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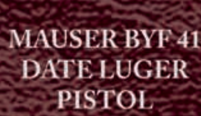

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Cover: A German motorcyclist, wounded and captured near the Seine River, is given first aid by his American captors. See story page 48.

Photo: National Archives

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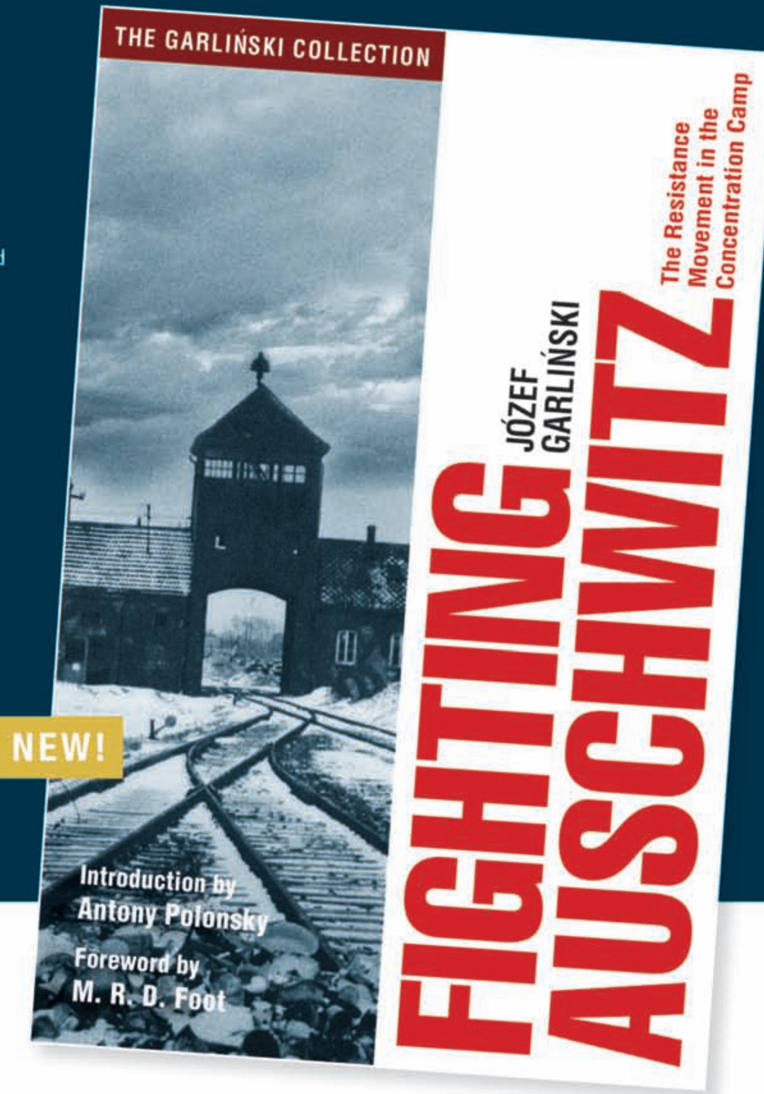

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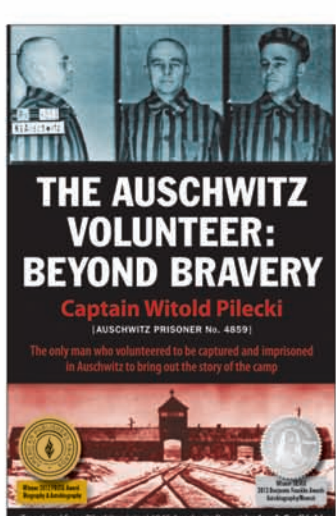

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Editorial

Rediscoveries of World War II shipwrecks bring history to life for this generation.

PAUL ALLEN, CO-FOUNDER OF MICROSOFT CORPORATION, CONTINUES TO deliver on his most recent investment of time and money. His expeditions aboard the Research Vessel (R/V) *Petrel* have yielded startling rediscoveries and ghostly images of the U.S. Navy's heroic sacrifices during battles with the Imperial Japanese Navy during World War II.

"We do these missions as a testament to the brave souls who served on these ships," Robert Kraft, director of subsea operations for R/V *Petrel,* recently commented to the Associated Press. "Each ship has a story that touches families and friends of those who perished or survived. It's gratifying to hear those stories each time we announce a new discovery."

On March 23 of this year, Allen's team located the wreckage of the St. Louis-class light cruiser USS *Helena,* sunk by three Japanese torpedoes at the Battle of Kula Gulf on July 6, 1943, during the fight for control of the Solomon Islands in the South Pacific. The hulk of *Helena* was found about a half mile underwater in New Georgia Sound, sitting upright on the sea floor. Identified by her hull number of 50 emblazoned near the bow, *Helena* was present at Pearl Harbor on December 7, 1941, during the Japanese attack that plunged the United States into World War II. A total of 732 of its 900-sailor complement survived the ordeal, rescued by U.S. destroyers. However, many of them were adrift for several hours before they were spotted by search planes. More than 160 drifted into hostile waters and came ashore on the Japanese-held island of Vella Lavella. They avoided capture and were rescued 10 days after the sinking.

Janet Greenlee, speaking on behalf of Allen's company, Vulcan Inc., told the Associated Press that the searches for historic ships are conducted to "bring the history back into a relevant conversation. He [Allen] wants to honor those that have served and are serving." She further related that the saga of *Helena* is incredible. "One of the remarkable stories, not just about the crew and the ship's service, is the tenacity of the crew after the sinking and being separated. It really does sound like a movie script."

Allen's winning streak was capped with the location of the *Helena* wreck. On March 4 and 18, respectively, his team located the wreck of the aircraft carrier USS *Lexington* and the Atlanta-class light cruiser USS *Juneau. Lexington* was sunk by Japanese aircraft during the Battle of the Coral Sea in May 1942. One of the Navy's earliest carriers, she was found about 500 miles off the coast of Australia, and 11 of the 35 aircraft aboard were also located. More than 200 sailors died with the sinking of *Lexington,* but her aircraft played a major role in first U.S. strategic naval victory of the war in the Pacific.

Juneau was sunk by a torpedo fired from the Japanese submarine *I-26* during the Naval Battle of Guadalcanal on November 13, 1942. Already damaged, she broke in two and sank in only 20 seconds. Many sailors were left in the water, drifting for up to eight days and dying from exposure to the harsh elements or from attacks by marauding sharks. Among the dead were the five Sullivan brothers of Waterloo, Iowa, who were serving aboard the ship. A total of 687 sailors from *Juneau* perished.

In July 2017, Allen's team located the wreck of the Portland-class heavy cruiser USS *Indianapolis* in approximately 18,000 feet of water in the Philippine Sea. The Japanese submarine *I-58* torpedoed the cruiser as it returned from the island of Tinian in the Marianas after delivering components for the atomic bomb. The mission of *Indianapolis* was top secret, and its loss was not reported for some time. Of its 1,196 sailors, only 317 survived the sinking and an epic, five-day ordeal on the open sea, ravaged by exposure, lack of water, and relentless shark attacks. The sinking of *Indianapolis* remains the single deadliest action of its kind in U.S. Navy history.

Allen and his colleagues have done us all a service.

Michael E. Haskew

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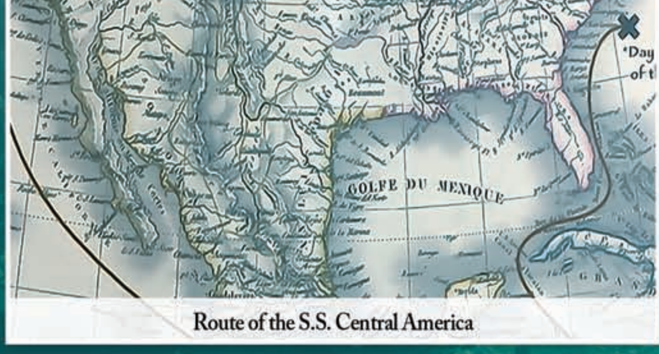

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By Arnold Blumberg

The Art Archive/Royal Greenjackets Museum

Inferior Italian Armor

Italian tanks and armored vehicles proved to be of poor quality during World War II, a deficiency that courageous crews and sound tactical doctrine could not overcome.

ALTHOUGH ITALY, LIKE ALL COMBATANTS, SUFFERED FROM THE BRUTAL effects of trench warfare during World War I, the nation refrained from using tanks during the conflict. The mountainous terrain that dominated the front along which Italy and the Austro-Hungarian Empire fought was unsuited for the employment of such heavy vehicles. Nevertheless, the use of the new military innovation on the Western Front did not go unnoticed by the Italian Army.

From September 1916 through the end of the war, Captain (later Major) Alfredo Bennicelli, an Italian officer serving in France, kept his government informed of the use of tanks by British and French allies, thus fueling an interest in the new weapon within the Italian general staff. At Bennicelli's urging, the Italian Army ordered a number of Schneider and Renault FT17 tanks from France to explore the possibility of forming its own armored force. The result was Italy's first experimental tank unit, the Reparto Speciale Dimarcia Carri d'Assalto, or Special Detachment of Assault Cars, created in the summer of 1918 from 60 French tanks. Soon after, the Italians began manufacturing their own Renault FT17, known as the Fiat 3000.

Entering service in 1921, the Fiat 3000 had a weight of 5.5 tons and a speed of 15 mph, and it carried two machine guns. As the only Italian tank built for many years, it formed the basis of the country's initial armor doctrine. Its sole purpose was the close support of the infantry, breaking down barbed-wire obstacles and cleaning out machine-gun nests so that foot soldiers could advance. A concentration of tanks was not envisioned; they were parceled out to the infantry to be used as circumstances warranted.

As more Fiat 3000s became available, the first tank unit in the Italian service, the company-size Reparto Carri Armati (Tank Detachment), was expanded in 1927 into the Reggimento Carri Armati, or Tank Regiment. It comprised five companies, each containing 20 Fiat 3000s and 100 men.

During the early 1920s, Italian armor doctrine was evolving although not straying far from its roots as an infantry-support weapon. Colonel Enrico Maltese, chief of the Tank Detachment, formulated the early ideas about the proper use of tanks. While still advocating that they be firmly tethered to the slow-moving infantry, Maltese recommended in 1924 that the army develop self-propelled artillery and suggested the use of tanks of different sizes—heavy, medium, and light—for different combat missions.

Between 1925 and 1928, Maltese wrote several treatises about the use of tanks as scouts for the cavalry, antitank defenses, and the use of tanks in the initial phases of an attack. What was absent from his commentaries was any mention of tank-versus-tank combat. The constricted nature of the Italian terrain and the infantry-artillery mind-set that army leaders maintained after World War I made it highly unlikely that the Italian general staff would consider offensive, mobile warfare. It was not until the 1930s that the passive attitudes began to change with the advent of Italy's new and aggressive territorial ambitions.

In 1933 Benito Mussolini, Italy's Fascist dictator, declared that his nation was going to become "a warrior state" and forge an army to reconstitute and maintain a new Roman Empire encompassing the Mediterranean, the Balkans, and northeastern Africa. Il Duce needed an army that could go on the offensive with tank forces and deliver speedy and decisive victories, but he had an army high command that was not confident in the merits of motorization and mechanization. This reluctance would retard the growth of a viable armor doctrine and development of the weapons needed to

The Battle of Beda Fomm, fought February 9, 1941, was a disaster for the Italian forces in Libya. In this image surrendering Italian troops stream toward their British captors while smoke billows from the charred hulks of their destroyed tanks.

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LEFT: The armor protection of Italian tanks was often inferior to that of their Allied opponents. Tankers advancing near the railroad whistle stop of El Alamein on the Egyptian frontier in the autumn of 1942 have augmented the armor of these M13/40 tanks with piles of sandbags.

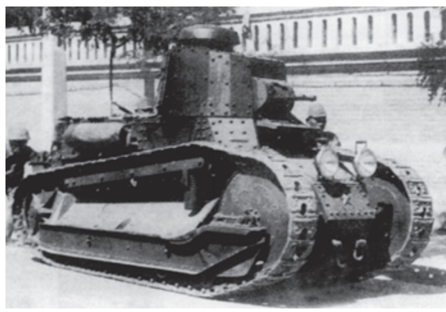
BELOW: During fighting in Manchuria in 1932, Japanese forces captured this Italian Fiat 3000 tank. The tank had been purchased and placed in the service of a Chinese warlord.

implement it.

Throughout the 1930s, senior army leaders debated the worth of motorization for the army. When it was finally adopted, the doctrine was applied only to the moving of men, supplies, and equipment prior to battle, not to using transport assets in actual combat. The Italian high command deferred any final judgment on mechanization and battlefield mobile operations. There were, however, some forward-thinking officers who stressed the need for an aggressive armor doctrine. One such person was Colonel Sebastino Visconti Prasca, who in 1934 published *La Guerra Decisiva,* a study calling for armored units, aided by artillery and airpower, to break the enemy's front and allow friendly infantry and cavalry to pour through the newly created gap.

An instrument to achieve the desired mobile battlefield results as envisioned by Prasca was still lacking. In 1933 the main Italian armored vehicle was the Carro Veloce CV33, or Fast Tank, later renamed the Carro Armato L3/33, which went into production in 1931. A version of the 1929 British Carden Lloyd Mark V tank, the L3/33t weighed three tons, was powered by a petrol engine, and could attain a top speed of 9 mph. Its two-man crew operated two Fiat 6.5mm machine guns fitted in the front of the hull. The 13.5mm riveted armor plating at the front and rear was complemented by side armor of 8.5mm and 6mm armor on the top and undercarriage. It could travel up to 90 miles without refueling.

Cheap to build, the design allowed for large numbers to be manufactured and put into service quickly, along with experimental variants such as the flamethrower and bridge layer. In 1935 it was upgraded to the CV35 (later the Carro Armato L3/35) with two hull-mounted Breda 8mm machineguns and more armor plating. The upgrade, powered by a Fiat-Spa CV3 four-cylinder diesel, liquid-cooled 43 hp engine. had a cross-country speed of 26 mph. Essentially tankettes, both CV series proved vulnerable to close-quarters combat and enemy artillery, antitank weapons, and tanks.



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Participation in the Spanish Civil War in 1936-1937 convinced Italian authorities that a better tank had to be developed, but a number of major problems stood in the way. First, more than 1,800 L3 types had been built since 1931. The vast number and low cost of the model made the government reluctant to move to another tank type. Second, Italy's industrial base lacked raw materials such as iron, oil, and steel, making the country too weak to sustain the manufacture and support of large numbers of armored fighting vehicles. At their peak, Italy's leading tank producers, the automobile manufacturer Fiat and Ansaldo (a shipbuilding company), could produce no more than 150 tanks a month. Furthermore, much of the nation's war-making resources went to the more-favored navy or the air force, a Fascist Party creation. The army got what was left.

Regardless of the problems, it was apparent to Rome that a new and more powerful tank was needed. Such a new machine had been in the works for a few years—the M11/39. It was built to be a breakthrough tank in support of attacking infantry and to become the mainstay of the two existing Italian armor brigades. In reality an upgraded L3, it was 11 tons in weight and had a rear-installed Fiat SPA 8T V-8 liquid 43hp cooled diesel engine that allowed it to travel 21mph with a range of 124 miles. Armed with one low-velocity 37mm Vickers-Terni cannon placed in the right front hull and two Breda Model 38 machine guns, it was shielded by 30mm of riveted plate armor.

Sporting a high profile and standing seven feet, four inches high, the M11 was easily spotted and so poorly protected that it was easy prey for any Allied tank and antitank weapon it faced. Like the L3 it had no radio, had a poor suspension system, and was mechanically unreliable. The M11 did not enter service until 1939, and it was quickly understood that the M11 would serve only as an interim tank until a more powerful weapon could be developed.

With new, more potent armored fighting vehicles expected in the late 1930s, Italian armor doctrine continued to mature. In 1938 General Eduardo Quarra, former commander of the Tank Regiment, urged the use of tanks en masse with artillery and infantry support to both break

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Early Italian tanks such as these L3/33 Carro Armato "fast tanks" were operated by two-man crews and armed only with machine guns.

the enemy's line and exploit that penetration. In 1937 General Carlo di Simone, chief of the 2nd Armored Brigade, advocated the addition of more truck-borne or mechanized infantry to the armored unit. He also suggested the attachment of motorized artillery and antitank weapons and ready air support. He stopped short of calling for the creation of an armored division since the absence at that time of a medium or heavy tank precluded having the punch needed to be a true breakthrough weapon.

But if Simone was wary of forming full armored divisions, his ideas did spur the Italian Army to embrace mechanization that would greatly impact its future armor doctrine. In late 1938 General Alberto Pariani introduced the concept of *guerra di rapido corso,* or high-speed mobile warfare. It announced a new doctrine that put the tank, used en masse, at the heart of all offensive operations, with infantry and artillery acting as support for the tanks—not vice versa. Exploitation was also now a key role to be played by armor. As progressive as it was, the new doctrine failed to address the issue of tank-versus-tank combat. Nevertheless, the new policy created a single Corpo d' Armata Corazzato (Armored Corps) made up of two armored and two motorized infantry divisions. What was needed was a tank worthy of the new theory. The proposed M13/40 seemed to provide the solution.

The M13/40 medium tank replaced the hull-mounted 37mm cannon on the M11/39 with a higher-velocity 47mm Austrian Bohler gun housed in a rotating turret. Starting in 1938, the idea was tried and found wanting. It was then decided to make a variant of the M11/39. A revolving turret with the 47mm gun was duly fitted onto a chassis that was almost identical to the one used for the M11/39. Maximum armor was not increased, but for better crew protection, steel plates were bolted to a steel frame. The M11/39 engine, suspension, and transmission were used in the new model.

The added weight made the M13/40 sluggish while moving, allowing it to go no more than 19mph on the road and 11mph cross-county. Its height, width, and length were slightly larger than the M11. Each tank was fitted with a radio, and the 47mm gun proved to be comparable to the 2-pounders used by the British. The new tank would not see action until 1940. By the end of its production run in 1942, more than 800 had been produced.

With the arrival of the M13/40, the Italian Army decided to create armored divisions. These new formations would contain one tank regiment and one motorized infantry, supported by two groups of artillery, a company of antitank guns, and two batteries of antiaircraft guns. Italy's three armored divisions entered the war in June 1940 with a complement of 7,500 officers and men, 184 tanks, and 24 75mm field guns each.

Even before the M13/40 saw service, the Italians started working on a heavy tank design, the Carro Armato P40. The 26-ton vehicle had a diesel engine providing a top speed of 16mph. Its 75mm turret-mounted gun was very effective, but for antipersonnel defense it had only one 8mm Breda coaxial machine gun. Its crew of four was surrounded by 50-60mm of armor plate at the front, 40mm on the sides and rear, and 20mm at the rear and underside. Favorably compared to the venerable German Mark IV panzer, the P40 never saw service during the war due to manufacturing delays.

In March 1943 the Italian Army decided to end production of all its medium series tanks. Their poor performance since 1940 convinced the military that the best way to fight a tank was with an antitank gun, not another tank. This shift in tactics was reinforced by the presence of a formidable self-propelled gun in the Italian arsenal—the Semovente da 75/18 Su Scafo M41. First making its appearance in North Africa in mid-1942, the Semovente was based on the German Stu III infantry assault self-propelled gun. The Semovente was manufactured by the Ansaldo Company. Using a M13/40 tank chassis, a short 18-caliber 75mm howitzer in a ball mount was fitted to the front of a low superstructure. The model's early successful trials proved it was reliable and easy to maintain. Ninety were ready for service by February 1941, with another 120 slated for production.

The new self-propelled gun perfectly suited the army's long-held belief that artillery was the best antitank weapon. It also could act as mobile artillery, creating holes in enemy lines to be exploited by infantry and tanks. It fit well with the army's artillery doctrine, *fuoco da manovra* (maneuvered fire), which called for the employment of massed antitank guns and field artillery fire close to the front.

The Semovente was manned by a crew of three: a driver, a loader-radio operator, and a commander-gunner. In almost all dimensions it was identical to the M13/40, except that it was two inches lower in height, making it a more difficult target to spot or hit. It carried 44 howitzer shells and proved to be a credible threat to Allied armor in North Africa. First used in small groups in direct support of friendly armor and infantry, by late 1942 batteries of 8 to 16 vehicles were being employed for both support and independent missions.

In late 1942 the Semovente was upgraded by using a M42 tank chassis. About 200 of these were produced. Soon, a new model, the 105/25 Semovente, carrying an M3 howitzer, entered service. Built by Ansaldo, the new model was the most formidable armored fighting vehicle fielded by the Italians during the war. Thirty such super Semoventes entered service before Italy signed an armistice in September 1943, officially ending its participation of the war. □

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By Nathan N. Prefer

National Archives

A Forgotten Hero

General Walter Krueger led American forces in the Pacific through New Guinea and the Philippines.

HE LED THE AMERICAN DRIVE UP THE NEW GUINEA COAST, TOOK HIS TROOPS ashore on Leyte and Luzon in the Philippines, and was designated by the Allied supreme commander in the Pacific, General Douglas MacArthur, to lead the planned invasion of Japan itself. His picture appeared on the cover of *Time* magazine and he was referred to as "MacArthur's Fighting General," and yet today he is little remembered and rarely honored. General MacArthur, not known for handing out accolades to subordinates, called him "swift and sure in attack, tenacious and determined in defense, modest and restrained in victory." To the American public he is a "mystery man," unknown for his many accomplishments. Of all the American Army commanders who fought in World War II, he is the least remembered. His name is General Walter Krueger.

Ironically, General Krueger might have enjoyed more widespread fame had he joined the German Army and fought on the other side. This was indeed a possibility when Walter Krueger was born January 26, 1881, on a large estate in Flatow, Western Prussia (today Zlotow, Poland). His father, Julius, a former Prussian Army officer and veteran of the Franco-Prussian War, had leased the estate for his growing family. But Julius's sudden death in 1884, four years after Walter was born, forced his mother to move the family to the United States where they lived with her uncle in St. Louis. Soon after their arrival, his mother, Anne Hasse Krueger, met and married a German-born Lutheran minister and the family relocated to Madison, Indiana.

Walter attended local schools and learned to play the piano at home, tutored by his mother. This training imprinted a lifelong appreciation of classical music on young Walter. He also developed a strong sense of discipline and a short temper with what he considered lazy or careless people. By the age of 17, Walter was attending Cincinnati Technical School, preparatory to go on to college for an engineering degree. But that year, 1898, the Spanish-American War began and changed the entire direction of his life. Fascinated by the marching troops and the intense patriotic fervor, he enlisted in the Second Volunteer Infantry Regiment. After training, his unit reached Cuba shortly after the Battle of San Juan Hill. By the time he was mustered out in February 1899, he had achieved the rank of sergeant.

Walter Krueger went back to his studies toward an engineering career, but the military experience had made an indelible impression on him, and by June 1899, barely four months after leaving the military, he enlisted again, this time in the Regular Army's 12th Infantry Regiment. He soon found himself in action in the Philippines, a locale that would loom large in his future.

As a private in Company M, 12th Infantry Regiment, he began long chases after the Filipino

Naval History and Heritage Command

ABOVE: Lieutenant General Walter Krueger en route to Momote airstrip on the island of Los Negros in the Admiralties on March 18, 1944. TOP: American soldiers of the 32nd Infantry Division advance up a hillside on the Philippine island of Luzon.

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General Krueger stands at left with General Douglas MacArthur, center, and U.S. Army Chief of Staff General George C. Marshall in late 1943. Krueger was nearly 61 years old when the Japanese attacked Pearl Harbor. INSET: Captain Walter Krueger, U.S. Army, strikes a confident pose. Krueger was born in Prussia and emigrated to the United States with his family.

Library of Congress

guerrillas while under the command of former Confederate Cavalry leader, General Joseph "Fighting Joe" Wheeler. Krueger's regiment was a part of General Arthur MacArthur's 2nd Division, and the fighting covered the central plain of Luzon, where most of the time was spent in isolated garrisons protecting various important posts, railroads, and port facilities. The miserable conditions of the campaign—heat, rain, mud, insects, hunger, thick jungle, and impossible mountains, as well as the many diseases that struck down the average soldier—made a lasting impression on the future general. Later he would remember, "Years ago, in the Philippines, I went without food and other supplies, and I know what it is to be hungry. Then and there I resolved that if I ever had to say-so my men would never be without enough to eat."

Despite hardships and other difficulties, Sergeant Krueger decided on a military career. Having achieved the rank of sergeant—again—by June 1901, one of his officers asked if he was interested in taking the examination for an officer's commission in the U.S. Army. Thinking that he had nothing to lose and everything to gain, he took the examination but believed that he had failed miserably. He was most pleasantly surprised when, on July 1, 1901, he was commissioned as a second lieutenant. He was immediately assigned to the 30th Infantry Regiment on the Philippine island of Mindoro.

His experience as an enlisted man in Cuba and the Philippines left Krueger with a deep concern for the men under his command. Years later, while commanding the Third U.S. Army during World War II he remarked to a group of officers, "I have such a high regard for our men that there is something within me [that] turns around when I see they are not being handled right." Many of those under his command were left with lifelong impressions of a man who was concerned for their welfare, even as he sent them into harm's way.

One of his duties while in the Philippines was to guard military prisoners on Malahi Island in Laguna de Bay. This was a miserable duty, and the island was a miserable place to live, even without having to deal with the dregs of the Army's criminal element. But one advantage did accrue for Lieutenant Krueger during his assignment there. One afternoon at Malahi he was serving as the officer of the day when another lieutenant, George C. Marshall, Jr., was the officer of the guard. The Army's future chief of staff during World War II remembered Lieutenant Krueger. "He is of typical German stock, thorough, hard-working, ambitious, and devoid of humor." It is possible that this brief working period with future General Marshall favorably influenced Krueger's later career.

In 1903 he met his future wife, Grace Aileen Norvell, in the Philippines while she was visiting relatives there. And later the 30th Infantry Regiment returned to the United States. At the age of 22, Lieutenant Krueger was well on his way to establishing his reputation as an officer who was devoted to learning as much about his trade as possible, and as a caring and compassionate officer to the men under his command.

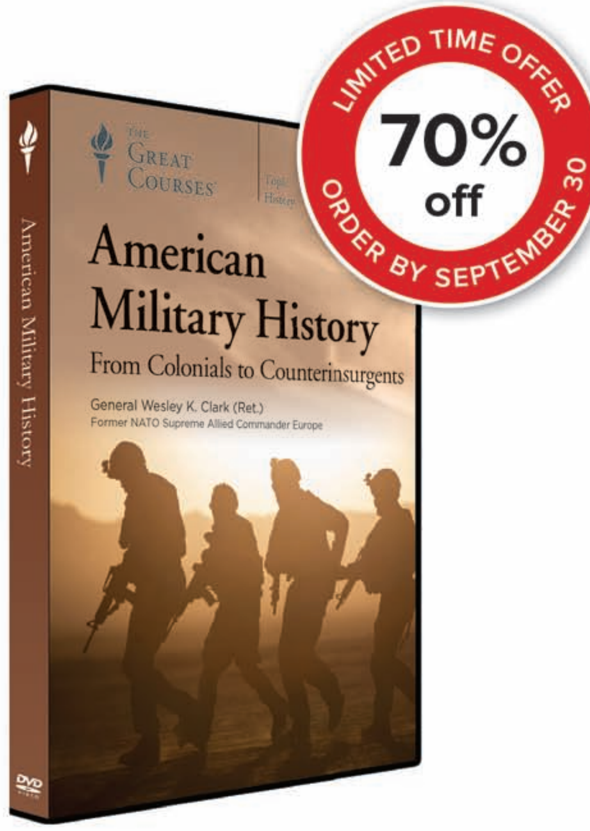
Lieutenant Krueger and Grace married in 1904. They would have two sons, both of whom attended West Point and served as Army officers, and a daughter who would marry an Army officer. Also in 1904, Lieutenant Krueger was selected to attend the prestigious Infantry and Cavalry School at Fort Leavenworth, Kansas. Krueger, working hard as usual, graduated with honors and was given a second year at the school's staff college. He also received a promotion to first lieutenant.

When the United States entered World War I in 1917, temporary Major Krueger was assigned to the Bureau of Military Affairs, working on turning citizens into soldiers. After several months, he was transferred to the newly formed 84th Division and later transferred to the 26th Division, a New England National Guard formation already in France. He served as the operations officer for the veteran division and was given a temporary promotion to lieutenant colonel.

Colonel Krueger moved with his division to Chateau-Thierry, where it was to participate in the coming Aisne-Marne offensive. But problems with the French allies, who distrusted Colonel Krueger because of his German heritage, forced his return to the States and the 84th Division, still training. In August 1918, that division moved to France, and Colonel Krueger came along with it. Once in France, however, he received orders to assume the duties of chief of staff of the newly developed Tank Corps. Before he could fully settle into his new post, the armistice ended his hopes of commanding troops in combat.

The interwar years were disappointing for Krueger as they were for all Army officers. There was little interest in preparedness, and budget constraints kept the Army small and promotions slow. After commanding the 55th Infantry Regiment in Kansas, Krueger attended and then taught at the nation's prestigious service schools, the Army War College, the Navy War College, and the Infantry School at Fort Benning, Georgia. He then served in the War Plans Division of the War Department, achieving the rank of brigadier general.

Krueger formulated his own command philosophy. He would write that a great comman-



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der "no matter how recklessly he challenges fate again and again he by no means rushes headlong and aimlessly into the unknown, but knows perfectly where he must call a halt, turns in his turn and at the same time endeavors to supplement his victory through policy." He went on to state that a good leader has the "ability to form a clear resolution without hesitation, and to put it into execution." This philosophy would become the hallmark of his campaigns during World War II.

By 1938, General Krueger was chief of the Army War Plans Division, and in September of that year he took command of the 16th Infantry Brigade at Fort George Meade in Maryland. Within a few months, he was promoted to major general and assumed command of the 2nd Infantry Division in Texas. There he became involved in reorganizing the Army and testing these new organizations. By this time, he had established his final command methods. These included educational preparation, cool and flexible thinking, a decentralized command structure, caring for the soldiers under his command, and placing value on aggressive and bold offensive actions.

In June, General Krueger was given command of the VIII Corps in larger Army maneuvers and with recently called up National Guard divisions under command. He took care to integrate his Regular Army troops and the National Guardsmen, allowing for the Guard's insufficient training and shortage of personnel.

General Krueger retained command of VIII Corps to the end of 1940. Unknown to him, he was being considered as a replacement for the commanding officer of the Hawaiian Department, but the job went to Maj. Gen. Walter C. Short instead. Marshall now had other plans for Krueger and advised him in a confidential letter in April that he would be assuming command of the Third Army upon the retirement of its current commander. Marshall appointed Kreuger commander of the Third Army on May 15, 1940.

General Krueger immediately set about organizing his staff and preparing for more maneuvers. He requested as his chief of staff Lt. Col. Dwight D. Eisenhower, then serving as IX Corps chief of staff. Upon arrival, Eisenhower was instructed to recruit and organize a Third Army staff group. The Third Army busied itself with training and maneuvers for the balance of the year, testing subordinate corps and divisions. Indeed, for the next two years Krueger and his Third Army trained numerous corps and divisions that passed through their command.

When the Japanese struck Pearl Harbor General Krueger was approaching his 61st birthday. He was despairing of getting a field command or commanding combat troops overseas. Like most senior officers, he knew that General Marshall had a policy of assigning younger officers to combat commands. But all that was about to change. In the Philippines General MacArthur's forces had been overrun and surrendered while MacArthur and his family were ordered to Australia. Soon he was leading an American-Australian effort to recapture New Guinea and return to the Philippines. But as that effort grew larger, MacArthur wanted an Army headquarters to manage and tactically direct his growing ground forces. He radioed to Marshall in Washington, "I recommend that the Third Army under General Krueger be transferred to Australia. I am especially anxious to have Krueger because of my long and intimate association with him."

Although General Marshall had authorized his transfer, he would not release the Third Army headquarters. Instead, Krueger was to organize the new Sixth Army headquarters and take it to New Guinea. He was, however, allowed to take with him some of his key staff officers from Third Army.

Arriving in Australia on February 7, 1943,

General Krueger learned that his new command would be in disguise. To do this he created Alamo Force, essentially Sixth Army in disguise and reporting directly to MacArthur's headquarters. Krueger soon learned the way of war in the SWPA. MacArthur "formulated all strategic plans, issued directives designating the operations to be undertaken, the commanders to conduct them, the forces and means to be used, the objectives and the missions to be accomplished. But in conformity with the principle of unity of command, he did not prescribe the tactical measures or methods to be employed."

Krueger faced some serious difficulties. His forces were spread over 2,000 miles from Australia to New Guinea. His only two combat divisions, the 32nd and 41st Infantry Divisions, were seriously depleted and ravaged with disease from earlier battles. Supplies were inadequate, and Australia's port and rail facilities were poorly prepared for the volume the coming campaign would demand of them.

General Krueger first put a high priority on logistical support for the frontline units. He was appalled to learn that the soldiers of the 41st Infantry Division had to sew patches on their ragged uniforms because replacement clothing was unavailable. Deficiencies were to be corrected immediately, requisitions filled promptly.

National Archives

American tanks and infantry, part of Krueger's Sixth Army, advance warily against Japanese positions in the deep jungle on the island of Luzon in the Philippines.

Next Kreuger addressed the sickness issue. He sent to the United States for experts on tropical diseases and set up a malaria treatment center at Rockhampton. Malaria control units were established, and the responsibility for controlling the disease fell to local commanders.

Meanwhile, MacArthur was also busy. Soon he presented Krueger with 13 planned amphibious assaults along the north coast of New Guinea. These operations were all designed to bring forward Allied air support which in turn would support the next operation.

First on Krueger's list were the islands of Kiriwina and Woodlark. By May 28, Alamo Force had submitted a plan of operations to the SWPA that was immediately approved. The operation went off as planned, and there was no enemy opposition. This operation verified the training

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U.S. Army troops come ashore in New Guinea on April 20, 1944. Krueger commanded Alamo Force, the precursor to the Sixth Army, in the Southwest Pacific.

and planning of Sixth (Alamo Force) Army and provided experience for the assault troops.

Next were landings on New Britain at Arawe and Cape Gloucester. Prior to these, General Krueger grew increasingly concerned about the lack of good ground intelligence he received from SWPA. He called upon Maj. Gen. Innis P. Swift, commander of the 1st Cavalry Division, to establish a training camp for reconnaissance teams. The Alamo Training Center was established on Ferguson Island, off the southeast tip of New Guinea, and was soon producing a small but highly effective reconnaissance force called the Alamo Scouts.

General Krueger then launched his Army-Marine Corps units against New Britain. This ended operations for 1943. But early in February 1944, Krueger sent General Swift's men to seize the Admiralty Islands, which completed the encirclement of the major enemy base at Rabaul. Then Sixth (Alamo Force) Army concentrated on the advance up the north coast of New Guinea with a final goal of the Philippines. One after another Japanese enclaves fell to the attacking American forces—Hollandia and Aitape in April, Wakde Island in May, Biak Island also in May, Noemfoor Island in July, and Sansapor on the western tip of New Guinea at the end of that month. At the end of the summer of 1944, the Japanese posts in New Guinea had all been overrun or left to be mopped up by Australian forces. General MacArthur had completed his approach to the Philippines. The need for the deceptive Alamo Force designation was also removed. Henceforth, General Krueger's command would be known by its official designation, Sixth Army.

By July SWPA was making early plans for the seizure of the Philippines. The planning continued for months, and due to new intelligence some operations were cancelled and others moved forward. Sixth Army's invasion of Leyte, a central Philippine island, was moved forward from December to October 1944. General MacArthur was about to keep his pledge to return to the Philippines, and he would be taken there by General Krueger's Sixth Army.

Supported for the first time by a huge naval armada, including both the Third and Seventh Fleets, the Sixth Army landed on Leyte on October 20, 1944. General Krueger's 202,000 soldiers initially faced weak opposition, but their landing drew the attention of the Japanese high command, which ordered a full-scale defense of Leyte. Reinforcements were rushed to the island, and the campaign lasted for more than three months.

Beset by increasing enemy strength, failure to build the required airfields, and the increasing Japanese air opposition, including the new kamikaze threat, General Krueger developed plans to speed his advance. When slowed by a strong Japanese defense along a mountain range, he asked for and received additional troops that he used to conduct an amphibious landing behind Japanese lines, breaking the stalemate and ensuring the end of organized Japanese resistance.

Even before General Eichelberger's new Eighth Army took over clearing Leyte, General Krueger was busy planning for MacArthur's next step, the main Philippine island of Luzon. Krueger's staff found fault with the estimates of SWPA headquarters, which claimed that there were only about 158,000 enemy troops on the island. Colonel Horton V. White, Krueger's intelligence officer, disagreed, claiming that there were at least 234,500 enemy troops on Luzon.

The Luzon campaign began on January 9, 1945, when Sixth Army landed 203,608 troops at Lingayan Gulf. From the moment the troops established the beachhead, MacArthur urged a rapid advance on the capital city of Manila. Krueger, who knew from various intelligence sources that a massive enemy force lay in the mountains to his left flank, refused to rush headlong into Manila while leaving his flank exposed. There were repeated arguments between the two, and MacArthur resorted to various stratagems to urge Krueger to speed his advance, including threatening his removal from command and, in one instance, moving his own headquarters closer to the front than Sixth Army's in an attempt to embarrass Krueger. Fortunately, none of this dissuaded Krueger from his planned pace of advance. Postwar records indicate that in fact the Sixth Army was outnumbered on Luzon, with more than 267,000 enemy troops on the island opposed by Krueger's 203,000. Further, most of these enemy

troops were waiting in those mountains on the left flank of Sixth Army as MacArthur urged it to speed toward Manila, further exposing that vulnerable flank.

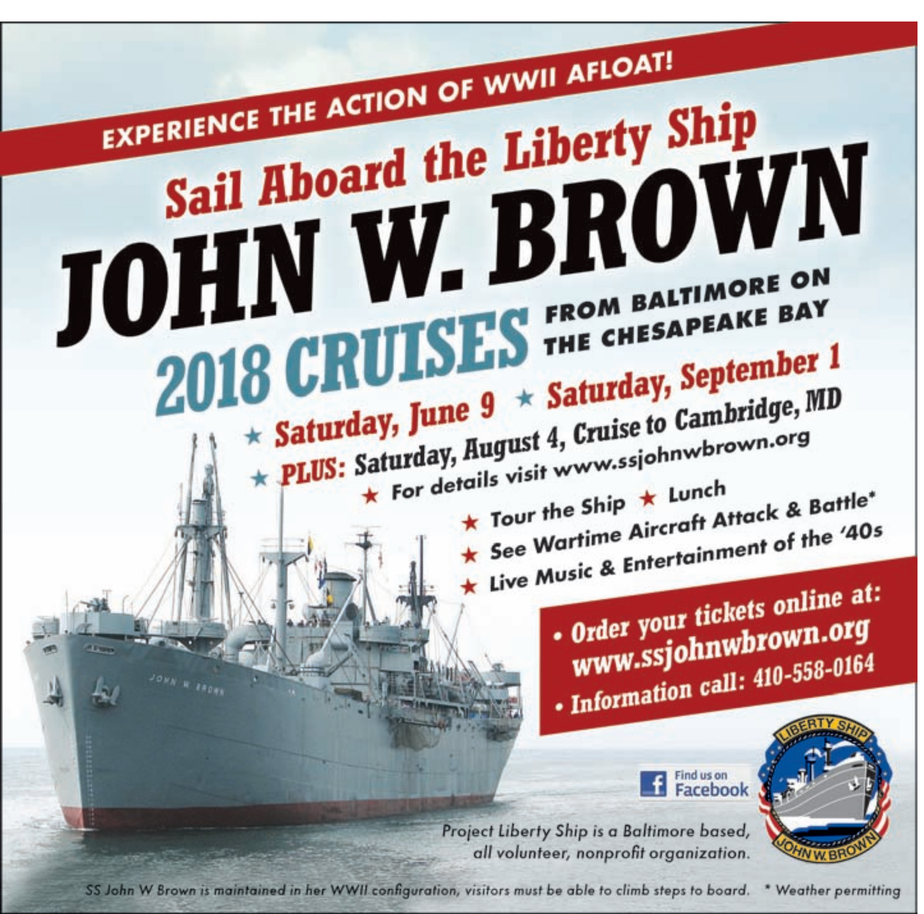
Once Manila, a city left in ruins by the battle necessary to secure it, was liberated, MacArthur seemed to have lost much of his interest in the remainder of the campaign. In fact, Sixth Army would be fighting on Luzon until late July, when General Eichleberger's Eighth Army relieved it. By that time Krueger and his Sixth Army staff were deep into planning for the invasion of the Japanese home islands. This plan, known as Operation Downfall, would occupy them until the Japanese surrender. But even as the planning continued and the troops gathered the Japanese surrendered.

Instead, General Krueger and his headquarters were to occupy the islands of Kyushu, Shikoku, and western Honshu, an area with a population of more than 40 million civilians. With three corps headquarters and ground troops under command, Krueger supervised the demobilization of the Japanese military forces in his area, instituted military government, rescued Allied prisoners of war, and verified that the Japanese carried out all the terms of the surrender. The Sixth Army landed in Japan on September 23, 1945, and was fully engaged in these duties by early November.

On December 31, 1945, the Sixth Army was relieved by the Eighth Army, and General Krueger was ordered to deactivate his command. General Krueger was able to begin his journey home. He and Grace had decided to make Texas their permanent home, and after retirement they settled in San Antonio.

Grace Krueger died of cancer in 1955. At her funeral a former staff member and friend recorded, "Walter Krueger has broken terribly, crying openly much of the time. Said he would join Grace soon. He is ... shaken with what he had to undergo." Despite depression, Krueger continued to write letters to friends and even attended a memorial service in the Philippines in 1960 and General MacArthur's birthday in New York in 1963. But his poor health eventually brought on pneumonia, and General Walter Krueger died on August 20, 1967, unrecognized and largely forgotten by the country he served so long and so well.

Nathan N. Prefer is the author of several books and articles on World War II. His latest book is titled Leyte 1944, The Soldier's Battle. *He received his Ph.D. in Military History from the City University of New York and is a former Marine Corps Reservist. Dr. Prefer is now retired and resides in Fort Myers, Florida.*



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By Robert A. Rosenthal

National Archives

To Die in the Marianas

Expecting a swift victory at Saipan, Guam, and Tinian in the Marianas, U.S. forces encountered a ferocious Japanese banzai attack and stiff resistance during weeks of fighting.

THE TRANQUILITY OF EARLY DAWN ON JUNE 15, 1944, WAS INTERRUPTED BY THE sounds of powerful naval guns and the roar of amtraks churning the water. The invasion of Saipan had begun.

Two days earlier a U.S. Navy bombardment fleet consisting of 10 battleships, 11 cruisers, 15 aircraft carriers, and 26 destroyers had begun bombing and shelling this island night and day. Saipan, a small island in the Marianas group, seemingly had few defenders. It was predicted to be a three-day battle with minimal casualties. So how did this conflict turn into the bloodiest battle in the Pacific War to date? And why did the American invaders suffer more than 16,000 dead and wounded against their tenacious Japanese enemy?

By the summer of 1944, the war was not going well for Japan. The Japanese Empire was a remnant of its former glory. Its Pacific possessions were lost to the aggressive U.S. island hopping strategy. Its forces in China were mired in prolonged fighting with Communist forces and the National Chinese Kuomintang. Its armies in Burma were being pushed back by the advancing British and Indian troops. Even its home islands of Honshu and Kyushu were subjected to frequent American bombing raids that killed of thousands of civilians in a single attack.

The situation was desperate, and the Japanese general staff knew that they could not win the war; the issue was accepting the terms of defeat. The Allies made their goal very clear in the Potsdam Declaration: "unconditional surrender." The terms of this pronouncement were unpopular with Japanese military and civilian officials, who attempted to find some way of mitigating the onerous provisions, especially those concerning the future of the monarchy, Allied occupation, disarmament, and war crimes trials. They thought that if they ferociously defended the home islands, the United States would suffer such huge casualties that the American will to continue fighting would diminish and a negotiated peace could be attained. This strategy guided the actions of Lt. Gen. Saito Yoshitsugu in formulating his defense of Saipan.

Saipan measures 14 miles long by five miles wide across its center and is irregularly shaped. Unlike other mid-Pacific island conquests earlier in World War II, which were fought on atolls, flat, low-lying coral reefs, Saipan is covered with rugged hills and ridges and is dominated by the 1,600-foot Mount Tapotchau. This afforded defenders the advantage of high ground and the ability to build caves and redoubts for gun emplacements, many of which were located on the reverse slopes of the hills and were therefore impervious to naval gunfire.

Naval guns are designed to fire with a flat trajectory and were ineffective against these dug-in positions. Furthermore, the battleships fired from more than 10,000 yards (almost six miles) from shore since they did not want to risk sailing into shallow waters that had not yet been swept for mines. It is estimated that during the two-day naval bombardment 12,000 tons of naval ordnance were fired but did little to soften up Japanese pillboxes by the time the Marines landed.

Under heavy fire from Japanese defenders, Marines move quickly through the rubble of Garapan, principal city on the island of Saipan. The battle for Garapan in July 1944 was the first experience of street fighting for American Marines in the Pacific.

Added to this disadvantage, coral barrier reefs surrounded most of the good landing beaches. Unbelievably, U.S. military intelligence did not accurately predict the tides, so many landing craft grounded on the reefs, resulting in the Marines walking ashore in

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During the first wave of amphibious landings on the island of Saipan on June 1, 1944, Marines take cover behind a sand dune. Weeks of exhausting combat lay ahead as the Japanese defenders had fortified caves and strongpoints across the island.

chest-deep water under deadly enemy fire.

The assault began with the landing of the 2nd and 4th Marine Divisions commanded by Marine Maj. Gen. Holland Smith, followed the next day by the U.S. Army's 27th Infantry Division led by Army Maj. Gen. Ralph C. Smith. All of the 64,000 U.S. forces were under the command of Holland Smith. This command arrangement, placing the Marine Holland Smith above the soldier Ralph Smith, would be a source of predictable tension. Nine days after the U.S. troops landed, Holland Smith relieved Ralph Smith of his command in an unprecedented and controversial decision based on Ralph Smith's apparent "lack of aggressive spirit."

The two Smiths could not have been more different from each other. Holland, who earned the nickname, "Howlin Mad," was a cigar-chomping, controversial character with a short temper who always seemed angry. However, he prided himself on his ability to relate to the common Marine. Ralph had been taught to fly by Orville Wright and received the 13th pilot's license issued with Wright's signature. He had a calm demeanor and was respected by his fellow officers and his subordinates. He was fluent in French and was awarded two Silver Stars for bravery in World War l.

Central to this conflict between the Smiths were differing tactical perspectives. By instinct and training, the Marines relied on energetic, rapid, and aggressive attacks. In contrast, the Army would take ground gradually with attacks supported by massed artillery bombardment. While these tactics may be suited to the clash of large armies on Continental battlefields, they were less effective against small enemy units dug into irregular positions in the rocky heights of a coral island.

Total Japanese strength on Saipan under General Yoshitsugu included about 32,000 Army troops plus 6,700 naval troops. The island is located 1,500 nautical miles from Tokyo. Although the United States did not have an airplane with that range, prototypes of the Boeing B-29 Superfortress heavy bomber, with a range of 3,500 miles, were currently under development. It is uncertain whether this was known by Japanese military planners, but they feared that the fall of Saipan would provide a base in the Marianas for unstoppable bombing of Japan's home islands. Some cabinet ministers predicted that the loss of Saipan would mark the beginning of their defeat. Therefore, all means possible were to be employed to prevent this from occurring.

The Bushido Code of moral principles that the Samurai were required to observe remained central to Japanese military life. It developed in the 9th century and stressed frugality, loyalty, mastery of martial arts, and honor unto death. The results of this philosophy can be seen by contrasting the number of captured troops of Nazi Germany with those of Imperial Japan. Throughout the war, Germany fielded 18.2 million troops with 11.1 million captured as prisoners of war—a capture rate of 61 percent. Japan's forces totaled 8.4 million troops, but only 40,000 were captured—a capture rate of only half of one percent.

By the night of July 6, the battle for Saipan had been raging for three weeks in 90-degree heat with 80 percent humidity, but there was a sense of euphoria among the American troops. Many believed that the main body of the Japanese on Saipan had been destroyed and that only mop-up operations remained to be completed. The Marines began to withdraw from the front lines and, for the first time since the invasion began, there were no overnight artillery fire or starburst shells that lit up the battlefield like daylight. U.S. intelligence reports indicated that the enemy had been reduced to a small force with serious shortages of food, water, small arms, and ammunition that was incapable of initiating or defending against an assault. Unfortunately, this overconfidence was misguided, and the intelligence was wrong.

Japanese forces had been driven into the northern end of the island near Marpi Point, where General Yoshitsugu formulated a plan to assemble every possible unit for a "Gyokusai" attack. Gyokusai or "shattered jewels" defines a conflict in which the combatants condemn themselves to a fight to the death. Only the emperor can declare a Gyokusai, which is a deeply felt notion that in the final battle to death one joins in a form of collective beauty of national destiny by shattering oneself like a beautiful jewel. In true Bushido tradition, each soldier in a Gyokusai knows that he will die a hero's death and will go directly to heaven. Since supposedly only the emperor could declare a Gyokusai, it is uncertain whether Yoshitsugu actually received word from the emperor. The effect was the same, however. He commanded each soldier to kill seven American devils before he sacrificed himself. In the event, the Japanese troops fought with ferocity unseen before this time.

Yoshitsugu also ordered that all wounded soldiers who were unable to walk be killed or commit suicide using a grenade. Those who were able to walk were armed with whatever weapons were available. There were not enough rifles or machine guns, so many were given hunting knives or daggers. Officers gave away their sidearms and kept only their sabers. When these gave out, the men cut bamboo poles and sharpened the ends. Evidence discovered after the attack showed that many of the estimated 3,000 attackers, especially the civilian construction workers, had consumed large quantities of saké, Japanese rice wine, and beer before launching the attack and were drunk when they died.

The charge began under a full moon shortly before midnight on July 6. Marine observers watching the attack through field glasses witnessed a strange phenomenon. Behind the enemy assault formations was a weird, almost unbelievable procession of the lame and the blind—the sick and wounded from the field hospitals had come forth to die. Bandaged men, amputees, men on crutches, and walking

wounded were helping each other along. Some were armed; some carried only a bayonet lashed to a long pole or a few grenades. Many had no weapons of any type. If they could kill a few Americans, they would be happy, but their main objective was to die in battle in the service of their emperor.

The tradition of death instead of defeat, capture, and perceived shame was deeply entrenched in Japanese military culture. It was one of the primary traditions of the Samurai life and the Bushido Code. As it became clear that Japan's capacity to wage war was decreasing and that defeat was inevitable, the military turned to suicide tactics—first with Gyokusai attacks and then three months later, in October 1944, with kamikaze planes and human torpedoes.

The noise of the approaching attack was described as a buzz like a big hive of bees. It kept getter louder and louder and then began to sound like Indian war cries. All at once thousands of Japanese troops burst through American lines. It was reminiscent of a crowd leaving a stadium—pushing and shoving and shouting. Defying machine-gun fire, officers led suicide charges brandishing their swords. The Japanese took fearful casualties but kept coming. On the front line the scene was chaotic, and the fighting was furious. The Japanese rolled over American positions like a tidal wave.

The fighting lasted through most of the day, but by early afternoon the Japanese attack had begun to taper off, simply because the number of soldiers still alive were fewer and fewer with each passing hour. By afternoon of the next day, the 2nd Marines took the airstrip at Marpi Point, cleared the island's northern sector, and declared Saipan secure. Thus ended the largest Japanese banzai attack in the Pacific War.

What was predicted to be a three-day battle became the biggest and bloodiest struggle in the Pacific War to date. It lasted for 3½ weeks and resulted in 16,400 American troops dead and wounded, 30,000 Japanese soldiers dead, and an estimated 22,000 civilian casualties. It is not known how many of these casualties occurred during the two-day Gyokusai. Although the battle for Saipan was over, the slaughter was not.

Saipan was the first island encountered by the Americans where there was a large civilian population of indigenous Chamorro, Okinawan workers, and Japanese civilians. Frightened by government propaganda that American soldiers would rape Japanese women and kill their children and urged on by the Japanese military, they refused to give up and chose suicide over surrender. The Chamorros, who are mainly members of the Roman Catholic Church, which considers suicide a mortal sin, did not participate in this flurry of suicides.

Wikimedia

ABOVE: The Japanese executed a suicidal Banzai charge against the American lines on Saipan and paid a tremendous price, the bodies of their dead littering the beach. This photo is believed to have been taken in the aftermath of the charge that decimated their remaining forces on the island. BELOW: Marine foxholes dot the area near a landing beach on the island of Tinian as amphibious landing craft continue to bring troops and supplies ashore. Tinian later became a substantial air base for American heavy bombers.

Naval History and Heritage Command

Despite appeals in Japanese broadcast over loudspeakers, American troops watched in horror as hundreds of civilians made their way to the top of the 800-foot cliffs and jumped to the rocks below. Others leaped from the cliffs at Marpi Point. At times the water below the point was so thick with the floating bodies of men, women, and children that naval craft were unable to steer a course without running over them. Some individuals bent on suicide simply waded into the surf to drown, while others blew themselves and their families apart with hand grenades.

The invasion of the neighboring island of Tinian began on July 24. Two days earlier, the island was bombed by planes from Aslito Field on Saipan. The first napalm bombs used in the Pacific War were dropped on Japanese positions during the preinvasion softening up of Tinian.

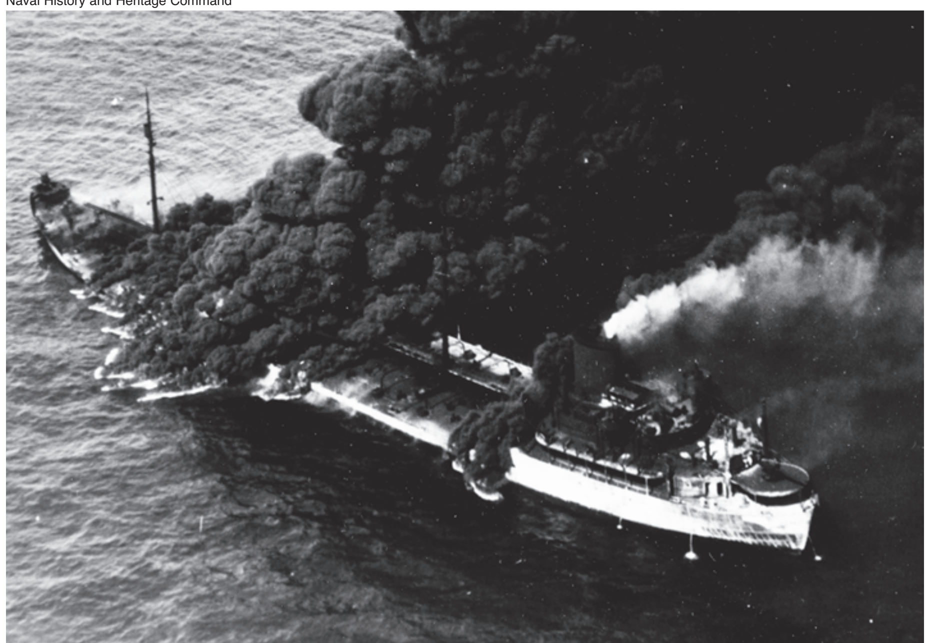
From the beginning the necessity of seizing Tinian, three miles south of Saipan, was understood. There would be a constant threat of raids and artillery attacks on Saipan from the 9,000-man Japanese garrison if not eliminated. The island was also needed for additional air bases. Saipan and Guam alone were insufficient to accommodate the projected bomber fleet and its massive support infrastructure. Also, there were two existing airfields on Tinian that could be improved, eliminating the requirement to build new ones.

Although there was no question about neu-

Continued on page 74

By Patrick J. Chaisson

Naval History and Heritage Command



An Intelligence Jackpot

Allied theoreticians, engineers, and Navy WAVES helped solve the Nazi Enigma.

NOTHING SEEMED TO WORK. THE ALLIED CODEBREAKERS TRIED EVERY possible trick and combination, but these new ciphers defied all attempts at decryption. On February 1, 1942, British analysts discovered they could no longer read intercepted radio communications between German U-boat captains and their commanding officer, Vice Admiral Karl Dönitz. Overnight, a vital part of the United Kingdom's super-secret cryptanalytic program—Ultra—had been plunged into darkness.

This intelligence blackout could not have come at a worse time for the Allies. Already, a handful of aggressive Nazi submarines were wreaking havoc all along North American shipping lanes. Dönitz's Operation Drumbeat would result in 216 merchantmen sunk off the U.S. East Coast during the first three months of 1942 alone. American countermeasures all proved hopelessly inadequate.

Something needed to be done about Admiral Dönitz's deadly underwater predators before they completely choked off the supplies of food, munitions, and fuel needed to keep Britain in the war. It was a daunting task; defeating the U-boats meant conducting a maximum coordinated effort among the air, sea, and intelligence services of two distrustful allies. Could the United Kingdom and the United States put aside their suspicions and join in a common endeavor to penetrate the enemy's new communications procedures?

During the 1920s and 1930s, Germany developed a portable, easy-to-operate cipher machine known by its brand name Enigma. All three branches of Hitler's armed services utilized it to encrypt tactical communications throughout World War II. Many German civil agencies also adopted this mechanism; as a result, hundreds of thousands were built.

Weighing 23 pounds, the device resembled an oversized typewriter with a miniature telephone switchboard on its surface. Electrically powered, it also featured a 26-character light panel. Three (later four) cylindrical metal rotors fit inside a basket behind the light panel. Each rotor contained a distinct web of wiring contacts and had to be loaded into the basket in a specific order. The Enigma came with five differently wired rotors, although by 1940 those on Dönitz's U-boats started carrying eight for additional security.

An instruction sheet called the key list told code clerks which rotors to use on any given day (operators routinely changed their settings at midnight). This list also prescribed how to arrange the rotors, to include a moveable placement notch on the outer ring of every cylinder. Lastly, the key list provided daily configurations for Enigma's plugboard, which the Germans termed a "stecker."

To encrypt text, Enigma employed an innovative electromechanical character substitution process. Once the operator had his apparatus set up properly, he began by pressing a key. This sent an electrical impulse through the stecker, changing its path from one letter value to another. From there, the current passed across three or four rotors. Each rotor advanced once in turn, rerouting the electric signal several times before that impulse reached a reflecting plate. This plate diverted the current once again before returning it through the rotors and stecker. Finally, a letter would flash on the light panel, which the operator would then write down.

By entering content in this fashion, German code clerks could rapidly transform important military communications into a series of seemingly meaningless letters. Deciphering an encrypted message was as simple as typing those letters and noting what lit up on the lampboard providing the recipient had a correctly configured Enigma.

LEFT: The Enigma machine resembles a typewriter with a plugboard. The operator pressed keys to operate the apparatus. TOP: The tanker SS *Pennsylvania Sun* burns furiously 125 miles off Key West, Florida, after being torpedoed by the German submarine *U-571*. The marauding German U-boats that prowled the American East Coast during Operation Drumbeat prompted action by U.S. intelligence.

Its cryptographic power was staggering. According to mathematician Dan Fleisch, one three-rotor Enigma could generate a number of possible letter combinations equaling 10 to the 114th power—or more than the number of atoms in the known universe. A four-rotor version, like the type found on German U-boats starting in 1942, produced combinations exceeding 10 to the 145th power.

British intelligence expert Stuart Milner-Barry described the Nazis' confidence in their capable new enciphering device: "The Germans regarded the Enigma as a perfectly secure machine, proof against cryptanalysts however talented and ingenious they may be." Yet already a group of brilliant codebreakers was learning how to crack this supposedly invincible system.

Beginning in 1932, three theoreticians with the Polish Cipher Bureau developed a mathematical equation that approximated the wiring connections of an Enigma rotor. Meanwhile, French spies had obtained other cryptographic information from a German turncoat, which they passed on to the Poles. By 1938, Poland had succeeded in constructing a mechanism that could test 17,000 possible rotor settings to help decipher intercepted radio messages. Its designers called their creation a Bomba.

No one is sure how this name came about. One story says the Poles came up with the term "Bomba" in honor of an ice cream treat they all enjoyed.

In late July 1939, just before the Nazi invasion, these Polish cryptanalysts shared their intelligence breakthrough with French and British agencies. The Poles even sent along an operating replica of the Enigma. In the United Kingdom, a Polish-built Bomba made its way to Bletchley Park, Buckinghamshire, and into the possession of a highly classified facility there known as the Government Code and Cypher School (GC&CS).

Teams of mathematicians, engineers, linguists, and military intelligence officers at GC&CS studied with astonishment what their Polish and French colleagues had provided. The British now understood Enigma's logical foundation; furthermore, they obtained several tools that one day might enable them to penetrate their foe's sophisticated enciphering protocol. For the time being, however, it remained a mystery just beyond the Allies' ability to solve.

Naval History and Heritage Command

ABOVE: The German submarine *U-505* was one of several captured on the high seas by U.S. Navy personnel, yielding codebooks that assisted in deciphering enemy communications. BELOW: A system of rotors was the key to the effectiveness of the German Enigma system.

In a collection of rude huts located behind Bletchley Park's Victorian-era manor house, some of Britain's brightest minds began examining the problem.

Two young theoreticians named Alan Turing and Gordon Welchman formulated several techniques intended to rapidly decipher Enigma messages. Welchman focused on defeating the Germans' stecker plugboard, his "diagonal board" test dramatically reducing the number of possible combinations any decryption system would need to examine.

Alan Turing drew up an electromechanical means of proving or disproving millions of possible rotor settings. Based on but logically distinct from the Polish Bomba, Turing's design operated in conjunction with Welchman's diagonal board to attack Enigma's vulnerable daily key codes. An ingenious electrical engineer named Harold "Doc" Keen transformed Turing and Welchman's drawings into a functioning mechanism; by August 1940, the first operational "Bombe" (somewhere along the line its name changed to the French spelling) was delivered to GC&CS.

The British Bombe was a masterwork of engineering. Standing 6½ feet tall, seven feet long, and two feet wide, each unit weighed one ton. More than 200 were constructed during the war years, put to use at Bletchley Park and in a number of outstations scattered across Great Britain.

The Bombe operated like a series of Enigma machines in reverse. A series of 96 commutator wheels spinning at various speeds tested possible letter matches; if the Bombe found a "stop," or possible solution, it would slow to a halt. An operator (often a Women's Royal Naval Service member, or Wren) then rewound its commutators to where the Bombe stopped and wrote down that wheel position. Cryptanalysts tested this suspected key setting on a "checking device." Whenever plain text emerged, they knew the day's codes had been broken.

It should be remembered that the Bombe was only one part of an extraordinarily complicated system utilized by GC&CS to read enemy communications. Keys to this process were "cribs"—words or phrases likely to form a part of the intercepted message. A constant supply of good cribs was necessary to peer inside Enigma; obtaining these clues was equal part dogged persistence, inspired guesswork, and luck.

Fortunately for the Allies, German faith in Enigma's security often led to procedural mistakes. These blunders, usually committed by lazy or bored operators, were quickly exploited by the talented analysts at Bletchley Park. One commander, for instance, invariably opened his daily reports with the salutation "Heil Hitler." Famously, another code clerk used his girlfriend's nickname—Cillie—for every message indicator he sent. These and other easily detectable patterns provided British codebreakers with many valuable cribs, starting points

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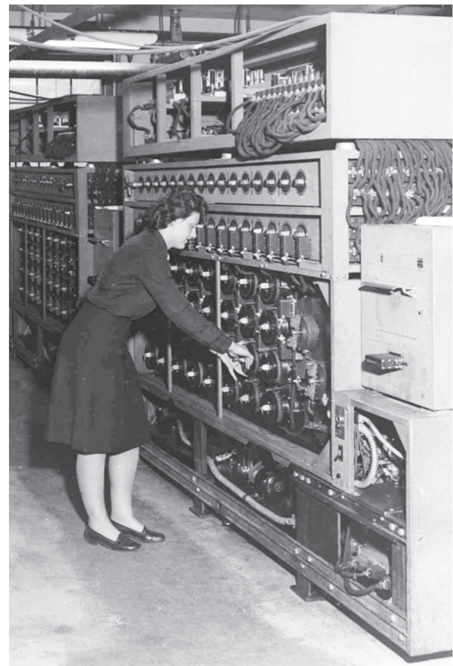

A cryptologist belonging to the U.S. Navy WAVES operates a computerized analytic Bombe during the effort to decrypt German communications.

National Archives

Navy WAVEs work away at data gleaned during the attempts to crack German codes enciphered by the formidable Enigma machine.

for their attacks into the foe's ciphers.

Yet GC&CS's most dangerous adversary was also its most security conscious. Unlike Germany's army and air force, which could send messages by courier, teletype, or wire, the Kriegsmarine had no choice but to rely on radio communications. Admiral Dönitz regularly communicated with his U-boats via Morse code; from the war's outset, Dönitz rightly suspected that Allied detection stations were listening in as he daily exchanged attack orders and situation reports with submarine captains operating across wide swaths of hostile ocean.

No one under Admiral Dönitz's command got to choose his sweetheart's name as an Enigma message indicator. Those settings were found in special codebooks known as Bigram tables, which also employed a second set of randomly generated letter pairs to doubly encrypt the initial rotor position for each message. Moreover, after February 1940, U-boats began utilizing eight rotors instead of the normal five as another layer of security.

All these precautions notwithstanding, for 18 months Bletchley Park experienced fair success in reading German naval radio traffic. Their efforts were aided immeasurably by the occasional capture of Kriegsmarine rotors, Bigram tables, and weather keys by the Royal Navy. In late 1941, for example, GC&CS knew Dönitz was about to issue new codes for his U-boats and even suspected the existence of a four-rotor Enigma.

When the Kriegsmarine switched to these updated ciphers and encryption machines in February 1942, Bletchley Park's analysts knew they had been locked out of Enigma at a most inopportune time. Admiral Dönitz's marauders were already killing hundreds of men and destroying tons of badly needed war matériel off the shores of North America. Raw United States naval and air forces could not combat this growing menace on their own. The British had vast experience in antisubmarine warfare, as well as the super-secret Ultra program, but how much were they willing to share with the Yanks?

Neither nation wanted to cooperate at first. "The World War II relationship between the British and American cryptanalysts began in confusion and mistrust," observed historian Colin Burke. "The combination of British reluctance, America's divided armed services, misunderstood agreements, and lost messages almost led to an end to the joint intelligence program."

The U.S. Army and Navy maintained separate information gathering organizations, an arrangement that led to much wasted time and duplication of effort. Prior to Pearl Harbor, American codebreaking efforts focused on Japanese activity to the near exclusion of Germany. This was especially true of the U.S. Navy, whose communications intelligence division, OP-20-G, assigned a mere five analysts to work Enigma throughout most of 1941.

Although Prime Minister Winston Churchill and President Franklin D. Roosevelt pledged full cryptologic cooperation in mid-1940, the first U.S. visit to GC&CS took place almost nine months later. During February and March 1941, four American military intelligence officers toured the codebreaking facilities there. They came bearing gifts: copies of the "Purple" machine that decrypted Japanese diplomatic ciphers, as well as valuable data on Japan's military codes.

In return, the Americans were shown a Bombe and given technical drawings of Germany's Enigma. Bletchley Park also promised a Bombe would be sent on to the States as soon as one became available. This device was never provided; OP-20-G received blueprints in mid-1942 only after lodging a series of formal protests.

The American team chafed under their hosts' security requirements, which included frequent warnings not to write down or discuss what they had seen with anyone not previously approved by GC&CS. And they were not allowed to see any operational data—kept hidden was such information as how Bletchley Park deciphered U-boat locations.

In fact, it was with extreme reluctance that Brigadier Stuart Menzies, head of British Intelligence, allowed the U.S. any access to Ultra's secrets. He knew that if one word leaked, his opposite numbers in Germany would immediately change their ciphers and close the door on GC&CS's invaluable cryptanalytic activities. Menzies also recognized that the United States, then a neutral power, was notoriously poor at keeping secrets, suggesting to Churchill in June 1941 that "the Americans are not in any sense as security minded as one would wish."

Great Britain viewed the process of information sharing as a "need-to-know" matter. To preserve Ultra's integrity, all decryption activities were to be performed in England and material deemed useful to U.S. forces sent by encrypted cable across the Atlantic. In no way did London want the Yanks to build their own Bombe. The risk of German agents finding out about it was just too great.

Yet, as horrified Americans watched torpedoed oil tankers burn just off their coastline, a rising clamor to stop the U-boats reached influential ears. In Washington, Chief of Naval Operations Admiral Ernest J. King demanded immediate action. His orders to the cryptanalysts of OP-20-G were both simple and direct: do whatever it takes to pierce these formidable new ciphers.

Navy researchers and scientists from the Massachusetts Institute of Technology (MIT)

promptly set out to design an all-electric decryption device capable of defeating the four-rotor Enigma. This was done against London's wishes, but as the bloody spring of 1942 dragged on into summer GC&CS admitted it could make little progress against the Kriegsmarine's new enciphering systems. Without a functional alternative of their own to offer, British intelligence chiefs had no choice but to let the United States move forward on a solution.

The theoreticians at MIT enjoyed a favorable working relationship with American industry, most notably the National Cash Register Company (NCR) of Dayton, Ohio. It was in Dayton that the Naval Computing Machine Laboratory (NCML) was established in March 1942. NCML took over NCR's former night school, Building 26, where civilian and military workers set out to construct a U.S. Bombe.

Selected to lead this development team was NCR's chief of electrical engineering, Joseph R. Desch. At age 34, Joe Desch had already distinguished himself by inventing miniature fast-counting vacuum tubes called thyratrons that would later form the basis for modern computer technology. Desch's pedigree as a second-generation German-American, however, aroused considerable suspicion. He could not visit his German-born mother without permission and was constantly shadowed by plainclothes naval agents throughout the war.

So concerned was the Navy over Joseph Desch's loyalty that it assigned him a "liaison officer" named Lt. Cmdr. Ralph I. Meader, who as an added security measure slept in the Desch family's spare bedroom. Meader also administered the NCML's rapidly expanding activities in Dayton, working with OP-20-G to ensure the uninterrupted flow of personnel, materials, and funding. Part of his job involved pressuring Building 26's workforce to increase productivity. "Men are dying," Meader would say, "and you're responsible for their deaths if you don't get the job done."

There were many early setbacks. MIT's all-electric concepts were soon deemed impractical, as they required computing capabilities that did not yet exist. Desch next drew up plans for an electromechanical Bombe, one inspired by Turing and Welchman's version but that incorporated several improvements. In practice, a production American Bombe ran from two to six times faster than its British counterpart.

The project benefitted from a gradual warming of relations between OP-20-G and GC&SC starting in the summer of 1942. Alan Turing visited Dayton that December, noting with interest the Americans' thyratron memory

Continued on page 73

D-DAY. FIVE BEACH LANDINGS AND A DAY THAT CHANGED HISTORY

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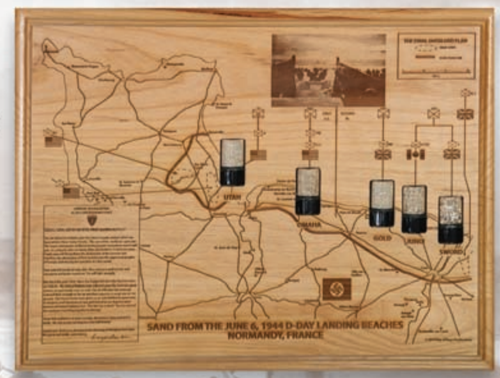

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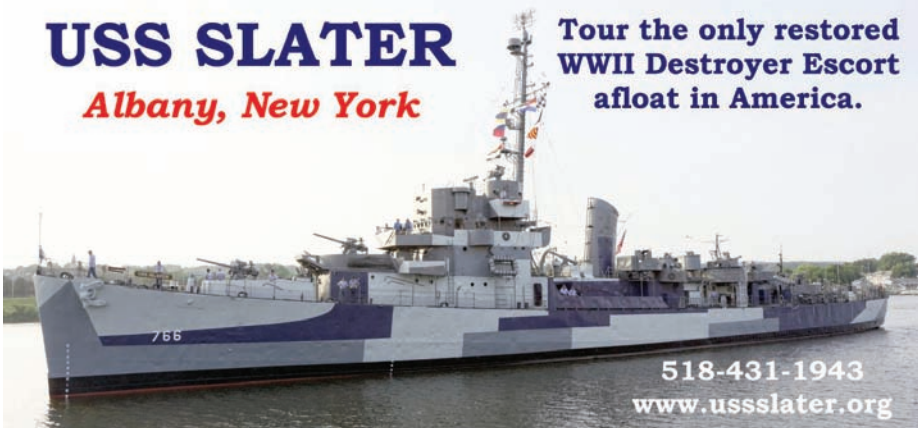

Ullstein Bild / The Granger Collection, NY

The capture of this major city on the Normandy coast of France gave the Allies the deepwater port they needed, but the facilities were badly damaged by the Germans.

BY PAT McTAGGART

IT WAS JUNE 1944. Two generals, one American and one German, faced each other with diametrically opposed missions. The American, Maj. Gen. Joseph Lawton "Lightning Joe" Collins, commander of the U.S. VII Corps, had led his men ashore on Utah Beach on June 6.

Born in New Orleans in 1896, Collins attended West Point, graduating in 1917. After Pearl Harbor, he was sent to Hawaii to work on the islands' defenses. In May 1942, he commanded the 25th Infantry Division on Guadalcanal and New Georgia. He was sent to the European Theater of Operations in February 1944 to take command of the VII Corps. After the breakout from the Normandy beachhead, his corps was charged with taking the Cotentin Peninsula and capturing the port of Cherbourg, which would give the Allies a desperately needed supply point on the European mainland.

Collins' opponent was Generalleutnant Karl-Wilhelm von Schlieben, who was born in Eisenach, Thuringia, in 1894. Von Schlieben entered the Kaiser's army just before the outbreak of World War I and remained in service after the war in the 100,000-man Reichswehr. At the beginning of the Russo-German conflict, von Schlieben commanded an armored infantry regiment, rising to command the 18th Panzer Division during the massive tank battle at Kursk in 1943. In December 1943, he took command of the Hessen-Thuringian 709th Infantry Division, which was garrisoned in Cherbourg.

The 709th was a static division, formed with older men in April 1941. It had been on garrison duty in France since November of that year and was transferred to Cherbourg in November 1943. In 1944, the average age of a soldier in the 709th was 36 years. The division's primary mission was to deny the port of Cherbourg to the enemy in case of invasion. Like other German divisions in Normandy, the 709th would be sorely tested in the next few weeks.

During the months before D-Day, von Schlieben kept his men busy patrolling the interior and guarding the beaches and roads of the Cotentin Peninsula. The duty was not particularly dangerous, and the population, while not overly friendly, was not overtly hostile. For the most part, the French inhabitants went about their daily tasks, doing their best to ignore the men in field gray that were stationed nearby.

Besides being the garrison for the 709th, Cherbourg was also the headquarters of Konteradmiral (Rear Admiral) Walter Hennecke, the naval commander of Normandy, which meant that the port was also filled with officers and men of the Kriegsmarine. In his position as naval commander, Henke had access to all the updated weather reports that would affect his ships. Looking at the latest data on June 5, he was fairly confident that the French coast would be safe from invasion, at least for the next few weeks.

Cherbourg's

American soldiers of the 79th Infantry Division take cover behind a wall as an explosive charge detonates during efforts to reduce a German pillbox, part of the Fort du Roule complex defending the port of Cherbourg. One of the Allied priorities after D-Day was the capture of a serviceable, deepwater port. Cherbourg was taken, but its facilities were badly damaged.

Bloody Toll

Ullstein Bild / The Granger Collection, NY

ABOVE: Fighting doggedly on the defensive in the hedgerow country of Normandy, German soldiers fire their 81mm mortars at advancing American troops. Note their heavily camouflaged helmets and uniforms. The Germans were ordered by Hitler to fight to the last man in defense of Cherbourg. BELOW: Disabled automobiles lie abandoned in the street of a French village south of the major port city of Cherbourg. In this image soldiers of the U.S. 82nd Airborne Division move cautiously through the area.

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The following morning, at about 0630, the first companies of Maj. Gen. Raymond O. "Tubby" Barton's 4th Infantry Division began the assault on Utah Beach. During the night of June 6, the 82nd and 101st Airborne Divisions had landed a few miles inland to prepare the way for the invasion forces.

Von Schlieben's Infantry Regiment 919 was initially overwhelmed by the ferocity of the air and sea bombardment that hit the German strongpoints along the beach. Leutnant Arthur Jahnke, commander of one of the strongpoints, felt as if a giant fist had picked him up and slammed him against the wall as shells and bombs hammered his position. His experience was depicted in the movie *The Longest Day*.

Tubby Barton's 4th Division sustained minimal casualties during the landing, most of them victims of mines. The airborne forces in the interior had done their job well, causing confusion among the Germans and preventing reinforcements from attacking the American infantry as the landings progressed. By the end of the day, Barton had consolidated his forces and was ready for his next mission, capturing Montebourg, the gateway to Cherbourg. The 55-year-old general had commanded the 4th since 1942, and he was certain that his men would have little problem in dealing with what he assumed were disorganized German defenders on the peninsula.

One of the keys to sealing off the Cotentin Peninsula was the capture of Carentan, which straddled the main highway running from Cherbourg to Paris, known as Route Nationale 13. It was also the main rail center for lines running from the peninsula to the mainland of France. The troopers of Maj. Gen. Maxwell Taylor's 101st Airborne Division were given the task of taking the town.

Unfortunately for Taylor's men, General der Artillerie Erich Marcks, the brilliant one-legged commander of the LXXIV Army Corps, which was charged with defending the peninsula, was in possession of captured operational plans for Collins' VII Corps. The plans had been found by members of a Russian battalion from the 352nd Infantry Division while inspecting a heavily damaged landing craft. Inside the briefcase of a dead beachmaster was the entire Allied scenario for the capture of the Cotentin Peninsula, including day-by-day objectives for the American V and VII Corps and the British XXX Corps.

After studying the documents, Marcks dispatched the Green Devils of Oberstleutnant (Lieutenant Colonel) Friedrich von der Heydte's Fallschirmregiment 6 to defend Carentan. The stage was now set for a deadly confrontation between two paratroop units, von der Heydte's Green Devils and the Screaming Eagles of Taylor's 101st.

Meanwhile, Maj. Gen. Matthew Ridgway's 82nd Airborne was fighting to gain a bridgehead across the Merderet River for Collins to use as one of his jumping-off points for the assault on Cherbourg. Ridgway's troopers had rough going against a tough and experienced regiment of the 91st Luftlande (Air Landing) Division. The German division was led by Oberst (Colonel) Eugen König, who took command after Generalleutnant Wilhelm Falley was killed on D-Day. The 82nd eventually established a bridgehead on the eastern bank of the river by June 8, only to be met with heavy German counterattacks.

A seesaw battle ensued, with the determined paratroopers gradually gaining the upper hand. Finally, the bridgehead was secured and the newly arrived 90th Infantry Division passed through the exhausted lines of the 82nd to keep

the Germans on the run. Ridgway's bloodied troopers breathed a collective sigh of relief as they watched the 90th, commanded by Brig. Gen. Jay W. McKelvie, march past.

The 90th was a green division, newly arrived in Normandy and untested in battle. As the division advanced through the hedgerows and farmland, the carnage from the 82nd's battle unnerved many of the young soldiers. One of the leading units suddenly opened fire on what appeared to be a large group of Germans advancing toward the Americans, killing or wounding almost all of them. A few minutes later it was found that the Germans were prisoners from the previous fighting and were being led back to the beach by a handful of American guards. It was the first of several mistakes that would plague the 90th on the Cotentin Peninsula.

While the 90th struggled in the Merderet bridgehead, the battle for Carentan was still in full swing. By June 9, Taylor's Screaming Eagles had bypassed the town and occupied the village of Saint-Côme-du-Mont, four miles north of Carentan. The main prize, however, had still not been attained.

Von der Heydte's young paratroopers (many were teenagers) fought like tigers to hold Carentan. Expertly camouflaged positions among the hedgerows and causeways gave ample opportunity for the Germans to ambush the Americans trying to breach their lines. They also launched several counterattacks, one of which almost overran an American battalion headquarters.

The severity of the fighting caused horrendous casualties. In a forward dressing station just behind the German line, a pair of captured American doctors worked side by side with their Wehrmacht counterparts, operating on hundreds of Americans, Germans, Russian volunteers, and French civilians who had been wounded in the battle.

It was not until June 12 that the paratroopers and glidermen of the 101st finally took Carentan. The capture of the town united the American forces from Omaha and Utah Beaches, giving the U.S. troops a truly viable front. Almost one week after D-Day, the main supply route to the Cotentin Peninsula had finally been cut.

Von der Heydte and the remnants of his regiment were back in action a day later in a futile counterattack to retake Carentan with Brigadeführer (Brigadier General) Werner Ostendorff's 17th SS Panzergrenadier Division. Before the attack, von der Heydte cautioned Ostendorff not to be overly optimistic. "Surely those Yanks can't be tougher than the Russians," Ostendorff scoffed.

Von der Heydte, who had been in the thick of many battles on the Russian Front, looked Ostendorff straight in the eyes. "Brigadeführer, not tougher but considerably better equipped, with a veritable steamroller of tanks and guns."

Supremely confident, Ostendorff cut short the discussion. Supported by von der Heydte's regiment, the SS division moved to the attack. They soon found themselves in a hornet's nest, with American artillery cutting wide swathes through their ranks. In vain, Ostendorff urged his men forward.

By the end of the day, the SS general was forced to call off the attack to regroup his shattered division. Ostendorff now understood the meaning of von der Heydte's words and realized that without adequate air and artillery support it would be futile to try another costly attack against the American positions.

At Cherbourg, von Schlieben had quickly sent several Kampfgruppen (battle groups) to the south as soon as he heard of the invasion. Together with elements of Generalleutnant Heinz Hellmich's 243rd Infantry Division, which was also stationed on the peninsula, they formed a defensive line dotted with bunkers and strongpoints. These positions had been a problem for the 4th Infantry Division for several days.

Tubby Barton faced a formidable enemy line before he could attempt to take Montebourg, about 10 miles northwest of Utah Beach. The hedgerows in the area offered the Germans a natural defense that channeled attacking forces through preplotted avenues of fire. Von Schlieben's men also had the advantage of occupying the high ground, where they could observe any attacking enemy coming at them over the relatively flat coastal terrain.

During their advance, the Americans had bypassed several German strongpoints, includ-

Map © 2018 Philip Schwartzberg, Meridian Mapping. Minneapolis, MN

The port city of Cherbourg, France, lies at the tip of the Cotentin Peninsula. American troops of the VII Corps under General J. Lawton Collins turned toward Cherbourg after their landing in Normandy.

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ABOVE: American soldiers return fire against German troops near the town of St. Sauveur, France. The Germans put up a fierce rearguard defense against the advancing Americans, but the town fell on June 16. BELOW: As they fight their way toward Cherbourg, advancing painfully along the Cotentin Peninsula, American troops from an antitank unit take cover as German fire peppers around them.

National Archives

ing Saint-Marcouf and Azeville. Oberleutnant Walter Ohmsen commanded the Marine Artillery Abteilung 260 (Naval Artillery Detachment) located in Saint-Marcouf. Supported by a mixed bag of infantry and a few assault guns, Ohmsen's artillery caused heavy casualties among the follow-up American troops charged with taking the surrounded enemy positions. The two German strongpoints were also able to support each other with artillery fire until the Americans finally took Azeville on June 9.

Ohmsen held out for another two days. His combat strength was down to 18 officers and men, including several wounded who could not be moved. Surprisingly, the buried telephone cable connecting his battery with Hennecke's headquarters in Cherbourg had not been broken by the incessant American shelling. On June 11, he received permission from the admiral to attempt a breakout.

That evening, those who could travel quietly slipped through the American lines, the seriously wounded being left behind with an NCO medic. The small group made it to the German lines after a harrowing night's trek and continued on to Cherbourg. On June 14, Ohmsen was awarded the coveted Ritterkreuz (Knight's Cross) for his actions at Saint-Marcouf. Like many officers that received the award, Ohmsen said that it was the men who served under him that made the award possible.

On June 8, the 4th Infantry Division and the 505th Paratroop Infantry Regiment of the 82nd Airborne began an attack on the Quineville-Montebourg-Le Ham ridge, which had to be taken before Barton's division could advance up the eastern coast of the peninsula. The position was held by an artillery group commanded by Major Friedrich Küppers, who had been personally chosen by von Schlieben to hold the ridge.

One of Küppers' principal missions was to support elements of the 919th Infantry Regiment and the 243rd Infantry Division that were withdrawing from the Utah Beach area due to overwhelming Allied superiority. The Americans realized the importance of the German position and, after two days of intense air and naval bombardment, Küppers' troops were mentally and physically near the end of their tether. Küppers tried to keep morale up, stressing the importance of holding the position, which was the key to Cherbourg.

When Barton began his advance against the withdrawing German units, his regiments ran into a maelstrom of hot steel. Küppers' 19 guns ranged from the lethally accurate 88mm to larger 150mm howitzers and were supported by several flak guns and mortars, which only added to the carnage. The Germans had pretargeted areas so that defensive positions in the hedgerows were protected by a wall of artillery fire, further slowing the Americans.

Barton's 22nd Infantry Regiment, commanded by Colonel Harvey Tribolet, advanced on the American right flank along the coast. To its left were Colonel Russell Reeder's 12th Infantry Regiment and Colonel James Van Fleet's 8th Infantry Regiment. The left flank of the advance was covered by Colonel William Ekman's 505th Parachute Infantry Regiment. Despite the fierce pounding from Küppers' artillery, the American forces gradually pushed the Germans back so that by June 12, Van Fleet's unit was able to dig in along the Montebourg-Le Ham road.

Things were not going as well in McKelvie's sector. Already spooked by their march to the front, the 90th all but folded in the face of the devastating German artillery fire. As air and ground bursts ripped through their ranks, the screams of the wounded and dying mingled with the roar of artillery explosions. With men falling all around them, the inexperienced troops tended to bunch up for protection, causing even more casualties from the German barrage.

On June 13, the day after Van Fleet's men reached the Montebourg-Le Ham road, the

90th was still foundering in front of its own jump-off positions. Lightning Joe, always a man of action, visited the division's sector and was appalled by the lack of leadership that seemed to plague the unit.

After his tour of the area, Collins contacted Lt. Gen. Omar Bradley, commander of the First Army, and reported the situation. He recommended that McKelvie be relieved and that a new commander, Maj. Gen. Eugene Landrum, take over the 90th immediately. The recommendation was approved, and the 90th was temporarily pulled out of the line so that Landrum could "clean house" and replace lackluster officers with men of his own choosing.

The poor performance of the 90th and the incredibly tough German defense had upset the timetable for the capture of Cherbourg, which was scheduled for no later than June 14. Despite the best efforts of most of the American units, the peninsula had still not been sealed off from the rest of France, and German supplies and reinforcements were still trickling into the Cotentin through gaps in the American lines.

To complete the job of severing the peninsula from the mainland, Collins called upon Ridgway's battle-weary 82nd Airborne to finish the mission. The newly arrived 9th Infantry Division, commanded by Maj. Gen. Manton Eddy, would assist the airborne troops in achieving the objective. Eddy's division was a tough, battle-tested unit that had seen combat in North Africa and Sicily. Its troops had no illusions about the enemy that faced them, and the men knew that they were in for a difficult time.

On June 15, Collins ordered the attack to commence. His timetable had already been upset, and Lightning Joe was in no mood to accept any more setbacks. Barneville, a small village overlooking the Atlantic Ocean on the eastern side of the peninsula, was the objective of the American attack.

Oberst König's 91st Luftlande Division, which had been in constant action since the invasion, faced the two American divisions. The 91st was a mere shell of its former self, but König's men still had some fight left in them, and they used the swampy terrain to their advantage. As the Americans advanced, they were hit with fire coming from the hedgerows and thick vegetation that covered the area.

Despite the enemy fire, the paratroopers of Colonel William Ekman's 505th Parachute Infantry Regiment managed to make good progress. During their advance, the troopers took hundreds of prisoners, but most were found to be non-Germans who had volunteered or had been forced into joining the Wehrmacht. As the prisoners were marched toward the rear, the air was filled with conversations in Polish, Russian, Ukrainian, Czech, and even Korean. For the most part, the captured troops looked relieved that their ordeal was over.

It was soon apparent to the men of the 9th and 82nd that their prisoners had been deliberately placed in the front line to serve as little more than an annoyance to the advancing troops. The Germans had never really expected that the foreign troops would fight very hard, but they did serve the purpose of slowing Collins' advance. When the two divisions ran up against defenses manned by regular German troops of the 91st, it was a different story.

North of the 82nd's avenue of attack, Eddy's 60th Infantry Regiment (Colonel Frederick de Rohan) ran into a hornet's nest when it hit the defenses manned by the battered but determined Germans. As de Rohan's men sought to overcome the enemy positions, the Germans launched a counterattack that brought the surprised Americans to a halt. A stalemate continued for several hours until Colonel George Smythe's 47th Infantry Regiment was thrown into the battle, forcing the Germans to retreat. By the end of the day, Eddy's division had settled into positions west of Orglandes in the center of the peninsula.

New German forces had been brought into the line, principally Generalmajor Rudolf Stegmann's 77th Infantry Division, which had come up from Brittany. Even with this influx of reinforcements, the superiority of Allied air and naval forces made the German defenses virtually untenable.

Throughout the evening of the 15th, sporadic firing broke the stillness of the front as the exhausted American and German troops tried to catch a few hours of rest. By daybreak, German NCOs were making their rounds, ensuring

As the men pulled themselves from their resting places, an ear-splitting roar pierced the relative calm of the dawn. "Get down," the Feldwebel yelled, as shell after shell crashed into the German positions.

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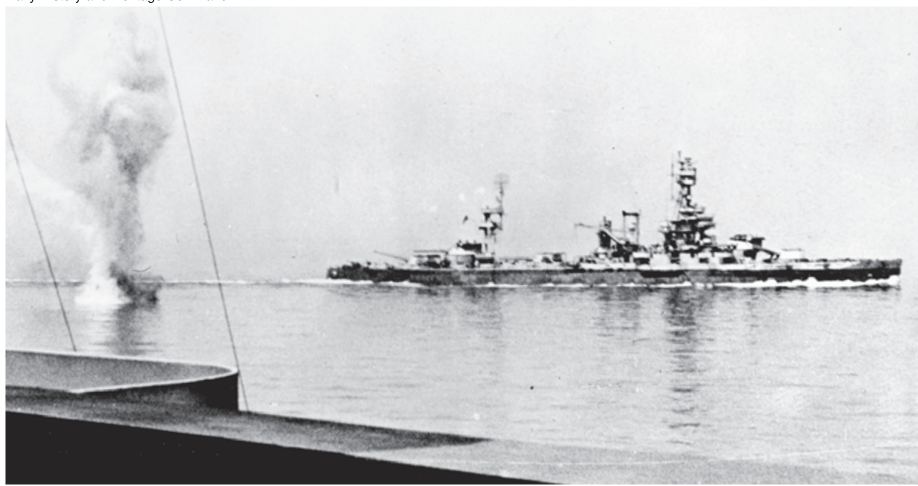
Fort du Roule, a part of the defensive complex occupied by the Germans at Cherbourg, fell to the advancing American soldiers of the 79th Infantry Division on June 26, 1944. In this photo, taken after the fort was captured, the French port city is a smoking ruin with its harbor lying in the distance.

Navy History and Heritage Command



ABOVE: During the fight for Cherbourg, U.S. Navy battleships *Arkansas* and *Texas* duel with heavy German shore batteries. The water plumes of German shells are visible in this image at left. BELOW: A Douglas A-20 Havoc light bomber of the U.S. Army Air Forces attacks German positions on the Cotentin Peninsula.

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that their men were roused from sleep and ready to continue the battle.

"Get up boys," a veteran Feldwebel (sergeant) said, "the Amis will soon be knocking at the door again." As the men pulled themselves from their resting places, an ear-splitting roar pierced the relative calm of the dawn. "Get down," the Feldwebel yelled, as shell after shell crashed into the German positions. On the 82nd Airborne's front, artillerymen and mortar crews worked at a frantic pace, firing their weapons nonstop and raining havoc on the enemy line.

The barrage was followed by a massed attack of American fighter-bombers. The aircraft hit enemy positions around Saint-Saveur-le-Vicomte with such fury that the German defenders were forced to retreat even before the Americans launched their ground assault. Paratroopers advanced through the shattered town and were met with German artillery fire. Soon, Saint-Saveur-le-Vicomte was permanently in American hands.

North of the 82nd, Eddy's 9th Infantry Division reached the Douve River. The general halted his division and sent the 47th Regiment south to a bridgehead that the 82nd had established on the far side of the river. The 60th Regiment regrouped around Saint-Colombe, about three miles north of the bridgehead.

The following day, Eddy's regiments attacked. Heavy fighting again ensued as the 9th ran into remnants of König's Luftlande Division. By evening, Colonel de Rohan's 60th Infantry had reached Saint-Jacques-de-Nehou, about six miles from Barneville. The exhausted troops had hoped to spend the night in the village before resuming their march to the coast, but it was not to be.

In the waning hours of the day, an American armored car suddenly sped into the village. As the vehicle came to a halt, the troops were dumbfounded to see Lightning Joe himself emerge. After conferring with the lead battalion commander, Collins sent a message telling Eddy to meet with him immediately.

"I know that your boys are tired, " the corps commander said when Eddy arrived, "but the Germans are in worse shape. I think that we can break them if we keep moving tonight."

Details were hastily worked out, and Eddy set his two regiments into motion once again. Throughout the night, the Americans pushed steadily forward, gaining momentum as they went. In the early hours of June 18, advance patrols reported that they had reached the ocean. The Cotentin Peninsula was finally sealed off from the rest of France.

As the Americans worked to consolidate their position, Generalmajor Stegmann attempted to save his division by breaking out to the south. The general tried to lead his men out, but he soon fell victim to the dreaded American "Jabos" (the German slang for fighter-bombers) that swooped down on his staff car and riddled its occupants with 20mm shells. Only a day before, Generalleutnant Hellmich had been killed by American fighters. General of Artillery Marcks had suffered a similar fate on June 12.

Command of the 77th went to Oberst Rudolf Borcherer. The remnants of the division continued to move south throughout the day and into the evening. Early on June 19, Borcherer's leading battalion ran into the 2nd Battalion of the 47th Infantry Regiment from Eddy's 9th Division. The Germans launched an old-fashioned bayonet charge that netted more than 200 prisoners and opened the way for the survivors of the 77th to escape. Borcherer led the division, which was now below regimental strength, until September, when it was destroyed at Dinard.

The situation at Montebourg was now hopeless. Without the 77th, Major Küppers' right flank was wide open, but his orders were firm. He was to hold his position for as long as possible. What Küppers did not know was that Colllins was ready to strike again with three divisions that were poised to shatter the German line.

Cherbourg's capture became even more important on the 19th, when a Channel storm began to batter the man-made Mulberry harbors that were vital in funneling supplies to the Allied forces in France. To underscore the importance that Berlin attached to holding the port, Hitler, who rarely gave up any territory willingly, finally agreed to authorize a fighting

withdrawal for the units south of the city.

Von Schlieben's command was redesignated Kampfgruppe Cherbourg and included his own 709th Infantry Division and Grenadier Regiment 922 from the 243rd Infantry Division as well as the various miscellaneous Luftwaffe and Kriegsmarine units stationed in the city. With his new command, von Schlieben also received the following message: "You are hereby appointed the commander of Fortress Cherbourg. You will defend the city to the last man and the last bullet. [Signed] Adolf Hitler."

The withdrawal consent seemed like a gift from heaven to Major Küppers. His battered Kampfgruppe was in danger of being flanked by the Americans, and there was little hope of holding out another day. After consulting with von Schlieben, Küppers ordered his men to retreat. Covered by overcast and drizzle from the Channel storm, the remnants of his Kampfgruppe made their way toward Cherbourg to occupy new positions guarding the port.

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ABOVE: American soldiers advance past the rubble of a destroyed German fortification at Cherbourg. The German bodies lying on the ground nearby attest to the resolution of the defenders. LEFT: Allied artillery or air attacks have heavily damaged this German artillery emplacement at Cherbourg.

It did not take long for the Americans to figure out what was happening. As reports of the withdrawal reached Collins, the corps commander turned his divisions loose. The attack took place on a three-division front, with Eddy's 9th on the left and Barton's 4th on the right. The newly arrived 79th Infantry Division, commanded by Maj. Gen. Ira T. "Billy" Wyche, would advance up the center.

It turned into a foot race, with the Germans having a few hours' head start. American reconnaissance units pressed forward, warily checking out abandoned enemy defensive positions before moving north again. Behind them, the three American divisions found themselves slowed by natural obstacles more than German rear-guard actions.

Meanwhile, exhausted German units began arriving at the outer defensive areas of the port, with some battalions down to company strength when they finally reached their new positions. The survivors of the terrible Cotentin meat grinder were about to make their final stand.

Cherbourg's outer defenses were formidable. For the past four years, German engineer and construction battalions worked to strengthen old fortifications and build new ones in case the port was threatened. The outer line was a semicircle of forts, bunkers, and trenches four to six miles from the center of the city, with strongpoints dotting the high ground surrounding the port.

The Americans would have to approach through terrain covered by streams, hills, cliffs, and man-made ditches. Von Schlieben's deadly 88mm dual-purpose guns were positioned to cover main avenues of attack.

The task of defending Cherbourg fell to four understrength Kampfgruppen. Kampfgruppe Müller (Oberstleutnant [Lt. Col.] Fritz Müller with Grenadier Regiment 922) was responsible for the peninsula west of the port. The center of the line was held by Kampfgruppe Keil (Oberstleutnant Günther Kiel with Grenadier Regiment 919 and Maschinegewehr [Motorized] Batallion 17) and Kampfgruppe Köhn (Oberst Walter Köhn with Grenadier Regiment 739). Kampfgruppe Rohrbach (Oberst Helmuth Rohrbach with Grenadier Regiment 729) held the east flank of Cherbourg.

A series of secondary positions had been constructed nearer the town, and the harbor itself contained a number of strongpoints and bunkers. Von Schlieben and Hennecke had their command posts in a huge underground bunker in the suburb of Octeville. The personnel inside the bunker were caught in a stifling underground world that had no air conditioning and little ventilation to clear the smells of men and battle.

Collins had a great deal of information concerning Cherbourg's defenses, courtesy of the French Underground. As the Americans prepared to assault the port, junior officers could thoroughly study their objectives with maps of surprising detail and work out the best approaches with the least enemy covering fire.

Von Schlieben knew that his position was hopeless, but he hoped to gain time to complete the destruction of the harbor facilities. He also knew that he was tying down American forces that could be used to break out of the Normandy beachhead. His orders to his Kampfgruppen commanders were simple: "Dig in and hold."

Supplies were another headache for the German general. He had already been forced to cut his men's rations in half, and there was little hope of receiving any more supplies, especially with the Allied control of the sea and air. With American forces drawing closer, the general was forced to issue a proclamation resulting in dire consequences for any German soldier who shirked his duty. The June 21 order read: "Withdrawal from the present positions is punishable by death. I empower all leaders of every grade to shoot on sight anyone who leaves his post because of cowardice. The hour is serious. Only willpower, readiness for fighting and heroism to the death can help."

Even this Draconian measure could not stop the American advance. Units of the 79th Infantry

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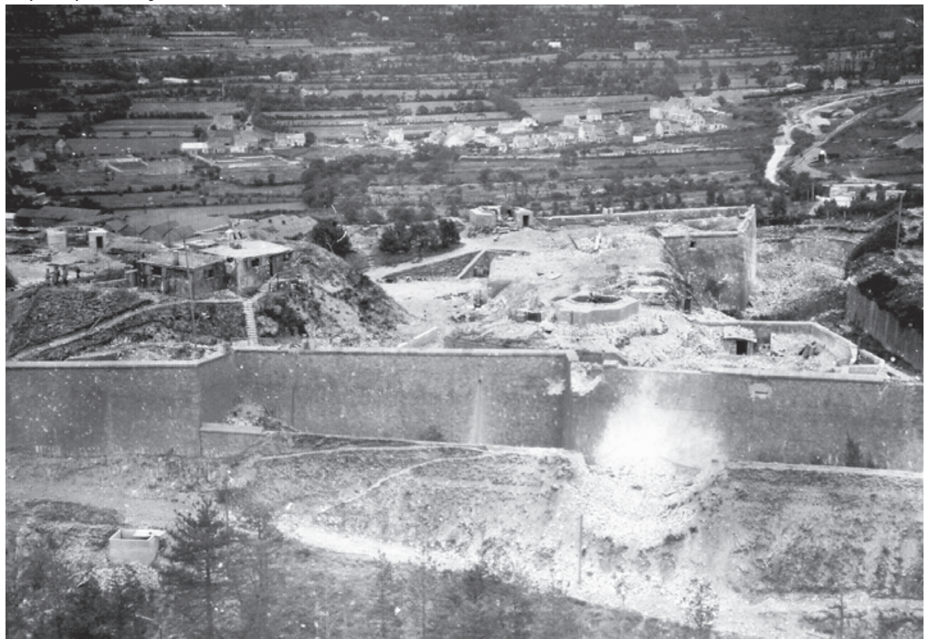

A German fortification located on a hill near the inner harbor of Cherbourg is shown under attack by American forces. The city was eventually surrendered by its defenders, but the port was unusable for some time.

Division took a fort and several pillboxes in the outer defensive ring with the help of accurate air attacks. By the evening of the 21st, Collins' three divisions were poised to begin a final assault on the port the following day.

The three-pronged attack was preceded by a massive air bombardment from hundreds of American and British fighters and bombers. At just past 1230 hours, the first wave of Allied aircraft appeared over the German lines. Swarms of fighter-bombers dove on the enemy fortifications, pummeling them with bombs and rockets. Then came the bombers. More than 600 medium aircraft came over in waves, blasting the German positions with thousands of tons of explosives. Other explosions were heard in the distance that day. Faced with the inevitability of eventual surrender, von Schlieben ordered the destruction of Cherbourg's harbor facilities to commence.

Fregattenkapitän (Frigate Captain, equivalent to Lieutenant Colonel) Hermann Witt, the harbor commandant, was in charge of the demolition. In a letter to this author decades later, the naval officer said that his men were working day and night to place charges that would make the facilities inoperable for months. "Even so," he wrote, "the process would take a few days to accomplish."

Mines had also been placed in the harbor. Many of them could be exploded by remote control from a panel in Fort Westeck, which would make Allied entry into the harbor nearly impossible until the entire port had been captured.

As the bombers departed, more than a thousand artillery pieces opened up on the German line in a tremendous display of Allied materiel superiority. Following the barrage, Collins ordered his divisions forward. Billy Wyche's 79th advanced from the south while Eddy's 9th came from the west. Barton's 4th took on the eastern sector. As assault units neared the German positions, the dazed survivors of the bombing went into action.

The 4th ran into a buzzsaw of fire as it hit the remnants of Kampfgruppe Rohrbach and gained only a few hundred yards before nightfall. Eddy's 9th was stopped in front of Kampfgruppe Müller, and the 79th ground to a halt in the face of fierce resistance from Kampfgruppen Keil and Köhn. As night cloaked the battlefield in darkness, German and American soldiers practically fell where they were, hoping to get a few hours of sleep before continuing the battle.

June 23 was another day of savage fighting. More air strikes hit the Germans, destroying several strongpoints and opening the way for penetration into the defensive belt. The 9th Division was able to destroy several bunkers and push Kampfgruppe Müller across a key ridge leading to Cherbourg, but the 79th and 4th still fell short of their objectives.

Inside Cherbourg, Fregattenkapitän Witt continued to oversee the destruction of the harbor. "A vast pall of smoke hung over us," he wrote, "and explosions continued throughout the night as we tried to deny anything of value to the enemy."

The 24th proved to be a better day for Collins. He requested naval support and was told that it would arrive the following day. Meanwhile, the 9th Division was able to reach the outskirts of Octeville after destroying some Luftwaffe ground units. With the help of air and artillery support, Wyche's 79th destroyed a German strongpoint and advanced to the approaches of Fort du Roule, a massive fort that guarded a key access to Cherbourg. The 4th was also successful, with Barton's men taking the high ground just outside the suburb of Tourlaville.

Von Schlieben, knowing that the end was near, sent a message to Field Marshal Erwin Rommel's headquarters indicating that Fortress Cherbourg could not hold out for more than another day or two. He mentioned fortifications being destroyed and heavy losses among unit commanders. Von Schlieben also told Rommel that he had lost communication with several battalions and that morale was plummeting.

Collins gave the German general a chance to surrender on the morning of the 25th. In a message to the fortress commander, Collins noted that Cherbourg was isolated and that American forces vastly outnumbered the Germans. He demanded the unconditional surrender of the city to avoid further losses on both sides. Von Schlieben did not reply.

At about 1000 hours, Task Force 120, commanded by Admiral Morton Deyo, arrived off the coast. Deyo had several battleships and numerous cruisers and destroyers at his disposal. His objective was to silence the huge German naval batteries that protected Cherbourg's seaward side and to support Collins' attack, which was set to begin at noon. As the clock ticked down, swarms of fighters and bombers appeared over the besieged fortress, ready to drop their deadly loads on designated targets.

Suddenly, the air was filled with explosions as Deyo's ships moved in to duel with the heavy coastal batteries. Fregattenkapitän Witt watched in fascination as 14-inch shells from the battleship *Nevada* blasted a battery southwest of Quequerville. Batteries Hamburg, York, and Brommy were also being plastered, but the Germans were retaliating with accurate fire that hit the cruiser HMS *Glasgow*. Eventually, the battleship *Texas* and destroyers *O'Brien*, *Barton,* and *Laffey* would all receive direct hits from the German coastal guns.

The land battle was also now in full swing. In front of Fort du Roule, the 314th Infantry Regiment (Colonel Warren Robinson) watched a succession of P-47 Thunderbolts drop 500-pound bombs on the German position. The bombing was followed by an artillery barrage that did little to damage the fort.

Fort du Roule was a massive structure that contained several levels. Three sides of the fort had been carved out of steep cliffs that overlooked the ocean, and artillery batteries had been placed in the lower levels to ward off any would-be attacker. The landward side was the only practical avenue of attack, and it was strewn with pillboxes and machine-gun nests. Robinson's men knew that they would be in for a rough day.

After the artillery barrage, Robinson ordered his regiment to advance. His leading battalion was ripped apart by artillery and cleverly concealed German strongpoints that were difficult to detect, even with the maps provided by the French Underground. Its place was taken by another battalion, which continued to fight its way toward the fort.

Meanwhile, Eddy's 9th had already moved forward to attack the ancient Equeurdreville fortress, which was surrounded by a dry moat. The position was captured by Smythe's 47th Infantry with the help of air and artillery support and some tank destroyers firing at point-blank range into the fortress. The 9th then continued to advance into Cherbourg's city limits.

Back at Fort du Roule, the 314th finally broke into the fortress. Savage hand-to-hand fighting took place on the upper level of the fort as Robinson's men cleared room after room. It was almost midnight before the area was secure, and the day ended with the Americans controlling the upper level and the Germans holding the lower levels.

Explosions rocked Cherbourg during the night as Fregattenkapitän Witt continued to carry out the destruction of the harbor. The dock railway station disappeared in a massive blast, and the old tower that guarded the harbor entrance soon followed. Piers and jetties were also obliterated in the attempt to destroy as much as possible.

Karl-Wilhelm von Schlieben spent the night listening to pillboxes being destroyed by American engineers. His command bunker was jammed with wounded men, and the air was thick with the stench of death and cordite fumes, which had made their way down ventilation shafts. During the night, he ordered a final message to be sent to the Seventh Army Headquarters: "Last phase of fighting begun. General von Schlieben fighting side by side with his men."

Collins used the night to reorganize his units. He planned to finish the Germans on the 26th and end the bloodletting once and for all. Colonel Robinson's men got little rest that night as the Germans in the lower levels of Fort du Roule continued to fire their artillery at the American positions around Cherbourg without letup. "This is the goddamndest situation you ever saw," said Robinson to a fellow officer.

Thick, black smoke rising from the harbor all but obscured the sun as dawn broke on the 26th. Collins' three divisions were now fighting inside Cherbourg, gradually pushing the Germans back to the sea, but the battered Kampfgruppen still fought tenaciously for every yard.

At Octeville, artillery and tank destroyers were hitting von Schlieben's command center with point-blank fire. A white flag suddenly appeared at one of the entrances, and the Americans ceased firing. A few minutes later, von Schlieben and Hennecke formally surrendered to Maj. Gen. Eddy.

There was one catch to the German surrender. Von Schlieben was only turning over himself and the occupants of the command center. The battle for Cherbourg would continue.

June 26 also saw the surrender of Fort du Roule. Engineer units had spent hours drilling holes in the thick concrete floor of the upper level, and dynamite charges were then dropped on the Germans below, where they exploded with lethal effect. Before the day was over, more than 400 Germans had surrendered and the fort was firmly in American hands.

Collins used loudspeakers to repeat the news of von Schlieben's surrender and the fall of Fort du Roule, but many of the German defenders still refused to give up while others surrendered without any qualms. Eddy's division was spared more blood when Port Militaire, Cherbourg's naval arsenal, surrendered just before a scheduled attack by Smythe's 47th Infantry.

On the other hand, Fregattenkapitän Witt had relocated to Fort Westeck, which held the controls for the demolition of mines in the harbor. Artillery and air strikes hit the fort throughout much of the day, but Witt and his men held on.

Continued on page 74

National Archives

National Archives

ABOVE: General Wilhelm von Schlieben, commander of the German garrison of Cherbourg, and Rear Admiral Walter Hennecke, commander of the seaward defenses of the city and throughout the region of Normandy, come out of their command bunker to surrender to American soldiers. LEFT: A dead German soldier lies alone and unburied on a street in Cherbourg. Total German casualties during the fight for the city totaled approximately 47,000.

TRAGEDY & TRIUMPH IN CHINA

The early days of General Claire Chennault's service were vital to future Allied operations against the Japanese. **BY BOB BERGIN**

CLAIRE LEE CHENNAULT resigned from the U.S. Army Air Corps on April 30, 1937, and the next day boarded a ship for China. He had a three-month contract from the Chinese government to make a confidential survey of the Chinese Air Force (CAF).

Chennault's career as an Army Air Corps officer was controversial. Fighter planes had dominated the skies and military thinking during World War I, but in 1921, after Billy Mitchell demonstrated that airplanes could sink battleships, that thinking changed. Bomber advocates believed that the bombers would always get through and that fighter planes would be ineffective against them. Major air maneuvers in the early 1930s seemed to prove that thinking, and advances in technology gave weight to that argument. The Martin B-10 bomber that went into service with the U.S. Army Air Corps in 1934 was heavily armed and capable of flying faster than the P-26 Peashooter, the standard Army Air Corps fighter. But Chennault was convinced that with modern tactics and timely information the bombers could be intercepted and destroyed.

Chennault tried to advance his ideas by writing articles and exploring what the British and German air forces were doing. Among his writings was *The Role of Defensive Pursuit*, which defined the role of defensive aircraft as he saw it during the era that followed the end of World War I. To develop new tactics and to demonstrate the teamwork he believed was fundamental to effective modern fighter tactics, Chennault formed a three-aircraft acrobatic team that became known as Three Men on a Flying Trapeze. The team represented the Army Air Corps all over the country and won wide praise.

The team's final performance was at the Miami Air Races in December 1935. Among the spectators were representatives of the Chinese Aeronautical Affairs Commission. They

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ABOVE: General Claire Chennault, famed as commander of the Flying Tigers, stands before the shark's mouth painted on one of the Curtiss P-40 Tomahawk fighter planes that served with the group. OPPOSITE: War broke out between China and Japan in the summer of 1937, and soon Shanghai was a focal point of the conflict. During Chennault's early days in the war-torn country, he developed air tactics and witnessed bombing raids on the multinational city.

U.S. Air Force

ABOVE: An aviation pioneer, Chennault stands at center with Sergeant William McDonald (left) and Sergeant John Williamson (right) after the trio claimed the championship trophy in the Miami Air Races in December 1935. RIGHT: General Claire Chennault, in the service of the Chinese government, stands with Generalissimo Chiang Kai-shek and Madame Chiang.

were looking for Americans to help build China's air force.

After watching his acrobatic team in action, the Chinese offered Chennault a job at the Chinese Air Force flying school. The offer was very tempting. His ideas about war in the air were controversial and had won him few friends in the Army Air Corps. He was a captain, his career had stalled, and his health was not good, but he was not yet ready for a big change. Chennault turned down the offer, but he stayed in touch with the Chinese—and started to plan his retirement for 1937, when he would complete 20 years of service.

Five years earlier, an unofficial American mission under retired Air Corps Colonel Jack Jouett had established a flying school at Hangchow that laid the foundation for the modern Chinese Air Force.

Two years later Jouett was replaced by an official Italian Air Force mission of 40 military pilots and 100 engineers that seemed far more interested in exploiting commercial possibilities than in helping the Chinese build an air force. They set up a factory to assemble Italian airplanes and a flying school that Chennault called "unique." Every cadet graduated, whether he learned to fly or not.

On his way to China, Chennault visited Japan. He was met on the dock at Kobe by Billy MacDonald, who was one of the other two pilots on Chennault's Flying Trapeze acrobatic team. Chennault had recommended him and several others to the Chinese, and McDonald was now working at the CAF flight school at Hangchow. Had the Japanese known who MacDonald was, they would never have let him enter their country, so his passport identified him as a manager of an acrobatic troupe. Chennault's passport described him as a farmer.

The two set off to see Japan through the eyes of experienced airmen gauging potential targets. They toured Kyoto, Osaka, and Kobe and sailed the inland sea to identify shipping routes and islands where new war industries were being established. The two hid cameras and binoculars under their topcoats, took photos of potential targets, and filled notebooks with data. "Much to my surprise," Chennault later wrote, "I found out four years later that our notebooks and pictures contained more information on Japanese targets than the War Department Intelligence files." Chennault arrived in Shanghai in early June and met his new boss, "a vivacious young girl clad in a modish Paris frock." This was Madame Chiang Kai-shek, the wife of the generalissimo who ruled Nationalist China. The generalissimo had named her head of a commission to reorganize the CAF. She was the one who had hired Chennault. Now she told him she wanted his assessment of the CAF as soon as possible.

In September 1931, the Japanese created an incident that led to their permanent occupation of northeast China, which was then called Manchukuo. In the years that followed, the Japanese devised ways to grab other pieces of China, and by July 1937 they were ready to go farther. Japanese troops on a maneuver near the Marco Polo Bridge, just outside Peking, accused the Chinese of kidnapping one of their soldiers. They pressed demands that the Chinese could not meet and then used the Chinese refusal as a reason to occupy Peking. The missing Japanese soldier was later found in a brothel.

This time the Chinese were ready to fight. They chose to do it in south China, in the Yangtze Valley where the huge foreign commercial presence in Shanghai would focus attention on Japanese aggression and—the Chinese hoped—lead to intervention by the Western powers.

Chennault had set off on his inspection tour. He was at the "unique" Italian flying school when he learned of the Japanese attack at the Marco Polo Bridge. He immediately wired the generalissimo and offered him his services "in any capacity he could use them." The generalissimo accepted and sent Chennault to the CAF's advanced flight school at Nanchang, where he was to direct the final combat training of the CAF fighter groups.

U.S. Army

On the books, the CAF had a total of 500 operational aircraft; Chennault found 91. Most were biplanes, Curtiss Hawk IIIs with fixed landing gear and Hawk IIIs with retractable gear, Vought Corsairs, Boeing P-26s, and Italian Bredas and Fiats. Bombers were obsolete Junkers and Capronis and

export versions of the Martin B-10 and the Northrop A-17. The Curtiss Hawk III was also used as a dive bomber.

Chennault called the combat training at Nanchang "a nightmare." The young Chinese graduates of the Italian flight school were killing themselves just flying basic trainers. In his diary Chennault wrote, "The Chinese Air Force is not ready for war." That comment, he later said, "was a vast understatement." But Chennault saw where improvement was possible, and he worked with Billy MacDonald and Luke Williamson—the third of his three-man U.S. Army Air Corps acrobatic team—to prepare the Chinese pilots for the coming war.

In early August, Madame Chiang called a meeting with Chennault. She was on her way back to Nanking from Kuling, where Chiang Kai-shek had his summer capital, and Chennault met her on the way. "Madame was greatly agitated," he wrote. She had "word that the Japanese were preparing to occupy Shanghai. Shanghai was the key to the Yangtze Valley and all China, and ... the Chinese would have to fight." She told Chennault, "You must go to Shanghai immediately and warn American officials to evacuate their nationals and protect their property before it is too late."

Chennault was flown to Nanking on the generalissimo's personal airplane. There he caught the Shanghai night express. The next morning, at the American consulate, he waited for an hour before he was "permitted to see some minor functionary who was quick to pooh-pooh my warning and assure me that there was not the slightest chance of war in Shanghai. Didn't I know that all the skirmishes had been in the north?"

The next day, Chennault watched 26 Japanese warships move down the Wang Po River and anchor in front of the city. "But nobody seemed excited," he recalled. That night, he boarded a train back to Nanking, wondering "if Madame had been excited over nothing." In fact, Japanese troops had already moved into areas around the city, and Japanese civilians were being evacuated. "By August 12, the Japanese advance fleet of twenty-six warships had moved down the Wang Po with the gray bulk of the flagship, the heavy cruiser *Idzumo,* moored directly in front of the International Settlement in clear view of the Cathay Hotel and Nanking Road."

The following evening, Friday, August 13, Chennault was sitting in on a meeting of Chiang's war council when the generalissimo received a message. The Japanese warships on the Wang Po had started shelling Shanghai.

Madame Chiang asked Chennault to recommend action that could be taken against the Japanese the next morning. Chennault recommended sending Hawk III dive bombers against the cruisers and Northrop A-17 light bombers on a high-level attack against the *Idzumo*. "Madame Chiang suddenly discovered that there wasn't a single Chinese air officer who knew how to plan and organize a combat mission of any size," he remembered. "She asked me to take over."

Chennault and Billy MacDonald spent the rest of the night at Chinese Air Force headquarters "poring over maps and planning the missions. Unknowingly, we were setting the stage for Shanghai's famous Black Saturday—a spectacle that shocked a world that was not yet calloused to mass murder from the sky by thousand-plane raids or atomic bombs."

"The true story of what happened that tragic day has never before been told." With those words, Chennault begins his account of how the events on Black Saturday, August 14, 1937, came about.

Information from this era is often conflicted and biased, and there is little prime source material to be found in English. But Chennault kept a diary during his days in China and later recorded what he saw in his memoirs, *Way of a Fighter.* His comments on what he did and what he witnessed help make understandable much of what happened that August. More recent works of history have the advantage of sources that were not available to Chennault and help further clarify what occurred on that Black Saturday in Shanghai.

The sky was overcast that morning, and it appears to have been windy. Some accounts speak of a typhoon that passed through the city. Chennault simply says, "Weather over Shanghai was bad for high-level bombing." He mentions an overcast and rainstorms that he dodged as he flew down the Yangtze River. A typhoon was apparently somewhere near the city; the effects of it would be more evident the next day. "The tail end of a typhoon lashed Shanghai on Sunday with heavy winds and rain," Chennault wrote.

In his memoirs, Chennault focuses on the mission for that day, which he and Billy McDonald planned the evening before—Friday the 13th—"to send the Curtiss Hawk dive bombers against the Japanese cruisers and the Northrop light bombers against the Japanese naval headquarters, then aboard the heavy

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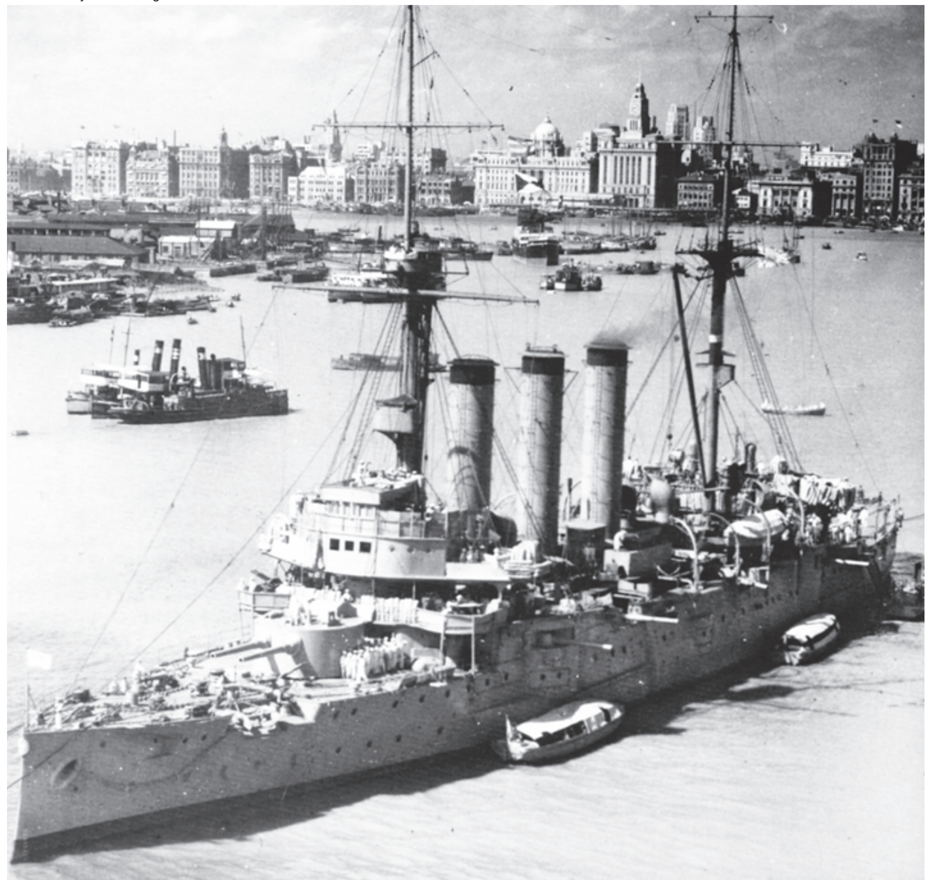

The elderly armored cruiser *Idzumo* of the Imperial Japanese Navy lies at anchor in the harbor at Shanghai about the time of the August 14, 1937, bombing raid that killed many Chinese civilians.

cruiser *Idzumo,* which was anchored in the Whangpo [sic] opposite the Japanese consulate at the edge of the International Settlement."

He writes that as the flight of Northrop bombers approached the river that Saturday, the pilots could see that the low-hanging clouds would prevent them from bombing the anchored Japanese flagship from high altitude. In their training, the Chinese air crews bombed from 7,500 feet at a set speed. On this mission—to preclude any possibility of an error that could set off an international incident—the pilots had been ordered not to fly over Shanghai's International Settlement. The *Idzumo* was moored directly in front of it.

Rather than abort the mission, the bombers dropped under the clouds and made their approach at 1,500 feet—directly over the International Settlement. The bombers were in a shallow dive and moving faster than they ever did on their practice missions—and the pilots had neglected to adjust their bomb sights.

The bombs fell short of the *Idzumo* and went into the International Settlement. Two 1,100-pound bombs fell on Nanking Road, a crowded pedestrian area. One bomb failed to explode, but according to what Chennault was later told the other killed 950 Chinese and foreigners and injured more than 1,000.

Historians who looked at this incident later—and had access to sources and material that Chennault did not have when he wrote his memoirs in the late 1940s—reported even heavier damage from that day's bombing. Chennault writes of one sortie by the Northrop bombers, and refers to only two bombs—one a dud and one that exploded—a single incident that occurred that Saturday. He does not specify the time of day, but to the reader it appears to still be morning when that incident occurred.

In *Shanghai: The Rise and Fall of a Decadent City,* the author, American journalist Stella Dong, writes, "In the morning, Chinese bombers from Lungwha airfield had tried to sink the *Idzumo,* but failed to score a hit. In the late afternoon they returned for a second attempt. One pilot 'prematurely' released two bombs. One landed in front of the Cathay Hotel, another went through the roof of the Palace Hotel next door. Because of the large number of refugees in the area, the numbers of dead and wounded were staggering—729 people were killed, and another 861 wounded."

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The street in front of the Cathay Hotel in Shanghai was a scene of devastation following the Chinese air raid that went terribly wrong on August 14, 1937. General Claire Chennault was in the city at the time organizing Chinese aerial defenses.

Dong describes the carnage: "Mangled bodies and severed arms and legs lay everywhere. There was a decapitated policeman on the street corner, his arms held up as if he were still directing traffic. Blue coolie clothing was everywhere turning red. Burning cars, their occupants still inside, littered Nanking Road as well. Directly outside the entrance to the Palace Hotel lay the body of a young professor from Princeton University.... Ambulances were late coming to the scene, because, incredibly, another bomber had accidentally released two more bombs at the intersection of Edouard VII and Thibet Road...."

That intersection—Avenue Edouard VII and Thibet Road—was where the Great World Entertainment Center was located. The Great World was the most famous amusement hall in Shanghai, a six-story building with scores of rooms that housed every form of amusement known to man, from food stalls to gambling to sex. The Japanese had started landing troops from their warships on the outskirts of Shanghai the day before. Clashes with the Chinese army were occurring, and refugees looking for sanctuary had started flooding into the International Settlement in great numbers. Many gathered in the area of the New World, which had been made a distribution center for free rice and tea.

According to contemporary reports, 1,011 people were killed and another 570 injured by the bomb that struck near the Great World. The area is a good distance—a mile or more—from the Cathay Hotel and the Nanking Road area, where the bomb that Chennault writes about struck.

Whatever the sequence of events, it is evident that there were two separate areas of Shanghai that were struck by Chinese bombs that Saturday and that the number of people killed may have been closer to 2,000. At the time it happened, this was the highest casualty toll ever caused—anywhere—by an air attack.

Chennault was in the air that Saturday morning. He had taken off from Nanking "as a neutral in an unarmed fighter plane to watch the attacks on Shanghai." Again, he does not give a time but writes that he "was up early in the morning," and it seems that he took off from the airport at Nanking soon afterward.

Chennault never reached Shanghai that morning but "ran into lowering ceiling and dodged rainstorms." He was over the Yangtze River and about to turn back to Nanking when he saw two flights of three Chinese airplanes each climbing away from a warship down on the river that was "going full speed with white spume curving off her bow."

It was evident to Chennault that the Chinese airplanes had been attacking the vessel. He dove down to identify the ship, which was now "throwing up a tremendous smoke screen" and firing on Chennault's aircraft.

"Amid the flashing of her machine guns," Chennault wrote, he saw "a large Union Jack painted on the afterdeck. It was the British cruiser *Cumberland*." As he flew back to Nanking, Chennault could see the bullet holes in his wings.

Perhaps the most comprehensive account of what happened that day is to be found in *Shanghai 1937,* by East Asia correspondent Peter Harmsen. Harmsen makes good use of the accounts of observers on the ground, both

European and Asian. He writes, "A total of six sorties took place over Shanghai that day, concentrated in the morning and the late afternoon, with a long lull in between."

According to Harmsen's sources, each sortie followed the same scenario: "Chinese aircraft would appear over the dark gray horizon and follow the [Wang Po] river north toward the Japanese fleet." The Japanese antiaircraft guns would open up "and fill the air with a dense carpet of exploding shells." Harmsen quotes a spectator, a World War I aviator: "It was their first taste of Archie. When the shells began to burst around them they got the wind up and dropped their eggs as quickly as possible."

The observers on the ground noted that it was just before 11 AM when the first flight of five CAF fighters flew low over the city, heading for the river and the Japanese warships. When they got there, they released their bombs, but the bombs missed the Japanese ships with several of them exploding in the wharfs, pulverizing buildings and sending shrapnel cascading through the air.

At this juncture, there was little concern among the spectators, who had come by the thousands to watch the show from rooftops and the Bund, the embanked riverfront with its fine hotels, banks, and trading houses, and the road that parallels the river. At 11:20 AM, three CAF aircraft flew over the city and headed for the *Idzumo*. No significant damage from this attack was reported.

These two flights, at 11 and 11:20 AM, would appear to be the two ineffectual morning flights that Stella Dong refers to in her account. She relates that no bombs from either flight struck the Japanese naval vessels and damage on the ground was confined to the area of the docks.

"Shortly after 4 PM yet another Chinese raid took place ... ten aircraft, which like all the others before them, dispersed as soon as the antiaircraft guns began barking," she wrote. "The six planes in front vanished into the clouds, but the four in the rear maintained their formation. One of them suddenly veered off course, and moments later four bombs fell from its belly. Two broke through the surface of the [Wang Po River], but the other two were caught by the heavy typhoon wind and carried toward the river bank. Thousands stared helplessly as the bombs, already put on their set course by fate, steered relentlessly for the tightly packed space at the eastern end of Nanking Road."

The two bombs struck at exactly 4:27 PM—their blast stopped the clock at the entrance of the Cathay Hotel. Obviously, this is the bombing incident that Chennault writes about in his memoirs.

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ABOVE: Dead and wounded civilians lie in the street after two more errant Chinese bombs struck the Avenue Edouard VII near the entrance to the Great World Amusement Center and caused heavy casualties. BELOW: The Chinese bomber pilots who took part in the destructive raid that injured and killed many civilians in Shanghai were flying the Curtiss Hawk III aircraft, an obsolete type that was still capable of wreaking devastation.

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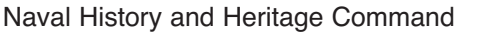
In Shanghai's French Concession, a police officer was on duty at a guard booth near the entrance. He had a good view of the sky. Just after the explosions on Nanking Road, he saw two airplanes approaching from the river, and one "seemed to be losing height."

"Moments later, two heavy bombs detached themselves from the aircraft, disappearing out of sight behind nearby buildings," wrote Dong. "Then a cloud of thick smoke arose.... Seconds later came a loud blast. Behind him, [the officer] heard a voice shouting, 'The Great World has been bombed!'"

Both bombs struck Avenue Edouard VII. One left a crater; the other exploded in the air. "Death on the most massive scale was at the entrance of the Great World Amusement Center, where the fatalities were piled five feet high. The victims—men, women, and children—had been thrown up against the walls of the buildings. Many were stripped completely naked after the intense gas pressure from the bombs had torn off their clothes," Dong added. In the days that followed, Dong related, "Journalists and officials alike wanted to make sense of the tragedy… much remained unclear. For starters, the exact number of casualties was a matter of contention. Initial reports referred to as many as 5,000 killed and injured…."

The newspapers carried explanations of why the bombs went astray and even quoted the pilots. None was very convincing. One CAF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ABOVE: Japanese Mitsubishi G3M2 bombers like these flying over China were intercepted by Chinese fighter planes and sustained considerable losses at the hands of pilots under Chennault's tutelage. BELOW: Chinese fighter planes took a toll on the Japanese bombers during the attacks on August 14 and 15, as evidenced by this wreckage of a Mitsubishi G3M2 aircraft.

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captain, interviewed in his hospital bed, "explained that he had been on the way back to his base ... when he was attacked from above by a Japanese fighter who killed his observer and wounded him. Somehow the bullets from the Japanese plane damaged the bomb racks, causing the disaster to take place, he said."

And that seems to be the only report of Japanese fighters in the air over Shanghai that Saturday.

The tragedy at Shanghai overshadowed another event, a momentous one in the history of the conflict that had been going on between the Japanese and Chinese since 1931. As the CAF bombers caused havoc in Shanghai, CAF fighters achieved their first victory in the air over the Japanese Air Force. That second event also started that morning, when 18 Japanese Mitsubishi G3M2 heavy bombers took off from their base on Formosa for their first strike against China.

Nine of the bombers were to attack the CAF Air Academy airfield near Hangchow, and the other nine were to hit a second airfield nearby. The Japanese Air Force would achieve its own distinction that morning. The 1,250-mile flight from Formosa to mainland China was the first transoceanic air attack in history.

Waiting on the ground at the Air Academy for his squadron to arrive was its commander, Colonel Gao Chi Hang. Gao had arrived in advance of the CAF 4th Squadron, which was ferrying its Curtiss III fighters there from another base, but had been delayed by bad weather en route.

Squadron Commander Gao was of a different cut from most of his CAF contemporaries. At a time when almost all Chinese military officers came from the upper class, Gao came from an impoverished family. His entry into aviation had not been easy. On his first try to get into flight training, he was rejected for being too short. Early in his career he was in a crash that left him badly injured, with one leg shorter than the other and a pronounced limp. He had a Russian wife, and he was a Christian, all things that counted against him. Through determination and hard work, he became an accomplished pilot and a highly respected squadron leader.

Several of the squadron's Hawk IIIs had landed and were being refueled when the warning came of an incoming Japanese attack. Gao's personal aircraft, marked IV-1, had been flown in by another pilot. It had just landed and was waiting to be refueled. Since this was his airplane, Gao wanted to lead his squadron with it. He took off in it just before the Japanese bombers arrived. The twin-engine Japanese G3M2s came in low over the field, not much above 1,000 feet. They dropped their bombs on the airfield but caused little damage. Gao was already in the air. After taking off, he had joined up with another Hawk III from his squadron, and together they headed in to attack one of the bombers.

The Hawk III flying with Gao opened with his guns first, but the Japanese bomber was still outside effective range. Gao continued to move in until he was close to the bomber—and then he opened up with his guns. He concentrated his fire on the left engine until the bomber's left-wing fuel tanks burst into flame. The bomber quickly veered off course and then crashed, not far from airfield it had just attacked.

Gao's shootdown of this Japanese G3M2 marked the first Chinese victory over a Japanese aircraft in this longstanding Sino-Japanese conflict that would evolve into World War II in Asia.

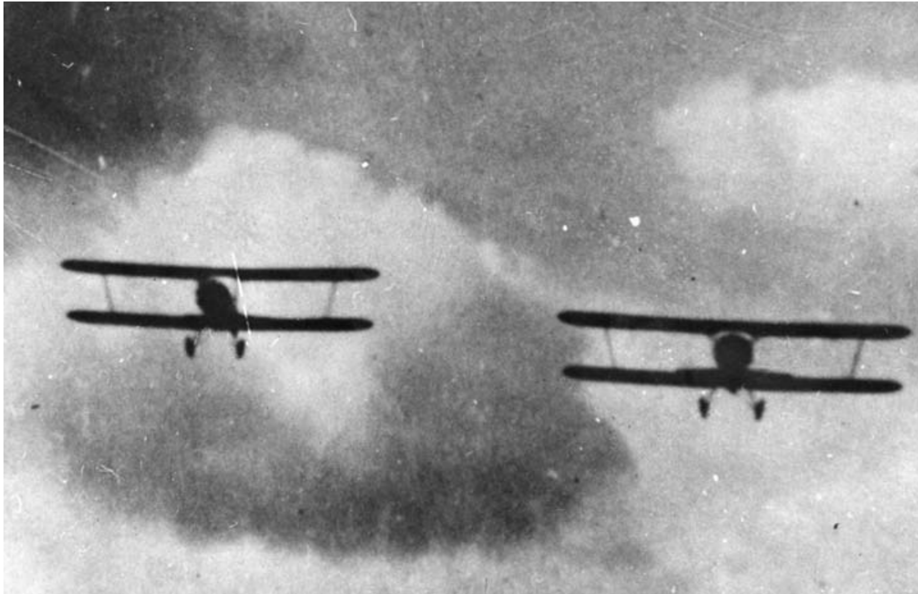
Gao spotted another G3M2 and attacked it, again damaging its left wing. But before he could finish it off, Gao ran out of fuel. He made it back to the airfield to make a dead stick landing. His second target was reported to have made it back to its base on Formosa, so badly

damaged that it was written off.

Chennault's influence can be seen in the manner in which Colonel Gao dispatched the first G3M2 he met and damaged the second. When Generalissimo Chiang Kai-shek sent Chennault to direct combat training at Nanchang, the best of the CAF's fighter pilots were selected for special training in tactics against bombers, Colonel Gao amomg them. There Chennault trained them to attack a bomber in threes and "to ignore the bomber's fuselage and aim at the engines, where any misses would splatter into the gas tanks buried in the wing roots." These were the tactics that Gao used when he attacked the Japanese planes. It was advice that worked.

Other 4th Squadron Hawk IIIs engaged the bombers, and a second G3M2 crashed near the airfield. Another was damaged and ditched in the sea before it could reach Formosa. The nine Japanese bombers that attacked the other airfield nearby achieved surprise and were met by a single Hawk III that inflicted no damage. A total of six G3Ms were claimed by the Chinese that day. The CAF lost one Hawk III in a takeoff accident.

Naval History and Heritage Command



Unknown

ABOVE: A pair of Japanese Navy Type 89 biplanes flies over China. Colonel Gao Chi Hang of the Chinese Air Force was credited with 3.5 aerial victories against this type of aircraft. LEFT: Colonel Gao Chi Hang of the Chinese Air Force was killed during a Japanese air raid two months after he led the heroic aerial defense of the Air Academy airfield near Hangchow.

That evening, Japanese radio broadcasts boasted of the victorious bombing raid on Hangchow—and named Nanking as the next target.

The next morning, several American newsmen based in Shanghai drove to Nanking to see if anything would happen. Chennault was already there. He invited them to watch from his observation post on the roof of the city's Metropolitan Hotel. From there they would be able to see most of the city and the airfield beyond. There were clouds that morning, hanging at about 5,000 feet. Chinese fighters patrolled above them. Chennault and the newsmen had just finished lunch when the air raid sirens wailed.

They came from the north, "eighteen twin-engine single tail planes," Chennault wrote. He could not name them, but they were the Mitsubishi G3M2 bombers. They broke formation and came over the city one by one, "machine guns chattering and tracers arcing in all directions." They were under the clouds, flying below 2,000 feet, and Chennault got his first look "at those immense red balls on their silvery wings" and noted, "The Jap attackers exuded confidence in their tactics and contempt for the defense." They went on to bomb the empty airfield and then disappeared back into the clouds.

Chennault was trying to explain to the newsmen how the bombers had taken advantage of the cloud cover when they heard the roar of engines and the clatter of machine guns. A telephone call came from CAF headquarters claiming that seven Japanese bombers had been shot down.

The newsmen were not convinced. They got in a car with Chennault and raced to the airfield. On the way there, they saw the burning wreckage of three bombers. Before the afternoon ended, Chennault would count the wrecks of eight crashed Japanese bombers on the ground.

Earlier that same morning at Hangchow, Gao Chi Hang led the 4th Squadron Hawk IIIs on a mission to intercept 12 Japanese Navy B2M or Navy Type 89 biplane torpedo bombers that had taken off from the Japanese aircraft carrier *Kaga*. Gao shot down two of the biplanes but was hit in the right arm and had to return to the airfield. His squadron acquitted itself well. Eleven of the torpedo bombers were shot down; the 12th was damaged but got back to the *Kaga* to report the disaster. It was an eventful two days, and the fight was not over. The Japanese returned to Nanking three more times in the next five days. It would cost them 54 aircraft and crews. Forty wrecks were counted on the ground; the others fell into the sea, brought down on their way home by battle damage inflicted by the Chinese. After that, the Japanese Air Force did not return to Nanking for six weeks.

Gao's first victory and those of his 4th Squadron pilots were sources of great pride for the Chinese Air Force and for the Chinese people, who often were the targets of Japanese attacks. Although Gao Chi Hang flew for Chiang Kai-shek's Kuomintang government, he is also well respected by the communists to this day. In a major speech, Chou En-lai, a high-ranking communist official, said that Gao Chi Hang belonged not just to the Kuomintang, but to the whole Chinese nation. The aerial achievements of Gao Chi Hang and his pilots are commemorated in China every year on August 14, the date which has became China's Air Force day.

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BREAKOUT Across the Seine

By mid-August 1944, the Allied drive from the Normandy beachhead reached the Seine River north and south of Paris, positioned to destroy large numbers of enemy forces.

BY ARNOLD BLUMBERG

ON AUGUST 14, 1944, Lt. Gen. George S. Patton, Jr., paused after his daily staff conference to offer a short speech about the accomplishments of his Third Army. In the mere two weeks since Third Army had burst out of Normandy, Patton could boast, "Third Army has advanced further and faster than any army in the history of the war." As Patton spoke, Third Army continued its historic advance across France, its sights focused on reaching the Seine River.

On the day Patton spoke to his staff, Third Army's XV Corps, under Maj. Gen. Wade H. Haislip, saw its 5th Armored and 79th Infantry Divisions ordered to take up the long envelopment of the Seine River, in place of the shorter envelopment at Argentan, by crossing the Eure River at the city of Dreux 40 kilometers west of Paris and the Seine. The next day, Maj. Gen. Walton H. Walker's XX Corps, with his 7th Armored and 5th Infantry Divisions leading the way, was directed toward the Eure and the cathedral city of Chartres, while XII Corps, led by Maj. Gen. Gilbert R. Cook, on the Army's right, witnessed its 4th Armored and 35th Infantry Divisions sweep along the north bank of the Loire River as they dashed for the city of Orleans.

On August 16, Dreux and Orleans fell into Third Army's hands. First attacked by the U.S. 7th Armored Division on the 15th, Chartres proved a hard nut to crack. The division's Combat Command B had to withdraw due to bitter resistance from the German defenders, veterans of the 352nd Infantry and 17th SS Panzergrenadier Divisions. It was not until August 18 that the combined might of the 7th Armored and the 5th Infantry Divisions finally wrested control of the town from the enemy. During these operations the main opponents of Third Army were divisions from the German First Army under General Kurt von der Chevallerie just arriving from the Bay of Biscay, along with formations coming south from the Calais area. Desperately trying to form a defensive front to hold the Paris-Orleans Gap and halt Patton's advance, Chevallerie's units were thrown into battle piecemeal but were only able to create weak roadblocks that were either bypassed or brushed aside by Patton's hard-charging tankers and infantrymen.

Despite Patton's spectacular advances since August 14, his boss, Lt. Gen. Omar N. Bradley, commander of the U.S. 12th Army Group (composed of the First and Third Armies), ordered Patton to halt his movements on the 16th. The reasons for the stop order included Bradley's concern that Third Army's left flank was not properly guarded, as well as the growing Allied supply shortages due to their rapid advances in the past three weeks. However, the next day Bradley partially lifted his order of the 16th and allowed Patton's XV Corps to move to the town of Mantes on the Seine 50 kilometers northwest of Paris. The XX Corps was to relieve Haislip at Dreux while XII Corps, to conserve

American soldiers board small boats for the movement across the Seine River in northern France on August 20, 1944. This crossing took place near the town of Mantes, a short distance from the French capital of Paris, which was liberated days later.

National Archives

precious fuel, remained in place. The plan now was for the Americans to not only keep an already retreating foe on the run, but also to circle to the rear of the approximately 75,000 German combat troops and their 250 armored fighting vehicles still west of the Seine and north of Mantes. The 5th Armored Division, closely followed by the 79th Infantry Division, sped toward Mantes on August 18, arriving the next day only to discover that the Germans were gone.

On the 19th, General Dwight D. Eisenhower, the supreme Allied commander in northwestern Europe, decided to modify the original Operation Overlord plan, which had called for an Allied halt on the west side of the Seine River after breaking out of the Normandy beachhead. The preinvasion purpose of stopping on the west bank of the river was to allow the Allies to reorganize and build up a secure logistical base from which to clear France of the Germans and then move on to invade Germany. With the entire enemy defense in France collapsing, the new Allied demanded that there be no pause at the Seine, but instead a "dash across the Seine" followed by immediate operations directed toward the Reich itself.

THE ENVELOPEMENT OF THE GERMANS ON THE LOWER SEINE HAD FAILED TO ACHIEVE THE SUCCESS THE ALLIES HAD HOPED FOR. HOWEVER, GERMAN OPPOSITION ALONG THE WEST BANK ENDED ON AUGUST 29 WHEN THE LAST OF THE ESCAPEES CROSSED THE RIVER.

To accomplish this goal Bradley's 12th Army Group would cross the Seine south of Paris and move to the Troyes-Reims-Amiens line. Meanwhile, to Bradley's left, Lt. Gen. Bernard L. Montgomery's 21st Army Group (made up of the British Second and Canadian First Armies) was to cross the Seine between Mantes and Rouen north of the French capital.

The new Allied plan was initiated at 9:35 PM on August 19, when Haislip ordered Maj. Gen. Ira T. Wyche's 79th Infantry Division to cross the Seine that night. Once troops of the 79th were established on the east bank, a bridgehead of sufficient depth was to be established for a treadway bridge to be built that would be protected from enemy artillery. By the early hours of August 20, Wyche had men of the 313th Infantry Regiment, under torrential rain, crossing in single file along the narrow foot bridge over the dam near the village of Mericourt.

At daybreak, the 314th Infantry Regiment paddled across the river and joined its sister regiment. The divisional engineers assembled a treadway bridge between the villages of Rosny on the southern bank of the Seine and Guernes on the far shore some distance upstream from Mericourt. The bridge was completed that afternoon, and the 315th Infantry Regiment crossed in trucks. By nightfall most of the division, including tanks and artillery, had crossed the Seine, and a secure lodgment had been established on the east bank. The following day the engineers began construction of a Bailey bridge at Mantes, which opened for traffic on the 23rd. As work progressed at Mantes, the Germans launched airstrikes to destroy the structure. These attempts were frustrated by American antiaircraft guns planted around the crossing area.

From August 22-28, the Germans put in six determined ground assaults to eliminate the 79th Division's bridgehead on the Seine. These were accompanied by numerous bombing and strafing runs carried out by the Luftwaffe. With the failure of their last counterattack, the Germans abandoned their effort to destroy the Mantes bridgehead and fell back to the east.

The American bridgehead across the Seine at Mantes was a major threat to the Germans as U.S. armored forces could then easily break out and race northward behind those units trying to recover east of the Seine. But there was also a threat to German forces still west of the Seine. This was posed by an American plan settled on August 19 to attack to the north along the west bank of the Eure River (25 kilometers west of Mantes) to cut the German escape routes leading to the Seine crossings between Vernon and Pont de l'Arche above Mantes.

The attempt to encircle enemy forces between Argentan and the lower Seine was to be made by the XIX Corps, part of Lt. Gen. Courtney Hodges' U.S. First Army, and Third Army's XV Corps. Both were to attack to the north along the Eure, XIX Corps on the left of the river heading to Elbeuf (30 kilometers from Mantes) with the 2nd Armored and 30th Infantry Divisions and the XV Corps' 5th Armored Division on the right driving for Louviers, 20 kilometers from Mantes.

On August 20, XIX Corps commenced its attack with its 2nd Armored Division on the left of the corps' advance and the 30th Infantry to the right. The 28th Infantry Division followed to the left rear to protect the corps' west flank. Despite heavy rain, deep mud, and poor visibility, Maj. Gen. Edward H. Brooks's 2nd Armored rapidly maneuvered toward the Seine, leaving any enemy pockets of resistance to be dealt with by the 28th Infantry. Opposition to the 2nd Armored Division's advance, in the form of the German 17th Field Division and 331st Infantry Division, quickly melted away. On August 24, 2nd Armored entered the outskirts of Elbeuf and encountered determined resistance from a German kampfgruppe tasked with protecting the Seine crossings farther downstream. On the 23rd, the 30th Infantry occupied Evreux, and two days later the 30th took Louviers, which had been abandoned by the enemy.

That same day, Combat Command A, 2nd Armored Division, under Colonel John H. Collier, and the 28th Infantry Division attacked Elbeuf. The German force there crossed to the east of the Seine that night, allowing the Americans to secure the town the following day without a fight. On the 26th, Louviers and Elbeuf were handed over to Canadian troops, and XIX Corps starting moving south. Recalling a previous situation when the British had claimed they had captured the town of Vire when it had really been taken by the Americans, General Brooks ordered Colonel Collier to get a receipt for Elbeuf before turning the town over to the Canadian First Army! Said document was duly provided by Major J. Stevens of the Canadian 7th Infantry Brigade. All who witnessed the transfer noted that the Canadians were not amused by the requirement.

The XV Corps also initiated an attack on August 20, but immediately after jumping off from its starting point northwest of Mantes the 5th Armored Division ran into strong opposition from a hastily assembled German battle group with the job of covering the Seine crossings downstream from Mantes between Elbeuf and Louviers. The German defenders fought skillfully using the wooded and hilly terrain to good advantage. In addition, several days of rain and fog prevented American airpower from coming into play. In the face of this enemy resistance, it took 5th Armored five days to accomplish its mission to advance 30 kilometers. In the end, the German force, after shepherding thousands of its comrades across the

river, was able to disengage and cross to the east side of the Seine on the night of August 25.

On August 24, XXX Corps, British Second Army, entered the American sector just north of Mantes. For the next several days XV Corps handed over this western portion of the Seine line to the British before the Americans withdrew southward just below Dreux. That town became the boundary line between Montgomery's 21st Army Group and Bradley's 12th Army Group.

The envelopment of the Germans on the lower Seine had failed to achieve the success the Allies had hoped for. However, German opposition along the west bank ended on August 29 as the last of the escapees crossed the river. Regardless of the terrible situation they had found themselves in, the Germans had managed to get a surprisingly large number of men and amount of equipment across the Seine in the face of Allied pressure. This included 12 divisions (six infantry, five panzer, and one parachute) that had escaped the Falaise Pocket, plus the remnants of numerous divisions that had ceased to exist. In addition, 11 other divisions that had not been involved in the pocket also reached the Seine ahead of the Allies.

ABOVE: During the American drive to the Seine River in the summer of 1944, an M4 Sherman medium tank drives through the town of Dreux. An abundance of wrecked German vehicles lies in the foreground and down the road. BELOW: Trailing a tank destroyer down a road, an American soldier raises his M-1 rifle to fire at a German sniper. These soldiers are en route to the Seine River bridge north of Fontainebleau.

Both: National Archives

A survey conducted by the RAF Bombing Analysis Unit concluded that more than 95 percent of the personnel who reached the Seine had succeeded in crossing. Of motor vehicles (other than tanks) the figure was 90 percent; the figure for armored fighting vehicles was 75 percent. In all, 240,000 men had gotten across along with more than 30,000 vehicles of all types, including 150 tanks. German officers attributed this achievement to the fact that the British and Canadian armies had not pushed ahead as aggressively as they should have. Further, the Allied air forces had not been active over the Seine region during these critical days so that German ferry and bridge traffic had been able to operate even during daylight hours.

On August 21, after securing much needed supplies from newly established depots at Le Mans, Patton's XX and XII Corps advanced eastward. The former set out from Dreux and Chartres, while the latter moved from Orleans. Both formations were aiming for the upper reaches of the Seine south of Paris. As for the enemy, the German First Army, which was holding this sector of the Seine, was trying to assemble enough men to defend the river. Beside small and poorly equipped elements of the 48th and 338th Infantry Divisions, this force included security troops, local town garrisons, antiaircraft detachments, and stragglers.

On the XX Corps' right flank, the 5th Infantry Division advanced with two regiments abreast on August 21. The 10th Infantry Regiment on the right overcame unexpectedly strong opposition and passed over the Essonne River. But on the left, the 2nd Infantry Regiment became entangled in a battle with the enemy at the town of Etampes. Maj. Gen. Stafford Leroy Irwin, commander of the 5th Division, decided to commit his reserve force, the 11th Infantry Regiment. The 11th skirted the city to the south and crossed the Essonne. However, its leading troops met increasing resistance as they advanced toward Fontainbleau 50 kilometers south of Paris. Their progress slowed to fewer than 10 kilometers on the 22nd. However, the following day saw the Germans withdraw, allowing the 11th Infantry to reach the Seine that afternoon.

After a brief battle with portions of the retreating German 48th Infantry Division, the 5th Infantry Division began to cross the river in small boats found lying along the west bank. By August 24, an entire battalion of the 11th Infantry Regiment had paddled across the Seine at Samoreau opposite Fontainbleau. By day's

end division engineers had built a treadway bridge near the original crossing spot, and the entire 11th Regiment was soon east of the river.

In the meantime, the 10th Infantry Regiment had crossed the Loing River at Nemours, which had already been liberated by French resistance fighters. The Americans then cleared the confluence of the Seine and Yonne Rivers at the town of Motereau. That evening engineers brought up assault boats, and a solid bridgehead was established on the right bank of the Seine by the 24th. On the morning of the 25th, with the entire American 10th Regiment over the river, the German 48th Division launched an uncoordinated attack that was easily repelled.

On the XX Corps' left flank, Maj. Gen. Lindsay Silvester's 7th Armored Division, with two combat commands side by side, covered 50 kilometers on August 21. Combat Command Reserve (CCR) on the right advanced on Melun, 30 kilometers south of Paris, with plans to seize the Seine bridge located there and secure a crossing at the town while Combat Command A aimed to pass over the Seine north of the town to attack it from the rear. The following morning CCR was just outside Melun and reported that the bridge was still standing and appeared in good condition. Silvester decided to take the Germans by surprise. He ordered the unit to attack at once. However, elements of the German 48th Infantry Division fought back, foiling the American assault. A second attack went in that evening, this time preceded by air attacks and a 20-minute preliminary shelling from three artillery battalions. The result was a repeat of the earlier American failure. The enemy could not be budged.

Just before sunrise on the 23rd, the Germans completed their retreat from Melun, blowing the bridge before the Americans could initiate another attack. General Walker arrived at the CCR command post later in the day. He was far from satisfied with the unit's recent performance, considering its leadership too hesitant in the face of the enemy, and ordered it to resume the attack immediately. With Walker practically running the operation, CCR armored infantry that afternoon used what remained of the downed bridge to reach the island in the middle of the river. The attackers suffered many losses from the eastern bank due to enemy machine-gun fire, and a stalemate soon developed on this part of the 7th Armored Division's front.

Meanwhile, held up for a time at the town of Arpajon, CCA reached the Seine at Ponthierry, a dozen kilometers downstream from Melun. Although the bridge at Ponthierry had been destroyed, American infantry were able to cross the Seine in assault boats near Tilly. Divisional engineers worked through the night to construct a treadway span, completing it the following morning. Soon CCA tanks crossed to support the small bridgehead on the east bank. Combat Command B soon followed. While CCA established positions north and east, CCB turned south and drove into Melun, putting an end to that fight on the morning of August 25. That same day, Third Army handed over the Melun bridgehead to the U.S. First Army, the latter's VII Corps taking over from the former's XX Corps.

For five days Third Army's XII Corps had been held at Orleans to conserve fuel and other supplies. Now, on August 20, under its new commander, Maj. Gen. Manton S. Eddy, it was directed to resume its advance and drive to the town of Sens on the Yonne River. With Combat Command A, 4th Armored Division leading the way, XII Corps rushed eastward on the

Bundesarchiv Bild 101I-301-1953-24; Photo: Bernhard Kurth

ABOVE: German forces put up a spirited defense during their retreat from the vicinity of the Seine River crossings north and south of Paris. In this photo the crew of a 20mm flak gun points the barrel of its weapon down the road, possibly in the direction of the Americans approaching the village of Mantes. BELOW: American combat engineers push a vehicle across the Seine aboard a float. Their heads are low as the crossing comes under fire from a German machine gun. Note the splashes of bullets hitting the water to the left and right. OPPOSITE: This pontoon bridge, erected across the Seine River near Mantes by busy American combat engineers, was the scene of heavy traffic by August 24, 1944, when this photo was taken during the push across the river and toward the German frontier.

National Archives

21st, bypassing Montargis, which was found to be defended but with its bridges over the Loing River down. After scouting the area, 4th Armor troops discovered a damaged but usable bridge at Souppes-sur-Loing, 25 kilometers north of Montargis. Seizing the opportunity, CCA crossed the river and raced for Sens, encountering only feeble enemy resistance along the way. The vanguard of the 4th Armored entered Sens that afternoon, surprising the unsuspecting German garrison and establishing a bridgehead across the Yonne.

Sizable Nazi forces, including remnants of the 708th Infantry Division and security and supply personnel, were still encamped in Montargis. To clear them out, the 35th Infantry Division was directed to advance to the west of the city while 4th Armored Division's CCB turned south from Soupes-sur-Loing and outflanked the town from the east. A coordinated attack broke the Germans' will to fight at Montargis, and the city was in American hands by the end of the 24th. Thereafter, U.S tanks and infantry proceeded to sweep the area eastward to Sens.

From Sens, the 4th Armored's CCA continued its march to the east on August 25, reaching the city of Troyes that same day. The attack on Troyes was met with tough German resistance. As combat continued in the town, a second U.S. tank/infantry task force moved north of Troyes that same evening. This force hit the town's garrison from the rear the following morning, effectively ending the battle for the city.

On August 25, 1944, Paris was officially liberated by the French 2nd Armored and U.S. 4th Infantry Divisions after four years of German occupation. Maj. Gen. Leonard T. Gerow moved his V Corps to the French capital and established another bridgehead over the Seine.

As the liberation of Paris wound down, the Allied pursuit of the enemy beyond the Seine River was renewed. While the British and Canadian armies consolidated their crossings of the Seine from Mantes to the English Channel, the Americans solidified their three bridgeheads over the Seine: from north to south controlled by the VII, XV, and V Corps of First Army.

South of Paris, the Third Army, now consisting of XX and XII Corps (XV had reverted to First Army) held two bridgeheads over the Seine: XX Corps' sites at Samoreau and Montereau, and XII Corps' single crossing at Troyes.

To flesh out the XII Corps for the drive east to the Meuse River, Patton moved the 80th Infantry Division from Orleans and added it to Eddy's command. Then 4th Armored Division's CCB swept the corps area while the 35th Infantry Division protected the right margin from Orleans to Troyes. In the meantime, CCA

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THE CONCERTED ALLIED EFFORT TO CROSS THE SEINE HAD BEEN SUCCESSFULLY ACCOMPLISHED BY LATE AUGUST 1944 ALONG A 350-KILOMETER FRONT FROM ROUEN TO THE SOUTH OF PARIS. THEY HAD, HOWEVER, FAILED TO DESTROY THE GERMAN FORCES WEST OF THE RIVER.

(4th Armored) sped 80 kilometers and jumped the Marne River at Vitry-le-François. While CCA drove down the east bank of the Marne toward Chalons, the 80th Division moved along the western bank and by noon on August 29 secured Chalons with a double envelopment. By then the XII Corps had run out of fuel but was able to proceed nevertheless at a slower pace after capturing 100,000 gallons of German gasoline at Chalons. On the morning of the 31st, a scouting company from CCA, moving under the cover of heavy rain, surprised the German guard at the bridge in the town of Commercy and seized the structure intact.

With the 90th Infantry Division added to its rolls, the XX Corps attacked from Mulan with the 7th Armored Division leading the way. The American tankers encountered scattered elements of the German 48th and 338th Divisions as well as tanks from the 17th SS Panzergrenadier Division. Attacking from the Montereau area on the 26th, the 5th Infantry Division met somewhat lighter opposition and took Nogent-sur-Seine and the town of Romilly. The 5th Division then captured Provins.

As the 5th Infantry plodded on, General Walker ordered the 7th Armored to thrust northwest toward the city of Reims. With the 5th Infantry Division following on the right and the 90th on the left, the 7th Armored spearheaded the attack. On the 28th, with two combat commands abreast, no less than six columns were driving ahead in hopes of grabbing one or two bridges over the Marne intact. Since only small pockets of enemy resistance were met, CCA and CCR jumped ahead to Chateau-Thierry and captured several bridges over the Marne. Continuing on to the Aisne River, on the 29th the two combat commands wheeled to the east and cut the roads north of Reims. The 5th Infantry entered the town the next day. By noon on August 31, the 7th Armored Division had reached Verdun and was across the Meuse.

On August 25, First Army's VII Corps, Maj. Gen. J. Lawton Collins commanding, started its move from the Melun bridgehead with the 3rd Armored Division pushing to the northeast, breaking the German LVIII Panzer Corps' defense line. The next day the hard-charging 3rd Armored reached and crossed the Marne at La Fertee and Meaux. The 1st and 9th Infantry Divisions closely followed. The Aisne was

Continued on page 74

Norway had been able to avoid the massive bloodletting of World War I entirely and fervently hoped to steer clear of World War II as well through a policy of strict neutrality. Having seen the fate of Poland, Lithuania, Latvia, and Estonia, by 1940 many of Europe's smaller and traditionally neutral nations were struggling to strengthen and modernize their military defenses. Norway had waited until almost the last minute before beginning a rearmament program and was ill prepared militarily to even enforce its own neutrality in Norwegian waters.

Tonnage wise, in 1940 the Royal Norwegian Navy was roughly only one quarter of the size it had been in 1914. It had only two capital ships, the armored coastal defense ships *Norge* and *Eidsvold,* whose keels had been laid before the turn of the century. The handful of new vessels available were mostly small patrol boats better suited to fisheries protection and enforcement than naval warfare, and there had been no money in the defense budget for the fleet to actually put to sea and conduct maneuvers since 1918.

In theory, with a full-scale mobilization and call up of the reserves, Norway could field an army of six divisions, but in peacetime each division had only a single active-duty battalion. The country did have a long

Kriegsmarine BLOODED

The German heavy cruiser *Blücher* was sunk during the conquest of Norway in 1940. **BY BOB CASHNER**

tradition of universal conscription; young men coming of age had to serve a stint in the military. The basic training period, however, was the shortest of any nation in Europe, only 72 days. Some older reservists who had met their military obligation during the 1920s had received only 48 days of training. Even if there were time available to mobilize all the reserves, weapons and equipment were often both old and in short supply. The Royal Norwegian Army of 1940 did not have a single tank, antitank gun, or even hand grenades; there were not even enough steel helmets or rifle bayonets to go around in the case of full mobilization.

The Army Air Corps had a grand total of 62 aircraft, of which fewer than 20 could charitably be considered modern; the backbone of its fighter strength consisted of a dozen British-made Gloster Gladiator biplanes stationed near Oslo, and the most numerous attack plane was the 1924-vintage Fokker C.V.E., a wood-framed, fabric-covered biplane right out of World War I. The Royal Norwegian Navy had an additional 40 or so aircraft, but they were all of makes, models, and vintages that made the Army Air Corps seem state of the art. Norway had recently purchased some brand new L/60 40mm Bofors guns from neighboring Sweden, a grand total of eight of them. The vast majority of the country's quite limited antiaircraft defenses consisted of aging World War I-vintage 75mm guns in fixed positions and of dubious value against modern, high-speed aircraft. The dozen 75mm luftvernkanon m/16 guns still in use in 1940, for instance, were a 1916 design originally designated as "antiballoon guns."

So, when Allied and Axis nations alike looked at Norway's 1,000-plus miles of strategic coastline and her vital rail link to the Swedish iron ore mines at the port of Narvik, neither were too concerned about the military repercussions of violating the country's neutrality. The proposed joint British and French expeditionary force supposedly intended to go to the aid of Finland during the 1939-1940 Winter War was little more than a thinly veiled scheme to occupy Narvik and the Swedish iron mines. The Germans had torpedoed ships in Norwegian territorial waters. The British responded by chasing down and boarding the German merchantman *Altmark* right in front of a Norwegian patrol boat.

The Nazi German invasion of Norway was in fact hastened along by German Chancellor Adolf Hitler's fears that the British were going

Alamy

German soldiers storm ashore in Norway during a combined operations invasion of the Scandinavian country. The heavy cruiser *Blücher* was sunk by Norwegian shore batteries during the assault.

Bundesarchiv Bild 101II-MO-0683-07; Photo: Armin Zinnecker

En route to its fate during the invasion of Norway, the Kriegsmarine heavy cruiser *Blücher* sails in company with other German warships. This photograph was taken from the deck of the light cruiser *Emden*.

to land troops there. German preparations for the invasion and occupation of Denmark and Norway were already being developed under the codename of Operation Weserübung.

Even though the Norwegian military was not well prepared, the Germans knew they had to strike hard and fast to achieve an early knockout blow. Hitler was already planning to invade France and the Low Countries, so the Germans could not afford to have men and material tied up in a lengthy campaign in Norway. If Norway determined to fight and was able to fully mobilize, the country's rough, mountainous terrain offered a great many natural defensive positions, and given time the Norwegian military would be joined by British and French reinforcements. Thus, a major part of Operation Weserübung called for special detachments of troops to capture the Norwegian king, the prime minister and his cabinet, and leading members of the Storting (Parliament) within the first few hours of the invasion. It was hoped that the captured leaders, surprised and disheartened, would quickly capitulate and the Nazi conquest of Norway would become a fait accompli before the British and French could even respond.

Operation Weserübung, as it pertained to Norway, was a particularly audacious and far-reaching plan, almost to the point of recklessness; Adolf Hitler chortled that it was the "sauciest" military operation in history. It required a very tight timetable and close coordination between all three branches of the German military, the Heer (Army), Kriegsmarine (Navy), and Luftwaffe (Air Force). To achieve complete surprise, all the German landings would have to occur simultaneously over nearly 1,000 miles of coastline. Seaborne landings were slated for the Norwegian capital of Oslo and the important coastal cities of Bergen, Egersund, Kristiansand, Trondheim, and Narvik, while two airborne assaults would seize vital airfields at Stavanger and Fornebu. Wesertag (Weser Day) was finally set for April 9, 1940, and H-hour was 0500.

Bound for the Norwegian capital of Oslo was Warship Group 5, composed of German Navy vessels under overall command of Rear Admiral Oskar Kummetz, whose flagship was the brand new heavy cruiser *Blücher.* This group also included the Deutschland-class heavy cruiser *Lützow,* a 14,000-ton vessel sometimes termed a "pocket battleship," sporting a main armament of six 11-inch (280mm) guns in two triple turrets, and the older 1920s-vintage light cruiser *Emden,* armed with eight 6-inch (150mm) guns. The remainder of Group 5 consisted of three torpedo boats, eight minesweepers, and two whalers. These ships carried a landing force of just over 2,000 troops from the 163rd Infantry and 3rd Mountain Divisions. An additional 23 merchant ships were standing by in German ports or at sea awaiting the word to bring in 14,000 more troops and their vehicles and heavy weapons once the Norwegian defensive installations along the Oslofjord were cleared.

The heavy cruiser *Blücher* was the pride of Nazi Germany's new Kriegsmarine, one of its finest and newest ships, built in repudiation of the Treaty of Versailles and at a cost of nearly 86 million Reichsmarks. The second of five Admiral Hipper-class heavy cruisers, *Blücher* was commissioned into the fleet in September 1939, even as the panzers were rolling into Poland, and she had not finished her sea trials until April 5, 1940. Grossing 18,000 tons fully loaded, she was more than 675 feet long and had a beam of 72 feet. Her three Blohm & Voss 132,000 shaft horsepower steam turbines could drive her at a top speed of 32 knots, and she was crewed by 1,382 officers and men. Her main armament consisted of eight 8-inch (203mm) SK C/34 rifled guns mounted in twin turrets fore and aft. Secondary armament included a dozen 4.1-inch (105mm) guns, a dozen 37mm, eight 20mm light antiaircraft guns, and six 21-inch torpedo tubes port and starboard. For protection she carried three inches of belt armor, up to two inches of deck armor, and more than four inches of turret armor. *Blücher* normally carried three Arado Ar-196 float planes for reconnaissance and gunnery spotting, but on April 9 only two of the aircraft were aboard, one on the launching catapult and one in the hangar immediately aft of the funnel.

In addition to being Admiral Oskar Kummetz' flagship, *Blücher* also carried Maj. Gen. Erwin Engelbrecht, commanding officer of the 163rd Infantry Division, and Maj. Gen. Wilhelm Sussmann, commander of the Luftwaffe's ground organization for Norway. The 528 troops aboard included the special detachments designated to capture the Norwegian king and key government leaders, as well as the nation's gold reserves. Stored topside above the main armored deck were light field guns and some 31 tons of munitions belonging to these ground troops.

The sea approach to Oslo is via the 100-kilometer-long Oslofjord, a restricted, winding, and often narrow waterway that affords ships little room to maneuver. Norwegian coastal fortifications dotted the shores and islands of Oslofjord for its entire length; collectively, these defenses were known as Oslofjord festning, or Oslofjord Fortress. A natural defensive bottleneck forms in the fjord at Drøbak Sound, where the channel briefly narrows down to a little over a quarter of a mile wide, and the Drøbak narrows are the dividing line between what is known as Inner and Outer Oslofjord. Two small islands at the narrows were home to Oscarsborg Fortress, which would play a large role in the events of April 9, 1940.

Luck initially seemed to be with the vessels of Warship Group 5 as they penetrated the outer mouth of Oslofjord late on the night of April 8, 1940; a thick fog hung over the water, concealing the German ships. Rear Admiral Kummentz had issued orders for his ships to hold their fire unless otherwise ordered by the flagship and to ignore any warning shots from the Norwegian defenders.

At around 2300 hours, the Royal Norwegian Navy patrol boat *Pol III,* a small former whaler with a crew of 15 and armed only with a single 76mm gun, came across the wakes of Warship Group 5 and began to follow them. She was discovered by the German torpedo boat *Albatross,* which closed on the *Pol III* and ordered the crew at gunpoint not to use their radio transmitter. Captain Leif Welding-Olsen refused and became the first Norwegian military casualty of World War II. In the tense situation in the fog, the two ships collided, the smaller *Pol III* taking the lion's share of damage as she fired a single warning shot and then launched one white and two red flares, the warning signal for enemy ships in Oslofjord.

Albatross backed off and took her under fire, immediately knocking out her sole gun. The crew abandoned ship. Captain Welding-Olsen had lost both his legs, and, seeing the lifeboat was already overloaded, bade his men farewell and rolled himself overboard. Coastwatchers and another small Norwegian patrol boat radioed warnings to Oslo.

Alerted by *Pol III*'s flares, the Norwegian battery on Rauoy Island spotted Warship Group 5 and fired a blank warning round and then five live rounds from its 150mm guns. The latter shots were fired in anger, but in the fog and darkness Rauoy's outdated fire control and sighting systems did not prove up to the task. The shells fell so far astern of the Kriegsmarine warships that the Germans actually assumed all six shots had been blanks. Fort Bolaerne also fired a warning shot that went unheeded.

After this brief flurry of fire, Warship Group 5 disappeared into the mist. The Germans were still on schedule and had suffered no damage. At 2345, the flotilla halted briefly as landing parties were put aboard six of the minesweepers to capture Forts Rauoy and Bolaerne and the small Norwegian naval post at Horten, from the rear. The bulk of the warships then proceeded farther up the fjord.

By 0415 hours on the morning of April 9, Warship Group 5 was approaching the Drøbak narrows and Oscarsborg Fortress. By at least one account, German charts listed the old fort as a museum rather than an active coastal defense site. Originally completed in 1855 on South Kaholmen Island, the brick and mortar structure was named after the visiting Swedish-Norwegian King Oscar I. It had been modernized toward the end of the 19th century. In 1879, an underwater barrier was completed that restricted the passage of large, deep-draft ships to the eastern channel of the fjord. In 1893, the new Main Battery armament, three Krupp Model 1891 11-inch (280mm) L/11.2 coastal guns, was purchased from Germany and installed. While cranes were originally unloading the Krupp guns from their ship for installation in the fortress, one of the massive 28-ton cannons had accidentally been dropped into the fjord. After being fished out of the water, the gun had been christened "Moses" and the other two guns in the battery were then named "Aaron" and "Joshua."

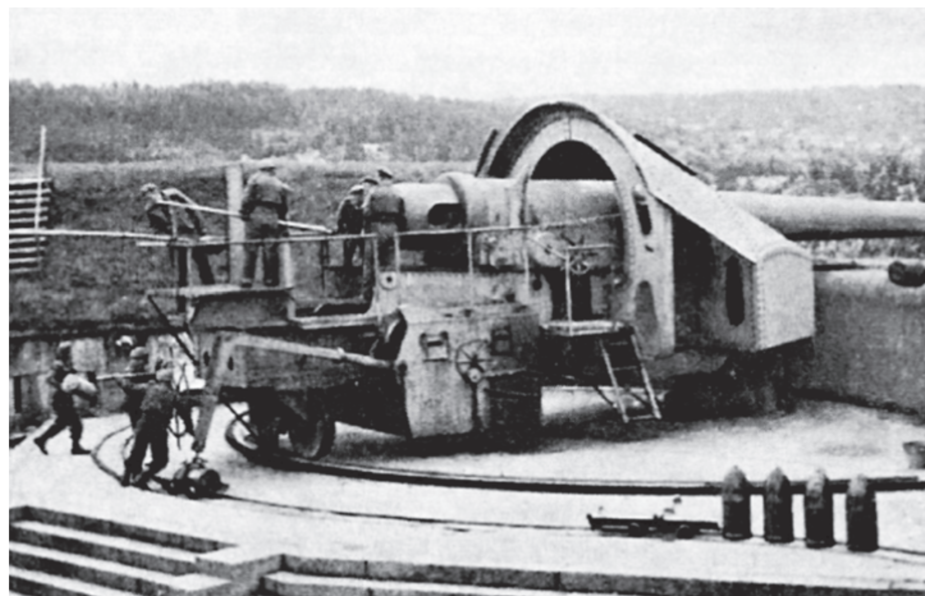
Since the battery was constructed prior to the age of air power, the Krupp guns were mounted in open-topped barbettes; their concrete and earthen embankments could only protect the weapons from the flat-trajectory direct fire of enemy ships.

Just as important as the Main Battery to the events of that fateful morning was the Torpedo Battery on tiny North Kaholmen Island, which had been completed in 1901. Situated entirely underground, the interior of the battery had been carved out of the island's granite bedrock and featured three interior elevators that launched torpedoes underwater via concrete tunnels. The above-ground concrete slits that allowed aiming of the fire control mechanisms were well camouflaged by hedges, and this battery was one of the few Norwegian installations that was completely unknown to German intelligence. The battery's nine 17.7-inch (450mm) diameter Whitehead torpedoes had been manufactured in Fiume in the former Austro-Hungarian Empire in 1900. They were cold-running torpedoes that used a 3-cylinder reciprocating engine that ran off compressed air with a speed of 27 knots and a contact-fused 220-pound explosive warhead. Although the weapons were tested at intervals over the years, no one was absolutely sure how well or even if they would still work if fired in anger.

Lastly, two fortifications on the east shore of the fjord opposite Oscarsborg were under the command of Captain Vagn Enger. Situated atop a hill overlooking the fjord, Kopås Battery had

Bundesarchiv Bild 134-B4219; Painting: Unknown

The *Blücher* is illuminated by Norwegian searchlights as coastal batteries prepare to unleash devastating fire on the enemy warship on April 9, 1940.



One of the gigantic 280mm guns used by the Norwegians to devastate the *Blücher* is shown in position at the Oscarborg Fortress. The crew was required to service the gun during the running battle without the benefit of protective cover.

three British-made Model 1899 Armstrong 6-inch (150mm) guns and two searchlights. Much lower and close to the shoreline was Husvik Battery, which had only two old 19th century Cockerill-Nordenfelt Quick-Firing 6-pounder (57mm) mine barrier protection guns intended for use against small craft attempting to sweep the minefield.

When fully manned, the combined defensive fortifications throughout Oslofjord Fortress should have had a total garrison of 1,433 enlisted men and 210 officers. On April 9, only 613 men and 83 officers were present. Of the 613 enlisted men, 450 were fresh recruits who were just beginning to undergo their training. The naval minefields had not been deployed because planting the mines was to have been part of the recruits' training in the near future.

In command of Oscarsborg Fortress was 64-year-old Coastal Artillery Oberst (Colonel) Birger Kristian Eriksen, only six months from retirement. Present for duty under his direct command at the Main Battery were 28 officers and men, but only enough trained artillerymen to man one of the big Krupp guns, which required a crew of 11. Eriksen divided his single gun crew in two then leavened each half with the garrison's cooks, clerks, and drivers, who had been awakened from their barracks, and a handful of reservists who had shown up on their own initiative. By doing so he was able to fully man two of the main guns, Moses and Aaron, although all three were loaded under his direct supervision.

Colonel Eriksen may not yet have known for certain the nationality of the approaching ships, but he knew they were hostile and that numerous warning shots had already been fired in Outer Oslofjord. If he fired a warning shot of his own, it was doubtful the scratch gun crews could reload the ponderous ancient weapons in time to fire another. He let the approaching ships come to within point-blank range, approximately 1,300 meters, so that there was little chance of missing. The thought that by firing his guns he might well be starting a war must have weighed heavily on his mind. When a junior officer questioned him about his order to commence firing, his famous reply was, "Either I will be decorated or I will be court martialed…. Fire!"

Moses and Aaron spoke, their massive muzzle blasts briefly lighting up the gloom and their heavy booms echoing across the fjord. Aboard *Blücher,* Captain Kurt Zoepffel recalled, "Suddenly, an ear-splitting roar of thunder rends the air. The glare of the guns pierces the darkness. I can see three flashes simultaneously. We are under fire from two sides; the guns seem only 500 yards away. Soon bright flames are leaping from the ship."

Both shots were hits. The first 562-pound high-explosive shell crashed into *Blücher*'s forward superstructure above the bridge, killing and wounding several men. Moments later, the second 280mm round struck *Blücher*'s seaplane hanger amidships. The Arado seaplane in the hangar and the aircraft on the catapult were fully fueled, and both were almost immediately engulfed in roaring flames as the volatile aviation fuel ignited. This in turn began to explode the army munitions stored on deck, disabling one of *Blücher*'s portside 4.1-inch guns.

Blücher immediately returned fire with her secondary armament of 4.1-inch guns and light 37mm and 20mm flak batteries. Not believing his improvised gun crews could manage to reload Moses and Aaron under fire, Colonel Eriksen ordered his men to simply take cover. There was no reprieve for *Blücher,* however. In response to the Main Battery firing, the Kopas and Husvik Batteries on the east shore of the fjord opened fire as well. Situated on the high ground, Kopas' three 6-inch Armstrong guns delivered plunging fire onto *Blucher*'s decks. Most of the shells failed to penetrate *Blücher*'s deck armor, but the repeated strikes created chaos. The munitions stored on deck began to explode, igniting more fires; a starboard 4.1-inch gun was knocked out, massive power failures flickered through the ship, and rudder control from the helm was damaged. *Blücher* took a total of 13 hits from the 150mm guns and 30 from the rapid-fire 6-pounders. The 57mm guns of Husvik Battery had to be abandoned by the Norwegian gun crews as *Blücher* passed, her flak guns firing directly into the shoreside weapons pits.

Following *Blücher* 600 yards astern, *Lützow* immediately opened fire toward the Norwegian shore batteries with her 5.9-inch secondary batteries and began to swing her forward 11-inch turret onto the target. As she did so, three 150mm shells from Kopas Battery struck her in rapid succession. One scored a direct hit on "A" turret, wounding several sailors and putting the turret out of action. Another impacted the ship's sickbay, killing two men and wounding many others and starting a fire. *Lützow* also took several hits from the rapid-fire 57mm guns of Husvik Battery and was being raked by machine-gun fire from shore even as her captain and crew observed the massive explosions and sheets of flame erupting from *Blücher* ahead.

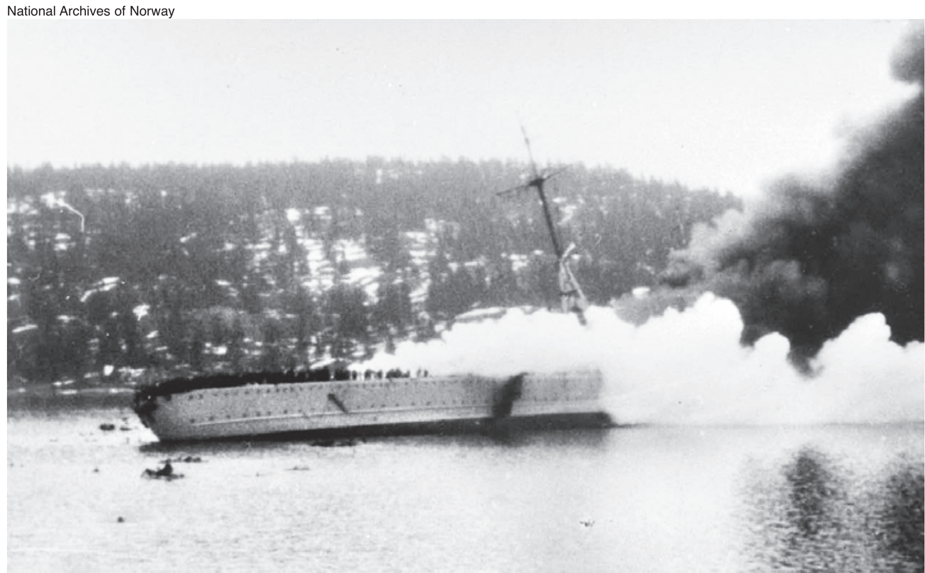
Captain August Thiele ordered the pocket battleship to withdraw, forcing *Emden* to avoid a collision. Although *Lützow*'s crew quickly extinguished her fires and soon had two out of the three 11-inch guns in "A" turret operating again, the fog did not allow them to impact the fate of *Blücher.*

When the Norwegian guns had initially opened fire, Captain Zoepffel aboard *Blücher* had rung up full speed and steered for the middle of the channel. This soon took the cruiser out of the line of fire from the shore batteries but unknowingly put it square in the sights of the concealed Torpedo Battery. Since the commanding officer of the torpedo battery was on sick leave, a retired senior commander who

lived in nearby Drøbak had been given temporary command in March 1940. Sixty-one-year-old Kommandørkaptein (Commander Senior Grade) Andreas Anderssen was the perfect choice; he had first served as a young officer on the Torpedo Battery in 1909 and later retired as its commander in 1927, so he knew the weapons and equipment inside and out. The two officers and nine seamen under his command were all longtime reservists who were also knowledgeable and well trained when it came to operating the battery.

Anderssen gave the command to fire two torpedoes, and both of the elderly fish ran straight and true. One hit *Blücher* forward of amidships and the other toward the stern, rocking the cruiser with two more massive explosions on the port side.

National Archives of Norway



ABOVE: *Blücher*, hit repeatedly by large-caliber shells and torpedoes from Norwegian shore batteries, lists precipitously to port as smoke billows from its stricken superstructure. LEFT: The stern of the *Blücher* remains above the water's surface momentarily as the ship begins its final plunge. The sinking of Blücher was an embarrassment for the Kriegsmarine.

National Archives of Norway

Although she had taken on a 10-degree list and lost steering as her engine rooms began to flood, *Blücher* was not yet mortally wounded. No longer taking any Norwegian fire, she dropped anchor to keep from drifting into the shoreline as the crew fought to extinguish her fires. The fire in the floatplane hangar, however, had grown to an inferno and spread to several decks below. On deck, the army's small arms ammunition and grenades were continuously cooking off, scattering the firefighting crews and shredding the fire hoses with shrapnel. The fires exploded four 100-pound bombs in the floatplane hangar, and great clouds of black smoke and hissing steam were gushing from the ship's funnel and the gaping hole amidships.

At 0530, the fires reached *Blücher*'s amidships ammunition magazine for 4.1-inch ammunition. The resulting explosion ripped a great hole in her side, ruptured the bulkheads between boiler rooms, and blew open her fuel bunkers, exposing the fuel oil to the raging flames. This damage sounded the proud new cruiser's death knell. At 0600 the order to abandon ship was given. The *Blücher* slowly rolled over and sank 22 minutes later. At least 125 of her crew were lost along with 200 of the 528 soldiers in the landing parties.

Still unaware of the hidden underground Torpedo Battery, Captain Thiele of the *Lützow* believed that the Drøbak Narrows were heavily mined and it was these weapons that had sunk *Blücher*. He ordered Warship Group 5 back down the fjord, out of range of Oscarsborg's ancient guns, although *Lützow* was able to continue firing on the forts with her modern long-range 11-inchers. Instead of being landed directly into Oslo's harbor as planned, the remaining troops aboard the vessels of Warship Group 5 now had to be landed in the small town of Son, some 25 miles away.

With daylight came the Luftwaffe. Wave after wave of Heinkel He-111 twin-engine bombers swooped over the islands, dropping 440-pound bombs on the fortifications. Two of Norway's eight new 40mm Bofors guns replied along with a handful of Colt M/29 7.92mm machine guns, but the limited antiaircraft defenses failed to down any German bombers. The skies cleared from noon until 1330 while *Lützow* returned to bombard the fortress with her 11-inch guns. Afterward, more German planes, including Junkers Ju-87 Stuka dive bombers, returned to blast the fort. Oscarsborg Fortress was subjected to aerial bombardment for almost nine hours and was hit with approximately 500 bombs.

Despite the successful resistance of Colonel Eriksen and his men, Oslo was captured before the end of the day on April 9 by German infantry airlifted into Fornebu Airport, which had been captured earlier by paratroopers. After the aerial bombardment and with German troops ashore on both sides of the fjord, Colonel Eriksen decided not to subject his handful of ill-prepared troops to an infantry assault and surrendered Oscarsborg on the morning of April 10.

By sinking *Blücher* and forcing the remainder of the German task force to land its troops miles from the capital, the Oscarsborg garrison had bought time for the king, prime minister, cabinet, and parliament to be evacuated on a special train from Oslo to Elverum, where the Storting reconvened and vowed to fight. The country's gold reserves were smuggled out of the capital to the town of Lillehammer.

Instead of handing the Norwegian government a fait accompli, the Germans wound up having to devote further men and resources to a lengthy campaign. With most of the major Norwegian cities in German hands, the Norwegian Army reservists were never able to fully mobilize, but those units that did fought on and were joined by British, French, and Free Polish troops.

In the final reckoning, however, British control of the sea was trumped by German control of the air. The Allies later evacuated their expeditionary forces from Norway, and the last Norwegian Army units laid down their arms on June 9, 1940. The fight for Norway had lasted for two months, longer than the Germans had expected, and the loss of the new *Blücher* was a severe blow to German prestige.

Author Bob Cashner resides in Philipsburg, Montana. He has previously written for WWII History *on the Boys Anti-Tank Rifle, War Dogs, and the Japanese knee mortar.*

PUTTING THE CORK IN THE BOTTLE

General Douglas MacArthur executed a dangerous gamble on the island of Los Negros.

BY PATRICK J. CHAISSON

General Douglas MacArthur gripped the rail of the light cruiser USS *Phoenix* as the warship bombarded shore positions on the Japanese-held island of Los Negros. Alongside him stood Vice Admiral Thomas C. Kinkaid, whose Seventh Fleet was then putting 1,000 U.S. soldiers onto this strategic Pacific outpost.

Without warning, return fire from Los Negros began landing all around the *Phoenix*. One projectile exploded just 200 yards away. As his flagship delivered a deafening broadside in response, MacArthur recalled that the last time he experienced such close-in enemy shellfire had in the Meuse-Argonne during World War I, a full quarter century earlier.

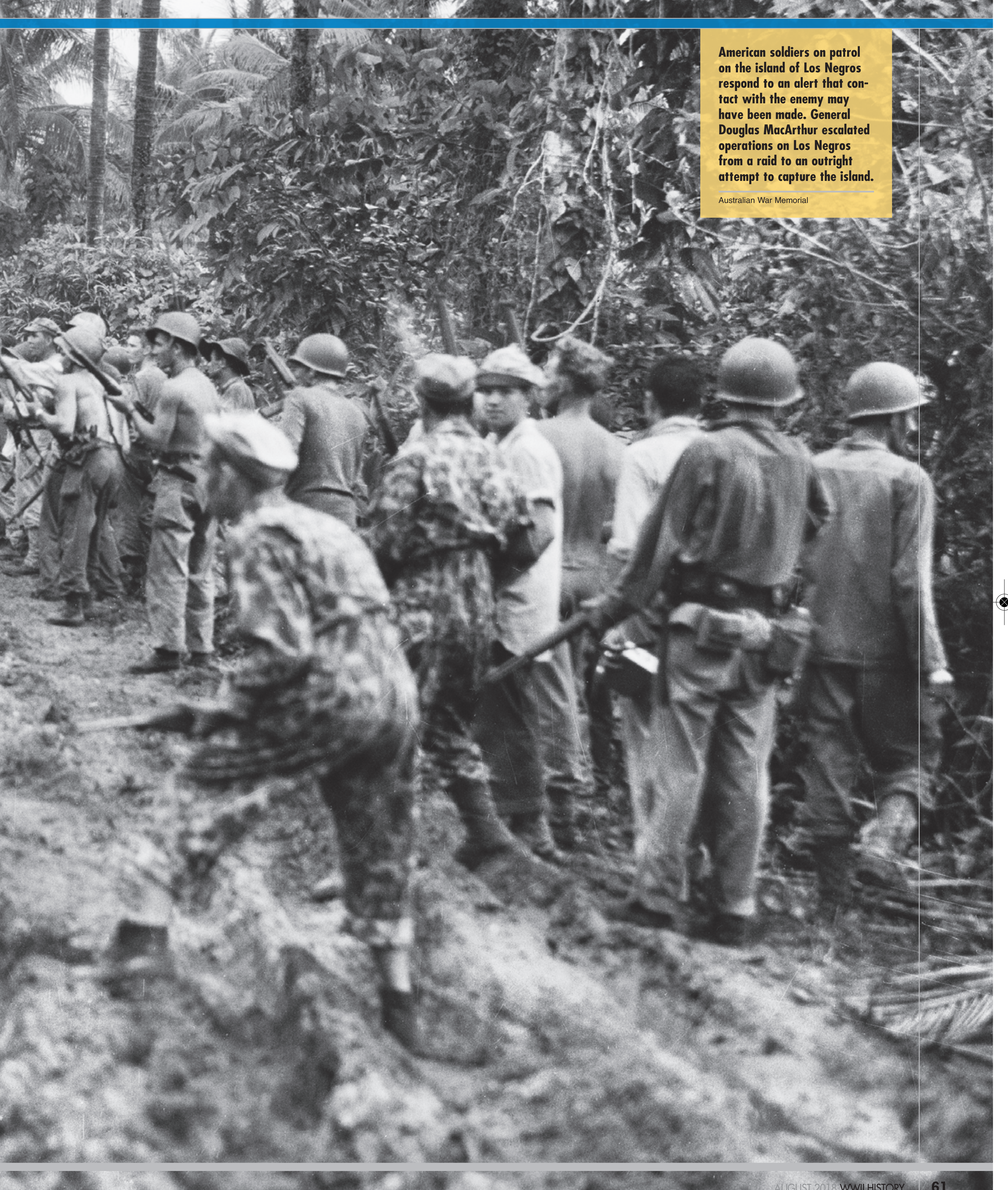
Yet the Los Negros landings, which took place in February 1944, started off relatively well for the Americans. Kinkaid's fleet quickly silenced pesky shore batteries, while hard-charging GIs took their objective—Momote Airfield—only 95 minutes after the first waves touched down. In mid-afternoon, General MacArthur went ashore to see for himself how this so-called "reconnaissance-in-force" was progressing.

After a quick tour of the front lines, MacArthur met with his senior Army commander on Los Negros, Brig. Gen. William C. Chase of the U.S. First Cavalry Division. He then made a momentous decision. Ordering Chase to "to remain here and hold the airstrip at any cost," the general transformed what was meant to be a low-risk raid into an all-out invasion. He did so without knowing the full tactical picture. There were far more Japanese on the island than some Allied officers had predicted—in fact, they greatly outnumbered their American adversaries.

That evening, MacArthur returned to his flagship and sailed off for an Allied base on New Guinea. Accompanying *Phoenix* was the light cruiser USS *Nashville* and all but two destroyers of Admiral Kinkaid's invasion fleet. This meant Chase's inexperienced cavalry troopers would enter battle on Los Negros armed only with what they had brought with them and a mere fraction of the naval gunfire support deemed necessary to back an island assault.

The Japanese waited for full darkness to begin their probing attacks. Some soldiers tossed hand grenades into American foxholes, while others stealthily crept through the lines. Just before sunup, two infiltrators were found and killed scant feet from General Chase's command post (CP).

Weary U.S. cavalrymen greeted the dawn on March 1 by counting the ammunition remaining in their cartridge belts. They also counted 66 enemy bodies killed in the previous night's fight before starting the arduous task of clearing snipers from their narrow beachhead. It promised to be a long day.



American soldiers on patrol on the island of Los Negros respond to an alert that contact with the enemy may have been made. General Douglas MacArthur escalated operations on Los Negros from a raid to an outright attempt to capture the island.

Australian War Memorial

From captured documents, Brig. Gen. Chase realized that more than 4,400 Japanese opposed him on Los Negros and neighboring Manus Island. He could not know, however, that their commanding officer was even then organizing a full-scale counterattack intended to annihilate the lightly equipped invaders. Could Chase's troopers hold out long enough for reinforcements to arrive? Or was Los Negros destined to become another infamous "last stand" for the U.S. Cavalry?

As supreme commander of the Southwest Pacific Area (SWPA), Douglas MacArthur kept his land, sea, and air forces extraordinarily active throughout the winter of 1943-1944. On December 15, 1943, American troops stormed ashore at Arawe on the southern tip of New Britain. Eleven days later, U.S. Marines landed farther up New Britain's northwestern coast at Cape Gloucester to seize vital airfields there. On January 2, 1944, the Allies made another amphibious assault at Saidor on New Guinea, their objective again a vital airstrip.

These actions were all part of Operation Cartwheel, a major campaign designed to overwhelm Japanese air and naval installations at Rabaul, New Britain. Since the start of the Pacific War, Rabaul—boasting a large harbor and network of airdromes—served as the center of enemy activity throughout eastern New Guinea and the Solomon Islands. Allied forces could not safely advance without first neutralizing this threat to their own lines of communication.

Once MacArthur's hard-working engineers finished lengthening the runways on Arawe, Cape Gloucester, and Saidor, Rabaul fell well within the operational range of U.S. medium bombers and their fighter escorts. Slowly, inexorably, Allied airpower began choking off the Rabaul garrison's ability to defend itself and receive supplies.

The primary architects of this aerial campaign were two aggressive aviators, Lt. Gen. George C. Kenney and Maj. Gen. Ennis C. Whitehead. Kenney, who commanded the U.S. Fifth Air Force, and Whitehead, his deputy, recognized that the vast distances and resource constraints across the SWPA presented ideal conditions in which to prove a new form of warfare. Both airmen believed the Allies could defeat their enemy without resorting to costly land battles. Rather, strike aircraft would sink every freighter in Rabaul's harbor and render useless all of its airfields. The Japanese would be left isolated and paralyzed, no matter how many troops they had under arms.

A ground commander by training and experience, MacArthur began to embrace the new capabilities that his air and naval arms were bringing to the fight. By January 1944, Rabaul's garrison of 98,000 Japanese had been left to "wither on the vine" by Kenney and Whitehead's relentless aerial attacks. And Kinkaid was growing into his new role as head of the Seventh Fleet, nicknamed "MacArthur's Navy."

Naval History and Heritage Command

ABOVE: Aboard the light cruiser USS *Phoenix,* Vice Admiral Thomas Kincaid, commander of the U.S. Seventh Fleet, and General Douglas MacArthur, operational commander in the Southwest Pacific, watch the bombardment of Los Negros in the Admiralty Islands on February 28, 1944. OPPOSITE: Troops of the U.S. 1st Cavalry Division land on Los Negros on February 29, 1944. Securing the island turned out to be a bigger challenge than MacArthur initially contemplated.

The Seventh Fleet was a formation like none other in history. Lacking the armada of fleet aircraft carriers and battlewagons in Admiral Chester Nimitz's Central Pacific Area, Kinkaid made do with smaller, more adaptable task groups designed to rapidly put invasion forces ashore and keep them there. The sailors of MacArthur's Navy relied on a bewildering array of shallow-bottomed landing craft and destroyer transports (APDs in naval terminology) to carry assault troops and their gear all across the Southwest Pacific.

By the first week of February, Rabaul had become a "self-feeding prisoner of war camp," as described by one Allied officer. General MacArthur's gaze now turned to the Admiralty Islands at the northwest end of the Bismarck Archipelago. Seizing the Admiralties meant accomplishing two key Allied objectives. First, it would cut the last remaining air and sea lanes connecting Rabaul with Japanese bases farther to the west. Second, an excellent though undeveloped harbor there could be transformed into a major staging base for MacArthur's long-anticipated return to the Philippines.

For the Admiralty Islands invasion, SWPA planners set a tentative date of April 1, 1944. Staff officers then began the methodical task of gathering data on terrain, weather, and opposing forces. They learned the Admiralties stood 360 miles west of Rabaul and about 500 miles from the nearest Allied bases on New Guinea. There were two major islands, Manus and Los Negros, which together formed the arc of Seeadler Harbor—chief objective of the Allied operation.

Manus was the larger of the two. Resembling an ellipse, it measured approximately 49 miles long by 16 miles wide. A central mountain spine bisected this land mass, which was heavily jungled and unpopulated except along its northern coast. Separated from Manus by a narrow strait, the horseshoe-shaped island of Los Negros stretched 15 miles from end to end. Rugged terrain distinguished Los Negros's southerly regions, but flat land to the north held promise for future airbase construction.

Together, Manus and Los Negros framed a natural anchorage known as Seeadler Harbor. Six miles wide, 20 miles long, and with a depth of 120 feet, Seeadler was large enough to shelter an entire invasion fleet. A string of barrier islands—Koruniat, Ndrilo, Hauwei, and Pityilu—guarded the roadstead and its likely landing beaches.

Holding the Admiralty Islands was a collection of Imperial Japanese Army and Navy outfits commanded by Colonel Yoshio Ezaki of the 51st Transport Regiment. Ezaki's defenders included two understrength infantry battalions from the 1st Independent Mixed Regiment and the 229th Infantry Regiment as well as sailors

belonging to the 14th Naval Base Force who guarded Seeadler Harbor with coast artillery positioned on its barrier islands. Total enemy strength exceeded 4,450 combatants.

The Japanese constructed two airdromes, one at Momote Plantation on Los Negros and a smaller strip near the village of Lorengau on Manus. They had, however, let these runways fall into disrepair after the Fifth Air Force stepped up its bombing campaign in February. Once Colonel Ezaki realized the Admiralties garrison was indeed marooned, he ordered his men to conceal their numbers, locations, and activities from American reconnaissance aircraft.

Ezaki's scheme worked brilliantly. On February 23, three B-25 Mitchell bombers from the 17th Photographic Reconnaissance Squadron flew lazily over Los Negros for 90 minutes without drawing antiaircraft fire or observing any other signs of enemy occupation. The entire area looked "completely washed out," pilots later reported to General Whitehead in New Guinea. "Crews say Los Negros and Manus are evacuated."

Whitehead immediately passed these reports on to Kenney in SWPA's Brisbane, Australia, headquarters, along with an unsubstantiated estimate of 300 Japanese soldiers remaining in the Admiralty Islands. Early on the morning of February 24, General Kenney took this news upstairs to his boss. "Los Negros," Kenney claimed, "was ripe for the plucking."

Ever alert to a strategic opportunity, MacArthur listened intently as Kenney outlined his plan. The aviator proposed sending 800 troops, a "reconnaissance-in-force," out to the Admiralties to occupy Los Negros long enough to ascertain whether or not the Momote airfield was indeed deserted. If Whitehead's information proved correct, this detachment should then immediately go on to seize Manus and its outlying barrier islands. Kenney also suggested sending in a small surveillance element ahead of the main body to confirm his aircrews' observations.

MacArthur paced the floor, considering Kenney's proposal. Finally, he halted and exclaimed, "That will put the cork in the bottle!" The supreme commander then summoned to his office SWPA's operations officer and Admiral Kinkaid. "We're going to the Admiralty Islands," he told them, "and we go on Leap Day (29 February)." It was a dramatic moment in a headquarters known for its commanding general's often dramatic presence.

The next morning, February 25, orders went out to all subordinate Army, Navy, and air commanders: "Land on [Los Negros Island] in the vicinity of [Momote airfield] and make immediate reconnaissance in force to determine the enemy strength and disposition."

This directive surprised many officers, but none more so than Lt. Gen. Walter Krueger of the Sixth U.S. Army. Krueger wore two hats in the SWPA; aside from his responsibilities as head of Sixth Army he also commanded Alamo Force, which coordinated American ground operations in theater. As such, this career officer supervised the planning of every amphibious operation that MacArthur wanted accomplished.

Four days was not a lot of time to move 1,000 men (Krueger persuaded MacArthur to raise the total number of troops from his original 800), but much preliminary planning had already been conducted. Krueger staged soldiers at bases near Oro Bay, New Guinea, while Kinkaid managed to assemble a flotilla of APDs and fleet destroyers to transport them 500 miles to Los Negros. Reinforcements could be expected to arrive on slower moving Landing Ships, Tank (LSTs) two days after the reconnaissance element made its landing.

Sixth Army intelligence officers questioned the Air Corps' claim that Los Negros and Manus had been abandoned. Their own sources showed that 4,500 Japanese still held on to the Admiralty Islands. Therefore, before dawn on February 27, a six-man team from the elite Alamo Scouts set out in a U.S. Navy PBY Catalina flying boat to evaluate the enemy situation on Los Negros and report back its findings.

Paddling ashore in a rubber raft, the Alamo Scouts then cautiously made their way through dense jungle toward Momote airdrome. Signs of Japanese occupation were everywhere. After evading several infantry patrols, the team turned around short of its objective and went to ground. That night its leader radioed in a brief but telling message: "The area is lousy with Japs."

Back in Brisbane, General Kenney discounted the scout team's report as the product of a frightened young lieutenant's imagination. Besides, the invasion fleet was already halfway to Los Negros with a quite senior commander accompanying it. Douglas MacArthur felt strongly that he alone should decide whether to continue to attack or withdraw. Only by see-

National Archives

ing things on the ground, MacArthur reasoned, could he make an informed choice.

Nevertheless, MacArthur's hastily organized "reconnaissance-in-force" carried with it some tremendous risks. Amphibious doctrine required a three to one ratio of attackers versus defenders, which explains his decision to send 1,000 men up against the 300 defenders that SWPA's air staff believed still occupied Los Negros and Manus. In reality, however, there were four Japanese for every American set to make this dangerous invasion. Worse still, those GIs completely lacked battle experience.

Troopers of the First Cavalry Division left their horses behind when, in the summer of 1943, they deployed to Australia. There the outfit was reconfigured under a hybrid table of organization. Retaining traditional cavalry unit designations (squadron for battalion, troop for company, etc.), the division armed and trained itself to fight as infantry. Restless months spent in Australian training camps had left the division's men eager for a brawl. They would soon get one.

The First Cavalry Division (Special) was commanded by Maj. Gen. Innis P. Swift, who like many of his men had served in the prewar cavalry. His two brigade commanders, Brig. Gens. William C. Chase and Verne D. Mudge, each led about 4,000 dismounted horse soldiers. Field artillery, engineer, signal, medical, and service support elements rounded out the division's 15,000-man combat strength.

For the Los Negros mission, General Chase selected the 2nd Squadron, 5th Cavalry Regiment to form the backbone of his assault element. Two 75mm pack howitzers from the 99th Field Artillery went along to provide fire support, while a dozen .50-caliber machine guns crewed by the 673rd Antiaircraft Machine Gun Battery covered the skies. Chase's 1,026-man detachment also included naval and air liaison teams, communications personnel, and recon scouts, as well as medical aidmen from the 30th Portable Surgical Hospital.

Task Force Brewer (code name for this "reconnaissance-in-force") arrived off Jamandilai Point along Los Negros's east coast before dawn on February 29, 1944. Under a steady rain, U.S. Navy cruisers and destroyers began bombarding the shore while cavalry troopers loaded into Landing Craft Personnel, Ramp (LCPRs) for the ride in. They were headed for Hyane Harbor, a narrow channel just off Momote's runway and far from—it was hoped—Japanese coastal defenses.

Colonel Ezaki's men were caught entirely by surprise. Stunned by naval shellfire and a barrage of 500-pound bombs dropped by B-25s of the 345th Bomb Group, "Air Apaches," most of the Japanese holding this sector could only cower in their foxholes. Task Force (TF) Brewer's first wave touched down unopposed on White Beach at 0817 hours, two minutes behind schedule.

Ezaki's defenders quickly recovered from their initial shock, though, and soon began shooting back at the approaching LCPRs. Subsequent waves encountered fierce return fire; U.S. destroyers struggled to find and destroy these hidden gunners, obscured as they were by a tropical downpour. Corporal Bill Alcine, a correspondent for *Yank* magazine, vividly recounted his run into the beach: "As we neared the channel, the Navy men in the bow hollered to us to keep our heads down or we'd

"TONIGHT, THE BATTALION UNDER CPT. BABA WILL ANNIHILATE THE ENEMY WHO HAVE LANDED. THIS IS NOT A DELAYING ACTION. BE RESOLUTE TO SACRIFICE YOUR LIFE FOR THE EMPEROR AND COMMIT SUICIDE IN CASE CAPTURE IS IMMINENT. WE MUST CARRY OUT OUR MISSION WITH THE PRESENT STRENGTH AND ANNIHILATE THE ENEMY ON THE SPOT."

AP Photo

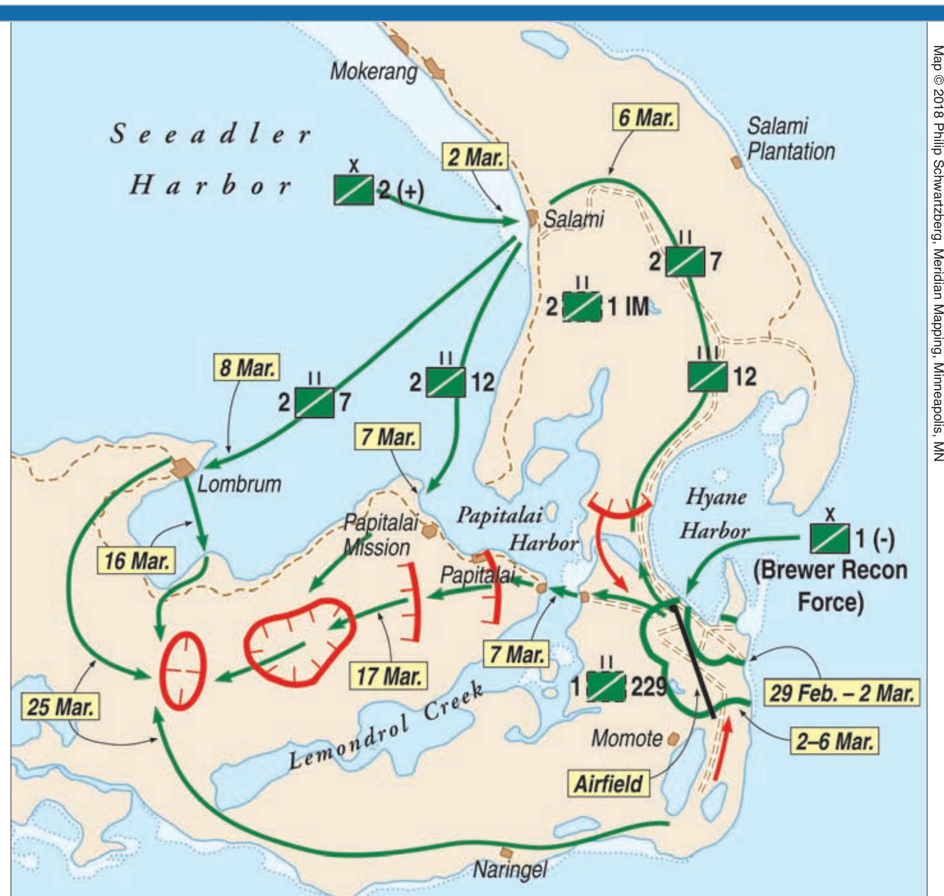
get them blown off. We crouched lower, swearing, and waited."

"It came with a crack," Alcine's account continued, "machine gun fire over our heads. Our light landing craft shuddered as the Navy gunners hammered back and answered with the .30-calibers mounted on both sides of the barge."

The troopers aboard Alcine's LCPR "piled out quickly at the beachhead" and went to work. Cavalry platoons advanced rapidly across Momote airfield and 300 yards into the undergrowth beyond. By 0950 they had taken their initial objectives. A few hours later, General Chase's task force finished unloading all men and supplies. For the cost of two soldiers killed and another three wounded, the Americans had established a toehold on Los Negros. But could they stay there?

Strewn all around them was evidence of a strong enemy presence, including several hastily vacated bivouac areas found about one mile south of the beach. Other patrols carefully investigated a network of bunkers, dugouts, and trenches scattered throughout the Momote perimeter.

Papers seized in one command bunker indicated there were as many as 200 Japanese antiaircraft gunners assigned to protect this sector of Los Negros. Most of them had run away when the shooting started, but they would be back once Colonel Ezaki organized a counterattack. For now, the only resistance consisted of occasional nuisance fire from a few stay-behind riflemen.



ABOVE: The eventual securing of Los Negros turned out to be a matter of hard fighting over a period of about a month. Its capture facilitated the development of Seeadler Harbor as an American base of operations. OPPOSITE: During the early hours of the invasion of Los Negros, American soldiers land from a Higgins boat during a rain squall. The cavalry soldiers were soon instructed to hold their ground, including the important airstrip, at all costs.

These skirmishers were still at it when General MacArthur toured the front lines later that afternoon. A cavalry lieutenant, concerned for his chief's safety, gestured toward one enemy hideout while tugging on the general's sleeve. "Excuse me, Sir," the young officer warned, "but we killed a sniper in there just a few minutes ago."

Unperturbed, the supreme commander replied, "Fine, that's the best thing to do with them." His remark spread quickly throughout the ranks, affording everyone on Los Negros a much needed chuckle. But the cavalrymen would need all the spirit they could muster, as shortly thereafter they received orders to dig in. MacArthur had made his decision: TF Brewer would "continue the assault."

Wisely, General Chase ordered his men to form a compact 1,500-yard night perimeter along Momote airstrip's western edge. The troops had no barbed wire, and their entrenching tools proved useless against Los Negros's hard coral surface. The task force's dozen .50-calibers, intended for air defense, went up on the line to cover likely avenues of advance. And with no room to emplace their howitzers, artillery crews filled in as infantry. Offshore, destroyers *Bush* and *Stockton* stationed themselves to provide fire support for the cavalry task force.

The Japanese possessed a golden opportunity to push their "arrogant enemy" back into the sea, provided that Colonel Ezaki could launch a counterattack before U.S. reinforcements arrived. While most of his defenders were badly situated for a thrust against Hyane Harbor, Ezaki's 1st Battalion, 229th Infantry held a key position north of Momote airstrip. At dusk he sent this order: "Tonight, the battalion under Cpt. Baba will annihilate the enemy who have landed. This is not a delaying action. Be resolute to sacrifice your life for the Emperor and commit suicide in case capture is imminent. We must carry out our mission with the present strength and annihilate the enemy on the spot."

Had Baba been able to concentrate his efforts and punch through the inexperienced Americans' line, things might have gone much differently on Los Negros. Instead, he dissipated his combat power in an uncoordinated series of small, probing skirmishes. Together with a near constant stream of individual raiders, these intruders kept the troopers of TF Brewer awake all night but never seriously threatened General Chase's hold on the Momote perimeter.

There were, however, a few harrowing moments when Japanese troops followed U.S. communication wires back to the task force CP. Chase's intelligence officer, Major Julio Chiarmonte, heard two infiltrators whispering outside his dugout and dispatched both of them with a Thompson submachine gun.

The GIs knew enough to stay put after dark, shooting or grenading anything that moved. Private Walter E. Hawks of Troop E used his Browning Automatic Rifle to kill eight approaching machine gunners. Later, Hawks waited until a group of 20 charging infantrymen got to within 15 feet of his hole before mowing down the lot of them.

Better weather on March 1 allowed Fifth Air Force to resupply the beachhead with more than three tons of ammunition and blood plasma dropped from B-17 Flying Fortresses of the 375th Troop Carrier Group. Also flying over-

head, B-24 Liberator and B-25 Mitchell bombers pummeled the foe's staging areas, especially a narrow spit of land just north of the airfield where natives once dragged their canoes from Hyane to Seeadler Harbor. This so-called "native skidway" measured only 50 yards across and acted as a choke point that channeled attacking troops into a deadly kill zone.

Wary cavalrymen devoted the day to "disinfecting" their lodgment of any last remaining infiltrators. Around 1600 hours there was a bit of excitement when another Japanese raiding party broke through and headed for General Chase's CP. Again, Major Chiaramonte and his Tommy gun helped wipe out the entire 15-man patrol, one of whom was later discovered to be Captain Baba.

With their captain now dead, the Japanese displayed markedly less fighting spirit during the night of March 1. This did not stop a squad of riflemen from sneaking up on Private Andrew R. Barnabei of Battery B, 99th Artillery. Hearing unfamiliar voices outside his foxhole, Barnabei calmly lobbed a fragmentation grenade that killed all five intruders.

Morale soared among the men of TF Brewer when at 0900 hours on March 2 six LSTs and nine destroyers appeared off Jamandilai Point. Under steady mortar and light machine-gun fire, 1,500 troopers from the 1st Squadron, 5th Cavalry Regiment and 99th Field Artillery Battalion came ashore, unloaded, and marched straight into combat. Meanwhile, bulldozer-equipped Army construction engineers and Navy Seabees of the 40th Naval Construction Battalion (NCB) began improving White Beach for future operations.

A courier brought General Chase more good news. The entire First Cavalry Division was on its way to Los Negros. Until those forces arrived, though, his mission was to hold Momote at all costs. Chase's freshly arrived reinforcements helped even the odds, but victory remained a long way off. And Colonel Ezaki still had a powerful surprise in store for the American invaders.

The soldiers of Ezaki's 2nd Battalion, 1st Independent Mixed Regiment, commanded by a Captain Iwakami, took longer than expected to gather at their attack position north of the native skidway. Allied airstrikes and naval gunfire obliged them to travel from their garrisons across Manus and on the barrier islands mostly during the hours of darkness. Thus, it was not until late on March 3 that Iwakami's men began readying themselves for the climactic battle for Los Negros.

By that time TF Brewer had extended its perimeter completely across Momote airdrome.

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A fresh squadron of cavalrymen was dug in to the left, or south, where General Chase expected the main enemy attack to occur. The 2nd Squadron, exhausted after four nights of near constant fighting, covered the skidway and northern approaches.

Directly behind 2nd Squadron the Seabees had dug a long defensive trench. They would occupy it when ordered, backstopping the cavalry. Nearer the beach, a full 18-gun field artillery battalion executed close-in fire missions while Australian and American destroyers standing offshore hammered suspected Japanese troop concentrations.

The encounter started in an unusual way. At 2100 hours a Japanese plane buzzed the perimeter, dropping eight bombs that severed phone lines and drove many troopers deep into their foxholes. Then two signal flares shot into the sky, and Iwakami's battalion surged forward.

Frenzied infantrymen hurled themselves across the skidway, which was now well covered by mortars, machine guns, and artillery. Many soldiers fell to mines and booby traps, while others were slaughtered by ferocious defensive fire. Whenever one wave of Iwakami's attackers stalled, though, another soon took its place. By midnight the weight of Japanese numbers began to tell.

Troop G took the brunt of their fury. Sergeant Troy A. McGill and his squad of eight troopers held a revetment against repeated assaults; by 0400 all but one of McGill's men had been killed, and that individual was badly wounded. Sending his comrade to the rear, the sergeant then singlehandedly resisted an onslaught by what was later estimated to be 200 Japanese. McGill, clutching his rifle like a club, was found dead in the midst of 130 enemy corpses. For this valorous act he received a posthumous Medal of Honor.

Automatic weapons proved decisive in this ugly brawl. The First Cavalry Division history reported that Troop G's Staff Sergeant Clarence D. Sparks "fired his machine gun ... until it burned out.... Sparks [then] crawled to the rear and procured a new gun which he brought forward and speedily placed into action at his original position."

Iwakami's men employed several ruses to bait the defenders. One English-speaking raider called out to Corporal Joseph Hodonsky, "How you doin', Joe?" Hodonsky was doing fine, according to a *Yank* correspondent, shooting down the intruder with his .45 automatic.

Other enemy tricks worked better. Japanese infiltrators managed to tap the communication wires leading to 2nd Squadron's heavy mortar platoon. Imitating a senior officer, they persuaded the green lieutenant in charge there to withdraw at the worst possible time. GIs eventually recaptured their mortars, but by then Iwakami's forces had already pierced the perimeter.

One hundred Seabees of the 40th NCB put down their tools and picked up rifles to occupy a secondary defensive position behind hard-pressed Troop G. When enemy infantrymen threatened to overwhelm their left flank, sailors began hauling ammo crates up to fast-firing U.S. Navy machine gunners. The Seabees held firm, even at one point launching a counterattack to help restore the line.

Meanwhile, several barges loaded with Japanese soldiers tried to slip into Hyane Harbor. Bright moonlight betrayed their approach,

however, and these boats were destroyed in short order by antiaircraft cannons, artillery, and heavy machine guns.

The final enemy thrust took place just before dawn. A column of 50 Japanese troops, all reportedly singing "Deep in the Heart of Texas," charged straight into a buzzsaw of heavy weapons fire west of the skidway. By 0730 Iwakami's desperate effort had spent itself. "We hold entire perimeter," General Chase radioed to Sixth Army headquarters later that morning. "Everything is under control."

Indeed it was, although the GIs of TF Brewer paid a steep price for their nocturnal victory. Altogether, 61 Americans perished that night while another 244 were wounded. The Seabees alone suffered nine dead and 38 injured.

By the evening of March 4, U.S. troopers had counted and buried the bodies of 779 enemy combatants. Some 168 of them were found in front of Troop G's position. A report captured afterward said that Colonel Ezaki lost 1,400 men during the action of March 3-4, 1944.

More U.S. reinforcements arrived that day, and on March 5, Maj. Gen. Swift came ashore to assume command of the Los Negros operation. By then, Hyane Harbor bustled with activity. Army and Navy construction engineers could be seen everywhere, working hard to improve port facilities and rehabilitate Momote airdrome for Allied use. Service units established ever expanding supply dumps, while medical teams tended to those wounded in action.

MacArthur's forces were on Los Negros to stay. At sunup on March 6, a total of 4,000 men of the First Cavalry Division kicked off an attack. Troopers rapidly seized the native skidway, now clogged with the decomposing remains of several hundred Japanese soldiers, and pushed on toward Seeadler Harbor.

That same morning a battle-damaged B-25 made an emergency landing on Momote airfield. Before long, Momote became home to Nos. 76 and 77 Squadrons, Royal Australian Air Force. Their Curtiss Kittyhawks, together with warplanes of the U.S. Fifth Air Force, day after day provided invaluable close air support to Allied ground forces then entering the campaign's final phase.

On March 9, the remainder of Maj. Gen. Swift's First Cavalry Division disembarked at a newly established beachhead along the western edge of Seeadler Harbor near Salami Plantation. Following a period of reorganization, they invaded Manus on March 15, 1944. Troopers steadily advanced toward the village of Lorengau while enduring torrential rains that turned jungle tracks into veritable quagmires of mud. It was a slow, grinding attack, one opposed by small groups of desperate Japanese soldiers who were determined to die fighting in their bunkers or from a sniper's treetop perch.

More action awaited the division on Manus's barrier islands, small, rocky outposts that had to be captured before Allied shipping could enter Seeadler Harbor. While several islets were left unoccupied, 45 holdouts from the Imperial Japanese Navy strongly garrisoned Hauwei. These gunners ambushed an unwary reconnaissance team on March 12, forcing the Americans to hastily withdraw aboard supporting U.S. Navy Patrol Torpedo (PT) boats.

One day later a larger group of cavalrymen returned to finish the job on Hauwei. By noon, aided by an M4A1 Sherman medium tank belonging to the 603rd Tank Company, U.S. troopers crushed all remaining resistance there. The last barrier island, Pityilu, fell into Allied hands on March 30 after a sharp but brief clash with its 60 defenders.

Mopping up the Admiralties took until May 18, when General Krueger finally declared an end to combat operations. Colonel Ezaki and his entire garrison had been annihilated; of the 4,400 Japanese defenders present, not one man surrendered. In this campaign the First Cavalry Division and attached units lost 326 troops killed and four missing; 1,189 Americans were wounded. Both the 2nd Squadron, 5th Cavalry and the 40th NCB received a Presidential Unit Citation for their gallantry on Los Negros.

In return, the Allies gained a superb naval anchorage as well as airfields that both supported the isolation of Rabaul and helped enable SWPA's next advances across New Guinea. MacArthur's bold gamble in the Admiralty Islands also hastened another, more personal victory.

On March 12, with events on Los Negros progressing satisfactorily, the Joint Chiefs of Staff in Washington, D.C., sent a radiogram to SWPA General Headquarters. Pleased by General MacArthur's gains in the Admiralties, the Joint Chiefs finally authorized his armies to invade Mindanao. It was an emotional moment for the supreme commander—he could soon fulfill his solemn promise to millions of Filipino people. MacArthur was returning to the Philippines.

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ABOVE: An American antiaircraft quad .50 crew poses in position to defend Momote airstrip on Los Negros against Japanese planes. After the capture of nearby Manus Island, mopping up in the Admiralties proceeded until mid-May 1944. OPPOSITE: General MacArthur and Admiral Kincaid, ashore on Los Negros on the first day of the fight for the island, inspect the body of a dead Japanese soldier killed during the initial skirmishes after the American landings.

Patrick J. Chaisson is a retired U.S. Army officer and historian from Scotia, New York. The author gratefully acknowledges the assistance of Mr. Steven C. Draper and the staff of the First Cavalry Division Museum at Fort Hood, Texas, in the preparation of this article.

Polish resistance fighters received weapons, food and medicine airdropped from American B-17s during the Warsaw Uprising in 1944.

Western Airlift to Poland

Operation Frantic 7 brought desperately needed supplies to Polish fighters during the Warsaw Ghetto Uprising in 1944.

IT WAS TWO HOURS BEFORE NOON ON SEPTEMBER 18, 1944, WHEN POLISH freedom fighters inside Warsaw received word an airdrop was coming. An uprising of Poles in the city had begun on August 1 as they sought to throw off their German occupiers and liberate Warsaw in anticipation of the advancing Soviet Army arriving from the east. The Polish resistance expected the Red Army to link up with them and finish the job of freeing Warsaw and indeed all of Poland.

Such was not to be. The Soviet leadership, with their own ideas for a postwar Poland, stopped short of the city and refused to help the beleaguered Poles in Warsaw. This allowed the retreating Germans to reestablish their forces in the city, crush the uprising, and level much of the city. The desperate Poles were gradually crushed in fighting that continued for more than 60 days. Even after all the Poles suffered during the war, this was among their darkest times and a great hour of need. American and British leaders wanted to help the Poles via airdrops of vital supplies but received little cooperation from the Soviet Union, except on September 18.

That day, Frantic 7 took place. Up until this day Operation Frantic was a series of bombing missions wherein American fighters and bombers would take off from English or southern European bases to hit targets too distant for a return trip to their original base. After striking their objectives they would fly on to bases in Soviet territory to refuel and rearm. Afterward they would often attack another target on their way back to their original bases. This allowed American airpower to extend its reach in cooperation with the Soviet Union, something only the Americans with their expertise at logistics and power projection could really achieve at this stage of the war.

Frantic 7, the last mission of the operation, was different. The main focus of this mission was to airdrop supplies to the beleaguered Warsaw resistance fighters. Instead of bombs, paradrop containers were loaded aboard B-17 Flying Fortresses. They contained Sten and Bren guns, PIAT antitank projectors, mines, grenades, and even 545 Smith and Wesson revolvers. Also included were medical supplies, K rations, canned food, and powdered milk. More than 150 P-51 Mustang fighters accompanied the bombers, providing escort. They flew to Warsaw, dropped their containers, and went on to the USSR.

The Poles saw the descending parachutes and moved toward the expected landing sites. Some thought the containers were actually paratroopers. Not all of the dropped supplies landed within Polish-controlled areas, but those that did were quickly recovered and the contents put to use. Weapons went right to the front lines, while medicine and food went to the wounded and hungry. All the supplies were labeled in Polish. Nurses found blood ready for transfusions, donated by Poles at the Polish hospital in Edinburgh. Despite the grim situation, the Warsaw fighters were happy that day. The Americans had sent help; if nothing else, they were not forgotten.

The Warsaw Uprising was a sad episode in the history of the war. Hope for liberation was crushed and lives were lost to no good end except the postwar aims of Josef Stalin. Though it was not the only airdrop mission to reach Warsaw, the last Frantic mission was an important symbol and a harbinger of things to come. It was a sign of the growing split between the Western Allies and the Soviet Union, whose teamwork was starting to fray with the impending end of the war. This last mission is retold in ***Frantic 7: The American Effort to Aid the Warsaw Uprising and the Origins of the Cold War,***

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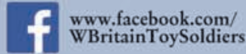

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1944 (John Radzilowski & Jerzy Szczesniak, Casemate Publishers, Havertown, PA, 2017, 208 pp., photographs, appendices, notes, bibliography, $29.95, hardcover).

The book tells the story of the mission from the point of view of the American pilots and aircrew that flew it and the Polish fighters who benefited from their efforts. It is the result of extensive research and meticulous attention to detail. Much of the writing focuses on the experiences of fighter pilots and bomber crews who risked their lives to get the supplies through. The work is full of personal accounts and photographs, which bring a human touch to the story. The author also includes information on the higher level interactions between the American and Soviet commands and how Soviet noncooperation doomed the Poles, limited the success of the American operation, and signaled the end of their alliance and the beginning of the Cold War.

Morning Star, Midnight Sun: The Early Guadalcanal-Solomons Campaign of World War II August-October 1942 (Jeffrey R. Cox, Osprey Publishing, Oxford, UK, 2018, 448 pp., maps, photographs, notes, bibliography, index, $35.00, hardcover)

The first year of the war in the Pacific was a difficult struggle for the U.S. Navy. The Java Sea Campaign was a disaster, while the Battle of the Coral Sea was an expensive draw that stopped the Japanese advance but only at a high cost. The following Battle of Midway was a victory, also hard fought and expensive. In mid-1942, the Allies needed to take the offensive; the Japanese were still perceived as a threat to Australia, and despite their Midway losses the Imperial Fleet was still a powerful force. The next phase would come in the Solomon Islands around Guadalcanal. There, the Japanese Navy capitalized on its night fighting and torpedo advantages to fight a difficult campaign of attrition against the Americans, who had to learn as they went how to overcome their enemy's strengths. The result was a true turning point, one in which the Japanese ability to conduct offensives in the Pacific was truly ended, giving the initiative permanently to the Allies.

The author delves deeply into the conduct of this campaign, explaining how the U.S. Navy was limited by its peacetime bureaucratic viewpoint and prewar concepts. Lacking the resources they would have later in the war, the Americans had to adapt under fire, and this book demonstrates exactly how they did that. The book is a thorough study of the naval battles that set America on the road to victory.

82nd Airborne: Normandy 1944, Past and Present (Stephen Smith & Simon Forty, Casemate Publishers, Havertown, PA, 2017, 64 pp., maps, photographs, bibliography, $16.95, softcover)

On the night of June 5/6, 1944, the "All American" 82nd Airborne Division made its parachute assault on the Normandy area. It helped secure the area behind the Utah beachhead and fought hard actions at places such as Ste.-Mere-Eglise. It fought on for the next 33 days, suffering 5,245 casualties, but it helped establish the Allied foothold on continental Europe and struck one of the first blows against Nazi Germany.

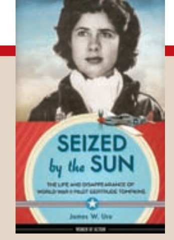
This book takes historic photos of the unit in Normandy and compares them with modern images of the same spots. There is concise but informative text accompanying the imagery to give the reader a basic idea of what happened during the fighting. There are also guides to existing monuments and museums in the area. The book would be a good companion for a tourist in the Normandy region and for planning a visit there. There are also good maps showing the locations of places to visit.

Gebirgsjager versus Soviet Sailor: Arctic Circle 1942-44 (David Greentree, Osprey Publishing, Oxford, UK, 2017, 80 pp., maps, photographs, bibliography, index, $20.00, softcover)

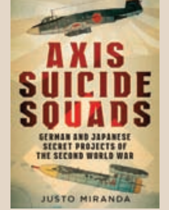
During World War II the German and Soviet armies fought grueling battles above the Arctic Circle in Norway, Finland, and the USSR. The Soviets formed infantry units from naval forces, which were needed more on land than at sea. These men were equipped as Soviet Army troops though most wore their ubiquitous striped shirt under their uniform. The Wehrmacht sent its own elite mountain troops, the Gebirgsjager, specialists at operating in harsh terrain and frigid climates. These two forces would clash over the course of several years, from the early years of the constant Nazi offensives to the eventual transition of the initiative to the Soviet forces, when they relentlessly pushed the Axis troops backward. This was done one difficult step at a time under conditions that made the fighting even worse.

The Osprey Combat series takes two famous opponents and delves into what made them unique soldiers, comparing their training, organization, and weaponry. The book then showcases these troops with three of their common battles, showing how they did in battle against each other. The book concludes with an evaluation of each group's strengths and weaknesses and a frank look at their performance in battle. It is a winning formula, and it works here, giving the reader an enjoyable and readable book.

New and Noteworthy

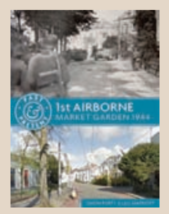


Seized by the Sun: The Life and Disappearance of World War II Pilot Gertrude Tompkins (James R. Ure, Chicago Review Press, 2017, $19.99, hardcover) Gertrude Tompkins was a shy society girl who grew to become a confident military pilot. She disappeared during a flight in October 1944 and is the only WASP pilot still missing.



Axis Suicide Squads: German and Japanese Secret Projects of the Second World War (Justo Miranda, Fonthill Media, 2017, $50.00, hardcover) This book includes the various suicide and kamikaze aircraft developed by the Axis powers. Such weapons were needed to overcome Allied jamming capabilities against guided missile technology.

Miracle at the Litza: Hitler's First Defeat on the Eastern Front (Alf R. Jacobsen, Casemate Publishers, 2017, $32.95, hardcover) During the invasion of the Soviet Union, German mountain troops invaded the northern reaches of Russia. This book records their failed attempts to cross the Litza River.

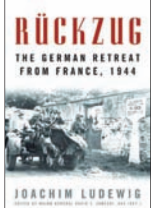


Past and Present: 1st Airborne Market Garden 1944 (Simon Forty & Tom Timmermans, Casemate Publishers, 2017, $16.95, softcover) This concise photobook shows the battlefield of the British airborne in period images alongside photographs of how the area looks now. It also serves as a tour guide to existing monuments and museums.

Stalingrad (David M. Glantz & Jonathan M. House, University Press of Kansas, Lawrence, 2017, 640 pp., maps, photographs, notes, bibliography, index, $34.95, hardcover)

The Battle of Stalingrad was the titanic clash of World War II. Two competing and incompatible ideologies met in this city on the Volga River, and their struggle came to represent as much a test of wills for Nazi Germany and the Soviet Union as it was for the actual soldiers who fought and died there. So much blood, treasure, and effort were poured into Stalingrad by the two nations that its outcome would truly signal a turning point in the war. When the Soviets eventually won it was clear the war had entered a new phase, where the Axis forces in Eastern Europe had gone as far as they would ever go while the Soviets had proven they could stop the enemy juggernaut. Meanwhile, as all this was happening and being perceived in the halls of Berlin and Moscow, in the ruins of Stalingrad soldiers were fighting and suffering to make this point to their far away superiors.

These two authors have written the definitive work on Stalingrad, creating a trilogy that spanned five volumes before it was done. This book is the abridged version of that series, giving the reader a condensed version of their wide-ranging work. Their research is deep and thorough; David Glantz is widely known for his mastery of the Russian archives and other sources from both nations. The writing is precise and informative. These authors have long been acclaimed for their works on the Eastern Front, and this book only solidifies that widespread opinion.



Ruckzug: The German Retreat from France, 1944 (Joachim Ludewig, University Press of Kentucky, Lexington, 2017, 435 pp., maps, photographs, notes, bibliography, index, $30.00, softcover)

The Allied invasion of the Normandy coast came as a surprise to the defending German Wehrmacht, but it recovered quickly and did all it could to stifle the Anglo-American advance. The Allies would indeed break out of Nazi containment, but only after a long and hard-fought campaign. During August and September 1944, the front lines shifted more than 1,000 kilometers from the Norman hedgerows to the very borders of Germany, from Holland in the north to the Vosges

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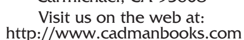

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Mountains of the Alsace region in the south. The Third Reich lost its defense in depth to its west, and many thought that with the liberation of Paris in late August the war was nearing its end. This turned out to be a mistaken notion when the German military managed to stabilize its lines and halt the unbridled Allied offensive, adding months to the war.

The author argues the German Army was able to use its tactical skill and take advantage of Allied caution to check the German retreat of late summer 1944. He focuses on the period of August and September 1944, which is often overlooked as simply a time of rapid advance for the Allies and retreat for the Germans with little in-depth coverage. Many works concentrate on Normandy up to the breakout and then on the Ardennes; this book looks at the crucial period in between with an effective argument about how the war was affected by German resilience.

The Luftwaffe and the War at Sea 1939-1945: As Seen by Officers of the Kriegsmarine and Luftwaffe (Edited by David Isby, Naval Institute Press, Annapolis, MD, 2017, 288 pp., maps, photographs, bibliography, $39.95, softcover)

Between the evacuation of Allied troops from Dunkirk and the beginning of the Battle of Britain, the German air force made a concerted effort against British shipping in the English Channel and the coast of southeast England. Junkers Ju-87 dive bombers and Ju-88 bombers were used during the day, strafing and bombing the hapless enemy merchant vessels while Heinkel He-111s took over at night performing the same duty. The He-111s also raided ports and laid mines. The British quickly responded, sending flights of fighters to intercept the German forces, causing considerable losses. The Luftwaffe in turn sent its own fighters, both to combat the British aircraft and to carry out light bombing of their own. This was only a prelude to the German air force's battle over the sea.

This is a collection of accounts written just after the war by German navy and air force officers, recollecting their experiences fighting as part of the overall naval campaign. They were created as part of the Allied debriefing program in which captured and surrendered officers conveyed their side of the war. Most of the chapters are their firsthand views along with an overview by U.S. Naval Intelligence. The book is a fascinating work, giving the reader the German view of the war in the words of those who fought. □

Simulation Gaming BY JOSEPH LUSTER

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If you hop on the Google Play or Apple Store and search for any variation of "air combat," you're going to end up with a deluge of middling results. Such is the way of the bloated app stores of today, and that's why it helps to know a few extra keywords that will take you to more interesting options. One of those is *Air Combat Pilot: WW2 Pacific,* which is a pretty decent little flight sim packed inside the shell of mobile design.

Developed by the Chicago-based eV Interactive, LLC, *Air Combat Pilot: WW2 Pacific* lets players (eventually) control more than a dozen aircraft from the period, starting with the T-6 Texan and moving all the way up to the F4F Hellcat, F4U Corsair, and other high-performance options. Once you earn enough money in missions—or through the investment of your own funds, if you're so inclined—you can purchase upgrades like extra armor, beefed-up engines, and new guns, rockets, bombs, and torpedoes, among other essential items. Thankfully, you're not going to need much more than the starter aircraft at first, at least not until you get deeper into the actual sorties.

Control-wise, *Air Combat Pilot* straddles the fence between full-on flight simulation and simplified arcade game. How much you get out of the game will depend on the type of controls that work best for you, and I highly recommend taking some time to calibrate the pitch and roll sensitivity until you're comfortable. The first few flights will be awkward and clumsy until you do, whether you decide to go with virtual joystick or tilt-based controls. I'm not usually fond of motion controls, but I found them much easier to work with here than the joystick option. The latter gives you the freedom to use your thumb like a joystick on any free areas of the screen, but there's just not much virtual real estate to work with. Tilting makes ascending and descending while turning a much more natural process.

The first few missions ease you into the controls gradually, starting with basic flight training before moving on to target practice. Once you get the hang of flying in the right direction and targeting enemies, combat is pretty straightforward and enjoyable. There's plenty to do, too, including a starter set of around 40 missions with a handful of optional bonus objectives in each. You'll want to tackle as many of those as possible if you don't plan to shell out money for items, because ranking higher on missions is a great way to earn extra points and money for use in the shop.

The pre-release hype touted *Air Combat Pilot* as having the best visuals in a mobile air combat game to date. While I can't say I've played every single mobile entry in the genre to effectively back that claim, the results are certainly impressive. Aircraft models look great in action, and the environments are just detailed enough to avoid any major performance hiccups. It essentially does what a mobile game should; it maximizes the potential of its platform without adding any unnecessary or distracting flourishes. The user-interface has just the right amount of information on it without getting in the way, too.

Beyond the in-app purchases, *Air Combat Pilot* supports itself through the occasional video advertisement. This is par for the course if you've been playing mobile games for a while, and they wisely chose not to compound this with the addition of arbitrary wait times. Whether you choose to pay at any point or not is up to you, but *Air Combat Pilot: WW2 Pacific* is definitely worth the download. New content should be on the way monthly—including extra missions and aircraft—so ideally this one will have a hefty tailwind behind it. □

Continued from page 29

tubes but also expressing concerns over other aspects of their prototype. Joe Desch ignored Turing's criticism of his automatic rewind feature but eventually followed the British mathematician's recommendation to standardize on one size of commutator wheel.

This wheel, which replicated Enigma's rotor, was easily the most labor intensive element of Desch's design. One commutator required 104 precisely hand-wired contacts, and each Bombe ran 64 commutators. To meet initial production requirements, roughly 6,000 of these wheels had to be manufactured quickly, accurately, and by people who could keep their mouths shut.

In April 1943, the first of 600 smartly uniformed U.S. Navy WAVES (Women Accepted for Volunteer Emergency Service) began arriving in Dayton to assemble cryptanalytic Bombes. Together with 200 male sailors they toiled in shifts around the clock, soldering colored wires to commutators. For security's sake, the WAVES never saw both sides of a wheel; nor were they allowed to enter any area other than their assigned workspace.

The activity in Building 26 had to be kept highly classified. "We were sworn to secrecy," said former WAVE Adeline Sullivan, "and periodically reminded about the Espionage Act." Another WAVE, Veronica Mackey, vividly recalled a Navy officer telling her, "If you talk about what goes on here, you'll be shot." Mackey was stunned by the man's blunt warning. "He got our attention," she later remarked.

At the beginning of every shift, hundreds of WAVES marched one mile from their quarters in Sugar Camp—a former NCR sales training facility—to Building 26. After presenting proper identification to shotgun-armed Marine guards, the women entered large rooms where, according to Ronnie Mackey, "They gave you a soldering iron and we would ... wire those little wheels. And when you'd finish one they promptly brought you another one."

None of the Dayton WAVES realized how much Joe Desch and the Navy relied on their attention to detail. Early test machines spun commutators around at a rate of nearly 1,800 revolutions per minute. The slightest imperfection might send wheels flying across the room and set progress back days or weeks. And there was always pressure from Washington and Lt. Cmdr. Meader: every day you waste, more men die.

Throughout the spring of 1943, Desch's team struggled to produce a functional apparatus. Their two prototypes, nicknamed Adam and Eve, continually leaked oil from gearboxes and other moving parts. Each Bombe housed 10 miles of wire and more than a million soldered connections, a mechanical nightmare for those repairmen whose job it was to keep these temperamental devices operational.

The Americans kept at it. Shortly after noon on May 28, two Navy technicians, Machinists Mate First Class Phil Bochicchio and Radioman K.P. Cook, fed a "menu" of intercepted Enigma settings into Adam and started up their Bombe. The contraption whirred noisily for a while before abruptly shutting down in what appeared to be another malfunction. The sailors gaped in amazement when Adam suddenly clattered back to life, rewinding itself onto a suspected commutator position just as designed. They ran the same data through Eve, which produced an identical set of wheel settings.

Bochicchio and Cook presented their findings to Lt. Cmdr. Meader, who transmitted this information via secure line to OP-20-G in Washington. Analysts there ran the decrypted settings through a checking device, then announced, "Jackpot." The four-rotor Enigma had been defeated.

The 1,000 civilians, WAVES, and servicemen working in Building 26 immediately began turning out production Bombes, which they nicknamed "Grey Elephants." Each one measured seven feet tall, 10 feet long, and two feet deep, while weighing approximately 5,000 pounds. A total of 121 Bombes were eventually manufactured with most of them being shipped to the Naval Communications Annex in Washington, D.C. The first Bombe arrived there on September 12, 1943.

Some 285 of the WAVES who had helped build these powerful new decryption machines accompanied their Grey Elephants to the Naval Communications Annex as Bombe operators. The glamour of duty in exciting Washington, D.C., was counterbalanced by long hours spent inside a swelteringly hot, noisy work environment. Crowded living conditions, rotating shifts, and unceasing pressure to keep silent about what they were doing took a toll on these young women. Many WAVES carried their secrets to the grave.

Meanwhile, the wizards of Bletchley Park continued to make great strides against Germany's new U-boat ciphers. They scored an enormous victory on October 30, 1942, when a boarding party off the destroyer HMS *Petard* managed to "pinch" several codebooks from badly damaged *U-559* near Port Said, Egypt. This intelligence coup came at high cost, though. Two brave British sailors drowned when the doomed submarine unexpectedly sank with them still inside.

A British Bombe that could read four-rotor Enigma ciphers also entered service in late 1943. By then, however, Admiral Dönitz's last great U-boat offensive had ended in utter defeat. Other technological marvels such as microwave radar, aerial homing torpedoes, and radio direction-finding receivers enabled Allied forces to deliver unrelenting attacks on Nazi Germany's submarine fleet. The great armada that invaded Normandy on June 6, 1944, crossed the English Channel largely without fear of underwater attack—only a few Unterseeboote remained at sea by this point in the war.

There was still plenty of work for the U.S. Navy Bombes and the WAVES who ran them. Joe Desch's design included a feature that allowed his machines to decipher three-rotor Enigma traffic, volumes of which were intercepted daily from the German Army and air force. GC&CS, now a fully British-American operation, asked OP-20-G to help reduce the backlog. Washington-based Bombe operators devoted approximately 45 percent of their processing time to decrypting these tactical messages; the rest of their efforts went toward fighting the U-boats.

Recently declassified reports credit the U.S. Bombes with breaking a total of 301,629 enemy messages. It may never be known how many of these jackpots resulted in actionable information. However, Ultra did figure in several American antisubmarine successes, including the spectacular capture of *U-505* by sailors of Captain Dan Gallery's Task Group 22.3 on June 4, 1944.

At war's end, the feelings of suspicion and distrust that once existed among intelligence professionals from the United Kingdom and United States had been replaced by a spirit of genuine cooperation at all levels. Nowhere was this better illustrated than in the partnership that grew between GC&CS and OP-20-G. General Dwight D. Eisenhower, a man who understood much about the nature of coalition warfare, later remarked that the Allies' ability to read Germany's ciphers "saved thousands of British and American lives and, in no small way, contributed to the speed with which the enemy was routed and eventually forced to surrender."

The international team of theoreticians, electrical engineers, and Navy WAVES who together defeated Enigma would wholeheartedly agree with Ike's assessment.

A retired U.S. Army officer, Patrick J. Chaisson writes on a variety of World War II topics from his home in Scotia, New York.

Insight

Continued from page 25

tralizing Japanese forces on Tinian, the issue was how could it be done quickly and with minimal casualties. There were three possible beaches that landing craft could access.

The obvious landing beach was the wide, white sand strand in front of Tinian Town, where the Japanese had constructed formidable defenses. The next best was on the east side of the island at Asiga Bay, but the prevailing winds could make landings difficult. The least likely sites were located on the northwest coast and designated by the Marines as White One and White Two. Unfortunately, these beaches were narrow—only 60 yards long and 160 yards wide. It was questionable whether a division with more than 12,000 men, supporting units, and equipment could land on such narrow beaches. Heated arguments ensued between General Holland Smith and Admiral Turner, whose job it was to deliver the ground forces to the beach.

Given these constraints, a unique strategy was devised. At dawn on July 24, the 2nd Marine Division staged a fake assault on the broad beach at Tinian Town. Simultaneous with this feint, the 4th Marine Division began landing at the White beaches. By sundown, all nine battalions of the 4th Division and more than 15,000 men were ashore. On August 1 the island was pronounced secure. Four months later, the North Field runways were operational, and the B-29s of the 313th Bomb Wing, under the command of General Curtis LeMay, had begun arriving.

As they did on Saipan, Japanese and Okinawan civilians crawled out of their hiding places and jumped into the sea as the Americans watched in shock. Those who refused to jump were shot by Japanese soldiers before committing suicide themselves.

The battles for the Marianas demonstrated the Japanese military's total disregard for human death and suffering. This fanaticism would not be forgotten, and 12 months later it would shape the U.S. decision to use the atomic bomb on Hiroshima and Nagasaki rather than invade the Japanese home islands.

For more than 50 years, Bob Rosenthal was an architect specializing in the design and development of health care facilities. Today he is an independent filmmaker whose current project is a documentary about the end of WW II in the Pacific that was principally filmed on Tinian Island. He lives with his wife in Del Mar, California.

Cherbourg

Continued from page 39

As long as he controlled the firing panel for the mines, Witt had the power to annihilate any ship coming into the Cherbourg harbor.

Tubby Barton's men were finding spirited resistance east of Cherbourg. After a vicious action, the 4th took Maupertus airfield and then pressed on to take the troublesome Battery Hamburg. Moving closer to the city, the 4th stopped to regroup in front of Fort Osteck, the main linchpin in Cherbourg's eastern defensive belt.

At Fort Osteck, Major Friedrich Küppers could observe the approaching Americans. When one of his forward outposts hoisted a white flag, Küppers ordered his artillery to "shoot that damned flag down," which it did moments later. He continued to resist the 4th throughout the night, calling in fire on his own position when American engineers began blasting their way through the thick walls of the fort. Surrounded and out of ammunition, Küppers finally surrendered to Barton at around 0800 hours on June 29.

By the time Küppers surrendered, most of the other German defenders in Cherbourg had finally laid down their weapons. Fregattenkapitän Witt held out until the 29th, and surrendered only after he was wounded and his firing panel had been destroyed by enemy shells. The final chapter of the battle was played out west of Cherbourg where Eddy's 8th Division fought the remnants of Kampfgruppe Keil in a vicious struggle that lasted until July 1, when Keil and a few survivors finally gave up.

Cherbourg's capture took a bloody toll on Americans and Germans alike. The campaign to take the port cost the VII Corps 22,119 casualties, including 2,811 killed, 13,564 wounded, and 5,665 captured or missing. Total German casualties were placed at about 47,000.

When engineers were finally able to enter the port area, they were dumbfounded by its destruction. One American colonel declared it "the most complete, intensive and best planned demolition in history." It took almost five months to get the harbor up and running. When it started working at full capacity in November, Cherbourg's harbor was the main destination for more than half of the seaborne supplies sent to American forces in France.

Pat McTaggart is a frequent contributor to WWII History *and an expert on the war in Europe, particularly the fighting on the Eastern Front. He writes from his home in Elkader, Iowa.*

Breakout

Continued from page 53

crossed around Soissons on August 28. Three days later, leading elements of 3rd Armored were at Rethel and Montcornet.

Having completed the liberation of Paris, the V Corps joined the pursuit of the Germans east of the Seine on August 29. On the 31st, the 5th Armored Division, after overtaking the 4th and 28th Infantry Divisions, drove through the Compiegne Forest. However, strong enemy opposition combined with close terrain forced General Gerow to use the 4th Infantry Division to clear the forest. On September 1, the vanguard of the corps crossed the Aisne River between Compiegne and Soissons.

On August 27, the 30th Infantry Division traveled over the Seine into the Mantes bridgehead, as did the 2nd Armored Division the next day. The 79th and 30th Divisions then began to expand their hold on the east bank of the Seine.

On August 29, the XIX Corps (2nd Armored, 30th and 79th Infantry Divisions) pushed 80 kilometers northeast against little enemy opposition and reached a line between Beauvais and Compiegne.

The concerted Allied effort to cross the Seine had been successfully accomplished by late August 1944 along a 350-kilometer front from Rouen to the south of Paris. They had, however, failed to destroy the German forces west of the river, and a surprising number of the enemy had succeeded in extricating themselves. Regardless, few if any of the German formations that escaped east of the Seine were in condition to continue the fight.

Instead of pausing at the Seine to regroup and resupply, as had been first planned, the Allied armies had quickly crossed the river and kept on going. The Germans had been unable to form a cohesive battle line, and whatever effective German resistance was offered had been, to a large extent, the product of individual initiative at lower command echelons. The Allied drive reached its high point during the first 10 days of September. On the 11th a patrol from the 5th Armored Division, V Corps, crossed into Germany. By that day, D+97, the Allied armies arrived at the general line that preinvasion planners had expected would not be gained until D+330. Most of that distance had been covered in the previous 48 days, an astounding achievement by any standard.

Arnold Blumberg is an attorney with the Maryland state government and resides with his wife in Baltimore County, Maryland.

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