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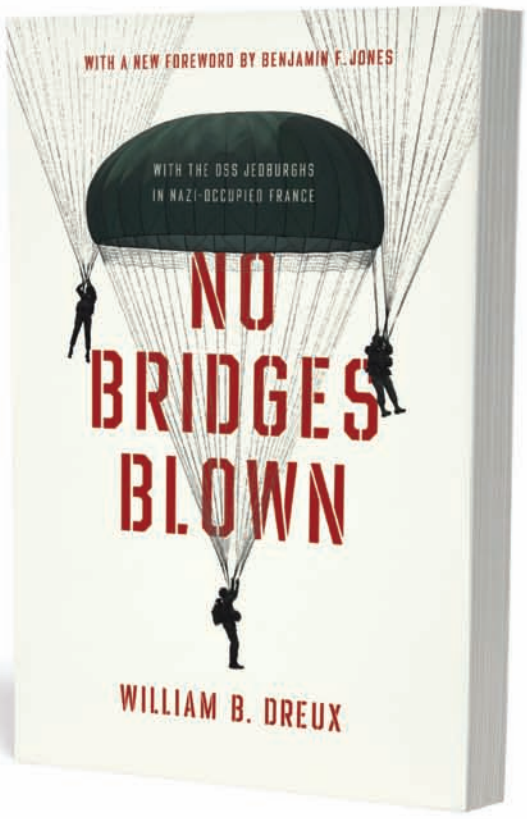

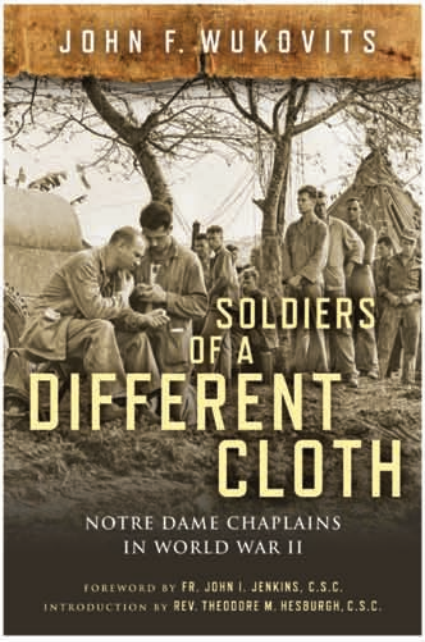

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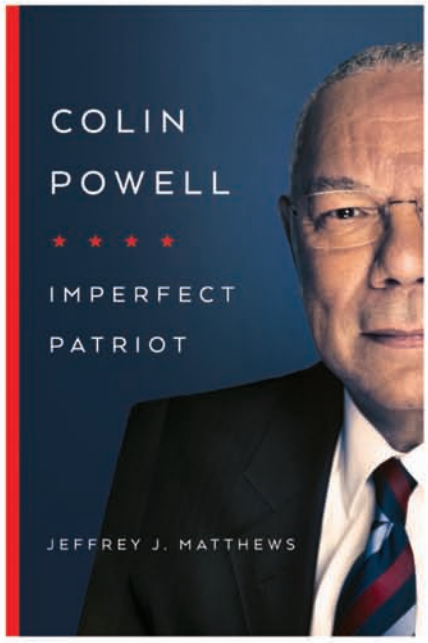

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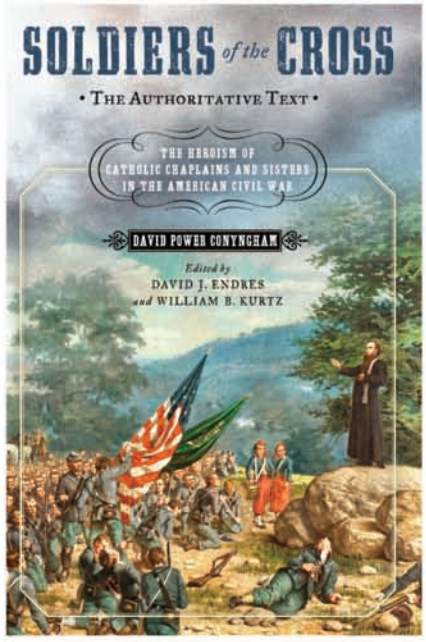

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TABLE OF CONTENTS

WWII QUARTERLY

Departments

Features

COVER: Marine PFC Thomas Ellis Underwood photographed during the fighting on Saipan. Underwood was later killed on Iwo Jima. See story page 44.

Photo: Bettman/Corbis

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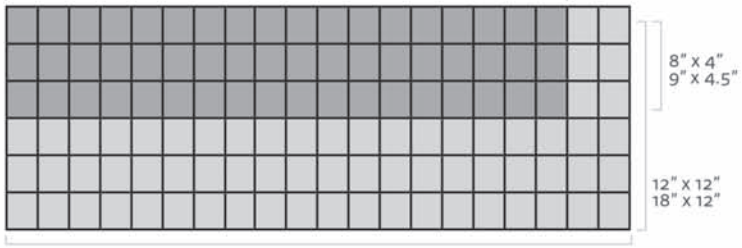

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A Time to Celebrate—And Remember

Seventy-five years ago, the European phase of the global cataclysm known as World War II came to an end. The First World War—the "Great War," the "War to End All Wars"—had ended not with a bang but with a whimper. This ending was far different.

The Germans had fought on to the bitter end, even when there was absolutely no chance that national doom could be prevented. One man—Adolf Hitler—had taken down an entire country with him. It was like the final, fiery scene of Richard Wagner's epic opera, *Götterdämmerung* (Twilight of the Gods), where everything is consumed by flames.

My father was a World War II veteran, and it seems that I was always interested in the war. In 1965, when I was a young second lieutenant in the U.S. Army, I was posted to what was then called West Germany—a posting that further stoked my interest. That interest grew into a passion—and eventually a calling.

Armed with buckets, civilians in Nuremberg go searching for food and water after Germany's surrender. Adolf Hitler oversaw the total destruction of Germany.

Whenever my duty commitments allowed, I would take off to explore the parts of Germany where the vestiges of the war remained. After all, it was only 20 years since the war had ended and there was much to see.

At that time it was still possible to find traces of that war—hollow shells of bombed-out buildings in the towns and cities; building facades pockmarked by bullets and shrapnel; a faint, faded swastika painted on a wall; concrete bunkers and "dragon's teeth" anti-tank obstacles strewn across fields. I once found a rusty German army helmet in such a field.

I visited many sites related to the war—the sprawling, now forlornly empty stadium in Nuremberg where upwards of 100,000 fanatical Nazis (or naïve believers) gathered to hear their Führer speak; the Feldherrnhalle in Munich, where Hitler's march to overthrow the Bavarian government in 1923 was halted by police bullets; the remnants of the bridge at Remagen, where American troops first crossed the Rhine; the Dachau concentration camp outside Munich, where so much evil was perpetrated in the name of racial superiority.

And in every village and town, there seemed to be a solemn monument dedicated to the local sons who marched off to war and never returned. It was then that I gained an appreciation for the stupidity of wars—and the courage of those who are called upon to fight them.

Ten years ago I was asked to become editor of this publication—an invitation I gladly accepted, for it brought me even closer to the study of World War II; I learn something new with every article that authors submit to me. I hope that I have been able to share that passion for the study of the war to you, our faithful readers.

And I hope that each one of you will pause at some point in 2020 to remember the last world war—and to join me in hoping that there will never be another one.

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The Grumman F4F Wildcat was a Rugged, Lethal Tool in the U.S. Navy's Carrier Arsenal.

From the time of the Wright brothers, the vast majority of aircraft were biplanes with two wings stacked one above the other. The low-powered engines of the day dictated that the structure be as strong but also as light as possible. The stress and structural integrity would be accommodated by a series of struts and wires. With a virtual forest of struts and wires, the biplane created a lot of drag.

The solution seemed to be a single-wing or "monoplane" configuration, made possible by more powerful engines that could support heavier structures. But how to create a strong monoplane structure?

The answer was the cantilevered, or self-supporting, wing, with all of the supporting members within itself to take the place of the external struts and wires of the biplane configuration. A single large structural element called the main spar runs through the entire wing span, designed to handle this stress by spreading it through the fuselage from one wing tip to the other. To resist these forces, a secondary smaller member called a drag spar is located at a distance behind the main spar.

U.S. Navy artist Lawrence Beall-Smith captured the moment when a Grumman F4F-3 Wildcat is given the signal to launch from the deck of a carrier. One test pilot called the Wildcat a "corpulent but rugged and pugnacious little warplane."

All of these technological advances brought the day of the carrier biplane fighter to an end. In 1935, the Navy issued a request for proposal to design and build a monoplane fighter to replace the Grumman F3F biplane fighter.

The XF4F-2 was an all-metal monoplane with a cantilever mid-wing weighing 5,535 lbs. Cutting-edge technologies included the NACA 230 airfoil with a maximum speed of 290 mph, a 1,050 hp. Pratt & Whitney R-1830-66 Twin Wasp radial with a single-stage supercharger, and a Hamilton Standard constant-speed propeller.

However, not all aspects of the new fighter were state-of-the-art; the landing gear was lowered or raised by 30 turns of a hand crank. A significant amount of pressure and torque could cause a serious hand injury if one were not careful.

Armament was two .30-caliber machine guns in the fuselage and provisions for two .50-caliber guns in the wings, or one 100-lb. bomb under each wing.

The XF4F-2's first flight was on September 2, 1937, with Grumman test pilot Robert Hall at the controls. In April 1938, it was flown to the Naval Air Factory in Philadelphia for evaluation. On April 11, the XF4F-2 was undergoing a simulated carrier deck landing when engine failure caused the pilot to make a forced landing in a farm field, which flipped the aircraft onto its back. The pilot was not seriously hurt, but the aircraft had serious damage and was

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But the XF4F-2 showed enough promise not to be rejected completely. Grumman used the same fuselage form and landing gear as it developed a new prototype, which was designated the XF4F-3. The fuselage was lengthened as were the wings, which received squared-off tips to improve maneuverability. The wing area was increased, the tail section was redesigned, and the gross weight increased by 600 lb. It was powered by a 1,200 hp. Pratt & Whitney XR-1830-76 radial engine with a two-stage, two-speed supercharger driving a Curtiss Electric propeller.

A Grumman F4F-3 photographed in early 1942. Although the Wildcat had some performance issues, it could take punishment and dish it out.

The first flight was on February 12, 1939, achieving a speed of 333.5 mph at 21,300 feet. Thus, the Navy primary requirement of a 300 mph maximum speed was accomplished. The Navy awarded Grumman a production contract on August 8, 1939, for 54 "Wildcats," as they were dubbed, with the first to be delivered in February 1940.

Several test pilots who flew the Wildcat found it to be a formidable aircraft, despite criticism for its small size and lack of agility. British test pilot Eric "Winkle" Brown and U.S. Navy/Grumman test pilot Corwin "Corky" Meyer weighed in on the Wildcat's personality in the air: "The design of any combat aircraft involves a measure of compromise and that of the shipboard single-seat fighter perhaps more than most as its success depends particularly heavily on the right balance being struck between the demands of combat and the dictates of the venue in which it is to spend its entire working life.

"A masterpiece in coalescence of the contradictory factors called for in a fighter suited to the naval environment was, in my view, the corpulent but rugged and pugnacious little warplane…which was to establish Grumman's famed genus Felis."

About the manual landing-gear retraction system, Corwin "Corky" Meyer had this to say: "It was simple in design, but its operation left a lot to be desired. The crank handle was located on the right side of the cockpit. Thus, the pilot had to remove his left hand from the throttle (and sincerely hope that he had tightened the throttle friction knob before takeoff), grab the control stick, and use his now-free right hand to actuate the landing gear lever to the 'retract' position and then complete the strenuous cranking task of 31 turns to raise the gear."

Production F4F-3s removed the .30-caliber fuselage guns and used four .50-caliber machine guns in the wings with the horizontal stabilizer set higher on the tail. The third and fourth production F4F-3s were fitted with the 1,200 hp. Wright Cyclone R-1820-40 engine and designated the XF4F-5.

The fifth and eighth production F4F-3s were given armor protection and reinforced landing gear. Some early F4F-3s were fitted with automatically deployed flotation bags on the wings in case of a ditching. The idea worked when, on May 17, 1941, Ensign H. E. Tennes of the USS *Enterprise's* VF-6 ditched his F4F-3 into San Diego Bay due to landing-gear failure. Shortly thereafter, the flotation system was deleted to save weight, and it was thought that a floating aircraft in a combat area could just as easily be recovered by the enemy.

The Navy was concerned that there might not be enough carriers or land bases to operate its aircraft from in the Pacific Theater. One F4F-3 was fitted with twin "Edo" floats and called the F4F-3S "Wildcatfish." Its first flight took place on February 28, 1943, piloted by Grumman test pilot F. T. Kurt.

As the war progressed, American industry could more than keep up with the need for carriers, and the Navy Seabee construction battalions could transform jungle into airstrips at a rapid pace. The purpose for the F4F-3S vanished, and with it so did any further development beyond the prototype.

The advances made on the F4F-3 made it attractive to America's allies, so in 1939, France placed an order for 81 export versions designated as G36As. It differed from the standard F4F-3 in that it was powered by a 1,200 hp Wright R-1820-G205A-2 Cyclone engine, with a single-speed, two-stage supercharger.

The French G-36A version required six wing-mounted 7.5mm Darne machine guns with an OPL 38 gunsight, Radio-Industrie-537 communication equipment, instrumentation based on the metric system, and a throttle that operated in reverse of that of U.S. aircraft.

Folding wings were necessary to stow as many aircraft as possible in the limited hanger deck space on a carrier. The F4F-4 was the first Wildcat to feature a Grumman folding-wing innovation known as the "Sto-Wing."

Most folding-wing naval aircraft of the time were able to fold their wings via a simple hinge point outboard of the landing gear. However, the Sto-Wing used a compound angle approach that was unique to Grumman aircraft.

The brilliant Leroy Grumman developed the idea by experimenting with a rubber eraser in place of a fuselage and a paperclip in the place of a wing. Attaching the

paperclip into the side of the eraser as a wing attached to a fuselage, through trial and error he found the angle where the wing would fold flat against the fuselage. It was so successful that it was later used on Grumman's F6F Hellcat fighter and TBF Avenger torpedo bomber.

In 1942, Grumman was a busy place, as the company was building not only the Wildcat but the TBF Avenger torpedo bomber, as well as the J2F Duck and J4F Widgeon amphibians. The production capability reached a tipping point when Grumman decided to focus their fighter efforts on the Wildcat's successor: the more powerful and lethal F6F Hellcat.

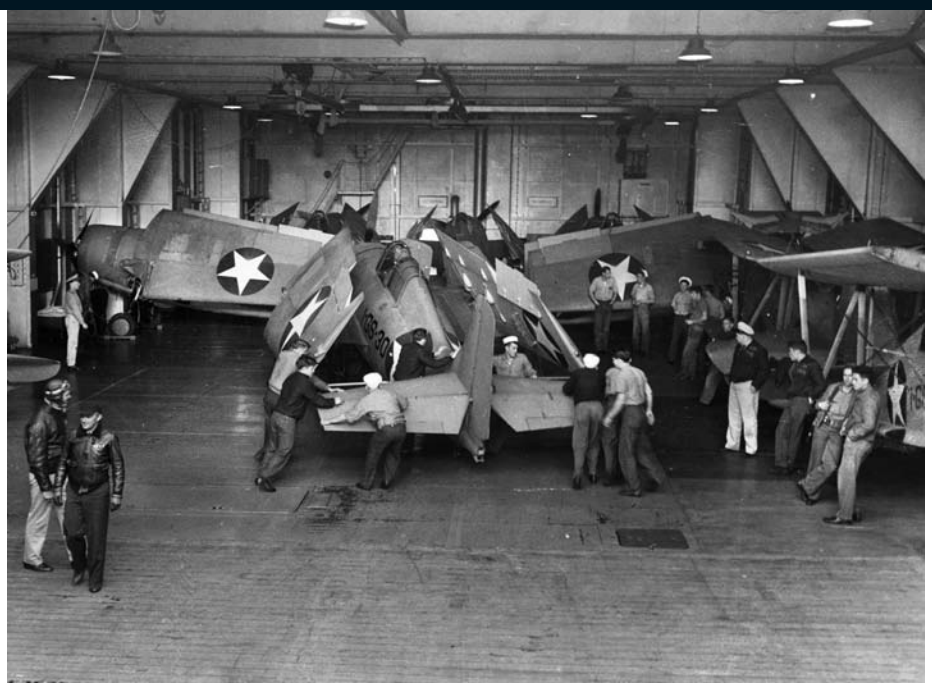
The Wildcat's production was transferred under contract to General Motor's Eastern Aircraft Division in Linden, New Jersey. The contract called for 1,800 F4F-4s, which were designated the FM-1 (F= fighter, M=General Motors). Of the entire production order, 311 aircraft were delivered to Britain as the Martlet V.

In comparison to the F4F-4, the FM-1 had four .50-caliber wing-mounted guns. A total of 839 FM-1s were delivered to the U.S. Navy and U.S. Marine Corps by late 1943 before production was halted in favor of the lighter FM-2.

The F4F-7 was a long-range photographic reconnaissance version with a total fuel capacity of to 695 gallons, with 555 gallons in non-folding wings filled with fuel tanks. This gave it the highest loaded weight of all Wildcats at 10,328 lbs. Missions as long as 25 hours and a maximum range of 3,700 miles were possible. Such long flights could be taxing on the pilot, so a Sperry Mark IV automatic pilot was installed.

To aid in pilot visibility, it was fitted with a rounded Plexiglas windscreen, which was put to good use shortly after the F4F-7s initial flight on December 30, 1941, when the Bureau of Aeronautics' Lt. Cmdr. Andy Jackson flew across the country in 11 hours at an average speed of 165 mph.

A Fairchild F-56 reconnaissance camera replaced the reserve tank and was placed just behind the main fuel tank. The camera was the only item that the pilot could "shoot" targets with, as there was no armament installed to save weight. Pilot armor was also not added as an additional weight-saving measure.



A view of Wildcats being prepped inside the hangar deck of the USS Long Island in June 1942. Curtiss SOC-3A scout-observation planes are visible at right.

Such a large amount of fuel could pose a problem in a variety of situations, so two emergency fuel dump tubes were located under the rudder.

While orders for this type exceeded 100 units, only 20 were built, and these were converted to F4F-3s. Two F4F-7s were used by the 1st Marine Air Wing at Henderson Field on Guadalcanal. After being destroyed in Japanese air raids, they were replaced by aircraft from Marine Observation Squadron 251 (VMO-251).

Total production of the Wildcat, excluding prototypes, was 7,898 aircraft, with 5,927 produced by General Motors. Production ended in August 1945 with the conclusion of the war in the Pacific.

The Wildcat's first combat experience came in the Pacific, on December 8, 1941, the day after the Pearl Harbor attack, when Japanese forces attacked Wake Island. A squadron of 12 Wildcats from Marine Fighter Squadron VMF-211 were based on Wake, with four airborne on patrol duty. Due to poor weather, they failed to intercept the 36 Mitsubishi G3M bombers that attacked the airfield on Wake, destroying seven of the eight Wildcats on the ground.

The Wildcat had its revenge three days later, when Japanese ground troops disembarked from ships to invade Wake. Four Wildcats attacked the invasion fleet and aided in sinking a destroyer and forcing the fleet back to sea. When the Japanese force returned on December 22, only two Wildcats were still flying. Wake fell to the Japanese the next day.

The Battle of Midway would be a somewhat more impressive experience for the Wildcat, as its lack of maneuverability against the agile Japanese aircraft was countered by employing an innovative tactic called the "Thach Weave."

The Thach Weave was an aerial combat tactic developed by U.S. Navy pilot John S. "Jimmy" Thach and named by fellow aviator James H. Flatley soon after the United States entered World War II.

Thach had read an intelligence report published in the September 22, 1941, *Fleet Air Tactical Unit Intelligence Bulletin* about the Japanese Zero's amazing agility and climb rate. He commenced to develop tactics to give the slower and less-agile Wildcats an advantage in combat. He developed what he called "Beam Defense Position," which would become known as the Thach Weave.

It was executed either by two fighter aircraft or by two pairs of fighters in formation. When an enemy selected one fighter

Two Wildcats flown by Lt. Comdr. John S. Thach (foreground) and Lieutenant Edward "Butch" O'Hare near Oahu, Hawaii, in April 1942. O'Hare became the Navy's first fighter "ace," but was killed in 1943.

as his target (the "bait"), the two elements turned in towards one another. With one aircraft crossing behind the other, they waited to have adequate distance from one another and repeated the crossing maneuver in a weaving fashion. This would bring the enemy aircraft in front of the other element, called the "hook," which would then fire on the enemy. Positioning was valued over maneuverability. Thach asked Ensign Edward "Butch" O'Hare, the leader of the second section in Thach's division, to test the idea.

In the test, Wildcats were used as both the enemy aircraft and pairs of "bait" and "hook" aircraft. Thach took off with three other Wildcats as the bait/hook aircraft as O'Hare led four Wildcats in the role of "enemy" aircraft. The bait/hook aircraft had their throttles' travel restricted to reduce their performance, while the "enemy" aircraft had their throttles unrestricted to create superior performance as in the Zero fighters.

After a series of "attacks," in every situation Thach's fighters had either thwarted the attack or got into a position to return fire. O'Hare excitedly commended Thach, "Skipper, it really worked. I couldn't make any attack without seeing the nose of one of your airplanes pointed at me."

The first combat test of the tactic was during the Battle of Midway in June 1942, when a squadron of Zeroes attacked Thach's flight of four Wildcats. Thach's wingman, Ensign R. Dibb, was the "bait," and when he was attacked, he turned towards Thach. Thach, in turn, dove under Dibb, firing at the incoming Zero's underside until its engine was ablaze.

The maneuver soon found its way into the repertoire of U.S. Navy and U.S. Army Air Corps pilots. Marine Wildcat pilots flying out of Henderson Field on Guadalcanal also adopted the tactic.

Celebrated Japanese ace Sabur Sakai described his reaction and that of his fellow pilots when they encountered the Guadalcanal Wildcats using it: "For the first time Lt. Cmdr. Tadashi Nakajima encountered what was to become a famous double-team maneuver on the part of the enemy. Two Wildcats jumped on the commander's plane. He had no trouble in getting on the tail of an enemy fighter, but never had a chance to fire before the Grumman's teammate roared at him from the side. Nakajima was raging when he got back to Rabaul; he had been forced to dive and run for safety."

There were many U.S. Navy and U.S. Marine Corps pilots who became aces in the Wildcat, and they all deserve respect for their gallantry and service. But the exploits of four earned them America's highest award for valor: the Medal of Honor.

Being a one-man air force was a trait common among a number of pilots who received the MoH, and Wildcat pilot 1st Lt. James Elms Swett was one of them.

Swett was a USMC fighter pilot and was awarded America's highest military decoration for actions with VMF-221 over Guadalcanal on April 7, 1943. His first combat mission was as leader of a formation of four Wildcats on a combat air patrol over the Russell Islands in the Solomon Islands on April 7, 1943, in anticipation of a large air attack; they were scrambled as 150 Japanese aircraft were reported approaching Ironbottom Sound. Sighting a large formation of Japanese Aichi D3A "Val" dive bombers attacking Tulagi harbor, the fight began.

Swett pounced on three Vals that were diving on the harbor and shot down two. As he was evading the fire of the third Val's rear gunner, his plane's left wing was hit by friendly ground fire. He persevered and downed the third Val as he turned toward a second formation of six more Vals.

He repeatedly dove on the formation, downing one Val in each attack with short bursts of his machine guns. After splashing four Vals, he began attacking a fifth when his ammunition was exhausted. The 22-

year-old Marine pilot from Seattle, Washington, had performed the extremely rare feat of becoming an ace on his first combat mission, with seven kills—a feat for which he was awarded the Medal of Honor.

Wounded after being hit by enemy fighters, Swett's ditched his damaged fighter off Florida Island after his oil cooler had been hit, causing his engine to seize; he crashed into the waters of Tulagi harbor.

With his nose broken and his face bleeding from broken Plexiglass, Swett went underwater with his plane but managed to release his harness and bob to the surface. When a Coast Guard boat approached, a crewman shouted, "Are you an American?"

"Damn right I am!" Swett shouted back.

After being patched up, he would get back in the war. In July 1943, flying a Corsair, Swett was shot down by a Japanese Zero near the island of New Georgia and was rescued by two natives in a canoe.

He later flew from the aircraft carrier *Bunker Hill* and carried out strikes supporting the Iwo Jima and Okinawa invasions in 1945. He flew a total of 103 missions, was credited with downing 16 Japanese planes and sharing in the destruction of one more, and had another nine "probables" shot down by war's end.

Lt. Comdr. John S. "Jimmy" Thach. He created the "Thach Weave" aerial combat maneuver that gave Wildcat pilots an advantage over the superior Japanese Zero fighters.

Swett survived the war and died in 2009 at the age of 88.

A final tribute to the ruggedness of the Wildcat came from Saburo Sakai, who recalled an encounter with the American plane: "I had full confidence in my ability to destroy the Grumman and decided to finish off the enemy fighter with only my 7.7mm machine guns. I turned the 20mm cannon switch to the 'off' position, and closed in.

"For some strange reason, even after I had poured about five or six hundred rounds of ammunition directly into the Grumman, the airplane did not fall, but kept on flying. I thought this very odd—it had never happened before—and closed the distance between the two airplanes until I could almost reach out and touch the Grumman.

"To my surprise, the Grumman's rudder and tail were torn to shreds, looking like an old torn piece of rag. With his plane in such condition, no wonder the pilot was unable to continue fighting! A Zero which had taken that many bullets would have been a ball of fire by now."

Tough, rugged, and it could give a punch as well as take one—the kitten definitely had claws. □

Who was the Dead Man at Dead Man's Corner?

Separating facts from fiction in a Normandy legend.

NIELS HENKEMANS WITH SEAN CLAXTON AND CHARLES C. ROBERTS, JR.

"DEAD MAN'S CORNER," at a road junction south of Saint-Côme-du-Mont, has become one of Normandy's most famous landmarks. The story of what happened there has become legendary: an American Stuart tank was destroyed at the intersection and remained in place for several days, the dead body of the commander hanging out of the turret. The troops started to refer to the spot as "the corner with the dead man in the tank" and later simply as "Dead Man's Corner." As with all legends, the true story is much more complicated. This article is an attempt to separate fact from fiction and explore what can be proven and what remains a mystery to this day.

The name "Dead Man's Corner" is old. It was already mentioned in the combat interviews of S.L.A. Marshall, conducted in the summer of 1944. The general public likely first learned the name through one or two books: either S.L.A. Marshall's own *Night Drop* (1962) or the highly acclaimed account of A/506th PIR trooper Donald R. Burgett's *Currahee, A Screaming Eagle in Normandy* (1967).

Dead Man's Corner (DMC) lies at the fork of the D-974 and D-913 roads, a few hundred yards south of the center of Saint-Côme-du-Mont. In 1944, the intersection was strategically important. The D-974 was the most direct route to Carentan and part of the N-13, the highway between Paris and Cherbourg, while the D-913 was significant since it was the southernmost road connecting Utah Beach (via Sainte-Marie-du-Mont) to the highway. The terrain itself was also important, as the intersection lies on the ridge over-

Soldiers from the 101st Airborne Division view an M-5A1 Stuart light tank that was knocked out by the Germans on June 7, 1944, a few miles inland from Utah Beach—a location that soon became known as "Dead Man's Corner" due to the American tank commander whose corpse sat in the turret. The true identity of that dead soldier has been a mystery for over 75 years—until now.

looking the German-flooded fields north of Carentan.

The M5A1 Stuart light tank lost at Dead Man's Corner belonged to the 70th Tank Battalion, an experienced formation that had already seen action in North Africa and Sicily. The battalion arrived in England in late November 1943 and was destined to take part in Operation Overlord in support of the landings at Utah Beach. Company A, B, and C, with their M4 Sherman tanks, would be part of the first waves. Two companies with DD (duplex-drive, or amphibious) tanks would land in the first wave at H-Hour to support the 4th Infantry Division. Company A would support 1st Battalion, 8th Infantry Regiment, on Tare Green Beach, while Company B would support 2nd Battalion of the same regiment on Uncle Red.

These landings would be followed by the deep-wading tanks of Company C in the third wave (H+15), which would land on both beaches. Eight tanks outfitted with bulldozer blades landed in this wave, as well.

The battalion's Company D, with its Stuart tanks, was not part of the initial assault; it was scheduled to land on Uncle Red in Wave 21 at H+260. After landing, it would proceed as soon as possible to its assembly area and be ready to support the 101st Airborne Division.

The junction south of Saint-Côme-du-Mont was selected as the objective of 1st Battalion, 506th Parachute Infantry Regiment (101st Airborne Division). This key area was primarily defended by the paratroopers of Fallschirmjäger-Regiment 6 and

All images courtesy the author

3rd battalion of Grenadier-Regiment 1058 of the 91st Luftlande Division. The German regimental HQ and an aid station were established in the house at the junction.

On that day, 1/506th PIR fought its way down the D-913 against considerable enemy resistance, while 2nd battalion moved towards Angoville-au-Plain, a half-mile northeast of Saint-Côme-du-Mont, which was quickly secured. During the fighting, the paratroopers were assisted by American armor. Initially, Sherman tanks of Company A, 746th Tank Battalion, provided that support.

It was while riding in one of these vehicles that the commander of the 1st battalion, Lt. Col. William L. Turner, was fatally wounded. His death temporarily halted the advance of the battalion, and it pulled back to Beaumont to regroup. In the late afternoon, the tank company returned to bivouac for maintenance and resupply. Its place was taken over by elements of Company D, 70th Tank Battalion. 1/506th PIR was further reinforced by D/506th PIR, which was detached from 2nd battalion.

With these reinforcements, the battalion resumed its advance in the early evening. The paratroopers of D Company led the advance, spearheaded by light tanks. Late in the evening, the battalion reached its objective, the intersection. At that very moment, the lead tank was knocked out, and the legend of "Dead Man's Corner" began. This includes the gruesome detail of the body of the commander hanging out of the turret for several days.

The most common version of "Dead Man's Corner" can be traced back to either S.L.A. Marshall's *Night Drop* or Don Burgett's *A Screaming Eagle in Normandy*. In examining the books, it becomes clear that the accounts therein differ from the legend as it is told today and that has become the accepted story.

Burgett wrote: "Farther to our left the small tank that had been hit the day before [7 June] still smoked a little. The body of the tank commander who had been so nice to us still sat in the turret." Marshall's version says, "For several days thereafter, the ruined hull stood at the intersection, a dead man sitting upright in the turret."

1st Lt. Walter T. Anderson lost his life in Tank 17, not the one at Dead Man's Corner. (Center): Sgt. Anthony I. Tomasheski was killed in Tank 12, but was not the soldier found dead in the turret. (Right): Don Burgett, the 101st Airnborne trooper who wrote about the incident in his book, *A Screaming Eagle in Normandy*.

Neither book claims that the commander's body hung out of the turret of the Stuart. However, such an interpretation has become part of the legend. Despite our efforts, no original source has been found to claim the commander ever hung out of the turret. Because of the fame of the story, it is no surprise that people have attempted to determine the identity of the unfortunate tank commander. In recent years, this effort has produced a specific name, which has been published in several books: 1st Lt. Walter T. Anderson. After investigating the available evidence, however, there is not a single reason to believe that Lieutenant Anderson was killed at Dead Man's Corner. This leaves the identity of the unfortunate commander a question still to be answered.

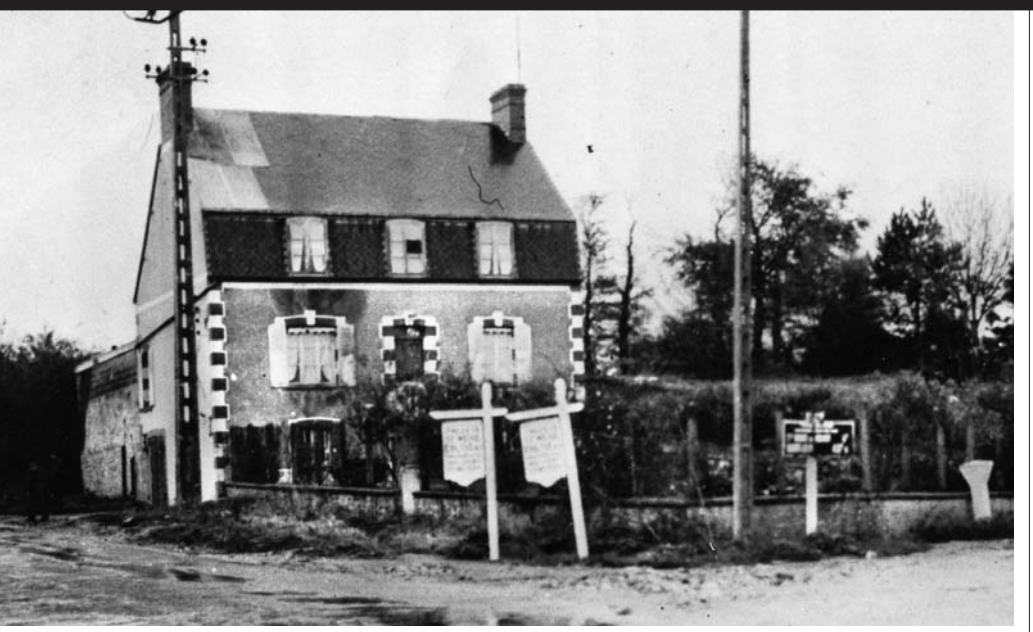
To answer this question, it is necessary to make a fresh start. We will begin by explaining why it is unlikely that Lieutenant Anderson was killed in the tank at DMC. While it is true that Lieutenant Anderson would have been a tank commander, most tank commanders were (staff) sergeants. The Table of Organization and Equipment (TO/E) of a light tank company calls for just five officers, and all of them had clear tasks. There was a company commander (usually a captain) and a maintenance officer, doubling as the executive officer. These two men were the two senior officers and would be in charge of the company.

There would be three additional officers, one to command each individual platoon. If fewer than five officers were available, a platoon could also be led by a senior NCO. This task would usually fall to a staff sergeant, who, under normal circumstances, commanded the second section of a platoon of five tanks.

The story of Lieutenant Anderson begins with an entry in the Company D diary from December 1, 1943. Company commander Captain Brodie listed the names and ranks of the officers in his company. 1st Lt. Anderson was the maintenance officer and two 2nd lieutenants were listed as platoon commanders. Lieutenant Anderson was the second-ranking officer in the company, and this was still the case on D-Day. Thus, he should never have been in the tank at Dead Man's Corner.

The company used a common numbering system for its tanks: Tanks 1-5 in 1st Platoon, 6-10 in 2nd platoon, and 11-15 in 3rd Platoon. Captain Brodie commanded Tank 16 and the second tank of the HQ section; Tank 17 was reserved for Lieutenant Anderson.

Officially, the TO/E prescribes that Tank 17 should be commanded by a sergeant. However, in most battalions, the company second-in-command would assume command of that tank in combat. This is even more apparent for the 70th Tank battalion, where the maintenance officer was the standard commander of Tank 17. Even after Lieutenant Anderson's death, this practice continued in Company D.



The house at Dead Man's Corner, which was a German field hospital during the D-Day invasion, photographed after the tank had been removed.

Since Tank 17 was his tank, Lieutenant Anderson can be assumed to have been killed in that tank, as well. This is supported by the diary, which states: "We found Tank 17 today […] and learned Lt. Anderson had been killed." Additional evidence is provided by Sergeant Francis Ross, who confirmed that Tank 17 was used by Lieutenant Anderson. He knew this for a fact because he was personally asked by the lieutenant to become his driver but declined.

All of this is relevant because the tank at Dead Man's Corner is *not* Tank 17, but Tank 12. This automatically rules out Lieutenant Anderson as the dead man at the intersection. The numbering system used by the battalion means that Tank 12 was the second tank within 3rd Platoon. Such a tank was almost certainly commanded by a sergeant, with a crew comprising lower ranks, which means that we should look for an enlisted man, not an officer.

Three documents are crucial in identifying the tank crew: the casualty list of Company D, entries in the company diary, and the official history of the battalion (published shortly after the war). The casualty list is the most important, as it contains data on when, where, and how men were killed, wounded, or went missing.

The company diary is important mainly because it states that two tanks were

knocked out on June 7. One of them was "totally destroyed," and the other had a "hole completely through the front sloped plate." It identifies these tanks as Tank 10 and 12. No other damaged tanks are mentioned in the diary, and it is likely that most of the casualties suffered by the company on D+1 came from these two tanks.

There were six battle casualties on June 7, from three different locations. This is a good indication that each location refers to one specific tank and its crew. The locations as given are not very precise but are all (south)west of Vierville.

When the descriptions of the casualties are compared to the wreck at Dead Man's Corner, we can identify a probable crew member. The famous photograph of the tank shows that a hollow charge weapon penetrated the tank's armor on the left front. This would have struck the driver in the head, almost certainly killing him.

Evidence for this can be found in the photo. The driver's hatch is still closed, while all other hatches are open. When driving, the hull hatches were usually buttoned down, as they tended to bounce and could interfere with turret traverse. Because the driver's hatch was locked from the inside, it would be difficult to remove the driver's body. It is quite possible that the unfortunate driver was still in his seat when the photograph was taken.

The combat interviews also make mention of "a dead man inside it." The evidence clearly points to the driver of Tank 12 being killed inside the tank. Research from author Mark Bando also supports this scenario. According to Private Emmert O. Parmley (F/502nd PIR), the driver was still in the tank when he examined it. The body could not be seen unless someone looked through an open hatch at an angle.

To identify the unfortunate driver, we have to look for fatalities on the casualty list. The official TO/E calls for the driver of an M5A1 to be a T/4 or T/5 (Technician 4th or 5th Grade). One T/5 is listed among the casualties of June 7, but this man was seriously wounded by shrapnel and burns from antitank fire. This would not indicate a deceased driver and contradicts the testimony of Private Parmley and the photo of the wreck.

In a blurry photo taken shortly after the battle, a GI stands at the "Dead Man's Corner" intersection with the knocked-out tank behind him.

However, in Company D, not all drivers held an official technician's rank. The battalion's General Orders of January and April 1944 show that at least five privates and eight Pfcs of Company D were officially qualified to drive tracked vehicles. This means that the search for the driver killed at Dead Man's Corner should not be limited just to technician ranks.

According to the casualty list, only four Company D men were KIA or MIA on June 7: Lieutenant Anderson, two sergeants and a single private. This focuses the attention on the fourth man: Private Aaron D. Curry. He was "killed in action […] by burns from antitank fire." This matches the expected wounds of a hollow-charge weapon like a panzerfaust, panzerschreck, or hafthohlladung (the latter a shaped charge, also called a panzerknacker, or "tank breaker").

Crucially, Private Curry was indeed one of those qualified to drive a tracked vehicle. This evidence leaves little doubt that Private Curry was the driver of Tank 12, and that the body seen by Private Parmley was that of Private Curry.

The date of Private Curry's death is listed as June 12 in the battalion's official 1945 history, and this is recorded on his grave. This is not at all strange: If the body of Private Curry remained in the tank for several days, the date of June 12 may reflect the date it was recovered and officially identified. In fact, the date strengthens the evidence of Aaron D. Curry being killed in Tank 12.

The casualty report gives the approximate location of his death as "one mile northeast of Carentan." The list has two more casualties at the same location and date: one wounded and the other listing as missing in action.

Among these two men is the likely commander of Tank 12, Sergeant Anthony I. Tomasheski. He was initially reported in the company diary as missing in action and was later listed as killed in action. When his body was examined, it was found that he had suffered fractures to his skull, jaw, and left humerus. His body was ultimately returned for burial in the U.S.

The other name on the list is Private Jack Hughes, who was wounded in action by "burns from antitank fire." His role in the crew has not yet been determined, as privates could act as co-driver or gunner in an M5A1 tank. We believe all three men were part of the crew of Tank 12. Unfortunately, there are no records of the composition of individual tank crews to prove this once and for all.

The identity of the fourth crew member is the biggest mystery. This may or may not

have been Private Ray Bonzo. In the company diary he is listed as wounded on June 7, and this is supported by the Morning Report of June 11 (S.W.A.). However, the casualty report lists him as a "Non-Battle-Casualty" (N.B.C.). It states he was hospitalized with bad shock. Whether this was caused by being in Tank 12 when it was knocked out is unclear. Private Bonzo returned to the company on July 21.

It is possible that the casualties from the other location came from one specific tank as well, most likely Tank 10. This includes T/5 Tadeus J. Wozny, who probably was the driver of that tank. The other is Sergeant Frank E. McNally, who was reportedly killed by sniper fire at the same location. His rank indicates he was a tank commander, but proving he belonged to the same tank as T/5 Wozny has not been possible. Since tank commanders were vulnerable to small-arms fire, it is also possible he belonged to an undamaged tank.

Does this analysis mean that the unfortunate commander left sitting in the turret for several days was Sergeant Tomasheski? No, not necessarily. The evidence this ever happened is quite weak. It does not match the story in the combat interviews nor the evidence presented in *Rendezvous with Destiny*. In the end, it hinges on Don Burgett's story and the earlier book of S.L.A. Marshall. Burgett was, however, very clear that he indeed saw the body of a tank commander. But which tank was it?

His book, *Currahee*, holds important clues that help to answer that question. On June 7, he joined his company in the advance towards the road junction. The situation became confused, and he attached himself to a small group of men. Together they kept moving, struggling their way through hedgerows and fields. They lost contact with the rest of the company and believed they had fallen behind, so they kept advancing to try to regain contact with the other troops.

After crossing hedgerow after hedgerow, field after field, the men suddenly came to an area where they could "look down a long sloping landscape and see a broad river"—the flooded area north of

Carentan. But no other troopers were in sight. Contrary to what they thought, their group was ahead of the rest. The men found themselves standing in a large field. Below it was a blacktop road, which led down to the river. The banks on each side of the road were "eight or ten foot high." Here the five men made their stand.

As they were fighting, the sounds of battle to their rear grew stronger, until the noise of an approaching tank became unmistakable. It turned out to be an American M5A1 Stuart, which joined their battle. When it had exhausted its ammunition, it moved out to get more.

This is where Don Burgett's version of the Dead Man's Corner story starts. Just after the tank left, the men heard an explosion and saw oily smoke rising. The tank had been hit. Of course, it made sense to assume this was the tank that was knocked out at DMC, but it was probably a different vehicle. To understand this, it is crucial to determine where the men had been fighting.

The general area described by Don Burgett can only be the high ground somewhere between Saint-Côme-du-Mont and Carentan, and the road he described matches the N-13. It has been claimed that Burgett's group was south of DMC. This seems to be based on the assumption that the tank that left Burgett's group and moved north over the N-13 was the same as the tank that was ultimately destroyed at the junction. Thus, the group must have been south of the junction.

On location in 2012 with Mr. Burgett, he indeed confirmed to us that the tank moved north over the N-13. But north from where? The most important evidence comes from his description of the terrain in the book. South of DMC, there are no high banks lining the road. Instead, the road is lying on an embankment above the fields. The landscape today is still very much as it was in 1944. In fact, the only area with banks and fields above the N-13 can be found north of DMC.

Don Burgett's group fought in the field north of the current museum. This also explains how the tank could suddenly appear from their rear, as the N-13 runs north-south, while the D-913 runs to the northeast from DMC. The western edge of the field is formed by the N-13, while the east corner borders on the D-913. As the reinforced 1/506th PIR advanced, a tank only had to turn off the road to enter the field.

In 2012, we took Mr. Burgett to the field, where he confirmed that the terrain matched what he remembered. Without hesitation, he pointed out where the tank had entered the field and the corner where it later left the field and moved onto the N-13. Exiting the field in the northwest corner is quite simple, since the banks level off to road level at that point.

Since Burgett fought north of DMC, it would mean that "his" tank was knocked out between DMC and Saint-Côme-du-Mont. There is evidence to support this. In his postwar monograph, Major Friedrich August Freiherr von der Heydte, the commander of Fallschirmjäger-Regiment 6, wrote: "Enemy reconnaissance troops succeeded in infiltrating through the thin German MLR [main line of resistance] in the confusing terrain. Around 10 PM, two American armored reconnaissance vehicles broke through to the road to Carentan: one was destroyed by a regimental messenger with a hollow-charge weapon directly in front of the regimental CP, the other was destroyed on the southern exit of Saint-Côme-du-Mont by an antitank gun."

Burgett himself wrote: "Instead of cutting back the way he had come […] he turned onto the road so he could make better time. That was a mistake. For when he came into view of the 88 near the corner, they drilled an armor-piercing shell straight through the turret. The small tank erupted in a violent explosion and started to burn. The whole crew died instantly. We could smell their flesh cooking in the flames, along with a heavy oily smoke. Seeing the tank crew die that way made me feel bad. That commander was a hell of a nice guy."

Burgett again mentioned the tank when describing the events on the morning of June 8, when the troops were preparing themselves for a new attack on Saint-Côme-du-Mont and Dead Man's Corner: "Farther to our left the small tank that had been hit the day before still smoked a little. The body of the tank commander who had been so nice to us still sat in the turret."

While the account is quite vivid, it may be possible that one or two assumptions or guesses have been made in an attempt to tell the story more clearly. The corner referred to by Burgett clearly is DMC. That tank, however, never burnt out, nor was it hit by an "88," nor did the entire crew die. Are we simply seeing the effect of an urban legend being retold?

Of Burgett's personal Normandy story, few actions were addressed by earlier publications. Dead Man's Corner was, however, covered by both *Rendezvous with Destiny* and *Night Drop*. The discrepancies may just be caused by an unfortunate attempt by Burgett to explain his own experiences in light of what had already been written by others, without realizing they were unrelated events. The rather dramatized story in *Night Drop* may have compelled him to incorporate certain graphic details in his own book, at the expense of his own experiences. It was no longer possible to determine this beyond any doubt nearly 70 years after the fact.

Ironically, Burgett's own interpretation of the tank being hit by a field piece is supported by Major von der Heydte. It would also rule out the tank at DMC. The description of Tank 10, with a "hole completely through the front sloped plate," could match Don's writings. The question now becomes which wreck he saw and where. Was this Tank 12 at DMC or another tank closer to Saint-Côme-du-Mont?

In addition to the tank that assisted Don Burgett's group and the one lost at DMC, there was at least one other incident on D+1. Both Mark Bando and S.L.A. Marshall have written about an attack on a light tank that occurred somewhere behind the leading elements (Company D) of the advance to the intersection. In order to reach it, the battalion had to pass the crossroad east of Saint-Côme-du-Mont.

The lead elements of the battalion managed to get through unscathed, but later elements

Today the house is the Dead Man's Corner Museum, owned by historian Michel DeTrez. Another M-5 Stuart (not the one discussed in the story) sits on the lawn of the museum.

ran into German resistance and, when a tank reached the crossroad, it came under attack. *Night Drop* has the more dramatic version of the incident:

"A light tank chugged ahead of them [elements of Company A and Headquarters Company], and they had outstripped the other men out of a desire to stay in the lee of its protection. As the tank entered the crossroad, a German rocket hit it dead on. The tank stopped and its gas tank exploded. That one shot finished 1st Battalion for the day, except for a few hands from Able and Headquarters who ran on past the flaming derelict.[…] The tank still blazed, and 1st battalion stayed ditched."

A more balanced version has been written by Mark Bando. According to him, two of the crew members were wounded when several antitank rockets hit the vehicle. The tank caught fire, but was not disabled and pulled back several hundred meters, opening a gap in the column. After the fire had been extinguished, it rejoined the fighting with its machine guns. In the confusion, tanks on both ends of the gap started firing at one another. The situation was finally cleared up, and the firing ceased. The advance of the battalion to DMC was however halted for the day.

This incident provides a third location where a tank was hit by German fire, but it also raises new questions. Could T/5 Wozny have been one of the casualties? Was this Tank 10 or another vehicle not damaged enough to report? If the tank indeed remained operational, it cannot have been the wreck seen by Don Burgett. Still, there is a chance it was knocked out but replaced by another vehicle.

The evidence shows that Tanks 10, 12, and 17 were hit in the June 7-8 period. Photographs in situ are only known of Tank 12, which was photographed at DMC and later at a vehicle dump. It shows localized fire damage along the driver's side top track run. The same dump also held the wreck of a Tank 10, which likewise shows fire damage. Was this damage sustained on June 7 or later in the campaign?

The first time after D-Day that Tank 17 was mentioned in the company diary was on June 9. It had not yet shown up. Unfortunately, the records do not say when it went missing. The battalion's official history states that Lieutenant Anderson was killed by a mortar round while in the turret, and the casualty list gives the location of his death as "one mile north of Saint-Côme-du-Mont."

Support for this is provided by Private Eldon R. Abrahamsen (I/502nd PIR). On June 8, he was part of a patrol in that area that became pinned down by German fire. A light tank was brought up for assistance, but it did not end well: "The tank commander's hatch on the tank was open and a German mortar shell dropped right in the hatch, which killed the crew."

Although the number of casualties in the tank cannot be correct, the vehicle itself may well have been Lieutenant Anderson's Tank 17. The casualty list gives the cause of death as "shrapnel from artillery."

There is no clear-cut answer as to which knocked-out tank Don Burgett saw. In fact, in 2014 he stated that the wreck he saw late on June 7 and the one he saw on the morning of June 8 may, in fact, have been two different vehicles; he had pulled back to Beaumont during the night and may have encountered wrecks en-route.

That morning, the official line-of-departure for his battalion was indeed somewhere between Beaumont and Saint-Côme-du-Mont, just west of the D-913. This makes it more likely that he saw the wreck of Tank 10, rather than Tank 12 at Dead Man's Corner. Ultimately, we must conclude that it is impossible to determine exactly what happened in those late hours of June 7. It is not clear which tank had a dead commander in its turret and where it was seen by Don Burgett. There is evidence to support all three tanks, and evidence that argues against each option.

Still, we now know the identity of the unfortunate driver who gave his life at Dead Man's Corner—Aaron D. Curry—and probably that of his tank commander—Anthony I. Tomasheski—as well. For over 70 years, the two men were mere statistics among the casualties from Normandy, but now their story and their sacrifice are at least a bit clearer, as is the story of Dead Man's Corner. □

(The authors would like to thank Mark A. Bando for sharing his knowledge and research, as well as all those who provided photos and information for this article. A special thanks goes to the late Donald R. Burgett for having taken the time to walk the battlefield with us and patiently answer our questions.

We dedicate this article to the brave men of the 70th Tank Battalion and the 101st Airborne Division, and thank them for their role in liberating Europe from Nazism.)

BEYOND THE BREAKOUT:

The Battle for BRITTANY

The bloody, often-overlooked battle of Brest on the Brittany Peninsula tested the mettle—and tactical doctrine—of American forces as few battles in World War II did. BY WILLIAM G. DENNIS

IN *Eisenhower's Lieutenants*, eminent historian Stanley Weintraub wrote that communications in the 1800s between America's scattered frontier garrisons were slow, which encouraged a tradition of individual initiative in the American army. This tradition served America well in the fast-moving battles of World War II. He also wrote that the U.S. Army in World War II was the most mobile army in history. The U.S. built 800,000 2.5-ton trucks alone, as well as impressive numbers of other models. But to enhance that mobility America created lightly armed divisions that did not have the firepower to do well in grueling positional battles.

The defeat of the German forces in Brittany is a good place to examine Dr. Weintraub's arguments. When the Allies gained entry into Brittany after the Normandy invasion by capturing bridges at Avranches, the battle shifted from bludgeoning the way through hedgerows to moving quickly to exploit the disarray of the scattered German forces. It ended with a campaign to capture the fortress city of Brest that involved some of the heaviest fighting that had yet taken place in the European theater.

The remarkable speed of the American advance outran communications and forced the leaders of detached forces to use initiative to take advantage of fleeting opportunities. Fortunately, they were prepared to do so by training and tradition. The battle against the strong defenses of Brest, which were manned by a heavily armed garrison about the size of the attacking forces, was a grueling fight that needed considerable firepower to win.

The Brittany campaign did not unfold as the Allies expected. Had the Germans acted rationally, the battle for France would have been a long series of Allied attacks to drive back the German infantry while fending off counterattacks by Germany's mobile forces. The expectation was that the Germans would retreat as needed while inflicting as many casualties as possible on the Allies.

But Hitler's lack of understanding of mobile warfare and his growing distrust of his generals produced a very different battle. His insistence on never giving up ground meant that the German mobile forces that arrived early in the battle for Normandy were squandered attempting to hold defensive positions. The front became so brittle that there was no way to seal off the Operation Cobra breakthrough.

The plan the Allies developed before D-Day was based on the assumption that, as the battle moved north toward Germany, the Germans would deny the Allies the use of the ports in northern France and Belgium as long as they could. So the U.S. needed to be able to bring huge quantities of supplies ashore in Brittany. The Germans were expected to destroy the existing port facilities so any tonnage that could be put through the captured ports would be a bonus. Most of the supplies would come through an artificial harbor, similar to the Normandy Mulberries, to be constructed in Quiberon Bay.

All photos National Archives

An M4 Sherman tank with "hedgerow-busting" teeth attached to its glacis plate roars through the shattered town of Lambezellic, two miles north of the port city of Brest. The battle for the city would last until September 18, 1944.

A line of U.S. halftracks carrying armored infantrymen of the 68th Tank Battalion, 6th Armored Division, rolls down Rue de la Constitution in Avranches. Highly mobile units such as the 6th enabled the U.S. Army to maintain pursuit of the enemy.

To keep German garrisons in nearby cities from firing on naval conveys, the U.S. needed to capture Rennes, Brittany's main communications center, cut across the base of the Brittany peninsula to Quiberon, capture that port, and the ports of Brest, Lorient, and St. Nazaire on the south coast of the peninsula.

Hitler had declared the coastal cities were to be "fortresses" and garrisoned (usually with second-class troops) to deny the Allies the use of those ports for as long as possible. This cost the Germans between 180,000 and 280,000 men; historians are divided about the wisdom of the decision. By the time of the breakout, the Germans had largely denuded the peninsula of the better units there and the Allies hoped that the ports would fall after brief, token defenses.

Instead of the coherent defense the planners had expected before the Normandy invasion, what was left of the German forces in the interior of Brittany were small garrisons that were trying to gather in German-controlled areas.

The shattering German defeat at Falaise in August 1944 turned Allied attention to the north; coincidentally, the attack on Brest began the same day as the Allied troops pursuing the Germans crossed the Seine. When the decision was made to attack that city, the Allies were only beginning to realize that their plans for Brittany needed to be adjusted to take advantage of the enormous opportunities the German collapse in Normandy presented.

The Brittany campaign was in the hands of two commanders with wildly contrasting styles: the brilliant, flamboyant Third Army commander Lt. Gen. George S. Patton, Jr., and Maj. Gen. Troy Middleton, who commanded VIII Corps. Middleton was a steady and methodical planner, while Patton was renowned as a hard-charging, hell-bent-for-leather leader.

Third Army headquarters estimated that the divisional artillery of two divisions, augmented by 10 battalions of artillery assigned to Middleton's corps —a total of 18 battalions—would provide adequate support for the attackers.

In fact, the area defended by the Germans was so large that it took three divisions, supported by an additional eighteen battalions of artillery, plus 4.2-inch mortars whose round had the same explosive power as a 105mm artillery shell, and the fire of tank destroyer battalions acting as artillery—a total of thirty-four battalions—to envelope the Germans positions. In addition, as was normal in the European theater, Middleton's forces were not significantly more numerous than the defenders.

Allied plans changed several times but Patton settled on having the 4th Armored Division capturing Rennes and Nantes, then moving west to capture Vannes and screen the German positions around St. Nazaire and Lorient. The 6th Armored Division, under Maj. Gen. Robert W. Grow, was tasked with moving through the interior of the peninsula to test the defenses of Brest and, hopefully, capture it.

Task Force A moved out ahead of the main body of the 6th Armored. It consisted of tank destroyer brigade headquarters that controlled the following units: a group of armored cavalry and another group of tank destroyers. (The term "tank destroyer" as used here referred to a lightly armored tracked vehicle carrying a high velocity cannon in an open turret.) "Groups," as the term was used by the Army at the time, consisted of two battalion-sized units and a headquarters. Task Force A also included a battalion of engineers and a separate pontoon bridge company. The task force, whose mission was to prevent the Germans from blowing bridges and to secure the railroad line to Brest, was later augmented with a battalion of infantry.

There were already Allied covert operations troops operating in Brittany with approximately 20,000 armed French Forces of the Interior (FFI). They were attacking small parties of Germans, preventing German sabotage, and providing intelligence to Allied forces. Task Force A made contact with them on August 6 and found that they had largely cleared the Germans out of the interior of the peninsula.

They directed Task Force A around remaining German concentrations and guarded the captured bridges and other targets. With their help, the task force's mission was successful and the railroad and highways stayed open. Before it was dissolved, the task force had captured 5,700 prisoners.

As the 6th Armored moved forward, an unexpectedly tough fight was developing for the ports of St. Malo and Dinard to the north at the base of the Brittany peninsula. Patton had told Grow to head directly to Brest as fast as possible. Since Patton gave the order directly to Grow, Middleton knew nothing of it. Nor did he know that the division's forward elements were well past the ports. Middleton ordered it to halt in place in anticipation that the division would be needed to help reduce those ports.

When Patton learned of Middleton's instruction, he controlled his famous temper and got the 6th on the road again. Combat Command A moved west parallel the north coast and Combat Command B and later Combat Command Reserve moved down the center of the peninsula. In addition to Task Force A, Middleton strengthened the division with another battalion of tank destroyers, a battalion of self-propelled 155s, and a battalion of antiaircraft artillery.

Map © 2020 Philip Schwartzberg, Meridian Mapping, Minneapolis, MN

ABOVE: American troops move cautiously through the deserted streets of St. Malo, late August 1944. The historic walled coastal city was almost totally destroyed by American shelling and bombing, as well as by British naval gunrfire. TOP: By pressing German units against the sea at Brest, Lorient, and St. Nazaire, U.S. divisions prevented their escape and inflicted as many as 280,000 casualties on the enemy.

Middleton complained that his armored divisions had moved so far and fast that he had no idea of where they were. This was a constant problem for both sides during this phase of the campaign. Neither sides' signal equipment was up to handling the distances involved and volume of traffic, although the communications personnel mitigated the problem by successfully putting telephone lines the Germans had strung back into operation.

The 6th Armored's tanks entry to Lesneven signaled the 266th Volksgrenadier Division that the time had come for the Germans to destroy the 280mm guns at Paimpol and withdraw to Brest. The German Seventh Army headquarters could not believe that the American unit had moved so fast, and the 266th was ordered to return to its positions on the north coast of Brittany.

Initially, the Americans seriously underestimated German strength in Brittany. Patton told Middleton that there were only 1,000 Germans between St. Malo and Brest; the 6th Armored captured 10,000. When the 6th reached Brest, Grow ordered Combat Command B to test the defenses. The attack drove in some outposts but was stopped. It was clear that a substantial force of infantry, supported by much artillery, would be needed for a successful assault.

While the 6th was waiting for infantry, parties of German troops began harassing the division trains and sniping at division artillery. Their commander was captured while moving ahead of his main body and the attackers were identified as the same 266th VG that had tried to move earlier. Because of Seventh Army interference, it was only now attempting to reach Brest. Only about a thousand troops made it to the city.

Meanwhile, Maj. Gen. John S. Wood's 4th Armored Division reached Rennes on August 1. As a transportation hub, the city was just as important to the Germans as it was to the Allies and small German detachments were drawn to it. The garrison was large enough to beat off a probe by the 4th's spearhead and another attack

later in the day. Wood needed time to get an additional infantry regiment from Middleton to supplement the limited infantry component of his division for the street fighting he saw coming.

Wood had the city encircled when the 13th Infantry Regiment of the 8th Infantry Division arrived on August 2. On the 3rd, they penetrated the city and that night the remains of the garrison successfully exfiltrated to the south, eventually reaching the German-controlled fortress city of St. Nazaire.

There was a delay before Wood's CCA headed south for its next assignment. Once resupplied, CCA seized the port of Nantes closing off the lower Loire River crossings and completed the capture of Vannes that the FFI had already begun.

It was soon joined by the rest of CCB, which had seized the crossroads towns of Redon and Châteaubriand. Near Lorient it had mistakenly bivouacked in an open field well within the range of the German guns defending the city and only 800 yards from a German observer with a clear view of the bivouac. The barrage the Germans subjected them to caused more casualties than any other encounter since they had landed.

Because the Allies belatedly realized that the real fight had become the advance into Germany, they never attacked the cities of Lorient and St. Nazaire, which remained in German hands until the end of the war.

Task Force A passed through Avranches on August 1 and the 6th Armored's probing attack on Brest took place on August 7. Brest lies 200 miles west of the starting point of the campaign; in between there were ambushes to avoid by countermarching, detouring, and skirmishing with isolated parties of Germans.

It was an exhausting campaign. In one headquarters, several officers fell asleep during a conference. By tracing the paths of units on maps of the campaign, it appears that some units advanced well over 200 miles by the time Brest was invested. It was a splendid performance that fully demonstrated the mobility of the American Army and the quality of the units that had been built for this war.

American troops gather around a young, heavily armed Russian who escaped a German labor battalion and joined a Free French unit as the Yanks pushed toward Brest.

Maj. Gen. Robert W. Grow, the 6th Armored's commander, was rightly proud, even elated, by the performance of his division. He had "received a cavalryman's mission from a cavalryman [Patton]." It was the kind of campaign they had trained for and been denied in Normandy.

His division was independent of higher command in its advance from Avranches to Brest, taking advantage of the American tradition of individual initiative that allowed units to improvise when the unexpected occurred and direction from higher headquarters was lacking. Its move was the most extended operation of any single division in the war. Its success was measured by the fact that by the second week in August single travelers could travel the length of the Brittany peninsula in safety. Only the spectacular victory further north at Falaise obscured the achievement. Dr. Weintraub's assertion that the U.S. Army had become the most mobile in history was clearly correct.

The campaign also illustrated how the American Army had mastered what later became known as the air/land battle. In the Germany army in 1940 a request to the Luftwaffe for air support had to come from an army headquarters. In 1944 American captains were calling for strikes, often conducted by airplanes that were overhead, waiting for the call.

The first phase of the campaign to conquer Brittany ended when Middleton relieved the 6th Armored and General Omar Bradley ordered three infantry divisions into the battle for Brest: the 2nd Infantry Division deployed on the left, the 8th in the center, and the 29th on the right flank.

The Opponents

The armies that faced each other in this battle had been developing in very different ways during the last few years. The 2nd Division, commanded by Maj. Gen. Walter M. Robertson, was a regular army division, formed during WWI, that continued on active duty between the wars. It was substantially understrength until its ranks were filled out with draftees.

The 8th, commanded by Maj. Gen. Donald A. Stroh, was also formed during WWI but was deactivated after it ended. It was reactivated for WWII and, outside of the key leadership cadre, it was made up of almost all draftees. The 29th, commanded by Maj.

Gen. Charles Gerhardt, was initially a National Guard division made up mostly of Maryland soldiers. But there had been many transfers before the 29th went into combat on June 6 at Omaha Beach and had heavy casualties since. These had been replaced without regard to where in the U.S. they came from.

The 2nd had also taken heavy casualties in Normandy, but effective commanders knew the importance of integrating replacements into their units. The best procedure was to pull the unit receiving the replacements into reserve before their replacements arrived and give it time to school them in what they would find when they went into combat.

America was able to supply all its divisions with standardized equipment, giving all divisions of a given type of approximately equal firepower. The main difference was that the longer a division served in combat, the more automatic weapons and mortars they tended to accumulate in excess of the tables of organization allowances. They were typical of the divisions America was sending into combat at this stage of the war; they had all been through long periods of training before going into combat.

Surveys and a report compiled by Eisenhower's headquarters show that the troops felt that their weapons and equipment were, on balance, better than what the Germans used. Granted, there were strong arguments for confining the Sherman to an infantry-support role after the African campaign and deploying a heavier tank earlier in the war.

Infantry companies could have used a more portable machine gun and a larger allowance of them. But as historian Charles McDonald put it, the American Army suffered so much from depression-era neglect that many times the Army had to simply aim for adequacy in choosing equipment.

These divisions were defined more by the very similar training programs they completed after the war began than by their prewar history. As a result, American divisions serving in the European Theater, at this time, were generally interchangeable with other divisions of the same type. The major difference between these three was that the 2nd had an exceptional commander in General Robertson.

America's personnel policies tended to keep divisions interchangeable. The American training programs for replacements was conducted by a central command and usually lasted considerably longer than German programs. More importantly, American divisions were never so reduced by casualties as to lose their identities. Unlike German corps and army commanders, American commanders could look at their units' past accomplishments as a reliable indicator of future performance.

There were exceptions. The divisions that were hurried off to Africa 11 months after Pearl Harbor did not have as long to train together as divisions that deployed later, but those deficiencies were corrected by the time they reached Europe. A much higher proportion of American casualties were infantrymen than the planners anticipated so there were never enough trained infantrymen and at times later in the war their training was sketchy. The last few divisions that deployed to Europe had their trained men sent to fill slots in units already in theater and their replacements had no time to train together.

America had few elite infantry units at the beginning of WWII but, in addition to the airborne, the U.S. formed Ranger battalions that were patterned on the British commandos and given especially tough training. They were intended for raids and attacks across especially difficult terrain. But higher commanders often had no clear idea of how to use them, and they were given more mundane assignments like guarding prisoners.

The German Army had moved in an entirely different direction. At the beginning of their rearmament in the 1930s, Germany had attempted to train all their divisions to the same high standard and equip them uniformly—an unattainable goal.

German industry was also unable to supply Germany's needs. At best, Germany was able to equip its front-line and mobile units with 7.92-caliber Mauser rifles, 9mm pistols and machine pistols, and those units always seemed to have sufficient MG-34 and MG-42 machine guns. For the rest of their divisional equipment, even front-line divisions were forced to use an enormous variety of nonstandard and captured equipment.

The elite 6th Parachute Regiment was formed late in the war. It had only 70 trucks for its 3,400 men; there were 50 different models. The weapons and equipment of the second-line "static" divisions were even more diverse and had less organic transport and artillery.

So the weapons and equipment could vary greatly from division to division. At Brest, for example, in addition to the guns assigned to the units in the garrison, Germans manned the guns the French had installed, then they removed guns from sunken warships in Brest harbor and installed a battery of captured Soviet 122mm field guns.

VIII Corps commander Maj. Gen. Troy Middleton (right) and Brig. Gen. James van Fleet, commander of the 2nd Infantry Division's Task Force B, view the situation at the front lines.

The German manpower situation was similar. Initially, a German infantry division was substantially larger than an American division and the table of organization included anti-aircraft and reconnaissance units. There was also substantially more firepower in the infantry

regiments. Mr. Browning's automatic rifle has its merits but where the U.S. had one in each rifle squad, the Germans had a belt-fed MG-34 or MG-42, and more guns at the company level. There were also normally many more machine pistols than the U.S. Army issued submachine guns.

But in 1943 Germany adopted a new table of organization for its infantry or Volksgrenadier divisions that attempted to produce the same amount of firepower with significantly fewer men. The size of the rifle squads and the rifle companies were reduced and the number of infantry battalions was reduced from nine to six. A fusilier battalion replaced the reconnaissance battalion and usually ended up being used as a seventh infantry battalion.

There were also substantial reductions in the service and support troops. Even more machine pistols were issued to compensate for the reduction in the number of shooters.

German casualties had been heavy and the need for troops was so great that physical standards were reduced and Volkdeutsch—men from Germanic stock from the conquered territories—were drafted. "Volunteers" from non-German countries were encouraged to enlist in Hitler's anti-Bolshevik crusade.

There were great variations in the quality of the manpower allotted to different types of divisions. This was deliberate. As the successive conscript classes were brought into the army, the best soldiers usually ended up in one of the elite units. Germany still had some elite panzer, panzer-grenadier, and parachute divisions manned with healthy young men. The Allies encountered several of them in Normandy and much of their line infantry was still quite good. But their commanders probably wished that they had spent more of their time training and less time working on fortifications and beach obstacles.

The level of training varied from division to division. Even new infantry divisions that were given long enough to carry out a real training program, such as the 352nd VG Division that appeared at Omaha Beach, fought quite respectably.

Toward the end of the war it was German practice to leave an infantry division in combat until it was so worn down that it was deemed to be "combat ineffective." Then it was rebuilt. Toward the end of the war, new conscripts were given only four to six weeks of rudimentary training before going into combat.

Beginning in 1943, Germany began fielding another category of infantry divisions that were less capable than the Volksgrenadier units: coastal defense or static divisions. These units lacked a reconnaissance battalion and had less transport and artillery than the field units.

What they did have varied from division to division based on what was available and the length of stretch of coastline they were defending. They were often manned by men who had lost their youthful ability to withstand hardship and/or were less than enthusiastic about serving the Third Reich.

This was especially true of "Ost" battalions manned by volunteers drawn from cap-

ABOVE: Heading to Avranches, confident 8th Infantry Division troops smile as they pass a wrecked Wehrmacht Opel Blitz vehicle in a French village. OPPOSITE: A camouflaged M10 tank destroyer on its way to Brest passes a French family fleeing with their possessions, including a dairy cow.

tured Soviet troops that were transferred from the Eastern Front. The Allies found that the Ost troops would surrender at the first opportunity but, for the rest, it did not take much enthusiasm or youthful vigor to defend a prepared position.

The Battle

The troops that manned the defenses at Brest followed this pattern. The 353th VG Division that held positions east of Brest was a static division. The 266th VG referred to earlier was also a static division that started without especially good equipment, and must have lost most of it before its disorganized remnants reached Brest.

There were also substantial numbers of Luftwaffe antiaircraft gunners and naval coast artillerymen. Other troops had been guards at various installations or worked at non-combat jobs in depots and headquarters. All told, the Brest garrison was about 40,000 strong.

What made the garrison formidable was the all-volunteer 2nd Parachute Division commanded by Maj. Gen. Hermann-Bernhard Ramcke. At the beginning of the campaign, the garrison commander had been Maj. Gen. Erwin Rauch of the 343rd VG Division.

Ramcke's troops had been ordered to Normandy but, when the American advance cut him off, Ramcke retreated to Brest and became the garrison commander. He was a fanatical Nazi and almost a caricature of a glory hound. But otherwise he was a good commander and conducted himself with due regard for the rules of land warfare.

He had also trained his division well, using it to stiffen his other units by assigning a few of his men to strongpoints to encourage the other men in the garrison. He also made a persuasive case that every bomb that fell on their positions was one that did not fall on their families at home. The argument and the example of the parachutists helped sustain the morale of the garrison until near the end of the campaign.

The troops were in strongly fortified positions; the Germans had started improving the French fortifications almost as soon as they occupied the city. They began with a belt of fortifications close to the city and naval base to protect them from a raid like the one the British and Canadians had made at Dieppe.

Since the Normandy invasion, the pace of fortification building had speeded up and the emphasis had shifted to building an outer ring of positions designed to give depth to the defense. The inner perimeter consisted of well-dug trenches interspersed with concrete pillboxes and larger blockhouses. There were extensive minefields and barbed wire.

All of this was arrayed in depth so that when a position was under attack, the attackers could often be taken under fire by another. The outer belt of defenses turned almost every village into a strong point with several automatic weapons and at least one anti-tank gun. The Germans made a determined effort to hold the outer belt and to not be forced into the restricted area of the inner belt. This cost them so many casualties that they could have used many more men to adequately man the inner belt

The geography of the area also had a profound impact on the battle. The countryside close to Brest slopes gently down toward the port. Inland is a plateau with small hills and ridges and there are several hills that are large enough to provide good observation points for artillery spotters. These became crucial ground for defenders and attackers alike. There were hedgerows surrounding many of the fields as in Normandy, but the fields are larger so the hedgerows provide less cover for attackers.

In Normandy, the U.S. Army had learned painful lessons about how to deal with hedgerows that had to be unlearned here. The Rhino tanks and other hedgerow-busting devices were still useful, but the tactics that placed machine guns and tanks in the forefront of the battle were out of place here. Those weapons needed to support the front-line infantry from further back—away from German forward observers and anti-tank weapons.

That otherwise open country was cut by deep ravines that compartmentalized the battle. The Penfield River had cut the deepest channel and separated Brest proper from its suburb, Recouvrance, to the west.

The most striking feature of the area is that Brest harbor is protected by two peninsulas. Across the Elorn River that flows into the harbor to the east of the city is the Daoulas Peninsula that looks across the harbor at the Brest waterfront and the city on the rising slope behind it. The Crozon Peninsula lies further south and extends past the west end of the Ger-

man perimeter.

Middleton's first major move was to clear his flanks. He formed Task Force B, consisting of the 2nd Infantry Division's 38th Infantry, with attachments, to attack down the Daoulas Peninsula. The move deprived the Germans of the ability to fire into the flank of troops moving against the defenses on the west side of the Elorn or counterattack from the peninsula.

The center of the German defenses in the peninsula—and the best observation site—was Hill 154. It was strongly fortified with concrete pillboxes, trenches, barbed wire, and minefields. The defenders were armed with 25 machine guns, anti-tank guns and some mortars.

On August 22, the 38th advanced down the peninsula for several miles until they were stopped by fire from the hill and artillery from across the Elorn. On the 23rd they launched a battalion-sized assault with artillery and tank destroyers firing in support. The Americans kept heavy fire on the hill to keep the Germans pinned down while they enveloped the position.

A German prisoner later remarked that the battalion had used cover and concealment very well, but only part of the hill was captured on the 22nd. That night the Germans tried unsuccessfully to infiltrate men into the space between the two forward companies.

The crisis in the fight came the next day—the Yanks were pinned down by fire from a pillbox. Staff Sgt. Alvin P. Carey was on the flank of the American force leading a heavy machine-gun section and had armed himself with grenades before crawling forward. He killed a German and continued toward the pillbox.

Although wounded, Carey crawled to within grenade-throwing range. After several tries he succeeded in throwing a grenade through an aperture, putting the pillbox out of action. He died before his comrades could reach him but his sacrifice allowed the Americans to move forward and complete the capture of the hill. He was awarded the Medal of Honor, posthumously.

The Americans marveled at the view from the captured hill. They moved the battalion's 57mm anti-tank guns onto it and used them to provide direct fire in support of the advancing companies.

As they moved down the peninsula, the Germans blew the bridge over the Elorn which had allowed them to shift troops rapidly from one side of the river to the other. By the end of the month, Task Force B had cleared the peninsula and taken 2,700 prisoners.

Middleton was now in position to seriously impede movement in downtown Brest. He moved a corps artillery group to the peninsula and put his own observers on Hill 154 to direct fire into the German rear. To provide security and to place direct fire into those streets, he formed a provisional battalion of 57 machine guns, 12 tank destroyers, and eight 40mm Bofors guns.

On the other flank, Middleton directed Gerhardt to capture German positions west of the city. He formed several small task forces as the main body of the 29th began the attack on Brest. At first, they were two Ranger battalions—the 2nd and 5th—that were attached to the 29th. Platoon and company-sized units captured a number of German positions, usually from much larger garrisons. As the battle unfolded and it became clear that the Germans were much stronger than originally thought, the task forces were reinforced, consolidated, and designated Task Force S.

TF S was initially commanded by the division chief of staff, who was replaced by the assistant commander of the 29th Division, Colonel Leroy "Swede" Watson.

TF S's ultimate objective was the Le Conquet Peninsula at the tip of Brittany, site of Battery Graf Spee with four 280mm guns. Three of the guns could be rotated to fire on the troops attacking Brest and did considerable damage. Gerhardt was always a difficult man to deal with, and having 11-inch shells falling around his headquarters made him decidedly irascible, especially when it was discovered that the Germans learned its location from a captured field order.

Gerhardt's response was to give a battery of 155mm guns the task of silencing the German guns. The 155s were allotted plenty of ammunition and their fire slowed the German cannonade.

An attempt to move into the Le Conquet Peninsula to capture Battery Graf Spee showed that there were just too few Rangers for the job; Gerhardt finally allocated TF S an infantry battalion. On September 6 the combined force, now with plenty of support, moved out. By the 9th, they had broken into the peninsula and the Rangers were left to capture the last few German positions, including the Battery Graf Spee.

ABOVE: GIs from Company I, 23rd Infantry, 2nd Infantry Division advance near enemy pillboxes blown up by the Germans to prevent their use by the Americans. OPPOSITE: Having reached Brest, an M18 tank destroyer rolls past a damaged building. Difficult urban fighting took place throughout the city.

The Rangers wanted those positions to surrender and the best way to do that was to locate the German commander and get him to give the surrender order. A four-man patrol under 1st Lt. Robert Edlin approached a German position that turned out to be a pillbox guarding an observation post/fire-control center. It was unguarded and the Germans there were eager to give up. One of them volunteered to take Edlin to the peninsula's overall commander, a Lt. Col. Fürst.

Taking one of his men with him, Edlin followed the prisoner to battery headquarters and burst into Fürst's office demanding that he surrender. Even with guns pointed at him, Fürst tried to bluster by pointing out that there were only two Americans in a building full of 800 Germans. Edlin pulled the pin from a grenade and held it to Fürst's chest. The look in Edlin's eyes must have been so convincing that he surrendered and that part of the battle for Brest was over.

Meanwhile, by August 25, all was in readiness for the main attack on Brest. All three divisions were in contact with the German outpost line. What seemed a reasonable supply of artillery ammunition was on hand, although not as much as Middleton wanted, and the artillery soon would be supplemented with tank destroyers, air attacks, and fire from naval vessels.

The preparatory fires made little impact and, though well coordinated, the ground attack went nowhere. After more bombing, the attack resumed on the 26th and there was still little progress; it became clear that the garrison was larger than originally thought. Eventually the Yanks realized that there were 75 major German strongpoints and that this would be a tough fight.

Instead of a coordinated move by the three divisions at the direction of the corps headquarters, the divisions and each of their regiments needed to carefully probe and study the German dispositions to find weak spots, then make detailed plans and carefully execute local attacks that overcame German positions one by one. This phase of the battle lasted until September 7 and resulted in piecemeal gains that gradually improved the American position.

The main targets of the divisional attacks were the hills in the outer ring of fortifications that were such good observation points. The first of them to fall was Hill 105 southwest of Guipavas in the 2nd Division sector. Later attacks put the 2nd within reach of Hill 92, the other critical terrain feature in its sector.

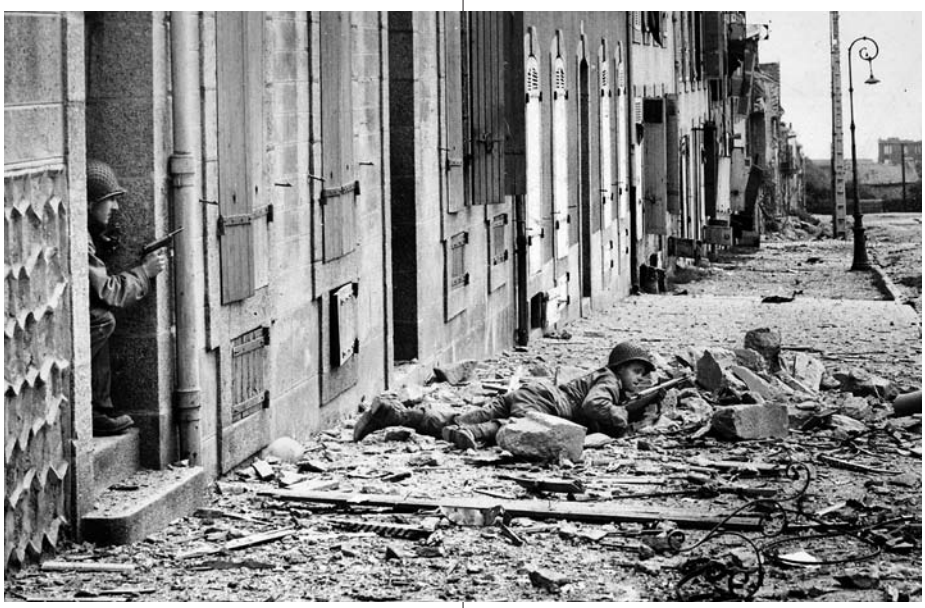
When the Germans retired from Hill 105, it gave Stroh's 8th Infantry Division the opportunity to capture another fortified hill in their sector: Hill 103. It proved to be a tough nut to crack—the Germans had covered it with entrenchments and bunkers. At one point Gerhardt reported, "We are on it, but so are the Jerries."

The slow progress frustrated Middleton. The attacks would have moved faster had higher headquarters realized the size of the garrison, the number of strongpoints to be overcome, and the challenges facing the attackers.

Dismayed by the lack of progress in the center of his 29th Division sector, Gerhardt elected to shift troops from that area toward the sea. Given the amount and accuracy of the German artillery, the move needed to be made at night although the area had not been reconnoitered. Gerhardt had a lot of respect for his men's ability. The troops would move west, pivot south, then east. The move succeeded in repositioning his troops, but their attack bogged down in a complex of hedgerows as tall as any in Normandy.

The battle was also slowed by shortages of artillery ammunition. General Eisen-

hower intervened to raise Middleton's ammunition and air-support priority. The Services of Supply took advantage of Brest being a coastal city to load ammunition trucks into LSTs and land them on the beaches of Brittany. Ike requested the Ninth Air Force to support the operation with all the aircraft it could effectively use. He also had VIII Corps transferred to Simpson's Ninth Army which, at that time, had no other combat functions, so its headquarters could work to alleviate supply bottlenecks. By September 7 there was enough ammunition on hand and the local attacks had improved the Allied position sufficiently for the general attack to resume without having to restrict the artillery fires.



GIs take cover as they look for a German sniper on a street in Brest. To avoid snipers, the Yanks moved from one adjoining house to another in search of the enemy by blowing holes in the walls of the buildings.

On September 8 the general attack resumed with considerably more success. The 2nd Infantry Division took the strongly fortified positions on Hill 92, which opened the way for the 8th Division to move several hundred yards forward toward Hill 82. The 29th finally cleared Hill 103 and took an important strongpoint near Kergonant.

There is no record of how many casualties were inflicted on the Germans during this phase of the fight, but the Americans captured a thousand men for 250 casualties of their own.

The 29th's capture of Hill 103 did not end the fighting on the hill. The Germans made strenuous efforts to recapture it but the Americans made good use of the German trenches. What broke the back of the German attack was a battalion of 4.2-inch mortars that had been put in direct support of the men on Hill 103. It plastered the attackers with high volumes of highly accurate fire.

Another source of fire support that was extremely valuable was bombing by sections of four—and sometimes eight—P-47s that were usually overhead during daylight hours. When a German strongpoint was located, the commander on the ground could request air support, and it was usually there within 45 minutes. After the target for the airmen was identified, the pilots could usually put their 500- or 1,000-pound bombs on the target.

Once the commanding hills were captured, the battle took a better turn. The troops now had direct observation of all the German-controlled area. The German perimeter had shrunk, allowing the Americans to concentrate their combat power. Perhaps as important, it was now clear that the Germans were losing and their morale began to crack.

While this was going on, eight LSTs and two trains carrying ammunition arrived which removed any ammunition constraints. The next day the 2nd and 8th Divisions entered the old walled city and 2,500 prisoners were taken.

The successes on the 9th gave rise to hopes that the battle was nearly over but, instead, it was moving into its most ugly stage—house-to-house fighting. Fire from well-concealed positions made using the city's streets suicidal for the infantry and armor alike. Instead, in a preview to what the 1st Infantry Division would experience in "bloody Aachen," the 2nd conducted what General Robertson called "a corporal's war." The troops would blow a hole on the wall on the top floor of a German-occupied house, enter the building, and work downwards behind a shower of grenades and satchel charges. This would continue through the next house to the end of the block.

On many street corners the Germans had built reinforced-concrete dugouts with street-level openings for heavy machine guns. The standard tactic was to detour around behind them, eliminating any resistance encountered in the process until the attackers were close enough for a flamethrower to make the position indefensible. It was a brutal, exhausting fight.

The 2nd had a large area to clear, so the 8th reached the old city wall first. The three divisions were converging on Brest and the field was getting crowded. The Germans still held the Crozon Peninsula so the 8th was pinched out and its sector was divided between the other two divisions along the line of the Penfield River. The 8th relieved a cavalry squadron screening the base of the peninsula and began moving down it.

As the 2nd moved through the streets of town, the 29th was facing a different fight. Their area of operations was less built up but it contained several old French forts, including forts Keranroux and Montbarey.

Keranroux was the target of a battalion of the 175th Infantry Regiment that fought for three days to clear the outer works and approach the fort. The defense began to

ABOVE: Maj. Gen. Hermann-Bernhard Ramcke, commander of the 2nd Parachute Division and commandant of Brest, is shown with his Irish Setter after being captured at Pointe des Capucins on the Crozon Peninsula, September 19, 1944. LEFT: An American gun crew uses direct fire against Germans holed up in Brest.

unravel on the 13th when Staff Sgt.Sherwood Hallman leaped over a hedgerow and wiped out a machine-gun position with grenades and his rifle. After he killed the crew, 12 other Germans nearby surrendered and another 75 followed their example. Hallman received the Medal of Honor.

This opened the way for the whole battalion to move 2,000 yards behind a smoke screen to the fort while it was being bombarded by artillery and aircraft. By the time the 100-man garrison surrendered, the main part of the fort was unrecognizable.

Fort Montbarey was also a difficult objective. Its earth-filled masonry wall was 25 feet thick and was surrounded by a 50-foot-wide dry moat. There were about 150 men garrisoning the fort proper and more manning outlying positions who covered a minefield containing 300-pound shells for naval guns equipped with pressure igniters.

Just getting to the fort seemed impossible, but the corps engineer had secured the aid of a British squadron of 15 flame-throwing "crocodile" tanks. The plan was for the tanks to scorch the firing positions on the fort's outer wall while artillery encouraged the defenders to keep their heads down. Under the cover of a smoke screen, engineers then cleared a path for the attackers through the minefield. After three tanks were put out of action, the bombardment was resumed.

The engineers worked through the night to improve the path through the mines while the crocodiles moved up close to the fort and the artillery hit it hard again. More smoke was placed on the fort and the crocs moved forward, flaming the firing apertures. The flames kept the Germans back while the engineers placed 2,500 pounds of explosives at the base of the wall.

While this was taking place, tank destroyers and the regimental cannon company were brought to within 200 yards of the fort and began firing at its gate. The result was a breached gate and wall. The stunned garrison, including General Rauch, surrendered.

This opened the way into Recouvrance and before the day was done patrols were over its wall. Resistance collapsed. The same day, the 2nd found an unguarded railroad tunnel through the Brest city wall and swept down to the waterfront. The Rangers then captured the remaining forts and the fight for the city was over.

The American casualties were about 6,500; 38,000 Germans were captured. This was the most grueling battle the U.S. Army had yet fought in the European Theater; it would hardly be the last. But in all of them the Army displayed tenacity and an ability to improvise and adapt that helped keep their casualties well below what they could have been.

More important was the impressive support they received from non-divisional units that supplemented the artillery and anti-tank weapons organic to the divisions. Without the tank, tank destroyer, artillery, and air support, much more of the weight of the fighting would have fallen on the infantry and the casualties would have been much heavier. One has only to look at the ruinous German casualties at Stalingrad to see the impact of receiving only the much more modest support available to German infantry.

Dr. Weintraub's conclusion that American divisions were too lightly armed for grueling battles probably would have been correct had it not been for the impressive kinds and amounts of support they received from these non-divisional supporting units. Still, it was clear that fire support could not win the battle without the valor of men like Sergeants Smith, Carey, and Hallman and Lieutenant Edlin—and the daring and impressive technical skills displayed by the men clearing the minefields and manning the crocodiles at Fort Montbary. □

The world's largest warship met an inglorious end trying to stop the American invasion on Japan's doorstep.

BY NATHAN N. PREFER

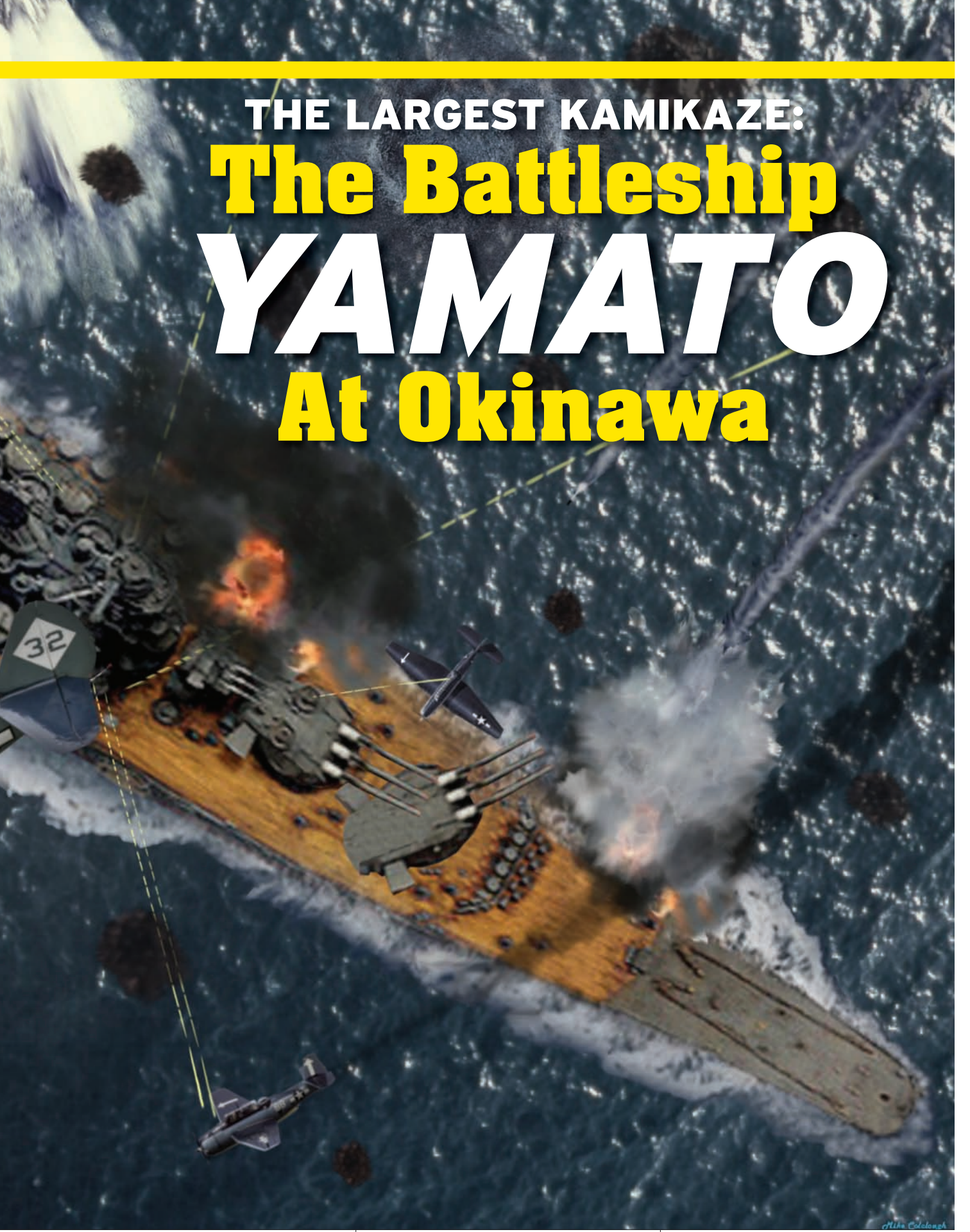
IT was the largest warship ever built up to that time. It carried larger guns than any warship before it. This pride of the Imperial Japanese Navy (IJN) was named after Japan itself, IJN *Yamato*, the historic name for Japan. Yet in its brief career, it accomplished nothing of importance and was sacrificed in the final destruction of Imperial Japan and its kamikaze ("Divine Wind") hysteria.

The roots of the IJN *Yamato* and its sister super-battleship IJN *Musashi* can be traced back to the introduction by the British Royal Navy of the HMS *Dreadnought* in 1905. The British battleship made all others obsolete and started many navies, including the Imperial Japanese Navy, on a search for a bigger and better battleship. They first appeared in 1909 and were followed by several more in the following years. By 1916 the latest IJN battleship, the IJN *Nagato*, was armed with 10 16-inch guns, the largest afloat at the time.

By the twenties, Japan was trying to build a fleet to equal, if not in numbers, then in power, that of the United States. Treaty obligations kept the number of its capital ships limited to 70 per cent of those of the United States. The Japanese concentrated on quality rather than quantity, and built their ships designed for combat against a superior force. When, in December 1934, Japan decided to renounce the Washington Naval Treaty that had limited its fleet, it immediately moved to increase the numbers of its fleet.

Part of the new naval policy of Japan

An artist's impression of American warplanes attacking the Japanese super battleship *Yamato*, April 7, 1945. Although the 72,000-ton, 863-foot-long ship had barely seen action, she was ordered to beach herself at Okinawa and use her firepower to disrupt the American amphibious landings; she never got the chance.



THE LARGEST KAMIKAZE:

The Battleship YAMATO

At Okinawa

was to build in secret four new super-battleships. These were to carry 18-inch main guns and enough armor to withstand hits by 18-inch enemy shells. The first two of these ships, the *Yamato* and *Musashi*, were approved in 1936 and the remaining two in September 1939.

Planning for the construction of these ships began in the fall of 1935. More than 20 designs for the ships were considered and discarded. The naval architects were charged with planning a ship that could carry nine 18.1-inch main guns, have enough armor to withstand 18-inch shellfire from an enemy, and have enough underwater armor to prevent damage from a torpedo carrying a 660-pound warhead, while having a top speed of 27 knots and the ability to cruise 8,000 miles at an average speed of 18 knots. The designers finally decided that to meet all these requirements the ship would have a displacement of 69,000 tons.

Indeed, so large were these ships that the dockyard and channel at Kure, Japan, where the *Yamato* was built, had to be deepened before construction could begin. Similarly, before *Musashi* could begin at the Mitsubishi docks in Nagasaki, the facility had to be extended over 50 feet into the hillside. Security was tight and effective. United States Naval intelligence acquired no information regarding the two ships, and complete information eluded them until after the war.

In 1939, even as the *Yamato* and *Musashi* took shape, the third ship of the class, tentatively named the *Shinano*, was begun. But the Pacific war had already pointed out that the primary naval weapon of that war was no longer the battleship, but the aircraft carrier. Accordingly, the *Shinano* was converted mid-construction to an aircraft carrier. The fourth planned ship was neither named nor completed when it was scrapped in November 1941.

As expected, these ships were huge. They had a beam of 127.7 feet and a length of 863 feet. Fully loaded, the battleships drew 34.5 feet of water—so deep that several Japanese naval bases had to have their harbors dredged to allow the ships to dock there. Armor protection was concentrated over the engines, magazines and essential machinery. In total, the ships' armor weighed over 22,000 tons.

Propelled by four geared turbines powered by 12 steam boilers, the ships boasted 150,000 horsepower. This provided the required 27.5 knots speed as planned. The latest damage-control features were built into the ships, as well. They could withstand a list of up to 20 degrees without capsizing.

Events were to prove, however, that there were serious weaknesses in the design. The armor was concentrated over vital machinery and ammunition spaces, leaving the bow and stern sections unarmored and vulnerable. The internal pumping system was inadequate to compensate for major flooding in those two areas. There was also a weakness between the upper and lower side armor belts, which would, if hit, defeat the armor protection of the ship.

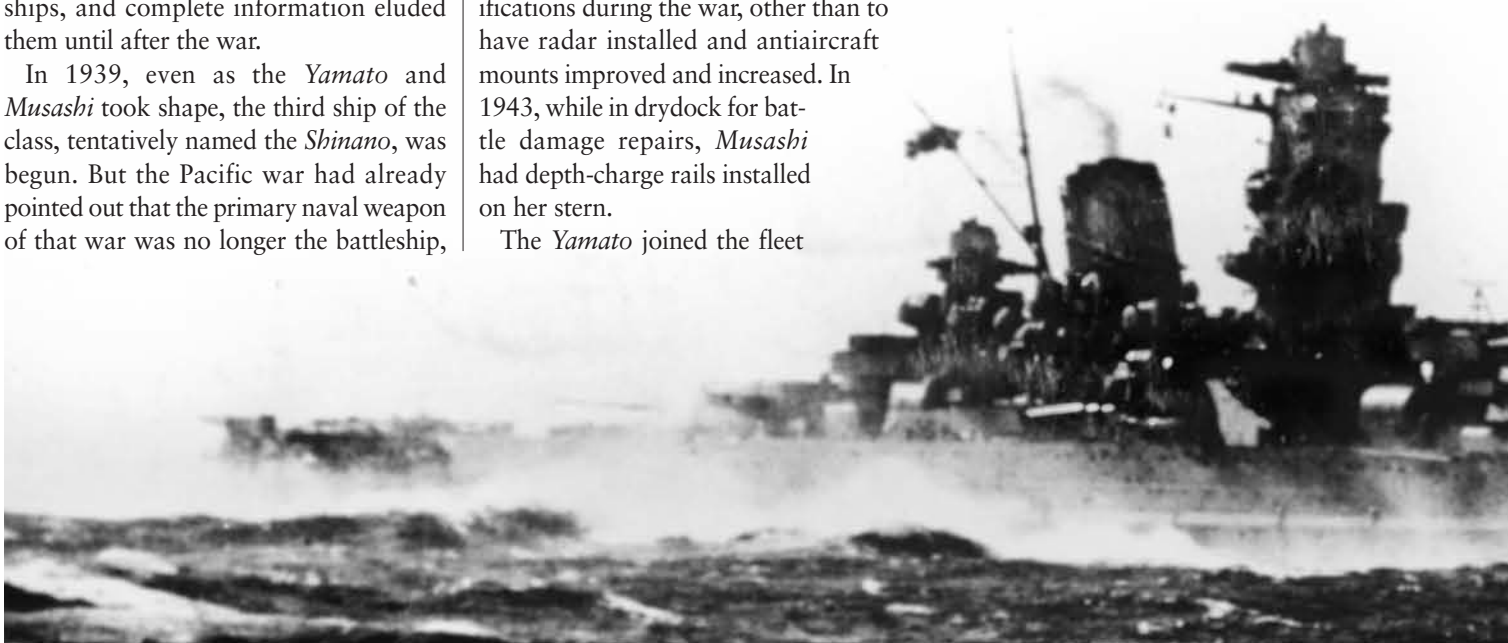
Finally, the torpedo protection was, for some reason, inferior to that of other navies' protection. Combined with the wartime American innovation of a more powerful explosive, Torpex, this made these ships unexpectedly vulnerable to torpedo attacks.

But *Yamato* and *Musashi* could also strike hard at any enemies they encountered. In addition to the unequaled 18.1-inch main guns, there were a dozen 6.1-inch guns for antiaircraft protection. Another dozen 5-inch guns were also designed for antiaircraft use. Finally, there were two dozen 25mm antiaircraft guns and machine guns for close-in antiaircraft protection. To scout out an enemy force, the ships carried from four to seven scout aircraft, which could be launched from either of the two catapults located on the quarterdeck.

But the main, and most feared, feature of the super battleships was their main guns. These monsters each weighed 162 tons and, with their base and rotating equipment, topped out at an unprecedented 2,774 tons each. The shells they fired each weighed 3,219 pounds and could be launched at the rate of one-and-a-half per minute.

These were the premier ships of the Imperial Japanese Navy. Neither had major modifications during the war, other than to have radar installed and antiaircraft mounts improved and increased. In 1943, while in drydock for battle damage repairs, *Musashi* had depth-charge rails installed on her stern.

The *Yamato* joined the fleet



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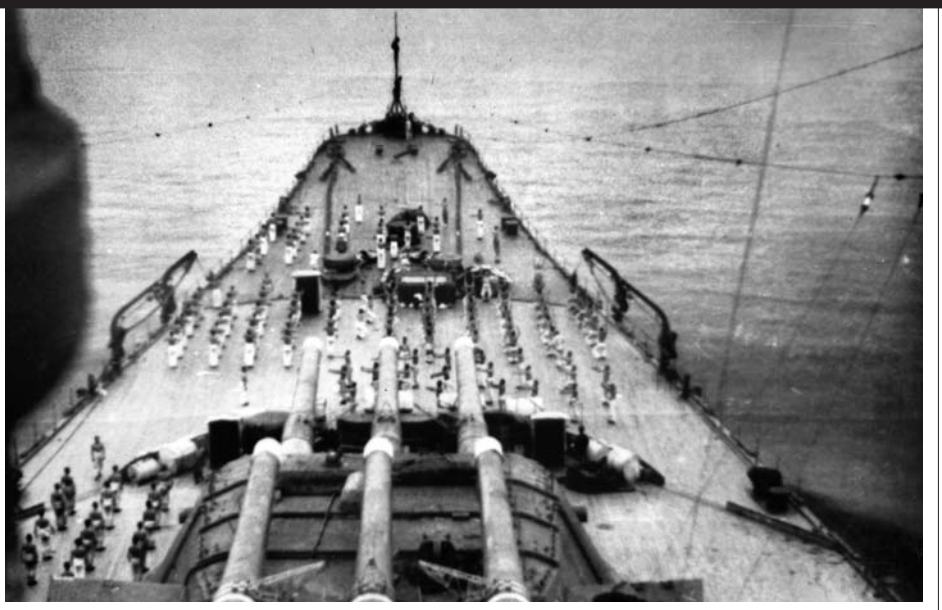


ABOVE: Sailors exercise on the bow section of the *Musashi*, twin sister of the *Yamato*, as seen from the forward superstructure during sea trials in June 1942. The uncluttered deck would be changed during the war to aoccommodate additional 25mm antiaircraft guns. BELOW: Having been built at the Kure shipyards from 1937-40 and launched in December 1941, the *Yamato* engages in sea trials, late 1941. For various reasons she never reached her full potential as the "scourge of the seas."

on February 12, 1942, and was immediately selected as the flagship of the Commander, Combined Fleet, Admiral Isoroku Yamamoto. She completed her trials on May 27, 1942, and sailed a few days later for the Midway operation. There it remained with the supporting fleet as the flagship and saw no action.

In August 1942, the ship was stationed at Truk as a headquarters ship. This began a long period of inactivity which earned the ship the sobriquet of "Hotel *Yamato*" for its housing of senior officers.

After nearly a year at Truk, the Yamoto returned to Japan for a refit, then returned to Truk. There it undertook some transport missions, and it was while it was on one such mission that she was attacked by the USS *Skate* (Lt. Comdr. E. B. Mckinney). The American submarine fired four torpedoes, one or two of which hit the *Yamato* on the starboard side near the Number Three turret.

These hits revealed the weakness between the upper and lower armor belt on the *Yamato*, causing a failure that allowed 3,000 tons of water to enter the ship and flood the Number Three turret's ammunition magazines. Damaged but not badly hurt, the battleship returned to Truk for emergency repairs before going on to Japan for final repairs in January 1944.

Left behind at Truk was the sister ship, *Musashi*. She had been commissioned on August 5, 1942, and left Japan January 18, 1943, arriving at Truk four days later, where it assumed the duties of flagship from *Yamato*. When the commander of the Combined Fleet, Admiral Yamamato, was ambushed and killed by American aircraft, *Musashi* was chosen as the ship to return his ashes to Japan, where the Japanese Emperor paid a personal visit to the ship.

Musashi then returned to Truk, where she remained until October 1943, when she sailed as part of a task force to defend against a suspected American attempt to retake Wake Island in the Central Pacific; *Musashi* then returned to Japan in February 1944.

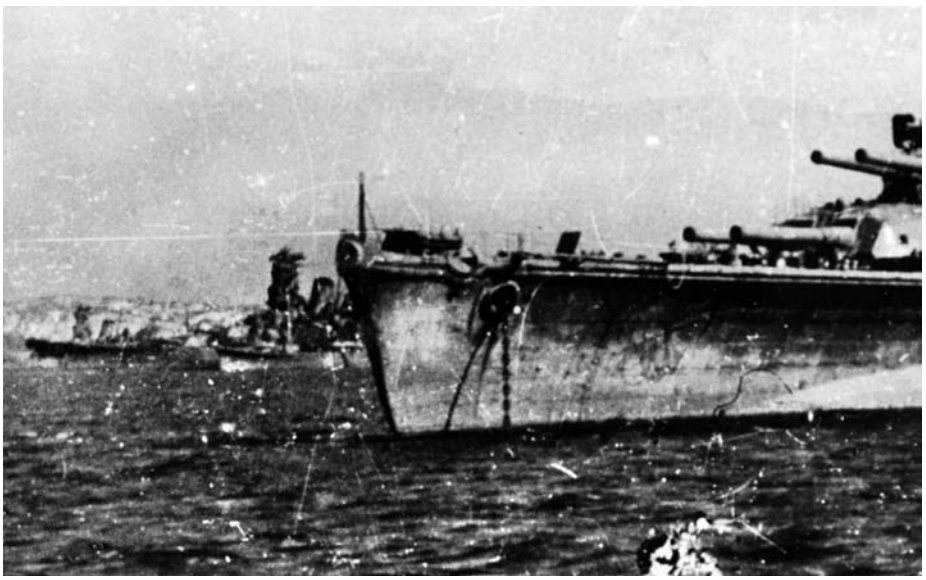
After a brief stay, she transported two infantry battalions to Palau Island and remained there for the next month. Leaving to avoid an incoming air raid, *Musashi* was struck by one of six torpedoes fired by the USS *Tunny* (Lt. Comdr. J. A. Scott). The American submarine's torpedo hit the battleship near the bow, causing a 19-foot hole and flooding the ship with 3,000 tons of water. *Musashi* was forced to head to Kure in April 1944 for repairs and then joined her sister ship at Lingga Roads harbor, near Singapore.

By this point in the war, the American advance up the coast of New Guinea was worrying the Japanese High Command, and the recent American invasion of Biak Island, off the New Guinea coast, was only the latest threat to Japanese bases there. In this latest invasion, the Japanese command believed that the decisive battle for which they sought so long was near.

Although the Imperial Japanese Army had decided to leave the Biak Island garrison to its fate, the Imperial Japanese Navy saw decisive battle opportunities and so ordered the implementation of Operation

Both: Naval History and Heritage Command

ABOVE: The Japanese emperor, Hirohito (front row, center), photographed with officers of the Imperial Navy aboard the battleship *Musashi* off Yokosuki Naval Base on June 24, 1943. The ship had returned to Japan carrying the ashes of Admiral Isoroku Yamamoto, who had been shot down by American P-38s on April 18, 1943. BELOW: IJN battleships photographed at anchor in Brunei, Borneo, October 1944, shortly before the Battle of Leyte Gulf. Left to right: *Musashi*, *Yamato*, a cruiser, and the *Nagato*. OPPOSITE: Warplanes from Task Force 38 swarm around *Musashi* (foreground) and a destroyer in the Sibuyan Sea, October 24, 1944. The IJN's back was broken during the Battle of Leyte Gulf, never to recover.



Kon. The new Commander-in-Chief of the Combined Fleet, Admiral Soemu Toyoda, decided to take the opportunity to strike at what he believed was a major portion of the American fleet.

Operation Kon included the transportation of 2,500 troops of the 2nd Amphibious Brigade from Mindanao to Biak in warships. Rear Adm. Naomasa Sakonju, aboard the cruiser *Aoba,* was in command with another light cruiser and three destroyers carrying the troops. The older battleship *Fuso*, two heavy cruisers, and five more destroyers were the covering force for the landing. Naval aircraft would also cover the landings.

But Admiral Sakonju's force was soon sighted by American submarines and aircraft. Hoping for surprise, the Japanese force also received reports—incorrect, as it turns out—of an American aircraft carrier in the vicinity. Admiral Toyoda suspended the entire operation.

But Japanese reconnaissance soon reported that there was no aircraft carrier supporting the Biak landings, and that there were only a few American and Australian cruisers as heavy support for those landings. Admiral Toyoda ordered a renewed Operation Kon. This time, six destroyers would carry troops and pull barges loaded with troops protected by two cruisers. But once again, after American aircraft sank one destroyer, reports of a large American task force in the area caused Admiral Sakonju to retire.

These failed attempts to reach Biak Island convinced Admiral Jisaburo Ozawa, commanding the Japanese Mobile Fleet, to launch a determined effort to relieve Biak Island. With Admiral Toyoda's permission, he launched Operation *A-Go*. This time, major Japanese fleet units would participate. They included the *Yamato* and *Musashi*, as well as three cruisers, three destroyers, and a transport unit with two additional cruisers and four destroyers.

The force assembled at Batjan on June 11, 1944, and prepared to sail for Biak on June 15. The plan was to land the reinforcements and bombard the American beachhead. But just as plans were being made, news arrived of American carrier-based air strikes against Guam, Saipan, and Tinian in the Mariana Islands. Clearly, the main American fleet was in the Mariana Islands, not off the coast of New Guinea. Operation Kon was suspended, and Operation A-Go was directed to the Philippine Sea, near the Marianas.

The two super battleships and their escorts were ordered to rendezvous with the rest of the Combined Fleet in the Philippine Sea. The result was the Battle of the Philippine Sea (June 19-21, 1944), in which the opposing surface ships never engaged one another. The entire battle was fought by the aircraft of either side. It was a lopsided victory; the Japanese lost 346 aircraft and two carriers, while the Americans lost 30 aircraft and had one battleship damaged.

With the Japanese defeated, the Americans pursued, destroying two oilers and another

aircraft carrier, while damaging a second. In all these battles, neither the *Yamato* nor the *Musashi* were damaged. They returned to Lingga Roads in July 1944.

It was the American invasion of Leyte Island in the Philippines that finally provided the decisive battle that the Imperial Japanese Navy had sought for so long. Responding to that landing, the Japanese Navy sent against the Americans several task forces that were intended to gain entrance to Leyte Gulf and destroy the American landing ships and equipment there.

Both the *Yamato* and *Musashi* were a part of "Force A," or Center Force, under Admiral Takeo Kurita, whose mission was to transit the San Bernardino Strait, join with "Force C", or Southern Force, and catch the American amphibian armada in a pincer between them.

As did all the Japanese task forces, Admiral Kurita's Center Force suffered even before they arrived near San Bernardino Strait. American submarines spotted their approach and reported it to fleet headquarters. They also attacked the force, sinking Kurita's flagship and knocking out the cruiser *Takao*.

But Center Force pushed on, led by the *Yamato*. Shortly after sunrise on October 25, 1944, they found themselves off the Philippine Island of Samar amid the American amphibious support ships. The first to see them were aviators above the support ships, and soon Rear Adm. Clifton A. F. Sprague was calling loudly for help. His small, light aircraft carriers, destroyers, and destroyer escorts were no match for Kurita's super battleships, cruisers, and destroyers.

Admiral Sprague's cries for help brought down a hurricane of American planes from his own carriers and those of two other supporting task forces. The Japanese found themselves with beautiful targets but discovered that they themselves had become targets, as well. Kurita soon believed that he had run into the main American fleet, not just a small support group.

"Ziggy" Sprague did nothing to dissuade him. Hiding in passing rain squalls whenever he could, and sending his small escorts to fight super battleships, he managed to save much of his force until suddenly he heard cries of the Japanese retreating. Admiral Kurita overestimated the enemy force, didn't realize (because of poor communications) that he was very close to accomplishing his mission, and was losing his ships at a rate he could not afford.

One of the main reasons for Admiral Kurita's decision to withdraw was, no doubt, the fate of the *Musashi*. American aviators concentrated on her from the moment the Japanese appeared. She was hit by a bomb on Number One turret, which failed to explode. But a torpedo hit amidships, flooded the ship, and caused a five-degree list. Three more bombs and three torpedo hits on the port side caused another list, which was corrected by counterflooding.

But now the battleship was down six feet at the bow and taking additional bomb and torpedo hits. Soon the bow was down 13 feet and counterflooding would be counterproductive.

Moments later, the *Musashi* was slowing and had been left behind by the rest of the task force. More bombs and torpedoes hit home. A final attack hit her with at least 10 bombs and seven torpedoes. The ship's list increased to 10 degrees to port, and the captain decided to run the ship aground to prevent her from sinking. But before he could, the ship's engines stopped. Without power, the ship capsized and sank. Of her crew of 2,399, 1,376 survivors were rescued. American records indicate that she was hit by at least 19 torpedoes and 17 bombs, plus 18 near misses.

Meanwhile her sister ship, *Yamato*, suf-

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fered little. She fired her huge main guns for the first time in the war at the American carriers, but constant aerial torpedo attacks forced her to take evasive action, preventing continued firing. She took three bomb hits, of which only two struck near Turret Number One. The damage sent 3,000 tons of water rushing into the ship and created a five-degree list that was reduced by counterflooding. She kept up with the task force in its retreat, suffering additional bomb hits but no serious damage.

By November 23, 1944, IJN *Yamato* was back at Kure, undergoing repairs. She suffered a bomb hit from an American carrier raid on Japan while in port on March 19, 1945. Shortly after came word of the American invasion of Okinawa. The *Yamato* was about to make her last sortie.

It began between the Battle of the Philippine Sea and the invasion of Leyte in October 1944. With their air power in rapid decline and their navy nearly powerless to confront the oncoming Americans, the Japanese turned to desperation tactics. Although there had been individual suicide attacks by Japanese military men beginning with Pearl Harbor, these had been situations in which the soldier, sailor or airman had been badly wounded, or his plane too damaged to reach his base, and he had crashed into an enemy ship, base or other plane to take more of his enemies with him in his inevitable death.

But by October 1944, this tactic became official policy of the Imperial Japanese Army and Navy, known as the "Divine Wind," or *kamikaze*. Begun on a mass scale in the Philippines, it had severely damaged American vessels and created a greater threat than any previous tactic.

When the Tenth U. S. Army (Lt. Gen. Simon Bolivar Buckner) invaded Okinawa, it was clear that the next step would be the invasion of Japan itself. An all-out kamikaze strike began in early April and continued during the battle.

Anxious to participate, the Japanese surface fleet sought to make its own contribution to the great kamikaze effort. Of its three battleships remaining afloat, only the *Yamato* (Rear Admiral Kosaku Ariga) was in Japan and had enough fuel to reach Okinawa. Under the command of Vice Adm. Seiichi Ito, the Second Fleet, with the *Yamato*, light cruiser *Yahagi* (Captain Tameichi Hara) and eight destroyers, sailed from Ube, refueled at Tokuyama, and then sailed for Okinawa on April 6, 1945.

Unknown to the Japanese, the American submarine USS *Threadfin* had spotted their departure off the Bungo Suido entrance to the Inland Sea of Japan that same afternoon and reported their course and speed, identifying them as "two large and about six smaller ships."

The plan, known as Operation *Ten-Go*, required the Second Fleet to sail to Okinawa, beach itself at the Hagushi roadstead on Okinawa in front of the advancing Americans, fire their guns until all ammunition was exhausted, and then join the ground fighting.

Led by the *Yahagi* and surrounded by the destroyers, the *Yamato* headed south to Okinawa; they were expected to arrive on April 9. That their mission was suicidal was made clear by the fact that they had only enough fuel to reach Okinawa, and none to return to Japan. The ships also had no air cover for this mission.

Once again, the task force had been sighted by American submarines, this time the USS *Hackleback*, and their course and speed confirmed to the senior American naval officer at Okinawa, Admiral Raymond A. Spruance. The Americans had expected something of this sort, and Vice Admiral Marc A. Mitscher's Fast Carrier Support Group (Task Force 58) was waiting for just such a move by the Japanese.

After receiving the two submarine contact reports, he ordered his four carrier task groups to move into launching positions northeast of Okinawa. One of the groups, Rear Adm. Ralph Eugene Davison's Task Group Two (TG 58.2), was unavailable because it was refueling. Task Group 58.1 (Rear Adm. Joseph James ("Jocko") Clark) and Task Group 58.3 (Rear Adm. Frederic Carl Sherman) launched search planes at daybreak on April 7. Search planes from the USS *Essex* (Capt. C. W. Wieber) quickly found the *Yamato* group southwest of Koshiki Retto. The *Yamato* was in the center of a circular group heading for Okinawa.

Admiral Spruance wanted to finish this last organized task group of the Imperial Japanese Navy. He ordered his Okinawa bombardment force under Rear Adm. Morton Lyndholm Deyo to go after the approaching Japanese ships. Admiral Deyo immediately formed a battle plan for his six battleships, seven cruisers, and 21 destroyers, keeping his ships between the Japanese and Okinawa. Although outgunned and outranged by the *Yamato*'s 18-inch guns, the Americans were more than willing to battle this threat to the Okinawa beachhead. But they would never get the chance.

Admiral Mitscher did not intend to stand by and watch another task group face the enemy force alone. As anxious as Admiral Spruance to finish off the Imperial Japanese Navy, he soon got his chance. Two amphibious patrol planes, flown by Lieutenant James R. Young and Lieutenant (j.g.) R. L Simms, left Kerama Retto and contacted the Japanese force. For over five hours they shadowed the Japanese, reporting on their position, course and speed. They also sent homing signals to Mitscher's aircraft.

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ABOVE: The *Yamato* maneuvers hard to port to avoid incoming American aircraft. Although fire can be seen amidships from previous attacks, the mighty ship has not yet begun to list. OPPOSITE: American divebombers, probably from the carrier USS *Yorktown*, prepare to attack the already buring *Yamato* (lower left).

These reports gave Mitscher the opportunity he desired, and he launched his first strike aircraft shortly after 9:00 AM. Other strikes quickly followed. They arrived over the *Yamato* group shortly after noon on April 7. Ten minutes later, the first bombs struck the mainmast of the *Yamato*. Four minutes after that came the first torpedo hits.

For the second and last time, *Yamato*'s big guns opened fire on an enemy. But they had never been intended to strike at small, fast-moving targets, targets that were delivering tons of bombs and torpedoes at the Second Fleet. According to one survivor, the antiaircraft gunners were so inexperienced that they hit very few of the American planes attacking the battleship.

Five torpedoes slammed into *Yamato*'s port side, creating a flooding problem. Rear Adm. Ariga ordered counter-flooding of the starboard engine room and the boiler rooms. The flooding drowned the crews—several hundred men—in both locations. The *Yamato* now had only one working engine, and her speed diminished significantly.

Another wave of attackers arrived, and again torpedoes blew holes in her sides. Ten bombs were counted as hits on the deck above. The wireless room flooded, forcing the officers to communicate by flag and light signals.

One sailor recalled that the battleship was reduced "to a state of complete confusion...The desolate decks were reduced to shambles, with nothing but cracked and twisted steel plates remaining...big guns were inoperable because of the increasing list, and only a few machine guns were intact...One devastating blast in the emergency dispen-

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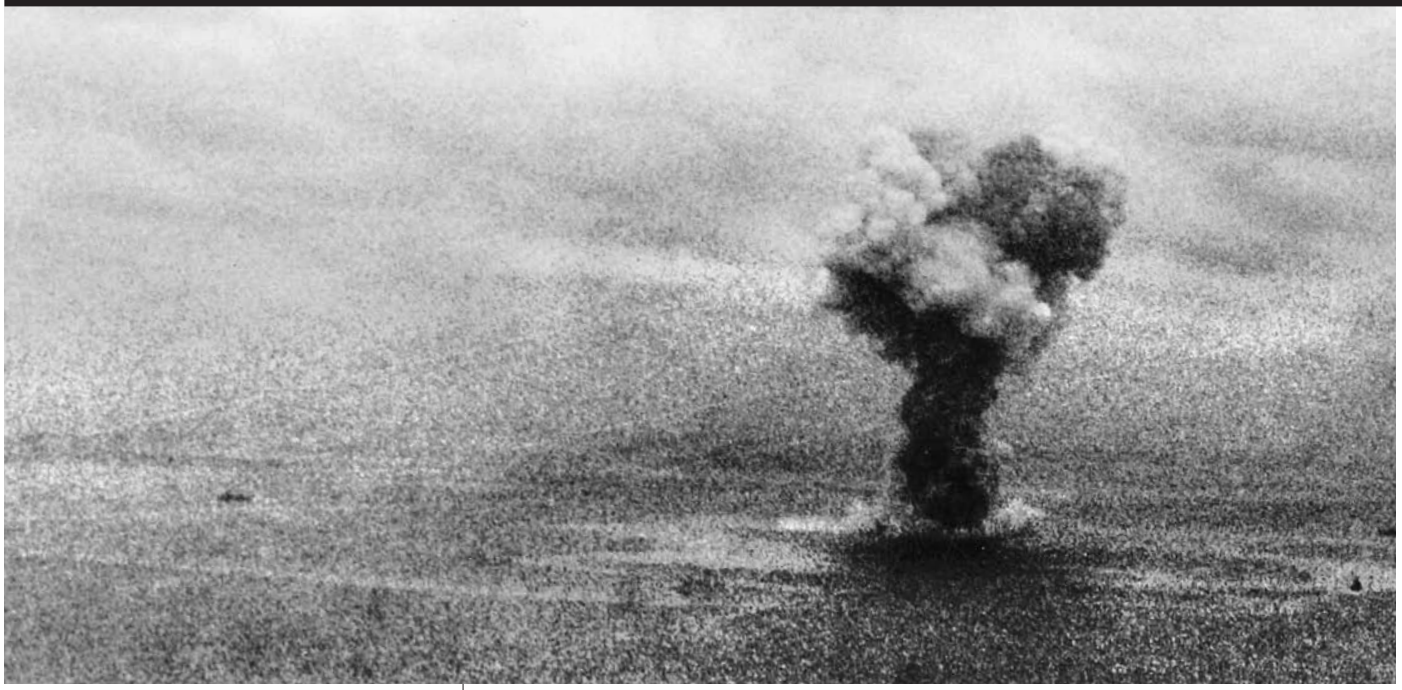

The *Yamato* explodes after receiving massive bomb and torpedo damage from U.S. Navy carrier planes north of Okinawa, April 7, 1945. Her captain and nearly 2,500 sailors went down with her.

sary had killed all its occupants, including the medical officers and corpsmen."

The final air assault came shortly after 2:00 PM that afternoon. The Americans now faced slowly moving targets with severely reduced firepower. During this last attack, a huge torpedo blast at the aft end of *Yamato* severed all communications from the bridge. The distress flag was hoisted.

With the steering room flooded and the rudder jammed hard left, the *Yamato* was now merely a target for its tormentors. The eyewitness remembered, "As though awaiting this moment the enemy came plunging through the clouds to deliver the coup de grâce...It was impossible to evade...I could hear the Captain vainly shouting, 'Hold on, men! Hold on men!'...I heard the Executive Officer report to the Captain in a heartbroken voice, 'Correction of list hopeless' ...Men were jumbled together in disorder on the deck, but a group of staff officers squirmed out of the pile and crawled over to the Commander-in-Chief for a final conference."

By 2:40 PM. the *Yamato* was listing so severely that her battle flag was nearly touching the waves. Shells of the huge 18-inch guns rolled around dangerously on her decks, her guns no longer able to fire. Several shells exploded on the deck, adding to the carnage created by the American attacks. As she slid beneath the waves, a final "blast, rumble, and shock of compartments bursting from air pressure and exploding magazines already submerged" hurried her on her way.

One American flier saw the whole thing, although not as he would have wished. Lieutenant (j.g.) W. E. Delaney, a pilot from the USS *Belleau Wood*, had flown his Avenger bomber so low while dropping his bombs on the *Yamato* that he had been caught in his own bomb blast and forced into the sea. Both his crewmen had parachuted but would drown once in the ocean waters.

Lieutenant Delaney managed to get into his rubber survival raft, where he observed the death throes of the super battleship. Spotted by the scout pilots Lieutenants Young and Simms, he was rescued by Lieutenant Young in his unwieldy flying boat while Lieutenant Simms acted as a decoy to distract the Japanese from the rescue. Later, these two scout pilots would rescue several survivors of the *Yamato*.

Meanwhile, destroyer after destroyer was blasted below the sea, and next came the *Yahagi*'s turn. After the destroyer *Hamakaze* went down from a bomb hit, the naval aviators went after the *Yahagi* with at least a dozen bomb and seven torpedo hits. Captain Hara later recalled, "A lookout shouted, 'Two planes on port bow!' I looked up to see not two, but 20, 40, and more planes spilling out of the thick clouds. It was 1232 hours when I ordered, 'Open fire.'"

Captain Hara was soon swimming with the rest of the survivors of his crew, watching the battle from a ringside seat. He watched as the first bombs struck the *Yamato* at 12:40 PM and the first torpedo a few minutes later. Ten more torpedoes followed, destroying the battleship's trim. The Americans had learned from the fate of the *Musashi* to concentrate their attacks on one side of the great ship. Between 11 and 13 torpedoes hit the port side. Abandon ship was ordered.

Rear Adm. Ariga tied himself to the ship's bridge binnacle to make sure he went down with the *Yamato*, and Rear Adm. Ito locked himself in his cabin. The ship rolled over to port and her aft magazines exploded, sending a plume of smoke visible in Kyushu, over 100 miles away. Only 269 officers and men survived the sinking of the world's largest kamikaze. The Japanese lost 3,665, including 2,498 aboard the *Yamato*. The Americans lost 10 planes and 12 lives. The largest kamikaze was no more. □

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In one of the most savage battles of the entire Pacific war, Japanese and Americans fought to the death on Saipan in June and July 1944.

BY COLONEL DICK CAMP (USMC, RET.)

Banzai!

IN the summer of 1944, the 5th Amphibious Corps under Marine Lt. Gen. Holland M. "Howlin Mad" Smith set its sights on the Japanese-held island of Saipan in the Mariana Islands, one of the "Islands of Mystery," as its next objective. `

Brig. Gen. Merritt A. Edson, Assistant Division Commander, 2nd Marine Division, remarked, "This one isn't going to be easy." Smith echoed his comment. "We are through with the flat atolls now. We learned how to pulverize atolls, but now we are up against mountains and caves where the Japs can dig in. A week from today there will be a lot of dead Marines."

The capture of the island, designated *Operation Tearaway*, would firmly establish U.S. forces within Japan's inner defense line. Smith stated that the United States needed air bases "to initiate very long-range air attacks on Japan."

Vice Adm. Chuichi Nagumo, commander of the Japanese Central Pacific Fleet Headquarters, concurred. "The Marianas are the first line of defense for the home island," he said. (Nagumo had led the Japanese attack on Pearl Harbor, December 7, 1941. He would commit suicide on Saipan, July 6, 1944.) `

General Smith's force, designated the Northern Attack Force (Task Force 52), would have two veteran Marine Divisions—the 2nd, (2nd MarDiv), commanded by Maj. Gen. Thomas E. Watson, and the 4th (4th MarDiv), commanded by Maj. Gen. Harry Schmidt—with the Army's 27th Infantry Division (27th ID), commanded by Maj. Gen. Ralph C. Smith, in reserve. Altogether, the 5th Amphibious Corps comprised 71,000 soldiers and Marines. `

Saipan was defended by the 1st Expeditionary Force, an estimated 25,000-to-30,000 Japanese, including 5,000 sailors of the 5th Special Base Force, 1st Yokosuka Special Naval Landing Force (mistakenly referred to as Japanese Marines), the 55th Naval Guard Force, and the 9th Tank Regiment, consisting of four companies equipped with 12 Type 95 Ha-Go light tanks and 35 Type 97 Kai Shinhoto Chi-Ha medium tanks. General Smith remarked, "It was the most heavily garrisoned island in the Marianas."

The defense of the island was based on the Japanese doctrine of "destroying the enemy at the beaches" during the buildup of forces, when the invasion force was most vulnerable and before they could gain a foothold ashore. A captured Japanese document read: "It is expected that the enemy will be destroyed on the beaches through a policy of tactical command based on aggressiveness, determination, and initiative." The battle order stated, "Seven Lives To Repay Our Country." The phrase meant that each Japanese soldier pledged to kill seven Americans before he died.

Lt. Gen. Yoshitsugu Saito commanded the Japanese forces. His two major organizations were the 43rd Division (reinforced), composed of three infantry regiments (118th, 135th [less 1st Battalion], and the 136th) and additional transportation, medical, ordnance and communication units; and the 47th Independent Mixed Brigade, commanded by Colonel Yoshiro Oka, comprising three independent infantry battalions (316th, 317th and 318th).

In May 1944, the Japanese changed their system of nomenclature. Infantry personnel were organized into "independent infantry battalions" and numbered consecutively. The battalions then became part of "independent mixed brigades," to which were attached one or more battalions of artillery and an engineering company or antiaircraft unit, or both. `These brigades were, in turn, assigned numbers.

The Japanese divided Saipan into four defense sectors: Northern sector (135th Infantry Regiment) included the northern third of the island; Navy sector (5th Special Base Force; Central sector (136th `Infantry Regiment); and Southern sector (47th Independent Mixed Brigade).

Additional units were located at Chacha-Tsutsuuran area (four infantry companies in reserve), Mt. Fina Susu (one battalion of field artillery), Chacha-Laulau area (9th Tank Regiment), and Aslito Airfield (antiaircraft artillery).

Preparatory bombardment for Saipan was limited to carrier and surface strikes by Vice Adm. Marc A. Mitscher's Task Force 58—55 ships (11 battleships, five cruisers, 15 destroyers, and 24 LCI gunboats (LCI (G)—beginning on D minus 4.

Their primary targets were coast defense

Two U.S. Marines of either the 2nd or 4th Marine Division throw hand grenades toward a Japanese position on Saipan, the largest island of the Northern Mariana Islands, June 1944. The battle turned out to be one of the Americans' toughest tests in the Pacific. When it was over, 35,000 Japanese were dead, along with 14,000 American dead and wounded. But the U.S. stood one island closer to Japan.

National Archives

Naval History and Heritage Command

guns, antiaircraft batteries, artillery weapons, and other enemy defenses and personnel. At dawn on D-Day (June 15, 1944), naval gunfire was directed at the landing beaches, known and suspected positions of enemy coast-defense guns, and antiaircraft and field-artillery batteries.

An NCO of the 43rd Division, Squad Leader Yamauchi Takeo, remarked, "I was eating a large rice ball when I heard a voice call out, 'The American battle fleet is here!' I looked up and saw the sea completely black with them. Then the naval bombardment began. The first salvo exploded along the beach and objects suddenly went 60 meters straight up! The area was pitted like the craters of the moon. We clung to the earth in our shallow trenches and were half buried. Soil filled my mouth and blinded me. The fumes and flying dirt almost choked you. The next moment I might get it."

Concentrated aerial bombardment had begun two days before the landing, although occasional bombing had occurred for several months. On D minus 2, planes from the fast carrier force made fighter sweeps on Aslito airfield to destroy enemy aircraft and to deliver counterbattery fire on Japanese artillery firing on U.S. minesweepers.

"Suddenly antiaircraft artillery began to blast away," Yamauchi described. "I looked up. Right in front of my eyes appeared huge numbers of American planes, and the air attack started."

On D minus 1, inland coast defense and antiaircraft guns were heavily bombed. Cane fields not already burned were to be incinerated. Other priority targets were inland defense installations and structures; the buildings around Aslito airfield; and the communications and transportation facilities on the west coast of Saipan, including small craft, radio stations, observation towers, railroad and road junctions, and vehicles. Six smoke planes were to provide protection for underwater demolition teams operating close offshore, if necessary.

A Japanese NCO noted in his captured diary, "I was awakened by the air raid alarm and immediately led all men into the trench. Scores of enemy Grumman fighters began strafing and bombing Aslito airfield. For about two hours, the enemy planes ran amuck and finally left leisurely amidst the inaccurate antiaircraft fire. All we could do was watch helplessly."

ABOVE: Five-inch guns of the cruiser USS *Wichita* soften up Japanese targets on Saipan, June 13, 1944. The guns' simultaneous discharge indicates they are firing under director control. BELOW: LVTs (Landing Vehicle, Tracked) known as "Buffalos" carry Marines through the surf on the way to a Saipan beachhead, June 15, 1944.

National Archives

On D-Day, air and naval gunfire were integrated into a carefully choreographed bombardment of the Japanese defenses. At 5:30 AM, the gunfire ships opened up, concentrating on the landing beaches and enemy positions that could interfere with the landing.

A Japanese soldier recounted the bombardment: "The din robbed us totally of all sense of hearing. It wasn't the same as a boom or a roar that splits the ear; it was more like being imprisoned inside a huge metal drum that was incessantly and insufferably beaten with a thousand iron hammers."

Another soldier remarked, "Extreme intensity of those flashes and boiling clouds of smoke…the area I was in was pitted like the craters of the moon. We just clung to the earth in our shallow trenches…half buried."

The author of *The Fourth Marine Division in World War II* noted, "The towns of Garapan and Charan-Kanoa lay in smoking ruins, and the big sugar mill north of Charan-Kanoa loomed like a giant blackened skeleton against the pink summer sky." `

Richard G. Peterson, a member of Company D, 2nd Amtrac Battalion, recalled, "Many of us watching the shells explode in the dark all over Saipan thought that nothing could survive that pounding, so we felt relief that our job going in would be easy. `But those Marines who had been on Tarawa (November 20-23, 1943) knew a whole lot better."

At 7 AM, the ships lifted their fire for 30 minutes to allow carrier planes to bomb and strafe. Just before the scheduled landing, 24 LCI gunboats, equipped with rockets and 20mm and 40mm guns, moved in to pepper the beaches in an effort to prevent the enemy from firing on the landing craft.

Lt. Gen. Smith noted in his final report of the operation, "Naval gunfire support was a decisive factor in the conduct of operations," while Rear Adm. Harry W. Hill, commander of the Western Landing Group wrote, "There can be little doubt that naval gunfire is the most feared and most effective of all weapons [with] which the Japanese are confronted in resisting a landing and assault. Without exception, POWs stated that naval gunfire…was the most deciding factor in accomplishing their defeat."

Several years later, General Smith changed his mind. "Three-and-a-half days of surface and air bombardment were not enough to neutralize an enemy of the strength we found on Saipan."

This would not be last time that Marines complained that the Navy's gunfire support was inadequate: Iwo Jima was allocated only three day of preliminary bombardment after the Marines requested 10 days.

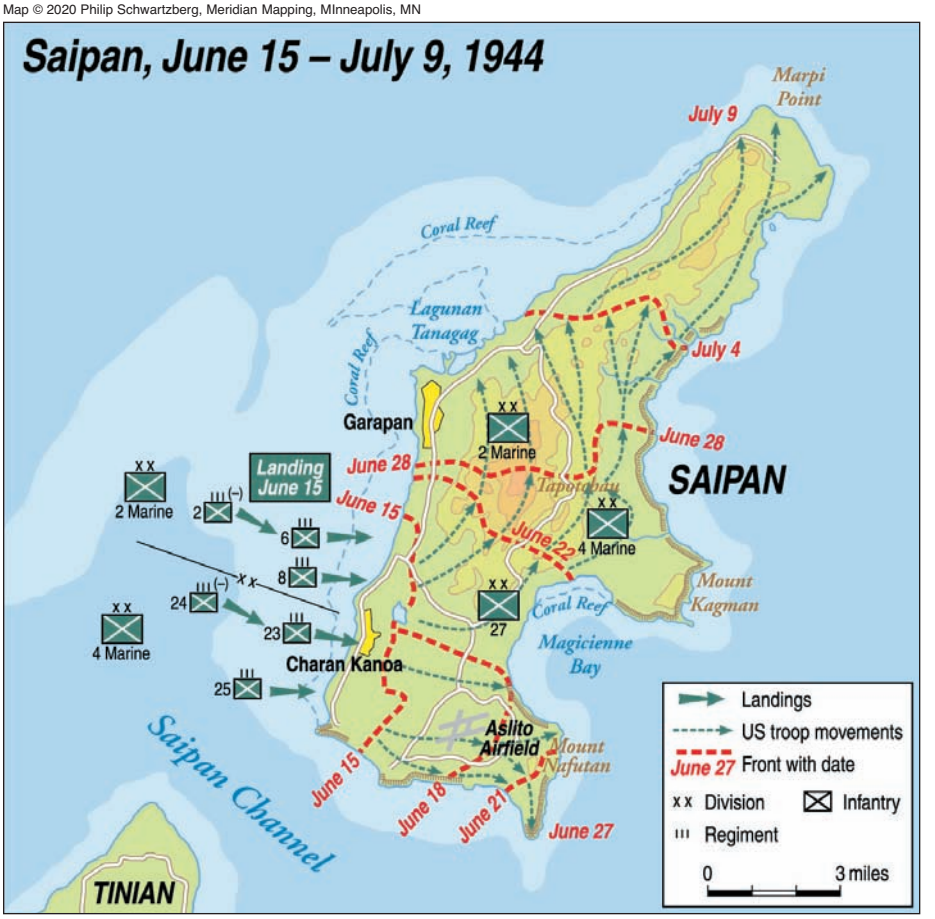
The scheme of maneuver for Operation Tearaway called for an amphibious landing on June 15, 1944, by the 2nd and 4th Marine Divisions. They were to land abreast over the western reef on beaches adjacent to the sugar-refinery village of Charan Kanoa and on both sides of Afetna Point—4th MarDiv on the right (Blue and Yellow Beaches) and the 2nd MarDiv on the left (Green and Red Beaches).

The 2nd MarDiv was to attack northeast and capture Mt. Tapotchau, while the 4th MarDiv was to attack to the southeast and seize Aslito airfield. Then, with the force beachhead line secured, the attack was to continue with the two divisions abreast to the north and northeast to secure the remainder of Saipan.

The landing plan envisioned eight Battalion Landing Teams simultaneously crossing a reef spanning 250 to 700 yards across. Eight thousand men were expected to land abreast in the first 20 minutes on seven of Saipan's 11 designated landing beaches—Red 1, 2, and 3, Green 1, 2, and 3; Blue 1 and 2; and Yellow 1, 2, and 3—covering a front of 6,000 yards.

A diversionary demonstration off the beaches northwest of Tanapag Harbor, lasting from half an hour before sunrise to an hour after the main landing, was conducted by Marines of the 2nd Regimental Combat Team and the 1st Battalion, 29th Marines. Their landing craft went in as far as 5,000 yards off the beach, circled for 10 minutes, then and returned to their transports.

Howlin' Mad Smith said, "Our landing was the most advanced mechanical demonstration we had ever made in the Pacific. We had 800 amphibious vehicles—troop carrying tractors (LVT)—tanks armed with 75mm howitzers and 37mm guns (LVT(A)-4), and the new LVT (4)s, a model with a back-dropping ramp that unloaded our artillery directly ashore."



After landing on the southwest coast of Saipan, the Marines and Army systematically worked their way toward the southeast corner and Marpi Point on the northern shore. It took a month to secure the island.

National Archives

With an LVT behind them, the first wave of U.S. Marines land on the Saipan beachhead on June, 15 1944, while waiting for supporting waves to arrive before moving out to attack Japanese positions.

H-hour was initially set for 8:30 AM but was pushed back 10 minutes to give the boat waves additional time to get into position.

At 5:42 AM, Vice Admiral Richard K. "Terrible" Turner, Commander, Northern Attack Force, gave the command, "Land the Landing Force." `This time-honored order was transmitted to the 34-ship Landing Ship Tanks (LST) flotilla located 1,250 yards behind the line of departure.

"The [bow] doors opened," Marine Marshall E. Harris recalled. "Suddenly we faced Saipan then clattered down the LST's metal ramp toward the sea…." Hundreds of armored amphibian tanks (known by the crews as amtanks) and amphibian tractors (amtracs) crawled into the water and commenced to circle, while waiting for the signal to go in from the Navy Control Boats.

Robert E. Wollin rode in an armored amphibian: "Our job [was to] lead the 1st wave onto Green and Red Beaches, clearing the enemy off those beaches and then push 200 yards inland so Marine infantry coming behind us could cross the beaches intact." At 8:13 AM, the signal was given, and 96 amphibious tractors (LVTs) carrying the assault units of the 2nd and 4th Divisions started for the landing beaches.

At 7:40 AM, two Landing Ship Docks (LSDs) began launching LCMs (Landing Craft, Mechanized) loaded with light and medium tanks of the 2nd and 4th Tank Battalions. The LCMs proceeded smoothly to their assigned stations at the rear of each division's beach. The tanks were in an "on call" wave, meaning they would be directed to land on order of the supported unit commander.

The peculiar construction of the LSDs was designed to transport loaded landing craft, ballast down to their well decks, lower the stern gate to the sea, and disembark their craft and vehicles for the assault on a hostile beach.

The 4th MarDiv's landing beaches, color-coded Blue 1 and Blue 2 (23rd Marines Regimental Combat Team) and Yellow 1 and Yellow 2 (25th Marines Regimental Combat Team), were located on the lower west coast of Saipan, adjacent to the 2nd MarDiv's landing beaches, Green 1 and 2 (8th Marines Regimental Combat Team) and Red 1 and 2 (6th Marines Regimental Combat Team).

The first wave consisted of 68 armored amphibians, armed with 37mm and 75mm guns, formed in line abreast. Behind them surged 196 troop-carrying amphibious tractors in four successive waves, spaced from two to six minutes apart. `

The first wave approached the fringing reef in good order. Charles H. Orloski was driving one of the amphibian tanks: "Coming to the reef, I waited for a wave to lift us up onto the coral, then I shifted as we rode the wave and got across and off it quite well."

Robert E. Wollin recounted, "We got no Japanese fire outside the reef. Moving over the reef I saw small colored flags sticking out of the water. The Japs drove in aiming stakes overnight for their artillery waiting for us to come into range. Then all hell broke loose…." Mortars, small arms, and artillery fire increased in intensity.

Jerry D. Brooks recalled, "In the lagoon, hitting coral heads, bouncing us up down and sideways, it was impossible to shoot our 75mm howitzer with accuracy. A couple of our 75mm shells exploded directly in front of us. Two or three went nearly vertical … but

our noise and the sight of us alone apparently made a big impression on the enemy. Naval operators monitoring Jap radio traffic picked up their radio messages telling Tokyo that 'Monster Guns' mounted on 'Monster Floating Tanks' were coming at them in the leading assault waves. Our 75mm's muzzle with blast shield looked like an 8-inch gun."

"Nearing the beach I saw a watery explosion then another and another," Winton W. Carter recalled. "Ahead, slightly to my left, two men got up and started running inland. I stared. Paralyzed. I tried to grasp what this meant. They wore steel helmets, short sleeve shirts. 'They're Japanese, you Lummox, the enemy, shoot!' It seemed ages. But probably two or three seconds actually passed until my brain and hands got to working together. Then I opened up with my machine gun, firing away."

Wollin, in his armored amphibian, recalled, "Jap artillery was still bracketing us, trying to get our range, and drenching us with near misses, splashing water into open turret hatches. Still they were misses. We were lucky. As the Japs sharpened their range, the assault wave coming in behind us looked to be having the harder time."

General Smith remarked, "Saipan instantly became a savage battle of annihilation … spearheaded by armored amphibian tractors…the Marines hit the beach at 0843…the best we could do was get a toehold and hang on. And this is what we did, just hang on for the first critical day."

National Archives

ABOVE: Marines offload medical supplies from an LVT while another landing craft burns in the background. BELOW: Marines seek shelter on Red Beach No. 2 before moving inland to engage the enemy.

United States Marine Corps

M. Neil Mumford described coming ashore: "I saw out the side hatch an amtank afire next to us, its hatch going up and down. I thought someone was trying to get out but the heat was moving the hatch, making it flutter, then the tank's ammo began to blow. A shell hit the base of our turret. We abandoned our tank, only to discover it was safer inside."

Squad Leader Yamauchi Takeo watched as the leading waves of troops landed and debarked—short of the O-1 line, the first day's objective. "Someone shouted, 'The American Army's coming!" Yamauchi said. "I lifted my head a little. They advanced like a swarm of grasshoppers. The American soldiers were all soaked … they were so tiny wading ashore. I saw flames shooting up from American tanks, hit by Japanese fire."

Long-range grazing fire from Japanese machine guns from Afetna and Agingan Points pelted the beaches, pinning the Marines to a shallow beachhead. First Lieutenant John C. Chapin recalled, "All around us was the chaotic debris of bitter combat. Jap and Marine bodies lying in mangled and grotesque positions; blasted and burnt-out pillboxes, the burning wrecks of LVTs that had been knocked out by Jap high-velocity fire; the acrid smell of high explosives; the shattered trees; and the churned-up sand littered with discarded equipment … suddenly—WHAM!

"A shell hit right on top of us! I was too surprised to think, but instinctively all of us hit the deck and began to spread out. Then the shells really began to pour down on us: ahead, behind, on both sides, and right in our midst. They would come rocketing down with a freight-train roar and then explode with a deafening cataclysm that is beyond description."

The assault companies found themselves fighting for every inch. "Our attention [was] concentrated on our yard-by-yard advance inland—our beachhead was only a dozen yards deep at one point," Holland Smith said. Another officer recalled, "It's hard to dig a hole when you're lying on

your stomach digging with your chin, your elbows, your knees, and your toes, [but] it is possible to dig a hole that way, I found."

Journalist Robert Sherrod wrote, "An artillery or mortar shell … landed every three seconds for the first 20 minutes. Most of them were in the water, 100 yards and more offshore, but some of them hit the beach itself. None of them hit inside the seven-foot deep [tank] trap which the Japs had built for their protection and which we were now using for our protection.

"Inside the trap, the battalion aid station for 2/8 (Lieutenant Colonel H. P. Crowe) had been set up. There were a half-dozen men lying on the sand; they were already wearing bloody bandages and awaiting evacuation by amtracs...in the 300 yards separating two [wrecked] vehicles I counted 17 dead Marines…."

Captain John A. MacGruder spotted "a young, fair-haired private who had only recently arrived as a replacement, full of exuberance at finally being a full-fledged Marine on the battle front. As I looked down at [his body], I saw something I shall never forget. Sticking from his back trouser pocket was a yellow pocket edition of a book he had evidently been reading in his spare moments. Only the title was visible—*Our Hearts Were Young and Gay*."

Casualties sustained during the landing far exceeded 2,000; in the 2nd Division alone, 553 men were killed and 1,022 wounded. Out of the 68 armored amphibians, 31 were sunk or disabled. Five of the original infantry battalion commanders in the two divisions were wounded on D-day. Howlin' Mad said, "Not for another three days could it be said that we had 'secured' our beachhead. We were under terrific pressure all the time."

Shortly before noon, tank support was requested. Major Richard K. Schmidt's 4th Tank Battalion, equipped with 46 freshly delivered M4A2 Sherman medium tanks and 18 M3A1 Satan flame-thrower tanks, mounting the Canadian Ronson flame gun, was tasked to support the assault battalions of the 4th MarDiv.

Company A, led by 1st Lt. Stephen Horton, Jr., with the 1st Platoon of Company D, was attached to Regimental Combat Team 25 (RCT-25). The operation plan called for the company to land over Yellow Beach 2; however, the company actually landed on Blue Beach 2 because of a strong northerly current. Company B, commanded by 1st Lt. Roger F. Seasholtz, was attached to Battalion Landing Team (BLT 3-23) and scheduled to land over Blue Beach 1.

Company C, commanded by Major Robert M. Neiman, was attached to BLT 2-23, 4th Mardiv, and was scheduled to land over Blue Beach 2. Company D, Captain Gorman T. Webb's "Satans" landed over the Blue Beach throughout the day and was designated to support RCT-23.

Headquarters and Service Company landed at noon and immediately instituted salvage operations. Major Schmidt, who was the son of the 4th MarDiv commander, remained aboard the division command ship, functioning as a liaison officer and tank employment advisor.

Based on reports from the Underwater Demolition Teams, the 4th Tank Battalion had two options for getting ashore. The first and most desirable option was by way of the channel off Blue Beach One, through which LCMs could proceed directly to the beach. The other option was to beach the LCMs on the reef and have the tanks move ashore under their own power.

National Archives

United States Marine Corps

ABOVE: A Navy corpsman administers aid to wounded Marines of the 3rd Battalion, 24th Marines. BELOW: Some tanks and Buffalos never made it to shore. These were knocked out by intense Japanese fire. OPPOSITE: Pinned down by enemy fire, two Marines take cover behind an LVT. The smoke on the horizon came from fires started by the guns of one of the amphibious vehicles.

National Archives

As it turned out, neither option was satisfactory—the channel was receiving intermittent heavy mortar and artillery fire. The reef option posed a problem because heavy swells made it difficult to beach the LCMs by early afternoon.

Contrary to expectations, the coral shelf off Yellow Beach 2 proved to be the best place to land; however, all tanks landed under heavy artillery and mortar fire. The prearranged method of guiding tanks to the beach with LVTs did not function because of a lack of communication and coordination. The alternate method, guides on foot, was used and proved fairly successful, except for the intense gunfire, which posed an extreme hazard.

Major Neiman had a novel approach to locating submerged potholes and craters. "We found a solution, called toilet paper…we took two tankers…and put one man in the water with goggles and swim fins and a roll of toilet paper, swimming face down in front of each tank. We put another man on the slope plate of each tank to give hand signals to the driver through his periscope. The guy swimming … if he came across a pothole, which they did periodically, they would just swim around it and uncoil the toilet paper as they went. The water over the reef was very smooth, so the toilet paper would just provide a perfect pathway around the pothole."

One of the volunteers, Pfc. Emmett F. Kirby, was posthumously awarded the Navy Cross for volunteering to "lead his tank from the coral reef through the lagoon to the beach … until mortally wounded [his third wound]."

Shortly after noon, Regimental Landing Team 25 (RLT-25) requested tank support. LCMs carrying Company A's M4A2 Shermans responded, but heavy swells forced the coxswains to jockey their 50-foot landing craft against the reef fringe, slowing the landing. The LCMs dropped their bow ramps, signaling the 30-ton steel monsters to plunge into the reef's shallow water off Blue Beach 2.

Almost immediately, two of the tanks "flooded out;" salt water shorted out their electrical systems. Lieutenant Gerald M. "Max" English, in a tank named "King Kong," recalled, "We hit a shell hole, and we had water that came bubbling in. It hit the batteries, and started forming [chlorine gas]. We had to open our hatches. We had seawater coming in, but we had to have some way of getting that gas out. We couldn't breathe."

As Company A's M4s made their way toward the beach, a curtain of artillery and mortar fire erupted around the slow-moving armored vehicles. Shell geysers erupted close aboard the tanks, but none suffered direct hits, unlike the troop-carrying amtracs. Several burning hulks littered the reef.

After landing, Company A immediately moved over to support Battalion Landing Team 1/25 (BLT-1/25) on Agingan Point. The two units had trained in tank-infantry tactics after the Roi-Namur operation, including conducting a school for infantry officers to teach them the capabilities, limitations and tactical uses of tanks.

In addition, the tank battalion had installed an improvised tank-infantry telephone on the rear of each tank. Ken Estes wrote in *Marines Under Armor, The Marine Corps and the Armored Fighting Vehicle, 1916-2000*, "The troops trusted the tank far more than the artillery as a supporting weapon, since the latter could occasionally fire on their own positions. The tanks never posed such a friendly-fire problem"

Naval History and Heritage Command

The infantry assault on Agingan Point sputtered out when the advancing troops received enfilade fire from a maze of weapons positions, as well as from the patch of woods adjacent to the promontory, which inflicted many casualties and prevented the survivors from moving forward. *The Fourth Marine Division in World War II* noted, "The First Battalion, Twenty-fifth … continued to receive withering enfilade fire from Agingan Point. The enemy was making a determined effort to smash the invasion on the beaches."

Combat Correspondent Sergeant David Dempsey was helping with the wounded. "A private first class stretcher case expressed the desire to relieve himself. A Corpsman handed him the helmet of a nearby sergeant, who was also a casualty. The sergeant lay there and watched in horrified fascination as his helmet was subjected to its ultimate indignity. 'That I should live to see the day,' he groaned, 'when a PFC should do that in my helmet.'"

When the LCMs carrying Company B's 14 Shermans shoved off from the LSDs and started for the beach, one sank just as it left the LSD; the crew was rescued and reembarked aboard the LSD. Another M4 had its deep-water fording gear smashed in an unexpected shift of weight in the LCM and, as chance would have it, the same craft took a direct hit from a Japanese shell, killing four and wounding five, including the platoon commander.

Three tanks made it to shore, but the next three were directed to land on Blue Beach 1 because of heavy artillery fire. One of these "drowned out" when it lumbered into a large depression in the reef.

Six of Company B's tanks were ordered to land on Green Beach 2, a 2nd Marine Division beach 1,000 yards away from its planned landing beach. The tank platoon commander protested, but he was overruled and in they went. They landed on the reef and proceeded shoreward in two columns, each led by a guide, one of whom was killed by shellfire. In the center of the lagoon, about halfway to the beach, they encountered very deep water and five tanks were completely submerged and abandoned.

Only one of the six made it to the beach, but it was immediately shanghaied by the 2nd Tank Battalion and did not return to the 4th Marine Division until several days later. So, for all intents and purposes, only four Company B tanks of the original 14 were available to support the 3rd Battalion, 23rd Marine Regiment.

Company C's 14 tanks were floating just off Yellow Beach 2, waiting for the call to land. When the call came, Major Neiman had difficulty securing permission. It took him almost two hours and he explained, "I went aboard the control boat and 'talked' the Control Officer into letting us go. While we were circling in our landing craft off the beach, a landing craft came off the beach … with a half dozen UDT men. I hailed them and he pulled the boat over to my craft, and I jumped into his boat.

"I asked him if he knew a good spot where we could be sure there were no underwater obstacles or mines. Just at that point there's a big explosion, near the beach, inland. He says, 'See all that smoke? Head for that and you won't have any trouble at all.' So that's what we did."

Shortly after noon, the LCMs grounded on the reef 800 yards from the beach and unloaded Company A's tanks in about five-and-a-half feet of water, proceeding toward the beach in a column of platoons.

"There was a long pier that the Japanese had built from the sugar mill at Charan

Kanoa," Neiman explained, "where we were supposed to land, out to the edge of the reef.... Somebody at division headquarters decided that it would be an ideal place for the tanks to land, and they could run right up that concrete ramp." The veteran officer was skeptical.

"We figured the Japanese would certainly have the whole channel, especially that ramp, zeroed in with their heavy weapons. Sure enough, the first vehicles that tried it were amphibious tanks, and they got blasted."

Lieutenant English recalled, "They [Japanese] waited until we got on the beach. They were throwing harassing fire out there [on the reef], but nothing heavy until we got on the beach. A lot of amphibious tanks got pinned down real close to the waterline, but we went inland."

Neiman took his company to an assembly area, where he received orders to proceed to the O-1 phase line 1,200 yards inland. He spread the company out in a frontal assault with his right flank on a road running from Blue Beach 1 to Aslito airfield. After traveling some distance, the tanks not on the road became bogged down and were abandoned under fire.

Neiman had the remainder of the company travel on the road until they had outrun the supporting infantry. At that point, he withdrew rather than give the Japanese soldiers an opportunity to "plant" magnetic mines on his tanks. Three of Neiman's tanks were damaged when an enemy soldier was able to attach magnetic mines over the engine compartments.

There probably would have been more tank casualties except for Neiman's foresight. "Before we went to Saipan we studded the side of the tanks with little pieces of reinforcing steel bar. Then we bolted [wooden] 2-by-12s to the sides and put a 1-by-3 and nailed it to the bottom. We had perfect concrete form, and we poured concrete in.

"Now we had two inches of lumber [and] two inches of reinforced concrete that a projectile would have to hit and go through before it even reached the armor plate. We did it for all our tanks. We figured the little added weight was not going to bother us as much as the extra protection was gonna help us."

Naval History and Heritage Command

ABOVE: The crew of a 37mm light field gun, its shield perforated by numerous bullet holes, fires at Japanese positions near Garapan. OPPOSITE: Two Marines (left and center) fall as they are hit by sniper fire while coming ashore.

By 6 PM, 10 flame-throwing light tanks of Company D had landed. They were placed in an assembly area 150 yards inland of Blue Beach 2 and ordered to stand by for the night. Three tanks from the 3rd Platoon were held aboard the LSD because there were insufficient LCMs to land them. The entire 1st Platoon spent the night in the LCMs, as the channel they were going to use was under heavy shellfire.

The "Satan" flame tanks were generally attached to Company A and were held in reserve until called to conduct a mission—mostly against Japanese defenders in caves. During the mission, they would be provided cover by medium tanks and, when it was completed, they would return to their assembly area.

By nightfall, the beachhead was only 1,300 yards inland at its maximum penetration. Heavy artillery fire, particularly from Agingan Point, pounded the beachhead. The 5th Battalion, 14th Marines sustained the heaviest losses. The battalion commander, Lt. Col. Douglas E. Reeve reported: "All of Baker Battery's guns had been knocked out, two guns in Able Battery knocked out, one gun in Charlie Battery.... When I say 'knocked out,' I mean just that—trails blown off, sights blown off, recoil mechanism damaged, etc."

D-day had been expensive, both in personnel and equipment; however, most of the 4th Tank Battalion's armor was recovered, repaired and placed back in service, except for three tanks that remained in the water and now serve as a memorial to the battle.

On June 16, the Japanese garrison received an encouraging message from the Emperor. After reading it, Lt. Gen. Saito was grateful for "the boundless magnanimity of the Imperial favor, which we hope to requite [revenge] by becoming the bulwark of the Pacific with 10,000 deaths."

Saito immediately orchestrated an attack against the lines of the 1st Battalion, 6th Marines, 2nd Marine Division, and, to a lesser extent, 2nd Battalion, 2nd Marines. The Japanese force consisted of four com-

National Archives

ABOVE: A Japanese soldier lies dead near a knocked-out Type 97 tank. Out of a 30,000-man garrison trying to defend Saipan, less than a thousand were taken prisoner. BELOW: Hurrying to avoid enemy fire, U.S. Marines dash forward, June 24, 1944.

Library of Congress

panies (36-44 tanks, the largest Japanese tank attack of the Pacific War) of the 9th Tank Regiment, a thousand men of the 136th Infantry Regiment, and the 1st Yokosuka Special Naval Landing Force.

At 3:30 AM on the 17th, Captain Claude G. Rollen, Company B, 6th Marines, reported hearing enemy tanks and soldiers approaching his position. He immediately requested illumination and naval gunfire. "All prepared concentrations were called down in front of the forward companies, including 75mm pack howitzer, 81mm mortar, and the companies' own weapons," according to Major James A. Donovan, Jr., executive officer of the 1st Battalion, 6th Marines.

"At 0345, the first wave of tanks began to enter Company B's sector," General Holland Smith said, describing a Japanese officer who, "standing in the turret of the lead vehicle, waved his sword in the manner of a cavalryman charging, while a bugler sounded the call."

Donovan went on to say, "Their squeak and rattle could be distinguished above the shellfire and long bursts of machine-gun fire…. The battle evolved itself into a madhouse of noise, tracers and flashing lights. As the tanks were hit and set afire, they silhouetted other tanks coming out of the flickering shadows to the front or already on top of the squads."

"Many of the tanks were 'unbuttoned,' [turrets open] the crew chief directing from the top of his open turret," Donovan said. "Some were being led by a crew member on foot. They seemed to come in two waves, carrying foot troops on the long engine compartment or clustered around the turret, holding on to the hand rail."

One Marine recalled that the enemy crewmen would "halt, jump out of their tank, sing songs and wave swords. Finally, one of them would blow a bugle and jump back in the tank if they hadn't been hit already. Then we would let them have it with a bazooka."

Swarms of Japanese infantry followed a second wave of tanks. Marine heavy machine guns, bazooka teams, a two-gun 37mm section, riflemen, and tanks from the 2nd Tank Battalion blazed away at the enemy tanks. The Marine tankers quickly realized that their armor-piercing shells were passing clean through the lightly armored Japanese armored vehicles without exploding, so they switched to high-explosive 75mm rounds, which demolished them.

Donovan related that, "The Japanese tanks … appeared confused. As their guides and crew chiefs were hit by Marine rifle and machine gun fire, what little control they had was lost. They ambled on in the general direction of the beach, getting hit again and again until each one burst into flame or turned aimless circles only to stop when hit."

According to his Navy Cross citation, one Marine "accounted for four hits on four dif-

ferent tanks with his rocket launcher, and then, after running out of rockets, climbed upon a fifth tank and, with utter disregard for his own personal safety, dropped an incendiary grenade in the turret, disabling the tank."

The main Japanese tank-infantry attack was wiped out by 4:20 AM. However, snipers and scattered remnants continued to fight for several more hours. At daybreak, the crippled and surviving tanks were finished off by the 75mm half-tracks of the Regimental Special Weapons Company.

The counterattack was an unmitigated disaster; the enemy lost between 24 and 31 tanks and hundreds of irreplaceable soldiers, including the commander of the tank regiment. Brig. Gen. T.E. Watson proclaimed, "I don't think we have to fear Jap tanks any more on Saipan. We've got their number."

Major Donovan recalled, "Just before dawn, the U.S. Army's 27th Infantry Division landed. Comprised of several National Guard units from New York, they had been called to action in 1940 and were now the first National Guard division to play a part in the Pacific War.

"Despite the fighting of the previous day, their path was far from easy. The beaches may have been cleared of immediate danger, but the landscape was that of total war…. Disabled LVTs and boxes of C-rations were scattered across the beach. Bodies of dead Marines that had not been recovered bobbed in the surf.… The leaves on battered trees and underbrush were covered with a fine, gray dust."

Combat correspondent Gilbert Bailey wrote: "The Japanese fell back gradually, by night, to the natural caves and prepared bunkers in the interior of the island, burying their dead as they went and dragging their equipment with them."

National Archives

Maj. Gen. Ralph C. Smith, U.S. Army 27th Infantry Division, was relieved of command by Marine Lt. Gen. Holland Smith on charges that his unit was not aggressive enough.

On June 24, the "crap hit the fan!" Holland Smith received a message from Vice Adm. Raymond A. Spruance, Commander, Fifth Fleet, and Smith's boss: "You are authorized and directed to relieve Maj. Gen. Ralph Smith from command of the 27th Division, U.S. Army, and place Maj. Gen. [Sanderford] Jarman in command of this division…." Spruance sent the message as a result of Smith's loss of confidence in Ralph Smith's "lack of aggressive spirit."

Holland Smith in *Coral and Brass* wrote, "I told [Spruance] on board the *Indianapolis* that the situation demanded a change in command. He asked me what should be done. 'Ralph Smith has shown that he lacks aggressive spirit and his division is slowing down our advance. He should be relieved.' Relieving Ralph Smith was one of the most disagreeable tasks I have ever been forced to perform.… However, there are times in battle when the responsibility of the commander to his country and to his troops requires hard measures. Smith's division was not fighting as it should, and its failure to perform was endangering American lives."

Ralph Smith's relief quickly became an inter-service controversy that produced a great deal of animosity between the Army and Marines. Smith urged Lt. Gen. Robert C. Richardson, Commanding General of U.S. Army Forces in the Pacific Ocean Areas, that "no Army combat troops should ever again be permitted to serve under the command of Marine Lieutenant General Holland M. Smith."

Richardson was so upset that he appointed a board of inquiry to examine the facts involved in the relief. Not surprisingly, the Army board determined that the relief of General Ralph Smith "was not justified by the facts."

Maj. Gen. George W. Griner, who took command of the 27th after the relief, considered that Holland Smith "is so prejudiced against the Army that no Army Division serving under his command alongside of Marine Divisions can expect that their deeds will receive fair and honest evaluation."

The change of command did not materially affect the progress of the battle. The Americans continued to slowly push the Japanese back over the next two weeks, and the Japanese continued to resist. But with supplies running low and there being no possibility of receiving reinforcements, the defenders' only desire was to kill as many of the enemy as possible before they themselves died.

On July 4, General Saito, knowing the battle was lost, ordered a final *gyokusai* attack (breaking of the jewels), known by the Marines as a Banzai attack. Major Hoshida Hiyoshi, captured Intelligence Officer, 43rd Division, explained, "They knew at the outset that they had no hope of succeeding. They simply felt that it was better to die that way and take some of the enemy with them than to be holed up in caves and be killed."

Saito told his officers, "I will advance with those who remain to deliver still another blow to the American Devils, and leave my bones on Saipan as a bulwark of the Pacific." Saito held a final conference with his remaining commanders and decided to launch an attack on the evening of 6-7 July against the Army's 27th Division, where a 300-yard gap existed between the 1st and 3rd Battalions of the 106th Infantry.

Messengers were sent out to alert the scattered units about the coming attack. Many provisional units were formed in an effort to achieve some degree of tactical unity among the assorted units and individuals. Some of the soldiers and civilians,

estimated to be up to 3,000, were without weapons and equipment and were armed only with hand grenades and crudely-fashioned bamboo spears.

Of the many civilians still remaining in Japanese territory, Saito remarked, "There is no longer any distinction between civilians and troops. It would be better for them to join in the attack with bamboo spears."

On the afternoon of July 6, General Smith visited the 27th Division's command post "and warned [Griner, the newly appointed division commander] … that a banzai attack probably would come down … late that night or early the next morning. I cautioned him to make sure that his battalions were physically tied in.… I left his command post satisfied that I had done all that was possible for a general to do."

National Archives

A long line of reinforcements from the U.S. Army's 27th Infantry Division wade ashore. "Bad blood" between the "two Smiths" on the island resulted in the 27th's commanding general being relieved of command.

Saito gave the order to march. "I advance to seek out the enemy. Follow me." However, in the early morning hours of the 7th, according to a staff officer, "The tired general, feeling that he was too aged and infirm [he had been wounded earlier by shrapnel] to be of use in the counterattack, held a farewell feast of saki and canned crab meat and then committed suicide."

One account states that Saito had his adjutant shoot him in the head after the general made a ritual cut in his stomach. His body was then burned to keep it from falling into American hands.

Sometime around 4 AM, the main body of the attackers started south between the shoreline and the cliffs bordering the Tanapag plain. Patrols from the 27th Division detected the advance of the large mob of Japanese soldiers and called in unobserved artillery and naval gunfire on the ruckus. First Sergeant Mario Occinario, 1st Battalion, 105th Infantry, recounted how "We began to hear this buzz. It was the damnedest noise I ever heard, and it kept getting louder and louder."

Upward of 3,000 Japanese soldiers, including wounded and crippled troops, participated in the attack down the railroad track. The blow fell at 4:45 on the gap between the 1st and 2nd Battalions, 105th Infantry. The Americans were hit from the flank and, after the enemy had moved through the gap, the rear. Almost as soon as the attack was launched, communications were lost to the rear, isolating the two battalions and leaving the soldiers fighting for their lives.

Major Edward McCarthy, commanding 2nd Battalion, described the onslaught: "It reminded me of those old cattle stampede scenes in the movies. The camera is in a hole in the ground and you see the herd coming and then they leap up and over you and are gone. Only the Japs just kept coming and coming. I didn't think they'd ever stop."

Lieutenant (j.g.) C.J. Blanc, Naval Gunnery Liaison Officer with the 1st Battalion, 105th Infantry, gave an eyewitness account: "At 0450, he heard firing on the perimeter. A Japanese force, so great that it was impossible to give any estimate of the number, was seen rushing down on both sides of the railroad. The enemy was armed with clubs and knives, as well as service weapons. They were running and shouting in a frenzied manner, packed so closely that it was hardly necessary for our troops to take aim.

"The enemy on the cliff side of the corridor continued to stream on to the southwest, as others engaged the two battalions in great numbers. At 1030, the two battalions had been decimated by heavy mortar fire, and fighting had become practically an individual, every-man-for-himself, hand-to-hand affair." Lieutenant Blanc and seven men worked their way southwest, following a route between the railroad and the coast, until they were able to enter friendly lines.

Shortly before 5 AM, the full force of the attack struck the 27th Division's front lines. In less than half an hour of fierce close-quarters fighting, the American 1st Battalion's positions were overrun, but the 3rd Battalion on high ground was able to hold. The Japanese momentum carried them toward the 3rd Battalion, 10th Marines (artillery battalion) in position 600 yards behind the Army lines.

United States Marine Corps

National Archives

ABOVE: A U.S. Marine tries to convince a wary civilian family, hiding in a cave, that they won't be harmed if they come out. Many others, however, believed Japanese propaganda that the Americans would treat them cruelly and jumped to their deaths from cliffs. LEFT: A group of Marines survey the corpse-strewn battlefield. Most Japanese soldiers, believing that surrender was dishonor, preferred to die fighting or commit suicide rather than be taken prisoner.

"Small-arms and machine-gun fire was heard to the front and right front about 0300 and it appeared to get closer," 1st Lt. Arnold C. Hofstetter, Battery H, 3/10, recounted. "The gunners were told to cut time fuses to 4/10 second, to get a close ricochet. Japs broke through a wooded ravine shooting cannoneers from their posts, forcing the remainder of the firing battery to fall back about 150 yards and set up a perimeter. We held out there until about 1500 [hours], when Army troops relieved us."

The Japanese continued to advance along the railroad track, forcing Battery I to fall back after all its small-arms ammunition had been expended. By 5:30 AM, they had advanced 500–600 yards to the 105th Infantry command post. The 1st and 2nd Battalions of the 105th Infantry were cut off.

The 27th Infantry Division Report of Operations noted, "Some troops … having exhausted their ammunition, swam out to the reef and were picked up by the small boats of a destroyer." In a desperate action that lasted several hours, the U. S. soldiers were finally able to force the Japanese survivors to withdraw.

In other sectors, a mixed force of soldiers and Marines rallied to slaughter the attackers; the battered survivors in small, disorganized bands retreated back to their starting point. The true scope of the enemy attack was revealed at daylight: Japanese bodies littered the battle area. It was estimated that over 4,000 Japanese lost their lives in the great banzai attack. Over 400 Americans were also lost. Mop-up operations lasted for another two days, but the fight was gone from the Japanese.

By July 9, mopping-up operations were completed and organized Japanese resistance had ceased. At 4:15 PM on July 19, General Smith declared the island secure. But there was no joy in victory, no sense of satisfaction.

Of the 71,000 troops that made up Holland Smith's Northern Troops and Landing Force, it is estimated that 3,674 Army and 10, 437 Marine Corps personnel were killed, wounded, or missing in action. This total of 14,111 represents about 20 percent of the combat troops committed.

Out of the entire Japanese garrison of 30,000 troops, only 921 prisoners were captured; the rest died. The Japanese commanders—Saito and Vice Adm. Nagumo—and some 5,000 others committed suicide rather than surrender.

Sadly, the massive slaughter between combatants did not end the horrors. The island was inhabited by 25,000 to 30,000 Japanese civilians, who were told by Tokyo that the American occupation would mean torture, rape, and brutality. To escape what they thought was a certain fate, groups of islanders huddled around exploding hand grenades, while others dropped their children off steep cliffs before jumping themselves. Thousands of civilians committed suicide before American interpreters were able to convince them that they would be treated fairly.

The suicides in Saipan drew considerable attention and praise in Japan. A Japanese correspondent praised the women who committed suicide with their children by jumping from the cliffs, writing that they were "the pride of Japanese women." □

(Author's note: On a tourist visit to Saipan, I stood atop the 300-foot "suicide" cliff, where hundreds of civilian men, women, and children jumped or were thrown to their deaths. It was hard for me to imagine what drove them to commit suicide. It is one thing to read about the tragedy, but to look down at the jagged rocks below—it's just too hard to understand.)

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ABOVE: Newly manufactured B-24s sit on the tarmac at the Willow Run facility, waiting to be flown by ferry pilots to their fianl destinations. Willow Run remains an operational airport today.
RIGHT: Two B-24 Liberator bombers photographed on a test flight near Ford Motor Company's Willow Run factory in Michigan. Although Consolidated won the contract, they were unable to produce all of the B-24s needed so production was outsourced to other companies such as Ford.

America's aircraft manufacturers turned out some 300,000 warplanes—and turned the tide of victory in the Allies' favor.

BY MASON B. WEBB

Uncle Sam's Manufacturing Mus

FOR the major combatants, World War II marked an unprecedented effort to manufacture a wide variety of military hardware: ships, vehicles, aircraft, guns, and much more—all within a short amount of time. With Germany, Great Britain, Japan, Italy, and the other involved nations fighting a "total war" unprecedented in history, most of them converted their industries from making consumer goods to war materiel.

In the United States, a special agency within government was formed one month after Pearl Harbor: WPB—the War Production Board—headed by Donald Marr Nelson, former executive vice president of Sears, Roebuck and Company, who had been chairman of the Office of Production Management (formed in 1941) before that agency morphed into the WPB.

The WPB's powers were sweeping—and galling. As the editors of Time-Life reported, Nelson received the authority to "commandeer materials and assign priorities in their use, compel the conversion and expansion of plants, and bar the manufacture of

cle Ensured Victory

products he judged to be nonessential."

Manufacturers both large and small found themselves suddenly told what they could and couldn't manufacture. Some sputtered in rage at the government's (and Nelson's) heavy-handed dictates, but most realized that there was a war—and lucrative government contracts—to be won, and so converted their industrial output from consumer to military products.

In many cases, manufacturers found themselves building things for which they had no prior experience. For example, the Heinz Pickle Company and Steinway Piano Company received contracts to build components for military gliders. And a corset company, used to working with silk, was enlisted to make parachutes.

Government contracts often meant the difference between life and death for many companies that were still trying to crawl out from the depths of the Great Depression. And the conversion meant millions of un- or under-employed workers suddenly found themselves in great demand—

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if the draft boards didn't get them first.

Many civilians, though, were often less than pleased. Besides the sudden unavailability of new cars, they discovered that certain commodities had disappeared or were severely rationed: meat, dairy products, gasoline, rubber tires, heating oil, metals, paper, and plastics.

Three American industries that benefitted greatly from the war and WPB were the automotive, shipbuilding, and aircraft industries. Tanks, trucks, jeeps, and many other wheeled and tracked vehicles were turned out in the hundreds of thousands, while shipyards along the coasts and major inland rivers were kept busy 24/7 fulfilling orders for all sorts of watercraft.

The aircraft industry, especially, began a period of unprecedented economic boom. In many respects the U.S. was way behind its enemies, which had early on stepped up the production of fighters, bombers, transports, and other type of warplanes.

Nazi Germany had over 90 manufacturers, both large and small, turning out aircraft and their components. Some of the familiar names were Arado, Blohm+Voss, Daimler, Dornier, Fieseler, Focke-Wulf, Fokker, Heinkel, Junkers, and Messerschmitt. Hitler's ally Italy was also fully invested in building aircraft, with such manufacturers as Breda, Caproni, Fiat, Macchi, Piaggio, and Savoia-Marchetti doing Mussolini's bidding. Germany also licensed several Italian plants to help turn out German models.

On the other side of the globe, Japan's main aircraft factories—Aichi, Kawasaki, Mitsubishi, Nakajima, Tachikawa, Watanabe, Yokosuko—were also working hard to produce large quantities of the types the Japanese warlords needed.

America's allies were also all-in when it came to aircraft production. In the Soviet Union, manufacturers such as Tupolev, Ilyushin, and Petlyakov struggled to keep up with losses on the front with Germany. The U.S.S.R. relied to a great extent on American aircraft supplied through the Lend-Lease program and, in some cases, copied American designs and built their own variants.

With the wartime manpower shortage, tens of thousands of women were brought into the workforce. Here, three women pose for a publicity shot while working on an engine at the Douglas Aircraft Company's factory in Long Beach, California. OPPOSITE: Stretching as far as the eye can see in Ford's enormous, mile-long Willow Run factory, a line of B-24s undergo assembly. Ford boasted that its 42,000 employees turned out a complete B-24 every 63 minutes.

Great Britain's aircraft factories—Avro, Bristol, de Havilland, Fairey, Handley Page, Hawker, Gloster, Short, Supermarine, Vickers, and Westland—were working overtime to supply the Royal Air Force and Royal Navy with the planes they needed. The Brits, too, badly needed American aircraft that arrived courtesy of Lend-Lease.

In the U.S., aircraft production was spread across nearly two dozen manufacturers. Here is a look at their contributions.

Boeing

Boeing, based in Seattle, had been making aircraft for civilian and commercial use since 1916, and built its first military plane—the single-seat, single-engine biplane fighter known as the PW-9 in 1924. As war clouds gathered on the horizon in the 1930s, Boeing began receiving orders from the U.S. government to design and build bombers, its most famous being the four-engine B-17 Flying Fortress.

The B-17s were built by 50,000 employees at Boeing's plants in Seattle and Renton, Washington, and Wichita, Kansas. A total of 16,000 B-17s were manufactured by Boeing before the war ended.

Douglas

The Douglas Aircraft Company produced a wide range of attack planes such as the SBD Dauntless, A-20 Havoc, A-26 Invader, and transports such as the famous C-47 Sky-

train and C-54. Douglas also helped build B-17s at its Long Beach plant and B-24 Liberator bombers in Tulsa, Oklahoma.

The company operated at five locations during the war: Long Beach (building the B-17, A-26, and C-47), Santa Monica (A-20 and C-54), and El Segundo, California; Tulsa; and Chicago (where O'Hare International Airport is located today). At its height, Douglas employed over 62,000 workers and produced approximately 25,000 aircraft. (The company was purchased by Boeing in 1997.)

Consolidated-Vultee

Contracts for B-24 Liberator heavy bombers were awarded to Consolidated Aircraft Corporation, which had become famous for its line of commercial airline flying boats such as the Pan Am Clipper. Consolidated's flying boats, principally the PBY Catalina patrol plane, were used extensively by the U.S. and its allies. The company's four-engine B-24 Liberator bomber was one of the most successful Allied planes of the war, and some 18,400 of them were built, making it the most-produced bomber of the war.

But the company's production capacity was inadequate to fulfill all the contracts and it was often forced to outsource B-24 production to companies such as Douglas, North American, and Ford Motor Company.

Vultee also built 11,500 BT-13 Valiant (also called the Vibrator) trainers for the Army Air Force.

Consolidated merged with Vultee in 1943 and operated two plants in San Diego, California, and one in Fort Worth, Texas; a total of 32,000 employees worked for the company. (After the war, Consolidated-Vultee became Convair, which was acquired by General Dynamics and then McDonald Douglas.)

Ford Motor Company

Located on former farmland at Willow Run, between Belleville and Ypsilanti, Michigan, the purpose-built Ford B-24 plant was one of the largest factories in the world, with 3,500,000 square feet and an assembly line over a mile long. An airfield was also constructed adjacent to the plant.

In 1944, the 42,000 employees completed a B-24 every 63 minutes, 24 hours a day, seven days a week. Willow Run, also known as Air Force Plant 31, turned out a total of 8,685 B-24s (plus kits for 1,893 more to be assembled by the other manufacturers) before the last one came off the assembly line on June 28, 1945.

After the war, the mammoth facility was sold to the Kaiser-Frazer Corporation, where a total of 739,000 Kaiser-Frazer automobiles were built from 1947 through 1953. General Motors then took ownership of the plant and expanded it before closing it in 2010. (Today the Yankee Air Museum, a Smithsonian affiliate, occupies a small portion of the facility.)

Grumman Aircraft Engineering Corporation

Founded in December 1929 by Leroy Grumman and partners at Bethpage, Long Island, New York, Grumman specialized in building carrier-based aircraft for the U.S. Navy. About 10,000 aircraft of the Grumman "cat" series (F4F Wildcat, F6F Hellcat, F8F Bearcat) and TBF and TBM Avenger were built by the company's 25,000 employees.

With Grumman focusing primarily on

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the "cats," production of the Avenger was taken over by General Motors, which built 7,500 copies of them, compared to 2,300 built by Grumman.

(Grumman was purchased in 1994 by Northrop Corporation to form Northrop Grumman, today a leading aerospace corporation.)

General Motors

Michigan's General Motors, with its five automobile divisions (Chevrolet, Pontiac, Oldsmobile, Buick, and Cadillac), was America's largest vehicle company prior to the outbreak of war, and the government called on the giant to shift production from civilian cars and trucks to airplanes, trucks, tanks, guns, and shells for the military.

When it became obvious that Consolidated-Vultee and Ford Motor Company could not keep up with the demand for the B-24 Liberator, GM was tasked with fitting production of the bomber into its already crowded schedule.

The Buick division, for example, received a contract to build 500 engines a month. This was soon doubled and then doubled again until, by 1944, Buick's Melrose Park (Michigan) factory was turning out 2,000 engines a month.

At GM's Allison engine plant in Indianapolis, the V-1710 engine was being produced for both the Lockheed P-38 Lightning and North American Aviation's P-51 Mustang fighters. At the same time, GM's Cadillac division was kept busy building the turbocharged V-12 aircraft engine—regarded by many as the most advanced aircraft engine of World War II.

The Chevrolet division, as a subcontractor to Grumman Aircraft, produced wing sections and fuselage components for the TBM Avenger, as well as complete TBMs at its Trenton, New Jersey, plant.

In addition to manufacturing 48 million rounds of artillery ammunition, 140,000 aircraft machine guns, and 175 million pounds of forgings for military trucks, tanks, guns and aircraft, GM's Oldsmobile division turned out 350,000 high-precision aircraft engine parts.

During the war, GM had produced—in addition to 854,000 trucks, 38,000 tanks, tank destroyers, and armored vehicles, 198,000 diesel engines, vast quantities of guns and ammunition—206,000 aircraft engines, plus thousands of complete aircraft. For its wartime work, GM received contracts totaling over $12 billion—the most of any U.S. manufacturer.

A-20 Havocs are assembled at one of the Douglas Aircraft's California factories. Most plants worked round the clock, seven days a week.

Goodyear

Having built blimps and airships for the U.S. Army in World War I, the Goodyear Tire and Rubber Company of Akron, Ohio, known in the 1940s as the Goodyear Aircraft Corporation, manufactured 104 airships for the military that were primarily used to spot German submarines in the Atlantic Ocean. The firm also built F4U Corsair planes for the U.S. Navy when Chance Vought had trouble fulfilling its contracts.

In 1939, Goodyear Aircraft had just 30 workers; by 1942 it consisted of 35,000 employees. Today it is one of the world's largest manufacturers of vehicle tires as well as other rubber products.

Fairchild Aviation Corporation

Prior to WWII. Fairchild Aircraft, based in Farmingdale and East Farmingdale, New York, had no experience in building military aircraft. However, the company had extensive experience in building monoplanes and seaplanes for civilian use—especially for their aerial photography capabilities.

Because all the other military aircraft manufacturers were swamped with orders for combat aircraft, Fairchild was contracted to build trainers for the U.S. Army Air Force, such as the PT-19 primary trainer, of which 6,500 were built.

In addition, Fairchild turned out other trainers, such as the AT-21 gunner trainers, twin-boom C-82 Packet ("Flying Boxcar") cargo and troop transports, and target drones. The Fairchild AT-21 Gunner, a twin-engine trainer, was manufactured in Burlington, North Carolina.

Also, large numbers of the four-seat, single-engine monoplane light transport aircraft Fairchild 24 (C-61/Argus) were produced for the military (principally as the Argus for the Royal Air Force). Production continued after the war for the civilian market and the name was changed to Fairchild Republic.

The company, perhaps best known for its A-10 Thunderbolt, also called the Warthog,

National Archives

ABOVE: Chance Vought produced the gull-wing F4U Corsair for the Navy but, when demand exceeded the company's capabilities, the contract was outsourced to Goodyear and Brewster. BELOW: The Brewster SB2A Buccaneer was a disappointing underperformer; only 771 were built—and many of them were scrapped even before they were delivered.

Library of Congress

which performed admirably as a tank buster during the Gulf Wars, still exists as a commercial aircraft maker. The company sold its rights to the A-10 to Grumman.

Chance Vought Corporation

In 1914, Chance Milton Vought, who had been taught to fly by the Wright Brothers in 1911, designed the Mayo-Vought-Simplex aircraft that was used by the British as a World War I training plane. After founding his own company in 1917, he began designing aircraft and aircraft carrier launch systems for the U.S. Navy. In 1922, the Vought VE-7 was fitted with a crude arresting hook that made naval history when it landed on the refitted USS *Langley*—the first aircraft carrier.

This was followed by the Vought UO-1 biplane that gave the Navy its first catapult-launched aircraft. But Vought's claim to fame is the F4U Corsair, the gullwing, deck-launched fighter. Because Vought was unable to completely fulfill its contracts for the Corsair, some of its production was outsourced to other companies—notably Brewster, Goodyear, and Vultee. Chance Vought Corporation built a total of 8,000 aircraft during the war.

(The company was acquired in a hostile takeover in 1961 and became part of LTV Corporation that went bankrupt in 1986.)

Republic Aviation

The Republic P-47 Thunderbolt—sometimes called "the Jug"—was the most-produced fighter of the war, with 15,686 copies built.

The firm began life in 1931 as the Seversky Aircraft Company in Farmingdale, Long Island, New York, but Seversky changed its name to Republic during a reorganization.

Before the war, Republic built the P-43 Lancer for the U.S. and China but once the war began, Republic's 24,000 employees focused on building its successor: the P-47 Thunderbolt. The P-47's huge fuselage, Pratt & Whitney R-2800 Double Wasp turbocharged engine, and impressive armament made it a formidable opponent in the sky.

Early in 1943, squadrons of P-47s began accompanying RAF and USAAF bombers deep into German-occupied territory and over Germany itself to tangle with Luftwaffe pilots attempting to shoot down the intruders. This role was superseded by the introduction of North American Aviation's P-51 Mustang, which had better range than the P-47.

Nevertheless, the P-47 assumed a ground-support role and carried out strafing and bombing missions in the European and Pacific theaters until war's end. (After the war, the company continued to develop new aircraft, including several jet models such as the F-84 Thunderjet and F-105 Thunderchief. Republic was acquired by Fairchild Aerospace in 1965 and ceased to be an independent company.)

Brewster Aeronautical Corporation

Almost forgotten today, Brewster was a major manufacturer of warplanes before the U.S. became involved in WWII, building the F2A Buffalo as a carrier plane for the U.S. Navy and Finland's air force. The company also sold Buffalos to Britain, but they fared badly against the more-advanced Japanese Zeros in clashes in the Far East.

National Archives

ABOVE: The Northrop P-61 Black Widow was the first aircraft designed with an integral nose-mounted radar that made it an excellent night fighter. OPPOSITE: New B-25 Mitchell bombers undergo final inspection at North American Aviation's manufacturing plant at Inglewood, California; the company produced 26,000 B-25s. American industrial capacity and achievement overwhelmed the enemy.

Once the war began, the U.S. Navy replaced the overweight, underpowered Buffalo with Grumman's much more capable F4F Wildcat.

Not wanting to give up on Brewster, the Navy contracted the company to build a carrier-based torpedo bomber known as the Brewster SB2A Buccaneer (called the Bermuda in British service). The Buccaneer was a disaster—underpowered, poorly constructed, and unsuitable for combat. Only 771 were built, and many were scrapped before being delivered. About all it was good for was as a trainer or target-towing aircraft; the Buccaneer is considered by many aviation historians to have been among the worst planes of the war.

Plagued with scandals, financial mismanagement, substandard quality, and slow production, Brewster closed its doors permanently after the war.

North American

World War I pilot James Howard "Dutch" Kindelberger went to work for Donald Douglas and then Glen Martin before going over to North American Aviation in Dundalk, Maryland, in 1934, where he became president. Kindelberger soon forged a move to the West Coast, where a new plant was established in 1936 near Inglewood at the Los Angeles Municipal Airport (today known as Los Angeles International Airport, or LAX).

North American would become the largest U.S. aircraft manufacturer in World War II, building a total of some 26,000 two-engine B-25 Mitchell bombers at its Inglewood and Kansas City factories. North American also opened a B-24 plant at Dallas/Grand Prairie, Texas.

North American also created the trainer aircraft by which most American pilots learned to fly. The company produced nearly 15,500 AT-6 Texan trainers for the Army, which was designated the SNJ for the Navy, and the Harvard by the British. (In 1967, Boeing acquired North American.)

Northrop Aircraft, Inc.

Unlike Brewster, the Northrop Corporation, based in Hawthorne, California, was a reliable manufacturer of outstanding aircraft. The company was formed when John Knudsen Northrop broke off a partnership with Douglas Aircraft in 1937 and opened his own plant two years later.

Northrop's only product was the twin-engine P-61 Black Widow—America's only purpose-built night fighter and the first aircraft in the world to be designed with an integral nose-mounted radar (other aircraft had been retrofitted with radar). Some 742 P-61s were built and saw action on all fronts.

In 1994 the company merged with Grumman and went on to develop a series of jet trainers and fighters, as well as the B-2 Spirit stealth bomber. Today the corporation is one of the United States' "defense giants."

Bell Aircraft Corporation

Another major aircraft manufacturer was Bell, started by Lawrence D. Bell, who worked for the Glenn L. Martin Company in the early 1900s and, in 1935, founded Bell Aircraft in Buffalo, New York. With the outbreak of war, the company focused its efforts on the single-engine P-39 Airacobra fighter and its successor, the P-63 Kingcobra.

Bell's 28,000 employees built 9,588 P-39s (4,423 of which were delivered to the Soviet Union as a part of Lend-Lease) and 3,303 P-63s (2,397 also delivered to the Soviets). The company also built B-29s in Marietta, Georgia.

(The company had two notable post-war successes: the Bell X-1, the world's first supersonic plane, and the Bell "Huey" helicopter. Bell Aircraft was bought by Textron in 1960 and is now known as Bell Helicopter.)

Waco Aircraft Company

A major manufacturer of civilian biplanes before the war, Waco (pronounced "wocko-o") was originally named the Weaver Aircraft Company of Ohio and designed a combat glider known as the CG-4A, which took part on all American glider operations in WWII, including Operations Overlord, Market Garden, and Varsity.

The company, which was headquartered in Troy, Ohio, ceased operation after the war was briefly revived in the 1960s and early 1970s but no longer exists.

Library of Congress

Piper Aircraft Corporation

The Piper Aircraft Corporation, owned by William T. Piper, began life in the late 1930s in Lock Haven, Pennsylvania, and proved wildly popular with civilian aviators. In fact, sales of Piper Cubs represented a third of all civilian aircraft in the United States. Shortly after Pearl Harbor, the U.S. Army Air Forces ordered 1,500 high-wing Grasshoppers, which were designated L-4 Grasshoppers and used extensively as artillery spotter planes in both the European and Pacific theaters of war.

In 1969 the company was acquired by Bangor Punta but a lawsuit caused the firm to cease operations in 1984, when it was acquired by Lear Siegler, Inc., and moved to Florida.

Pratt & Whitney

Although not an aircraft manufacturer per se, Pratt & Whitney deserves mention, for almost all of the aforementioned planes owed their success to their Pratt & Whitney power plants. The East Hartford, Connecticut, firm known as the Pratt & Whitney Machine Tool Company hired Princeton graduate, former Navy lieutenant, aircraft engine designer, and aviation engineer Frederick B. Rentschler to develop aircraft engines for the U.S. Navy.

Rentschler and his team came up with an air-cooled radial engine that produced 425 horsepower while weighing only 650 pounds that was named the "Wasp." A second design, rated at 525 horsepower, was called the "Hornet."

A historian for the company noted, "By 1940, Pratt & Whitney's engine technology had improved dramatically. The company's largest engine, the Twin Wasp, produced 1,200 horsepower. As President Franklin Delano Roosevelt moved to put the country on a wartime footing, American aircraft manufacturers were called on to produce 50,000 aircraft a year for the military.

"Pratt & Whitney engineers continued to innovate, increasing the power of their engine designs throughout the war years. By the end of the war, the power of Pratt & Whitney's largest engine had tripled to 3,600 horsepower, and the company and its licensees had managed to produce more than 363,000 aircraft engines—an amount equal to one half the total air power of the Allied Air Forces."

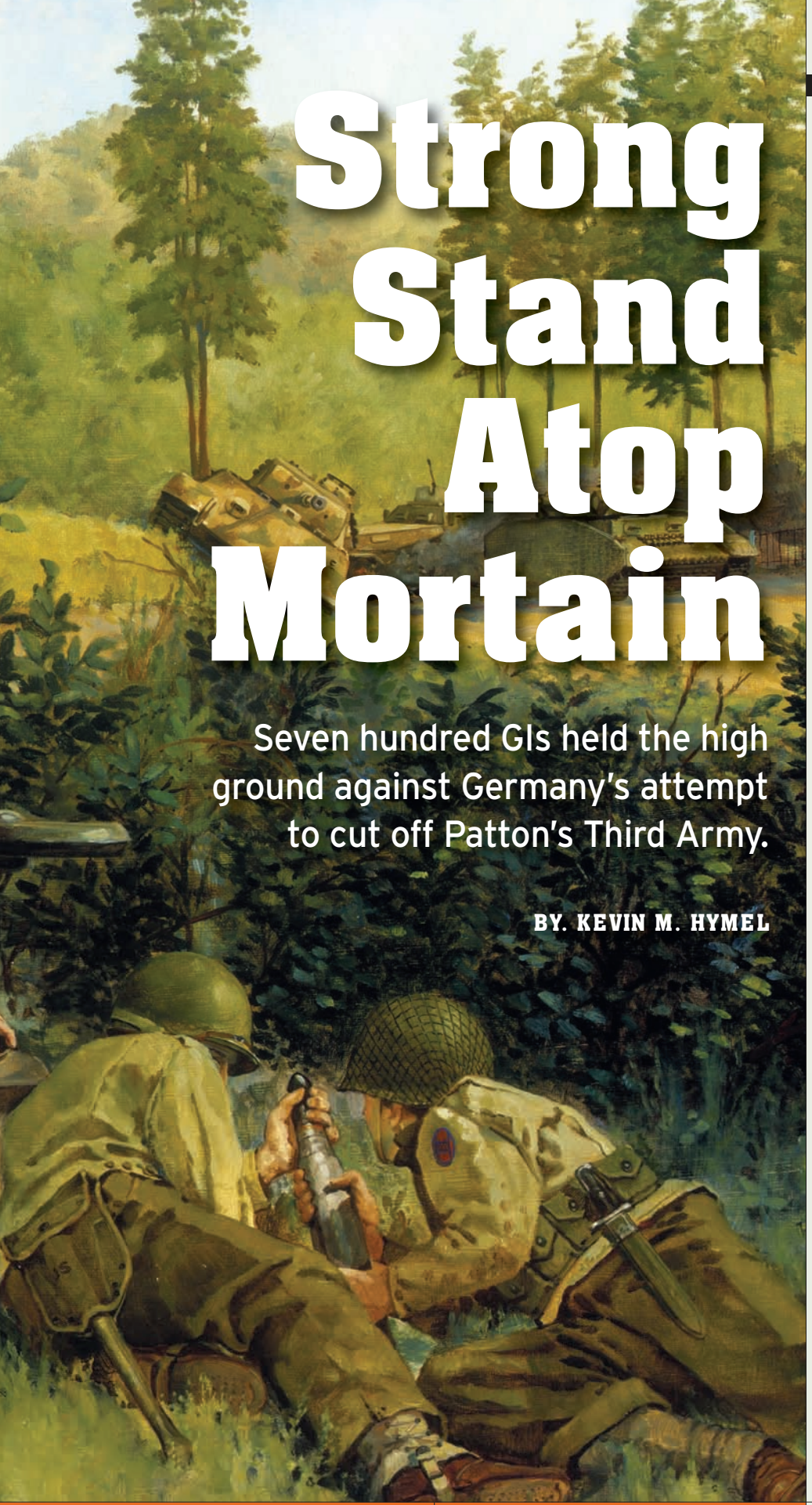
The output of military hardware of all types—especially aircraft—by the United States was truly an astonishing feat, unmatched by any other country before or since.

As the Time-Life editors put it, "Employment in the aircraft industry rose from 100,000 in 1940 to over two million at the peak of the war effort. " The total number of fighters, bombers, transports, patrol, trainers, artillery spotters, and other aircraft produced by America during the war was nearly 300,000—a staggering figure that, even without the tremendous production of ships, tanks, guns, and ammunition, meant that the Axis powers had no chance of winning the war.

By comparison, Germany built 94,622 warplanes, Italy 3,000, and Japan (which had no separate air force) produced almost 75,000 for their army and navy.

As William S. Knudsen, who became chairman of the U.S. Office of Production Management, said, "We won because we smothered the enemy in an avalanche of production, the likes of which he had never seen, nor dreamed possible." □

In a "last-ditch stand" against a German counter-offensive designed to break through American lines and drive through to Avranches, soldiers of the 30th Infantry Division man their anti-tank gun position.



Strong Stand Atop Mortain

Seven hundred GIs held the high ground against Germany's attempt to cut off Patton's Third Army.

BY. KEVIN M. HYMEL

A German SS officer, holding a white flag of truce, walked through the American lines and up to a tall lieutenant from Texas. Surrounded for three days, the Americans were outnumbered four to one with little hope of relief. "Your situation is hopeless," explained the German, adding that if the Americans did not surrender, they would be "blown to bits." Around them lay wounded Americans, many suffering with gangrene. Other soldiers—dirty, hungry, and thirsty—hunkered down in foxholes or behind boulders. Smoking hulks of tanks littered the battlefield; blackened craters and bare tree trunks covered the ground. The American lieutenant weighed the offer for a second before delivering a curt response: "Go **** yourself."

In the first week of August 1944, the Germans were on the attack in Normandy. After being pushed off the D-Day beaches by Lt. Gen. Omar Bradley's First Army and suffering a rupture in their lines by Lt. Gen. George S. Patton Jr.'s Third Army, the Germans launched a counteroffensive of four Panzer divisions to smash the American lines and capture the vital French coastal town of Avranches, where Patton's tanks poured into the Continent.

An hour after midnight on August 7, 1944, more than 50,000 German troops and 300 tanks advanced westward. The 2nd SS Panzer Division targeted Mortain, a small town 20 miles directly east of Avranches. In the way of this armored assault stood the 30th Infantry Division, an American National Guard unit that landed a month earlier in Normandy. Called the Old Hickory Division in honor of President Andrew Jackson, the 30th had just replaced the 1st Infantry Division at Mortain a day earlier and barely had time to dig in before the Germans struck.

Monday, August 7 (Day 1)

A predawn German attack splintered the Old Hickory, overrunning roadblocks and capturing and killing scores of

National Guard

U.S. Army Art Collection

ABOVE: A sketch of the village of Mortain and the strategically vital Hill 314. If Mortain had not been held by the Yanks, the flank of Patton's advancing U.S. Third Army would have been endangered by the Germans. BELOW: Three key figures in the defense of Hill 314 at Mortain were (left to right) Lieutenant Ralph Kerley, Sergeant Frank Denius, and Lieutenant Robert Weiss.

All: National ArchivesNational Archives

Americans. But islands of resistance denied the Germans key locations. The most important was Hill 314, overlooking Mortain from the east, which towered over the terrain for miles. The hill was ideal for defense, with huge boulders and dense undergrowth. The north and east sides of the hill sloped gently and were road accessible, but the south and west sides formed sheer cliffs above the town. On a clear day, Hill 314 provided a panorama of the French countryside for more than 30 miles.

Lieutenant Colonel Eads Hardaway, the commander of the division's 2nd Battalion, 120th Infantry Regiment, set up his headquarters in Mortain and sent his E, G, and K Companies to the crest of the Hill 314, placing them in a triangular perimeter. Lieutenant Joseph Reaser's K Company covered the north; Lieutenant Ronald Woody's G Company covered the southwest; and Lieutenant Ralph Kerley's E Company covered the southeast. The 2nd Battalion's GIs had only bazookas and mortars, but they possessed two artillery forward observer teams, both from the 230th Field Artillery Battalion. Lieutenant Robert Weiss commanded one team (Battery B), Lieutenant Charles Bartz the other (Battery C).

Both teams spent the previous day plotting artillery support. "I would plot out emergency barrage numbers and normal barrage numbers," explained Sergeant Frank Denius, from Bartz's team. Emergency barrage numbers were pinpointed on expected counterattack areas. During an attack, an observer only had to request "Emergency Barrage Number 1" and the gunners would know where to fire. Normal barrage numbers disrupted suspected supplies and support areas farther back. "If you got attacked at night, [artillery] had to come immediately," explained Denius. "My battalion had 12 105s, but in an emergency we could have all division artillery, then we had artillery from other divisions and corps artillery."

The clanking tank treads warned the men atop Hill 314 of the impending attack. The Germans struck around 1 AM and quickly overran a roadblock on the southeastern edge of the hill. Survivors straggled into the perimeter. The Germans pressed their attack, cutting off communications between the hill and Lieutenant Colonel Hardaway's battalion headquarters in Mortain. Enemy tanks and infantry rushed up the eastern and southeastern slopes, the soldiers shouting, "Heil Hitler!" and charged G Company's foxholes near a small church called La Petite Chapelle.

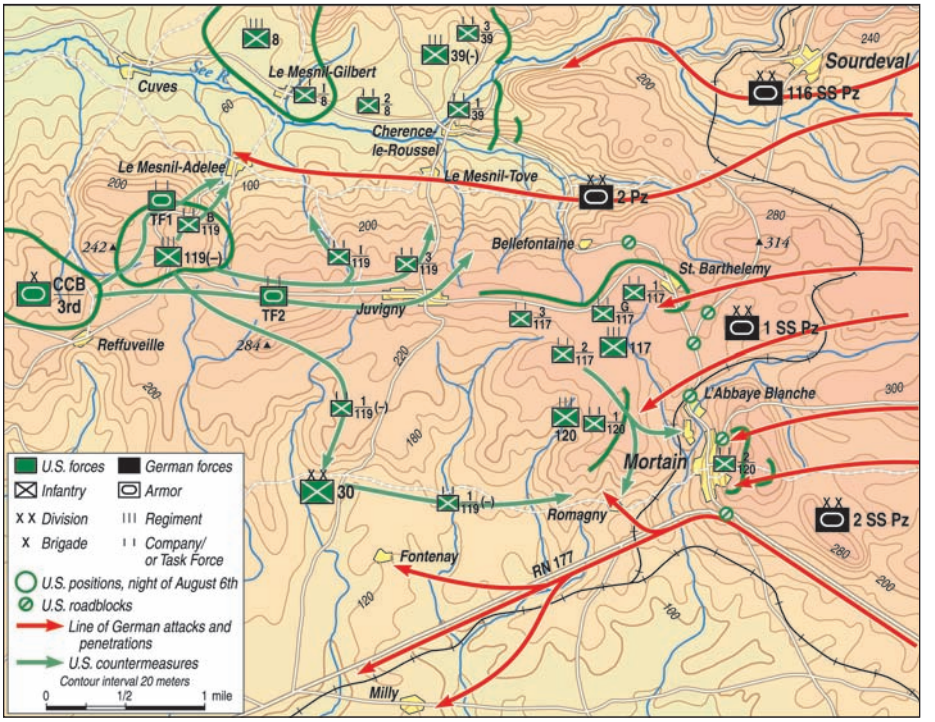
As German tanks and infantry slammed into G Company, Lieutenant Kerley ordered Lieutenant Weiss to call in artillery fire. Blinded by darkness and fog, Weiss could hear the approaching tanks and radioed coordinates to the artillery based on his best guess. Shells rained down on the Germans. In a short, sharp skirmish, the American brushed them off the heights.

Lieutenant Bartz's observation team was stuck in the front lines, unable to call in rounds lest they reveal their position to the Germans. The attack took Bartz out of the fight, but the rest of his team, Sergeant Frank Denius and Technical Sergeant Sherman Goldstein, made it back to Kerley's headquarters. By the time they set up their radio and began adding to Weiss's artillery requests, two hours had passed. Denius and Goldstein would work well together for the duration of the battle. "I was an instrument operator," recalled Denius. "Sherman Goldstein was the radio sergeant. When I called out

directions for fire, he relayed them to battalion."

Once the GIs halted the attack, Lieutenant Kerley did something odd. He removed his helmet, lay down on the ground. and fell asleep. The panicked men around him suddenly calmed. Dense fog held the battlefield in check. He finally awoke an hour later, refreshed. He led the rest of the battle energetically and with a clear head. It would be his last bit of sleep for the next week.

Kerley was amazed at what he saw once the sun burned off the fog: "Columns of enemy armor and foot troops streaming [toward us] from the east and northeast." The Germans were packed together, an easy target. Weiss and Denius called fire missions, and shells began exploding among the attackers, killing and maiming scores of Germans, destroying tanks and vehicles, and sending survivors scurrying down the hill.



ABOVE: By holding Mortain and Hill 314, the Americans split the German panzers' axis of advance and blunted the enemy assault. BELOW: Men of the 30th Division race along a hedgerow to reinforce a new position at Hill 314, August 8, 1944.

National Archives

While Weiss called in artillery on the east and northeast, Denius called for fire on the south and southwest. "I saw German infantry and tanks attacking," said Denius. "It was the first time that we had seen that many tanks and that large a concentration attacking us." Denius eyed a large intersection on the southeast corner below Hill 314, where the Germans were trying to either bypass the hill or attack it from behind. He and Goldstein ordered fire on the intersection and continued to do so during the course of the battle.

The Germans retaliated with 88mm artillery fire. Several rounds exploded near Weiss, but the angle of fire and the huge boulders offered refuge. The shrapnel merely nipped the top of his radio antenna. Others were not as lucky. An 88 explosion knocked down a Native American soldier running up the hill. He lay there, shaking with fright before gathering the courage to stand, put his helmet on, and continued up the slope. While Weiss remained with Kerley, Denius and Goldstein moved between the three companies, offering fire support where they could.

The Germans continued to probe the hill, but Companies E and K pushed them back. It was no easy task. When an enemy sniper began shooting at E Company, Lieutenant Kerley asked one of his men for his rifle and then disappeared for about 20 minutes. His men worried about him until they heard two shots ring out. Kerley emerged from the scrub and quietly offered the man his rifle back. "Thanks son," was all he said.

One German assault managed to capture several K Company rifle squads. Elsewhere, an E Company soldier, Private Paul Nethery, exchanged fire with a group of Germans. He was hit in the head and leg, but Nethery wounded an SS officer, who was then captured. The German turned out to be an artillery spotter, an important catch for the Americans.

As the morning wore on, men from the town below began drifting into Hill 314's perimeter. One unit arrived intact. Captain

Both: National Archives

Reynold Erichson from F Company led a 40-man platoon from C Company onto the hilltop. Erichson had left the hilltop for battalion headquarters when communications died. Once there, Lt. Col. Hardaway gave Erichson the platoon and ordered him back up the hill.

Erichson spent most of the day trying to find a way back into the perimeter. He and his men constantly stumbled into groups of SS soldiers who forced Erichson to change directions. In the final dash, a German half-track with a mounted machine gun opened up on Erichson's men. Fortunately, the G Company soldiers atop Hill 314 dropped mortars on the Germans, enabling the trapped men to disengage and wriggle up the hill on their bellies. One of the last to make it into the perimeter was Captain Delmont Byrn of H Company, who was taken aback at what he found. "I was kind of shocked to see injured men lying there in the open, being hit again by shrapnel."

Above, American Ninth Air Force fighter planes flew 429 sorties to keep the Luftwaffe out of the skies that first day. Ten squadrons of Hawker Typhoons of the British Second Tactical Air Force flew 290 sorties and fired 2,088 rockets at German tanks and vehicles below, keeping the enemy at bay. "I'll never forget the sound of those rockets fired from the British Typhoons," explained Denius. "We had never heard anything like that before."

With most of Mortain in German hands, Lt. Col. Hardaway radioed Captain Erichson that he was now the temporary commander of the three companies. As the sun went down, Erichson ordered a survey of the remaining ammunition supplies. Each company reported severe shortages or depots inaccessible because of German snipers. At least 78 GIs were killed, wounded, or captured. There was no relief in sight.

ABOVE: Well-camouflaged German troops smile for the photographer during a pause in the battle. Despite sometimes superhuman efforts, the Germans failed to stop Patton's juggernaut. BELOW: Dug into a foxhole next to a hedgerow, a 30th Division officer uses an EE-8-B telephone to make contact with higher headquarters.

Tuesday, August 8 (Day 2)

During the night, Lieutenant Woody shifted G Company's position closer to Lieutenant Reaser's K Company and away from Le Petit Chapelle, consolidating the perimeter but isolating Lieutenant Kerley's E Company. Throughout the night and into the next morning the artillery observers called in heavy fire every time the Germans massed for an attack. Whenever the Germans fired an artillery shell or a tank round, the observers quickly pinpointed the location and rained fire.

Finally, a lone Panther tank plowed through a hail of fire and roared onto the hilltop. The men held silent as the tank drove through the perimeter. An American bazooka team tried to get into a firing position while Denius raced to the area to call artillery rounds on the tank. Finally, the Panther's commander, probably realizing he was alone,

turned around without firing a shot and retreated down the hill.

Although the lone tank was the only real attack of the day, the Americans had other worries. With no resupply, men were running low on food. They had pooled their K-rations, reserving some for the wounded, but soon ran out. Some dug potatoes and cabbages from an abandoned farm or plucked apples from an orchard. "That first bite of cabbage was about the most delicious taste I ever experienced," said Private Thomas Street. One soldier donated his bottle of cognac to fuel a fire used to cook potato soup.

Private First Class Allen Newhouse later recalled, "It was the first time I ever ate green apples without getting a stomach ache." Sergeant Denius relied on his chocolate D-Bar, shaving portions for himself with his bayonet. "I was neither hungry nor thirsty," recalled Denius, who was too busy calling in fire to think about food.

Some of the men found a cistern filled with "fairly greenish" water. They filled their canteens and dropped in purifying pills, "but it didn't help the taste," said Private Street. German snipers kept a freshwater well on the edge of the American perimeter under fire. A few thirsty soldiers said, "To hell with enemy snipers!" and crawled to it. One man provided covering fire while the other filled canteens.

With no medical equipment, casualties mounted. Even though the healthy men donated their first aid packs to the medics, medical supplies were being used up. "We were watching men die because we had no disinfectant, no bandages, except what was in the tiny first-aid kits we carried," said Captain Byrn.

And then there were the radio batteries, the crucial weapons that kept the artillery observers in business and the enemy at bay. The artillery observers used their radios sparingly. They found that turning off their radios for a couple of hours recharged the batteries a little, adding about five to 10 minutes of life. They also placed spare batteries on rocks in the sun, hoping the heat would recharge them. "I didn't know if putting them in the sun worked," said Denius, "but we tried it."

A lone PzKpfw. VI Tigar tank similar to this one attempted to attack soldiers of the 2nd Battalion, 120th Infantry Regiment, 30th Infantry Division, but withdrew after the Yanks rejected a demand for surrender and subjected it to an intense barrage.

In an effort to resupply the men, two light artillery spotter planes packed with food swooped down on the hill. But the planes came under withering German fire and were forced to turn back before dropping their loads. The men on Hill 314 would have to wait.

Up on the hill, Captain Byrne worked to consolidate the American perimeter. He braved mortar and small arms fire to link up with Companies G and K. "As I had not learned to be scared yet, I made a fairly good example," he remembered.

By 2 PM, the Germans attacked G Company, this time from the west, from the town of Mortain. White phosphorous shells dropped on the hill, burning some of the Americans. Lieutenant Weiss quickly found cover and escaped the burning particles. He then called a fire mission on a group of enemy howitzers. Company G repulsed the attack, breaking up German concentrations with mortars. "Every time we saw the Germans forming up for an attack, we'd drop a few shells on top of them," recalled one soldier. But the Americans absorbed more casualties in the process.

Denius also called in artillery. "You could see the attack coming," he explained. "I

National Archives

would just put as much artillery into the area as I could. German tanks were very quiet and could slip up on you."

As the sun set, men gathered the dead and placed them out of sight, lest their presence reduce morale. The Germans tried another night attack, but American artillery kept them at bay. Weiss called in fire on the supply routes he had already zeroed in. He then directed artillery against three attacks by the Germans. Denius ordered fire on the southern intersection intermittently, staggering the rounds with two-minute breaks, then eight minutes, then another pause before firing again. "We asked them to keep firing, to do interdiction fire on 24/7."

Wednesday, August 9 (Day 3)

Early on Wednesday, the Germans launched an armored attack from the east against E Company's roadblock, trying to split the American perimeter. Artillery repulsed the first line of tanks, and the same steel curtain greeted the infantry. Then three light tanks attacked, followed by bicycle troops. The Germans attacked four times in one hour with more attacks to come. More and more tanks and infantry kept assaulting the same area, trying to break through, only to be halted by a rain of shells.

Having no success, the Germans gathered at the southwest corner of the hill and charged near the La Petite Chapelle. Tossing phosphorous grenades, they pushed forward. Some shouted, "Kamerad!" and waved white flags, then pulled out guns and started shooting. Lieutenant Weiss withheld fire, worried that he might call it on his own men. A German grenade exploded beneath an American .30-caliber machine gun. One of the men was wounded, but Sergeant Luther Myers survived the blast and field stripped the weapon in the dark to get it working again. One of the riflemen in front of Myers was hit in the arm and began crawling back toward him. Myers repaired the machine gun just in time to cover the man. Then he opened fire on the Germans, stopping their attack cold.

When firing ceased, men called for

ABOVE: Dirty and exhausted soldiers of the 2nd Battalion, 120th Infantry Regiment, 30th Infantry Division, pose for a photographer after the fight for Hill 314 was over. OPPOSITE: A German soldier lies dead beside a knocked-out armored vehicle near Mortain. The other vehicles and debris strewn across the road testify to the devastating power of American artillery and air strikes.

medics, who showed up with empty medical satchels. Unable to help their comrades, they went back to their foxholes. Shortly thereafter, a German officer began collecting rifles from the battlefield. Myers used his rifle to draw a bead on the German and fired. "I didn't even have to use the machine gun," recalled Myers about the easy kill.

Around 5:30 PM, a specially fitted American PB-38J, a fighter plane equipped with a glass nose in order to take photographs, flew over the battlefield and surveyed the terrain for the next day's arrival of transport planes. Unfortunately, the Germans shot at the plane as it circled, and it crashed in a nearby forest.

The artillery duel intensified, with the Germans getting the worst of it. "The Germans are building up strong reserves on all sides," Lieutenant Weiss reported to Division. "We are laying a ring of fire." The Americans fired 30 observed counterbattery missions in an hour, a record for the European Theater. "I can't tell you how many German trucks and tanks we knocked out," recalled Denius. "We had great vision when we could see clear enough."

Everything was running out. Ammunition stocks were low, medical supplies were threadbare, and the food had been consumed. To make matters worse, the dead began decomposing in the August heat. "The future looked anything but bright," said Lieutenant Kerley, "and morale was on the decline." Men buried their dog tags, rings, and anything of value, preparing to be overrun.

Then the German SS officer with the white flag walked up the hill and requested the Americans' surrender. He was brought before Lieutenant Kerley, who gave his curt reply and added: "When the last round of our ammunition is fired and the last bayonet has

been broken in one of your bastard bellies, then we might talk surrender. But I doubt it. Now get the hell off this hill before I shoot you off."

The surrender request and the attack had an odd effect on the 2nd Battalion men. Their despondency disappeared, replaced by anger and resolve. "It was like nobody expected to live anymore," explained Captain Byrn. The men now concentrated on fighting to the last, taking as many Germans with them as possible. When an officer back at headquarters learned of Kerley's statement, he declared: "That's telling the son-of-a-bitch."

The Germans were good to their word. At 8:15 PM with the sun low in the western sky, a single Tiger tank blasted through the E Company roadblock and entered the perimeter. After firing a few rounds, the tank's hatch opened and a German rose out of it. "Surrender or die!" he shouted. After a few moments of silence, an American broke cover, climbed onto the tank, and clung to the turret as the tank sped back to enemy lines.

Even though the Germans eased their pressure on August 10, the radio battery shortage was becoming acute. Radios were no longer used to communicate between companies. Instead, the platoon and company leaders used runners. "Our batteries were so weak we could hardly hear," said Sergeant Harry Walker with K Company. "Corporal Brown [some three miles back with the artillery pieces] kept telling me to speak up; he could hardly hear me."

That afternoon a flight of Republic P-47 Thunderbolt fighter-bombers flew over the hill, bombing German positions. The Americans took cover in their foxholes, but the pilots above knew who held the top of the hill. Four hours later the fighter planes returned, escorting C-47 transport aircraft. Their aircrews kicked out supplies, which floated down under different colored parachutes. To protect themselves from ground fire, the C-47s flew at a high altitude, resulting in most of the supplies landing behind German lines. Desperate for ammunition, food, and batteries, American raiding parties raced into No-Man's-Land and retrieved some of the canisters. Most of the supplies consisted of ammunition and food. No batteries or medical supplies were retrieved.

National Archives

Some of the supplies were ridiculous. Packed in boxes were .30-caliber rounds designed for World War I-style rifles. The men could use them in their M1 Garands, but they had to load them individually. Knowing that the Germans were listening, the radio operators bragged that they now had plenty of food, water, and ammunition.

As the sun went down, the American artillerymen shelled the hill, but with a different purpose. The artillerymen used propaganda shells, replacing leaflets with plasma, bandages, tape, and morphine. The word went out to expect artillery shells with red stripes around their bases. The artillerymen, 10 miles away, fired at the large white rocks on the northwest face of the hill. Some shells hit, bounced into the air, and imbedded themselves in the ground.

The men on Hill 314 had trouble finding these shells in the dark. They beat one shell, trying to crack it open, until someone realized it had no markings. The medical shells were only a partial success. Many were lost in the darkness. Also, the impact against the rocks destroyed the plasma. The men were able to extract bandages and penicillin, but it was not enough. "Every guy who was wounded got some penicillin," explained Denius. "I can still see the smile on those guys' faces when they got that medicine."

Friday, August 11 (Day 6)

Throughout the darkness of August 11, division artillery kept a ring of fire around Hill 314, concentrating on the road nets. Dawn brought a big surprise: German vehicles heading east, away from Mortain. The Germans were retreating. Artillery opened up on the vehicles, depleting their numbers. The Germans around the base of the hill, however, showed no signs of retreating and kept up deadly sniper fire and assaults, trying to break into the American perimeter. As the morning wore on, a rumor circulated that the relief force would reach them around noon. "As the Germans fell back," explained Denius,

Continued on page 98

FREEING A MAN TO FIGHT

BY SUSAN ZIMMERMAN

How more than 350,000 American women helped the Allies to win the war.

Women of World War II / United States Marine Corps

A formation of women Marines, officially known as Marine Reservists, marches smartly past their male counterparts in combat gear at Camp Lejeune, North Carolina, 1943. The Marines Corps was the last branch of service to accept women. OPPOSITE: Three of many recruiting posters produced by the Office of War Information (OWI). The posters were apparently effective, as over 300,000 women were accepted for military service.

Both: Women of World War II / National Archives

On December 7, 1941, Japan bombed Pearl Harbor. The next day, the United States declared war on the Empire of Japan, and the following day President Franklin D. Roosevelt told the nation to "prepare to make the sacrifices necessary for the coming fight." The U.S. government realized that to win this "total war," women would be needed to serve on the home front to free men to fight on the battlefront. Patriotism was running high, and American women heard the call loud and clear—and answered.

Even before the war—early in 1941—Congresswoman Edith Nourse Rogers of Massachusetts met with the Army's Chief of Staff, General George C. Marshall, and informed him that she intended to introduce a bill to establish an Army women's corps, separate and distinct from the existing Army Nurse Corps.

Although Rogers believed that a women's corps should be a part of the Army so that women could receive equal pay, pension, and disability benefits, the Army did not want to accept women directly into its ranks.

It took over a year of wrangling and compromise before the bill was passed by Congress authorizing the formation of a women-only branch of the Army. The Women's Army Auxiliary Corps (WAAC) was created on May 15, 1942 (the name was changed on July 3, 1943, to the Women's Army Corps, or WAC). It was established to work with the Army, "for the purpose of making available to the national defense the knowledge, skill, and special training of the women of the nation."

Army Chief of Staff General George C. Marshall declared, "Aside from urgent family obligations, enlistment in the military services takes precedence over any other responsibility. I am confident that American women will answer this call to duty." And answer they did.

Societal morés were changing in the 1940s as women in military uniform became a new norm, although social protocols and gender stereotypes persisted. The day after the WAAC was established, a *St. Louis Globe-Democrat* article, "Meet

ABOVE: Still in stylish civilian clothes, a group of Women's Army Auxiliary Corps recruits arrives at Fort Des Moines, Iowa, 1942. BELOW: The first Army nurses arrive on Pantelleria shortly after Allied assault forces secured the Mediterranean island in June 1943. OPPOSITE: Worried buddies look on as Ensign Jane Kendeigh, a Navy flight nurse, comforts a badly wounded Marine before a flight out of Iwo Jima 12 days before the island was declared secure. Ensign Kendeigh was the first flight nurse on both Iwo Jima and, later, on Okinawa.

the Boss of the Women's Army Corps," reported on the WAAC's first director, Oveta Culp Hobby, who was then chief of the Women's Interest Section in the Public Relations Bureau at the War Department.

"It takes brains to be a bank director—she is on the board of the Cleburne [Texas] National Bank … but she does like those flower-and-veil creations that prompt men to say, 'Do you call that a hat?' She dresses smartly and in good taste. Her dark eyes are especially large and alert. They are accentuated by her dark hair, which is turning gray prematurely. Summer and winter, she somehow manages to have that well-tanned look."

Enlistments among women grew quickly. By war's end, the WAC would number over 150,000, with 17,000 women serving in Europe and the Pacific and 2,000 in North Africa. Their assignments were incredibly varied. They worked at airfields as radio operators and spotters, and in ammunition and artillery as crew chiefs and technical workers. They served as drivers and mechanics; telephone and telegraph operators; aerial-photo interpreters and armorers; weather observers and parachute riggers; mail sorters and mechanics; and secretaries and censorers of GIs' letters. Over 400 worked at the laboratory in Los Alamos, New Mexico, where the first atomic bomb was developed. The list of jobs—everything except combat—was almost endless.

Some of the jobs, for many, were also boring and required long hours, sometimes under dangerous conditions. Strict military restrictions and regulations needed to be followed, and personal freedoms were limited. Some women hated group living or having to dress like everyone else or having their social contacts limited. Many realized that they were being paid less than if they were working in private industry. But it is safe to say that the majority gladly made these personal sacrifices for the good of the country.

Women of World War II / U.S. Navy

In her Center for Military History booklet, *The Women's Army Corps: A Commemoration of World War II Service*, Judith A. Bellafaire wrote, "WACs in the Southwest Pacific Area had a highly restricted lifestyle. Fearing incidents between the women and the large number of male troops in the area, some of whom had not seen an American woman for 18 months, the theater headquarters directed that WACs (as well as Army nurses) be locked within barbed-wire compounds at all times, except when escorted by armed guards to work or to some approved recreation. No leaves or passes were allowed.

"The women chafed under these restrictions, believing they were being treated like children or criminals. Male soldiers complained frequently in their letters home that WACs were not successfully 'releasing men for combat' in the Southwest Pacific because it took so many GIs to guard them. The WACs, in their turn, resented the guards, believing them unnecessary and insulting….

"Ten women received the Soldier's Medal for heroic actions (not involving combat). One such incident occurred at Port Moresby, New Guinea, when an oil stove in the women's barracks caught fire and three WACs brought the fire under control by smothering it, sustaining severe burns in the process.

"Sixteen women received the Purple Heart…. The majority of the WACs received their injuries from exploding V-l bombs while stationed in London. The Bronze Star was awarded to 565 women for meritorious service overseas. A total of 657 WACs received medals and citations at the end of the war."

Although women had served in military conflicts since the American Revolution, World War II was the first time that women had taken part in the United States military in an official capacity. In addition to the WAAC, three other auxiliaries were formed in 1942: Women Accepted for Volunteer Emergency Service (WAVES); the Coast Guard Women's Reserve (SPAR, taken from the Coast Guard's motto *Semper Paratus* and its translation, "Always Ready"); and the Marine Corps Women's Reserve (WR).

The WAACs, WAVES, SPARs, and WRs weren't the first women to offer their services to the military—nurses were. One historian noted, "For nearly 100 years before Congress formally established the Navy Nurse Corps in 1908, women worked as nurses aboard Navy ships and in Navy hospitals. As early as the War of 1812, volunteers performed nursing duty in places that were often dangerous and required courage in the face of adversity."

Only about 1,700 Navy nurses were serving at the start of World War II, but the ranks grew to over 11,000 by 1945. They were stationed at Pearl Harbor, the Philippines, and other U.S. naval bases across the Pacific, and were among the first to treat the wounded sailors during and after the December 7 attack. Nurses were not out of harm's way; one group of 11 nurses was taken prisoner by the Japanese when the island of Corregidor in the Philippines fell in May 1942 and were subjected to brutal treatment.

Despite the fortitude demonstrated by women, resentments festered, and by May 1943 the "Slander Campaign" took hold (sometimes also called the "Whispering Campaign" or "Rumor Campaign"). "[This] onslaught of gossip, jokes, slander, and obscenity about the WAAC...swept along the Eastern seaboard in the spring of 1943," according to *The Women's Army Corps* by Mattie E. Treadwell, former WAC officer and historian in the

Office of the Chief of Military History from 1947 to 1952.

According to Treadwell, the slander reached a critical point on June 8, 1943, "when a nationally syndicated column, 'Capitol Stuff,' stated: 'Contraceptives and prophylactic equipment will be furnished to members of the WAAC, according to a super-secret agreement reached by high-ranking officers of the War Department and the WAAC Chieftain, Mrs. William Petus Hobby.… It was a victory for the New Deal ladies.... Mrs. Roosevelt wants all the young ladies to have the same overseas rights as their brothers and fathers." Although the Army did indeed provide free prophylactics for men, this was not the case for the women.

The slander caused some collateral damage, but women pushed ahead, proving their mettle and steadily garnering support on the home front.

Like the WAAC, the women who chose to enlist in the Navy, Coast Guard, and Marines were assigned to a wide variety of jobs. The WAVES' 84,000 recruits worked in air traffic control, aerial navigation, and communications, while the SPARS' 11,000 women served as radio operators, ship's cooks, parachute riggers, and in clerical positions. The WR had some 19,000 women, over half of whom were assigned to clerical positions such as secretaries, stenographers, and telephone and telegraph operators.

The WAVES were not permitted to serve in foreign combat situations, such as on combat ships or aircraft; they were initially only located in the continental U.S. Later in the war some of them served in U.S.-controlled territory and Hawaii, but during World War II no WAVES were sent into harm's way in other locations. Over the course of the entire war, there were more than 84,000 women who would serve as Navy WAVES, to include 8,000 female officers.

Regardless of their uniforms' styles, the new recruits were intent on proving themselves. WAC recruit Rachel Leuella Summers McGee of Greensboro, North Carolina, was a teletype operator assigned to

ABOVE: A British railway conductor looks on as a group of WACs arrives at Ninth Air Force headquarters in Sunninghill, Berkshire, England, May 1944. BELOW: WACs in a mobile control unit truck provide directional information to the crew of a damaged U.S. bomber returning from a mission over Germany. The WACs standing at left and right are plotting the aircraft's course. OPPOSITE: Navy WAVES make repairs to the port outboard engine of a Douglas R5D four engine transport plane for the Naval Air Transport Service at Naval Air Station, Oakland, California.

the Communications Center at Fort Knox, Kentucky, from 1942 to 1943. In her 1999 interview at the Betty Carter Women Veteran's Historical Project (WVHP), McGee recalled her basic training in Fort Des Moines: "It was rough being in that 20-below-zero weather [on the drill field]. We were out there marching, and that ground was so slick [with] so much snow, when they would give us 'to the rear, march,' we'd fall flat on our face. [That's] how slick it was. [Because] you had to snap-to, [to turn] around and you'd just fall. It was a sight.

"We were on display all the time because [we] were guinea pigs, but we wanted to show them what we could do. So they put us through everything possible and we endured it!"

When the author spoke with 98-year-old former WAVES Mary Jean Kilpatrick Watts, she clearly remembered, "I was working as a secretary in Fort Wayne, Indiana, and would see the soldiers come and go at a social center in late 1943. Then in '44 things started to go sour in the Pacific. It was a very critical time, and so I thought about going

into the Navy—and I did. I was inducted in May 1944. It was a very intense time of patriotism and worry."

The then-22-year-old from Ohio did her basic training at Hunter College in New York City, which the Navy had taken over, then spent a month at the Naval Air Station in Atlanta, Georgia, where she learned to operate and maintain Link Trainers. More than 500,000 U.S. pilots trained on this "Blue Box" flight simulator, which was vital in preparing pilots for instrument flying. At the U.S. Naval Air Station in Daytona Beach, Florida, Watts operated the Link Trainer, monitoring pilots and recording their flight paths during the simulations.

"We were in the Fighter Direction Unit," she recalled, "and there were six of us, and there were six of these big instruments. The pilots would come in groups of six for the training; I think many of them went right into battle. We learned how to maintain these funny-looking things and repair them if something broke down, like the wiring. We wore pants because we crawled underneath to fix them."

Now, some 75 years later, Watts' memory about answering the call of duty remains strong. "We were losing a lot of people, a lot of men, a lot of ships in the Pacific. It was a pretty serious time. We had many shortages of food, but there was never a lot of complaining; everybody was making a big effort. There was never such patriotism before or since that era."

The demand for women continued to grow. "I've visited Coast Guard stations all over the country in the last five weeks, and the Coast Guard officers are calling for more Spars. They like them, find them efficient," reported Lt. Cmdr. Dorothy Stratton, director of the women's reserve of the U.S. Coast Guard, in a September 18, 1943, *St. Louis Globe Democrat* article headlined, "Spar Enlistments Fluctuate with War, Chief Says Here."

Some five months earlier, on May 23, 1943, the Palm Beach Biltmore Hotel in Florida was ready for action and had already been leased and commissioned as a training station. More than 7,000 new SPARS were processed at the Palm Beach location, where they were trained primarily as yeomen and storekeepers, as well as parachute riggers and air control operators. Others were trained as cooks, bakers, radiomen, radio technicians, and motor vehicle drivers.

Coralee "Coco" Burson Davis from Pasadena, California, served in the Coast Guard SPARS from 1942 to 1946. In a 2001 WVHP interview she recalled: "I went to enlist in the first group of Women Marines and was too early for enlistment. I hadn't turned 21 yet, and my mother wouldn't sign the papers, so the Marine Corps said, 'Try the Navy.'"

But the WAVES had filled their quota, so they told her to try the Coast Guard. She was still too young, so they put her on a list and, when she turned 21, she contacted them and months later was headed to boot camp in February 1943.

After boot camp, she was sent to the Coast Guard headquarters in Washington, D.C., and was put to work in the transportation department typing out vouchers which she described as "deadly dull," but was able to get reassigned because of her theatrical experience. She eventually ended up auditioning for Tars and Spars, a Coast Guard recruiting show, and was soon on a train headed for rehearsals at the Biltmore Hotel.

She remembered the most difficult time of her service was going with a friend to

Women of World War II / Naval History and Heritage Command

Walter Reed Hospital and visiting with the incoming casualties from North Africa. "We would go out and visit the boys in the wards. It really opened our eyes as to the 'war-is-hell' saying, because we would write letters to whomever they wanted letters written to, and then the next week we'd go out and they'd be dead, or we didn't see them again for some reason."

The all-male Marine Corps, save for the 305 "Marinettes" who served during World War I, was the last branch to accept women. By late 1942, General Thomas Holcomb, Commandant of the Marine Corps, joined ranks with the other branches and put out a call for women enlistees. Holcomb is remembered for his remark, "Like most Marines, when the matter first came up, I didn't believe women could serve any useful purpose in the Marine Corps ... Since then, I've changed my mind."

However, Holcomb stood his ground about giving the Marine Corp Women's Reserve a catchy acronym (which the other branches had). His legendary comment was reported in a March 1944 issue of *Life* magazine: "They *are* Marines. They don't have a nickname and they don't need one. They get their basic training in a Marine atmosphere at a Marine post. They inherit the traditions of Marines. They are Marines." Nonetheless, in practice, they were known as Women Reservists, abbreviated to WRs.

The WR's first director, Ruth Cheney Streeter, was appointed by Roosevelt in 1943; under her tenure, the reserves grew from approximately 800 to almost 18,000. On the WR's first anniversary, Roosevelt sent a message: "You have quickly and efficiently taken over scores of different kinds of duties that not long ago were considered strictly masculine assignments, and in doing so, you have freed a large number of well-trained, battle-ready men of the Corps for action."

Marine WR Margaret Marian Smith from Anderson, South Carolina, enlisted in her freshman year of college, attended boot camp at Camp Lejeune in North Carolina, and then was sent to Washington, D.C., where she served as an aide to General Alexander Archer Vandegrift, 18th commandant of the U.S. Marine Corps.

Women held a variety of non-traditional jobs. Here Marion Pillsbury, a Marine Women Reservist, assembles a .50-caliber machine gun at the San Diego Marine Corps base.

In Smith's 1999 WVHP interview, she recalled: "[WWII] changed everybody's thinking ... almost everybody took a Civil Service exam. That was almost routine in those days." After graduation, she was appointed to the War Department in Washington in June 1943.

While working in the Pentagon in the Decorations and Awards Branch of the War Department, she decided to enlist in the Marine Corps. Smith recalled, "My parents weren't too keen at first, but since Mother had been in service, they came across and did sign … I knew there was a great need for replacements, because nearly every woman in service who was assigned to Washington actually released a man who could go overseas."

The Wasps: Women Who Winged It

They flew over 60 million miles to 120 bases and transported every type of military aircraft possible. They paid their way to basic training, and their families paid for their funerals when they died in the line of duty. This all-volunteer group of civilian women pilots comprised United States federal civil-service employees and received no military benefits. Officially they were the Women Airforce Service Pilots, but were better known by their nickname: WASP. In just over two years, nearly 1,100 civilian women pilots took to the skies to free a man to fly.

During WWII, male pilots were needed for combat overseas, and the WASPs made it possible by taking over many of their home-front duties—from ferrying planes to transporting cargo. Eleanor Roosevelt, the president's wife, declared, "We are in a war and we need to fight it with all our ability and every weapon possible. Women pilots are a weapon waiting to be used."

And used they were. The WASP organization took flight August 5, 1943, by merging the Women's Flying Training Detachment (WFTD) and the Women's Auxiliary Ferry Squadron (WAFS), organized in 1942 by aviators Jacqueline "Jackie" Cochran and Nancy Harkness-Love, respectively. Cochran took the helm of the WASP as its first director.

There was a lot of 'winging it' when it came to WASP training and duties. Dolores Meurer Reed, from St. Louis, Missouri, served from 1943 to 1944. After her enlistment she reported to Avenger Field in Sweetwater, Texas, where most WASP flight training took place. Following graduation in February 1944, Reed headed to Moore Field, an

air base in Mission, Texas, where she piloted planes towing targets for live anti-aircraft practice.

She recalled her experiences in a 2007 WVHP interview: "We had to tow a target about 25 feet long and about five to six feet high, and it was made like chain link.... I'd sit in the plane and then there was a GI who put the target on the plane, and then up we'd go. And we'd have a stretch, like a stretch of rope to fly. So the squadron, six [officers] just about to go overseas for combat, [would use this] for gunnery practice."

Despite being a moving target, Reed was never afraid (though some WASPs ended up getting shot in the feet) but was worried more about getting cut from the WASP. "I remember my first flight with an Air Force check pilot. He was noted for washing out [recruits]. It's why they called him [Lieutenant] Maytag, because he was a washing machine." Reed knew he wasn't supposed to ask her to do a chandelle (a steep climbing turn executed in an aircraft to gain height while changing the direction of flight), but she did it anyway. When she asked how she'd done, he said, "You're not going to kill yourself."

The WASPs were not to be intimidated. On one notable occasion, they outflew the men by taking on the huge B-29 Superfortress, which had a reputation for unpredictability. According to *A Few Good Women* by Evelyn M. Monahan and Rosemary Neidel-Greenlee, General Henry "Hap" Arnold sent Colonel Paul Tibbets (the pilot who flew the B-29 *Enola Gay* over Hiroshima) to recruit two WASPs to fly the B-29 and prove to men that anyone could fly the big bomber.

ABOVE LEFT: Mary Kilpatrick Watts in Navy blues, 1944. ABOVE RIGHT: A Marine Corps aerial photographer. BELOW: T-3 Mary Noonan Westerman takes dictation from her boss, Lt. Gen. McNarney, Deputy Allied Commander in Italy, November 1944. BOTTOM: Phyllis Baguley, the first SPAR to go overseas, shown on her transport ship to Hawaii, 1943.

After three days of training, Dora Daugherty Strother and Dorthea Johnson Moorman successfully flew the four-engine bomber. "From that day on, there was no more grumbling from male pilots assigned to fly the B-29," according to Monahan and Neidel-Grenlee.

Unfortunately, airplane accidents claimed the lives of WASPs, just as they did male pilots. Of the 1,078 WASPs, 38 died in training accidents or while ferrying their planes to their destinations.

The first WASP to die was Cornelia Fort, the daughter of a prominent East Nashville, Tennessee, doctor and a Sarah Lawrence College graduate. She first soloed on April 27, 1940, and received her pilot's license two months later and her instructor's rating in March 1941.

Cornelia was giving a flying lesson over Honolulu, Hawaii, on December 7, 1941, and witnessed the Japanese attack on Pearl Harbor. She and her student narrowly avoided a mid-air collision with a Japanese warplane and survived a strafing attack by a Zero fighter after making an emergency landing at Pearl Harbor. (Her story is briefly dramatized in the 1970 movie, *Tora! Tora! Tora!*)

Fort was the second woman to join the WASP program and was killed while ferrying a BT-13A on March 21, 1943, when it collided with another plane near Merkel, Texas.

The last WASP to lose her life was 38-year-old Katherine (Kay) M. Applegate Keeler Dussaq of Dayton, Washington, who had been trained as a crime-scene technician and became the nation's first female handwriting analyst. (Later on she established her own all-woman's detective agency in Chicago. Her first husband, Leonarde Keeler, was the inventor of the modern polygraph "lie detector" machine.)

Dussaq was killed when the Beechcraft AT-6 she was flying from San Antonio, Texas, crashed on the night of November 26, 1944, near New Carlisle, Ohio, while on her way to Washington, D.C., to try and help stop the disbanding of the WASP organization.

Her last mission went unfulfilled. The final WASP training class graduated on December 7, 1944, with Hap Arnold in attendance. His remarks at the ceremony will be forever remembered: "Frankly, I didn't know in 1941 whether a slip of a young girl could fight the controls of a B-17 in the heavy weather they would naturally encounter in operational flying."

He concluded by saying, "Well, now, in 1944, more than two years since the WASP first started flying with the Air Forces, we can come to only one conclusion.... It is on the record that women can fly as well as men."

In 1977, Congress granted the surviving WASPs veteran status, and finally the women were treated as well as the men. Dolores Meurer Reed recalled a male tow

Women of World War II / U.S. Air Force

ABOVE LEFT: Cornelia Fort was a civilian flight instructor near Pearl Harbor, and was in the air when the Japanese attacked, narrowly escaping collision with a Japanese plane. She became the second member of the WASPs, and the first to die while on active duty. ABOVE RIGHT: Gertrude Tompkins was the only member of the WASPs to go missing when the P-51D Mustang she was ferrying never arrived at her destination and no trace was found. BELOW: Francis Wills and Harriet Ida Pickens being sworn in as the first African American women to enlist in the Navy, and soon became the Navy's first African American WAVE officers.

Women of World War II / Naval History and Heritage Command

target pilot at Moore Field once telling her, "'Oh, I'm so glad you're here. That's the most boring job in the world.' And he went off to combat. And I thought, 'Well, I did do something good for the war.'"

And she did. The WASPs freed some 900 male pilots for combat duty.

Rampant Discrimination

Just as America was strictly racially segregated before and during the war, the U.S. military reflected that condition. Although widespread employee shortages in the northern war plants brought a major influx of African American workers from the southern states, persons of color still faced discrimination when it came to joining the military.

Women of color, too, had to march a long, hard road to achieve equality because of the U.S. armed services' long history of racial discrimination. Kathryn Sheldon, former Curator of the Women In Military Service For America Memorial Foundation, Inc. wrote, "In January 1941, the Army opened its Nurse Corps to blacks but established a ceiling of 56. On June 25, 1941, President Roosevelt's Executive Order 8802 created the Fair Employment Practices Commission, which led the way in eradicating racial discrimination in the defense program.

A total of 6,520 black women would serve in the WAAC/WAC during World War II, but as with male Army units, the races were strictly segregated. According to Judith Bellafaire, "Forty black women who entered the first WAAC officer candidate class were placed in a separate platoon. Although they attended classes and mess with the other officer candidates, post facilities such as service clubs, theaters, and beauty shops were segregated. black officer candidates had backgrounds similar to those of white officer candidates. Almost 80 percent had attended college, and the majority had work experience as teachers and office workers."

The Navy was even worse. It barred black women entirely from joining the WAVES until October 19, 1944, but through the efforts of WAVES Director Mildred H. McAfee Horton and Dr. Mary Jane McLeod Bethune, the latter the daughter of former slaves, Secretary of the Navy Forrestal was finally pressured into admitting blacks.

The first two black WAVES officers, Harriet Ida Pikens and Frances Wills, were sworn in on December 22, 1944, after completing their training at the Naval Women Midshipmen's School at Smith College. They were both assigned to Hunter Naval Training Station in Bronx, NY, where Pickens led physical training sessions and Wills taught naval history and administered classification tests to WAVES recruits.

Of the 80,000 WAVES in the war, only 72 were black. The Coast Guard's SPARS also had very few black women in their ranks.

Remembering Those Who Answered

The women who freed men to fight are closing in on a century of living. In the quiet of a nursing home library, the author met with 97-year-old former WAAC Mary Frances Noonan Westermann and her daughter Anne Westermann. According to official records, Westermann was "assigned for 14 months as secretary to General Joseph T. McNarney, Commanding General, Mediterranean Theatre of Operations, at Caserta, Italy. Took minutes of conferences and sent cables. Took care of personal correspondence."

Although some of Westermann's memories of her almost three years of service (from 1943 to 1946) have faded, she remembered her reason for enlisting without any prompting: "I was young. I wanted adventure. I wanted to feel like I belonged to the times."

Westermann, who was in the First WAAC Training Center at Fort Des Moines, Iowa, put in a request to go overseas and got the adventure she was seeking. The 21-year-old from St. Louis, Missouri, was sent to Caserta. In her diary she recalled, "Finally orders to ship and I was made Acting 1st Sgt. We all packed up [for the trip over]. The WACs and nurses marched to the train burdened with helmets, musette bags, gas masks, purses, and I with 201 [personnel] files. We felt rugged marching up there with so many GIs in field packs. We felt like real soldiers.... A short ride to Newport News and immediate loading onto the ship, the SS *Athos II*, a French boat.

"On September 7, 1944, our ship … docked in the bomb-wrecked Naples harbor, early in the morning.... In the harbor were sunken ships and shattered buildings—nothing left but piles of grey stone. Italians came out to our ship in little rowboats, begging for food, cigarettes, clothing, anything. We stood at the rail throwing them oranges, candy, cigarettes, etc.… We are on our way to CASERTA."

ABOVE: Members of a WASP crew pose for a publicity photo beside B-17 "Pistol Packin' Mama" during training at Lockbourne, Ohio, Army Air Force base. BELOW: Somewhere in England, Major Charity E. Adams and Captain Abbie N. Campbell inspect a postal battalion. Adams was the first African American WAC officer and the highest-ranking African American woman during the war.

Women of World War II / National Archives

Westermann served in the 2629th WAC Battalion, which was under the command of Major Hortense M. Boutell. Westermann was first in a pool of typists and, when General McNarney needed a fast typist, she was sent because she could do the required 60 words a minute.

There was a large collection of Westermann's wartime memorabilia spread out on the library table where we met. Many were pictures from McNarney's meetings at the Allied Forces Headquarters in the Royal Palace of Caserta, near Naples, where Westermann worked.

Among the pictures was one of Westermann standing in front of Villa Ciano dated December 1944, which was the home of Count Galeazzo Ciano, Mussolini's son-in-law and his former foreign minister. There was another of her during her off-duty hours on a trip to the Isle of Capri. Westermann still remembered visiting the Blue Grotto there, where she said the boys went for R&R and recalled: "There was one who was scared to death because he had to go back into combat. It made me sad. I was older than they were. There were like 18 or 19 and we had to be 21."

(Author's note: Mary Frances Noonan Westermann passed away November 18, 2019, a month shy of her 98th birthday. The author accompanied her daughter to the nursing home for one last time as Westermann was wheeled away with an American flag draped over her body. The few staff present in the late evening lined the hall to give her a veteran's salute.)

By war's end, some 350,000 women had served their country. About 70 percent of their positions were such traditional jobs as typists, clerks, and sorters, which would otherwise have been filled by men. While these trail-blazing women shared a common bond with their male counterparts in serving their country, unlike their male counterparts, who were accepted into military service at "face value," these women had to overcome long-standing gender constructs.

After the war, the separate women's "corps" were dissolved and women were integrated into the Army, Navy, Air Force, and Marines—full and equal partners to their male counterparts.

The greatest generation of women is passing on. They are proud of their service. Forgetting is not an option. □

The Betty Carter Women Veteran's Historical Project (WVHP), established at The University of North Carolina at Greensboro (UNCG) in 1988, documents the contributions of women in the military and related service organizations since World War I. Oral history excerpts used with permission of the Betty Carter Women Veteran's Historical Project.

"It's All Over, Over Here"

(Headline, *Stars and Stripes*, May 8, 1945)

The end of the war in Europe 75 years ago brought cheers, tears, and a sense of relief. But there was still another foe to fight.

BY FLINT WHITLOCK

National Archives

ON Tuesday, May 8, 1945, a strange sound was heard across all of Europe—the sound of silence. It was as if someone had suddenly flipped the war switch to "Off."

No more ear-splitting explosions. No more cracking of bullets. No more wailing of air-raid sirens. No more moans of the wounded and dying. Just beautiful, serene silence.

The silence did not last long. It was quickly replaced by other sounds: the ringing of church bells across Europe, Great Britain, Canada, the U.S.S.R., and the United States. The voices of choirs. The prayers of thanksgiving by congregations. The cheers of drunken revelers, the sobs of people who had lost everything.

The European phase of World War II—a war that had devastated thousands of communities and cost the lives of tens of millions of people—was at last over.

The man who had started it—Adolf Hitler—had killed himself and was then incinerated by his minions outside a Berlin bunker. Hitler's closest followers also had taken their own lives or had scattered like rats fleeing a burning building.

Another man—the man who had done much to bring about the end of Hitler's Third Reich—was himself also dead. Franklin Delano Roosevelt, the American president and architect of victory, had died just 26 days earlier of a cerebral hemorrhage in Warm Springs, Georgia.

Much of Europe—especially German cities—lay in ruins. Dazed Germans wandered through the rubble of their bomb-blasted streets, wondering what had hit them, wondering why they had blindly followed their leader into total ruin.

The infrastructure of German civilization was no more. Millions of still-standing buildings were unfit for habitation, their roofs and windows gone. Water lines had

To the Soviets, this photo by Yevgeny Khaldei of Red Army soldiers raising the Soviet Union flag on top of the Reichstag over battered Berlin was as iconic and symbolic of victory as the February 1945 shot of U.S. Marines raising the Stars and Stripes atop Mount Suribachi at Iwo Jima. The Soviets paid a heavy price to capture the capital of the Third Reich in April and May 1945: over 85,000 dead.

been shattered, sanitation services had been destroyed. Hospitals were gutted. Food and fuel were scarce or non-existent. Trains had ceased to run. Government had collapsed. Corpses piled up with no one to bury them. It was like a scene out of the biblical apocalypse.

How had this moment come about?

In early 1945, the Third Reich was reeling. American, British, Canadian, Polish, and Free French armies were closing in on Hitler's empire from the West, while Joseph Stalin's Red Army was bulldozing its way through German opposition in the East. In Italy, German armies were fighting a desperate retreat northward toward the Alps.

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Despite the Germans' best attempts to prevent the Western Allies from crossing the Rhine River, Germany's last formidable natural defense, on March 7 elements of the U.S. 9th Armored Division found an intact bridge at Remagen and crossed to the eastern bank. Thousands of American G.I.s were soon plunging into the heart of Germany.

The Remagen crossing was followed on March 23 by Operation Plunder, Field Marshal Bernard Montgomery's 21st Army Group's crossing of the northern Rhine. But it was upstaged the next day when the Americans launched Operation Varsity, the largest airborne assault of the war. Over 17,000 paratroopers and glider forces of the Maj. Gen. William M. "Bud" Miley's U.S. 17th and British 6th Airborne Divisions landed east of the Rhine in the vicinity of Wesel, north of the Duisburg-Essen-Düsseldorf industrial area.

Varsity was the responsibility of the U.S. XVIII Corps under Maj. Gen. Matthew Ridgway, who had commanded the 82nd Airborne Division during Operation Overlord, the Normandy invasion, in June 1944. A new transport plane, the C-46 Commando, would see its first major combat test during Varsity. Capable of carrying twice as many paratroopers (36) as the C-47 Dakota (18), the C-46 was faster and had doors on both sides of the fuselage, allowing troops to exit the aircraft more quickly than they could from the C-47.

Unlike the chaotic pre-dawn drops in Normandy in the early hours of Overlord, the Varsity aerial assault would take place in broad daylight. The first planes carrying the 17th Airborne began taking off from their Paris bases shortly after 7 AM; it took two hours before the last of the planes were aloft. A total of 9,387 American paratroopers and glider-borne soldiers were combined with over 8,000 British airborne soldiers in 72 C-46s, 836 C-47s, and 906 CG-4A gliders. The aerial armada was escorted by nearly 1,000 Allied fighters.

The first aircraft carrying Miley's men reached their drop zones shortly before 10 AM and encountered heavy smoke and scattered anti-aircraft fire. But it didn't take long for the parachutists of the 17th Airborne's 507th Parachute Infantry Regiment to land and begin destroying enemy opposition.

As more and more paratroopers and glider infantrymen arrived, more and more German defenders of the 84th Infantry Division were either killed or captured. But the victory came at a cost, with scores of Americans killed when they ran into tough nests of the enemy.

Other casualties occurred when the C-46s unexpectedly burst into flames. The C-46 had no self-sealing fuel tanks, and when German 20mm incendiary antiaircraft rounds punctured them, they sent flaming fuel pouring from the wing tanks and onto the fuselage. Nineteen of the 72 C-46s were lost, with 14 falling like flaming meteorites, some with paratroopers on board; another 38 were severely damaged.

The first contingent of Waco CG-4A combat gliders began landing around 10:30 AM. Their arrival, too, was not without incident; 12 of the 295 tow aircraft were shot down and 14 more were forced to make emergency landings; 126 others sustained heavy damage. Six of the Wacos were also blasted out of the sky. Additional gliders landed by noon, followed by an aerial re-supply. Fierce skirmishes ensued, with the Yanks winning most of them.

The U.S. Army's official history notes that the cost to the 17th Airborne Division alone during the first day's operations was 159 killed, 522 wounded, and 840 missing (although 600 of the missing would subsequently turn up to fight again). The IX Troop Carrier Command alone lost another 41 killed, 153 wounded, and 163 missing. Fifty gliders and

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ABOVE: The sky near Wesel is filled with paratroopers descending from their C-47 transport planes over gliders that have already landed. OPPOSITE: Operation Varsity, the biggest airborne assault of the war, saw 17,000 U.S. and British paratroopers and glidermen leap the Rhine River near Wesel. Here, in a view from a glider cockpit, are seen two Waco CG-4A gliders being double-towed by a C-47 during the operation.

44 transport aircraft were destroyed, another 332 transport planes were damaged, and only a few of the gliders were salvageable. British losses among the 6th Airborne Division were even heavier, especially in the number of killed.

At 3 PM on March 24, patrols from the British 1st Commando Brigade that had participated in Operation Plunder marched out of Wesel and linked up with elements of the 17th Airborne. In the days following March 24, XVIII Airborne Corps consolidated and expanded its sector and prepared for the drive east. The corps would soon be attached to Lt. Gen. William Simpson's U.S. Ninth Army and General Omar Bradley's 12th Army Group, to take part in the encirclement of the Ruhr, one of the last major operations in western Germany.

Churchill had wanted the British and Americans to reach Berlin ahead of the Soviets, but General Dwight D. Eisenhower, the Western Allies' supreme commander, wasn't sure that was such a great idea. On March 30, 1945, Ike sent a cable to his boss, General George C. Marshall, the U.S. Army Chief of Staff, that read in part, "May I point out that Berlin is no longer a particularly important objective. Its usefulness to the German has been largely destroyed and even his government is preparing to move to another area."

Ike asked the advice of Bradley as to what the cost in casualties would be in taking Berlin. One hundred thousand killed and wounded was Bradley's estimate. Ike decided to let the "honor" of taking the capital go to the Soviets. After all, at the Yalta Conference in February 1945, the "Big Three" (Roosevelt, Churchill, and Stalin) had already decided that Berlin would be in the Soviet zone of occupation in a divided-up postwar Germany; Eisenhower saw no need for thousands of American boys to die for a city that would ultimately wind up in Soviet hands.

Churchill, of course, was furious and accused Eisenhower of overstepping his authority, but the ailing Roosevelt refused to countermand Ike's decision.

The Soviets were ready to claim their prize. Tasked with taking Berlin were two "fronts"—the Red Army equivalent of an army group—Marshal Georgy Zhukov's First Belorussian Front and Marshal Ivan Konev's First Ukrainian Front.

With a combined force of over 2.5 million men (including nearly 80,000 Poles who were fighting on the side of the Red Army), 7,500 warplanes, 6,250 tanks, 41,6000 artillery pieces, 45,000 mortars, and truck-mounted Katyusha rocket launchers, the Soviet plan called for the destruction of the German Army Group Vistula and Army Group Center that were guarding the eastern approaches to the capital. Konev's army group would strike south of Berlin and then wheel to the north to encircle the city while Zhukov's Belorussian Front would slam due west from Poland into Berlin.

The massive assault, larger than anything the British and American had ever thrown at the Germans, began on April 15. Zhukov's forces ran into stubborn opposition by the German Ninth Army 56 miles to the east of Berlin at a place called Seelow Heights. Here the savage fighting went on for a period of four days. Over 700 Red Army tanks were destroyed, along with some 30,000 attackers; the outnumbered Germans had over 10,000 men killed.

With Zhukov's men unable to break through, he was ordered to bypass Seelow Heights and circle Berlin to the north while Konev's formations were ordered to hit Berlin from the south.

As the Soviets advanced, towns and villages were set afire, just as the rampaging German armies had done during Barbarossa. German civilians caught in their path began committing suicide to avoid being taken by the avenging Soviets.

The British Broadcasting Company (BBC) reported, "Konev's forces to the south of Berlin have taken more than 10,000 prisoners in the past four days. They also claim to have captured 96 aircraft and more than 150 tanks and self-propelled guns. Marshal Zhukov's troops, heading from the north and east, claim to have taken more than 13,000 prisoners, 60 aircraft, and more than 100 tanks and self-propelled guns."

Adding to the destruction were five raids by RAF bombers. It seemed that nothing

could survive such an onslaught. And yet pockets of German troops, scattered here and there, were supplemented with pitiful handfuls of old men and boys known as the Volksturm—the German home defense militia—who set up barricades, received rudimentary instructions on how to fire rifles and anti-tank panzerfausts, and prepared to defend their city or die trying.

On April 20—Hitler's 56th birthday—with Berlin now effectively surrounded, the Red Army unleashed the heaviest artillery bombardment of the war. As one historian noted, "The weight of ordnance delivered by Soviet artillery during the battle was greater than the total tonnage dropped by Western Allied bombers on the city."

In the midst of the siege, a subdued birthday celebration for Adolf Hitler was held in the dank concrete Führerbunker below the Chancellery on Wilhelmstrasse. In attendance were some of Nazi Germany's elite: Joachim von Ribbentrop, Alfred Jodl, Hermann Göring, Heinrich Himmler, Joseph Goebbels, plus an assortment of ministers and staff members.

After presenting birthday wishes to Hitler, ministers, generals, and staff officers said their farewells and began to slip away, hoping to depart the flaming, crumbling city before all avenues of escape were cut off. Göring quietly snuck out of Berlin and headed south to his vacation home at the Nazi enclave at Berchtesgaden. But Martin Bormann, head of the Nazi Party Chancellery and Hitler's private secretary, noticed Göring's absence and suspected a coup was brewing.

One of Germany's ace fighter pilots in World War I (18 Allied planes shot down), Göring had helped Hitler come to power and had been rewarded with high offices—commander-in-chief of the Luftwaffe, president of the Reichstag, and head of the Gestapo.

Bormann, who despised Göring, was aware of the secret decree that Hitler had issued back on June 29, 1941, that rewarded Göring's loyalty with the pledge that, should Hitler be killed or captured, Göring would succeed him as head of government.

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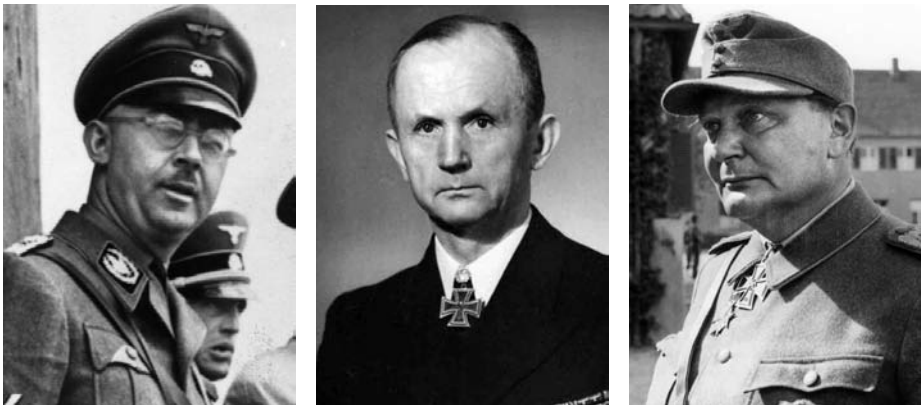

LEFT: Heinrich Himmler, head of the dreaded SS, escaped Berlin, was caught by the British, committed suicide. CENTER: Grand Admiral Karl Dönitz was picked by Hitler to carry on the fight, surrendered to the Allies instead. RIGHT: Luftwaffe chief Hermann Göring fled to Bavaria, surrendered to the Americans.

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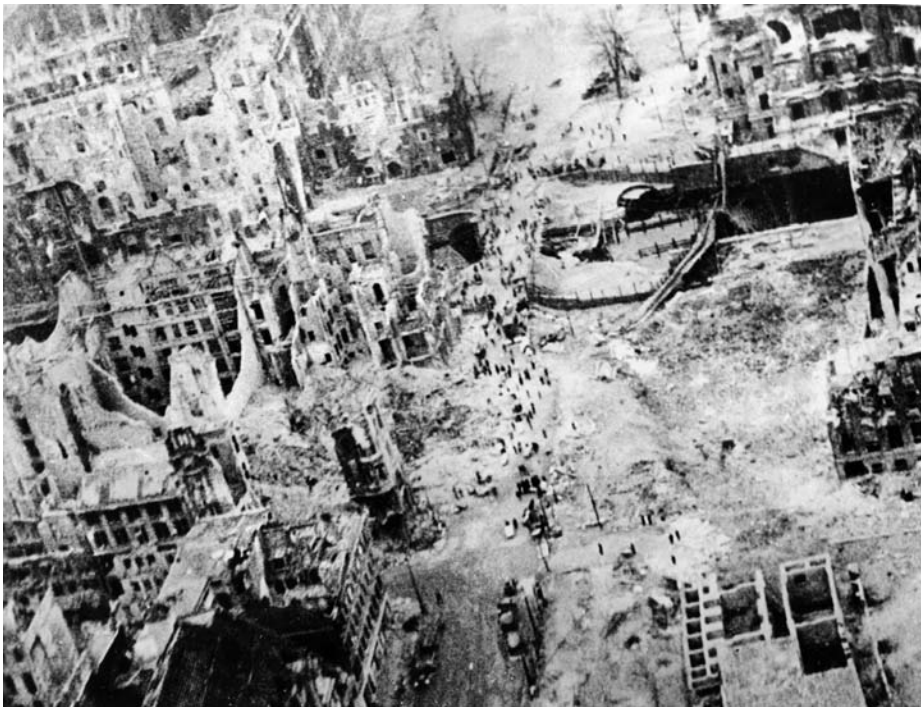


From 1940 to 1945, Berlin was one of the war's most heavily bombed cities. The British and Americans, in 363 raids, dropped neary 70,000 tons of bombs and the Soviets hit it with bombs and massed artillery. Most of the city was reduced to rubble.

Luftwaffe General Karl Koller, chief of staff of the German Air Force, had also been in the Führerbunker on April 20, where he was privately told by Jodl of Hitler's plans to commit suicide. Aware of Göring's escape from Berlin, Koller was somehow able to fly out of beleaguered Berlin at 3:30 AM on April 23 and reached Göring at the Obersalzberg in Berchtesgaden to personally give him the news of Hitler's impending suicide.

Göring then sent Hitler a telegram stating, "My Führer: General Koller today gave me a briefing on the basis of communications given to him by Colonel General Jodl…according to which you had referred certain decisions to me and emphasized that I, in case negotiations would become necessary, would be in an better position than you in Berlin. These views were so surprising and serious to me that I felt obligated to assume, in case by 10 o'clock tonight no answer is forthcoming, that you have lost your freedom of action.

"I shall then view the conditions of your decree [of June 29, 1941] as fulfilled and take

All: National Archives

TOP: Located beneath the garden of the Reich Chancellery, the Führerbunker was built in secrecy and served its purpose to the end. This photo depicts the entrance to the bunker at left adjacent to the bomb shelter that was used by guards posted there. MIDDLE: One of Hitler's adjutants, Julius Schaub, gestures to the despondent Führer in the purportedly last photo of the Nazi leader before he committed suicide on April 30, 1945. Slumped in an ill-fitting great coat, Hitler is surveying the ruins of the Reich Chancellery. ABOVE: Interior of Hitler's bunker deep below the garden of the Chancellery, photographed after the Red Army discovered and ransacked it.

action for the well being of Nation and Fatherland. You know what I feel for you in this gravest hour of my life and I cannot express this in words. May God protect you and speed you quickly here in spite of all."

He signed the telegram, "Your faithful Hermann Göring."

But Bormann intercepted the telegram and warned Hitler that the "faithful Göring" was about to overthrow the government. Outraged, Hitler sent a reply to Göring, telling him that the 1941 decree was rescinded and that he would be arrested for high treason if he did not immediately resign all his offices. Bormann directed SS troops to find Göring and place him under house arrest at the Obersalzberg.

The SS found Göring, but with his persuasive eloquence and exalted rank, managed to convince his would-be captors to not only let him go but to escort him and his entourage to his family castle at Mauterndorf, near Salzburg, Austria, in preparation for a meeting with the Americans.

Hitler next sent a message to Grand Admiral Karl Dönitz, commander in chief of what was left of the German Navy, telling him that he was to become his successor upon his, Hitler's, death.

Meanwhile, SS chieftain and Deputy Führer Heinrich Himmler, who had always been as faithful as a lapdog to his führer, had been secretly working behind Hitler's back, trying to arrange for a separate peace with the Western powers and releasing a few hundred Jews from the concentration camps in a futile, cynical attempt to cleanse his odious record as a mass murderer. After slipping out of Berlin, he made his way to Dönitz's headquarters in northern Germany, hoping to effect a meeting with Eisenhower or Montgomery. But Dönitz was having none of it.

Now in a panic, Himmler tried to disguise himself by shaving off his moustache, putting on an eye patch, and carrying the identity papers of Heinrich Hitzinger, an enlisted man in the Secret Field Police. He was soon taken into custody by the British and gave them his true identity. (He would avoid justice on May 23, 1945, by taking his own life with a

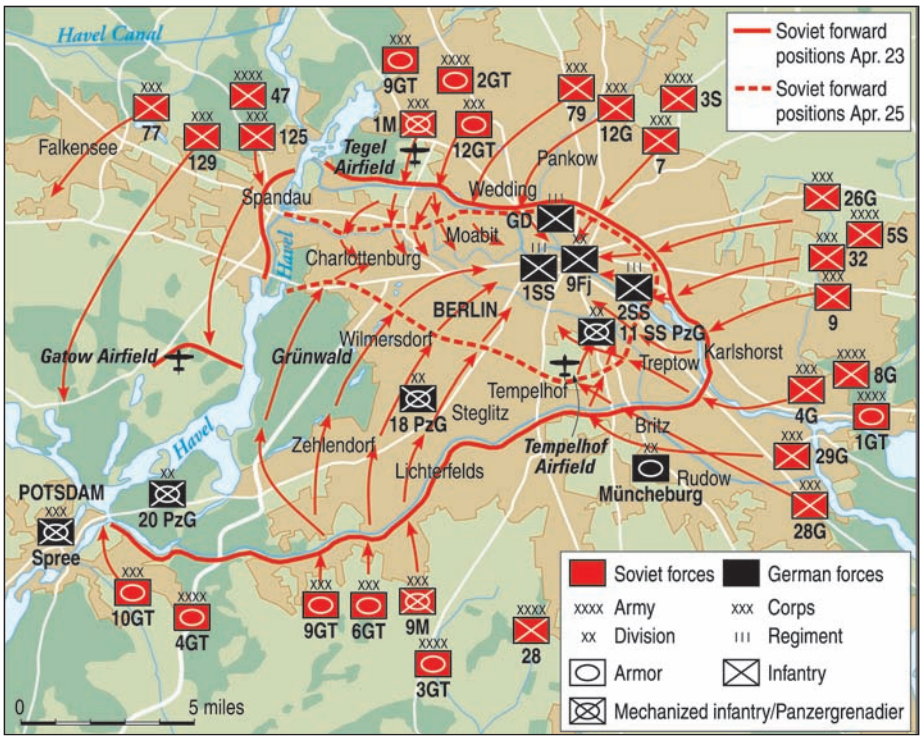
cyanide capsule while being interrogated by the British in Lüneburg.)

Meanwhile, the battles outside the Führerbunker were continuing to a thundering conclusion. Berlin had become a shrinking killing zone, the bull's eye for every Soviet gun, tank, aircraft, and rifle, but still some citizens and a few hard-core military units fought on. Young boys and old men stood at hastily erected barricades with their panzerfausts and a few measly rounds of rifle ammunition, willing to die for a cause that had lost whatever meaning it might once have had.

During this period, Hitler received an unexpected visitor: aviatrix, test pilot, and ardent Nazi Hanna Reitsch. She had flown many of Germany's advanced aircraft (including a manned version of the jet-powered V1 flying bomb) and now she had braved enemy fire to land her small plane on a Berlin boulevard with an offer to fly Hitler to safety. He was touched by her brave gesture but felt compelled to decline the offer. However, if she could rally the Luftwaffe to bomb the advancing Russians, he would be forever grateful. That was probably not possible, but she did airlift Luftwaffe General Robert Ritter von Greim (who had been appointed head of the Luftwaffe after Göring's ouster), out of besieged Berlin. (He would commit suicide on May 24, 1945.)

Deep in his bunker, Hitler continued living in a delusional, fantasy world. Thinking that he still had vast numbers of troops and divisions at his disposal, he began issuing orders to move various units about as though they were chess pieces; his advisors could not bear to tell him that many of the units had ceased to exist or had no transportation with which to make such moves—and no arms or ammunition, either.

At one point—April 22—Hitler went berserk. After learning that a counterattack he had ordered had not taken place, he flew into a frenzy the likes of which no one present had ever seen. For hour upon hour the Führer raged, his fists banging on a table, his face turned purple with anger over the cowardice of the German people and the



ABOVE: In April and May 1945, the Red Army encircled besieged Berlin, cutting the city off from the rest of Germany. Once Berlin was encircled, Red Army forces pummeled it unmercifully before entering. OPPOSITE: Famous photo of GIs of the U.S. 69th Infantry Division shaking hands with a patrol from the 58th Guards Rifle Division on a destroyed bridge over the Elbe River at Torgau, April 27, 1945.

treachery of his once-loyal followers who had abandoned him and Germany in an attempt to save themselves.

Once his rage was spent, a sweating, panting Hitler slumped into a chair and seemed resigned to his fate; he directed Nazi propaganda minister Joseph Goebbels to broadcast a radio message announcing that Berlin would be defended to the end and that he, as their leader, would never surrender, and that anyone who showed cowardice, hoisted a white flag, or attempted sabotage would be treated as a traitor and shot.

Even at this eleventh hour, Joseph Goebbels still clung to the hope that Britain and America would come to their senses and realize that the real enemy was the Soviet Union, not Nazi Germany. There was still time, he believed, for the Western Allies to join with the Germans to throw back the Bolshevik hordes and save civilization. But, like Hitler's illusions of imaginary German divisions coming to his aid, it was nothing but a pipe dream.

While this drama played out below ground, Red Army troops were in the streets of Berlin, battling for every block and rooting out determined defenders from cellars. At the Reichstag, the German Parliament building, German troops had turned its burned and blasted interior into a fortress, and sent many attacking Soviets to their deaths before they were themselves killed.

To the west of Berlin, the Americans and British pushed ever eastward until, on April 25, Soviet and American troops shook hands on a small bridge over the Elbe River near the town of Torgau, 85 miles south of Berlin.

By that time, the Nazi concentration camp known as Buchenwald, high on a hill overlooking Weimar, had been discovered by American troops, and the British had overrun Bergen-Belsen; the crimes of the Nazis had been laid bare for all the world to see. (Auschwitz-Birkenau in Poland had been liberated by the Soviets in January 1945, but the horrors encountered were either played down in the media or widely disbelieved in the West.)

In the pre-dawn hours of April 29, Hitler took a bride—his long-suffering mistress Eva Braun. A city official was found to perform the brief civil ceremony followed by what war correspondent William L. Shirer called "a macabre wedding breakfast." Following the ceremony and breakfast, Hitler dictated his last will and testament to one of his faithful secretaries. The testament formally expelled the traitorous Göring from the Nazi Party and named Grand Admiral Karl Dönitz to be the new head of the nation.

Hitler's End

The Third Reich's 12-year life span was quickly coming to an end. Albert Speer, Germany's Minister of Armaments, called upon his Führer, burrowed in his bombproof bunker. Speer wrote in his memoirs, "I was led into Hitler's room in the bunker. In his welcome there was no sign of the warmth with which he had responded a few weeks before to my vow of loyalty. He showed no emotion at all. Once again I had the feeling that he was empty, burned out, lifeless....

"Abruptly, Hitler asked me, 'What do you think? Should I stay here or fly to Berchtesgaden? [Chief of the Operations Staff of the Armed Forces High Command—Oberkommando der Wehrmacht—Alfred] Jodl has told me that tomorrow is the last chance for that.'

"Spontaneously, I advised him to stay in Berlin. What would he do at Obersalzberg? With Berlin gone, the war would be over in any case. I said. 'It seems to me better, if it must be, that you end your life here in the capital as the Führer rather than at your weekend house [in Bavaria].'"

Hitler replied that he had already decided to remain in Berlin but just wanted to hear Speer's advice. "I shall not fight personally," Hitler told him. "There is always the danger that I would only be wounded and fall into the hands of the Russians alive. I don't want my enemies to disgrace my body, either."

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He then told Speer of his plans to kill his dog Blondi, his new bride Eva Braun, and then himself. "I felt as if I had been talking with a man already departed," Speer said. "The atmosphere grew increasingly uncanny; the tragedy was approaching its end."

The end for Mr. and Mrs. Hitler came on April 30, when Eva took poison and he bit down on a cyanide capsule and simultaneously blew his brains out with a pistol. Their bodies were carried upstairs and into the small garden where an SS man cremated them.

Joseph Goebbels and his wife Magda had decided that they could not live in a world without Hitler, and were terrified by the thought of falling into Russian hands. Once Hitler was dead, the Goebbels took their own lives—along with those of their six children—in the Chancellery bunker. Their bodies were carried outside, soaked with gasoline, and set alight; the Russians found the charred corpses—along with Hitler's—when they reached the Chancellery.

Once the city fell on May 2, many Red Army troops engaged in an orgy of lawlessness—raping, murdering, and pillaging. (See *WWII Quarterly*, Spring 2012.) Starvation among the civilians was rampant, and over a million people were without shelter.

A *Life* magazine reporter described the scene: "In the stench of the subways and the spring bloom of the Tiergarten [zoo], the Germans tried to defend their capital, Berlin, a city desperate in the presence of death. Those German soldiers who were not killed by Russian bullets burned to a crisp in the gutted buildings or drowned in the canals. Others died of thirst when the city's water supply was cut off. With the guns of SS men at their backs, Germans battled in a senseless, suicidal last stand. But the Russians, at the end of their bloody pilgrimage from Stalingrad, fought even harder. In the 12-day battle, the Russians killed almost 150,000 Germans, captured 200,000....

"There are no cities left in Germany. Aachen, Cologne, Bonn, Koblenz, Würzburg, Frankfurt, Mainz—all gone in one sweeping reach of destruction."

Formal Surrender

There were a series of surrender ceremonies as German divisions, corps, and army groups gave themselves up to whatever Allied unit was closest. And, whenever possible, German units capitulated to American and British units, even driving or marching great distances in order to avoid ending up in the hands of the Red

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ABOVE: German soldiers build a barricade across a Berlin street in hopes of slowing the Red Army invasion. In addition to the regular army, thousands of old men and young boys volunteered or were pressed into service to defend the capital. OPPOSITE: Soviet tanks and self-propelled artillery shown on Warschauer Strasse in the heart of Berlin after resistance had ended.

Army. (And with good reason; the Soviets eventually took over a million German soldiers prisoner—only a small percentage would return home alive after the war.) In many cases, American companies and platoons received the surrender of battalions and regiments that were still armed but without the will to continue fighting.

The German army forces in Italy, commanded by Heinrich von Vietinghoff, officially surrendered on May 2, 1945, inside a room in the sprawling Royal Palace at Caserta, 10 miles north of Naples. (In early March, SS General Karl Wolff, at Vietinghoff's direction, had made contact with Allen Dulles, an official of the Office of Strategic Services [OSS] in Switzerland, in hopes of negotiating an end to the fighting in Italy.)

On May 3, British Field Marshal Bernard Montgomery demanded the surrender of all German forces in northern Germany at his field headquarters on the Lüneburg Heath. Monty was unbending in his three unconditional-surrender demands to German Admiral Hans-Georg von Friedeburg, commander of the German navy, General Eberhard Kinzel, chief of staff to Field Marshal Ernst Busch, and two other officers.

The Germans said, "We come from Field Marshal Busch to ask you to accept the surrender of three German armies [Third Panzer Army, Twelfth Army, and Twenty-first Army] which now are withdrawing in front of the Russians in the Mecklenberg area. We are very anxious about the condition of German civilians who are fleeing as the German armies retreat in the path of the Russian advance. We want you to accept the surrender of these three armies."

Montgomery was dismissive. "No," he said. "Certainly not. Those German armies are fighting the Russians. Therefore, if they surrender to anyone, it must be to the forces of the Soviet Union. They have nothing to do with me. I have nothing to do with the happenings on my eastern front."

Monty then told the Germans bluntly: "You must understand three things: Firstly, you must surrender to me unconditionally all the German forces in Holland, Friesen, and the Frisian Islands and Helgoland and all other islands in Schleswig-Holstein and in Denmark.

"Secondly, when you have done that, I am prepared to discuss with you the implications of your surrender: how we will dispose of those surrendered troops, how we will occupy the surrendered territory, how we will deal with the civilians, and so forth.

"And my third point: If you do not agree to Point One, the surrender, then I will go on with the war and I will be delighted to do so and am ready. All your soldiers will be killed. These are the three points—there is no alternative—one, two, three, finished!"

After the delegation took the terms back to Dönitz, he approved them on May 4.

Another surrender took place in Innsbruck, Austria, on the same day when a delegation from the Nineteenth Army surrendered to the Americans from the 44th Infantry Division. On May 5, Army Group G in southern Germany officially surrendered to the Americans in a ceremony 12 miles east of Munich.

Two days later, German Grand Admiral Karl Dönitz, the head of the Third Reich after Hitler's suicide, declared an unconditional surrender against the Allied forces and the Soviet Union.

In his SHAEF headquarters in a non-descript, red-brick industrial college building in Reims, France—90 miles northeast of Paris—an exhausted Eisenhower paced and smoked. He had decided to send his deputy, Walter Bedell Smith, to sign for him but to not attend the signing ceremony himself, a way of showing the German delegation that they were not worthy of his presence.

A few hours before dawn on May 7, Admiral Dönitz and Colonel-General Alfred Jodl signed the instruments of surrender; Smith signed for Ike. (The building and room in which the signing ceremony took place has been preserved as a museum.)

Eisenhower waited for Smith to bring in the signed documents. As Ike's biographer Stephen E. Ambrose wrote, "Eisenhower knew that he should feel elated, triumphant, joyful, but all he really felt was dead beat. He had hardly slept in three days; it was the

middle of the night; he just wanted to get it over with."

On May 7, elements of Maj. Gen. John Dahlquist's 36th Infantry Division drove from the division's base at Kitzbühel, Austria, and intercepted a convoy near Bruck, Austria, that included Göring, his wife Emmy, daughter Edda, sister-in-law, household servants, and military aides. The Reichsmarschall and his entourage gave up without a fight. (Göring would be tried at Nuremberg as a war criminal, found guilty, and sentenced to death, but cheated the hangman on October 15, 1946, by taking poison that had been smuggled into his cell.)

Many of Hitler's other henchmen sought to flee the apocalypse. Martin Bormann, the second most powerful man in the Nazi Party, tried to escape the besieged city on May 2, but had apparently died during a Soviet bombardment. (His skeletal remains were uncovered at a construction site in West Berlin in December 1972. Forensics experts established that the remains were Bormann's; DNA testing later confirmed that finding.)

Others whom the long arm of justice was about to corral headed out of Germany with the help of such pro-Nazi escape groups as ODESSA and sought refuge in other countries. Adolf Eichmann, one of the architects of the "final solution," was tracked down in Argentina and kidnapped by Israeli Mossad agents, put on trial in Israel, and executed by hanging in 1962. Thousands more Nazis, however, managed to escape to various parts of South America and were never brought to justice.

Dr. Josef Mengele, Auschwitz's "angel of death," had also fled to South America, lived as a free but hunted man for 34 years, and died of an apparent stroke while swimming at a Brazilian beach in February 1979.

Rumor of a Redoubt

There remained the persistent rumor of a German National Redoubt in the mountains of extreme southeast Bavaria where it was feared that Hitler, his closest associates, and a staunch guard of SS men would hold out to the bitter end. So, in one of the last major Allied bombing missions of the war, the RAF on April 25 plastered much of the Nazis' mountain enclave at Berchtesgaden into unrecognizable rubble.

Eisenhower wrote, "That stronghold and symbol of Nazi arrogance was thoroughly pounded with high explosives. The bombing took place when we still thought the Nazis might attempt to establish themselves in their National Redoubt, with Berchtesgaden as the capital. The photo reconnaissance units brought back pictures that showed our bombers had reduced the place to a shambles; from them we derived a gleeful and understandable satisfaction."

On May 4, elements of three Allied units were driving hard through the Bavarian Alps toward Berchtesgaden: the U.S. 3rd Infantry Division, 101st Airborne Division, and the French 2nd Armored Division. Each wanted the honor of capturing this alpine retreat where Hitler and many of cronies—Göring, Himmler, Bormann, and others—had established homes as places to get away from the stresses of the war and life in Berlin and to entertain and impress such important guests as Benito Mussolini, French Prime Minister Édouard Daladier, Neville Chamberlain, and the Duke and Duchess of Windsor.

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ABOVE: Three German officers (seen from the back) face a delegation of Allied officers during the surrender ceremony at Reims, France, May 7, 1945. BELOW: *Life* magazine's William Vandivert, the first Western photojournalist into Berlin, photographed three American soldiers looking at the pit in the Chancellery garden where Hitler and his bride Eva Braun were cremated after their suicides.

National Archives

No one knew if the area would be bristling with fanatical SS troops vowing to defend their Führer in a duel to death or if it would be a quiet, abandoned place. Luckily, there were no fanatical SS troops or anyone else wanting to make a final stand.

The mission of taking the Obersalzburg had been assigned to the 507th Parachute Infantry Regiment of the 101st Airborne, but elements of the 3rd Infantry Division got there first, effectively shutting out Le Clerc's French tank troops. Looting began immediately within the rubble of the bombed-out buildings; even Göring's huge Mercedes-Benz 540K limousine was appropriated by the 507th's Colonel Robert Sink.

Also found was Göring's personal train, loaded with priceless paintings that the Nazis had stolen over the years from across Europe for his personal art collection.

Worldwide Celebrations

There would be time for retribution and time to mourn, but now, on May 8, it was time to celebrate what came to be called V-E Day—Victory in Europe Day. With war in the European Theater of Operations at last concluded, nations across the world celebrated the defeat of Germany with a joyous spontaneity not seen before or since.

Celebrations in New York City were joyfully frenzied. In Times Square, two million people cheered, sang, kissed strangers, and danced a conga line through the paper-strewn streets. *Life* magazine said, "Wild celebrations were whitened by snowstorms of paper cascading from buildings in Times Square, Wall Street, and Rockefeller Center.

"Ships in the rivers let go with their sirens. Workers in the garment center threw bales of rayons, silks, and woolens into the streets to drape passing cars with bright-colored cloth. Then the workers swarmed out of their shops, singing and dancing, drinking whiskey out of bottles, wading in their own weird confetti."Similar scenes played out across the country.

The *Los Angeles Times* ran an editorial that read, in part: "In our rejoicing over this complete victory, approximately 11 months after our landing in Normandy, the people must not forget that there is another foe to deal with. Japan, though she is evidently beaten, shows no sign of giving in. Her armies must be defeated as utterly as those of Germany. That is now the task before the United States and it allies. On to victory in the Pacific!"

The *San Francisco Chronicle*'s columnist Royce Brier detected relief but no overwhelming joy in his city by the bay. He wrote, "There has been a quizzical spirit so far as one could feel it in America, in San Francisco, these last days, and a reluctance to go

off the deep end even with such a burden as the European physical menace lifted. The ogre is dead, and yet you have not the heart to rejoice."

San Francisco would save its unbridled celebrations for V-J Day—Victory over Japan—in September, when the drunken celebrations would turn into the deadliest riots in the city's history.

In London, crowds massed in Trafalgar Square and in front of the gates of Buckingham Palace, where King George VI and Queen Elizabeth, accompanied by Princess Elizabeth (soon to be queen), Princess Margaret, Prince Philip, and Prime Minister Winston Churchill, appeared on the balcony of the palace, smiling and waving to the cheering, flag-waving crowds.

The May 21, 1945, issue of *Life* magazine reported, "London went happily mad on V-E Day…. Londoners took to the streets to dance, sing, climb lampposts, overturn a few taxis, and drain the pubs of their small stocks. At one point Trafalgar Square was so packed that pigeons fluttered helplessly overhead, unable to find landing space.

Then, as David Brinkley wrote in his 1988 book, *Washington Goes to War*, at 8:30 PM on May 8, "the lights on the United States Capitol were lit. For the first time since December 9, 1941, the great white dome gleamed splendidly in the night sky."

The new American president, Harry S. Truman, spoke to the nation by radio, expressing his sadness that President Roosevelt had not lived to see the victory that he had engineered, and reminded Americans that the Japanese foe was down but not yet out: "This is a solemn but glorious hour…. Our rejoicing is sobered and subdued by a supreme consciousness of the terrible price we have paid to rid the world of Hitler and his evil band. Let us not forget, my fellow Americans, the sorrow and the heartache which today abide in the homes of so many of our neighbors—neighbors whose most priceless possession has been rendered as a sacrifice to redeem our liberty.…

"If I could give you a single watchword for the coming months, that word is *work*—work and more work. We must work to finish the war. Our victory is only half won."

National Archives

ABOVE: U.S. President Harry S. Truman announces victory over Germany in a radio address to the nation on May 8, 1945. "We must work to finish the war," he said. "Our victory is only half won." BELOW: Two million joyful people fill Times Square in New York City to celebrate the defeat of Nazi Germany.

Casualties

The casualty rolls in Europe were staggering, but no one knows for certain how many died or were injured. Best estimates say that four million German soldiers and two million German civilians died; 21-28 million Russians; 330,000 Italians; 200,000 French soldiers and 400,000 civilians; 6,000 Belgians; 10,000 Norwegians; three million Poles; 5,700 Luxembourgers; 147,000 Hungarian soldiers; half a million Greeks; 73,000 Romanians; 1.7 million Yugoslavs; 19,000 Bulgarians; 264,000 British and Commonwealth soldiers; and over 276,000 Americans (in Europe, North Africa, and the Mediterranean alone). Six million European Jews had been exterminated.

Soviet deaths in the siege of Berlin exceeded 81,000. A major Soviet war memorial, erected in 1945, was built from stonework taken from the destroyed Reich Chancellory. It is set in a landscaped garden at the Tiergarten near the Brandenburg Gate and is flanked by two Red Army ML-20 152mm artillery pieces and two T-34 tanks. Behind it is a military cemetery containing the graves of over 2,000 Red Army soldiers. The memorial is guarded night and day by Russian soldiers and is a daily reminder to Berliners of who the victors were. (Another, larger, memorial is at Treptower Park.)

The war in Europe was over, but one more foe still stood defiant and needed to be conquered: Japan. □

The UDVAR-HAZY Center Outside the Nation's Capital is Home to an Outstanding Collection of WWII Warbirds

ABOVE: As if seen in flight, this Vought-Sikorsky U.S. Navy Corsair R4U hangs close to a visitor viewing platform. TOP: Warplanes of all sizes, varieties, eras, and nationalities—including the B-29 "Enola Gay"—fill the 760,000-square-foot hangar ay the Udvar-Hazy Center.

Anyone traveling to Washington, DC, should take the time to head west to Chantilly, Virginia (near Dulles International Airport), and visit the Steven F. Udvar-Hazy Center, which opened in 2003. Affiliated with the Smithsonian's Air and Space Museum, this museum, in a massive, 760,000-square-foot hangar-like structure, features many rare and special aircraft and spacecraft—from the earliest days of flight to the Lockheed SR-71 Blackbird to the space shuttle "Discovery."

Of special interest is the B-29 "Enola Gay" Superfortress that dropped the atomic bomb on Hiroshima. Several other immaculately restored WWII aircraft are also on display—a Curtiss P-40 Warhawk, Curtiss SB2C-5 Helldiver, Grumman F6F Hellcat, Grumman F8F Bearcat, Lockheed P-38J Lightning, Martin B-26 Marauder, North American P-51C Mustang, Northrop P-61C Black Widow, Republic P-47D Thunderbolt, and many others.

German aircraft include a Focke-Wulf Fw 190, Dornier Do 335A-1 "Pfeil," Messerschmitt Me 163 Komet, and parts of a Horten Ho 229 "Flying Wing," to

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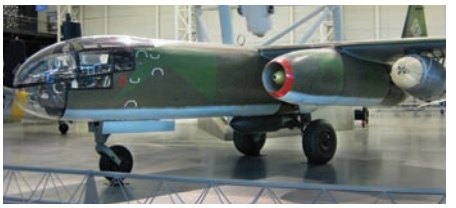

TOP: The museum has several rare warbirds, including this German Arado Ar 234 used as both a bomber and a reconnaissance plane in WWII. MIDDLE: A MiG 21-F-13 is on display in the Vietnam War section of the museum. BOTTOM: Major Richard I. Bong, America's leading fighter ace, flew this Lockheed P-38J-10 Lightning.

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Also located here is the Mary Baker Engen Restoration Hangar, where visitors can watch museum specialists at work restoring artifacts. Free daily tours are conducted by aviation experts.

And don't forget to also visit the Smithsonian National Air and Space Museum on the National Mall, which also houses an equally impressive number of aircraft and spacecraft. Including a German V2 ballistic missile. □

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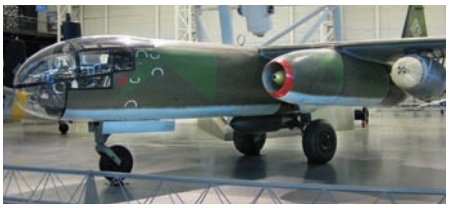

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Continued from page 73

"we were encouraged that friendly forces were getting closer and closer." When the hour passed with no relief in sight, the men were bitterly disappointed.

A second airdrop proved even worse than its predecessor. More artillery shells were recovered, but, once again, most of the plasma and morphine did not survive the firing. The velocity of a shell leaving the barrel simply smashed almost everything inside. A few bandages and some sulfa powder survived, and wide rolls of adhesive tape were flattened into inch-long disks.

Unable to rush the line, the Germans dropped a series of mortar shells on the American positions and then paused, waiting for the Americans to expose themselves before firing another series. The effects were horrible. The ground shook, bodies rose and fell with the impacts, and men choked on dust. Some ran to the southern edge of the perimeter, but there was no safe place to hide. To the Americans, it seemed that any movement, however slight, brought on mortars.

When the Americans spied a German team setting up a mortar, a sergeant with only a single mortar round set up his own. Once he completed his computations and adjustments, he kissed his final round, dropped it in the tube, and ducked. The round exploded about 10 yards from the enemy mortar, and the surviving Germans fled.

The 2nd Battalion had held out for six days without substantial resupply or definite signs of relief. The men had fought above and beyond the call of duty. But the strain of battle, little food, and dwindling ammunition spelled disaster. Even the bravest soldiers could not fight indefinitely without help or rest. As the sun went down that Friday night, Lieutenant Weiss signed off on his radio with a dire warning: "Without reinforcements, can hold until tomorrow." He never received the division commander's reply: "Reinforcements on the way. Hold out."

Saturday, August 12 (Day 7)

The Germans withdrew from around Hill 314 in the predawn hours. A departing tank shot a random shell into the perimeter, almost severing Staff Sergeant John Corn's right leg. He held on for a few hours while Lieutenant Weiss loosened and tightened a belt around his leg, but when Corn knew the end was near he offered his nickel-plated pistol and his watch to some nearby infantrymen. He died a few hours later.

Before noon, a column of American vehicles from the 35th Infantry Division raced up the southern side of the hill. In the van were two Sherman tanks, followed by a truck packed with food, water, and medical supplies. A single Sherman came next, followed closely by ambulances. An hour later, another regiment of Old Hickory, the 119th, pushed through Mortain and relieved the northern end of the hill.

The wounded were treated and loaded into the ambulances. The men of 2nd Battalion were then given food. "I didn't know anything could taste so good," said Sergeant Myers about a bouillon cube dissolved in cold water. Pfc. Leo Temkin admitted to loving his K-rations. "Funny thing," he confessed, "They tasted good. And I didn't like K rations." Sergeant Denius enjoyed fresh water and was treated to pancakes when he returned to his artillery battery. For syrup, Denius's cook boiled some sugar in water until it thickened.

The defenders of Hill 314, known as the "Lost Battalion," looked like ghosts to the men who relieved them. They were gaunt after six days of hunger. Of the approximately 700 defenders, only 376 survived. Casualties totaled 277 killed, wounded, and missing. Two out of every five American soldiers were casualties.

The Battle of Mortain proved the resilience of the American soldier in a crisis. The men had not panicked when surrounded and fought on despite low stocks of ammunition and food. The enemy had them so outnumbered and outgunned that Maj. Gen. Hobbs later claimed: "With heavy onion breath that [first] day, the Germans would have achieved their objective."

The brutal battle also brought together the men of the battalion like never before. "Guys who used to bitch at and fight each other became brothers," explained Pfc. Joseph Perry after the battle.

The battle at Mortain also proved the importance of artillery. During the standoff, the battalion's supporting artillery fired an average of 2,000 shells in a 24-hour period. Those rounds landed on German tanks, trucks, and soldiers.

The GI newspaper *Stars & Stripes* reported Lieutenant Kerley's blunt surrender refusal two weeks after the battle, but it never really stuck. General Anthony McAuliffe's "Nuts" response, delivered some five months later at the besieged Belgian town of Bastogne, became the rebuke heard round the world. The men of the Old Hickory who heard Kerley's response shared it with everyone on Hill 314 but kept it to themselves. The two best-known books about Mortain, *Victory at Mortain* by Mark Reardon and *Saving the Breakout* by Alwyn Featherston, both claim that Kerley's response was "short, to the point, and very unprintable." Neither author reveals what Kerley actually said.

The battle for Mortain was more important than just a hilltop stand. While the men of the 2nd Battalion held on by their fingernails, Patton's XV Corps raced 75 miles behind German lines. American commanders did not panic when the Germans attacked. Instead, they dealt with the situation while sticking to their plan of surrounding the entire German Seventh Army in Normandy. The fruits of Mortain would be harvested in the victory in the Falaise Pocket. □

Frequent contributor Kevin M. Hymel is a historian for the U.S. Army's Combat Studies Institute at Fort Leavenworth, Kansas, and author of Patton's Photographs: War as He Saw It. *He also leads tours of Patton's battlefields (including Mortain) and personal tours of Normandy for Stephen Ambrose Historical Tours.*

FROM THE PUBLISHERS OF WWII QUARTERLY MAGAZINE

D-DAY

Through A Soldier's Eyes… *Limited Edition Print*

The storm was violent, the waves were huge and the noise was deafening for soldiers in their landing craft on D-Day, June 6, 1944. As they neared the beach, the door dropped open… and this photo lets you see exactly what they saw: withering machine gun fire, treacherous breakers, a long beach, high cliffs, and near-certain death.

None hesitated. These brave men jumped into the cold Atlantic waters. Two thirds of them died soon after, so that we could live in freedom.

This historic photograph shows American soldiers from Company E, 16th Infantry, 1st Infantry Division exiting their LCVP landing craft under heavy German machine gun fire on Omaha Beach. The photo was taken by Coast Guard Chief Photographer's Mate Robert F. Sergeant.

Company E landed on Easy Red Beach at 0645 in the face of murderous fire. Those few who survived kept wading into everything the enemy had, taking their objective and providing the only exit off the beach for the entire Fifth Corps. Company "E," perhaps by strength of will and courage alone, helped keep the entire landing force from being thrown back into the sea. For a month afterwards, those who survived remained almost in a daze.

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