long time ago" and were killed by the Japanese (Goerner 1966:69). Devine supplied Goerner with photos from Saipan and detailed maps indicating the purported gravesite. Goerner's attempts to follow Devine's directions and to recover the remains during his second visit are described elsewhere in this paper. He located teeth and bone fragments which he sent to the U.S. for evaluation.

On his second trip Goerner also spoke with Matilde Shoda San Nicolas who related her story about the white woman who had been held in the hotel and had reportedly died of dysentery. He spoke with José Pangelinan, who said he had seen the man and woman, but not together. He also said that the woman had died of dysentery, but that the man had been executed. They were buried together, he said, in an unmarked grave outside the cemetery south of Garapan City. He had not witnessed any of this but had heard of the events from the Japanese military. He said that the exact gravesite was known only to the Japanese.

After his return to California, Goerner was contacted by Alex Rico, who told him of acting as an interpreter on Saipan while there as a Seabee in 1944 and 1945. He said that several Saipan residents told him that the Japanese had bragged about capturing "some white people" and bringing them to Saipan where they were buried "near a native cemetery." He indicated that there were two native cemeteries; he was not sure which one was referred to.

On his third trip to Saipan Goerner spoke with several Saipanese, including some he had talked with before, who repeated vague stories they had heard from others that the two fliers had died or had been killed and buried somewhere near a cemetery in or near Garapan.

According to Davidson's account, in 1967 Vincente Camacho showed Donald Kothera and his colleagues from Cleveland three photos said to depict the gravesite identified as Earhart's. The investigators then spoke with Anna Magofna who related that while coming home from school one day when she was seven or eight

she saw two white people digging outside a cemetery with two Japanese watching them. "When the grave was dug, the tall man with the big nose, as she described him, was blindfolded and made to kneel by the grave. His hands were tied behind him. One of the Japanese took a samurai sword and chopped his head off. The other one kicked him into the grave." (Davidson 1969: 104) She did not mention the death of the woman, but she knew the location of the grave. She took them to the site when they returned to Saipan in 1968; they excavated and recovered burned and unburned human bones that they sent to the Ohio Historical Society for analysis.

Loomis repeats the story that the white woman being held at the Garapan hotel died of dysentery in mid-1938 as related to him by Matilde San Ramon.

Thomas Devine reports that in 1944 an Okinawan woman showed him the purported gravesite of the white man and woman who were killed by the Japanese several years before. The woman also said she knew where other Americans had been buried; a translator told Devine that she appeared to want favors from the Americans for providing this information (Devine 1987:63).

Despite the stories they had collected in the Marshalls about Earhart and Noonan being taken to Japan, in the second phase of his investigation Buddy Brennan and his team became convinced that Earhart had been executed on Saipan late in the war. According to Brennan, a Chamorro woman named Nieves Cabrera Blas said that she had personally witnessed Earhart's execution by firing squad. She said Earhart had been blindfolded, but the blindfold was torn away as a gesture of respect before she was shot over an open grave and hastily buried. Blas showed Brennan the location[2], where his team then excavated with a backhoe and turned up a piece of cloth that Ms. Blas interpreted as the blindfold she had seen (Brennan 1988:146-7) According to Brennan's associate Mike Harris (2002), the location was "obviously a dump area," containing animal bones, medical ampules, and aircraft pieces.

One story suggests that Earhart and Noonan were buried on Tinian. Mr. St. John Naftel, of Montgomery, Alabama, was a Marine gunner on Tinian after it was taken from the Japanese in 1944. He reported being shown a set of graves where he was led to believe that Earhart and Noonan were buried after being executed. In 2003

[2] Scott Russell, who observed the excavation, said it was in the middle of a parking lot at Lower Base. Mike Harris said he thought they had dug in the wrong place.

he returned to the island accompanied by then-U.S. Navy archaeologist Jennings Bunn and relocated the site he had been shown. The site was then excavated by archaeologists under the direction of Michael Fleming and Hiro Kuroshina without finding evidence of graves (Bunn et al n.d., Frost 2004; King 2004).

In a 1999 letter to TIGHAR, Mrs. John Doyle recounted her husband's story that in 1949, as a member of the 560th Composite Service Company, he visited a church on Saipan where a priest showed him an unmarked grave in a small cemetery that he said was where Earhart was buried. According to Mr. and Mrs. Doyle, the priest said Earhart had been buried there "to hide her body from the Japanese" (Doyle 1999).

In 1996, an article in the *Pacific Daily News* (Whaley 1996) reported the story of Ted Knuth, who said he had been an agent for the American Office of Strategic Services (OSS) on Saipan before and during the 1944 invasion. Knuth reportedly said that "he was sleeping under a tree when a Chamorro man jumped out and led him to an area behind enemy lines," where he showed him the graves of two "white people" and "gave an exact description of Earhart and… Noonan" as well as of the Electra. Scott Russell, then with the CNMI Historic Preservation Office, was quoted in the same article, commenting that he and his colleagues had talked with Knuth and "(h)e told some fairly outlandish stories." Some detail on Knuth's story was recorded by William Stewart (1996; also see Stewart n.d.).

George Gibbs, in his 1991 recollections referred to above, reported that the area littered with ledger books where he and another Marine found a diary they thought was Earhart's also contained the skeleton of a woman without a head (Hammond 1991).

In a letter to the editor of a newspaper in Tampa, Florida dated October(?)12, 1991[3], Edward Lauden, an Army combat photographer on Saipan in 1944, says he was directed to photograph a small clearing just north of Garapan that contained several Japanese grave markers. He reports that his film was then taken from him by officers, whereupon the markers were removed, the area doused with gasoline and burned and then bulldozed. An officer then cautioned him to forget what he had seen, and when he asked what it was all about, the officer whispered "Amelia Earhart" (Lauden 1991).

[3] We have only a clipping with the handwritten labels "Tampa, Fl" and "10(?)/12/91

In summary, the evidence for Earhart and/or Noonan dying and/or being buried in the Marianas consists of a number of eyewitness and secondhand accounts, together with a piece of cloth interpreted as a blindfold and two collections of human bones. The accounts variously have the woman identified as Earhart dying of dysentery and being executed by firing squad, while the man identified as Noonan is executed either by firing squad or beheading.

A U.S. Government Cover-Up

The Story and its Evolution

Visiting Saipan in 1960 to investigate the stories of Josephine Blanco Akiyama and others, Fred Goerner found himself confronted with official denials and non-cooperation, and suspected that the government knew more than its representatives were willing to acknowledge. He outlined some suspicions, in relatively measured fashion, in his 1966 book.

Randall Brink, who posited that they were on a secret spying mission with a newly designed, government-provided airplane, asserted that the government holds extensive files on what really happened to Earhart and Noonan that remain secret to this day. Other researchers make similar claims.

Joe Klaas and Joe Gervais offer a complex version of the cover-up hypothesis, in which Earhart and Noonan were engaged in a spy mission and survived the war, returning to the U.S. under government protection. They propose that Earhart took on the identity of Irene Bolam, while Noonan ended his days in a mental hospital in New Jersey.

Klaas and Gervais did not initially suspect a government cover-up, but say that the State Department was concerned in 1960 about the effect their interviews might have on U.S.-Japanese relations (Klaas, 1970:92). Then they say they learned that the Defense Department had a classified file on Amelia Earhart and heard from a friend at the Pentagon that Ambassador Douglas MacArthur and officials at the State Department were "all worked up" about their investigations (Klaas 1970:103-104). Their suspicions were heightened, they say, when a member of the USS *Colorado's* crew who participated in the Earhart search declined to answer a question about searching in areas unreported by the press at the time, claiming that the information was classified (Klaas 1970:114).

Klaas and Gervais concluded that if Earhart had been captured by the Japanese, both the Japanese and U.S. governments would have kept the matter hidden the

Japanese fearing reprisal for a military buildup forbidden by their League of Nations mandate, and the U.S. being unwilling and unable in 1937 to fight a war with Japan. (Klaas 1970:136).

Klaas and Gervais went on to postulate that much of the U.S. Navy's search for Earhart was in fact a cover for collecting information on Japanese military buildups in the Mandate, that the Japanese, having captured Earhart, tried to use her as a pawn in blackmailing the U.S. during World War II, and that the U.S. refused the Japanese gambit and abandoned Earhart to her fate.

But Earhart, they say, survived her captivity because of her political value as a bargaining chip and was ultimately rescued by her friend and colleague Jackie Cochran at the close of the war (Klaas 1970:231). It was in exchange for Earhart, they say, that Emperor Hirohito was allowed to remain on the throne (Klaas 1970:230-231). They go on to propose that successive U.S. presidents up to the time of their book's publication had maintained the cover-up for reasons of political expediency.

Vincent Loomis did not believe in a government cover-up, but one of his sources, navigator Paul Rafford, hints at a conspiracy in his own 2006 book, *Amelia Earhart's Radio: Why She Disappeared.* Rafford reports that Firman Gray, an engineer on Earhart's aircraft, was quoted in a 1992 book (Kennedy 1992) as saying that he took two R1340 engines to Indonesia and installed them on the Electra. "If it happened," Rafford wrote, "it was pre-planned by someone. If so, by whom?" (Rafford 2006:61-63). He also reports that Mark Walker, a Pan American copilot flying out of Oakland at the time of Earhart's world flight, said he heard Earhart say, "This flight isn't my idea. Someone high up in the government asked me to do it" (Rafford 2006: 25).

Rafford comments that whether or not Earhart was spying, her disappearance in the Pacific "would have given our Navy an excellent chance to update its mid-Pacific charts in time for World War II." He speculates that Earhart and Noonan could have secretly landed on Kanton Island where he assumes people were stationed to take care of them until the Navy, having completed its survey, "was ready to find them" (Rafford 2006:117). He expresses the suspicion that Earhart's failure to communicate with the *Itasca* during the last leg of her flight may have been intentional; there were, he says, so many missed opportunities for two-way communication as to suggest that the communications failures were willful, not

accidental (Rafford 2006:116). As another indicator of a government plot, he quotes Secretary of the Treasury Morgenthau as saying after Earhart's disappearance that she "absolutely disregarded all orders" (Rafford 2006:117).

Thomas Devine provides what may be the most dramatic expression of the cover-up hypothesis, asserting that he saw the Electra destroyed at Aslito by American forces at the direction of Secretary of the Navy Forrestal, and that the government has taken many steps since 1944 to assure that what happened will never be known. He and Mike Campbell, in Campbell's 2002 book, describe in some detail the roadblocks that Devine believes the government has thrown in the way of his investigation. He raises the possibility that Forrestal's untimely death and the seeming disappearance of some eyewitnesses are related to the cover-up, and posits President Roosevelt's personal involvement in the conspiracy. Devine, Campbell and others say or imply that the seeming disappearance of the briefcase said to have been found by Robert Wallack and the Earhart-related photographs and documents reportedly found by other U.S. military personnel is further evidence for such a conspiracy.

The reason for the cover-up, according to most proponents of the idea, is that Earhart was engaged in a spy mission and the U.S. did not and still does not want this fact to be disclosed. Devine and Campbell posit a somewhat more elaborate geopolitical rationale, proposing that the U.S. government, and notably Secretary Forrestal, were intent on forging a U.S.-Japan alliance against the Soviet Union after World War II and wanted to avoid the public outcry against Japan that would be occasioned by the revelation that the Japanese had captured and murdered Earhart.

The Evidence

The available evidence for the cover-up hypothesis is derived from eyewitness accounts and stories of non-cooperation, obfuscation, and suspicious-seeming behavior by government agencies. Devine in particular describes a number of activities by government and ex-government personnel that if they occurred as he describes them would raise almost anyone's suspicions.

For instance, Devine says that shortly after receiving his orders to return to the U.S. from Saipan in 1945, he was approached by a man he took to be from the Navy, who told him he was to return by air rather than by ship with the rest of his unit. The "Navy man" told him to abandon his barracks bags, as he would not be

needing them. An argument ensued, during which the Navy man said: "They're waiting for you. You know about Amelia Earhart." Eventually Devine, the Navy man, and Devine's bags were driven to the harbor, where the Navy man told Devine to get aboard a PBY[4] for the flight to Hawaii. Devine refused to board without orders, whereupon "my escort turned and started running up a nearby hill. I looked at the seaplane and the unfriendly, silent man on the dock apparently the pilot and muttered, 'The hell with this,' and I quickly dragged my barracks bags to the road and hitched a ride back to the replacement depot'" (Devine 1987:64-6; Devine in Campbell 2002:75). Devine returned to the mainland by sea with his unit, and apparently suffered no ill consequences, but he recounts a number of other strange encounters with government officials, suddenly silent eyewitnesses, and interactions with possible intelligence personnel in the course of his later investigations.

Critique

The Five Pieces of "Hard" Evidence

There are five pieces of "hard" physical evidence that have been or could be taken to support the Earhart-in-the-Marianas hypothesis in varying degrees: Deanna Mick's door, Buddy Brennan's blindfold, several airplane parts, two collections of human bones, and Raymond Irwin's map.

The Door

The small steel door with the words "A. Earhart" and the date "July 19 1937" inscribed on it was reportedly given to Ms. Deanna Mick by the late Ramon San Nicholas when Ms. Mick and her late husband left Saipan (Mick 1994; Campbell 2002:98-9). At our request and working from a full-scale tracing that Ms. Mick included in her 1994 letter to Dr. Tom Crouch of the Smithsonian Air and Space Museum, Scott Russell of the CNMI Humanities Council made a cardboard template of the door and tried to match it to the apparent food service hatches on the surviving cells in the Garapan jail. He found that the door perfectly matched the openings in all six northernmost cells in the sixteen-cell main cellblock, so it appears to be a legitimate artifact of the Japanese jail (Russell 2012). In 2012 email correspondence with the senior author, Ms. Mick reported that the hinges appeared to be snapped off, not cut with a hacksaw (Mick 2012). This suggests that the door was broken off the cell front after it became rusted to the point at which it would

[4] Campbell says this was "a PB4Y seaplane," but the PB4Y was not a seaplane, so presumably he means a Consolidated PBY Catalina.

no longer swing on its hinges. Only then would moving it back and forth snap it off.

We see two reasons for thinking that the door was not inscribed by Amelia Earhart, or any inmate at the jail.

1. The inscription would apparently have been on the inside of the door, consistent with being made by an inmate, but every time the door was opened, the inscription would have been displayed to those outside. Thus it could not have been made in secret, so if it was made by an inmate, it must have been with the acquiescence of the jailers. This may be what happened, but it seems implausible.
2. The inscription is not just scratched; it is rather deeply cut into the metal. This suggests use of tools that it seems unlikely an inmate would possess.

According to Ms. Mick, Mr. San Nicholas presented the door to her because she was the second female pilot to fly through the Marianas Earhart ostensibly being the first. We think that on balance it is most likely that Mr. San Nicholas removed the door from the jail and made the inscription as a gently joking way of honoring Ms. Mick.

The Blindfold

Buddy Brennan and his colleagues found what he and his informant, Ms. Nieves Cabrera Blas, interpreted as Earhart's blindfold about 7.5 feet deep at the site where Ms. Blas said she had seen a woman Brennan presumed to be Earhart executed and buried. They reported finding no human bones; Brennan speculated that soil chemical and microbial conditions were such that the woman's bones had not been preserved while the "blindfold" had (Brennan 1988:146-7; Sallee 1986).

The cloth may represent a blindfold, but it also could represent many other things. Before the 1944 invasion, Garapan was a substantial town whose residents wore clothes and used cloth for other purposes. The town was massively bombarded in 1944, creating many opportunities for pieces of cloth (among other things) to collect in holes and get buried. Mike Harris, who says he worked with Brennan, describes the location as a dump area (Harris 2002). Brennan's excavation apparently was not conducted using archaeological methods, and he presents no record of the stratigraphic position in which the cloth was found. If the cloth was indeed associated with a human body buried at the site, one would expect at least some bones to have survived (to say nothing of the deceased's clothes). Soil

conditions on the west side of Saipan are actually fairly conducive to the preservation of bones; burials have been recovered in the area from as early as the Pre-Latte period, two to four thousand years ago. The only reason to think that the cloth might be a blindfold appears to be that according to Brennan, Ms. Blas identified it as such.

Airplane Parts

When he visited Saipan in 1960, Fred Goerner pulled a generator and other aircraft parts from Tanapag Harbor and took them to California. The generator closely resembled one that had been installed on the Electra. It was disassembled and found to match the Electra's Bendix model "perfectly in every respect" according to Paul Mantz, who had installed the generator on Earhart's plane (Goerner 1966:65). However, when Goerner sent the generator to Bendix for evaluation, the company's specialists found sufficient discrepancies in its details to satisfy them that it had not been manufactured by Bendix. They identified it as a Japanese generator apparently copying a Bendix design (Goerner 1966:67).

In 1968 Don Kothera and his colleagues visited Saipan to search for the fuselage of a civilian aircraft Kothera recalled seeing there as an 18-year-old Navy man in 1946. After several days of hacking through the jungle in the area where he recalled seeing the plane, and getting help from a local resident who knew the island well, they found the location where Kothera thought the fuselage had been twenty-two years earlier. They located "six screw type aircraft tie-downs" and some plane parts. They picked up some of the airplane parts with numbers stamped on them.

Back on the mainland, Kothera's group found that the numbers on the parts they had collected could not be tied to any specific aircraft. Chemical analysis by Crobaugh Laboratories of Cleveland, Ohio indicated four percent copper in the alloy, and Alcoa Aluminum Co. advised that neither the Germans nor Japanese used copper in their aluminum alloys; they used the more readily available tin. The conclusion was that the aluminum airplane parts had been made by Alcoa prior to 1937 (Davidson 1969:118).

Although the parts may well be of American origin, this does not mean they were from Earhart's Electra. By the time Kothera saw the fuselage in 1946, Saipan had been in American hands for two years; a great many American aircraft had been on and over the island. It is possible to imagine that Kothera's fuselage represented the Electra hidden away after the plane landed on or was brought to the island, but it could also have been the discarded carcass of an American military plane.

Bones

On his second trip to Saipan in 1961, Fred Goerner attempted to locate the gravesite described to him by Thomas Devine. Based on photos provided by Devine, Goerner found what he believed to be the cemetery Devine had described near the purported gravesite, but noted that some of the directions provided by Devine were incompatible with the cemetery's actual layout. Doing the best he could with the directions, Goerner selected a fifteen by fifteen foot plot and began digging there. He and his workers went down nearly five feet and found nothing. Next he selected a location a little farther west; that site yielded nothing but an unexploded hand grenade, which was carefully disposed of. The third try was a few yards closer to the graveyard. They found bones about two and a half feet down. Screening the soil from the hole, they found a total of seven pounds of bones and thirty-seven teeth, which they thought represented two individuals, a man and a woman (Goerner 1966: 107-11).

Goerner obtained permission from Muriel Morrissey (Earhart's sister) and Mary Bea Ireland (Noonan's widow) to have the bones and teeth analyzed. They were delivered for evaluation to Dr. Theodore D. McCown, a well-qualified physical anthropologist at the University of California, Berkeley. McCown concluded that the bone fragments and teeth were from four or more individuals, and probably represented the "secondary interment of the fragments of several individuals." The hypothesis that these were the remains of Earhart and Noonan was thus not supported (Goerner 1966: 177-84).

In 1967, Don Kothera and his group recovered almost 200 bone fragments, most of them cremated, from the site adjacent to the cemetery shown them by Anna Magofna. The bones, together with a dental bridge and an amalgam gold tooth filling, were analyzed by Martha Potter and Dr. Raymond Baby (pron. "Bahbee") of the Ohio Historical Society, who concluded that the roughly 188 cremated bone fragments, representing an ulna, a fibula, one or more femurs, ribs, vertebrae, and bones of the hands and feet, "are those of a female, probably white individual between the anatomical ages of 40-42 years," with "an age of 40 years" being "probably more correct." They identified the single unburned bone, part of the frontal bone of the cranium, as representing "a second individual, a male" (Baby and Potter 1968). Upon Baby's death in the late 1970s, the bones were apparently lost (Kothera & Matonis[?] n.d.), and their whereabouts remain unknown (Potter-Otto 2012; Snyder 2012).

The lee side of Saipan, where all the excavations for Earhart's and Noonan's bones have taken place, was densely occupied in pre-contact times (c.f. Russell 1998; Butler & DeFant 1991), and human burials are commonly found in pre-contact archaeological sites on the island. Considering the disturbance of such sites during the Japanese development of the island, and the presence of 20th century cemeteries that then experienced considerable bombardment and other disturbances during the 1944 invasion, the presence of human bones almost anywhere is no surprise. In addition, both sets of bones are reported to have been found in the vicinity of historic cemeteries and, in the case of Kothera's bones, a crematorium (Kothera & Matonis[?] n.d.), which had also presumably experienced disruption by the 1944 bombardment. Potter's and Baby's identification of the cremated remains as those of a "white" female is intriguing, but it should be recalled that Saipan had a substantial European population during the German period (1899-1914; see Russell 1984; Spennemann 1999); it is unclear whether the crematorium that may have produced the bones now lost in Ohio pre-dated the Japanese period. Even if it did not, the presence of osteologically European people on Saipan during the Japanese period would not be entirely surprising; besides traders passing through and missionaries remaining from the German period, there had been genetic mixing between Europeans and Micronesians since at least the mid-nineteenth century, producing a mixed-race population that survived into and through the Japanese period.

In summary, the bones recovered by Goerner were identified as those of several disarticulated individuals, none of whom it seems reasonable to think was Earhart or Noonan, while those recovered by Kothera's team could be those of Earhart and Noonan but could also quite plausibly be those of other people. The gold bridge and filling found by Kothera's group could have belonged to Earhart or Noonan or to any number of Micronesian, German, Spanish or Japanese residents of Saipan; without relevant dental records it would be impossible to link them to specific individuals even if they could now be found.

The Map

As discussed above, Raymond Irwin's 1992 letter to Thomas Crouch included a photocopy of a map he said he had found in a dugout at Aslito Field in 1944. The original of the map may be in the possession of Mr. Irwin's family; Mr. Irwin passed away in 2010. The original map was apparently marked with blue ink, which did not reproduce in the photocopy; according to Mr. Irwin, the markings indicated the location of Howland Island and a "route track," presumably Earhart's. All we can tell by looking at the photocopy is that it does depict the Japanese mandate, and

that the labels for island groups are in Japanese. Also enclosed in Mr. Irwin's letter was a photo of a Japanese military arm band, and he reported seeing Japanese flags and photos. If marked as Mr. Irwin reported, the map would suggest that someone in a military capacity at Aslito was interested enough in Howland Island and Earhart's route to mark them on a map. This is not surprising; the Japanese were certainly aware of Earhart's flight, and reportedly searched for her. The map is thin evidence of her presence in the Marianas, however.

Credibility of Flying to Saipan from Lae

Four authors argue that Earhart piloted the Electra to Saipan. None asserts that she was on a spying mission and purposely flew into Japanese-controlled territory. Three (Briand 1960, Devine 1987, Campbell 2002) speculate that various problems led to huge navigation errors, and she flew to Saipan without really knowing where she was. Davidson simply accepts that she flew to Saipan without trying to explain how it happened. Campbell accepts that Earhart and her Electra could have reached Saipan in other ways, but his primary source, Devine, is sure that Earhart piloted her plane to the island.

To accept the "flew to Saipan" premise, one has to explain how this could have happened given that Saipan is almost due north of Earhart's takeoff point at Lae and she was trying to fly east to Howland Island.

Earhart departed Lae at 10:00 in the morning local time (00:00 Greenwich Mean Time [GMT][5]). As she flew eastward toward Howland in daylight, she should have been able to see where she was for the first several hours using maps at her disposal, and she successfully radioed position reports to Lae indicating that she was on course for Howland Island. Her last report received by Lae indicated that she was near the Nukumanu Islands, about 900 miles east of Lae, after flying for a little over seven hours. Up to that point, just as night came upon them, things seemed to be going well. What could have happened next to make them fly northwest from their last reported position, winding up at Saipan?

Briand suggests that something completely disorienting happened after this last radio report. He speculates that the Electra's compasses "tumbled" during the night and that Noonan's chronometers lost their calibration. He proposes that Noonan was unable to get any fixes during the night, so they were flying blind. By the time

[5] We use GMT here to minimize confusion, with references to "local" time where needed for clarity. Lae time is 10 hours ahead of GMT, while the Itasca was using GMT minus 11.5 hours.

the sun came up in the east as they were flying northwest, they had to know they were completely lost. When they finally saw land, after some 26 hours of flight, their fuel ran out and they ditched in the harbor at Tanapag. Briand acknowledges that the *Itasca* heard transmissions from the Earhart plane early that morning. He does not account for the fact that there was nothing in her messages to suggest the problems that he attributes to the flight — that in fact the messages indicated that she thought she was on track and close to Howland.

Devine suggests that the "hair-raising" takeoff from Lae may have adversely "affected the compass and delicate robot pilot, causing the Electra to stray from its intended course." He suggests that Noonan may have injured his head during the takeoff and that Earhart would have used the error-prone Sperry Robot Pilot to control the plane while she crawled to the rear of the plane to attend to Noonan's injuries. But if this had happened, would Earhart not have simply returned to Lae, to fly another day? Devine would have us believe that she flew on, making periodic radio reports to Lae that everything was going well.

Devine cites other factors that could have helped to disorient the flight crew radio problems, the need to avoid rain squalls about 250 miles east of Lae, and the need to pump fuel manually each hour from the auxiliary tanks to the wing tanks, during which time the plane was presumably controlled by the auto-pilot.

All these factors may have been in play, but the fact remains that Earhart reported good progress as of the time of the last transmission received by Lae, when the position she reported indicated that they should have been about 900 miles to the east. None of the radio messages to Lae indicate that Noonan was injured on takeoff, and the content of two messages, saying that "everything (is) OK" seems inconsistent with the notion that Noonan was disabled.

Another consideration that undermines the "Earhart flew to Saipan" premise is that receipt of radio transmissions was documented by the *Itasca* as the Electra should have been approaching Howland Island. All of the authors (Briand 1960, Davidson 1969, Devine 1987, Campbell 2002) acknowledge and discuss these receptions to some extent. Table 1 below presents the documented receptions at Lae by Harry Balfour and at Howland Island by Leo Bellarts and other radio operators aboard the *Itasca*. The "S-n" code represents the reported strength of the signal, with S-1 being very faint and S-5 being loud and clear.

Date/Time	Where Received	Frequency	Message
7/2, 04:18 GMT (14:18 at Lae)	Lae (Balfour)	6210 kHz	Height 7000 feet, speed 140 knots … everything OK
7/2, 05:19 GMT (15:19 at Lae)	Lae (Balfour)	6210 kHz	Height 10000 feet position 150.7 E 7.3 S cumulus clouds everything OK
7/2, 07:18 GMT (17:18 at Lae)	Lae (Balfour)	6210 kHz	Position 4.33 S 159.7E height 8000 feet over cumulus clouds wind 23 knots
7/2, 14:15 GMT (02:45 on Itasca)	Itasca	3105 kHz	Bellarts reported "Heard Earhart plane but unreadable thru static"
7/2, 15:15 GMT (03:45 on Itasca)	Itasca	3105 kHz	Stronger reception: Will listen on hour and half on 3105 (very faint, S-1)
7/2, 16:23 GMT (04:53 on Itasca)	Itasca	3105 kHz	Bellarts reported "Heard Earhart (part cldy)"
7/2, 17:44 GMT (06:14 on Itasca)	Itasca	3105 kHz	Bellarts: "Wants bearing on 3105 // on hour //will whistle in mic." About 200 miles out. (S-3)
7/2, 18:11 GMT (06:41 on Itasca)	Itasca	3105 kHz	Please take bearing on us and report in half hour. I will make noise in mic. About 100 miles out. S-4
7/2, 19:12 GMT (07:42 on Itasca)	Itasca	3105 kHz	KHAQQ calling Itasca. We must be on you but cannot see you. But gas is running low. Been unable to reach you by radio. We are flying at 1000 feet. (Strong, S-5)
7/2, 19:28 GMT (07:58 on Itasca)	Itasca	3105 kHz	KHAQQ calling Itasca. We are drifting (circling, listening?) but cannot hear you. Go ahead on 7500 with a long count either now or on half hour. (Strong, S-5)
7/2, 19:30 GMT (08:00 on Itasca)	Itasca	3105 kHz	KHAQQ calling Itasca. We received your signals but unable to get a minimum. Please take bearing on us and answer 3105 with voice. (Strong, S-5)
7/2, 20:13-20:15 GMT (08:43- 08:45 on Itasca)	Itasca	3105 kHz	KHAQQ to Itasca. We are on the line 157 337. We will repeat message. We will repeat this on 6210 kilocycles. Wait. … We are running on line north and south. (Very strong, S-5)

Table 1: Radio Messages Received from Earhart, July 2nd 1937

Between 04:18 and 07:18 GMT, messages were received at Lae on Earhart's daytime frequency, 6210 kHz. At 14:15 GMT the *Itasca* began to pick up transmissions from the Electra on her lower nighttime frequency of 3105 kHz. The latter signals were initially very faint, but became increasingly strong over the following hours. This suggests that she was steadily drawing closer to *Itasca* and Howland Island.

Beginning at 17:44 GMT, Earhart's messages were clearly understood aboard *Itasca.* There is nothing in their content to suggest disorientation or problems with her navigational tools. She apparently thought she was closing on the island and wanted the *Itasca* to take a bearing on her and help guide her in. This is clearly incompatible with the "Earhart flew to Saipan" scenarios, as is the fact that the signals were growing stronger, not weaker as they should have been (if they could be heard at all) if the Electra were traveling northwest, diagonally away from the *Itasca.*

At 19:12 GMT, Earhart says, "We must be on you but cannot see you." This presumably means that she thinks she is on or near the line of position (LOP), 157°-337°, through Howland Island. As she flew eastward, whether she was north or south of Howland, her closest approach to the *Itasca* would have occurred when she was within a few miles of that line. In fact, the subjective assessment of the radiomen on the *Itasca* was that her messages were loud and clear for an hour prior to 19:12 GMT and for an hour afterward. The transmission heard at 17:44 GMT was audible (fairly good); Earhart said she thought she was "about 200 miles out."

If Earhart was on or near the LOP at 19:12, it had taken her 19.2 hours to fly the 2556 miles from Lae to Howland, which translates to an average ground speed of about 133 miles per hour. She had flown for 1 hour and 28 minutes since her 17:44 ("200 miles out") transmission, which would correspond to about 195 miles traveled. So her minimum distance from the *Itasca* when her first "fairly good" transmission was heard was 195 miles. If we suppose that winds blew her off her intended course laterally by as much as 150 miles[6] during the night, she could been have about 250 miles away from the *Itasca* at 17:44. Thus Earhart would have to have been within about this distance from the *Itasca* when she was first heard clearly. When she was farther away (as she was earlier in the morning), her messages would be and were fainter; as she got closer, her received signal strength would have increased and did increase.

The content of Earhart's transmissions indicates that one of two conditions had to exist. Either she thought she was closing in on Howland that morning, or she was trying to deceive her listeners into thinking she was. Radio science suggests that she not only <u>thought</u> she was close to Howland but in fact <u>was</u> close to Howland. Figure 2 below is based on an analysis prepared by LCDR Robert Brandenburg,

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[6] This is a worst-case estimate, assuming a 12 mph cross-wind for twelve hours, rounded up to 150 miles.

USN (Ret). His propagation analysis was performed using the ICEPAC model, developed by the Institute for Telecommunication Sciences at the U.S. Department of Commerce (ITS n.d.; Brandenburg 2012). The exact relationship is not as important as the basic shape of the curve: The strongest signal from the Electra would be received by the *Itasca* when the aircraft was between 100 and 250 miles distant; the Electra would have to be within about 250 miles of the *Itasca* to be heard clearly; and signal strength (likelihood of reception) on 3105 kHz drops off steadily at distances greater than 250 miles.

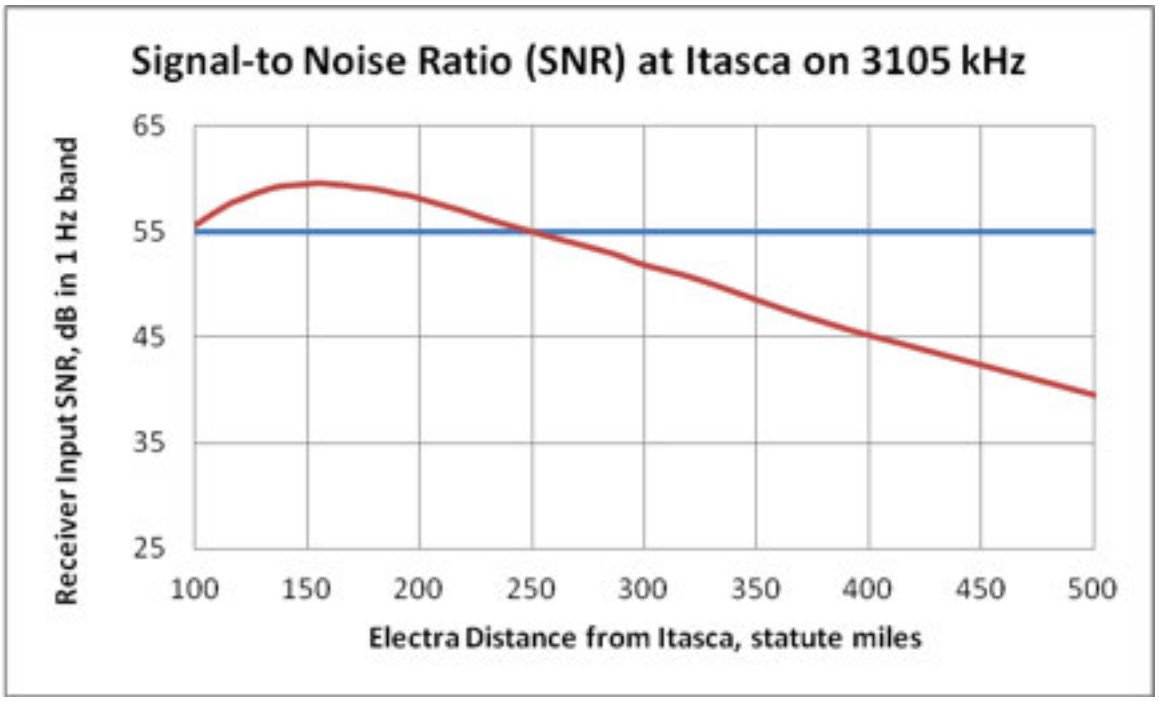

Figure Two: SNR with Distance. Source: Robert Brandenburg

In order to accept the "Earhart flew to Saipan" proposition, one has to believe that transmissions from the Electra were received loud and clear by the *Itasca* even though the Electra was over two thousand miles away to the west. One also has to believe that the signals grew progressively stronger as the Electra got farther away to the northwest. This is incompatible with radio propagation science, to say nothing of common sense. While it is possible for some signals to radiate in such a way as to be received at great distances while they are not received closer to the source, this phenomenon would not produce a pattern in which signals grew steadily stronger the farther away the transmitter became from the receiver.

Credibility of Capture Elsewhere

Five authors assert that Earhart was captured elsewhere and transported to Saipan. The scenarios are different from one another, but share some similarities, so some data that bear on the credibility of one apply to others as well.

Goerner's scenario was the first published. It suggests, as do others, that Earhart's Electra had engines which had been switched so that she had more power (and speed) available than she needed to get to Howland directly from Lae. This change was necessary to permit her to fly north to Chuuk and then eastward to Howland in the time allocated for the Lae-to-Howland leg. Goerner asserts that with the hypothetical improved engines and the detour over Chuuk the Electra would have had "a four- to six-hour reserve of gasoline should Howland prove a difficult landfall" (Goerner 1966:315). Goerner states that the "Electra's power had been publicized as twin 550-horsepower Pratt & Whitney Junior Wasp engines." In fact, the Wasp Junior was rated at only 450 horsepower, and Earhart's plane was delivered in July 1936 with 550 hp Pratt & Whitney R1340 S3H1 "Wasp" engines. All Lockheed 10Es came equipped with these engines; it was the earlier 10A that carried Wasp Juniors. Be this as it may, the engines with which Earhart's plane was equipped were rated at 550 horsepower. Neither Goerner nor anyone else has produced tangible evidence that they were changed after the plane's delivery.

The distance from Lae to Howland is 2556 miles. The distance from Lae to Chuuk is about 950 miles and from Chuuk to Howland about 2220 miles, for a total of about 3170 miles. This assumes point-to-point flying without any "spying time" over Chuuk Atoll. Earhart and others involved in planning the flight anticipated that the Electra Earhart was understood to be flying would take about 18 to 20 hours to reach Howland directly from Lae, depending on the headwinds encountered. This corresponds to a ground speed of from 128 to 142 miles per hour.

The Electra (with a maximum fuel capacity of 1151 gallons) was reportedly loaded with 1100 gallons of fuel at Lae (Gillespie 2006:77). According to Lockheed data that fuel should have lasted for 24 hours if the Electra's airspeed was 153 mph and 27 hours at an air speed of 136 mph (Gillespie 2006:78). If the engines powering the Electra were more powerful, the fuel economy would be lower. In any event, flying the aircraft faster would consume the fuel at a higher rate. Assuming a 15 mph headwind over the 2556 miles directly from Lae to Howland, and a 19.2-hour flight time, we compute an average ground speed of 133 mph or an airspeed of 148 mph. If the plane could stay aloft for 24 hours, there would have been approximately a

4.8- hour fuel reserve when they reached the LOP through Howland. This is a reasonable 20 percent reserve. Assuming that the route was from Lae to Chuuk to Howland without increasing airspeed or fuel consumption rate but reducing the assumed headwind to 10 mph, the 3170 miles would take 23 hours at a ground speed of 138 mph. This would result in a one-hour fuel reserve at Howland, not the four to six hours claimed by Goerner. If the Electra was flown faster, so that it could reach Howland in about 20 hours, at a groundspeed of about 158 mph and an air speed of 168 mph, it would be able to stay aloft for 21.6 hours. This means that at Howland it would have about 1.6 hours of fuel in reserve. The more powerful engines postulated by Goerner would use fuel at a faster rate and any reserve would surely be less. This assessment shows that there would have been a very small fuel margin if Earhart had attempted such a route. To follow such a plan, with such a small fuel reserve, would have been foolish even for a pilot as inclined to risk-taking as Earhart.

Goerner indicated that he thought the flight from Chuuk toward Howland encountered stormy weather and Noonan was unable to get a position fix. However, Earhart's S-3 radio message at 17:44 GMT saying she was 200 miles out indicates that she thought she knew how far from the LOP she was. Unless this was merely a guess, it had to be based on an observation by Noonan. Goerner would have her more than 400 miles away at the time of her "200 miles out" transmission, but as discussed above, when she was more than 400 miles from the *Itasca*, her radio transmissions could not have been heard clearly, if they could be heard at all.

Goerner proposed that Earhart turned back toward the northwest shortly after her last transmission on 3105 kHz at about 20:15 GMT. She would have been somewhere near the LOP through Howland at that time, at least 750 miles from Mili Atoll. Yet Goerner had her ditching at Mili about two hours later. Even with a tailwind, it would have taken something in excess of four hours to reach Mili from the vicinity of the LOP. Earhart and Noonan would have been in the air for more than 24 hours, but at the speed Goerner assumes they were flying, they would have run out of fuel much sooner.

In short, unless we assume that the Electra carried more fuel than the records indicate the plane could hold, and that its radio was capable of generating a signal recorded by *Itasca* at S-3 when more than 400 miles away, Goerner's hypothesis does not hold together.

Based on other data, Goerner seems to have reached the same conclusion himself. In 1989 he wrote:

> *"I truly believed the north of course theory was the most probable when I wrote The Search for Amelia Earhart in 1966, and I chose Mili as the most logical landing place. Through the assistance of Dr. Dirk Ballendorf, who was Deputy Director for our U.S. Peace Corps activities in the Pacific, I was able to disabuse myself of that notion"* (Goerner 1989).

In *Amelia Earhart Lives*, Joe Klaas also contends that Earhart had an enhanced version of the Electra in order to fly the Lae to Chuuk to Howland route. He suggests that it could have been the XC-35, a pressurized fuselage aircraft designed and built by Lockheed and first flown on May 7, 1937, about two weeks before Earhart departed on her second world flight attempt. It seems to us unreasonable to believe that such an untested aircraft, contracted for by the military, would have been sought by Earhart or turned over by the military or Lockheed for the world flight. Furthermore, Earhart's plane was serviced at several locations on the world flight. One of these locations was Lae, where Guinea Airways operated and maintained an Electra of its own. There is no record that Guinea Airways personnel noticed any significant differences between Earhart's aircraft and theirs.

Klaas' assertion that Earhart was able to fly north to Chuuk and then southeast toward Howland on 1100 gallons of fuel has the same fuel reserve problems as does Goerner's contention, exacerbated by the fact that Klaas has her flying even farther south, heading for Kanton Island in the Phoenix Group. The total distance from Lae to Chuuk to Howland to Kanton is approximately 3600 miles. Assuming a 10 mph headwind as above and flying at the lower air speed of 148 mph (ground speed of 138 mph) it would have taken 26 hours to make the trip, with about 25 hours worth of fuel. If she flew faster, as Klaas suggests, she would have to fly for 22.8 hours at an air speed of 168 mph (ground speed of 158 mph) to cover the distance. Her fuel burn rate at the higher speed would have exhausted her fuel in about 21.6 hours. If circumstances were extremely fortunate (e.g., the prevailing winds were favorable), the flight might have been completed with the available fuel. But to plan such a flight, without any fuel reserve and hoping for favorable winds, would have been suicidal.

Klaas has the Electra shot down by a fighter from the Japanese aircraft carrier *Akagi* not far from Kanton Island. He asserts that the plane crash landed at Orona (Hull Island) in the Phoenix Group on the morning she disappeared, July 2, 1937. He has her taken aboard the *Akagi* and eventually transported to Saipan. In his

book, Klaas includes photos of the purported Electra wreckage on Orona with a Japanese flag flying over it (Klaas 1970: photo on unnumbered page before page 117). He says these photos were taken by the U.S. Navy when the *USS Colorado* approached the Island in early July. However, according to the *Colorado's* records which do not mention photographing airplane wreckage or a Japanese flag at Orona a plane from the *Colorado* landed in the lagoon at Orona on July 10 and the pilot spoke with the British plantation manager, John Jones. Jones is reported to have said he had heard nothing of the missing aircraft and aviators. Orona is not a very large island[7]. It is hard to imagine that the island's inhabitants would have failed to notice one aircraft shooting down another in the vicinity or airplane wreckage on their island with a Japanese flag flying over it. According to the *Colorado's* pilot, Jones said that for most of the islanders the *Colorado's* seaplane was the first aircraft that they had ever seen (Lambrecht 1937). The frames shown in Klaas' book appear to us to show many birds flying in front of what may be an island; we cannot identify anything else.

In short, there is no apparent evidence to support the Klaas scenario, and many of his conjectures are contradicted by generally accepted data. For example, Klaas asserts that Earhart's Model 10E Electra was swapped for another aircraft with better performance characteristics. While Earhart took off in the other plane, her Electra stayed behind, under the control of Paul Mantz. Klaas suggests that there were a number of bogus transactions through which the original plane was laundered. A Lockheed plane with serial number N16020 crashed at Fort Irwin in Southern California in December 1961; Klaas cites this as proof that Earhart's original Electra was not used on the world flight.

However, there is a simpler explanation for the coincidence of tail numbers, and good evidence that the Fort Irwin plane was not Earhart's. Earhart's plane was a Lockheed Electra Model 10E Special, constructor's number 1055, serial number NR16020. According to the *Civil Aircraft Register – United States*, a detailed register of U.S. civil aircraft, the plane that crashed at Fort Irwin was a military version of the Model 12A Electra Junior, constructor's number 212-13, flown by the Royal Canadian Air Force. It had a number of designations over the years: NC18955; NC18955; CF-BQX; RCAF7642; NC60775; N60775; and finally N16020 (Golden Age n.d.). Reportedly, in 1958 Paul Mantz owned the aircraft and got it relicensed as N16020 in memory of his late friend Amelia Earhart (TIGHAR 2001). The Model 10E and Model 12 plane types were very different. The Model 10 was a ten-

[7] Navigate to "Hull Island" on Google Earth for a first-hand view.

passenger model. The Model 12 carried six passengers. In his book Klaas includes a photo of an exhaust manifold plate from the crashed aircraft he asserts is Earhart's, but the plate clearly indicates that it was from a model 12A (Klaas 1970: photo on unnumbered page before page 117).

In 1985 Vincent Loomis published *Amelia Earhart, The Final Story* in which he adopted Paul Rafford's analysis of Earhart's disappearance. This scenario requires no spying mission or a secret aircraft upgrade to get the Electra to Mili Atoll. According to Rafford's hypothesis, Earhart tried to fly toward Howland essentially as planned. When they were approaching Howland, he thinks that Noonan was able to get a sun shot; this provided the basis for Earhart's message to the *Itasca* when they thought they were about 200 miles from the LOP. Rafford and Loomis propose that at this point Earhart detected nothing amiss and continued toward the LOP, but in fact a "southeasterly wind she was unaware of" had blown her northward during the night, so when they reached the LOP they were actually about 150 miles north of the *Itasca* (Loomis 1985: 117).

On its face this scenario seems plausible. It is compatible with the reported radio receptions by the *Itasca*. The aircraft performance characteristics fit the scenario up to this point. The only questionable assumption is that there were southeasterly winds of which Earhart was unaware. In fact, the information Earhart had when she departed Lae included the prediction of wind speeds of between 15 and 20 knots from the south-southeast. Earhart should have factored these predicted winds into the course she chose as she flew toward Howland. If the winds were as predicted, and Earhart/Noonan correctly accounted for them in their planning, they would have arrived over Howland when they reached the LOP.

An alternative analysis of the effects of prevailing winds on the Electra has been performed by Randall S. Jacobson (nd). Applying a set of defined constraints explained in his article, and assuming that Earhart planned her flight based on the predicted weather, he conducted a Monte Carlo simulation using the best weather data available for the flight path, including data of which Earhart was unaware. Jacobson concludes that "Earhart was experiencing 26 knot winds from roughly 58 degrees, rather than the 18 knot winds from 68 degrees as forecast." As a result he proposes that she would have reached the LOP south of her intended course, rather than north as required by the Rafford/Loomis hypothesis.

But assuming that Rafford is correct, could the Electra have reached Mili Atoll with the available fuel? Rafford believed that at 20:15 GMT, Earhart was about 150 miles north of Howland on the LOP and turned westward, thinking she would fly back to the Gilberts. However, since she was farther north than she believed, she was actually flying toward Mili Atoll. Rafford says she picked up a tailwind of 15 miles per hour as she flew westward. She was about 750 miles from Mili when she left the LOP. If her airspeed was 148 miles per hour, a 15 mph tailwind would have resulted in a ground speed of 163 miles per hour. At that rate it would take 4.6 hours to reach Mili. They would have reached Mili about 25 hours after taking off from Lae. An air speed of 148 mph should have permitted her to stay airborne for about 25 hours. If the Rafford scenario applies, she would have run her tanks dry just as she arrived at Mili.

In summary, for the Rafford/Loomis hypothesis to be true, the prevailing winds must have been as Rafford suggests and not as Jacobson's data indicate. Moreover, Earhart and Noonan must have not used the weather data available to them effectively in plotting their course. If these factors all fell into place, it appears possible for the Electra to have run out of fuel as it approached Mili Atoll.

Buddy Brennan's 1988 version of the captured-in-the-Marshalls hypothesis is based largely on interviews with the same informants cited by other authors. However, he also gives considerable weight to secondhand testimony by Marshallese political leaders like Oscar DeBrum and John Heine. According to Brennan, for instance, DeBrum said "there's no question they went down in the Marshalls" (Brennan 1988:76). By the time Brennan collected such statements of opinion, some fifty years had passed since the time Earhart and Noonan might have been seen landing and being captured. Many people had been interviewed by many investigators, and there had been much time for the development of generally agreed-upon stories (See Implications of Group Opinion below).

Randall Brink published his book, *Lost Star, The Search for Amelia Earhart* in 1994. Like Goerner, he asserts that Earhart was on a spy mission and flew north to Chuuk and thence toward Howland. He outdoes Goerner and Klaas in the upgrades he attributes to her aircraft, saying that while the Electra was supposedly being repaired in Burbank following the crash in Hawaii[8], another, more capable aircraft was substituted. He thinks this aircraft was fitted with surveillance cameras and enhanced direction-finding capability. Brink cites personal input from people

[8] For a recent description and analysis of this crash, see Gillespie 2006: Chapter 3.

whom he says were involved in making these changes, but he presents no photos or other corroborating evidence.

We see nothing in the many photos taken during the world flight that supports Brink's assertions. As with the changes to the Electra that Klaas proposes, none of the people who serviced the aircraft during the world flight are reported to have substantiated any of Brink's contentions.

Brink bases his conclusions about a "government conspiracy" on what others might see as innocuous circumstances. The U.S. assisted the Earhart flight; to Brink this proves that she was on a government mission. The decision after the crash in Hawaii to fly east rather than west to Brink was made not because of weather conditions but to facilitate spying. To Brink, Earhart kept her departure on the second attempt quiet to avoid press scrutiny of the substitute aircraft. None of these suppositions has been substantiated.

Brink observes that in *Last Flight*, Earhart mentions that one of Lockheed's maintenance specialists, F.O. Furman, was available in Bandoeng to do an overhaul on the Electra's engines. Brink asserts that the engines did not need to be overhauled in Bandoeng, so Furman must have been there to "service the secret cameras and other special equipment" (Brink 1994:130). But if Furman was there in secret as part of a spying scheme, why would Earhart mention him in *Last Flight*? According to Brink, Earhart's enhanced aircraft was equipped with "secret long-range low- frequency DF (direction-finding) equipment" to facilitate communication with the *Itasca* and enable them to home in on the *Itasca's* transmissions. When Earhart and Noonan were hundreds of miles from the *Itasca*, Brink asserts that they could have flown to the *Itasca* which was transmitting every few minutes. If this were so, why did they turn toward the Marshalls rather than flying directly to Howland?

According to the rough map included in Brink's book (Brink 1994:6-7), the Earhart aircraft was never closer than about 480 miles from Howland Island. However, the Electra's 3105 kHz transmissions were heard clearly from 17:44 to 20:15 GMT, which should not have been possible if the plane was more than 480 miles from the *Itasca*.

The limitations imposed by the 1100 gallons of fuel aboard the aircraft apply to Brink's scenario as well as to the others. Based on Brink's map, Earhart might have had enough fuel to get to the Marshalls, but only if she never got close to Howland.

Brink says the plane was forced down at Mili Atoll on July 2, and that she broadcast SOS messages until she was picked up by the Japanese on July 5. But unless the right engine of the Electra could be run to power the radio, Earhart would only have been able to transmit for a short time; three days worth of messages would be out of the question. The messages were reported by Walter McMenamy of California, whom contemporary analysts identify as not a credible source (Gillespie 2006:123-5).

Brink says the Japanese took the fliers and the aircraft away on the freighter *Kamoi*. Earhart and Noonan, he says, were taken to Saipan while the plane was left on the island of Taroa, where Brink says it is pictured in a reconnaissance photo included in his book. The photo can be interpreted in a number of ways, but a systematic archaeological survey of Taroa has not revealed an Electra (Adams 1998).

It is possible for the Electra to have made it to Mili, and if the Japanese captured Earhart there they might well have taken her to Saipan. However, Brink's elaborate scenario to get her to Mili is made up mostly of speculation based on very thin informant testimony.

Finally, the evidence cited by the "special section" of the online "CNMI Guide" (No author, n.d.) that the message received from Earhart by Lae at 07:18 GMT should not have been audible, appears to reflect an understandable confusion on the part of the section's unidentified author. It is true that, as discussed above, messages on Earhart's relatively low nighttime frequency of 3105 kHz should not have been audible over the almost 900 miles between Lae and Earhart's reported location along her course toward Howland Island, but her radio had sufficient power to be heard over such a distance on her higher daytime frequency of 6210 kHz, and it is on this frequency that the 07:18 GMT message is documented to have been received.

Credibility of the Electra and Forrestal at Aslito

The Electra at Aslito is one of the strangest stories associated with the Earhart disappearance. Until Thomas Devine published his account in 1987, he was the only person known to have asserted it had happened. After his book was

published, and he appealed for others to step forward with their recollections, other people who were on Saipan in 1944 voiced support for his story.

If the Electra had been on Saipan in flying condition in 1944, it could have gotten there in either of two ways.

1. It could have been flown there by Earhart from Lae, as Devine maintained. As discussed above, this scenario is contradicted by the evidence of Earhart's radio transmissions received by *Itasca*.
2. It could have been brought there by the Japanese after having come down in the Marshalls or elsewhere. This scenario is plausible, but if the plane crashed, was damaged in landing, or spent much time in the water it would require that the Japanese invest a good deal of effort in recovering it and returning it to flying condition. It is difficult to imagine why they would make such investment, particularly if they planned to conceal the airplane's existence.

The circumstances under which Devine told his story do not inspire confidence. There is no evidence that he reported his experiences on Saipan until Goerner's investigation began to gain notoriety. At this point he reported his gravesite story but not his Electra-at-Aslito story to Goerner, the press, and the Navy. It was his story of being shown graves said to be those of Earhart and Noonan that Patton investigated for the Office of Naval Intelligence, concluding that it was not credible (Patton 1960:9).

In 1962, apparently frustrated that officials were not taking him seriously, Devine told the Navy about seeing the Electra on Saipan. He then accompanied Goerner to Saipan in November 1963 and said he found the gravesite he was looking for, but told no one about it, apparently intending to return to the island and recover the remains himself. This sort of behavior does nothing to build Devine's credibility.

Devine's assertion that the Electra's burning was carried out under the direction of Secretary of the Navy James V. Forrestal has been carefully investigated by long-time Earhart researcher Ron Bright. Bright found no evidence to support the premise that Forrestal was on Saipan during the time frame in question (at most a few days into the American landing), and ample evidence that he was elsewhere. Unless the records of Forrestal's whereabouts have been doctored, it appears that Forrestal could not have been on Saipan during the time claimed by Devine (Bright

2002). The corroborative testimony of other American military eyewitnesses was collected under conditions that render it suspect as well (See "Reliability of Eyewitness Testimony" below).

Credibility of Execution and Burial

All the stories of Earhart's and/or Noonan's execution (or in some Earhart stories, death due to dysentery) are derived from the testimony of eyewitnesses and other informants. They typically describe a man and a woman who are seen on Saipan together or by themselves, after which one or both are in some cases seen executed while in others their execution, or death by natural causes, is reported based on hearsay. In some cases execution is by firing squad, or at least by massed gunfire, while in others it is by beheading. It is difficult to imagine a single coherent story embracing all these disparate accounts, let alone to connect such a story with any confidence to Earhart and/or Noonan. That the Japanese executed people is certain; whether any of those people were Earhart or Noonan is another matter.

Some of the putative Earhart and/or Noonan graves that have been excavated on Saipan have produced suggestive things the blindfold in the case of Brennan's excavation, bones in the case of Goerner's and Kothera's. As discussed above, however, none of these pieces of "hard evidence" can be linked with confidence to Earhart and Noonan. The site of the reported graves on Tinian was intensively excavated by archaeologists in 2004, under the eye of the key eyewitness, Mr. Naftel, and no bones or suggestive artifacts were recovered (Bunn et al n.d.; Frost 2004; King 2004).

Reliability of Eyewitnesses and Other Testimony

All eight of the Earhart-in-the-Marianas stories are grounded in anecdotal written and oral history; that is, the major evidence on which they are based consists of people's recollections. Most fall into two categories:

Micronesian stories: these are the recollections of Chamorro or Carolinian residents of Saipan or Tinian, or of Marshallese, usually delivered orally to and recorded by non-Micronesian Americans.

U.S. Military stories: these are the recollections of U.S. military personnel, mostly participants in the 1944 conquest of the Marianas, of what they say they recall seeing, hearing, finding, or being told by others.

A very few stories are derived from non-military American sources, and one story reported by Campbell (2002:103-06) is from a Japanese informant.

The reports that are most impressive to most readers are those of eyewitnesses: people recounting what they say they actually saw, usually in 1937 on the part of Micronesian informants and 1944 on the part of U.S. military personnel. If these people are not lying — and how could they all be? — then an unbiased reader may reasonably conclude that what they say is true.

A problem that confronts some of the authors who have published Earhart-in-the-Marianas hypotheses is that eyewitnesses have sometimes provided contradictory testimony. Some Micronesian informants, for instance, describe a plane with a woman and man in it landing on Saipan, while others have the man and woman, and sometimes the airplane, brought to Saipan from elsewhere, in some stories after landing on or near various different islands in the Marshalls. This problem is typically addressed simply by rejecting some stories and accepting others. This acceptance and rejection is often couched in very unambiguous terms. Those whose stories are rejected are taken to be Japanese collaborators, participants (knowing or not) in a U.S. government cover-up, or simply not to be trusted. Adjectives like "incredible" are sometimes used in references to accounts that a given author does not want to accept. Those whose stories are accepted are explicitly or implicitly identified as credible, knowledgeable, and without bias.

Patton's 1960 report is sometimes cited as a well-researched official repudiation of the eyewitness testimony of Josephine Blanco Akiyama and others, but proponents of Earhart-in-the-Marianas stories justifiably point to some core inconsistencies in Patton's analysis. Notably, the two stories he accepts as perhaps containing elements of truth — those pointing to Earhart's crashing in the Marshalls — are in many ways flimsier than those of Akiyama and others; both report only hearsay, and one reports it only secondhand. Patton also exhibits some preference for the negative testimony of people in authority (e.g. Sheriff Sablan) over the positive testimony of individuals in less official positions — an understandable bias in a government investigator, but nevertheless one that dilutes his own reliability.

We have no basis for saying that any alleged eyewitness or other informant is or is not credible. For the purposes of this paper, we assume that all such informants were telling what they believed to be the truth, though perhaps shaded in some cases to meet what they understood to be social expectations. However, this does

not lead us to assume that any informant described "objective" reality — that is, reality as it might be perceived by another party. There are good reasons to view all the eyewitness and other informant stories with skepticism, even while accepting the honesty and good will of those who have told them.

In the last fifty years, there has been great psychological interest in the reliability of memory, and a good deal of research on the subject — notably including the memories of eyewitnesses. Much of this interest and research has been stimulated by growing concern in legal and law enforcement circles about the conviction of innocent people by courts of law based on eyewitness testimony. Much has also been stimulated by concerns about the conviction and imprisonment of parents based on the uncorroborated stories of adult children who say they have recovered long-suppressed memories of childhood abuse. Elizabeth Loftus of the University of Washington is perhaps the best known and most widely published researcher in this field; her 1979 book *Eyewitness Testimony* (2nd edition 1996) is probably the most widely available generally accessible text on the subject, though many other scholars around the world have studied and published in the field.

What these studies tend to show is that memory is a highly malleable phenomenon; our memories can be significantly transformed by influences from outside our heads — notably by the suggestions of interviewers. As Loftus puts it:

> *"A growing body of research shows that new, postevent information often becomes incorporated into memory, supplementing and altering a person's recollection. New 'information' can invade us, like a Trojan horse, precisely because we do not detect its influence"* (Loftus 1996:vii)

In one experiment Loftus reports — one of many, and often replicated — a group of individuals is shown a short film of an automobile accident involving a white sports car on a country road. After a period of time engaged in other activities, the subjects are asked a series of questions. Among these, for some of the subjects, is the question: "How fast was the white sports car going when it passed the barn?" In fact, there was no barn in the film, but a substantial percentage of the subjects accepted the suggestion that there was, and offered ideas about how fast the car was going when it passed it. When questioned a week later, more than seventeen percent of those previously asked about the barn "recalled" seeing it — it had apparently become firmly embedded in their memory of the film — while only three percent of those not previously asked about it thought they had seen it (Loftus 1996:60). Experiments of this kind have now been performed quite often, by a

number of researchers, and leave little doubt that the memories of eyewitnesses can be changed without their being aware of it, and without any necessary intent on their part to deceive.

Even word choice by a questioner can influence memory. In another experiment, subjects view a film showing a two-car auto accident. They are then divided into two groups and asked about things seen in the film. In the list of questions asked of one group is: "Did you see a broken headlight," while in the other group's list the question has been slightly rephrased: "Did you see the broken headlight?" In fact no broken headlight appeared in the film, but "(w)itnesses who received the questions using 'the' were much more likely to report having seen something that had not really appeared in the film" (Loftus 1996:95-6). Similarly, subjects asked how fast they thought two cars were travelling when they "smashed" into each other tended to give much higher estimates than those asked about the cars' velocity when they "hit" each other. Even more interestingly, those in the "smashed" group were more likely than those in the "hit" group to answer affirmatively when asked several weeks later whether they saw any broken glass in the film which in fact showed no broken glass (Loftus 1996:77-8).

What research by Loftus and others has repeatedly shown is that people's memories can change over time in response to external and internal stimuli, and that people can come quite seriously to believe that they recall things that are different from what they originally saw and stored in memory. Altered memories can be as vivid, and as firmly and honestly believed in, as "pristine" memories.

Grounded in studies like those reported by Loftus and other psychologists, law enforcement and judicial bodies around the world have established guidelines for interviewing witnesses, hoping to minimize the potential for tainting their memories. In 1999, for instance, the National Institute of Justice in the U.S. Department of Justice (DOJ) published *Eyewitness Evidence: a Guide for Law Enforcement* (DOJ 1999), which lays out extensive guidelines for police officers, "911" operators, attorneys and others. One guideline appears over and over, applied to almost every situation:

> *"Use open-ended questions (e.g., "What can you tell me about the car?"); augment with closed-ended questions (e.g., "What color was the car?") Avoid leading questions (e.g., "Was the car red?")* (DOJ 1999:15, emphasis added).

With reference to the above guidelines, consider the following notice, published in the November 1993 issue of *Leatherneck* magazine by Henry Duda (as reported in Campbell 2002:24):

> *"C'mon, Marines. Let's bring out the truth. During the invasion of Saipan, I, and other Marines, as well as Army and Navy personnel, became aware of considerable material and information that Amelia Earhart, her navigator, Fred Noonan, and their airplane had actually landed on Saipan during her 1937 around-the-world flight, rather than the generally accepted assumption that they had gone down at sea. I wish to contact any additional Marines who may have information, especially those who were on guard duty, where her plane was found in a Japanese hangar at Aslito Field."*

We mean no criticism of Mr. Duda for publishing this notice, but was it not a leading question? It amounts to: "Did you experience anything during the invasion of Saipan that you would connect with Earhart, Noonan, and/or their airplane which <u>was</u> found in a Japanese hangar at Aslito Field?" This sort of questioning pervades the record of eyewitness testimony elicitation on which the Earhart-in-the-Marianas stories are largely based. To judge from the psychological literature, it would seem almost made to order for the inadvertent creation of false memories.

The possibility of false memory creation exists with respect to both major populations of Earhart-in-the-Marianas eyewitnesses: veterans of the U.S. military and Micronesian residents of Saipan, Tinian, and the Marshall Islands.

With respect to military veterans, it is striking that most memories relating to Earhart, Noonan, the Electra, and such related phenomena as photographs and paper-filled briefcases surfaced a dozen or more years after the 1944 invasion. Many were not reported until the 1990s, in response to inquiries by Duda, Devine, and others. It is not difficult to imagine a veteran of the invasion, looking back on a very exciting, frightening, confusing, perhaps heroic, perhaps traumatic period in his life, and finding gaps in his memory, things to wonder about. Reading an appeal like Duda's, or a book like Goerner's, Briand's, Brennan's or Devine's, he may begin sifting and re-sifting his memories. This may reveal original, pristine recollections, but it may equally well create opportunities for the equivalents of barns and broken headlights to filter in. The more these memories are then shared, the more opportunities are created for their development in minds that did not previously contain them.

With regard to Micronesian people recovering memories of 1937, there are additional complications. First, there is some evidence (albeit as anecdotal as the

rest of the stories) that some American servicemen actively sought Earhart as they advanced through the islands of Micronesia. Marine veteran Robert W. Reeves, in a handwritten 2002 note to TIGHAR, said:

> *"While we were heading to Roi Namur in the Marshalls, the powers that be issued each and every one of us guys that were going to be doing the fighting a little map maybe a little smaller than this page. On it were known locations of pillboxes, ammo dumps, HQs, prominent buildings, trenches, all that good stuff. I was interested in taking real estate by killing off the occupants, and reading maps was not a big point with me. But it was obvious that whoever made up that map knew the whole place backwards and forwards and even us kids with little savvy knew that someone, somewhat, had done a pretty good job for us guys going in.*
>
> *In the Marines, then, 1944, Amelia Earhart was considered by the guys in the ranks as another beloved member of the Marine Corps. We were all set in our minds by somebody that this woman was risking her all to help us Marines. How else do you account for the good info on our maps at a time when the Marshall Islands were as remote and unreachable for all practical and impractical people as Uberus(?) up in the sky?*
>
> *I also was on Saipan where every man jack of us, I believe, kept our eyes open for signs of that beloved female hero, her navigator, & her craft. "Scuttlebutt" came down or through the ranks that the natives said she had been on the island (alone?) in custody of Japanese Army."*

Writing to the Admiral Nimitz Museum in 2000, Navy veteran John G. O'Keefe described his PT Boat's skipper directing his men to be on the lookout for Earhart on Emirau Island north of New Ireland:

> *"Lt. Josey emphasized that we were to be vigilant for evidence of Amelia Earhart. This was of great interest to me. As a young man not even of age when the war began, I had grown up with Amelia Earhart, Charles Lindburg and Wiley Post as heros"* (O'Keefe 2000 files).

Similarly, Marine veteran William Dunlap, in a handwritten note from 1989 filed with TIGHAR, said:

> *"Every island we landed on during WWII rumors abounded about some evidence relating to the Earhart mystery."*

If Marines, soldiers and sailors were inquiring about Amelia Earhart as they fought their way through Micronesia in 1943-44, it is unlikely that they followed the 1999 DOJ guidelines. It is expectable and understandable that they would have asked very leading questions. The Micronesian people they encountered had themselves gone through and were going through a period of intense emotional upset, and many were experiencing extreme privation and disorientation. After decades of

structured Japanese rule they found themselves in a state of confusion, uncertainty and utter dependence on the American conquerors. There would surely have been strong motivation to tell the frightening newcomers what they seemed to want to hear, and show them what they seemed to want to see. We cannot know how all this would affect the creation and reconstruction of memories among Micronesian informants, but the opportunity would surely exist for false memories to develop. Micronesians may also have gained the impression that some benefit (cigarettes? candy? food? not being killed?) might result from satisfying the Americans' curiosity, which could account for some stories of Micronesian people accosting Americans and offering to show them the woman pilot's grave or tell them stories about her imprisonment. It is hard to understand why local people would be so intent on telling or showing Americans such particular things if there were not some perceived benefit in doing so.

After the War, the reports of Micronesian people recounting Earhart stories thinned out until 1960, when Josephine Blanco Akiyama publicly told the story that initially informed researchers like Briand and Goerner. Now a new wave of Americans arrived in the Marianas asking about Earhart, none of them aware of the guidelines that would be developed fifteen to twenty years later based on the research of psychologists like Loftus. There is every reason to suspect that they too asked leading questions and inadvertently cultivated false memories. Consider, for example, this excerpt from the transcript of an interview with Matilde Fausto Arriolo carried out by Fr. Arnold Bendowske in November 1977[9]:

Fr. Arnold: *First of all, you recall that you told Fred Goerner about the story on Amelia Earhart?*

Matilde: *I don't know, Father, what the name of that man was.*

Fr. Bendowske goes on to say that he is interviewing Ms. Arriolo at the request of Admiral Carroll, formerly on Guam but now in Washington, and that the tape will probably go to the Central Intelligence Agency (CIA). He goes on:

I mentioned to the Admiral at that time your name because you saw Amelia Earhart yourself.

Matilde: *I did not know her name when I first saw her. She did not mention her name nor who she was.*

Fr. Arnold: *What year was this?*

9 Fr. Bendowske's interviews were relied upon by Goerner, Loomis, and Devine, and are alluded to by others.

Matilde: *I believe it was 193-*

Fr. Arnold: *Was it 1937 or 1938? Do you recall?*

Matilde: *At the moment I don't seem to be able to pin down the exact year. You know, I was sick recently and maybe that has impaired my memory, my powers of memory.*

Fr. Bendowske's performance is virtually a textbook case of leading the witness. He begins by announcing his assumption that Ms. Arriolo saw Amelia Earhart, ignores her protestation that she did not know whether the woman she met was Earhart, and proceeds to supply her with the approximate date when he supposes the meeting occurred. Almost certainly a Catholic, Ms. Arriolo probably regards Fr. Bendowske as an authority figure, and he enhances the seriousness of his investigation by implying that the military or US intelligence are interested in her testimony. Under the circumstances, it would be surprising if Ms. Arriolo did not start remembering that she saw and talked with Amelia Earhart, regardless of whether she ever did.

Asking leading questions is not the only interviewer practice that may have skewed the testimony of interviewees; the opportunity to profit from the "right" kind of testimony also seems to have existed in some cases. Loomis, for example, reports that he offered two thousand dollars to anyone who would help him locate a metal box that he believed might have been buried by Noonan on Mili Atoll (Loomis 1985: 91-92). Although we have found no accounts of the practice, it seems likely that GIs and Marines sometimes compensated their Earhart informants at least with things like candy, cigarettes, and Cokes.

None of the above proves that Matilde Fausto Arriolo, Josephine Blanco Akiyama, or other Micronesian people did not see Amelia Earhart, that Thomas Devine did not see the Electra at Aslito, or that Robert Wallack did not find Earhart's briefcase. We do think it suggests that eyewitness testimony is by no means infallible, especially when it is collected by untrained people with their own agendas.

Interrogation across Cultural Boundaries

General differences in communication style also need to be considered in judging the reliability of informant testimony as a source of "objective" data. In his well-known work, *Beyond Culture* (Hall 1976), Edward T. Hall arrayed the communications styles of different societies along a continuum from "low context" to "high context." Low-context societies typified by those of the United States and

some western European countries — tend to value the use of language to convey information, focusing on the specific subject at hand. Higher context societies use language in ways that may reflect a range of social contexts besides that of transferring data from one person to another about a specific subject. The speech of a person in a high-context society is likely to reflect status relationships and social expectations at least as much as it reflects the "objective facts" valued by a low-context speaker. Raymond Cohen (1997) has shown how communication breakdowns between high and low-context negotiators have caused costly and sometimes fatal errors in international diplomacy.

Micronesian societies tend toward the high-context end of Hall's continuum. A speaker is likely to be at least as concerned about how what he or she says will affect relationships with others — including the person spoken to but also including one's family members, the leadership of one's social group, and the members of subgroups to which one belongs or which one respects (e.g. elders, navigators, women) — as he or she is about communicating "facts." This complexity tends to be lost on a low-context interlocutor.

All the Earhart researchers whose work we have examined have been from a low-context society — the United States — and even an investigator as experienced as Fred Goerner appears to have had relatively little contact with people from high-context cultures before coming to Micronesia. So an Earhart researcher might ask a direct question and assume that the response represented a direct, "truthful" answer; the person being questioned, however, would very likely respond based on what he or she thought appropriate in a variety of contexts unknown to the investigator. What answer was proper given the status of the interviewer as understood by the interviewee? What answer would be the most polite, and helpful to the interviewer? What answer would the village or island chief think appropriate? What answer might produce maximum benefit for one's lineage or dependents, and minimize risk to them? This does not mean that the high-context informant would lie, but that he or she would be likely to shade the truth (as he or she understood it) to meet social expectations.

Implications of Group Opinion

Some Earhart-in-the-Marianas researchers cite what they take to be a broad consensus among Micronesian informants as evidence that the stories reported by such informants must reflect the truth about Earhart's and Noonan's fate. Exactly

how much of a consensus might exist is rarely reported; for example, in 1960 Joe Gervais (via Klaas) summarized:

> *"Many people remember a plane crash. Many people remember an American woman and an American man apparently being held prisoner. Some say they were executed. Some say the woman died, apparently of dysentery, and the man was executed. Some say they were taken away to Japan"* (Klaas 1970: 121).

It is uncertain how much of a consensus actually existed at the time most of the Earhart-in-the-Marianas investigations began. For example, in 1960 Fred Goerner interviewed over 200 people on Saipan, only 13 of whom said they knew some portion of the story told by Josephine Blanco (Goerner 1966:48). Nevertheless, it is fair to say that the notion that Earhart and Noonan ended their journey and lives in the Marianas has gained a following among residents. Similarly, some consensus has developed among groups of U.S. military veterans, as shown especially in Campbell's 2002 book. Many people remember being told stories or having experiences that they can relate to Earhart and Noonan. Some recall being told about their landing, some about their imprisonment, some about their execution and burial. Some recall finding things, or being told of such discoveries, and some recall the Electra at Aslito or flying over the Saipan battlefield.

As discussed below ("A Core of Truth?"), this sort of group agreement may reflect some kind of historical reality, but it also may reflect the importance of consensus per se as a cultural value. Particularly in Micronesia, but elsewhere as well, consensus is something that people think worth seeking and achieving for its own sake. Although particularly characteristic of high-context societies like those in the Pacific Islands, the desire for consensus seems to be widespread. In a 1977 experiment-based study testing generalizations by Norman Maier (1950), Irving Janis (1972) and others, the social psychologist Matie L. Flowers concluded that "in all groups a pressure toward consensus prevails unless the leader deliberately counteracts such pressure by encouraging diversity of viewpoints" (Flowers 1977:889) In other words, there is a natural tendency in any social group to form consensus.

Consider first how this tendency toward consensus might affect a group of U.S. servicemen during World War II. Imagine that some of the group's formal or informal leaders become convinced that Earhart is somewhere on the islands they are invading, helping them and hoping to be saved. It is unlikely that such a group's leaders would "encourage diversity of viewpoints;" more likely, they would

encourage unanimity of purpose "Let's find Earhart, using whatever means are necessary," including the forceful questioning of Micronesians they encountered. Positive results be they stories of women in captivity, found objects, or executions and graves would be preferred by the group over negative data.

Now consider veterans of World War II in the Pacific, approached long after the war by an articulate fellow-veteran like Devine or Duda, who is leading a quest for information on specific events like the Electra at Aslito or reports of Earhart's imprisonment. Drawing on the oral history of Studs Terkel (1985), the neurologist Oliver Sacks refers to:

> *"… countless stories of men and women, especially fighting men, who felt World War II was intensely real – by far the most real and significant time of their lives – everything since as pallid in comparison. Such men tend to dwell on the war and to relive its battles, comradeship, moral certainties and intensity"* (Sacks 1998:31).

Among such men, receiving what amounts to a "call to arms" from someone asserting leadership as Duda did "C'mon, Marines, let's get the truth out!" is likely to leave little doubt about what kind of consensus is expected. "Yes, we did experience things that now, in light of what the leader tells us, make sense as evidence of what happened to Earhart."

With respect to Micronesian eyewitnesses and other informants, consider first the period when the islands are being conquered. People are concentrated in camps, under the complete control of Americans. If some of these authority figures start asking them questions about Earhart and Noonan, and especially if they reward "positive" responses, it is to be expected that a "collective memory" would begin to develop, unless such development was discouraged by local leadership which would have no plausible reason to do so. Over time, there is no reason we know of that such a collective memory would not persist; there is no evident reason for the leadership in the Marshall Islands or elsewhere to, in Flowers' words, "encourage diversity of viewpoints" on what might have happened to Earhart and Noonan.

By the 1980s, when Brennan and others were collecting stories, it appears that a collective memory had developed at least in the Marshall Islands. Brennan quotes Oscar de Brum, then First Secretary to the president of the Republic of the Marshall Islands (RMI), during a flight to Majuro: "Oh, there's no question they went down in the Marshalls. Lots of people saw them. The Japanese hustled them off somewhere probably their headquarters on Saipan." (Brennan 1988:76)

Brennan's son remarks on the unanimity he perceives in the Earhart stories coming from people on Majuro whom he assumes could not possibly have known one another or "collaborated" (Brennan 1988:119).

But in fact, "collaboration" is what people in Micronesia routinely do. The tendency to seek consensus on matters of concern is well known and extensively documented in Pacific island societies (See Petersen 2009, LaBelle n.d. for recent treatments) and indeed throughout much of the non-Euroamerican world (c.f. Hall 1976, Cohen 1997, and see above). Moreover, the formal and informal sharing of stories — that is, oral tradition — is a fundamental aspect of human behavior in any traditional society. Loomis observed this sort of sharing in the Marshalls, noting that residents "obviously shared their news rapidly…(as) a form of entertainment" (Loomis:1985:91). His experiences also seem to reflect the role of leadership in reaching consensus; he describes how during breakfast with a Marshallese political leader and his local group, "with the senator's blessings placed upon us at the meal we were able to seek out others who had heard the story of the 'lady pilot'" (Loomis 1985:85).

The role of leaders in establishing what constitutes the collective memory is also reflected in Brennan's reported experiences. Brennan reports then-RMI President Amata Kabua telling him that the *Alabs* (chiefs) of individual islands would be sought out by island residents for advice on whether they should share what they knew (Brennan 1988:75). Brennan grasped the fact that the *Alabs'* leadership was critical to people's decisions about sharing information with questioners from outside the group. As a result, he was very keen to befriend the local *Alab* as a prelude to any discussions with local residents on Majuro (Brennan 1988:80).

Applying Flowers' generalizations and what we know about traditional Pacific island consensus- building and storytelling, we think it likely that the social environments of the various informants encouraged agreement both on the content of stories and on what "facts" should be reported. Whether what was reported was actually "factual" in some absolute sense may have been less important to informants than the stories' relevance to the fulfillment of social expectations.

Intercultural Misunderstandings

It would be easy for the various Earhart researchers — none of them trained ethnographers — to have misinterpreted some forms of social interaction typical of Micronesian societies. These include what Petersen calls "avoidance behaviors" and

"disinclination to initiate interactions" (Petersen 2009: 172-173). A reluctance to share stories, and particularly to volunteer them, is sometimes interpreted as reflecting fear triggered by memories of Japanese occupation and knowledge that former policemen who had worked for the Japanese still lived on the island, or as evidence of guilt by association with Earhart's or Noonan's fate. However, viewed with reference to the cultural values outlined by Petersen and others, it is also possible to believe that reluctant informants were simply seeking to avoid getting involved in the researchers' enterprises by dodging or terminating conversations in the most respectful, polite ways they could.

The Earhart researchers also had no basis for understanding that, in Petersen's words, "Micronesians as a general rule…do not like to say no" (Petersen 2009: 207) particularly to people regarded as deserving respect or as being in need. Confronted by assertive American researchers asking specific questions about something that may or may not have happened years or decades earlier, it would not be surprising if Micronesian informants gave affirmative responses in preference to neutral or contradictory ones. Providing such answers to people so evidently in search of them might have been construed by some informants as simply being hospitable, taking care of people who were viewed as "strangers in need" and "travelers" (Petersen 2009: 209).

Although some Earhart researchers seem to have understood the need for knowledgeable local people to guide them, there is little evidence that any of them have gone to much trouble to familiarize themselves with island cultures, societies, or communication styles. Joe Gervais' approach to interaction with Micronesians seems to have been to work through the local chief of police, Quintanilla (Klaas 1970: 74ff). Buddy Brennan took the trouble to "bone up on their laws" and "read more on the islands and people" (Brennan 1988: 71), but it is not clear just what this amounted to. Loomis recognized the importance of obtaining a translator who understood "both the language and the customs" (Loomis 1985: 88) but does not report studying either one himself.

In short, it is reasonable to posit that a kind of cultural myopia has influenced and hampered the efforts of the American Earhart researchers in the Mariana and Marshall Islands. The subject of cultural myopia has never been an easy one to analyze, but we suspect that it was an influence on the research we examined. This is a subject that could benefit from further study.

A Core of Truth?

The fact that we should not uncritically accept the eyewitness testimony — to say nothing of the second- or thirdhand stories — on which the Earhart-in-the-Marianas hypothesis is based does not necessarily mean that there is no truth behind them. Just as there seems to have been a real Trojan War of some kind upon which the Homeric epics were based, there may well be incidents that really happened lying at the core of the stories about Earhart-in-the-Marianas.

One such reality may be that Earhart and Noonan, and perhaps the Electra, actually did find their way to the Marianas — that is, some version of the basic Earhart-in-the-Marianas story may actually be true. But are there ways to account for the stories as anything but fables if Earhart and Noonan did not wind up in the Marianas? We think there probably are, and suggest that pursuing them might elucidate a rather veiled period in Pacific history.

If we set aside the specific identifications of Earhart and Noonan — most of which are suspect due to leading questioning by Americans — the stories of Micronesian informants can be summarized as accounts of six incidents:

1. An ethnically European man and woman were seen in Japanese captivity, perhaps taken out of an airplane that landed or crashed in or near Tanapag Harbor.
2. An ethnically European man was cared for by a medic in Jaluit, possibly after an airplane crash, possibly in the company of an ethnically European woman.
3. An ethnically European man was executed by the Japanese.
4. An ethnically European woman was imprisoned for a time in the Garapan prison.
5. An ethnically European woman lived for a time under some sort of house arrest in the Kobayashi Royokan Hotel.
6. An ethnically European woman was executed or died, perhaps of dysentery.

It is not too difficult to imagine ways that the above six statements could reflect things that really happened in the late 1930s or early 1940s in the Marianas, but that did not involve Earhart and Noonan. The Japanese had governed Micronesia since 1914; prior to that time, the Marshalls, Carolines, and Marianas but for Guam were colonies of Germany, and before that they had all been putative colonies of

Spain. German, Spanish, and other European missionaries were established in Micronesia before the Japanese mandate was put in place, and presumably at least some of these remained through the period of Japanese administration. Other Europeans may have settled in Micronesia during the period between the world wars; for instance, apparently some White Russian families made their way to Yap after fleeing the Bolsheviks (Palomo 2002; Petty 2001; Ranfranz 2012). In the late 1930s, when Japan began active preparations for war, it is reasonable to imagine that these small European populations would come under suspicion and in some cases be brought to centralized locations for interrogation and internment. Some of them might have been flown to Saipan aboard seaplanes, landing in Tanapag Harbor, and housed as "political prisoners" in the Kobayashi Royokan hotel. Once the Japanese captured Guam and islands in what are now Kiribati and Tuvalu — then the British Crown Colony of the Gilbert and Ellice Islands — additional ethnic European political prisoners may have wound up on Saipan.

Passing merchant ships were another source of ethnic Europeans in Micronesia. For example, in his 1993 letter to Vaeth, Fred Goerner, casting a critical retrospective eye on his own "captured in the Marshalls" hypothesis, advanced a plausible non-Earhart-related basis for Bilamon Amaron's eyewitness story. Goerner said that in U.S. Navy records he had found an account of the Motorship *Fijian,* which exploded near the Marshall Islands in 1937. The *Fijian's* crew — mostly Asian but with eight Norwegian officers — escaped and were rescued by the *Sjiko Maru*, which took them to Jaluit. There the injured received medical treatment (perhaps from Amaron) before they were all taken to Yokohama via Kosrae, Pohnpei, Chuuk and Saipan (Goerner 1993 quoted in Campbell 2002:158).

In short, there are ways for ethnic Europeans other than Earhart and Noonan to have found themselves in the Marianas as unwilling guests of the Japanese. Let one such guest be a woman, and the stage would be set for Chamorro and Carolinian residents to have experiences that, with prompting by eager American questioners, could become Earhart sightings.

Both Goerner (1966:80) and Klass (1970:Chap 11) mention Americans who were executed on Saipan and could have been confused with Earhart and Noonan. The source of all the stories is the same, the policeman Jesus DeLeon Guerrero, sometimes known as Kumoi, to whom Goerner assigned the pseudonym Francisco Galvan. According to Klass, Guerrero reported that two American flyers, both male and presumably military, were shot down in 1942, imprisoned for a time, and then

beheaded. Patton (1960:8) mentions that one of his informants, Jesus Salas, provided accurate information about the place of burial of "two American Military pilots." The pilots' execution could be the basis for stories of "Noonan's" beheading, and their graves might be those identified by various informants as those of Earhart and Noonan. According to both Goerner and Klass, Guerrero also said that a woman of mixed Japanese-Caucasian ethnicity, born in Los Angeles, was hanged as a spy after being imprisoned for some two months. Goerner says Guerrero described the woman as beautiful and well-dressed — the same words used by Ana Villagomez Benevente in her interview with Fr. Bendowske to describe the woman at the hotel (Bendowske 1977: 10). In Fr. Bendowdske's transcripts too, Matilde Fausto Arriola says that her mother identified the American woman with whom she interacted as "(j)ust a little bit of a mestiza" — that is, of mixed ethnicity (Bendowske 1977:6). Despite Fr. Bendowske's vigorous and semi-successful leading of both witnesses to identify the woman as Earhart, their descriptions are very consistent with Guerrero's of the mysterious well-dressed American woman.

The Wallack briefcase story and other accounts of document discoveries could also be more or less true without necessarily indicating an Earhart presence in the Marianas. Earhart's flight had received widespread news coverage, and it is far from inconceivable that a Micronesian or Japanese resident on Saipan — perhaps a schoolteacher or journalist — would have collected news clippings and other documents relating to the flight. We have no way of judging the likelihood of such a scenario, but it is certainly not implausible. An Earhart photo, or even a briefcase full of papers dealing with Earhart, does not necessarily mean that Earhart was ever in the Marianas.

The story by Devine and others of the Electra at Aslito, and its destruction at the direction of Secretary Forrestal, is so vivid and dramatic that it seems to defy a simple, non-Earhart explanation. But in view of the experiments by Loftus and others demonstrating the malleability of eyewitness memory, such an explanation is not unimaginable. Japan had both civilian and military cargo and passenger aircraft — including Lockheed 14 Super-Electras as well as such Electra look-alikes as the Tachikawa Ki.54c, Kawasaki Ki.56, and Kawasaki Type LO (Dave's Warbirds n.d.) and it is not inconceivable that one of them might have been at Aslito in 1944. The similarity of such an aircraft to Earhart's, if found in a hangar at Aslito, would very likely have generated rumors and motivated U.S. military officers to place it under guard. Denfeld and Russell (1984:9) report that Naval Technical Intelligence recovered 24 intact Japanese aircraft at Aslito, but they do not report the types.

Most of those they illustrate (p. 11, Fig. 4) appear to be fighters, but only about six of the planes can be clearly seen. They report that the aircraft were removed by the intelligence service, but do not report what happened to them. This is a question that would benefit from further research, but it appears to be possible that an aircraft resembling Earhart's — but not Earhart's — was at Aslito for Devine and others to observe.

As for Devine's recollection of the plane's burning, it is reported that during the Battle of Saipan, shortly after Aslito was secured, a Japanese Zero from Guam unknowingly landed there, was fired upon by American forces, and crashed at the end of the runway (Pacific Wrecks 2012). Did Devine, after seeing a civilian aircraft at the field, also see this crash, and did his memory over the years compress the events and associate the plane that was destroyed with the one he saw under guard? Of course, we cannot say, but our point is simply that we can imagine the existence of facts at the core of Devine's story without concluding that Earhart's Electra was at Aslito. As for Forrestal's presence, a detailed examination of Forrestal's whereabouts during the relevant period provides no evidence that he was in the area (Bright 2002), but it is by no means inconceivable that some other authoritative man in a white shirt was present — perhaps from Naval Technical Intelligence — and that "scuttlebutt" was generated identifying him as Forrestal.

What of the evidence for a cover-up? Much of this evidence is negative — for example, an alleged discovery like Wallack's attaché case is turned over to higher authority and never seen again. Perhaps the discovered item was hidden away or destroyed to protect a secret, but perhaps it simply went missing in the fog of war.

Much of the evidence involves examples of apparent government obfuscation, interpreted as designed to confuse or discourage investigators. Obfuscation, however, is almost inherent in bureaucratic transactions; this is one reason we speak of "bureaucratese." Government agencies also reflexively resist sharing information, especially if — as is often the case — they are not really sure what information they have. And around the time that Briand, Goerner, Devine, Gervais and others were launching their investigations, the U.S. government <u>was</u> covering something up on Saipan — the use of the island as a base for covert operations training and for the launch of such operations against China (c.f. Russell n.d.). There was every reason for the Navy, Department of the Interior, and Central Intelligence Agency — all engaged in more or less intense interagency rivalry for

control of the island — to want Goerner and the others to abandon their investigations, or at least take them elsewhere (e.g. to the Marshalls).

Again, Devine provides some of the most dramatic anecdotal evidence of a conspiratorial cover-up, but much of what Devine reports is so strange that one wonders whether he might have dreamed it. His encounter with the "Navy man," quoted above, has a particularly dream-like quality — the Navy man appears but does not identify himself, tells Devine that he should leave his barracks bags because he will not need them where he's going, invokes Earhart's name, gets Devine as far as the harbor and the seaplane, and then turns and runs away. This all seems far more like a dream sequence than like the playing-out of a real-life conspiracy.

But can dreams become memories? There does not seem to be a great deal of research into the subject, which is obviously a difficult one to investigate. Loftus (2012) suggested to us that we are unlikely to find much that will bear very directly on the question. There has been some relevant research, however (e.g., Christos 2003, Mazoni et al 1999) and it appears that the boundaries between dreams and memories are by no means rigidly defined.

Conclusions

The evidence for Amelia Earhart and Fred Noonan in the Mariana Islands is almost exclusively anecdotal; such "hard" evidence as exists is very dubious as to its association with the famous flyers. Anecdotal accounts by Micronesian people of a woman in captivity, a man executed, a man and a woman executed, and a man and/or woman buried were invariably collected under circumstances in which the generation of false memories cannot be discounted. Leading questions were asked, answers were in some cases supplied to informants, and there is every reason to suspect that at least in the 1940s informants expected rewards for "right" answers if not punishment for "wrong" ones. Micronesian informants, operating within the context of their own cultural values and modes of communication, cannot be assumed to have answered their interlocutors' questions — even if those questions were carefully phrased — with what an American investigator would understand to be the "objective truth." Most of the eyewitness and other accounts by American military personnel are subject to similar forms of unintentional manipulation, memory construction, and faulty interpretation. Although there may be kernels of truth in some or many of the stories, there are ways of accounting for them that do not involve the presence of Earhart and/or Noonan in the Marianas.

This is not to say that Earhart and Noonan definitely were not captured by the Japanese, imprisoned on Saipan, and/or executed and buried in the Marianas. Some version of the Earhart-in-the-Marianas story may be true. The evidence we have reviewed, however, gives us no serious reason to think that it is true. Some of the story's variants — notably the premise that Earhart flew her Electra directly to Saipan — are contradicted by objective independent data, while others are grounded only in anecdotal evidence. And this evidence is tainted by the methods (or lack of method) involved in its collection, making it difficult if not impossible to judge its veracity.

If we set aside the association with Earhart and Noonan, however, it is worth considering that the stories of an American woman in captivity on Saipan — quite detailed and consistent in Fr. Bendowske's transcripts and the reported testimony of Jesus DeLeon Guerrero — may well reflect something that really happened, someone who really was imprisoned and executed. An effort to identify this shadowy person and reconstruct her story — without assuming that she must have been Earhart — could result in a valuable contribution to the history of Micronesia during the Japanese period and World War II.

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Soldiers and Civilians: US Servicemen and the Battle for Saipan, 1944

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Abstract: *This essay explores the treatment by US military forces of civilians during the battle for the Pacific island of Saipan in 1944, both Japanese and Korean migrants living on Saipan, and "native" islander Chamorro and Carolinian peoples. Saipan is a useful case study as it was the first central Pacific island on which American forces encountered large numbers of civilians. The literature on the Pacific war overlooks the impact of the war on non-combatant island populations, preferring to focus on the actual fighting. The article extends the boundaries of the military history of the Pacific campaign of World War II to include the experience of civilians, Thousands of civilians died during the course of the battle for Saipan and this article balances whether these deaths were the result of mass suicides, Japanese fanaticism, and Japanese maltreatment of their own civilian population, or the consequence of the actions of US forces.*

Introduction

In the Second World War, when US Marines and soldiers landed on the Pacific island of Saipan on 15 June 1944, they were faced with a new challenge beyond defeating Japanese forces: how to deal with the up to 30,000 civilians who lived on the island, the minority being local Chamorros and Carolinians, the majority Japanese (mainly Okinawan) and Korean settlers, all of whom would now be caught up in the battle that would rage until 9 July, when US forces declared the island officially 'secured.' As a contemporary US military observer noted, these civilians were a 'novel feature,' as hitherto US troops had only encountered 'scattered handfuls' of local peoples, 'semi-savages who had no special stake' in the outcome of the war.[1]

Now, on Saipan, the US had to deal with civilians, an 'unknown quantity' and whose reactions to invasion 'no one could predict.'[2] 'At best, if they remained entirely passive, they would still present a problem utterly alien to our experience

[1] Frank Hough, The Island War (Philadelphia: Lippincott, 1947), p. 227.

[2] Ibid.

to date.[3] Moreover, this was John Dower has described as 'war without mercy,'[4] one supercharged with racism and stereotypes, a theatre of combat unmatched for its savagery, and which could preclude decent treatment of an enemy that was portrayed as fanatical, alien and simian-like. How would Marines, hardened by the battles on Guadalcanal and Tarawa, in which they took very few prisoners, react to large numbers of civilians, most of whom were 'enemy,' and who physically were indistinguishable from Japanese soldiers, especially as some civilians were in paramilitary units and many Japanese soldiers were not uniformly dressed? On Guadalcanal, when Marines had come across Japanese civilian labor on the island, what they called 'termites,' they shot many of them out-of-hand.[5]

As the Marines approached Saipan, 'G-5' civil affairs officers lectured them on the population of the island. The civil affairs officers organized arm bands for civilians red for Japanese, red and white for Koreans, and white for 'others' and prepared to land on D plus 2 to manage civilians, although as a post-battle USMC report recognized: 'There was little of the civil affairs operation on Saipan of which the Americans could be proud. Censure should not be directed to any individual. The mistakes were collective, none were intentional.'[6] The report concluded, aptly, 'There is a natural difference of view point between the forces trying to conquer or annihilate enemy personnel and destroy all property which might be used by the enemy and forces trying to conserve property which might be beneficial to the alien enemy civilian population…Combat troops should be instructed in civil affairs so that the best interests of the United States are served. This indoctrination must start in the basic camps and service schools and not left to lectures or printed orders just prior to an operation.'[7]

Contemporaneous American accounts of Saipan and subsequent official and semi-official histories, usually written by former servicemen, skate over the issue of the civilians' experience of battle, preferring to focus on the glory, heroism and spectacle of the unfolding battle, understandable considering the authors and the

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[3] Ibid.

[4] John Dower, War Without Mercy: Race and Power in the Pacific War (New York: Pantheon, 1986).

[5] Craig Cameron, American Samurai: Myth, Imagination and the Conduct of Battle in the First Marine Division, 1941-1951 (Cambridge: CUP, 1994), pp. 107-8.

[6] Corps Civil Affairs to Commanding General (draft), 13 Aug. 1944 [sent 22 Sept. 1944], by D. Windner, in Enclosure K, p. 6, File Marianas Phase I (Saipan), RG127/370/318, USMC Geographic Files Saipan-Tinian, National Archives and Records Administration, College Park, MD, USA.

[7] Ibid.

audience for which they were writing. Civilians either appear tangentially in a sanitized form with Marines and soldiers giving children sweets through the wire of a stockade or handing down a baby to safety. The exception is the mass suicide of Japanese civilians who jumped off Marpi Point on the northern end of Saipan at the end of the battle (or were shot by Japanese soldiers), and whose gruesome end was recorded, and presented as proof of an avoidable tragedy perpetrated by a fanatical opponent.[8] Marine Corps publications such as *Leatherneck* and the *Marine Corps Gazette* from the period also discuss the special problem of civilians in five essays published prior to 1946.[9] In all these accounts, written from a US perspective, civilian deaths were either unavoidable, suicides or attributable to the Japanese killing their own people.

Is this true? A part of the small staff of the American civil affairs unit landed on 17 June, but it was some days before all the civil affairs men were ashore. They were, in effect, chasing the battle up the island, leaving the initial contact with civilians to the fighting troops. The Marines from the 2nd and 4th divisions, and the Army troops from the 27th Infantry Division which joined the battle later, initially concentrated civilians in the beach area, dangerous, unsanitary and without shade, but all that was available. As the troops pushed inland, a permanent camp was set up at the village of Charan-Kanoa, where the Americans triaged the civilians, dividing off and preferring the friendly Chamorros and Carolinians from the Koreans and Japanese (all of whom were repatriated after the war). Considering the exigencies of war and the Americans' lack of experience of handling civilians in the Pacific battles, the treatment of these non-combatants was creditable. The issue was the passage of the civilians from the war zone to Chalan-Kanoa, and it is here that we find an explanation for why so many civilians perished on Saipan.

While the Chamorros and Carolinians were willing to surrender to the advancing Americans, Japanese civilians feared the rape and abuse that they were sure would come their way if they surrendered. Japanese troops as they fell back fostered this fear and shepherded their people north up the island. In the last resort, Japanese soldiers killed their own people; indeed, even without soldiers around, parents

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[8] For instance, see 'The Nature of the Enemy,' Time (7 Aug. 1944) and Robert Sherrod, 'Saipan: Eyewitness Tells of Island Fighting,' Life (28 Aug. 1944), pp. 80-81.

[9] David Dempsey, 'Cave of Horror,' Leatherneck 27/10 (Sept. 1944); Anon., 'The Talking Jeep,' Leatherneck 27/13 (Dec. 1944); Lewis Meyers, 'Japanese Civilians in Combat Zones,' Marine Corps Gazette 29/2 (Feb. 1945); Lewis N. Samuelsen, 'Handling Enemy Civilians,' Marine Corps Gazette 29/4 (Apr. 1945); Eugene Boardman, 'Surrender Propaganda,' Marine Corps Gazette 30/1 (Jan. 1946).

would kill their own children and their spouses, often cutting their throats; children would be bayoneted. One of the (very few) Japanese soldiers who wanted to surrender noted how the problem was not so much the Americans as escaping his own side. Amongst a mixed group, including a young girl whose parents had given her poison but she had lived, he heard American troops calling out:

> Their Japanese was a little shaky…but I feared that if I surrendered within sight of our own men during daylight I might be shot in the back…I couldn't actively say, 'Let's surrender,' because I was worried about what that young man might do…The American army was only a little ways off. 'When I'm spotted by them,' I thought, 'I only have to raise my hands immediately'…I was making my way through the jungle when I heard, 'Halt!' An American soldier was pointing his rifle at me. I thought, 'I'm saved!' I looked back. Trailing me were that young woman and the middle-aged couple. I was questioned. 'Are you a soldier?' Yes, I said. An American sergeant ordered me to sit down…I was the seven-hundred-fifty-seventh military prisoner-of-war taken on Saipan. I surrendered on July 14. The American soldiers had been demons on the battlefield, ready to kill me in an instant. Now, here they were, right in front of my eyes. Relaxed. Sprawled on top of Jeeps, shouting, 'Hey!' Joking with each other. At that moment, Japanese forces fired at us from the mountains. The Americans started to fire back. I threw myself flat, in an instant. The women just stayed sitting where they were. Indifferent. Seemingly lost.[10]

Many civilians hiding with soldiers were not so lucky and died at the hands of their compatriots. In this sense, the Japanese authorities undoubtedly hold a major responsibility for civilian deaths as they, firstly, portrayed the US forces as savage, secondly, they forced civilians to retreat with the battle, and, finally, they killed many civilians who refused to kill themselves. Thus, famously, at Marpi Point, a sniper shot a woman holding her baby and who was running frantically to and from the precipice, undecided. At the same place, Japanese soldiers had children in circles throw live grenades like balls. All of this was made easier by Japanese notions of honor relating to surrender that civilians as well as soldiers seem to have imbibed.

This is the traditional narrative such as it is, buttressed by accounts of honorable Marines and Army soldiers trying to avoid needless suffering and who were

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[10] Yamauchi Takeo, 'Honorable Death on Saipan,' in Haruko Taya Cook and Theodore F. Cook (eds), Japan at War: An Oral History (New York: New Press, 1992), pp. 290-91.

horrified by the carnage not just at Marpi Point but at so many caves that they came across, full of suicides, as they pressed, inexorably, north up Saipan. And it is a story with truth, but also with complication and, in some measure, the Americans were also responsible for civilian deaths. This was largely inadvertent but still cannot be blamed on the Japanese.

Firstly, there is the issue of the tactical systems employed by American forces. As the Marines and soldiers pushed forward, they pressed up against an enemy who, to save itself from the Americans' overwhelming firepower, dug down and sought sanctuary in dugouts and Saipan's many caves. From these positions some hid and hoped; others, many or most perhaps, fought back. To overcome such opposition the Americans used grenades, explosive charges, gasoline and, above all, the flamethrower, the weapon that epitomizes the savagery of the Pacific war in a way that the machine-gun did for the Great War. (Napalm was also used for the first time in the assault on the neighboring island of Tinian.)

Such a tactical system precluded discrimination; anyone hidden from view was a target and within many caves there were a mix of soldiers and civilians. Local Chamorros and Carolinians even built underground bunkers to protect themselves and their families, buttressed with coconut logs, that would have been indistinguishable to advancing Marines and soldiers from Japanese defensive positions, into which a grenade or the nozzle of the flamethrower would be thrust.[11] As mentioned, the Americans employed massive, sea, air and land firepower, smashing Saipan's capital of Garapan, firing at anything that moved, and, of course, used at the fighting front to provide close support for their troops. This further precluded any discrimination between soldier and civilian. Nor was this helped by the tendency of civilians to wander into the US lines at night, perhaps doing so to escape the sights of Japanese snipers in their attempt to surrender, but provoking the typical reaction from nervous US troops fearful of night attacks of fire first and then see what had been hit. Too often, it was a group of civilians.

Secondly, there was the issue of the language barrier, something linked to the tactical method just discussed. Many Chamorro spoke some Spanish (as well as some Japanese that they had learnt at school) but most of the civilians spoke nothing but Japanese or Korean. US forces had attached language officers, and these men had fitted up loudspeaker systems for use at the front and had printed

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[11] See the many Chamorro and Carolinian accounts in 'We Drank Our Tears:' Memories of the Battles for Saipan and Tinian as Told by Our Elders (Saipan: STAR, 2004).

surrender leaflets in Japanese and had these dropped behind enemy lines. But for the fighting Marine, up against a hidden enemy in fluid battlefield situations, they were invariably alone with whatever language skills they possessed. This favored the Chamorros as some Marines and soldiers spoke Spanish, and in the remarkable story (i.e., some of it seems to have been made up) of the Marine Guy Gabaldon who spoke Japanese you had a Marine who captured many prisoners as he appealed to the enemy in Japanese.[12] But Gabaldon was atypical amongst ordinary US servicemen who spoke nothing but English.

Thus, Marines or soldiers approaching a cave complex had the choice of going in to find out who was hidden therein, trying to talk the occupants into surrendering, or getting a flamethrower or satchel charge to deal with the problem, before moving on to the next minor battle. Many Marines and soldiers, especially after 9 July when tempers calmed, did try and use verbal persuasion but without speaking Japanese there was no way that the civilians would know what was being said to them. Thus, a Marine had a choice: either risk his life going into a cave, leave the cave alone which could be full of soldiers who could later emerge and attack the Americans in the back, or use blunt force and kill everyone inside. Unsurprisingly, the preferred tactical method was to 'seal' the cave.

Marines' and soldiers' behavior could be kind or it could be cruel. Often, it was casual and indifferent. Thus, one Marine recounted to a mobile USMC field recording unit *in situ* how he and his comrades had seen a woman go into a cave. Their response was to throw in a smoke grenade and a couple of concussion grenades, the latter presumably designed for maximum impact in a closed environment.[13] There was no interpreter present so they threw in some more grenades, a method unlikely to encourage the occupants of the cave to come out. Then, bizarrely, the sergeant of the unit said 'come on out' (in what language we do not know) whereupon scores of civilians emerged but not all as some remained in the cave. Then an interpreter arrived who discovered that the civilians were a mixed group, not just Japanese but also Koreans and Chamorros. The whole process was chaotic, personally driven but, in this instance, ultimately rewarding; once the civilians were in the open, the Marines helped them and treated them humanely, sending them back to safety.

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[12] See the story in Guy Gabaldon, Saipan: Suicide Island (Privately Printed, 1990).

[13] Recording of Marine F. Liddle, LWO 5442 Reel 27 Side A, Recorded Sound Reference Center, Library of Congress.

Whether it is the Pacific islands in 1944 or Iraq today, Marines and soldiers are bound by rules and 'standard operating procedures' regarding the treatment of non-combatants. Involved in a full-scale war, Marines and soldiers in 1944, operating away from the gaze of the world media and with fewer complex regulations regarding the treatment of non-combatants, made personal choices in how they dealt with civilians. But whether it is the war on Saipan in 1944 or counter-insurgency today, life and death for the innocent so often depends on the decency and humanity of the fighting soldier, personal qualities developed by society, education and family rather than what a recruit learns in boot camp, and, ultimately, perhaps, individual strengths that cannot be taught anyway.

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Currently, Hughes is working on a project examining the interaction between armies and civilians. His work on the battle of Saipan has been published in *The Journal of Military History*.

Nicer than Planned: WWII-Era Quarters of the 502nd Bomb Group on Guam

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Abstract: *How does the archaeological record of U.S. Army Air Force unit deployment compare to the primary documentary record regarding those units? Although contemporary documents say the 502nd Bomb Group had only 725 personnel at Northwest Field on Guam, far fewer than the 2078-man contingent normal for very heavy bomb groups like the 502nd, archaeological survey shows that the unit's facilities were far in excess of those needed for 725 enlisted men and officers. In particular, archaeological survey indicates the 502nd Bomb Group was much more lavishly equipped than planned in terms of shower space and mess hall space. The 502nd Bomb Group stands in sharp contrast to the 331st Bomb Group at Northwest Field, which had quarters built almost exactly as planned. Archaeological survey demonstrates that at least some U.S. WWII-era units had considerable flexibility in deviating from official military plans when constructing their living quarters.*

Introduction

How does the archaeological record of U.S. Army Air Force unit deployment compare to the primary documentary record regarding those units? Although contemporary documents say the 502nd Bomb Group had only 725 personnel at Northwest Field on Guam, far fewer than the 2078-man contingent normal for very heavy bomb groups like the 502nd, archaeological survey shows that the unit's facilities were far in excess of those needed for 725 enlisted men and officers. In particular, archaeological survey indicates the 502nd Bomb Group was much more lavishly equipped than planned in terms of shower space and mess hall space. The 502nd Bomb Group stands in sharp contrast to the 331st Bomb Group at Northwest Field, which had quarters built almost exactly as planned. Archaeological survey demonstrates that at least some U.S. WWII-era units had considerable flexibility in deviating from official military plans when constructing their living quarters.

Unit History

The 315th Bomb Wing (Very Heavy) activated on 17 July 1944 with four very heavy bomb groups, the 16th, 331st, 501st, and 502nd. The 315th Bomb Wing deployed to Northwest Field on Guam in April 1945 with the mission of flying and supporting B-29 missions in the Pacific theater. When the units arrived on Guam, Navy

Seabees were building the Northwest Field runway and taxiway system, but the men of the Bomb Wing were responsible for constructing their own barracks and other facilities.

A full USAAF Very Heavy Bomb Group had a complement of 2078 officers and enlisted personnel (Table 1) (Bowman, 1997). Presumably, the USAAF site development plans for the 331st and 502nd Very Heavy Bomb Groups were designed for a full unit. Our research has found no numbers for the as-deployment complement of the 331st Bomb Group. However, the 502nd appears to have deployed with far fewer personnel than standard. According to the 502nd Bomb Group's newspaper, the Short Snorter, the unit left Grand Isle Army Air Field in Nebraska for Guam with only 689 enlisted men and 36 officers (Stone, 1946). That figure is only 35 percent of the full deployment figure for a Very Heavy Bomb Group.

Table 1. Bomb Group Personnel

Unit	Rank	Men
Full Bomb Group (Very Heavy)	Enlisted	1816
	Officers	462
	Total	2078
502nd as deployed	Enlisted	689
	Officers	36
	Total	725

Data Sources

The data presented here has three main sources. The original April 1945 Bomb Group site development plans were obtained from the Air Force Historical Research Agency. The archaeological survey data for the 331st Bomb Group cantonment was obtained from the 2007 survey by Geo-Marine Inc. presented in the report, Results of Cultural Resource Inventories for Establishment and Operation of an Intelligence, Surveillance, Reconnaissance, and Strike Capability and the Deployment of Red Horse Squadron, Andersen Air Force Base, Guam by Marcus Grant et al. The archaeological survey data for the 502nd Bomb Group cantonment was obtained from the 2009 survey by e2M, Inc. presented in the report, Cultural Resources Survey of a Portion of Northwest Field and Sirena Beach at Andersen Air Force Base, Guam by Michael Church et al.

Mess Halls

Archaeological survey found that the 331st and 502nd Bomb Groups both had much larger than planned mess halls. Site development plans for both units called for T-shaped 1500-man consolidated mess halls totaling 8,800 square feet each. However, both the 331st and 502nd had much larger than planned mess halls. The mess hall actually built for the 331st Bomb Group was an H-shaped building totaling 12,600 square feet (three 100x42 sections). The H-shaped mess hall built for the 502nd Bomb Group was even larger, totaling 14,828 square feet.

These figures mean that the mess halls for the two Bomb Groups were roughly half again as large as planned. There are many possible explanations. One is that the mess halls were used for a greater range of activities than planned and therefore needed to be larger than originally designed. Another possibility is that the units overbuilt their mess halls for the comfort of personnel. What is particularly interesting is that the 502nd Bomb Group, which had a smaller deployed complement, had a larger mess hall facility than the 331st Bomb Group.

As Built vs As Planned Mess Hall Space			
Unit	**As Planned**	**As Built**	**Difference**
331st	8800 square feet	12600 square feet	143%
502nd	8800 square feet	14828 square feet	169%

Showers

Archaeological survey found that the shower facilities also do not match the site development plans. Showers for both units were built with very different footprints than planned, resulting in more shower space for bomb group personnel. As planned, shower facilities for each bomb group consisted of six 14-head 49x16 foot shower facilities for enlisted personnel, one five-head 23x16-foot shower facility for enlisted personnel with group headquarters, and two 18-head, 49x14-foot shower facilities for officers. Assuming a full complement of personnel, these figures would have translated into one showerhead per 12.8 officers and one showerhead per 20.4 enlisted men. Based on the square footage of planned buildings and the planned number of showerheads, each enlisted men's showerhead occupied 57.0 square feet of built space and each officers' shower head occupied 38.1 square feet of built space.

Archaeological survey found that many of the shower facilities actually built for the 331st and 502nd had differed considerably from their planned footprints.

In the 331st cantonment, the two officers showers were built as 48x20 buildings, not the planned 49x16 foot dimensions. Enlisted personnel showers were built in a range of sizes, and it appears that one of the 49x16 shower facilities was never built at all.

In the 502nd cantonment, the five-head 23x14-foot 5-head Group HQ EM quarters shower was never built. The other shower facilities were built with footprints very different from planned.

The result is that the total footprint of the shower facilities in the 331st's cantonment was appreciably larger than planned, especially for officers, and the shower facilities in the 502nd's cantonment were dramatically larger than planned when taking into account the unit's small actual size.

Unit	Rank	Buildings	Square feet of shower buildings	Showerheads	Square feet/ shower head	Men/ Shower head	Square foot/man
Planned	Enlisted	6 14-head 49x16 foot 1 5-head 23x14 foot	5072	89	57.0	20.4	2.8
	Officers	2 18-head 49x14	1372	36	38.1	12.8	3.0
502nd as built	Enlisted	2 40x20 2 20x20 56x20 36x20	4640	81.4 showerheads (inferred)		8.5	6.7
	Officers	40x20 49x14	1486	39.0 showerheads (inferred)		.9	41.3
331st as built	Enlisted	3 20x38 1 33x38 1 38x38 1 23x14	5300	93.0 showerheads (inferred)		19.5	2.9
	Officers	2 48x20	1920	50.4 showerheads (inferred)		9.2	4.2

Conclusions and Observations

The personnel of the 331st and 502nd Bomb Groups appear to have modified USAAF plans for their living Mismatch of living facilities construction and actual deployment. Documentary data says the unit was much smaller than a full bomb

group. The 331st Bomb Group, which probably deployed at the full 2078-man contingent normal for bomb groups, overbuilt shower facilities by 12 percent (in terms of square feet of footprint) compared to the site development plan and overbuilt its mess hall by 43 percent (in terms of square feet of footprint) compared to the site development plan. The 502nd Bomb Group, which documentary evidence suggests deployed with roughly one third of the normal bomb group contingent, overbuilt even more. The 502nd's mess hall was 63 percent overbuilt (in terms of square feet of footprint) relative to the site development plan, and its shower facilities were only 5% smaller than planned for a full bomb group contingent.

As already noted, the men in the two units were responsible for most of the construction in their cantonments. The differences between the units' cantonments as planned and as built strongly suggests that the men of the 331st and 502nd Bomb Groups felt free to use time and materials on basic comforts.

The results shows the utility of working across multiple lines of evidence in understanding lived experience. The findings discussed here would have been impossible without documentary information, but the archaeological data serves as a corrective element and of (primary documents and the archaeological record) to determine the actual history of the unit.

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His academic research focuses on costly signaling and consumer choice in historic archaeological contexts. His professional experience includes extensive archaeological survey on military installations and a research focus on very long-term trajectories in changes and landscape use from the prehistoric to historic periods.

Historic Resources of the Carolinas Heights Region, Island of Tinian, Commonwealth of the Northern Marianas

By Patrick O'Day and Nicole Vernon
Garcia and Associates (GANDA)

Abstract: *Garcia and Associates conducted intensive archaeological survey of approximately 164 hectares of the Carolinian Heights area on the island of Tinian for the Commonwealth of the Northern Marianas Islands (CNMI) Historic Preservation office. The goal of the project was to collect historic resource data on previously unsurveyed land, thereby contributing to the CNMI archaeological site inventory database. The survey was designed to identify all significant archaeological sites within the survey area, record each site, and collect accurate GPS locations. Preliminary research involved analysis of multi-spectral satellite imagery and a digital elevation model in order to identify patterns existing between environmental conditions and past land use practices as a means to predict site types and densities across the project parcel. In total, 18 sites with 134 constituent features were recorded.*

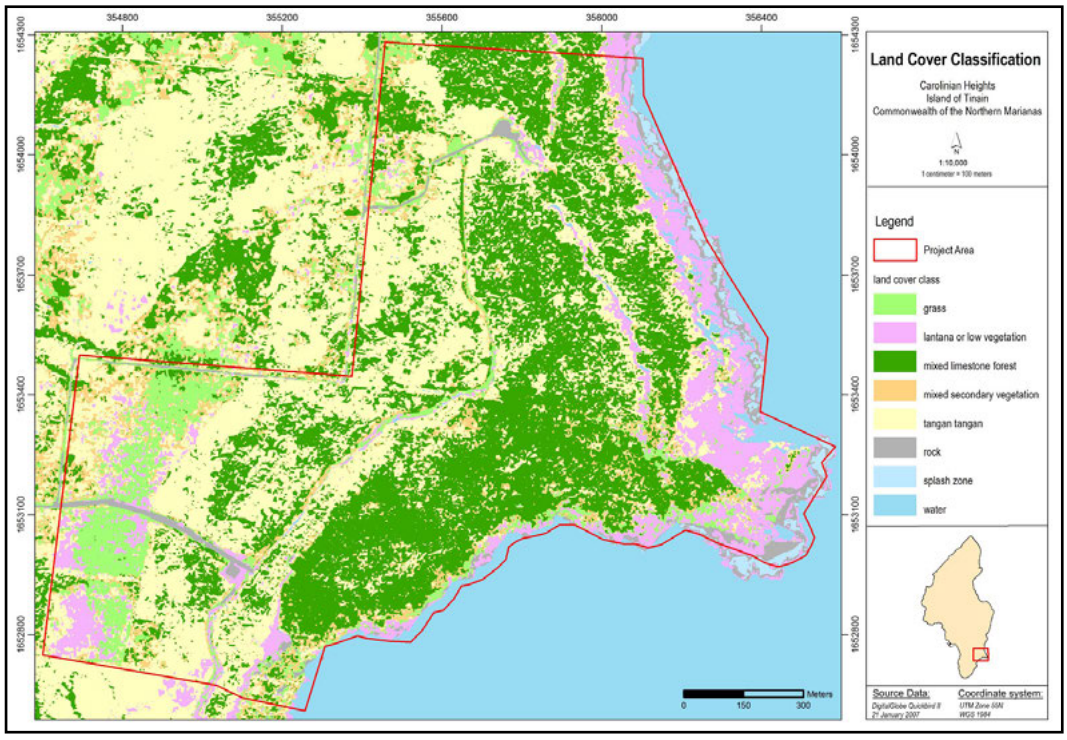
Site types include a latte set, historic house sites and associated agricultural features, traditional pottery scatters, clusters of military defensive features, and clusters of historically modified caves and rock shelters. These results indicate that there is a high potential for research within the project area for the study of both pre-Contact and historic period resources related to various issues regarding settlement patterns, pre-contact and historic modes of subsistence, and resource exploitation practices.

Introduction

A remote sensing and geographic information system (GIS) based analysis was employed to model archaeological expectations and guide survey of the Carolinas Heights Region, Island of Tinian, Commonwealth of the Northern Marianas. Findings revealed that twentieth-century activities related to the Japanese occupation of Tinian, Nanyo Kohatsu Kaisha (NKK, or South Seas Development Company) commercial development of the island, and the U.S. invasion of Tinian during World War II have destroyed or obscured much of the physical evidence of pre-Contact occupation and land use.

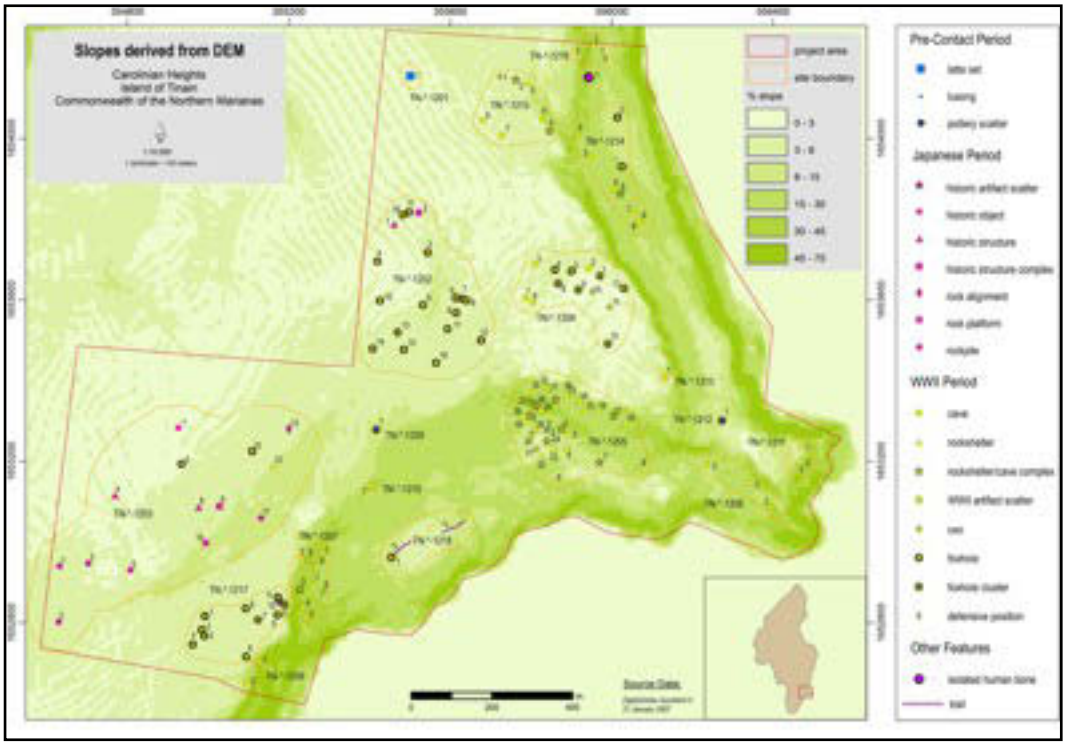
GIS and Remote Sensing Methodology

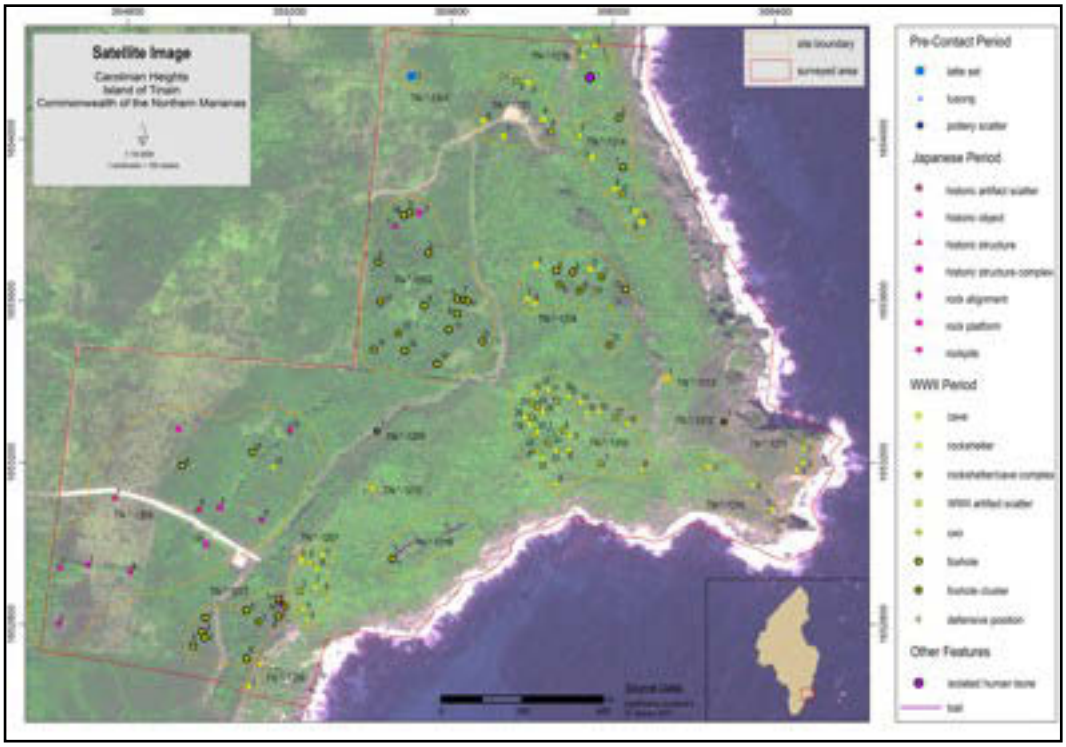
Remote sensing was used in conjunction with GIS data to create a predictive model of cultural resource distribution over the landscape. This model was used to guide fieldwork and identify patterns between existing environmental conditions and past land use practices. Since different site and feature types are associated with specific vegetation regimes that developed due to historical land use practices and events, remote sensing data was useful in defining site boundaries.



Information was extracted from a high-resolution multispectral satellite image of Tinian to perform a 'supervised classification' based on spectral signatures of predetermined land cover classes within the project area. Both 'hard' and 'per pixel with maximum likelihood' classification logic were employed using bands 2 (green), 3 (red), and 4 (near infrared). The results of this classification were transformed into a vector data layer consisting of eight land cover classes.

Environmental datasets, historical documents, archival materials, and both historic and modern maps of the Carolinas Heights Region were used in the GIS-based analysis. In addition to the development of the land cover layer, GIS data layers were extrapolated from a digital elevation model (DEM) (i.e. slope and contour layers), and then analyzed along with soil and natural feature layers to develop expectations and identify areas of high and low probability for containing cultural resources. For example, cliff slopes may encompass caves, limestone forests may contain prehistoric or historical period trails, and disturbed areas covered in grass or *tangan tangan* may evidence historic period farming. This prior knowledge allowed archaeologists to plan an efficient and dynamic survey itinerary that covered a maximum area while maintaining quality data collection.


Slopes derived from DEM
Carolinian Heights
Island of Tinian
Commonwealth of the Northern Marianas
project area
site boundary
% slope
0 - 3
3 - 8
8 - 15
15 - 30
30 - 45
45 - 75
Pre-Contact Period
latte set
tuising
pottery scatter
Japanese Period
historic artifact scatter
historic object
historic structure
historic structure complex
rock alignment
rock platform
rockpile
WWII Period
cave
rockshelter
rockshelter/cave complex
WWII artifact scatter
well
foxhole
foxhole cluster
defensive position
Other Features
isolated human bone
trail


Satellite Image
Carolinian Heights
Island of Tinian
Commonwealth of the Northern Marianas
site boundary
surveyed area
Pre-Contact Period
latte set
tuising
pottery scatter
Japanese Period
historic artifact scatter
historic object
historic structure
historic structure complex
rock alignment
rock platform
rockpile
WWII Period
cave
rockshelter
rockshelter/cave complex
WWII artifact scatter
well
foxhole
foxhole cluster
defensive position
Other Features
isolated human bone
trail

Results

The survey identified 134 features that were organized into 18 sites (Sites TN-1-1201 through TN-5-1218) based on cultural affinity, the topographic distribution of the features and artifacts, and the vegetation types associated with the different features. Feature locations were analyzed using Environmental Systems Research Institute (ESRI) ArcMap 9.3. The feature number, site number, period, description, slope, elevation, soil type, and land cover class were recorded for all identified features. The data generated for each site was used to examine spatial relationships between and within feature classes. The results of the analyses demonstrate patterns of archaeological and historical feature types in the project area's landscape. These features consisted of 68 caves and rockshelters, a single latte set, the remains of five historic concrete houses and structures, nine rock piles and rock alignments, 40 shallow depressions representing foxholes, an isolated human bone, two pre-Contact artifact scatters, and an historic artifact scatter. Most of the sites and features were related to the Japanese occupation or the American invasion during World War II. Only three pre-Contact sites, or sites with a pre-Contact period component, were found during the survey.

Japanese Period cistern located on upper plateau at Site TN-4-1203.

Land cover variation within the project area is largely a product of land use during the Japanese Period. This is due to all the relatively level portions of the island, like the upper plateau segment in the project area, that were cleared during the Japanese Period for commercial agriculture. Land cover in these historically cleared areas is dominated by secondary vegetation. Below the cliff line of the upper plateau, mixed primary forest is the dominate land cover accounting for approximately 52 percent of the vegetation. The degree of vegetation disturbance varies between the two regions of the project area because of the terrain. The plateau is relatively flat, while the terrain below the cliff line consists of rock outcrops, clay or sandy loam slopes ranging from 3 percent to vertical bluffs. During the Japanese Period, prior to World War II, use of the lower area would have been limited to foraging as it is not easily accessible, while the upper plateau was under extensive cultivation. In general, the results of the land cover analysis indicate significantly less disturbance of native vegetation below the cliff line than on the upper plateau.

Stacked rock wall at entrance to World War II Japanese military rockshelter complex at Site TN-5-1207.

Overall, remote sensing analysis of the project area accentuated the unique circumstance of the Puntan Kastiyu region in terms of archaeological and historical events. The Japanese agricultural practices on Tinian completely modified the landscape during

Artifacts within rockshelter at Site TN-5-1205: Japanese bottle, alarm clock, and cookware.

the first half of the 20th century. This is manifest today in the land cover patterns on the plateau of the Southeastern Ridge. However, the Japanese military activities in the final months of World War II below the crest of the plateau relied upon the extant vegetation and geological features to maintain concealment. This led to extensive modifications within caves and rockshelters when they were used as temporary camps. While the upper plateau of the project area demonstrates a relationship between land cover and the presence of archaeological sites, the Puntan Kastiyu region of steep slopes and vertical bluffs revealed a modified terrain under the limestone forest canopy where surficial evidence of pre-Contact archaeological features has been obscured or razed.

Outward view from cave modified by Japanese military during World War II at Site TN-5-1207.

Nicole Vernon is a supervisory archaeologist at GANDA's Hawaii office. She has archaeological field and laboratory experience in the Midwest, Pacific, and Caribbean. In the Marianas Islands she has participated in both academic and cultural research management projects at sites dating to the earliest human occupation through the late historic period. Vernon received her MA in Anthropology from the University of Florida in 2007. She is also trained in remote sensing and the application of GIS. Her research interests include the use of satellite imagery data and GIS data analysis in archaeology, human land use patterns, and post-contact social landscape change.

Patrick O'Day's international work at Garcia and Associates includes projects for U.S. military installations in Micronesia and Japan, The National Park Service, State Historic Preservation Offices in Guam and the CNMI, The Republic of Palau's Bureau of Arts and Culture, and various private sector construction firms in Guam and the CNMI. This work has included participation and coordination of survey, data recovery, monitoring, and burial recovery projects. O'Day has also worked on various projects assessing vertebrate and invertebrate fisheries in the Gulf of Mexico for the University of Florida Department of Fisheries and Aquatic Sciences as part of his on going interdisciplinary graduate research. O'Day has conducted species counts on artificial and natural reefs, surveyed and mapped underwater habitats, and collected various species of fish and marine invertebrates utilizing a wide variety of gear and techniques. He has also conducted various laboratory analyses on these specimens for life history data, conducted statistical analyses of these data for population dynamics research, and contributed to peer reviewed publications.

O'Day is currently applying these techniques to the study of Prehistoric fisheries in the Marianas represented by fish bone and marine invertebrate shell derived from archaeological contexts. Throughout his graduate career, Patrick has worked on various interdisciplinary research projects in Florida, Fiji, Hawaii, the Bahamas, and South America.

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