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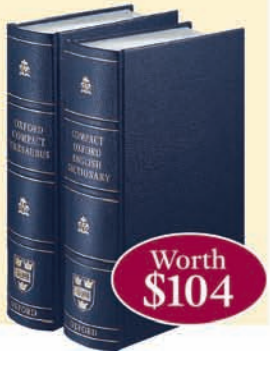

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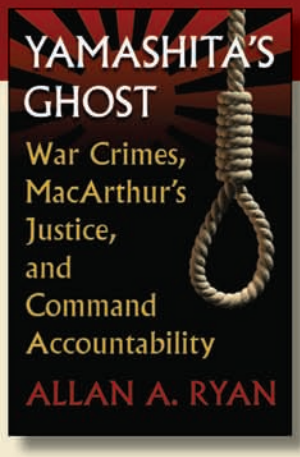

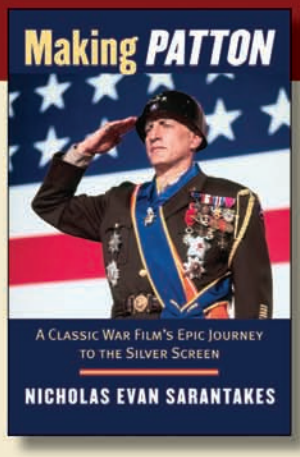

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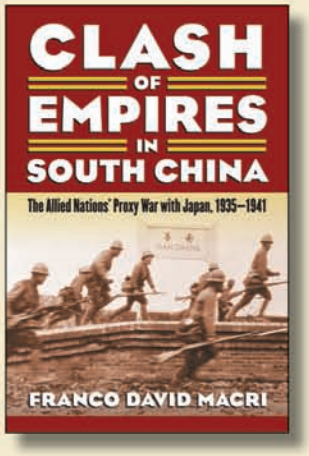

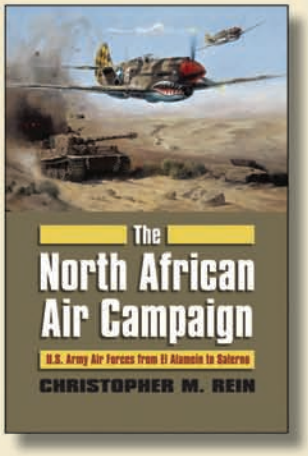

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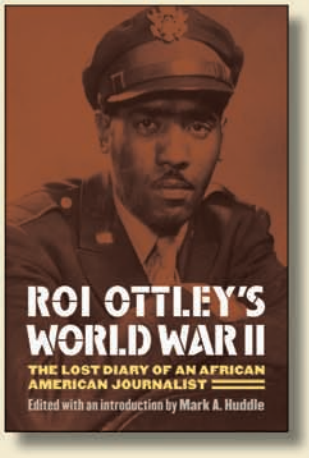

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COVER: Two Marine Corps Douglas SBD Dauntless dive bombers provide close air support for U.S. Army troops on the ground in the Philippines. See story page 26.

Painting by Jack Fellows

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John D. Hoptak | Faculty, School of Art & Humanities

John D. Hoptak is an American and Civil War historian and educator. Author of *The Battle of South Mountain*, *Our Boys Did Nobly*, *First in Defense of the Union*, and *Antietam: September 17, 1862*, Hoptak brings to life the riveting conflicts that divided a nation. Hoptak's laboratory is the Antietam National Battlefield, where as a Park Ranger he shares his vast knowledge about the bloodiest day of battle in U.S. history.

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What I Did on My Summer Vacation

Remember when you were a kid and the first assignment your teacher invariably gave you on the first day back at school was to write an essay on the topic of "What I Did On My Summer Vacation"?

Well, I'm a little beyond my school years but here's my essay anyway: I went to South Africa. Besides viewing a lot of wild animals up close in Kruger National Park, I also spent some time in the beautiful city of Cape Town. The scenery was spectacular, the food was outstanding, and the people were among the friendliest I've encountered anywhere in the world.

And as is my habit whenever I go someplace new, I try to seek out museums, preferably military ones, especially when they have exhibits pertaining to World War II. Unfortunately, South Africa's major military museum is in Johannesburg, about a two-hour flight away, but I found the Cape Town Holocaust Museum.

I must confess that I didn't know very much (make that anything at all) about South Africa in World War II or its relationship—if any—to the Holocaust. Boy, did I receive an education.

First, let me describe the museum. It's a small one, as museums go, tucked onto the second floor of the Cape Town Jewish Centre. And, unlike the United States Holocaust Memorial Museum in Washington, D.C., or Yad Vashem in Israel, or the Holocaust Museum in Houston, Texas, it doesn't have an overwhelming number of artifacts. In spite of that, it is still a very powerful museum that draws the visitor in with photos, videos, text panels, and a few well-chosen artifacts (such as the striped uniform donated by a Holocaust survivor). The effect is somewhat claustrophobic, which is no doubt what the museum designers wanted to achieve. At the end of the museum are stories of survivors who moved to South Africa after the war.

An especially chilling panel is a large photo of a torchlight rally of the South Africa National Party (SANP), or Greyshirts—the South African version of the Fascists. Like their European counterparts, they were all for turning South Africa into an Aryan-only society.

According to some information I have been able to glean online since my return, the SANP was modeled after Hitler's NSDAP, right down to the swastika emblem. Their membership was never huge, numbering only about 2,000.

As a nation, South Africa took part in the war on the Allied side, but it was not a unanimous undertaking. When the European phase of the war broke out in 1939, South Africa was a British Commonwealth and the majority of whites in parliament were pro-British and voted to go to war against Germany. An Afrikaner faction (persons of Dutch heritage) in parliament were pro-German and voted not to declare war on Germany. In fact, some young Afrikaners even went to Germany to join Hitler's forces.

SA Prime Minister Jan Smuts sided with Britain, but the country had only a small military force. Nevertheless, volunteers signed up to fight. In June 1940, Italy declared war on Britain and Mussolini sent troops to bolster its African colonies of Ethiopia, Eritrea, Somaliland, and Libya—a move that brought the war onto the African continent.

Long story short, the SA forces wound up fighting Italian native troops on the Ethiopia-Kenya border alongside the British. As the war went on, SA troops (army and air force) fought in Egypt and Libya, but suffered heavy losses. As the SA became better trained and more experienced, they acquitted themselves well at El Alamein and in Tunis. A small percentage of the SA troops were black.

After performing well during the battle for Sicily in August 1943, the Springboks (as the SA soldiers called themselves) were kept in reserve until Rome fell on June 4, 1944, and then helped the British Eighth Army in its drive up the eastern side of the Italian peninsula. In September 1944, the Springboks were transferred to the U.S. Fifth Army in western Italy, where they took part in some of the fiercest fighting late in the war.

South Africa's losses in the war amounted to 3,863 killed and 14,363 wounded—roughly the same as the U.S. 45th Infantry Division (3,547 KIA, 14,441 WIA).

I'm pleased to report that learning about World War II is an ongoing process that can take place anywhere in the world—even in such far-flung locales as Cape Town, South Africa.

—Flint Whitlock

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CARL A. GNAM, JR.
Editorial Director, Founder

FLINT WHITLOCK
Editor
WWIIQuarterly@gmail.com

SAMANTHA DETULLEO
Art Director

CONTRIBUTORS:
Joseph S. Covais, John J. Domagalski, Robert F. Dorr, Volker Greisser, Eric Hammel, Michael E. Haskew, Richard Higgins, Mark Simmons

ADVERTISING OFFICE:

BEN BOYLES
Advertising Manager
(570) 322-7848, ext. 110
benjaminb@sovhomestead.com

MARK HINTZ
Vice President & Publisher

PHIL PROBST
Subscription Customer Services
sovereign@publishersservicesassociates.com

KEN FORNWALT
Data Processing Director

CURTIS CIRCULATION COMPANY
WORLDWIDE DISTRIBUTION

SOVEREIGN MEDIA COMPANY, INC.
6731 Whittier Ave., Suite A-100
McLean, VA 22101-4554

SUBSCRIPTION CUSTOMER SERVICE AND BUSINESS OFFICE:

1000 Commerce Park Drive,
Suite 300, Williamsport, PA 17701

(800) 219-1187

PRINTED IN THE USA.

ERIC HAMMEL's writing career began in the 1960s, when he was a teenager. Since then, he has had 40 books of military history, one novel, and more than 65 nonfiction articles published. He has also worked as West Coast contributing editor for *Leatherneck Magazine*. He lives in Pacifica, California.

Frequent contributor **MARK SIMMONS** served as a Royal Marine Commando during the 1970s. He lives in Cornwall in the UK.

Author **MICHAEL E. HASKEW** is the editor of *WWII History* magazine. His recent book, *De Gaulle: Lessons in Leadership From the Defiant General,* was released by Palgrave Macmillan in September 2011.

Before losing his vision, author **JOSEPH COVAIS** produced precise replica clothing for museums, historic sites, and the movie industry. Today he teaches psychology classes at the Community College of Vermont and works with blind and visually impaired persons as a psychotherapist. Covais holds a Master's Degree in Clinical Psychology from Saint Michael's College. This article is adapted from: *BATTERY! C. Lenton Sartain and the Airborne GIs of the 319th Glider Field Artillery,* by Joseph S. Covais. Though *BATTERY!* is his first book, the author has written numerous articles about antique clothing, 19th-century photography, and military history. He lives with his wife, Donna, in Winooski, Vermont.

German military historian **VOLKER GRIESSER** earned his parachutist's badge in the Bundeswehr and is a member of the Bund Deutscher Fallschirmjäger. He lives in Germany. This article is excerpted from *The Lions of Carentan: Fallschirmjäger Regiment 6, 1943-1945* (Casemate, 2011).

JOHN J. DOMAGALSKI, who lives in lives in Lake of the Hills, Illinois, is a frequent contributor to historic publications. This article is adapted from his 2010 book, *Lost at Guadalcanal: The Final Battles of the* Astoria *and* Chicago *as Described by Survivors and in Official Reports,* reproduced by permission of McFarland & Company, Inc.

ROBERT F. DORR is a U.S. Air Force veteran, a retired senior American diplomat, and a prolific author who has written 70 books and numerous articles on international affairs, military issues, and the Vietnam War. He writes the weekly "Back Talk" opinion column for the Air Force Times newspaper. He is also the technical editor of Air Power History, and the is co-author of *Hell Hawks*, a history of a P-47 Thunderbolt fighter group in combat. His latest book, *Mission to Berlin*, was published by Zenith Press in March 2011. He lives in Oakton, Virginia, near Washington, D.C.

P-38 pilot Roger Ames, an American eyewitness, tells of the shooting down of Japan's most important admiral.

When American air ace Major John Mitchell led 16 Lockheed P-38 Lightning fighters on the longest combat mission yet flown (420 miles) on April 18, 1943, Mitchell's target was the Japanese admiral considered the architect of the Pearl Harbor attack.

Mitchell's P-38 pilots, using secrets from broken Japanese codes, were going after Isoroku Yamamoto, the poker-playing, Harvard-educated naval genius of Japan's war effort. Mitchell's P-38s intercepted and shot down the Mitsubishi G4M "Betty" bomber carrying Yamamoto. After the admiral's death, Japan never again won a major battle in the Pacific War.

No band of brothers ever worked together better than the men who planned, supported, and flew the Yamamoto mission. Yet, after the war, veterans fell to bickering over which P-38 pilot actually pulled the trigger on Yamamoto.

One thing they never disagreed on. Like most young pilots of their era, they believed the P-38 Lightning was the greatest fighter of its time.

Roger J. Ames (1919-2000) flew the Yamamoto mission. This first-person account by Ames was recorded by the author in 1998 and appeared in his 2007 book, Air Combat: A History of Fighter Pilots*; it has never before appeared in a magazine.*

The downing of Admiral Isoroku Yamamoto is arguably the most studied fighter engagement of the Pacific War. Yamamoto, 56, was commander in chief of the Japanese Combined Fleet and the architect of the Pearl Harbor attack. He called himself the sword of Japan's Emperor Hirohito. He claimed he was going to ride down Pennsylvania Avenue on a white horse and dictate the surrender of the United States in the White House.

National Archives

First Lieutenant Rex T. Barber, one of two Americans originally credited with shooting down Yamamoto. He later was given sole credit for the kill.

Artist Roy Grinnell's painting, *Mission Accomplished,* shows Barber's P-38 attacking Yamamoto's Mitsubishi G4M "Betty" bomber.

©Roy Grinnell

Yamamoto studied at Harvard (1919-1921), traveled around America, was twice naval attaché in Washington, D.C., and understood as much about the United States, including U.S. industrial power, as any Japanese leader. In April 1943, Yamamoto was trying to prevent the Allies from taking the offensive in the South Pacific and was visiting Japanese troops in the Bougainville area.

On the afternoon of April 17, 1943, Major John Mitchell, commander of the 339th Fighter Squadron, was ordered to report to our operations dugout at Henderson Field on Guadalcanal. The 1st Marine Division had captured the nearly completed field the previous summer and named it for Major Lofton Henderson, the first Marine pilot killed in action in World War II when his squadron engaged the Japanese fleet that was attacking Midway.

Now Mitchell found himself surrounded by high-ranking officers. They told him the United States had broken the Japanese code and had intercepted a radio message advising Japanese units in the area that Yamamoto was going on an inspection trip of the Bougainville area.

The message gave Yamamoto's exact itinerary and pointed out that the admiral was most punctual. They told Mitchell that Frank Knox, secretary of the Navy, had held a midnight meeting with President Franklin D. Roosevelt regarding the intercepted message. It was decided that we would try to get Yamamoto if we could. The report of the meeting was probably inaccurate because Roosevelt was on a rail trip away from Washington, but the plan to get Yamamoto unquestionably began at the top.

The Navy would never have admitted it, but the Army's P-38 was the only fighter with the range to make the approximately 1,100-mile round trip. We were under the

Captain Tom Lanphier's P-38 #122 *Phoebe* on Guadalcanal with the 339th Fighter Squadron. Lanphier was originally given credit for half a kill before investigations revealed that Barber was the sole marksman.

command of the Navy at Guadalcanal, so you can bet they'd have taken the job if they were able.

According to the intercepted message, Yamamoto and his senior officers were arriving at the tiny island of Ballale just off the coast of Bougainville at 9:45 the next morning. The message said that Yamamoto and his staff would be flying in Mitsubishi G4M "Betty" bombers, escorted by six Zeros. The Yamamoto trip was to include a visit to Shortland Island and Bougainville.

Mitchell was to be mission commander of 18 P-38s that would intercept, attack, and destroy the bombers. That's all the P-38s we had in commission.

Led by Mitchell, we planned the flight in excruciating detail. Nothing was left to chance. Yamamoto was to be at the Ballale airstrip just off Bougainville at 9:45 the next morning and we planned to intercept him 10 minutes earlier about 30 miles out. To ensure complete surprise, we planned a low level, circuitous route staying below the horizon from the islands we had to bypass, because the Japanese had radar and coastwatchers just as we did.

We plotted the course and timed it so that the interception would take place upon the approach of the P-38s to the southwestern coast of Bougainville at the designated time of 9:35 AM. Each minute detail was discussed, and nothing was taken for granted. Takeoff procedure, flight course and altitude, radio silence, when to drop belly tanks, the tremendous importance of precise timing and the position of the covering

element: all were discussed and explained until Mitchell was sure that each of his pilots knew his part and the parts of the other pilots from takeoff to return.

Mitchell chose pilots from the 12th, 70th, and 339th Fighter Squadrons. These were the only P-38 squadrons on Guadalcanal. The only belly tanks we had on Guadalcanal were 165-gallon tanks, so we had to send to Port Moresby for a supply of the larger 310-gallon tanks. We put one tank of each size on each plane. This gave us enough fuel to fly to the target area, stay in the area where we expected the admiral for about 15 minutes, fight, and come home. The larger fuel tanks were flown in that night, and ground crews worked all night getting them installed along with a Navy compass in Mitchell's plane.

Four of our pilots were designated to act as the "killer section" with the remainder as their protection. Mitchell said that if he had known there were going to be two bombers in the flight he would have assigned more men to the killer section. The word for bomber and bombers is the same in Japanese. (*Author's note*: Ames is incorrect on this point about the Japanese language).

Captain Thomas G. Lanphier, Jr., led the killer section. His wingman was 1st Lt. Rex T. Barber. 1st Lt. Besby F. "Frank" Holmes led the second element. His wingman was 1st Lt. Raymond K. Hine.

The cover section was led by Mitchell and included myself and 11 other pilots. Eight of the 16 pilots on the mission were from the 12th Fighter Squadron, which was my squadron.

Although 18 P-38s were scheduled to go on the mission, only 16 were able to participate because one plane blew a tire on the runway on takeoff and another's belly tanks failed to feed properly.

It was Palm Sunday, April 18, 1943. But since there were no religious holidays on Guadalcanal, we took off at 7:15 AM, joined in formation, and left the island at 7:30 AM, just two hours and five minutes before the planned interception. It was an uneventful flight but a hot one, at from 10 to 50 feet above the water all the way. Some of the pilots counted sharks. One counted pieces of driftwood. I don't remember doing anything but sweating. Mitchell said he may

Both: National Archives

ABOVE: Admiral Isoroku Yamamoto in dress whites, photographed on the morning he was killed, addresses a group of pilots at Rabaul, April 18, 1943. His death came as a tremendous blow to the Japanese. BELOW: Ground crewmen look over Lieutenant Robert Petit's P-38, *Miss Virginia,* which Barber borrowed for the mission; he returned it to Henderson Field with over 100 bullet holes.

have dozed off on a couple of occasions but received a light tap from "The Man Upstairs" to keep him awake.

Mitchell kept us on course flying the five legs by compass, time, and airspeed only. As we turned into the coast of Bougainville and started to gain altitude, after more than two hours of complete radio silence, 1st Lt. Douglas S. Canning—Old Eagle Eyes—uttered a subdued "Bogeys! Eleven o'clock, high!" It was 9:35 AM. The admiral was precisely on schedule, and so were we. It was almost as if the affair had been prearranged with the mutual consent of friend and foe. Two Betty bombers were at 4,000 feet with six Zeros at about 1,500 feet higher, above and just behind the bombers in a "V" formation of three planes on each side of the bombers.

We dropped our belly tanks. We put our throttles to the firewall and went for altitude. The killer section closed in for the attack while the cover section stationed themselves at about 18,000 feet to take care of the expected fighters from Kahili. As Mitchell said, "The night before we knew the Japanese had 75 Zeros on Bougainville and I wanted to be where the action was.

I thought, "Well, I'm going on up higher and we're going to be up there and have a turkey shoot.'" We expected from 50 to 75 Zeros should be there to protect Yamamoto just as we had protected Secretary of the Navy Frank Knox when he came to visit a couple of weeks before. We'd had as many fighters in the air to protect Knox as we could get off the ground. I guess the Japanese had all their fighters lined up on the runway for inspection. Anyway, none of the Zeros came up to meet us. Our intercept force encountered only the Zeros that were escorting Yamamoto.

Lanphier and Barber headed for the enemy. When they were about a mile in front and two miles to the right of the bombers, the Zeros spotted them. Lanphier and Barber headed down to intercept the Zeros. The Bettys nosed down in a diving turn to get away from the P-38s. Holmes, the leader of the second element, could not release his belly tanks so, in an effort to jar them loose, he turned off down the coast, kicking his plane around to knock the tanks loose. Ray Hine, his wingman, had no choice but to follow him to protect him. So Lanphier and Barber were the only two going after the Japs for the first few minutes.

From this point onward, accounts of the fight get mixed up about who shot down whom. Briefly, here is probably what happened based on the accounts of all involved. I did not see what was happening 18,000 feet below me.

As Lanphier and Barber were intercepted by the Zeros, Lanphier turned head-on into them and shot down one Zero and scattered the others. This gave Barber the opportunity to go for the bombers. As Barber turned to get into position to attack the bombers, he lost sight of them under his wing, and when he straightened around he

Wreckage of Yamamoto's "Betty" lies on the jungle floor on the island of Bougainville.

saw only one bomber, going hell bent for leather downhill toward the jungle treetops.

Barber went after the Betty and started firing over the fuselage at the right engine. And as he slid over to get directly behind the Betty, his fire passed through the bomber's vertical fin and some pieces of the rudder separated from the plane. He continued firing and was probably no more than 100 feet behind the Betty when it suddenly snapped left and slowed down rapidly, and as Barber roared by he saw black smoke pouring from the right engine.

Barber believed the Betty crashed into the jungle, although he did not see it crash. And then three Zeros got on his tail and were making firing passes at him as he headed toward the coast at treetop level taking violent evasive action. Luckily, two P-38s from Mitchell's flight saw his difficulty and cleared the Zeros off his tail. Holmes said it was he and Hine that chased the Zeros off Barber's tail. Barber said he then looked inland and to his rear and saw a large column of black smoke rising from the jungle, which he believed to be the Betty he'd shot.

As Barber headed toward the coast he saw Holmes and Hine over the water with a Betty bomber flying below them just offshore. He then saw Holmes and Hine shoot at the bomber with Holmes' bullets hitting the water behind the Betty and then walking up and through the right engine of the Betty. Hines started to fire, but all of his rounds hit well ahead of the Betty. Then Holmes and Hine passed over the Betty and headed south.

Barber said that he then dropped in behind the Betty flying over the water and

Continued on page 98

PART 2

After American airborne troops took Ste.-Mere-Eglise and St.-Come-du-Mont, it was Fallschirmjäger Regiment 6's job to keep the vital city of Carentan from the Yanks. **BY VOLKER GRIESSER**

Bundesarchiv Bild 101I-586-2208-33A, Photo: Appe

Paratroops VS. Paratroops IN NORMANDY

Background: Fallschirmjäger Regiment 6, under the command of Major Friedrich August Freiherr von der Heydte, had the fortune (or misfortune) to be stationed in Normandy at the time of the Allied invasion of France on June 6, 1944. In the first installment of this excerpt from Griesser's book, The Lions of Carentan, *two American airborne divisions—the 82nd and 101st—landed in the midst of FJR 6 and the desperate battle was on. In this second installment, the German parachutists have just been ordered to retake the important road-junction town of St.-Mère-Église, which had been captured by American paratroopers.*

Dietrich Scharrer, an Oberjäger [under-officer] in the 7th Company, recalled, "Around midday on 6 June, I received the assignment from our platoon leader, Leutnant von Socha, to lead a recon troop and gather information about the enemy [at Ste.-Mère-Église]. We advanced from cover to cover, bush to bush, in the specified direction, intending to use our machine gun for fire support. At that point, we hadn't seen anything of the soldiers on the other side.

"In this way we entered into a disastrous situation. Even before we got our machine gun into position, Obergefreiter [Private First Class] Walter Klute was pushing through a hedge and was halfway through when we heard a short burst of gunfire. Because Klute took a round directly in the chest, he was dead right away, our first casualty. We had

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American infantrymen who came ashore at Utah Beach go house to house in a Normandy village looking for Germans lying in ambush, June 1944. After the men of Fallschirmjäger Regiment 6 were forced to pull back from Ste.-Mère-Église to St.-Côme-du-Mont, they made a "last stand" at Carentan. OPPOSITE: With concern on their faces, German paratroopers in Normandy consult a map and plan a strategy to try and halt the American advance.

established contact with the enemy; our assignment was fulfilled with this, and we pulled back. When we reported the strength of the enemy and his position to the company, Leutnant von Socha gave me a proper dressing down for having lost someone in our first deployment."

Some of the 2nd Battalion were successful in breaking into the Americans' positions. The U.S. units, however, were connected to one another via small, portable radios, so they could easily request fire support from mortars. The Americans soon brought down mortar fire on the 2nd Battalion positions, and the men of FJR 6 had to pull back to Turqueville [about four miles east of Ste.-Mère-Église].

In the course of the night, Hauptmann [Captain] Rolf Mager [commanding 2nd Battalion] received tactical information from his recon units and formed a very clear picture of the numerical superiority of the enemy troops: The flanks and rear of the 2nd Battalion were threatened by American units, and in order to prevent his battalion becoming encircled and destroyed, Mager decided to withdraw to St.-Côme-du-Mont [11 miles south of Ste.-Mère-Église].

That night, 30 American military gliders landed directly in front of 2nd Battalion's positions, bringing supplies and reinforcements for the troops in Ste.-Mère-Église. In the open field of the landing site, the Americans were easy targets for the Fallschirmjäger, who quickly overpowered them. The Germans took rations from the American supply boxes: fruit juice, chocolate, cigarettes, cans of meat, and every-

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ABOVE: FJR 6 lost most of their heavy equipment in the first days of the Allies' D-Day invasion. This Panzerabwehrkanone 40 is one of their last remaining anti-tank weapons. BELOW: Communications were an essential part of the German defense system in Normandy. These signalers are laying wire for field phones, but they also must repair those lines cut by French Resistance fighters.

thing that a hungry soldier could want.

Dietrich Scharrer remembers his experience of the engagement: "On 7 June, my group and I were supposed to join a scouting troop of the 5th Company. We found the 5th Company quickly; they lay well camouflaged in a bush behind an earthwork. I told my soldiers to be quiet and take position between the groups of the 5th Company. Then I understood what we had planned here. In front of us lay a wide field, on which American military gliders were landing. When the first [glider] touched down, fire from our gun barrels greeted him. It was a mean surprise for the Americans to have so much heavy fire rain down on them during the landing. Many of them paid with their lives; they must have suffered great losses. Afterwards we searched the field to haul scattered Americans from their hideouts. My group returned back to the 7th Company."

On the morning of 7 June, the Fallschirmjäger broke away from the enemy and occupied a defensive position in front of St.-Côme-du-Mont. This move soon proved to have been the right decision, because scouts reported strong enemy units approaching from the direction of the "Utah" [Beach] section, and from Ste.-Mère-Église toward St.-Côme-du-Mont. If they had stayed any longer in Turqueville, it would have cost FJR 6 a second battalion.

Meanwhile, Major von der Heydte had secured the area from St.-Côme-du-Mont to Carentan with two companies from the 3rd Battalion and brought 3rd Battalion/1058th Grenadier Regiment into deployment near Basse Addeville to guarantee the safe return of the 2nd Battalion/FJR 6. An energetic advance by American tank units, however, broke through the grenadiers' defensive positions. The 9th Company of FJR 6 stabilized the grenadier unit's front, and once again the Fallschirmjäger destroyed some enemy tanks with close-combat tactics.

The Americans now attacked the Fallschirmjäger positions around St.-Côme-du-Mont from the north and east. In a delaying battle, FJR 6 still managed to fight off the enemy assaults, but the danger of being encircled remained. A unit of American light tanks penetrated into the positions of the 3rd Battalion during the fighting. Obergefreiter Fischer managed to bring one of the vehicles to a halt with a Panzerfaust directly in front of the battalion's command post.

Because the American ground troops had reported the position of the Fallschirmjäger to the naval artillery, FJR 6 troops by St.-Côme-du-Mont also received heavy fire from the sea. One element of uncertainty was the resilience of the subordinate army battalion, whose Georgian companies [Note: some "German" units were comprised of foreign troops, including those from the Caucasus state of Georgia] were given a particularly tough hammering by the Allied air attacks.

At first in smaller groups, later in larger ones, the Georgians trickled away from their positions and turned themselves over to the enemy. "After three days, no more Geor-

gians could be found," Major von der Heydte remembers in his memoirs.

In the meantime, enemy tank forces marched on Pont l'Abbé, a village northwest of Carentan. Further elements of the 3rd Battalion/FJR 6 were deployed to clean up the breaks in the line, but it turned out that a row of smaller towns and homesteads had been occupied by the Allies, and winning them back would only lead to splintering the forces of the 3rd Battalion. Major von der Heydte therefore announced the return to Carentan.

But he soon learned that his own troops, probably the company of the 191st Pioneer Battalion who had been stationed in Carentan until then, had blown up the northern bridge over the Douve. Now FJR 6 found itself in a pinch, with Americans in front of them and on their flanks, and cut off by the flooded areas behind them. Major von der Heydte did the only correct thing: instead of waiting until the Americans rolled up and destroyed the 2nd Battalion with their numerical strength, he ordered a retreat into the area south of the Douve.

In the morning, a heavy barrage of American field and naval artillery beat down on the ranks of the 2nd Battalion. The enemy increasingly used phosphorous grenades, which caused intense burns for their victims. With smoke grenades the Americans then laid out a thick obscuring curtain, under the cover of which their combat troops could sneak in and settle themselves in hedges and trees.

Dietrich Scharrer remembers, "With three submachine-gunners and Gefreiter [Private] Herbert Peitsch, who had a rifle grenade launcher, I was supposed to cover the withdrawal of the 7th Company. We spread ourselves wide across the position and waited until the order came to retreat. Then we slid slowly under cover into the trenches along the street.

"Suddenly we were under small-weapons fire from the left! I couldn't make out the origin of the fire and therefore could not figure out the enemy's positions. Gefreiter Peitsch ran across the street, sat down with his legs apart and began to bombard the tree line in front of him with rifle grenades. He was so calm while doing so, as if nothing could happen to him. But the way he sat there made him a perfect target for sharpshooters in the trees.

National Archives

An American lies dead in the wreckage of his glider after crashing near Carentan on June 7. Members of Fallschirmjäger 6 ambushed many of the gliders as they landed.

"On this day, for the first time, Gefreiter Peitsch showed stubbornness and coldbloodedness on the front. He hit a sniper in the tree with a rifle grenade. The sniper fell out of his hiding spot and ended up hanging from a tree branch. Peitsch turned to me and said 'Oberjäger, look at that—I feel sorry for him!' Peitsch mastered situations like this with his rifle-grenade weapon. On his own, he shot up two Sherman tanks and died in the process. Posthumously he received the Ritterkreuz [Knight's Cross] for this action."

At the same time, the Americans succeeded in breaking through the defences of 3rd Battalion/1058th Grenadier Regiment, and forced the remains of the battalion to flee. In mindless flight, the battalion was pushed back towards the west. The 13th Company's position also came under heavy fire, as well as the regimental combat platoon deployed to protect them, the bicycle platoon, and the messenger section.

The powerful shells of the naval artillery caused great losses among the Fallschirmjäger and destroyed some of the heavy weapons that were so necessary to providing fire support. At 5:45 AM, the Americans stopped the barrage but did not immediately follow up with their ground troops, so that the available elements of FJR 6 had a chance to regroup along the St.-Côme-du-Mont–Carentan road and place their remaining mortars into a secure reverse-slope position. Soon, however, the American infantry showed up and stormed the new defensive line, and were only pushed back in bitter close combat.

Nevertheless, the enemy succeeded in entrenching themselves on the western edge of St.-Côme-du-Mont and bringing further tanks into position. Because the Americans were now unhindered by German defences on the coasts, they could land reinforcements of men and armor; this build-up led Major von der Heydte to the conclusion that the position on the road towards Carentan could not be held for long. The swamp between St.-Come-du-Mont and Carentan represented a formidable hindrance for the Allies, as FJR 6

could quickly take a new defensive position on the northern edge of Carentan.

Second Battalion/FJR 6, meanwhile, pulled back past Housville through the flooded fields and over a railway bridge towards Carentan. During this process, the battalion lost its heavy weapons, because these could not be transported across the swamp. Through radio contact with the 3rd Battalion, Major von der Heydte announced the arrival of the 2nd Battalion in the Carentan area. The support weapons of 3rd Battalion/FJR 6 were set up to cover the withdrawal route.

While the few mortars, submachine guns, antitank guns and 2cm anti-aircraft cannons could not match the firepower of the Allied artillery, Oberleutnant [1st Lt.] Pöppel's company nevertheless managed to shut down an advanced command post with well-aimed mortar fire. The 3rd Battalion, however, also found itself under fire. The Fallschirmjäger regretted the beautiful sunny day, because the wonderful weather brought further air attacks, in addition to the harassing fire of the American big guns.

The 2nd Battalion needed longer than planned for the march through the flooded area. Wading and sometimes swimming, the Fallschirmjäger had to cross the swamp to then proceed along the railroad embankment. From their position on top of Elevation 30, they observed further landings of transport gliders near Ste.-Mère-Église. Bomber fleets thundered above their heads, destined to unload their deadly cargo over the Vire River bridges.

The bicycle platoon, under the leadership of Leutnant von Cube, still managed to establish and maintain communications with the retreating 2nd Battalion.

Those from FJR 6 who were following Major von der Heydte through the swamp towards Carentan had as difficult a situation as the 2nd Battalion—further pieces of gear and equipment sank into the water. A handful of Fallschirmjäger who attempted to save the machine guns at least, drowned for their efforts. Sanitäts-Fahnenjunker-Unteroffizier [Medical NCO Officer Candidate] Hehle, an excellent swimmer, managed to save the lives of some of his comrades in the swamp.

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Before the battle, Carentan was an attractive city of about 4,000 residents. The large cathedral is the Église de Notre Dame, established in the 12th century and consecrated in 1470; it was badly damaged by aerial bombing and street fighting but has been fully restored.

When von der Heydte's combat squad finally reached dry ground, the major found the 3rd Battalion already in position. His small troop was temporarily incorporated into an extension of the defensive line.

Shortly after 10:00 AM, the pickets of the 3rd Battalion reported that the tip of 2nd Battalion/FJR 6 could be seen approaching through the path in the marsh area. The Americans also noticed the movement of the withdrawing Fallschirmjäger; they attacked the German troops, who were moving forward slowly and with difficulty because of the terrain.

Now the heavy weapons of the 3rd Battalion opened a devastating fire on the Americans, thus giving their comrades the chance to climb up the railway embankment and cross over the Douve River on the railway tracks. The 8th Company of the 191st Artillery Regiment even managed, by firing six anti-tank shells, to destroy the church tower of St.-Côme-du-Mont, in which the Americans had set up an observation post. The U.S. troops were apparently too surprised by the fire assault to cover the railway bridge with their own mortars or machine guns; therefore the 2nd Battalion succeeded in reaching the safe side of the Douve.

Leutnant Degenkolbe, the leader of the Pioneer [Combat Engineer] Platoon, stood ready to transport the men across the water with inflatable boats, but luckily this dangerous undertaking was not necessary.

By throwing up a curtain of fire, the 3rd Battery of the 243rd Anti-aircraft Regiment prevented low-flying enemy air attacks for the duration of the crossing of the railway bridge. A skilful feint prevented the American infantry from going after the 2nd Battalion in earnest. By running along the hedges and firing from changing positions, the men of the bicycle platoon and the regimental combat platoon gave the enemy the impres-

sion that the defensive position was occupied by strong forces.

By [a farm in the village of] Pommenauque, the recently arrived 2nd Battalion took up its position right away and defended the area against a strong American recon unit that wanted to work its way forward in the direction of the bridge to Carentan. The 6th Company under Leutnant Brunnklaus went after the enemy unit and destroyed it.

Immediately after his arrival, Major von der Heydte had Hauptmann Trebes inform him about the situation. The area west of Carentan was completely flooded around the Douve and therefore safe from enemy attacks; east of the city the ground was swampy and unfit for tanks.

The supply situation of the regiment was particularly worrisome, given the significant material losses it had suffered, especially in terms of vehicles and heavy weapons. FJR 6 also had to provide supplies for the units placed under them. Many of the ammunition and ration reserves were lost with the vehicles; furthermore, the fighting had led to a disproportionate use of ammunition. At the regiment's special request, one of the ammunition storehouses, "Melon," was assigned to them by the 91st Airborne Division.

The Waffen und Geräte Trupp (WuG; Weapons and Equipment) that showed up there found a well-marked and well-prepared storehouse that was, however, completely empty. The replacement storehouse "Mulberry" [not to be confused with the Allies' two artificial Normandy harbors known as "Mulberries"], which lay 50 kilometers [30 miles]

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from Carentan, was in the process of being relocated, so no ammunition could be received from there.

One thing was clear as day to FJR 6: Carentan was the linchpin of the right wing of the Allied invasion army, because as long as the city was in German hands, the Allies could not unite their "Utah" and "Omaha" landing zones, nor push forward into the flank of the German defence.

Major von der Heydte had some of his troops go into position along the flooded areas by the Douve, west of the homesteads, over the northern and eastern edge of the city. At the same time some of the Georgian army volunteers who had recently arrived from the 635th Eastern Battalion were deployed to strengthen a rear position in the south of the city. Parts of the 2nd Battalion relocated at night to the eastern edge of Carentan because the forward-deployed observers reported American troops approaching the city from "Omaha."

The Americans' first goal, to take Carentan by midday on 6 June, had already failed, but it was expected that the Allies would commit everything to get the city under their control as soon as possible. Indeed, two hard-hitting and large task forces stood ready to storm Carentan, along with the 101st Airborne Division and the 1st Infantry Division.

Eugen Griesser [the author's grandfather] remembers the early phases of the engagement: "Our group lay on the north-

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ABOVE: Major von der Heydte (center), commanding FJR 6, informs Brigadeführer Werner Ostendorf, head of the 17th SS-Panzer Division, of the situation at Carentan. Ostendorf was critical of Heydte's defense of the city, despite the paratroopers' being given little ammunition or support. LEFT: Fallschirmjäger gather weapons for a coming fight. The man in foreground is grabbing the tripod to a machine gun while the soldier behind him reaches for cans of machine-gun ammunition.

ern edge of Carentan in the first floor of a house. From there we looked onto the National Street, which gave us a clear view into the city, and all around there was a broad field of fire. To the left and right of the street, American soldiers were working their way forward; it was definitely a whole platoon sent to scout ahead. When our machine gun opened fire, they scattered and went under cover. A short time later, enemy fighter-bombers appeared and fired on the houses along the street.

"The Americans tried one more time to bring their recon troop into the city, but

quickly discovered that their fighter-plane attack had not cleared us out of our position. It didn't take long until their artillery opened up to shoot the way clear for them. Everything that you can imagine came at us: mortars, small arms, aircraft, even naval artillery from the sea. It went on and off like that for days."

Carentan became the Cassino of the Normandy invasion front [the Allies' drive northward through Italy stalled at Cassino in the autumn of 1943]. Like the old "Sixers" had done in Kirovograd, the men of this FJR 6 transformed every building into a fortress. They lured the Americans into traps, maneuvered around them and cut them off from their own lines. As soon as a U.S. combat unit believed it had secured one section, the Fallschirmjäger appeared from an unexpected direction and engaged them in crossfire. In a countermove, the enemy artillery, in tandem with the fighter-bombers operating during the day, turned the city into a landscape of ruins.

A group of engineers was assigned the task of blowing up the Taute River bridge, which led to the Carentan train station. Gefreiter August Gönnermann and his comrades took their positions along the bridge and began to wire the explosives. The importance of their task soon became clear, as a strong American force tried to take the bridge, which they believed to be unwatched, in a quick attack.

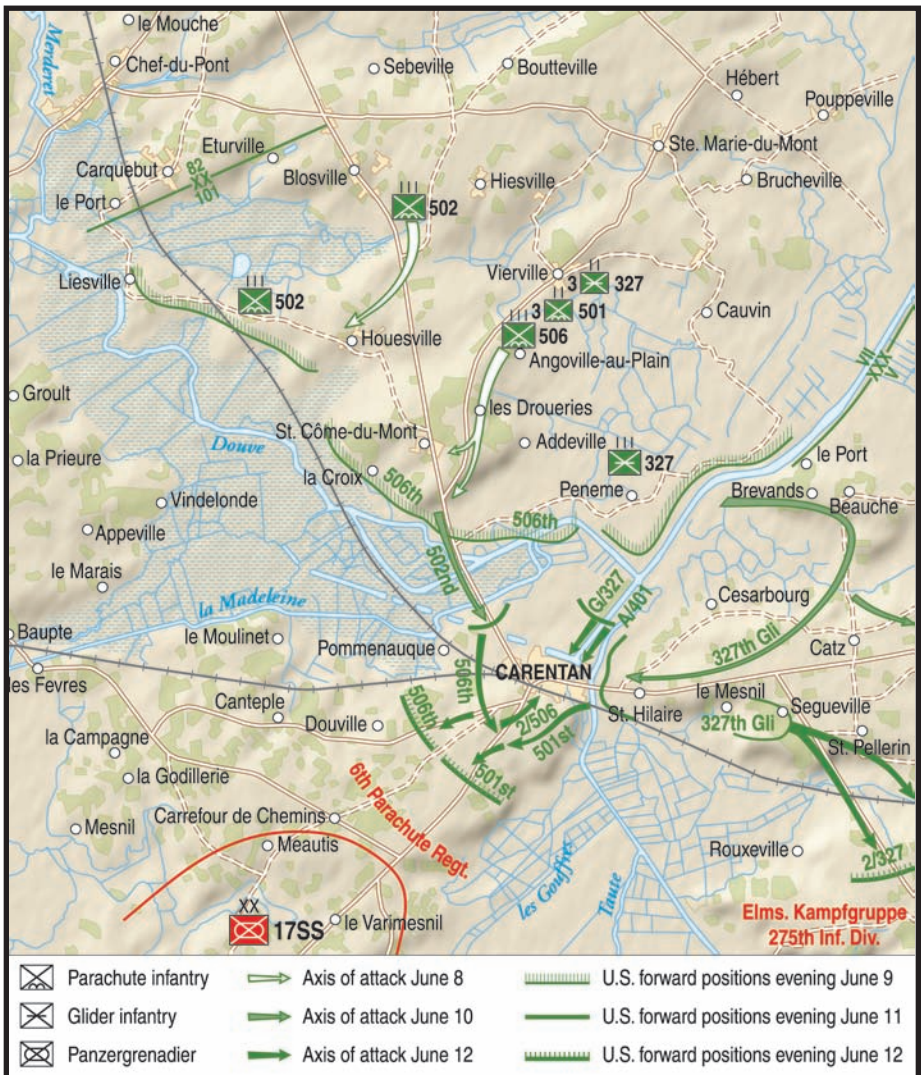
The Fallschirmjäger allowed them to advance to within close range, then opened fire on them and threw the Americans back. The commanding subordinate officer tried to set off the explosives with an electrical fuse, but because of a technical failure, this was unsuccessful. Despite the enemy fire, therefore, Gefreiter Gönnermann jumped out of his foxhole on the side of the street and set off all the explosions manually.

Just in time, and with a huge leap, he managed to get himself to safety as the charges exploded behind him. So thick was the smoke that only after a full five minutes could the Fallschirmjäger recognize that the destruction of the bridge had been successful. The cloud of dust that formed from the explosion proved that the task had been completed; the bridge was completely destroyed.

On the afternoon of 9 June, the battalion doctor of the 439th Eastern Battalion reported to the FJR 6 command post. He explained the situation of a battlegroup formed from the remains of his battalion, 2nd Battalion/914th Grenadier Regiment and a mixed anti-aircraft unit—they had set themselves up in defensive positions at the mouth of the Vire around a railway bridge.

On the same day, Major von der Heydte received the order to take the battlegroup located at the Vire under his command. Recon troops of 2nd Battalion/FJR 6 established contact between the battlegroup and the main Carentan defence. However, they also soon ran into the enemy, because the Americans had crossed the Vire with their tanks in the combat team's area and were pushing forward towards Carentan. Major von der Heydte reorganized the battlegroup (it had now been driven back to Carentan) and deployed them as the Battlegroup "Becker" on the right flank of 3rd Battalion/FJR 6 near St.-Andre-de-Bohon.

On the morning of 10 June, the enemy attacked from the east and the southeast, supported by a whole tank battalion. FJR 6's outer defences slowly pulled back towards



With American forces closing in on Carentan from all sides, the Germans could not maintain control of the city.

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ABOVE: The Fallschirmjäger often used captured weapons in the defense of Normandy. This gun crew is using an American .30-caliber Browning air-cooled machine gun. BELOW: Fallschirmjäger throw Model 24 stick grenades at U.S. forces near Carentan. German paratroopers wore little equipment during operations; only weapons and ammunition were carried, with perhaps an additional field bag and canteen.

the main line of fighting, and prevented the Americans from pursuing them decisively. Once again artillery and fighter-bomber attacks rained down on the Fallschirmjägers' defensive line before the ground troops stormed the area. In the north of Carentan, the enemy infantry had attempted an early-morning crossing of the canal in inflatable boats, but they were destroyed in the crossfire.

The Fallschirmjäger were harassed by constant artillery barrages and air attacks, and the Americans finally managed to break through the German lines in the area of 635th Eastern Battalion. In response, 8th Company, FJR 6, led a quick counterattack that managed to push back the enemy successfully, so the German troops could once again take their former positions.

Around 3:00 PM, the enemy artillery barrage suddenly stopped. An American Jeep under the protection of a white flag arrived at the street bridge of St.-Côme-du-Mont facing towards Carentan. Two German prisoners of war, accompanied by some American soldiers, delivered a message from the commander of the 101st Airborne Division, Major General Maxwell Taylor: a message written in German in which General Taylor demanded the Fallschirmjäger's capitulation with the advice, "Bravery has been well served." If they resisted, they would face further bombardment.

The letter was given to the commander in the foremost position, Hauptmann Mager of 2nd Battalion/FJR 6. He established radio contact with Major von der Heydte right away in order to save time, because the answer was already clear. Mager wrote a reply on the missive in English: "Would you surrender in the same situation?" and sent the messengers back to General Taylor. At the same time, under orders from Major von der Heydte, 4th Battalion/191st Artillery Regiment fired off a demonstrative bombardment on the southern edge of St.-Côme-du-Mont with their last high-explosive shells.

During these negotiations, the weapons were silent only for a short period. In a hurry, both sides secured their wounded and fallen, moving them away from the front lines. One of the American captives from the first days was a doctor, a captain named Thomas Urban Johnson, who helped the German military doctors treat the wounded. The bandages and medicines taken from the prisoners turned out to be helpful supplements to their own materials, because the reserves of painkillers and bandages were quickly dwindling.

The pause in fighting was brought to an abrupt end when the American paratroopers carried out a heavy attack near the Pommenauque farm, north of Carentan. The Americans once again received additional support from their artillery and fighter-bombers. The 10th and 11th Companies of FJR 6 were in the hot seat of bitter defensive fighting and managed to hold the position, but with heavy losses.

Recon troops brought new, worrisome news. During the night of 10/11 June, the enemy had gone around the right flank of the regiment near St. Fromont and had taken up positions there, about nine miles southeast of Carentan, with tank units. Strong Allied forces which had managed to cross the Merderet were also positioned by Amfreville, ten miles northwest of the

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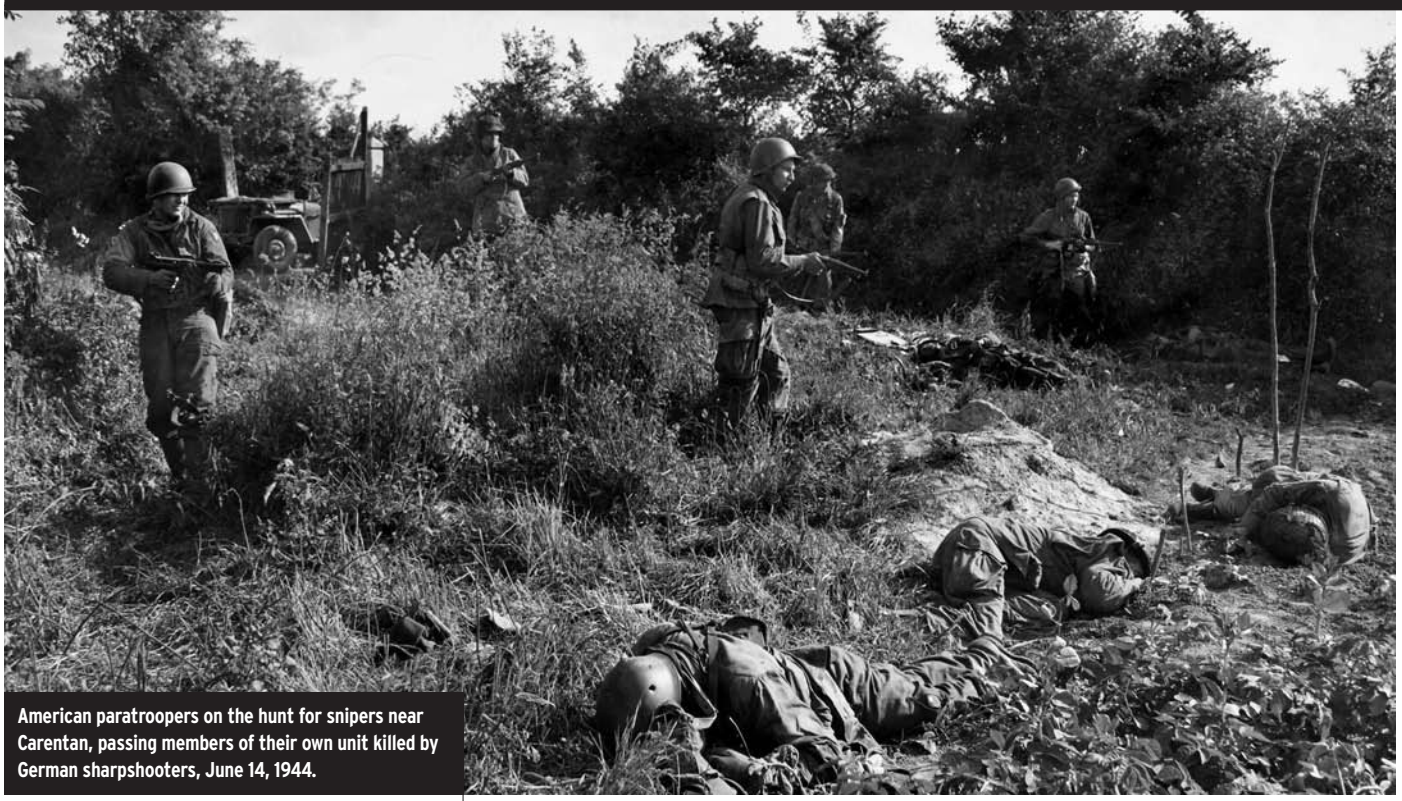

American paratroopers on the hunt for snipers near Carentan, passing members of their own unit killed by German sharpshooters, June 14, 1944.

city. Furthermore, sabotage units were spotted attacking supply vehicles and messengers.

Around 5:45 PM, 10 June, two strong U.S. companies were able, with artillery support, to infiltrate the German defensive lines along the railroad bridge; elements were able to push forward to the Carentan train station. Hauptmann Mager dispatched the 6th Company under Leutnant Brunnklaus to restore the situation in cooperation with the 8th Company. In a pincer movement, they managed to annihilate the Americans.

Around the same time, a patrol of the 5th Company captured three American medical orderlies who apparently had lost contact with their unit. Major von der Heydte sent the men back to their own units with a message written in English. The message stated that, due to their high losses, the Americans could surely use their medical practitioners, and that Major von der Heydte hoped that the American commander would one day know how to return the favor.

Once again, the 635th Eastern Battalion proved the weak link, with serious breaches of its line in many sectors. (At one point, two Eastern battalions took up positions near Carentan, but then quickly defected to the enemy.) Major von der Heydte regrouped his troops and from then on only FJR 6 fought in the important areas—the army units took over securing the flanks. In this way, the front could be held on 10 June against increasingly strong enemy attacks.

But despite the German bravery, the lack of ammunition and other essential provisions was soon readily apparent. The bridges and streets to the German rear were destroyed or impassable, so that barely any provisions could make it through to the fighting troops. While the Americans could land all necessary materials through their "Utah" landing zone, Allied air supremacy prevented effective German resupply. Only one anti-aircraft unit, which appeared in Carentan by accident, not by plan, gave itself to the regiment's command and proved to be a valuable help.

Eugen Griesser remembers the serious deficit in supplies: "On the evening of 10 June, I only had a little ammunition left for my submachine gun: two full magazines on my belt in a bag and one in the weapon. Because we barely received any ammunition resupplies, I had little more than my 08 [pistol], the bayonet, the spade and a few hand grenades. The war could not be won with this meager arsenal, however, and some of my comrades had it even worse off."

The Luftwaffe put in a rare appearance over Carentan on the night of 11/12 June. Ju-52 transport planes threw down 13 tons of supplies over the edge of the city, including urgently needed ammunition for rifles and machine guns. Major von der Heydte implored the command of the 1st Fallschirm Army in Nancy for more air supply, but no promises could be made and the drops never materialized.

In a nighttime operation from 10 to 11 July, the Americans attacked the road bridge at St.-Côme-du-Mont but did not move forward from their positions in front of 3rd Battalion/FJR 6. In actions such as these, and in contrast to the German situation, the Americans displayed their material wealth. When the soldiers of the 101st Airborne Division could go no further, they simply pulled back and demanded plentiful air and heavy artillery support. For hours, the men of FJR 6 were subject to punishing bombardments that reduced their positions to rubble and ashes, burying whole troops and platoons.

The Fallschirmjäger did not yield, not even when the ammunition situation worsened. Rifle ammunition had to be collected in order to refill the belts of the machine guns. Every position was held literally down to the last cartridge; only once that was fired would the Fallschirmjäger pull back.

After a three-hour firefight, the enemy eventually succeeded in entrenching themselves in the Pommenauque farm and infiltrating Carentan from the northwest. Again the Americans pushed forward to the train station and occupied part of the building there. In order to close the hole in the defence between the remains of 3rd Battalion/FJR 6 and the 13th Company of the regiment, the 6th Company, moving on their own initiative, threw themselves against the enemy at Pommenauque.

Leutnant Brunnklaus and his men managed to fight through to the road bridge and establish a connection with the remains of the 3rd Battalion located there. Once again, events came down to bitter close-quarters combat between German and American paratroopers. Leutnant Brunnklaus fell in the dense struggle, hit in the back by a pistol bullet.

Meanwhile, the combat reserves of the 2nd Battalion took on the task of recapturing the train station. Cut off from their own forces, the Americans couldn't hold the building and were slaughtered to a man.

Dietrich Scharrer celebrated his 20th birthday on this day: "11 June was a particularly hot day. We lay in our positions, the sun burned down on us, and our canteens were empty. I collected all the flasks and, during a break in the firing, I ran to find water. After I had filled the canteens with water, I discovered two glass bottles behind an open door. I suspected that spirited cider was in them and took them back for my comrades and me. We figured out that the bottles were too old and that the good cider had turned into vinegar. So for my birthday we toasted with a mixture of water, vinegar, and sugar."

Around 3:00 PM, Major von der Heydte arrived at positions along the Hiesville–Carentan rail line in order to get an overview of the enemy position. While the 6th Company deployed to the right of the Carentan–St-Côme-du-Mont road had won ground in their operations, the 3rd Battalion, fighting to the left of the road, remained under heavy fire from enemy mortars. Furthermore, parts of the 439th Eastern Battalion and the 3rd Battalion/1058th Grenadier Regiment, which had been sent as reinforcements had been apparently scared off and had advanced no further.

National Archives

American soldier with a Thompson sub-machine gun stands next to what appears to be a destroyed German Kettenkraftrad. An American glider is visible through the trees. Photographed June 14, near Carentan.

At first individual men, then soon whole groups, fell back because they had run out of ammunition. Across improvised bridges, the Americans could land on two positions along the southern bank; they could now speedily reinforce their ranks. Even tanks were brought into play in large numbers.

In the face of the overwhelming superiority of enemy numbers and weapons, and in response to the completely inadequate provisions situation, especially with regard to ammunition, Major von der Heydte decided to pull his troops back from the northern and western edges of Carentan and then reform on the southwestern perimeter of the city. Holding onto the present positions would have led to the annihilation of his men.

At 5:05 PM, Major von der Heydte reported to the 91st Airborne Division, "All leaders of Jäger companies have fallen or been wounded. Hardest fighting on the city limits of Carentan. The last of the ammunition has been fired; at 1800 hours we will vacate Carentan and fall back to Elevation 30–Pommenauque. This line can only be held if ammunition and provisions arrive." The tactical leader of the 91st Airborne Division confirmed receipt of the radio message but did not answer it.

The Fallschirmjäger had to disengage from the enemy in leaps and bounds, so as to disguise their maneuver. Eugen Griesser remembers the situation: "In Carentan train station, my unit held the baggage storage rooms. During a break in the firing, the commander [von der Heydte], Hauptmann Mager, Hauptmann Hermann, and another Oberjäger came over to us. 'What's the status with you?' the Major asked. 'We can still give the Amis hell,' I said. 'But when the ammunition's gone, it will be difficult.'

"The commander knew how serious the situation was, because the other sections had the same to report. 'Hang in there as long as possible,' he said. Then he unfolded a map and showed us the prepared positions in the rear. 'Before the

[support] fire is completely stopped, pull your men back to here,' he said to Hauptmann Mager and Hauptmann Hermann. As he left, he patted me encouragingly on the shoulder and moved on, ducking."

The battle for Carentan was largely determined by American material superiority. Fighter-bombers swooped on individual targets, and machine-gun nests were wiped out by concentrations of heavy artillery fire before the U.S. infantry advanced. In this manner, and supported by strong tank units, the Americans were able to entrench themselves on the eastern edge of Carentan and push farther forward. The city literally had to be taken by the Americans house by house.

Now the Fallschirmjäger had to pay the price for the way that German tank reserves had been stationed deep in the French hinterland. The 17th SS-Panzer Division "Götz von Berlichingen" was moving towards them from Bordeaux, but it could only move forward under the protection of darkness—during the day, the Allied planes turned the march into a suicide mission. The men of FJR 6 still had only themselves to rely on.

Parts of the 5th Company under the leadership of the beloved Hauptmann Otto Hermann were still trying to push back the enemy through powerful counterattacks. In this way, the Fallschirmjäger came to an open piece of ground, and they suspected that the opposite side was occupied by the enemy. Some young daredevils wanted to cross the field first, but Hauptmann Hermann held them back.

According to an eyewitness: "The Hauptmann called to them: 'I am in command here, therefore I will go first!' He rose from under cover and went forward in a crouch. He had barely covered 50 metres when the Americans open fired on him from all sides. Heavily wounded, he fell to the ground. Suddenly the young boys lost the desire to attack. An old Gefreiter pushed the medic forward. 'You're the Sani [medic], now it's your turn!' But the medic stubbornly refused to leave his position.

"The Gefreiter pulled out his pistol, shot down the medic, and called: 'Is there another coward who wants to leave the Hauptmann out there to rot?' We then gave covering fire while he and a few other volunteers recovered the Hauptmann."

The Fallschirmjäger took the heavily wounded man to the next aid station. Shortly thereafter, the Hauptmann succumbed to his wounds.

The situation became ever more desperate for the individual battlegroups, because soon the ammunition for the automatic weapons became scarce, and the enemy kept adding reinforcements to the battle. Furthermore, one depot did not have the necessary ammunition on hand, while the personnel of another explained to the men of the WuG Troop that they were not responsible for Carentan. So while the Fallschirmjäger were going against American tanks with empty weapons, a depot administrator refused them the ammunition that could have helped them keep control of Carentan!

On the way to the regimental command post, Major von der Heydte met the chief of staff of the 17th SS-Panzer Division "Götz von Berlichingen," who had driven ahead of his troops in order to investigate the situation. When Major von der Heydte reported to him, in accordance with protocol, that he had just given the order to evacuate the city, the SS man flew into a rage, because his division had been redeployed specifically with the assignment of securing Carentan and leading a decisive counterattack in the region.

He thrust aside Major von der Heydte's objections and produced the orders for the subordination of FJR 6 to the 17th SS-Panzer Division, and thus removed the major from his command.

National Archives

The railyard in Carentan lies in ruins as a result of aerial bombing and naval shelling. Photograph taken several days after American airborne troops secured the city.

Author's Collection

The constant bombing of Carentan by Allied air forces left large portions of the city in ruins. Here one Fallschirmjäger and two SS men make their way through the rubble of the train station. The paratrooper carries a Panzerfaust because the Americans had penetrated the city with tanks.

The eventual arrival of a fresh division gave the Fallschirmjäger hope that Carentan could still be held. Their disappointment was that much greater when not a single SS man took up a position within the city itself.

On the evening of 11 June, while his Fallschirmjäger were clearing out of their last positions in Carentan, Major von der Heydte reported to the division's command post and Brigadeführer Werner Ostendorf. He accused von der Heydte of cowardice, but he was eventually forced to take back his untenable accusations when the commanding general of LXXIV Corps, General Dietrich von Choltitz, joined the conversation (like a Deus ex machina, according to von der Heydte's memoirs) to express his admiration of the major for the resistance he had maintained for six days in Carentan. [Major von der Heydte's command of FJR 6 was restored.]

General von Choltitz coined the phrase, "the Lions of Carentan." Nonetheless, the Fallschirmjäger felt that the Waffen-SS had left them in a lurch. Had the SS reinforced the city, Carentan would not have been vacated on 11 June. The main benefit of the 17th SS-Panzer Division for the paras was they could supply some ammunition and rations.

Gerd Schwetling, an Obergefreiter in the 6th Company at the time, had low opinions of these particular troops: "The 17th SS was one of the new divisions that had been put together in the spring and basically had no combat experience. Maybe that's what caused their snobbery; they hadn't had any interactions with Fallschirmjäger yet. Looking back on it, it doesn't surprise me that a high-ranking SS officer, who had run across my path in the half-darkness, had jumped to attention and saluted me quickly. He probably thought that he had run into a superior officer."

The new line of defence southwest of Carentan was much shorter than the old line, and therefore it could be occupied by Fallschirmjäger in denser positions. But after six days of ceaseless deployment against a more powerful enemy, the men of FJR 6 were burnt out and completely exhausted. As a precautionary measure, Major von der Heydte pulled them away from the front line so they could catch their breath; he left the rest of the army infantry in their positions overnight.

The Wehrmacht report from 11 June 1944 stated: 'Under the leadership of Major von der Heydte, 6th Fallschirmjäger Regiment distinguished themselves in heavy battles in the enemy beachhead, and in the destruction of the enemy paratroopers and air landing troops landing in the area."

Yet, despite the clear appreciation of the performance of FJR 6 since the first day of the Allied landings, there were further attacks on Major von der Heydte. These attacks only stopped after General Kurt Student and General Eugen Meindl, independently of each other, declared that they would have acted in the exact same way in such a hopeless situation. Outvoted by three generals, the 17th SS-Panzer Division (now referred to as the "Kiss-My-Arse Division" by the Fallschirmjäger), supported by 2nd Battalion/FJR 6, fell in on 12 June to storm Carentan.

FJR 6, now subordinate to the division, took over securing the right flank, with the assignment to occupy and hold the Carentan train station while the SS division undertook a counterattack from Carentan towards the coast. At first, the Americans seemed impressed by the tank units of the Waffen-SS, and they pulled back, but it turned out they only partially retreated to escape the hail of bombs and rocket fire from the air support they had quickly called in.

Surprised by the intensity of the Allied air attacks and the firepower of the enemy artillery, the Waffen-SS forces quickly came to a standstill and were caught in the enemy's fire. The SS approached the battle with a "murderous idealism" (as Oberleutnant Martin Pöppel later described in his memoirs), but without prior battlefield reconnaissance and sufficient artillery support, spirit alone was not enough to win the city back from the Americans.

The men of FJR 6, meanwhile, managed to occupy the train station according to their orders, and prepare themselves to defend it; the fighting of the past few days had given them enough knowledge of the area, and the fighter-bomber attacks were nothing new to them. Some Fallschirmjäger couldn't conceal a certain Schadenfreude [joy at another's suffering] at the fact that the Waffen-SS, with all their pomposity, had failed miserably in Carentan.

Hurrying in with the regimental combat platoon, Major von der Heydte ordered his officers to round up all scattered and flee-

ing SS grenadiers and incorporate them into the Fallschirmjäger—some of the grenadiers could only be convinced at gunpoint. Major von der Heydte inspired the bunch of men who had been thrown together; transfer papers to the Luftwaffe were filled out for the SS men, and he accepted volunteers into the Fallschirmjäger troop.

The nearest messenger carried the documents to the corps command post, from where they were sent on to the Reich Air Ministry. Thus FJR 6 had received reinforcements. While the losses suffered in the battle of Carentan were not made up in the least, Major von der Heydte preferred even this small number of new men as replacements, as opposed to the actual big fat zero that he had received as official replacements.

Both: Author's Collection

ABOVE LEFT: Obergefreiter Werner Haase, killed on June 20. ABOVE RIGHT: Major von der Heydte, commander of FJR 6. RIGHT: American paratroopers ride a captured Kubelwagen at the crossroads of the Rue Holgate and RN 13 in Carentan, June 12, 1944.

While the 17th SS-Panzer Division, heavily wounded, pulled back to its original jump-off position, FJR 6 pulled back and its men were reunited in their positions having suffered minimal losses. One forward regimental company continued to hold off the American advance. One of the most important roads into Carentan was kept free by firing machine guns along it from covered positions. The American paratroopers of the 101st Airborne Division, trying to advance, were forced to stay in place by the concentrated fire.

When the U.S. soldiers, despite a German bombardment and their own heavy losses, finally managed to push forward, the Fallschirmjäger evaded them and fell back into other prepared positions, from which they continued resistance with their remaining mortars. The company finally withdrew on the evening of 12 June to the regiment's new positions, as now three American divisions with strong tank support attacked the city from three different directions and occupied it.

Brigadeführer Ostendorf now accused Major von der Heydte of not having held his position. But in the face of his own defeat, he was unable to counter the major's cool response that FJR 6 simply covered the retreat of 17th SS-Panzer Division and followed their general reduction of the front.

The news now arrived that an attack by the 100th Panzer-Ersatz Division (Tank Replacement Division), about six miles west of Carentan, had not improved the German situation in the region. Accompanied by some officers, the commander was said to have left his troops during the battle, as though fleeing. The situation was tumultuous because some of the troops had surrendered to the enemy, while others dug in their heels and tried to hold out.

Major von der Heydte sent his 3rd Battalion out to stabilize the situation, because if the Americans were to advance successfully in that sector, it would be possible to cut off and surround FJR 6 and the 17th SS-Panzer Division. Because the major recognized the general helplessness of the Waffen-SS, he moved the regiment to prepared positions in the rear, southwest of Carentan. The terrain there was not well suited to tanks, and therefore the next four weeks were mostly determined by infantry actions.

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Nevertheless, the enemy artillery was still a great danger and the nonstop Allied fighter-bomber attacks were giving the Fallschirmjäger a tough fight. In the land battles, however, the men of FJR 6 were particularly tough opponents for the Americans. It took the Allies 24 days to wrest 11 miles of land from them between Carentan and Périers, the outer points of the new defensive line, where FJR 6 took up its positions between Raffoville and the River Sèves.

At this time, the remains of the 1st Battalion, the so-called "Emil Unit," relocated via Paris and Weissewarte to the air base at Güstrow in Mecklenburg to form a new 1st Battalion. On 17 June Werner Haase, an Obergefreiter in the 14th Company, found time to write a letter to his family:

"You have probably waited for a few lines from me for a while. Today's the first time it has been possible for me to write to you. I'm sure you know from the radio or newspaper how it's going here with us. This is the first letter that I can say comes directly from the battlefield. Until now I have always gotten away unscarred, and I hope that I continue to do so.

"Everything's going okay. I was deployed to the point that was, at first, the weakest

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An American medic (possibly of the 326th Airborne Medical Company) and other 101st Airborne troops patrol along Rue Holgate in Carentan, June 12, 1944.

point. You'll have heard on the radio how there was a battle for one city that had to be given up after a few days. Our regime has shrunken down to only a few because of this city. If you find an old newspaper, you'll be able to read more about it. I'll only give away the name of our commander: Major von der Heydte.…

"To a soon and healthy reunion! Greetings, Werner"

The reunion never happened. On 20 June 1944, only three weeks after his 21st birthday, Werner Haase fell victim to an enemy sharpshooter. Because his foxhole could be seen by the opponents, his comrades only managed to get to him after darkness fell; they brought him to the main first aid station where it was discovered that one small, clean shot had gone through his left armpit. The bullet had gone straight into his heart.

At the beginning of July, the remains of 17th SS-Panzer Division were relieved by the 2nd SS-Panzer Division "Das Reich." This division had a lot of experience in the field at this point, and worked well with the Fallschirmjäger.

FJR 6 also received replacements at this time, although the 830 new men could not completely make up for the losses they had suffered. In addition, many of the new arrivals needed uniforms and weapons in order to be ready for battle. Major von der Heydte wrote in his memoirs: "About a third of them didn't even have a steel helmet, over half had ripped footgear, their training and their morale were even worse than it had been with the original regiment."

Obergefreiter Franz Hüttich had a similar impression: "Among the replacements were many young boys around 17 or 18 years old, who had absolutely no combat experience and had basically been brought into the military directly from the school benches. They were no well-trained Fallschirmjäger, whom one could send into battle without concern. There was no evidence in their behavior of training or jump school. We had to teach the boys everything, and because we were constantly deployed into combat, they had to learn very quickly if they weren't going to fall in battle.

"Others came from the practice of Heldenklau ["hero-stealing," the process of recruiting soldiers from other divisions] in the offices and air bases, redeploying them to a new troop. These were men from ground personnel that hadn't held a weapon in years; they had voluntarily signed up for the Fallschirmjäger troop after hearing the persuasive talks of the recruiters. Some had been threatened with deployment to the Waffen-SS, because the ranks of the fighting troops urgently needed to be filled up."

The regiment only just managed to equip, clothe and arm the new arrivals. Major von der Heydte reorganized the companies of FJR 6, so that battle-experienced Fallschirmjäger would be standing shoulder to shoulder with the young boys. Nevertheless, the companies were not more than 30–40 men. The Americans were getting bogged down attacking the defensive positions between Périers and St.-Germain-sur-Sèves, which were echeloned in depth.

The newly formed 16th Company, which had been created out of the bicycle platoon and the regimental combat platoon, had counterattacked and cleared up a breakthrough in the main line of resistance by the American infantry on 4 July. Obergefreiter Rudolf Thiel and his group managed to take 15 prisoners during this action. He received an Iron Cross 1st Class for his efforts.

Having completely captured the Contentin peninsula, the Americans now channeled more and more reinforcements into the Carentan sector. The American paratroopers of the 82nd and 101st Airborne Divisions, after suffering heavy losses in the battle against FJR 6, had been relieved from the frontline. Now the Fallschirmjäger faced a new and no less tough enemy, the U.S. 90th Infantry Division. □

In the final installment of the story in the next issue, the depleted and badly mauled FJR 6 is withdrawn from the front lines and built up with replacements, 75 percent of whom were mere teenagers with little military training. It proved to be the regiment's most difficult time.

PART 2

MARINE AIR IN THE PHILIPPINES

Having mastered the doctrine of close air support, Marine aviators worked hand-in-hand with Army troops from December 1944 until war's end. BY ERIC HAMMEL

Backstory: In the first installment, after heroically performing close air support missions for their Marine infantry brethren during several island invasions in 1944, U.S. Marine dive bombers and fighters, eclipsed by carrier-based Navy aircraft, found themselves without a mission. But U.S. Army forces, engaged in the invasion of the Philippines, were in desperate need of support and thus welcomed the dark-blue Corsairs of Marine Air.

The second phase of Marine Air operations in the Philippines began on December 30, 1944, when the four Vought F4U Corsair squadrons of Colonel Zebulon C. Hopkins's MAG-14 (Marine Aircraft Group 14) were ordered to fly to Samar from Bougainville by way of Emirau, Owi, and Peleliu.

The group had been awaiting this order since December 7, 1944, when it was alerted for the move pending the completion by two U.S. Navy Seabee battalions of a brand-new fighter strip at Guinan, in southeastern Samar. The Marine fighter group was to operate from Guinan in support of operations on Luzon by the U.S. Sixth Army, which was just days away from mounting an amphibious invasion.

The first MAG-14 squadron to depart Bougainville for Guinan was Marine Observation Squadron (VMO) 251 which, despite its designation, was a full-fledged fighter unit. The squadron left Bougainville on December 30 and completed the journey on January 2, 1945, one day before a pre-invasion bombardment force sailed into the Luzon area to begin softening targets around the Lingayen Gulf landing beaches. (Among the many carrier-based squadrons involved in the pre-invasion bombardment were VMF-124 and VMF-213, which were embarked aboard the fleet carrier USS *Essex*—the first Marine aviation units to be so employed in combat.) The remaining MAG-14 F4U squadrons—VMF-212, VMF-222, and VMF-223—would arrive at Guinan over the next two weeks.

In addition to MAG-14, the ground echelons of two other Marine air groups—MAG-24 and MAG-32—were also prepared to displace from the Solomons to the Philippines. Both of these groups were equipped with Douglas SBD Dauntless dive bombers, and both had been trained in the newly updated art of close air support. Nevertheless, though the ground crews were on the move and the airmen were considered fully trained, no one knew precisely where the two Dauntless groups would end up. It was not even certain, as the invasion fleet closed on Luzon, that the groups would be deployed there. Indeed, the 1st Marine Aircraft Wing headquarters had been alerted for a move to the Philippines, but it was not certain by the first week of 1945 where it would set up shop.

Of all the Marine aviation units slated for service in the Philippines in early 1945, only the two F4U carrier-based squadrons and the F4U squadrons operating with MAG-12

This painting by aviation artist Jack Fellows depicts two Douglas SBD Dauntless dive bombers being flown by Marine pilots of VMSB-244 in action over Mindanao in support of U.S. Army troops on the ground. Although considered obsolescent, the Dauntless was still a rugged, formidable aircraft capable of delivering precise and deadly strikes.

Jack Fellows

actually took part in the run-up to the invasion. MAG-12 had been operating on Leyte throughout the conquest of that island, and thereafter it operated with Army Air Forces squadrons of the Fifth Air Force (to which it was attached) in running strikes against lines of supply and transportation targets in the northern Philippines, including Leyte.

Both: National Archives

LEFT: Colonel Clayton Jerome, commander of MAG-32 and the base on Luzon. RIGHT: Lt. Col. William Millington, commanding VMF-124, downed enemy aircraft.

Marine SBDs fly in support of the the U.S. Army's 37th Infantry Division, February 2, 1945.

By late December, in fact, MAG-12's four F4U squadrons were so well integrated into the V Fighter Command operational structure that they were usually used interchangeably with Army Air Forces Curtiss P-40 Tomahawk and Lockheed P-38 Lightning squadrons for a wide variety of missions—from combat air patrol to low-level ground attacks against all manner of targets. MAG-12 F4U pilots had been very active—and successful—in air-to-air combat during the Leyte campaign, and they and their fellow V Fighter Command fighter pilots had just about wiped out the Japanese air capability in the Philippines by the end of 1944.

The first confirmed aerial victories awarded to Marine Corps airmen in 1945 went to an F6F night fighter pilot from VMF(N)-541, an element of which had been operating with MAG-12 throughout the Leyte campaign. Between 7:15 and 7:20 AM on January 3, 1945, 2nd Lt. Harold Hayes, Jr., downed two A6M Zero fighters while on patrol between Luzon and Negros Islands. These were Hayes's third and fourth (and last) victories of the Philippines campaign.

Later that morning, at 9:40, Lt. Col. William Millington, the VMF-124 commanding officer, downed an Imperial Navy P1Y twin-engine bomber over Kagi Airdrome, Formosa, during preliminary air strikes aimed at thwarting a Japanese effort to reinforce the Philippines air bases still in their hands. Millington was the first pilot of the war to down an enemy airplane while serving with a carrier-based Marine aviation unit.

The Japanese high command in the Philippines reacted to the approach of the Luzon invasion fleet with its second kamikaze campaign of the war. Beginning on January 4, many of the several hundred aircraft the Japanese had been saving up on Luzon were sent out on one-way missions against Allied ships.

Almost at the outset, the USS *Ommaney Bay,* an escort carrier accompanying the invasion fleet, was sunk when a kamikaze crashed into her and set off a series of gasoline explosions that the crew could not overcome. On January 5, kamikaze aircraft severely damaged another escort carrier, two cruisers, and a destroyer.

And on January 6, the most intense day of kamikaze attacks, 15 vessels were damaged, and the battleship *New Mexico* was struck by a kamikaze that killed the captain and 29 crewmen, but fortunately spared the headquarters personnel assigned to oversee Marine aviation operations on Luzon.

The three-day kamikaze effort thoroughly overwhelmed the small fighter squadrons embarked in the escort carriers and the land-based V Fighter Command units in the area, including MAG-12 and VMO-251. In fact, the only Japanese airplanes to fall to Marine guns during the three-day kamikaze assault were credited to MAG-12 F4U pilots on January 6—a twin-engine fighter downed over Manila Bay at 3:35 PM by a VMF-211 pilot, and a Zero fighter downed over the Sulu Sea at 5:15 by a pair of VMF-218 pilots. Indeed, the latter was the last Japanese airplane downed by Marine fighter pilots in the Philippines.

As a result of the overwhelming attacks in the Philippines, General Douglas MacArthur ordered the entire U.S. Third Fleet to abort its interdiction strikes against Formosa in favor of sailing south to lend its overwhelming weight in fighters to destroying Japanese air power on Luzon. And that is what occurred.

On January 5 and 6, the fast-carrier fighter pilots downed nearly 80 Japanese airplanes in the northern Philippines, while Army Air Forces pilots downed none and Marines downed the two mentioned earlier. This, along with the suicidal tendencies of

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ABOVE: MAG-24 Marine pilots landing at Lingayen airfield on Luzon are directed into revetments by their operations officer, Lt. Col. Keith McCutcheon, January 25, 1945. McCutcheon is credited with refining close air support tactics. RIGHT: Marines with MAG-12 erect a sign at entrance to the pilot's camp at Lingayen, January 6, 1945.

the Japanese pilots on January 4, 5, and 6, virtually eliminated Japanese air power—including kamikazes—as a factor in the Luzon invasion scenario.

The U.S. Sixth Army mounted its invasion at Lingayen Gulf on January 9, 1945, one day short of three years and a month after the Japanese mounted their invasion of Luzon over the very same beaches. The landings were virtually unopposed on land and from the air.

Marines landed at Lingayen Gulf the next day, January 10—three of them: Colonel Clayton Jerome, the MAG-32 commander and senior Marine aviator assigned to the Luzon operation; Lt. Col. Keith McCutcheon, the MAG-24 operations officer; and Colonel Jerome's driver. Their immediate job was to locate an airstrip at which MAG-24 could set up housekeeping and begin operating as soon as possible.

At first, it looked like the Marines were going to be shut out of an early role in the Luzon campaign. It was up to Colonel Jerome to locate a suitable airfield, but he was beaten at the outset by quick-acting Army Air Forces units, which took up residence at the only strip in the beachhead as soon as it was captured. Unbelievably, in an invasion as complex as MacArthur's return to Luzon, there had been no forward planning with respect to which aviation units would be based where.

At length, Jerome and McCutcheon located a site for a new airfield 15 miles east of the invasion beach, but preliminary engineering work proved that the ground was unsuitable, so the Marines again went looking for a place to land their planes. They ended up in a rice paddy near the village of Mangaladan, and that is where Army engineers built an airstrip by leveling nearby hills and filling the rice paddy to a height of 12 inches above the standing water.

In very short order, a 6,500-foot east-west runway was under way, and Colonel Jerome ordered Colonel Lyle Meyer, MAG-24's commanding officer, to land with the ground echelons of both air groups. While waiting for the Army engineers to make progress at Mangaladan, Meyer and his Marines helped unload and lay steel matting at the Army Air Forces Lingayan airfield. Then the Marines went to work constructing a camp for themselves near Mangaladan.

While MAG-12 and MAG-14 F4Us continued to support U.S. Army operations in the central Philippines, the Mangaladan runway was completed during the third week of January, and finishing touches were immediately applied by Marine ground personnel. Meanwhile, Colonel Jerome was designated base commander and commander, Marine Air Groups, Dagupan (named for another nearby village). The first MAG-24 and MAG-32 SBDs arrived at Mangaladan on January 25.

Within a week, seven SBD squadrons (VMSB-133, VMSB-142, VMSB-236, VMSB-241, VMSB-243, VMSB-244, and VMSB-341) would have a total of 172 Dauntlesses based at Mangaladan; nearly 3,500 Marines would be housed at the new complex. Unfortunately, within a very

National Archives

short time, approximately 250 Army Air Forces aircraft also descended on Mangaladan, and all were added to Colonel Jerome's responsibilities in his capacity as base commander

The seven MAG-24 and MAG-32 SBD squadrons were on Luzon to provide close air support for the U.S. Sixth Army. There was no other reason for them to be there. They had worked hard to provide a service no other force in the Pacific could claim as its own—direct, on-call close air support of ground troops engaged with the enemy. It was a service that only Marines would provide, and only the U.S. Sixth Army had it at its disposal. But it nearly came to nothing.

Direct air support had been used with great success throughout the Pacific War, and was being used with great success in Europe. But direct air support is not the

same as close air support. For the former, virtually any type of airplane flying at virtually any altitude strikes at the flank and rear of enemy forces engaged in ground combat, or directly at enemy forces who are still some distance from friendly troops.

Direct air support includes interdiction of lines of supply and communication in proximity of the battlefield; or attacks upon supply, munitions, and fuel dumps near the battlefield; or of strikes against defended locations that are to be—but have not yet been—directly attacked by the ground forces the aircraft are supporting.

In short, direct air support is done at a distance from friendly troops, and in World War II it was usually (but not always) based on mission instructions issued before the airplanes took off.

National Archives

Marine pilots write after-action reports following their first close air support missions of Army troops on Luzon, January 1945.

Close air support is the technique by which airplanes operating at low altitude attack ground targets in close or even very close proximity to friendly ground troops, who are usually engaged with the enemy at the time the air attacks take place. Close air support is characterized by the feeding of instructions to the pilots by observers on the ground, within sight of the targets.

The key to close air support is direct communication between an observer or controller on the ground and the man in the cockpit. Preferably, the observer is a trained pilot assigned to the ground force by the supporting aviation force, but it could just as well be anyone equipped with an air-ground radio who, one hopes, is capable of precisely guiding a speeding airplane against a nearby ground target.

The essence of the ground-controlled close air support envisioned by Lt. Col. Keith McCutcheon, the MAG-24 operations officer who refined it, was communications between Marine aviators on the ground and Marine aviators in the air.

For this, McCutcheon invented the air liaison party (ALP), which was equipped with a jeep fitted out to allow the ALP to act much as an artillery forward-observer team acts on the ground. Ideally basing its instructions on direct observation by team members (but also capable of relaying information from other observers on the ground), the ALP would be able to coach Marine pilots against targets the pilots might not have been able to attack or even locate on their own.

If necessary, the ALP could leave the jeep to report from off-trail locations, or transceivers could be used between a member of the ALP, the radio jeep, and the aircraft. It was a flexible system, given the technology available at the time.

Another key to success was the fact that a specially trained Marine aviator was a member of each ALP jeep team; he would know what the aircraft assigned to his mission could accomplish and might even know the capabilities of individual pilots. Moreover, the MAG-24 and MAG-32 dive bomber pilots responsible for delivering ordnance had been trained to strike targets from relatively low altitudes. And they had trained long and hard to do so under the guidance of their ground coaches, which was itself a major departure from any previous norm.

It all seemed to work well in testing and training. Everyone involved was highly confident of the potential results once it was time to leave for the Philippines.

The problem was that Sixth Army senior commanders did not share the confidence Marines had in their newly evolved system. It had been tried before, albeit on an ad hoc basis, and the results had often been as deadly to friendly troops as to enemy troops. In short, the customers were afraid to use the product for, in their experience, very good reasons.

The first SBD missions flown from Mangaladan—on January 27, 1945—were support missions, but the targets were far from the fighting fronts. By the end of the month, Marine SBDs had flown 255 effective combat sorties and dispensed 104 tons of bombs, but they had yet to operate in close proximity to friendly troops or in conjunction with their ALPs.

Then there was a break. The mechanized-motorized 1st Cavalry Division came ashore on Luzon on January 27, the day the Marine aviators at Mangaladan went to work. On January 31, the crack, veteran division was inspected by General Douglas MacArthur, who gave it a unique, important assignment—a drive directly to the city of Manila.

By January 31, the U.S. Sixth Army was in some places as close as 60 miles to the Philippine capital, but Japanese resistance was stiffening in that quadrant. It was the 1st Cavalry Division's job to literally cut through the resistance and drive into the city—exactly as Army armored divisions in Europe had cut through German defenses in France and Belgium during the previous summer's stunning advances in that theater.

It was a symbolic move to be sure, but it had strategic overtones, for a successful drive on Manila would bifurcate the Japanese Army in central Luzon, making it easier for American forces to dominate and defeat it.

MacArthur threw everything into the 1st Cavalry Division's drive on Manila, and that included his promising but untried weapon, Marine close-air support. The cavalry would have to drive 100 miles to the city from its line of departure, and it was to have Marine dive bombers overhead and on call every yard of the way.

The 1st Cav's operational plan for air dovetailed beautifully with Marine Air's capabilities. Under the usual regime, mission directives were issued the night before by the 308th Bombardment Wing, the V Bomber Command sub-headquarters in charge of all the Allied bombers operating over Luzon. But the 1st Cav had organized what it called

Both: National Archives

ABOVE: A cloud of smoke and dust rises over a Japanese position on Luzon that has just been hit by a Marine dive bomber, February 11, 1945. BELOW: The first wave of the 43rd Infantry Division lands at Lingayen Gulf, Luzon, January 9, 1945, and fires on the enemy from behind their Alligator, officially known as an LVT, for Landing Vehicle. Their seaborne assault was greatly aided by the Marine pilots.

a "flying column," which would take ground as it could, as much as possible for as long as possible. The flying column commander, Brig. Gen. William Chase, felt that rigid mission orders would be to his disadvantage; he wanted his air support overhead and on call, to use as and when he needed it.

General Chase's concept was a perfect match for Marine training and organization. The ALPs were mobile; they could operate with the mechanized flying column without any problem. And, of course, they were trained and equipped to direct all manner of aircraft as and when needed. And the Marine SBD crews had been trained to attack close-in targets while being guided in real time by observers on the ground, with the forward-most ground troops. The Marines could provide dawn-to-dusk air cover, however the cavalry needed it.

This long after World War II, few people realize what a precision bombing instrument the U.S. Navy and U.S. Marine Corps had in the Douglas SBD Dauntless dive bomber. An examination of the SBD's use will reveal that it was simply the most effective aerial weapon the United States produced for an antishipping role. The SBD was a precision weapon.

It carried one large bomb, and it was designed to use that bomb to strike lithe, fast-moving ships at sea that could do much to throw off the aim of even skilled and determined pilots. And yet, of all the aircraft types the United States used against Japanese ships at sea throughout World War II, the SBD was, bomb for bomb, by far the most effective. It was, for example, the only type known to have struck fast Japanese aircraft carriers at Midway; SBDs sank four carriers in one day there.

The SBD was so maneuverable that it often went up against Japanese fighters if it had to defend itself, and early in the war SBD pilots had scored enough aerial victories against Japanese fighters to be worthy of comment. That maneuverability, of course, was designed so that an SBD diving at a 60-degree angle at several hundred miles per hour against a narrow, writhing ship was responsive enough in the hands of its pilot to hit that ship. And hit ships the SBDs had done—early in the war, when it really counted, when there were few SBDs and far too many Japanese ships.

There were no SBDs at sea aboard American carriers in early 1945; the only service that still had any in combat was the Marine Corps. It was an old weapons system, but it was still effective, for there was nothing that was not known about the venerable SBD's combat performance characteristics, even by the greenest of Marine SBD pilots.

If the SBD could hit the narrow, dodging decks of speeding ships at sea, there was nothing it could not do to destroy fixed land defenses or troop or supply columns on the roads and paths of central Luzon.

The ALP assigned to the 1st Cavalry Division for the drive on Manila consisted

of a radio truck and two jeeps. Each jeep was manned at all times by a Marine pilot assigned to ground duty and an enlisted driver. Teams from MAG-24 and MAG-32 shared the responsibility. The MAG-24 communications officer and at least two other Marines manned the radio truck.

When the first jeep reported for duty, General Chase, the 1st Brigade commander, told the occupants to stay with him at all times. And so, just like that, Marine Air became the commanding general's weapon of opportunity. The second jeep was assigned to the 1st Cav's 2nd Brigade, where it was also taken in tow by that unit's commanding general. The radio truck was consigned to the Cav Division command post and made part of the division commander's entourage.

The plan was to have nine SBDs overhead at all times, ready to pounce as and when needed. The pilots simply circled over the cav column in large, lazy circles, conserving fuel and watching events unfold on the ground. As a practical matter, the orbiting SBD crews were able to search and observe an area approximately 30 miles ahead and 20 miles to either side of the flying column's route of advance.

The cav's first task was to capture its own line of departure, the town of Cabanatuan, which was on Route 5, the main central road to Manila. The attack commenced on February 1 and took all day to achieve its objective. During the day, 18 Marine SBDs expended their bombs on targets designated by the Marine aviators assigned to General Chase's ALP. The targets were troop concentrations and enemy defensive zones. As far as is known, all bombs struck the intended targets.

During the morning of February 2, ground-directed SBDs attacked Japanese positions just ahead of the advancing cav vanguard, which drove more than halfway to Manila before noon. Farther along, in fact, the cav flying column linked up with a vanguard element of the 37th Infantry Division, which was advancing on Manila by another route.

Shortly after the link-up, the cav ran into determined opposition that could not be overcome. The Japanese were on dominant high ground, and the cav troopers could not budge them. The lines were intermingled; there was no room to plant bombs on the enemy position without endangering friendly troops. So, under direction from the ground teams, MAG-32 SBDs mounted several strafing passes against the stoutly emplaced defenders, but they did not fire a shot.

The Japanese could not be sure what the SBDs might do, even by the last dummy firing pass, so they ducked every time an airplane buzzed their stronghold. And by ducking, they allowed the cav troopers to win through. The position was taken with the aid of Marine Air even though the Marines didn't expend a single bomb or bullet. All that low-level attack training paid off. By the end of the day on February 2, the cav vanguard was just 15 miles from downtown Manila.

On February 3, Marine Air's most important contribution to the drive on Manila came simply from being there. Orbiting SBDs waiting for combat assignments reported that a vital bridge right behind the battlefront was still standing. The cav troopers massed before the critical point and drove a wedge to the bridge, which was captured just before an explosive charge would have dropped it into the river. The result was that the cav's wheeled and tracked vehicles had a dry, easy crossing.

And so the cav vanguard was able to cross into the Manila city limits by 6:35 that evening. Indeed, the cav troopers kept going as dusk descended, and they did not stop until they had liberated 3,700 maltreated civilian internees from their prison camp at Santo Tomas University.

The cav's 100-mile dash was completed in 66 hours. The battle for Manila would take exactly a month, until March 3, to reach its inevitable conclusion, and by then Marine Air was off doing many other jobs. But those 66 hours over the cav were critical to the success of the mission the Marines had come to Luzon to undertake.

The SBD pilots and the MAG-24 and MAG-32 ALPs won the respect of their prospective clients. Thereafter, Army ground commanders accepted Marine Air support when it was offered, and indeed they often vied with one another to get it assigned.

The initial use of Marine F4U Corsairs on the island of Mindanao was undoubtedly the strangest use of Marine airmen to be made in World War II. This was because the

Time & Life Pictires/Getty Images

Troops and vehicles of the experienced 1st Cavalry Division cross the Pampanga River during the drive on Manila, January 31, 1945. The 1st Cav used the Marines' close air support to help capture a key bridge into the city.

U.S. Marine Corps

With weapons close at hand, USMC Forward Air Controllers of MAG-24 pose for a photo on Luzon, date unknown.

Corsairs, their pilots, and a small contingent of ground personnel preceded the American invasion of the island by several weeks. Marine Air preceded American ground forces to an enemy-held island!

It had been planned all along that Marine Air would take part in the liberation of the southern Philippines. Two Marine fighter groups had taken part in the liberation of Leyte, in the central Philippines, and two Marine dive bomber groups were actively and fruitfully engaged in supporting U.S. Army ground forces on Luzon, in the northern Philippines. The grand plan for the invasion and liberation of Mindanao and other islands in the south included a prominent role for both Marine fighters and dive bombers in a ground-support role.

But Marine Air—in the form of several Marine Air Group 12 Corsairs—arrived in the southern Philippines ahead of any other invasion force.

Between the time Mindanao was surrendered to the Japanese invaders in mid-1942 and the arrival of two Corsairs on March 7, 1945, an American-led guerrilla force composed mainly of Filipino fighters had been able to take largely uncontested control of several areas on the huge island.

Among these was the Dipolog area, in the northern part of Mindanao's isolated, hook-shaped Zamboanga Peninsula. There, in 1943, the guerrillas had built a small airstrip for the use of supply aircraft bringing in needed war materiel. The facilities at Dipolog Airstrip were rudimentary but certainly adequate to the task for which they were intended.

The Allied plan was to land a reinforced U.S. Army infantry division on March 10, 1945, at Zamboanga Town, at the southwestern tip of the Zamboanga Peninsula, about 150 miles from Dipolog. By then, many of the lightly held islands in the central Philippines would have been liberated, and the huge Japanese garrison on the main island to the north—Luzon—would have been defeated or dispersed. In fact, the outlook for Luzon was so sanguine that nearly the entire complement of Marine aviation units in use in the northern and central areas was slated to be moved south to support the Mindanao operation.

Dipolog became important to American planners when it was learned that an airfield under way on Palawan Island could not be completed in time to support air operations required to cover the southern Zamboanga invasion. Since by that stage of the Pacific War air support was deemed essential to the success of any amphibious invasion, the planners, in casting about for a solution, decided to take control of Dipolog as an advance fighter base. The guerrilla airstrip, which was a going concern, could be placed in use in time to meet the requirements of the Zamboanga invasion force.

On March 2, in a move that does not seem to have been approved through channels by senior headquarters, two officers and six enlisted Marines from Marine Air Group 12—an all-Corsair command—arrived at Dipolog by air transport. Their mission was to assess the needs of the guerrilla forces in the region who would protect the base and to do what they could to ready the field for the arrival of the first MAG-12 Corsairs.

Two Corsairs landed at Dipolog on March 7. Once again, it is not clear if higher headquarters had a hand in authorizing the expedition, for it was not until the next day that two heavily reinforced infantry companies of the Eighth U.S. Army's 24th Infantry Division were "rushed" to Dipolog by air to further secure the guerrilla-held airstrip. More MAG-12 Corsairs also reached Dipolog on March 8, and by the day after that 16 Corsairs were operating from the field, flying their first sorties in support of Filipino guerrilla forces engaged in setting the stage for the imminent invasion.

Those initial sorties were a bit strange in the varied experience of Marine Air in the Pacific War. Two of the MAG-12 Corsairs on an armed reconnaissance sweep flew over a large force of armed men who were attired in civilian dress. The armed men were near the coast, and on a nearby beach were four small craft that appeared to be filled with supplies. When the Corsair pilots flew lower for a better look, the armed men all waved. Moreover, an American flag was shown. Believing the force to be composed of Filipino guerrillas, the Corsairs returned to Dipolog—where guerrilla liaison officers averred that the Corsair pilots had located a force of Japanese soldiers dressed as Filipino guerrillas. The same two Corsairs returned to the scene and strafed the armed men and the four supply craft, but most of the men on the ground escaped into the thick forest.

The real invasion of Mindanao took

place without incident near Zamboanga Town, 150 miles from Dipolog. Following a preinvasion air bombardment by the U.S. Thirteenth Air Force that began in earnest on March 1, the 41st Infantry Division came ashore under heavy naval and air cover against negligible opposition. Zamboanga Town was captured during the afternoon, but resistance stiffened before the Army troops could take San Roque Airfield, which was slated for use by aircraft from MAG-12 and MAG-32 (F4U Corsairs and SBD Dauntlesses, respectively).

Despite the heavy resistance at the front and the attendant delay in taking San Roque, headquarters and ground personnel from the two Marine air groups began land-

National Archives

In 1943, Philippine guerrillas constructed a rudimentary airstrip at Dipolog that helped U.S. pilots land supplies. The U.S. 24th Infantry Division was later brought in to secure the vital airstrip.

ing late on March 10. As soon as San Roque was declared secure on March 13, an Army aviation engineer battalion moved in to improve the base. So did Colonel Clayton Jerome, the MAG-32 commander, who would be overseeing all the Marine Air units in the region under the designation commanding officer, Marine Air Groups, Zamboanga (MAGsZAM). As soon as the newly liberated airfield was turned over to his care, Jerome formally renamed it Moret Field in honor of Lt. Col. Paul Moret, an

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Marine pilots Lieutenant Willard Olsen and Lieutenant Winfield Sharpe demonstrate how each flew with Army Major Donald Willis on separate flights. Willis accompanied the pilots to help direct the air attack against a Japanese attack on Dipolog airstrip in northern Zamboanga province. March 27, 1945.

early Pacific air warrior who had died in a plane crash in 1943.

It would be a few days before Moret Field would be operational, so the burden of providing near-in air support to the 41st Infantry Division fell upon the small contingent of MAG-12 Corsairs at Dipolog. From the outset, as intended, the Marine airmen conducted close and direct support of the Army troops expanding their Zamboanga perimeter.

Though the Philippines had been scoured pretty clean of Japanese air power since the initial landings at Leyte in September 1944, there were still several Japanese aircraft based on Mindanao (of an original complement of 1,200). The only one of them to appear during the initial invasion phase was a fighter that made two strafing passes and dropped one small bomb against Moret Field on March 13. Despite the presence of Thirteenth Air Force fighters, the Japanese airplane escaped.

As soon as Moret Field was declared operational on March 15, eight VMF-115 Corsairs set down there. Three days later, all the Corsairs from VMF-211, VMF-218, and VMF-313 arrived, as did an Army Air Forces North American P-61 Black Widow night fighter squadron.

The first Marine close-support mission undertaken from Moret Field was on March 17. The MAG-32 intelligence officer was on the ground with one of the regiments of the 41st Infantry Division, and he called the initial support missions after obtaining permission from the division commanding general. (Some senior Army officers did not want airplanes dropping bombs and spraying bullets anywhere near their troops, others had to be convinced, and a few had an instinctive grasp about what the aircraft could accomplish. Maj. Gen. Jens Doe, the 41st Infantry Division's veteran commanding general, was one of the latter. If he had not been, MAGsZAM would have been a wasted effort.)

The first few ground-support missions harkened back to the first few combat missions undertaken by Marine Air at Guadalcanal in August 1942. When the first MAGsZAM Corsairs began operating from Moret Field, the base was still within sight of the front lines on which 41st Division troops were battling determined Japanese ground forces.

While that was going on, if the mission were not an emergency, the flight leader typ-

ically visited with the Marine air liaison party that would be guiding his flight during the actual attack. A good look at the objective from the ground usually had a positive effect on the accuracy of the mission. This method soon became unwieldy and finally impossible to continue, but it was fine while it lasted, and it certainly put Marine aviators in the right frame of mind for future ground-support missions.

On March 18, eight Corsairs each dropped a 1,000-pound bomb on Japanese troops dug in near Zamboanga Town, and then the Marine pilots strafed the zone and a large area around it. Later, eight other Corsairs dropped napalm on a defensive zone atop a ridge, also near Zamboanga Town. The 41st Division troops facing these enemy positions, which were obliterated, were thankful, because if it had not been for the Corsairs they would have had to clear the defenses the old-fashioned way.

On March 21, a Marine air liaison party installed a radio in an Army L-4 spotter plane and relayed directions from the air via the team's jeep-mounted radio. The importance of this innovation was that the aerial spotters could see in relatively slow motion what Corsair pilots had to find and attack at much faster speeds. The result was a greater degree of accuracy and a major step toward techniques that are today taken for granted. Moreover, following the first such mission the Japanese withdrew from the target area after blowing up two of their own ammunition dumps.

A mission on March 22 involved 16 Corsairs, each armed with a 500-pound bomb. The target was a network of well-constructed pillboxes on an L-shaped ridge. Guided by an air liaison party on the ground, 13 Corsairs dropped their bombs with such accuracy that the follow-on ground assault by an infantry battalion was unopposed, and 63 Japanese corpses had been located in the bomb zone by nightfall.

The first Marine dive bombers reached Moret Field on March 24. Only a day earlier, Marine aviation units had been released from the Luzon operation, which was winding down. The first SBDs to arrive at Moret Field were several flights from VMSB-142 and VMSB-236, which were by then specialists in the art of providing pinpoint, on-call close air support for ground troops engaged in jungle combat. The arrival of the dive bombers added a whole new dimension to the Marine Air effort in Zamboanga.

On March 27, several hundred Japanese ground troops were located as they marched against Dipolog Airstrip in northern Zamboanga. Several MAG-12 Corsairs were still operating from the guerrilla base, and Army and Marine ground crewmen were in residence.

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In a photo by Lieutenant Robert Fields, killed shortly after this picture was taken, 40th Infantry Division troops take cover behind advancing tanks while moving against Japanese positions after landing on Panay Island, March 18, 1945.

Taking into account the utter lack of combat experience among the approximately 500 Filipino guerrillas holding Dipolog, MAGsZAM headquarters ordered all aviation personnel and the Corsairs to evacuate the place as the Japanese force drew nearer. This was done by the afternoon, but Major Donald Willis, the U.S. Army officer commanding the guerrillas, prevailed upon his Marine compatriots to at least attack the Japanese once before they arrived at Dipolog.

Four Corsairs were dispatched from Moret Field, and they landed at Dipolog to receive a final briefing from Major Willis, who suggested that the attack might be more profitable if he went along as an observer. The flight leader agreed, and Willis squeezed into a Corsair cockpit with the smallest of the Marine pilots on his lap. It worked. With Willis directing the Corsair division, the Marines used up all their ammunition in six devastating strafing passes against the Japanese force, and the Japanese withdrew.

Also, while the flight leader received a royal dressing down from his superiors, Major Willis was awarded a Silver Star by his. But the job got done, and Dipolog was not attacked.

On March 30, MAGsZAM was reinforced by the flight echelon of VMB-611, the first and only Marine PBJ (B-25 Mitchell medium bomber) unit to take part in the Philippines campaign. And the VMB-611 PBJs were not ordinary twin-engine medium bombers, either. The 16 medium bombers were specially rigged as powerful ground-support gunships capable of being armed with between eight and 14 heavy machine guns, eight aerial rockets, or 3,000 pounds of bombs. And each PBJ was equipped with its own radar-guidance system, designed to assist in pinpoint night attacks against ground targets.

They could also undertake photographic reconnaissance missions, day or night, and

the crews had even tried their hands at dive bombing. Also unlike standard PBJ medium bombers, the VMSB-611 aircraft were manned by two-man crews, the pilot and co-pilot. And the unit had undergone rigorous special training. There were several U.S. Army Air Forces units equipped and trained for similar missions, but VMB-611 was unique in the Marine Corps.

The attachment of VMB-611 made MAGsZAM a 24-hour-a-day concern. The PBJ squadron's first operational missions were antisubmarine patrols and long-range reconnaissance missions to Borneo and the sites of several proposed future landings in the Sulu Archipelago. None of these missions allowed the unit to show its unique combat capabilities or fighting spirit, but they were necessary. Moreover, VMB-611 was the only MAGsZAM unit with the range and training to undertake these missions.

While examining landing sites in the Sulus, the PBJ pilots attacked truck convoys, airfields, and such other targets as happened to pass in front of their gunsights. They also undertook scheduled night heckling missions against enemy airfields (though the bases had been pretty much abandoned by that point in the war).

Even as the 41st Infantry Division spread slowly across Mindanao under an aerial umbrella provided mainly by MAGsZAM, the Eighth U.S. Army's 40th Infantry Division mounted an unopposed invasion of Panay, in the Visayan Islands north of Mindanao, on March 18. The bulk of the air cover for the landings and subsequent reconquest of the islands was provided by three MAG-14 Corsair squadrons based to the north on Samar.

There was not much to do. The Japanese had withdrawn all but a few of their fighters from Panay, and resistance on the ground was light. Indeed, the island was defended by about 1,500 Japanese troops, who took to the hills and waged a guerrilla-style campaign until the Pacific War ended in August 1945.

Marine Air was also on hand when the Americal Infantry Division invaded Cebu on March 26. There was little opposition, but the beach was extensively mined—not the sort of defensive effort that could be countered from the air. There was considerable opposition as the U.S. Army troops advanced on Cebu City later in the day, and here the three Samar-based Corsair squadrons of MAG-14—VMF-222, VMF-223, and newly redesignated VMF-251—played a vital role when they strafed ground defenses and a motor column carrying reinforcements.

Following this relatively large battle, the Japanese defenders withdrew into the interior to wage a guerrilla-style campaign. MAG-14 provided support against dug-in defenders when it was required, but the requirement was hardly taxing.

Once again supported by MAG-14 Corsairs, elements of the 40th Infantry Division invaded Negros on March 28, 1945. This landing was unopposed, and the American ground troops, aided as needed by Marine Corsairs, were again drawn into a protracted guerrilla-style campaign.

THE DOUGLAS SBD DAUNTLESS DIVE BOMBER: AMERICA'S DEADLY WORKHORSE

The rugged and stable Douglas SBD Dauntless dive bomber—the U.S. Navy's "flying artillery" from Pearl Harbor until well past the middle of the Pacific War and the U.S. Marine Corps's flying artillery all the way through the war—was a design outgrowth of John Northrop's BT-1 dive bomber prototype of 1935.

A single modified prototype was built in 1938 as the XBT-2 and turned over to the Navy for testing. Given a more powerful engine and strengthened for service aboard carriers, the XBT-2 won the confidence of the naval flying community, and an initial production order was placed in April 1939, by which time the Northrop company had been purchased by Douglas Aviation.

Built under the SBD designation (for Scout-Bomber, Douglas), two models were produced simultaneously, the SBD-1 for land-based service with the U.S. Marine Corps and the rugged SBD-2 for carrier-based service with the U.S. Navy. Initially, 57 SBD-1s and 87 SBD-2s were ordered.

The Marine Corps began taking delivery of SBD-1s in late 1940, and the Navy took its initial delivery of SBD-2s in 1941. Thereafter, as quickly as new airplanes were received, both services reequipped standing squadrons and made them available as new squadrons were created.

The SBD-3, upgraded with self-sealing tanks, a better engine, increased fuel capacity, crew compartment armor, and a bulletproof windscreen, began rolling off the Douglas assembly line in March 1941. This is the model with which the U.S. Navy went to war at the end of the year. It was used well into 1943.

In early 1943, the SBD-3 began giving way to the SBD-4, which offered only a better electrical system. Combined production runs of SBD-3s and SBD-4s amounted to 1,364 copies, but 2,409 SBD-5s were manufactured. The SBD-5 and final SBD-6 models had more powerful engines than the SBD-3 and -4, but there really was little to differentiate -5s and -6s from -3s and -4s beyond a 1,200-horsepower engine, increased fuel capacity, more ammunition storage, and illuminated gun sights for the pilot and gunner.

The U.S. Army Air Corps took on 168 SBD-3s in mid-1941, and these were tested under the designation A-24. The Army also purchased 170 SBD-4s and 615 SBD-5s, but the Army Air Forces had access to better and more powerful single-engine land-based aircraft (such as the North American A-36 Apache) that were better suited to the Army's particu-

By early May, the need for air support in the Visayan Islands had diminished to the point where it was decided that MAG-14 could be employed more profitably elsewhere in the Pacific. The group was ordered to stand down and prepare to be transferred to Okinawa, and combat operations ceased on May 15.

MAGsZAM's role expanded on April 2, 194, when elements of the 41st Infantry Division landed at Sanga Sanga Island, 200 miles from Mindanao, at the southern extremity of the Sulu Archipelago and only 30 miles from Borneo in the East Indies.

Guided by a MAG-12 air-support command team aboard a U.S. Navy destroyer, VMF-115 and VMF-313 Corsairs supported the invasion against light opposition and provided a protective umbrella for the invasion flotilla. By the end of the day, MAG-12 had a jeep-mounted air liaison party ashore that guided VMF-115 and VMF-211 Corsairs in strafing attacks against several ground targets, including a radio station.

The day's second landing, on Bongao Island adjacent to Sanga Sanga, included a preinvasion strike by 44 MAG-32 SBDs, which dropped a total of 20 tons of bombs on preselected targets, and called strikes by VMSB-236 SBDs against a Japanese observation post and troop concentrations. Thereafter, until April 8 when no more profitable targets could be found, MAG-12 Corsairs were on station over Sanga Sanga and Bongao during daylight hours.

On April 4, MAGsZAM SBDs mounted their first attack against Jolo, an island in the Sulu Archipelago that had been bypassed by the Sanga Sanga and Bongao invasion force on April 2. There were relatively few Japanese on Jolo, and they were dominated by an even larger force of Filipino guerrillas.

The uncontested preinvasion aerial bombardment by MAGsZAM aircraft continued until April 9, when elements of the 41st Infantry Division sailed 80 miles from Zamboanga and invaded the place. Shortly after the beachhead was secured, a 16-man jeep-borne Marine air-ground liaison team came ashore and began calling strikes. Jolo was lightly defended, but it was large and heavily wooded, so progress on the ground was slow even if it was not particularly bloody.

Given that Moret Field was only 80 miles from the battle area and that MAGsZAM assets were vastly underutilized in other operations, the Marine Corsairs and Dauntlesses were called upon to strip away heavy cover ahead of American ground troops and Filipino guerrillas through the liberal use of napalm.

The strongest opposition the Japanese put up on Jolo was the defense of Mount Daho by about 400 well-armed *rikusentai* (special naval landing troops). Preceding the April 16 ground attack was a severe bombardment by artillery and Marine fighter bombers and dive bombers against specific Japanese strongpoints. Despite the strength of the bombardment, the ground attack failed at the outset.

On April 18, MAGsZAM put up an all-out effort: 45 SBDs from VMSB-243 and VMSB-341 attacked the stout defenses with 21 tons of bombs. And the next day, 65 VMSB-236 and VMSB-243 SBDs did

A Marine Corps SBD en route to a bombing mission against Vunakanan airdrome on Rabaul.

lar needs, so only a few early A-24s flew in combat in the Netherlands East Indies in early 1942, and a few later models saw limited use in the Aleutians in mid-1943.

Though SBD-5s and -6s saw service with the Marine Corps and with some Navy squadrons through the end of the war, the type was effectively supplanted in the fleet by the (some say less forgiving) Curtiss SB2C Helldiver carrier-based dive bomber. Though the Helldiver was in at the final victory, it must be said that the SBD-3 was there when it really counted—in 1942's four great carrier battles, at Coral Sea, Midway, Eastern Solomons, and Santa Cruz. In fact, two squadrons of carrier-based SBD-5s even flew in the fifth and last of history's carrier battles, in the Philippine Sea in June 1944. There, the fleet's last remaining Dauntlesses were more effective plane for plane than the SB2Cs.

Especially because it was there when the tide was turned in mid- and late 1942, the SBD-3 was the U.S. Navy and Marine Corps airplane that can arguably be put forth as the bomber that won the Pacific War. It was, after all, the type that fatally damaged all the Japanese carriers—six of them—that were sunk in that pivotal year, 1942. And SBDs saved the day time and again at Guadalcanal. □

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Curtiss SB2Cs ("Helldivers") of VMSB-244 fly over Mindanao on a close air mission in support of Army ground troops, June 1945. Although not as common as the Dauntlesses and Corsairs, the two-seat SB2Cs packed plenty of precision punch.

the same. It was later determined that 35 of 42 bombs dropped on one particular defensive area on April 19 were direct hits.

The ground attack against Mount Daho resumed on April 20, but it once again bogged down in the face of determined opposition. Next day, between artillery barrages, 70 MAGsZAM SBDs dropped 15 tons of bombs on the defenders. And on the morning of April 22, 33 SBDs and four rocket-firing VMB-611 PBJs attacked just prior to a renewed ground offensive.

Thanks in large part to Marine Air (and incessant artillery strikes), the American and Filipino ground troops finally overran the objective, where more than 235 Japanese bodies were recovered from bomb- and artillery-damaged caves, bunkers, and pillboxes. Even so, fighting on Jolo continued nearly to the end of the war as the Japanese survivors went over to a guerrilla-style defensive campaign in which American air support played a minor role.

For Marine Air, the conquest or neutralization of Japanese garrisons on the Zamboanga Peninsula and in the Visayan and Sulu Islands in March and April 1945 left just one major objective in the southern Philippines: the reconquest of the major portion of vast Mindanao, with its 35,000-plus Japanese defenders. For practical purposes, the reconquest of Mindanao's Zamboanga Peninsula and the main portion of Mindanao were entirely separate operations owing to the mutual isolation of the regions by ranges of impenetrable mountains.

The preliminary work against Mindanao (as distinct from the Zamboanga Peninsula) began shortly after MAGsZAM units started operating from Moret Field. Working in support of a very large and effectively organized 25,000-strong Filipino guerrilla army, Marine aircraft attacked numerous objectives around the island.

In early April, the main thrust of the attention shifted to the Malabang area, directly opposite the Zamboanga Peninsula. There, the American-led guerrillas worked toward ejecting the Japanese garrison in advance of the projected April 17 landing by the two infantry divisions comprising the Eighth Army's X Corps. Indeed, with the help of Marine Air, the guerrillas forced the Japanese to abandon Malabang on April 5.

On the same day the Japanese withdrew from Malabang, Marine Corsairs began operating from a guerrilla-held dirt airstrip there. Here, as at Zamboanga's Dipolog airstrip in early March, crude facilities allowed for the deployment of only a few aircraft at a time.

And as at Moret Field shortly after its occupation by Marine Corsairs, the front line was within sight of the runway. Marine pilots about to take off in support of the guerrilla forces often had an opportunity to directly view their objectives from the airstrip.

Often as not, the flight leaders were driven to frontline observation posts manned by Marine air-ground liaison teams. And in some cases, bombs were released on targets within 800 yards of the end of the runway. It was an exciting time for the Corsair pilots who took part, and virtually unique in the annals of Marine Corps aviation, for the actual invasion of the area by American ground forces had not begun.

In the six days leading up to the April 17 invasion, MAGsZAM Dauntlesses and Corsairs based at Moret Field joined in the general preinvasion bombardments by Army Air Forces bombers and U.S. Navy surface warships. Here, as they always did in the Philippines—and as they had in the Solomons—the Marines fully integrated themselves into an effective multi-service effort.

By April 11, pressure from the guerrillas and air and naval bombardment forced the Japanese to withdraw from Parang, the second initial objective of the X Corps invasion force. And by April 13, the Japanese had been driven far enough back from both Malabang and Parang to ensure an unopposed landing. By then, the Malabang airstrip was well beyond sight of the frontline action supported by its contingent of Marine Corsairs.

In the end, Malabang was invaded by a single infantry battalion rather than a full division, and the main show was shifted on the run to Parang, which was 17 miles closer to other important objectives. Although 35 MAGsZAM SBDs and 30 Corsairs were placed on station over Parang and the invasion flotilla as the landing force swept ashore, the overall campaign leading up to the invasion had been so effective that the landings were utterly unopposed, and there was no aerial opposition whatsoever.

By day's end, Marine Air Warning Squadron 3 had set up its radar and communications equipment in the beachhead area, and Marine air-ground liaison teams were operating at the forefront of the unopposed beachhead expansion.

On April 18, U.S. Army aviation engineers began expanding the dirt airstrip at Malabang for the impending arrival of an advance flight detachment of MAG-24 from Luzon. On April 20, VMSB-241 did arrive from the north, and VMSB-133 and VMSB-244 arrived on April 21 and April 22, respectively.

These moves brought all Marine aviation units left in the Philippines to Mindanao under the direct control of MAGsZAM. The newly expanded airfield at Malabang was named for Captain John Titcomb, a Marine aviator who had been killed in the front lines on Luzon while acting as head of a Marine air-ground liaison party.

As the regiments of the X Corps' two infantry divisions increasingly diverged from west-central Mindanao, MAG-24 SBDs came to play an increasingly wide-ranging and hectic role. In addition to several Marine air-ground liaison teams, the task of calling air support missions was picked up by 12 similar teams from the Army's 295th Joint Assault Signal Company—teams organized and equipped in large part upon the successful Marine model. Air support operations on Mindanao exactly fulfilled the vision upon which the air-ground teams had been built.

National Archives

Holding an enlarged service ribbon with a "25 mission" star on it, Marine pilots at Malabang celebrate their victories by posing for photos around an SBD Dauntless.

Once fearful of calling air strikes too close to their own lines, U.S. Army infantryman taking part in the Mindanao campaign often would not advance unless Marine Air and air-ground liaison teams were on hand to give them precision support at very close ranges. Once underutilized—if utilized at all—Marine air-ground support operations mounted from Titcomb Field and, to a lesser extent, Moret Field, became exhausting work.

By the middle of May, some days saw the pace reach to between 150 and 200 effective sorties, and on one memorable day, 245 Marine Corsair and Dauntless sorties resulting in the release of 155 tons of bombs against targets identified in the main by air-ground liaison teams. Long gone were the days in mid-1944 when it seemed that Marine Air had been relegated to an unimpressive role in the backwaters of the bypassed South Pacific.

On June 1, 88 Marine SBDs mounted what can be called their first saturation mission of the war upon a very small piece of real estate that could not otherwise be overcome by U.S. Army infantry and artillery. The mass attack, which included a number of napalm bombs, was spectacularly accurate—and successful. Indeed, when the American ground troops stormed the hitherto unapproachable defensive zone in the wake of the bombing attack, they were unopposed.

June 1 also saw the beginning of a new trend in the Pacific War. On Mindanao, VMF-313 was decommissioned in the field, and its aircraft and personnel were shipped home or dispersed to other units. Though there were still busy days ahead for Marine Air on Mindanao, the Philippines campaign was winding down and even the projected autumn invasion of Japan did not require the number of Marine aviation combat units then available in the Pacific.

On June 19, a 31st Infantry Division artillery spotter plane located large Japanese troop columns in an inaccessible area of Mindanao, and the job of attacking them was turned over to MAGsZAM. Every available Marine SBD was mustered for this mission, and on June 21, after thorough plotting of targets from the air, 148 Marine dive bombers took part in dropping a total of 75 tons of bombs on troop concentrations, bivouacs, supply dumps, and other targets.

Bad weather prevented an accurate accounting of the results, but large fires were observed and many bodies could be seen from the air when the weather cleared. It was later estimated that 500 Japanese died in the attack.

By June 30, thanks in large part to the tireless efforts of Marine airmen and the support of their ground crews, Mindanao was declared secure by the Eighth Army commanding general. By that date, Marine

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NEW MEXICO: ATOMIC SPY CAPITAL

During the 1930s and 1940s, America's top secret A-bomb program was undergoing scrutiny from our enemies—and allies. **BY RICHARD HIGGINS**

NEW MEXICO and its capital of Santa Fe bring to mind some beautiful images. Stunning sunsets, unlimited vistas, a plethora of art galleries, the spectacular food enlivened with the local green chile, an ancient Native American culture that still thrives, and a Spanish heritage tradition going back to within 50 years of Columbus's arrival all make for a unique cultural and physical environment. The Land of Enchantment, the City Different, tourist mecca—but spy capital?

Yes, spy capital. From the late 1930s until 1946, Santa Fe and its larger partner in New Mexico, Albuquerque, were the sites of some of the most famous and intense spy activity in world history. No one knew about it for years—except the foreign agents involved.

While this article deals primarily with the World War II era, there have also been other major espionage incidents in New Mexico since then. For example, perhaps the greatest defector in U.S. history, a dismissed CIA operative named Edward Lee Howard, escaped from Santa Fe in 1985 in a bold scheme to flee to the Soviet Union.

What goes on out in the middle of the American Southwest? What drew Soviet spies to the Land of Enchantment? Author E.B. Held, a retired CIA operative, claims in his highly recommended *A Spy's Guide to Santa Fe and Albuquerque,* that Santa Fe is a "sacred city" for Russian operatives and that the Russian agents often have their picture taken in front of the iconic Cathedral Basilica of Francis of Assisi and its statue of Bishop Lamy made famous by Willa Cather.

To properly assess New Mexico's leading role in espionage, we must go back in time and watch an extraordinary sequence of events that led to one of the greatest assassinations in history—and one of the most spectacular intelligence coups ever accomplished, both associated with Santa Fe.

Winston Churchill once famously said, "I cannot forecast to you the action of Russia. It is a riddle wrapped in a mystery inside an enigma." When we apply this to Soviet intelligence gathering, this is only the beginning of a journey compounded by deception, misdirection, and hidden truth—a wonderful field for historians to explore. The truth is out there, but hidden, and only trusted sources are to be relied on. But who to trust? There is the rub!

To establish a context for these events, we must first understand the Soviet intelligence presence in the United States in the late 1930s. Soviet spy agencies, represented by the GRU (Chief Intelligence Directorate, or military intelligence) and the NKGB (People's Commissariat for State Security, or political and internal security bureau, including the GULAG, or political prison camp system), had over 20 agents operating in the U.S. at the time.

Author's Collection and National Archives

On July 16, 1945, the world's first atomic bomb was detonated at the Trinity test site, 140 miles south of Santa Fe. A newspaper article, published on the same day that Hiroshima was destroyed by the bomb, gives some of the details of the top-secret weapon's development. A symbol of the Santa Fe Plaza, the 1880s-era Spitz clock, stands on the northwest corner. Soviet spies Klaus Fuchs and Harry Gold synchronized their watches beneath this timepiece.

The former KGB originated as the Cheka and went through many name changes such as OGPU, GPU, NKVD, NKGB, and finally the well-recognized KGB, all culminating in today's SVR (Foreign Intelligence Service) and FSB (Internal State Security Service). During the prewar period, NKGB was the most common name, so we will use that title whether it was true in a particular year or not. The acronym nicely combines our modern understanding with the past NKVD. The title GRU is still common, and while not always in use, is the most recognized identification for Soviet and current Russian military intelligence.

Both of these intelligence agencies developed some unique innovations in spycraft to further the cause of communist world revolution. The first of these innovations was the concept of the "two residencies." Simply put, the "first resident" was a member of the Soviet Embassy in any given country. He did not report to the ambassador but ran his own organization to gather intelligence, reporting to Moscow Center. These agents were immensely important figures in the GRU and later the NKGB, and much was expected of them, even though they were somewhat visible in the "light of day."

The "second resident" would be a person in a country illegally and equipped with a false "legend" or life story, and would usually be engaged in some sort of business venture as a "front." They were to have no contact with the first resident but would use a member of his team, usually a secretary, to communicate. This caused a number of problems and agent exposures, and in the late 1930s was corrected to "no contact" between the two. The second resident was to use his business cover to infiltrate industry and government to obtain needed intelligence, frequently giving up Communist Party membership to be in this role. While this was done to separate them from being associated with the Party, it also served as a kind of loyalty test. This two-pronged intelligence offensive would prove very successful over the years.

The second innovation to support the twin residencies, and arguably one of the most innovative inventions in espionage, was the use of "Mrachkovski Enterprises," named after their inventor, S.V. Mrachkovski. Begun in the early 1920s but expanded after the failures of the Comintern, these were legitimate businesses opened around the world to provide agent cover, training, infiltration avenues into government and business, and a source of clean money. This proved so successful that many agents were never identified and a number became highly important assets during World War II.

Armed with these twin tools, both Viktor Suvorov (a false name for Vladimir Rezun, a post-World War II GRU defector from whom the West has learned much of the GRU operating technique) and Walter Krivitsky, the first GRU defector, asserted that by the 1930s the GRU was the most effective intelligence service in the world.

The lines of control between the two agencies were never clear and their internecine warfare was spurred on by Stalin. Both agencies were heavily purged in the 1930s and 1940s with executions of the GRU leadership almost commonplace. The NKGB experienced purges, too, but its leadership was as stable as a rock after 1938 because it was led by Stalin's fellow Georgian henchman and chief executioner, Lavrenti Beria.

The GRU was and is the larger of the two agencies. Always shrouded in immense secrecy, at one time its officers could wear any Soviet rank and insignia they chose and, having no insignia designation, could not be identified as GRU; this truly was an army of ghosts. Their size dwarfed that of the NKGB operatives but, in the paranoid and personality-driven world of Joseph Stalin, they never attained his uncompromising support and paid a heavy price for this shortcoming.

The NKGB would become the senior espionage agency during World War II due to Stalin's increased support of Beria. This was later confirmed by Beria's assignment to the leadership of the Soviet atomic bomb project in 1944.

In this complex relationship, both agencies operated overseas residents through the

All: National Archives

The ruthless Soviet apparatchik Lavrenti Beria (left) commanded NKGB field units, supervised the Soviet atomic weapons program. NKGB agent Josef Grigulevich (right) lived in Santa Fe, tried to assassinate Trotsky in Mexico. RIGHT: Scientists and their families lived in these temporary rustic barracks at Los Alamos, New Mexico, west of Santa Fe.

Author's Collection

In a tiny room in the alcove between 107 and 109 E. Palace Avenue, now the office for The Rainbow Man gift shop, served as the Santa Fe headquarters for the Manhattan Project. Here a secretary greeted arriving scientists, gave them their papers, and made arrangements for them to be driven to Los Alamos. A plaque at the back of the alcove commemorates the site.

Soviet embassy and consular offices and as noted above in private life. Their assignment was singular: steal all the technical and scientific advances possible from the United States. In the 1930s this consisted of tank design, ciphers, and the counterfeiting of millions of dollars of U.S. currency. Later the prize would be much larger.

As the United States entered World War II, the agencies' assignment also became understanding American strategic and political thinking. There were hints of this activity occurring at the time in the United States and even some outright confessions by agents, but these were ignored by the FBI and American military intelligence. The price of this failure was immense.

Prior to the German invasion of the Soviet Union in 1941, the NKGB was primarily focused on internal purges and suppressing external communist "deviants." At the top of this list—and Stalin's primary focus—was the assassination of Leon Trotsky, Lenin's great partner in the 1917 Russian revolution. Stalin had been successful in having Trotsky exiled and thus removing him from the succession battle in 1929. However, being Josef Stalin, he could not abide a major foe remaining alive. He ordered Beria and the NKGB to make Trotsky's assassination at his exile residence in Mexico City their number one priority.

The man chosen to lead the overall plan would become a legend in spy circles: General Pavel Sudaplatov, a highly prolific NKGB assassin and eventual spymaster for the atomic spies. In 1994 he wrote his highly controversial and often misleading memoirs, *Special Tasks,* in which he recounted his many death-dealing enterprises, which included an assassination using a mined box of candy!

For all of the care needed in reading the memoirs, they provide a fascinating view into the Soviet hierarchy of the period. The operation, as with almost all Soviet "special tasks," was compartmentalized and run through a number of groups. One of these groups was led by legendary NKGB agent Josef Grigulevich, a Lithuanian raised in Argentina. This agent was so resourceful that in his next assignment he became the Costa Rican ambassador to the Vatican!

However, his problem in 1940 was to have an absolutely secure "safe house" to use for planning Trotsky's assassination and his subsequent escape. He chose Santa Fe, New Mexico, for his safe house. His father had been a leading owner of pharmacies in Argentina, and somehow Grigulevich managed to hook up with the Zooks—a Lithuanian family running a drugstore on Santa Fe's central plaza.

The Zooks were likely never aware of Grigulevich's activities, and his welcome may have come from the Zooks' daughter, Katie, who ran the pharmacy. Katie was a bit older than the handsome, worldly agent, and perhaps a relationship developed. However it happened, this unlikely relationship and the safe house in this unlikely location were perfect for his plans. The building still stands today as a Häagen Dazs ice cream store, and it is clear why it was a perfect choice. A much obscured back entrance allowed access with little chance of being seen—not that any U.S. agency was looking back in 1940.

On May 24, 1940, Grigulevich and his team of 20 agents, primarily Spanish Civil War communist veterans, were led into Trotsky's Mexico City compound by a naïve American bodyguard they had duped. Armed primarily with pistols and one rapid-fire weapon, they proceeded to blast Trotsky's bedroom to no avail; the Trotsky household survived.

Grigulevich was livid over his team's failure and shot the American so he could not identify the agents. He and the men then split up, and Grigulevich returned to Santa Fe where he laid low before heading back to Argentina and his eventual placement at the Vatican where he would receive orders to kill the Yugoslav partisan leader Tito; these orders were never carried out.

Upon briefing Stalin of the initial failure to kill Trotsky, General Sudaplatov commented, "[Stalin] appeared to be patient and prepared to play for higher stakes, putting his whole agent network on the line in a final effort to rid himself of Trotsky." Trotsky was successfully assassinated by another team supporting lone agent Ramon Mercador, who accomplished the task on August 20, 1940.

Sudaplatov discussed the disposition of the safe house in Santa Fe in his memoirs. He was wrong in stating that Grigulevich owned the drugstore and passed it on to another agent; it stayed with the Zooks until the 1990s. He was perhaps spreading disinformation when he stated that the house was used to spy on the Manhattan Project in nearby Los Alamos, but an element of truth is likely in his statement that some of the agents involved in the Trotsky

plot also assisted in the espionage associated with the atomic bomb project.

In 1939, a number of scientists influenced Albert Einstein, the most famous scientist and refugee from Nazi persecution, to write a letter to President Franklin D. Roosevelt pointing out the possibility "that extremely powerful bombs of a new type might be developed." The meeting that followed the delivery of the letter between prominent physicist Alexander Sachs and the president and his staff caused Roosevelt to launch the most secret and destructive project seen up to that time in human history.

Secret atomic projects were already underway in Britain, Germany, and Japan, so the U.S. was a bit late getting into the game and, in fact, made a very slow start, especially when compared to Britain. Initially just a committee to research the issue under a former Massachusetts Institute of Technology dean, Vannevar Bush, this innocuous start would grow into the Manhattan Project.

With Italian physicist Enrico Fermi's first construction of an atomic pile that sustained a controlled chain reaction under the stands of the football stadium at the University of Chicago in late 1942, things began to move with increased urgency. By July 1942, Robert J. Oppenheimer, a brilliant, complex, and driven physicist from the University of California at Berkeley, was leading a group of scientists trying to prove if a bomb was possible. He successfully handled the many egos in the room and caught the attention of the Army's chief for atomic issues, Brig. Gen. Leslie Groves of the Corps of Engineers. Groves was a stern, no-nonsense military man, but this strange partnership would yield amazing results in only three years. In May 1942, Groves selected Oppenheimer as the scientific head of the project.

A small group consisting of many of the world's leading physicists (which would later grow to include 12 Nobel Prize laureates including Fermi, Niels Bohr, Edward Teller, and Ernest Lawrence) would be on the team. Tens of thousands of other scientists, engineers, and technicians were

National Archives

Manhattan Project scientists discuss the giant cyclotron at Berkley in April 1940 (left to right): Ernest O. Lawrence, Arthur H. Compton, Vannevar Bush, James B. Conant, Karl T. Compton, and Alfred Loomis.

recruited for the project, as well as the required support staff of cooks, medical personnel, drivers, security, and so on.

The project would be based in three states. Oak Ridge, Tennessee, was chosen first as the major material production site; Hanford, Washington, would later be chosen for plutonium production, but the main core of the project—the scientific and development site—was not yet chosen. At this early stage of the project, a momentous decision was made that would change New Mexico forever.

The site selection was immensely influenced by Oppenheimer. There were specific criteria revolving around security, water supply, and access that were used to evaluate other southwestern states. They were eliminated, and only sites in New Mexico remained. There was no shortage of remote sites to choose from, and in November 1942, Groves and Oppie, as Oppenheimer was known, toured them to make the final selection.

Oppenheimer loved and was very familiar with New Mexico. His family had a small "ranch" up the incredibly beautiful Pecos River Valley named "Perro Caliente" (translation: "Hot Dog"). He had ridden and hiked the area extensively, most famously naming Lake Katherine for a friend. One of the places considered was the site of Los Alamos Ranch School—a very upper-crust boys' school that the likes of author Gore Vidal, Arthur Wood (later president of Sears), and Roy Chapin (later president of American Motors) had attended. The school was extremely rustic and would provide the beginning of a physical plant that grew many times over. But Oppie loved the site and Groves loved the security potential of this "middle-of-nowhere" location.

But were there other reasons behind the choice? When Groves offered Oppenheimer the the opportunity to direct the project in May 1942, he likely did not elaborate on the fight he had had with the review committee over Oppenheimer's leftist political views. The committee had initially resisted giving Oppenheimer the job but, in the absence of other viable candidates, eventually gave in to Groves.

The issue that would plague Oppenheimer in the future and would eventually end his career was his association with communism and known communists. In the late 1930s and through 1941—indeed until he got the job with the team in 1942—Oppenheimer associated regularly with known Party members and donated to the Communist Party. Additionally, his recent wife, Kitty, and his brother Frank and sister-in-law Jacqueline

were all card-carrying Communist Party members into the early 1940s. They remained members after the notorious Hitler-Stalin Pact, which saw the ranks of the party diminished by this realpolitik assault on some sincere humanists. The Oppenheimers' association with organized communism is all a matter of record and accepted by the great majority of historians of the period. After this, the matter of Oppie and communism gets very murky and has never been fully explained. However, it is known that there were several incidents during the war involving Oppie's communist acquaintances that would come back to haunt and eventually bring him down in the mid-1950s.

Oppie loved New Mexico, and it met the criteria for the site at the remote Los Alamos location, but was there something else behind that decision in November, 1942? The question is whether Oppie was listening to another source arguing for the site 20 miles from the former NKGB Santa Fe location. Did one of his family party members push for the location at the urging of GRU or NKGB agents? Unfortunately this will remain speculation unless a new source appears or some hidden government document or an unimpeachable Russian source surfaces.

The remoteness of the location was intended to prevent access to the scientists and isolate espionage agents, but was this already undone? We may never know, but history records that one of the major espionage coups in all human history was about to unfold in sleepy New Mexico.

By the spring of 1943, the Manhattan Project was well underway. Thousands more personnel were arriving, and over 100 buildings were built housing the first scientific personnel. The general living and working conditions at the site ranged from rustic to primitive; this would improve but would remain a constant challenge. Santa Fe was drawn into the project when its public face was set up at 109 East Palace near the Plaza. Here all new arrivals would check in, and tabs would be kept on those visiting the town. La Fonda Hotel also played a part as the Oppenheimers' first home in the area and was used for meetings and other functions. Both sites are still there today.

One aspect of the project that was given great attention early was the requirement for very tight security, at the insistence of General Groves. Initially, he had wanted to commission all scientists into the military for the extra control this would allow, but the idea was discarded. The project was not only highly secret, but the scientists were working on compartmentalized problems and discouraged from sharing between the different groups.

Author's Collection

The Fuller Lodge was part of the private Los Alamos Ranch School before being taken over by the Army in 1943 and converted for use by A-bomb scientists. Today the facility is a museum and art center.

This would be somewhat relaxed in later stages as the importance of cooperation became apparent.

The security would remain tight with fences, frequent screenings, letter reading and censorship by authorities, and phone taps. There were lapses, however, which seemed to indicate everything was not under control. While told not to associate with locals, some personnel snuck off to meet wives who were not allowed on base. The manager of the lodge at nearby Bandelier National Monument, which was used for recreation and housing by the project, called them "those atomic people!"

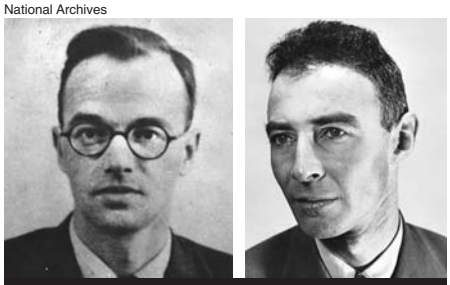
Finally, there was a hole in the fence surrounding the compound that never seemed to stay repaired. It was used to access to the beautiful New Mexico wilderness by project personnel and by the local Pueblo people to sneak on to the base to shop at the PX!

Yet, hardly any of this mattered because from its early days the Allied bomb project was being reported on by a British GRU agent. The secrets would leak at a faster rate when perhaps the most important of the atomic spies, Klaus Fuchs, codename "Charles," arrived in New Mexico with other British scientists in 1944.

Fuchs was a German communist who fled Germany in 1933 after Hitler's rise to the chancellorship. While in Britain he studied physics. His mother was driven to suicide by the Nazis, which further enflamed his anti-Nazi passion, which was even further fanned by the 1941 German invasion of the Soviet Union. Just before this invasion, Fuchs was taken on at the British bomb project and later in the year secretly recruited by the GRU. He contributed valuable information to his contacts, which author E.B. Held said was used by Beria to impress Stalin with the necessity of instituting a Soviet atomic project.

Fuchs' arrival at Los Alamos would be the breakthrough that Soviet intelligence services had been pushing for but, up to that point, had been generally unsuccessful in accomplishing. The contact with Moscow Center for Fuchs and other Soviet agents would be the Soviet Consulate in

National Archives



Communist spy Klaus Fuchs (left) gave A-bomb secrets to Soviet agents. Top scientist J. Robert Oppenheimer (right) headed the Manhattan Project despite his communist affiliations.

New York City, which was the American headquarters for the NKGB. While the FBI was on to the New York location, none of the "rest of the story" was known until the late 1940s.

Before arriving at Los Alamos, Fuchs passed on valuable intelligence regarding the work being done at Oak Ridge to his GRU contacts. This was after working for several months on the Manhattan Project in New York City at Columbia University.

His arrival at Los Alamos in the summer of 1944 began a series of espionage coups that are still legend in Russia. Fuchs made sure he not only dealt with his specialty, theoretical physics, but volunteered to be project historian. He also attended, ironically, the sessions that Oppenheimer convinced Groves were needed, where the free exchange of ideas was allowed. The Soviet presence was at the very heart of the project!

Fuchs's main contact initially in Cambridge, Massachusetts, and later in Santa Fe, was Harry Gold, codename "Arno," a naturalized American born in Russia and an NKGB agent. This was because the NKGB had taken over the GRU network due to Kremlin politics and would be the lead agency for the campaign to infiltrate the Manhattan Project, codename "Enormoz." Fuchs was likely unaware of this change in "ownership" and would proceed to gather data for the next meeting, scheduled for June 1945, in Santa Fe.

Harry Gold traveled to Santa Fe in the company of his elderly mother to throw off suspicion. E.B. Held tells us that both men synchronized their watches to the Spitz Clock on the plaza. (Today the clock is not in its original site, but at the northwest corner of the Plaza). At precisely 4:00 PM on June 2, they met at the bridge on the Paseo de Peralta and East Alameda Street. The bridge has since been replaced and the original location was slightly east.

After discussing some issues, Fuchs drove Gold to the bus station for the return to Albuquerque and in the vehicle handed him a packet of information that would change the world. The packet's information would arrive at Moscow Center in approximately 10 days. The details are still astonishing. Contained in the packet were sketches of the bomb, technical discussions of the two different triggers to be used for "Little Boy" and "Fat Man" (nicknames for the bombs; they were uranium and plutonium bombs, respectively), details of the upcoming atomic test, and finally the U.S. intention to use the bomb against Japan based on successful test results—a complete view of the project!

On July 16, 1945, the world's first atomic device—the equivalent of 20 kilotons of TNT—was detonated above the sands at a remote desert test site codenamed "Trinity," some 35 miles southwest of Socorro, New Mexico. On August 6, a Boeing B-29 Superfortress bomber named *Enola Gay* and piloted by Colonel Paul Tibbets flew over Hiroshima, Japan, and dropped the uranium bomb that destroyed the city in a flash and killed 90,000-166,000 persons. Three days later, when the Japanese government did not immediately agree to surrender, a second B-29 (named *Bock's Car,* piloted by Major Charles Sweeney) dropped another atomic bomb, the plutonium weapon that exploded over Nagasaki, killing 60-80,000 people. On August 15, the Japanese government agreed to surrender unconditionally. World War II, a war that had claimed some 50 million lives, was at last over.

Fuchs and Gold would meet once more in Santa Fe—in September 1945 at the corner of Paseo de Peralta and Bishops Lodge Road near the Masonic Rite Temple. During their drive, Fuchs briefed Gold on the results of both the Trinity test and the results from Hiroshima and Nagasaki. It can safely be said that the Soviets knew as much about the project as any reasonably well-placed scientist working on the project. The results of these amazing thefts would advance the Soviet atomic-bomb effort by years.

The father of the Soviet bomb, Igor Kurchatov, stated in 1943 in his report to the Kremlin, as quoted in Jeffrey Richardson's *A Century of Spies,* "The material is of tremendous, inestimable importance for our State and our science." This was information generally provided by Fuchs and others associated with the British project. However, several American agents for the Soviets were soon to come on line with even more devastating effect and, when they were caught, it would precipitate one of the country's greatest scandals.

Unknown to Fuchs, there were other NKGB agents on site at Los Alamos, and they were American citizens. A brilliant, 18-year-old Harvard physics graduate with leftist ideals was brought into the project in 1944. He was Ted Hall, codename "Mllad," meaning "young.")

He would volunteer to spy for the NKGB, establishing contact in New York. It appears he was motivated by the appearance of a "worker's paradise" in the Soviet Union. However, as a walk-in, he was under intense scrutiny by Moscow Center. It was arranged that his best friend, Saville Sax, codename "Star," would be his courier before he met a real NKGB operative.

At their meeting somewhere in the vicinity of Central and First Avenues in downtown Albuquerque, Hall gave Sax an incredible written document detailing extremely critical information for the functioning of the bomb and, additionally, a list of scientists working on the project. Through the New York office this information was sent to Moscow Center.

Hall would make one more report to the NKGB via operative Lona Cohen ("Leslie") in August 1945 and report on the results of the Trinity test; they met on the campus of the University of New Mexico in Albuquerque. The incredible revelations provided by

Both: National Archives

ABOVE: Oppenheimer (center, with light colored hat), General Leslie Groves (to Oppenheimer's left), and others inspect the ground zero site of the Trinity test, September 1945, after Japan's surrender. BELOW: Reporters quiz General Groves, far left, at news conference following the Hiroshima bombing.

Hall advanced Soviet knowledge even beyond the Fuchs information.

Other NKGB agents were also operating, particularly those associated with Julius and Ethel Rosenberg. Julius Rosenberg was codenamed "Antenna" and later "Liberal." He had quit the Communist Party in 1943 to become a NKGB agent and immediately began to prove his value to Moscow Center. He ran a number of NKGB placements, which succeeded in enlarging the penetration of the project to fill out the technical detail. Among these agents was a young American serviceman stationed at Los Alamos, David Greenglass ("Bumblebee"), who was Rosenberg's brother-in-law.

Greenglass worked on the plutonium bomb, and his input on the engineering side versus physics theory was instrumental in supporting detailed reports from Fuchs and Hall to Moscow Center. This relationship would prove fateful for the Rosenbergs. Greenglass met with Gold twice at his rooming house in Albuquerque. The address is 209 High Street and it is currently the Spy House Bed & Breakfast. Greenglass's information regarding the implosion method of the device supported statements from both Fuchs and Hall. This was critical to the Soviets, who were extremely concerned about U.S. misinformation or agents' personal agendas.

Greenglass's confirmation of both the Fuchs and Hall data assured Moscow Center that they were receiving good if not invaluable information. However, this fateful meeting between Gold and Greenglass, against Gold's intuitive concern for spycraft risks, set in motion a series of events with fatal consequences.

These amazing espionage coups proved to be the height of the NKGB's penetration of the United States in the 1940s and accomplished in the face of what author Held observed as, "This was wartime New Mexico, which, in 1945, probably had the highest per-capita presence of counterintelligence officers of anywhere in the United States."

The bright red star in the West began to fade as the light struck U.S. analysts regarding Soviet espionage. Soviet efforts had begun to be exposed as early as 1939, but U.S. agencies were not yet listening. In the Soviet Union the purges were directed at first the NKGB, then the GRU, and finally the military command structure in the late 1930s. As the purges developed in the Soviet Union, the first GRU defectors emerged. Ignace Poretsky was assassinated after fleeing to Switzerland in 1937. His wife Elizabeth's book *Our Own People* is well worth reading for a firsthand account of the period. Then, even more sensationally, the GRU defector and colleague of Poretsky, Walter Krivitsky, was judged to have committed suicide while in Washington, D.C., in 1941 after defecting in 1937. His book *In Stalin's Secret Service* is also an excellent primer on life under Stalin and the Soviet intelligence service.

These events made numerous Soviet agents very nervous. The most nervous and influential was Whittaker Chambers, an American citizen who approached the U.S. government with his revelations of Soviet spying in 1939. Chambers was a

GRU agent with ties throughout Washington, D.C., and the United States. He also managed one of the GRU's most important agents, Alger Hiss. Chambers and other defectors were instrumental in deeply hurting Soviet spying in the U.S. In the months following Operation Barbarossa, the German invasion of the Soviet Union in 1941, GRU chief Golikov came to America to meet with the Roosevelt administration and Roosevelt himself on war aims. However, an important part of his mission was to reestablish the GRU network in the U.S. Due to Depression-era leftist sympathies within the Roosevelt administration and the "anti-fascist" alliance with Moscow, this was not difficult to accomplish.

In 1943, FBI chief J. Edgar Hoover received an anonymous letter detailing Soviet spying in America. Sudaplatov stated in his memoirs that the letter was sent by the NKGB resident in the Washington, D.C., embassy of the Soviet Union, Lt. Col. Mironov. In this famous letter, declassified in 1996, it described agents in all U.S. industrial towns and that they were stealing the "whole of the war industry." Additionally, the letter contained the first discussion of the Soviet massacre of Polish officers in the Katyn forest. Many historians believe that this bombshell was really the beginning of the Cold War.

The letter stunned the FBI, but initially there was little follow up. However, this likely provided a boost for the new U.S. Venona project for decryption of secret Soviet radio traffic, which began in 1943. The Venona project would later be responsible for establishing U.S. insight into the Soviets' wartime agents and efforts. (See *WWII Quarterly,* Spring 2011.)

Then, Elizabeth Bentley, a NKGB agent inside the United States, codename "Good Girl," surrendered in 1945 and was debriefed by the FBI. Her revelations startled the agency, and gradually comprehension of the massive Soviet infiltration began to come to light. Surprisingly, this massive breach of security would only be rapidly exposed by another famous GRU defection in 1945, that of the Soviet Embassy GRU officer in Canada, Igor Gouzhenko. Gouzhenko would defect, in his words, for, "The greatest gain is the one I feel deep down inside: that I did my duty towards the millions enslaved and voiceless in Russia today."

His defection and discussions with Canadian, British, and U.S. intelligence brought to light major portions of the Soviet atomic spy network. This was because the GRU was in charge of Canadian atomic espionage. Gouzhenko's information would have a profound effect on relations between the Soviets and the West and the degree of security maintained in the West against Soviet efforts. Most importantly, he would confirm the Venona transcripts and provide the true names for the codenames of American citizens working for the Soviets. Additionally, in 1945, the FBI would seek out and interview Whittaker Chambers again, with much greater interest. However, his bombshells would be reserved for 1948.

Alger Hiss was Whittaker Chambers's most important agent in the 1930s, and Hiss had continued to grow in his government career during the war years. This was perhaps the most significant result of the lax attention to Chambers's revelations in 1939 by US counterintelligence forces. The low priority or lack of belief in Chambers's information would persist until the Gouzhenko revelations and those of Elizabeth Bentley.

However, there were already concerns over Hiss's possible Soviet connection in the war years. Surprisingly, that did not prevent him from accompanying Roosevelt to Yalta as a special State Department team member. Possibly his greatest contribution beyond Yalta was the providing of plain-language copies of U.S. documents which assisted GRU

All: National Archives

Left to right: Alger Hiss, a Soviet agent in U.S. State Department; leftist physicist Ted Hall spied for NKGB, Ruth Greenglass, a spy who implicated the Rosenbergs; Elizabeth Bentley, "turned" NKGB agent, gave secrets of Reds' infiltration to FBI.

deciphering teams working on U.S. codes during the war. At Yalta, he was not intimate with Roosevelt but, as a note-taker, was able to attend numerous discussions of U.S. policy and Stalin's demands.

Meeting daily with General Milshtein of the GRU, Hiss briefed the Soviets on the U.S. response to Soviet proposals regarding the key questions concerning postwar Europe, Soviet participation in the war against Japan, and the future of Poland. This valuable information was presented daily to Stalin and, along with the atomic information, provided the Soviets with a complete picture of the post-World War II world.

The implications of the exposure of America's atomic secrets and post-war plans were truly decisive and strategic—not only promoting the development and distribution of atomic weapons but the laying in place of another conflict post-World War II. Stalin knew that the establishment of his plan for Eastern Europe had to be finalized by the Big Three before the first use of the atomic bomb that would radically change his negotiating position. Based on this espionage, it is clear that Stalin knew much more about the U.S. bomb efforts than President Harry S. Truman did when he announced it at Potsdam.

The Hiss story would not end with his arrest and conviction in the late 1940s and early 1950s but continues this day. As a historical side note, Hiss and other American offi-

Author's Collection

The "Spy House" at 209 High Street, where Harry Gold and David Greenglass exchanged secret information in Albuquerque, is today a bed and breakfast.

cials flew to Moscow for meetings after Yalta, and while there Hiss was secretly decorated with the Soviet Order of the Red Star for his services to the Soviet Union! The evidence against him has been confirmed by both Russian and Venona sources as well as Soviet defectors.

The defectors' revelations would eventually link up with Venona decryptions of Soviet radio traffic. The information provided by the defectors needed to be corroborated, and this was the best method available to U.S. counterintelligence. However, the information was highly classified and could not be made public, which limited its use in court cases. Hence the need for confessions by any suspected agents.

There is still controversy surrounding whether or not President Truman ever knew of the effort to cripple Soviet espionage in the United States. In 1949, working on Soviet radio traffic from 1943-1945, the project hit pay dirt. A number of decrypts revealed the spying on the Manhattan Project. Through some poor Soviet message discipline, the codenames of the four major spies, three of whom had confessed, and their identities were established. Venona would not be seen by the American public until 1995. All code names used in this article are from the Venona files.

The most damning exposure occurred in 1949 when FBI and British intelligence, through the use of Venona decrypts, identified Klaus Fuchs as a Soviet agent. When Fuchs was questioned, he immediately began to talk, and the story of the atomic spies began to surface. He implicated his contact, Harry Gold, who in turn implicated his contacts, the Greenglasses. When confronted, the Greenglasses named the Rosenbergs. All of these confessions were made as a trade for exemption from the death penalty. However, the Rosenbergs would never confess and would be the only atomic spies to pay with their lives. Ted Hall was suspected and questioned but successfully evaded punishment because the government could not reveal the real supporting evidence behind these allegations, Venona.

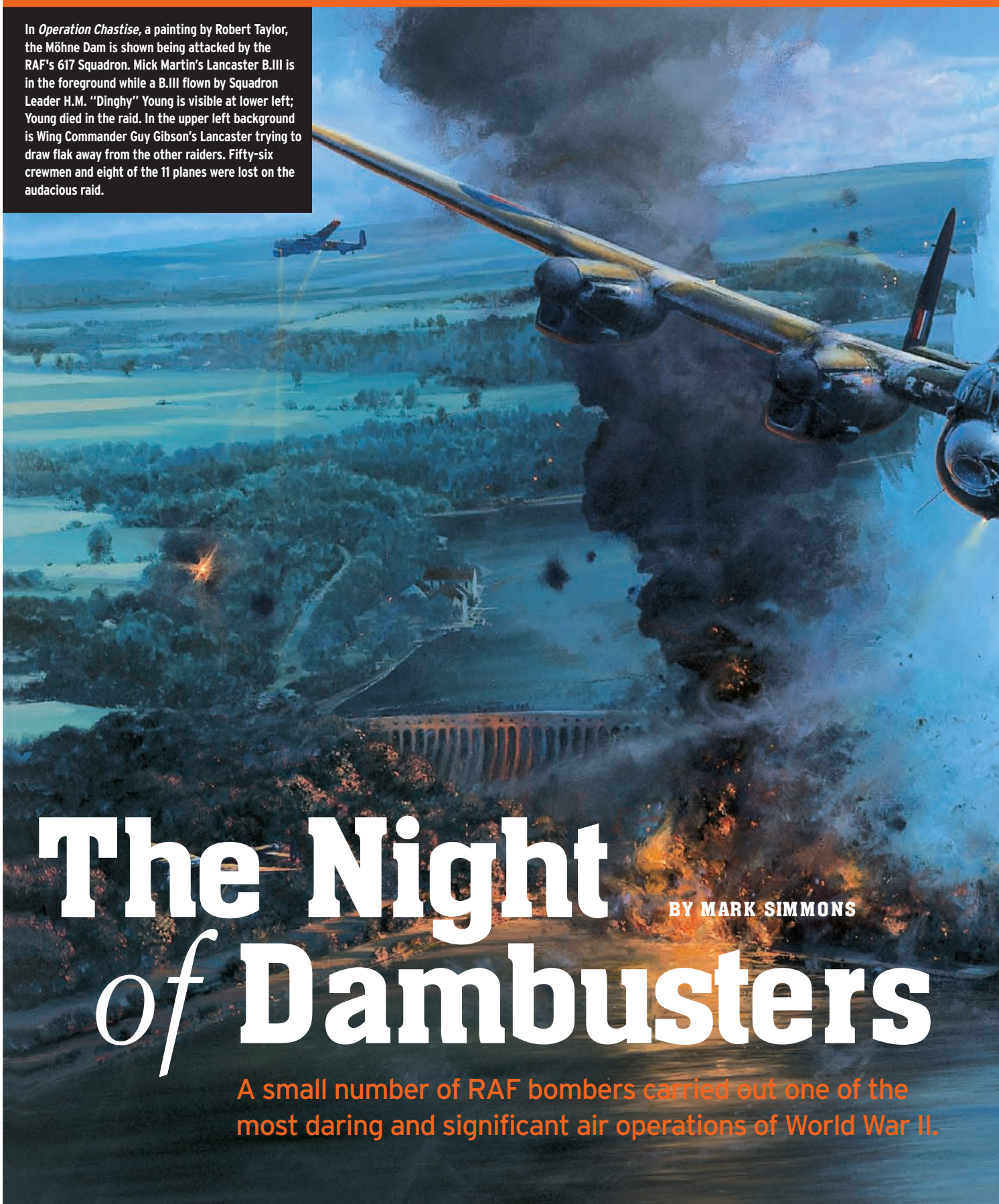
Numerous questions still remain about the Soviet infiltration of Enormoz. There are still questions and rumors about spies not caught. One persistent but unconfirmed speculation concerned an agent at Los Alamos, codename "Perseus." Did he really exist? If so, who was he and how damaging was his role in the great victory of the NKGB? However, the most controversial questions by far concern codename "Chester." Through a great amount of work using Venona decrypts and other sources, it was established that "Chester" was Robert Oppenheimer.

Further controversy was stirred up in 1992 when General Sudaplatov in his memoirs claimed that Oppenheimer was a Soviet agent. This was supported by other authors (notably Romerstein and Briendel in *The Venona Secrets*). There is little question that Oppenheimer was his own worst enemy. His very attitude toward authority and security made him a target. His opposition to the hydrogen bomb seemed to call into question his desire to keep the U.S. lead in nuclear weapons. His association with known communists, and indeed his own family members' membership in the Communist Party, spoke volumes for his political leanings. His clumsy cover-up for some incidents during the war would surface to damage him badly at his Atomic Energy Commission hearing for renewing his security clearance. His abysmal performance at the hearing was almost a guarantee of defeat. He would lose that fight and become persona non grata with the government for almost a decade.

However, in 1962, President John F. Kennedy would ask his CIA chief of counter-intelligence to get to the bottom of the story. Amazingly, using Venona decrypts, the officer ascertained that there had been many attempts by the NKGB to turn Oppenheimer, but there was no confirmation in the decrypts that this ever happened. The CIA investigator concluded, as stated in E.B. Held's *A Spy's Guide to Santa Fe and Albuquerque,* "There was room for an honest difference of opinion." This allowed Kennedy to hold out a hand to Oppenheimer and plan to award him the Enrico Fermi Medal for Distinguished Scientific Contributions to the United States. Unfortunately, Kennedy would be assassinated before presenting the medal; it was presented by President Lyndon B. Johnson at the White House in 1963. The current consensus of historians is that Oppenheimer was not a Soviet agent.

The United States and Soviet Union

Continued on page 97



In *Operation Chastise,* a painting by Robert Taylor, the Möhne Dam is shown being attacked by the RAF's 617 Squadron. Mick Martin's Lancaster B.III is in the foreground while a B.III flown by Squadron Leader H.M. "Dinghy" Young is visible at lower left; Young died in the raid. In the upper left background is Wing Commander Guy Gibson's Lancaster trying to draw flak away from the other raiders. Fifty-six crewmen and eight of the 11 planes were lost on the audacious raid.

The Night of Dambusters

BY MARK SIMMONS

A small number of RAF bombers carried out one of the most daring and significant air operations of World War II.

The Military Gallery

MAY 16, 1943, had been a sweltering spring day in England. At 9:39 PM, as the sun was dipping below the western horizon, leaving a rim of light and still good visibility, the first three of 19 Avro Lancaster bombers of No. 617 Squadron began to take off from RAF Scampton in Lincolnshire.

The bombers, under the command of 24-year-old Wing Commander Guy Penrose Gibson, took off three abreast, with a strange, round-looking object slung below each fuselage; Gibson called his aircraft a "pregnant duck." The perimeter hedge of the airfield came up all too quickly, and the lumbering aircraft barely cleared it.

The takeoff was the result of years of planning after the Ruhr dams had been identified as the mainstay of German war industry. The Ruhr armament factories—located in Essen, Düsseldorf, Gelsenkirchen, Dortmund, Duisburg, and other industrial sites in the area—could be effectively eliminated, so went the theory, by destroying 45 power plants in a deluge released by breaching the dams. The targets were Germany's "Achilles heel"; a successful attack would result in chaos and disruption in the industrial Ruhr. The Air Ministry felt the scheme should be "treated as urgent and of pressing importance."

However, a review committee believed the same result could be achieved by attacking only two targets—the Möhne and Sorpe Dams, although they were different types of dam.

Sorpe was an earthen dam, its central core supported by earth ramps. Möhne was a gravity dam held in place by its own weight. Farther east, another dam—the Eder—provided water for the inland waterways and canals of the Weser Valley.

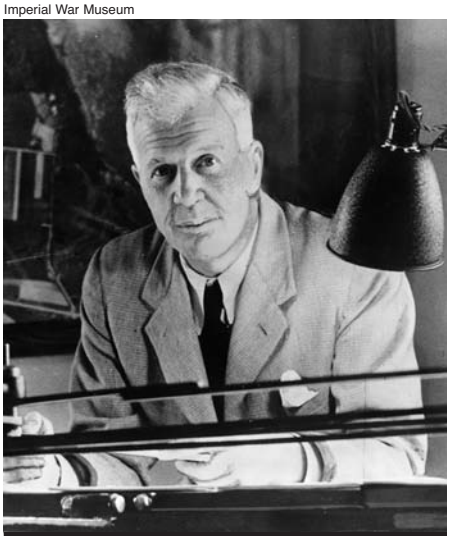
In theory, destroying the dams was all very fine, but how could it be achieved? Various types of ordnance were considered, including torpedoes, skimming bombs, bombs fitted with delayed-action fuses, and all types of depth charges. A depressing conclusion was reached that the amount of explosive required would exceed any existing aircraft's payload.

Wing Commander C.R. Finch Noyes, a veteran of World War I, examined all the data on the dam scheme. In September 1940 his report argued that if 20,000 pounds of explosive were exploded against the face of a gravity dam like Möhne, 40 feet down, a breach was more than likely and "the dam would go."

The method of attack would involve an aircraft flying low over the surface of the water and releasing a missile. It would sink and be detonated by a hydrostatic fuse activated by water pressure. During the winter of 1940 Finch Noyes refined his plan. An attack on the Möhne Dam would require 16 Vickers Wellington bombers carrying 64,000 pounds of bombs. There was still no decision on a type of skimming bomb or a torpedo of any sort.

However, the Finch Noyes proposal was rejected by senior staff officers on the grounds the delivery system would not work. But the dams remained priority targets. Finch Noyes believed that a low-level attack with a new weapon that would strike the dam wall was required. Over a year later the brilliant engineer Barnes Wallis designed just such a weapon.

Imperial War Museum



Barnes Neville Wallis drew his inspiration for the Upkeep bomb from the "bouncing cannonballs" used by the Royal Navy in the 19th century.

In the spring of 1943, the 54-year-old designer Wallis was then working for Vickers-Armstrong, being an old hand in the aeronautical industry. He had originally trained as a marine engineer, and in his early career he was involved in the design of airships. Later he concentrated on bomber aircraft such as the Wellesley and Wellington.

He had already been thinking about the dams and believed a 10-ton bomb would be required, but no available aircraft could carry such a bomb. So he set about designing a six-engine bomber. However, using 1:50 scale models of the Möhne Dam proved that even a 10-ton bomb dropped from 40,000 feet close to the dam might not breach it.

Wallis did not give up, and luckily A.R. "Dick" Collins, another scientist who had been exploring the Finch Noyes line of thought, had managed to detonate a scaled-down charge against a model dam with good results. Collins and his assistants at the government's Road Research Laboratory became known as the "Dam Blasters."

After the war Wallis wrote to Collins that what became "the bouncing bomb was originated solely to meet the requirements so convincingly demonstrated by your experiments that actual contact with the masonry of the dam was essential."

In the spring of 1942, Wallis came up with his answer: a bouncing bomb. He later recalled, "I had the idea of a missile which, if dropped on the water at a considerable distance upstream of the dam, would reach the dam in a series of ricochets, and after impact against the dam would sink in close contact with the upstream face of the masonry."

The idea went through several experiments. Those at the National Physical Laboratory at Teddington, in two large indoor tanks, were witnessed by Sir Henry Tizard, scientific advisor to the Air Ministry, who recommended a "full-scale test is desirable with a Wellington."

Over a period of six months, several tests took place at Chesil Beach near Weymouth in Dorset. By January 1943 Wallis's modified cylinders were beginning to bounce without shattering on impact with the water. During the fourth trial, the bomb bounced more than 20 times, and in the next trial traveled 1,315 yards.

This proved that the concept would work; the German dams could be attacked successfully with a bouncing bomb. Now he needed to convince those in charge.

Wallis sent his findings to the Air Ministry in a document entitled "Air Attack on Dams." He was confident that a 6,500-pound charge exploded in contact with the masonry wall of a dam 30 feet below the surface of the water could breach "the largest gravity dams in Germany." And such a bomb could be carried by a Lancaster bomber.

The differently constructed Sorpe Dam would be "self-destroying if a substantial leak could be caused within the central concrete wall." This could be achieved if detonation occurred on the water side of the dam at a suitable depth. In many quarters the proposal received a sympathetic hearing.

However, Air Chief Marshal Sir Arthur Harris, C-in-C Bomber Command, was not in favor, bemoaning the loss of one of his squadrons for two or three weeks. He wrote, "This is tripe of the wildest description. There are many ifs & ands that there is not the smallest chance of it working." And, "The war would be over before it works."

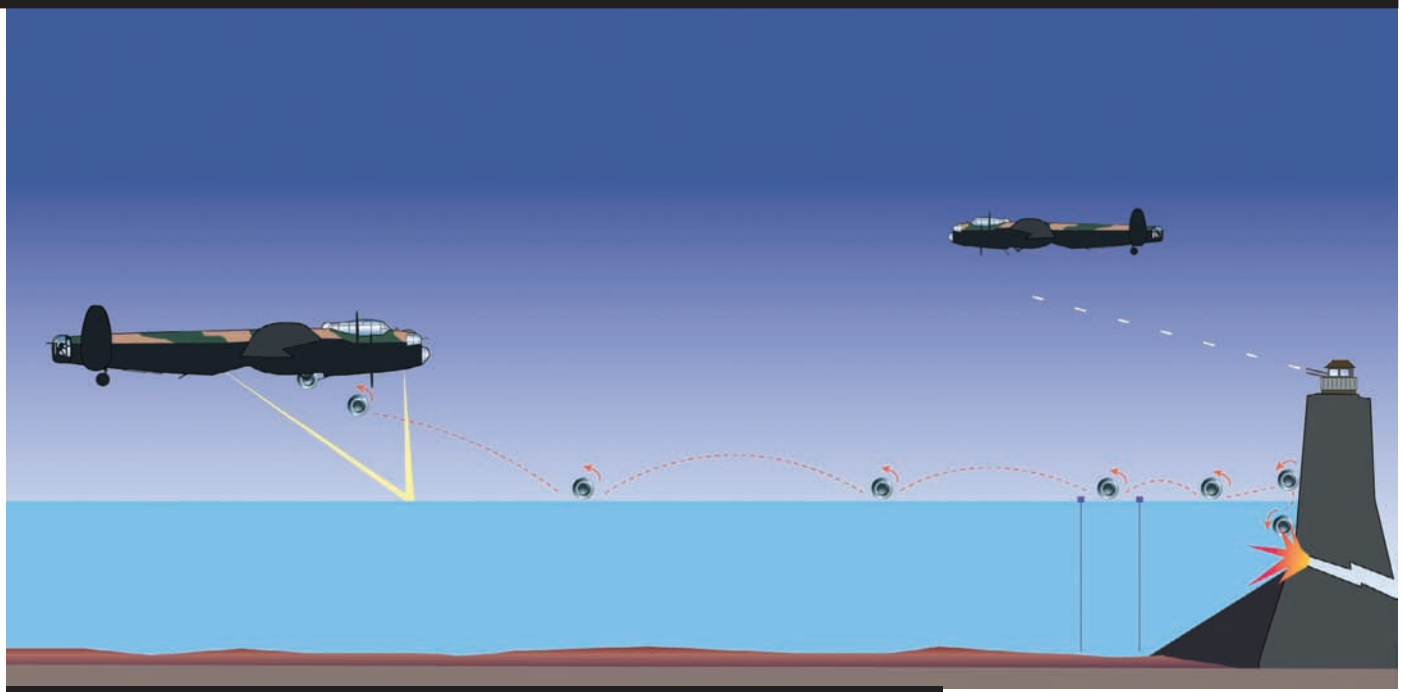
Harris did have a point. Even after seeing films of airborne tests, he remained skeptical. He had enough operational problems due to a high loss rate of his aircraft. For April 1943, production of Lancasters was estimated at only 123; Wallis wanted a quarter of these for a doubtful operation.

Wallis was soon told by his employers at Vickers-Armstrong that he was upsetting members of the air staff with his "silly nonsense about the destruction of the dams" and to drop it.

Events elsewhere, however, were moving in favor of the project. Air Chief Marshal Sir Charles Portal had already been proposing sending a special squadron of Handley Page Hampden bombers armed with torpedoes against the Möhne Dam. When Harris appealed to him, he refused to dismiss the plan, and further, he backed it by allocating three Lancasters for trials.

Wallis, in a favorable reversal of fortune, was told by Portal that the operation was to go ahead and that he wanted an attack in the spring, when the Möhne reservoir would be full. This was still a tall order for Wallis; up to the time of this meeting, February 26, no full-size bomb had been tested and was not even on the drawing board.

Once the decision to back Wallis had been taken, it became an RAF priority. Harris,



In this diagram, a Lancaster, its lights reflecting on the water to indicate the correct height for releasing the bomb, approaches a dam. Once released, the backward-spinning bomb skips across the water and over submerged torpedo nets placed in front of the dam. The bomb strikes the dam and sinks before detonating. A flak tower on top of the dam is shown firing on a second bomber.

the irascible C-in-C of Bomber Command, on March 15 gave the task to No. 5 Bomber Group, commanded by Air Vice Marshal R.A. Cochrane and told him to form a new squadron. It should be made up where possible of experienced volunteers who had completed at least one tour of 30 operations. Harris nominated Wing Commander Guy Penrose Gibson, who had served under him when commanding 5 Group, to command the squadron on the dangerous mission.

Gibson at that time was about to stand down as commander of 106 Bomber Squadron at Syerston, having flown 42 sorties in Hampdens, 99 with Bristol Beaufighters, and a further 29 with Avro Manchester twin-engine bombers and its four-engine successor, the Lancaster. He was short, stocky, and energetic; some considered him cocky or arrogant. He was no doubt looking forward to some leave time when he was posted to 5 Group headquarters, where Cochrane asked him to fly one more mission.

Gibson agreed, and was told he would command a new, specially formed squadron based at RAF Scampton, and the operation would not be carried out for two months, when his crews would have to be proficient in low-level flying at night.

The new squadron was created on March 17 and code-named "X." Postwar, the impression was fostered, partly by the 1955 commercial film of the raid (*The Dam Busters*), that Gibson personally chose all the aircrew members of the squadron; undoubtedly he did choose some but not all. Of the 133 who would take part in the attack, 89 were British, 28 Canadian, 13 Australian, two from New Zealand, and one American.

Three complete crews came from 97 Squadron, one piloted by Flight Lieutenant Joseph C. McCarthy, Royal Canadian Air Force, who was the lone American wearing dual shoulder flashes: "USA" and "Canada." He had been born in St. James, Long Island, but grew up in Brooklyn. He joined the Royal Canadian Air Force in 1939 anxious to get into the war, arriving in Britain in 1942 to serve with Bomber Command. McCarthy was one of those approached personally by Gibson, and his crew agreed to go with him.

Pilot Officer L.G. Knight, Royal Australian Air Force, came from 50 Squadron with his crew. Sergeant R. Kellow, his Australian wireless operator, explained: "The offer presented to us sounded interesting and with our faith in each member's ability, we made up our minds there and then that we would accept the offer and move across as a crew to this new squadron."

On March 24, Squadron X became operational, and three days later it became No. 617 Squadron.

A month earlier, Wallis had begun work on "Upkeep," as the bouncing bomb was code-named. The full-size version would be seven feet, six inches in diameter; the central cylindrical core would hold the explosive charge inside an external steel casing braced by wooden struts. The result looked like a beer barrel.

Each Upkeep bomb weighed 2,250 pounds and was filled with 6,600 pounds of Torpex, an underwater explosive used in torpedoes. When the Upkeeps were dropped, they would be given a backspin at 500 rpm. The bomb-aimer, ideally, would need to release it at 425-475 yards from the target.

Three hydrostatic pistols of a standard type used by the Royal Navy would provide the fuse. By March 2, manufacturing began at Vickers-Armstrong, which would provide the cylinders while the Royal Ordnance factories would insert the explosive.

All: Imperial War Museum

A series of photos taken during a practice session a few days before the mission shows a Lancaster releasing its dummy Upkeep bomb into a lake at Reculver bombing range, Kent. In the second photo, a plume of water engulfs the tail of the Lancaster, damaging the plane and soaking the tail gunner. In the third photo, the bomb bounces toward the shoreline as observers, including inventor Barnes Wallis, look on.

Lancaster B.IIIs were modified to carry the bomb. They were powered by four Merlin 28 engines built under licence by the Packard Motor Company of Detroit. Twenty-three Lancasters would be modified; 20 would join the squadron while three would be used in trials. The B.IIIs had their bomb-bay doors and front defensive turrets removed.

Practice trials now moved to the Thames estuary off the North Kent coast at Reculver, which was easier to cordon off from observation than was Chesil Beach. On April 13 new trials took place but were disappointing as the bombs disintegrated on impact. Wallis waded out to examine the fragments and reasoned they had been dropped from too high an altitude.

On the final run that day, a bomb was dropped at 50 feet. This time the steel cylinder bounced but damaged the elevator of the Lancaster. The test pilot had difficulty landing the aircraft.

The tests continued. Wallis explained to Gibson that the height of release had to be decreased or the attack would likely fail. It had been set at 150 feet but needed to be reduced to 60 feet. Wallis knew that, in the face of flak, this would increase the dangers, but Gibson agreed it was necessary. More trials followed, and Wallis determined that Upkeep needed to be dropped at 60 feet at 210-220 mph.

By May 13, the Upkeep bombs would be "sufficiently robust" to withstand repeated impact with the water and soft targets and had "satisfactory balance" in their cylindrical garden-roller form. This was the first time that the crews of 617 Squadron laid eyes on Upkeep, their weapon.

While testing was taking place, Gibson had already begun training his crews. He had decided on two flight commanders: Squadron Leader H.M. Young, DFC, and Squadron Leader H.E. Maudslay. Young proved an able deputy for Gibson, who was often called away to the Reculver trials. Maudslay from 50 Squadron was admired by the aircrew and held in "the greatest respect."

It was not until March 29 that Cochrane revealed the targets to Gibson, who was relieved it was not the battleship *Tirpitz,* which had been the rumor, then known to be anchored in a Norwegian fjord.

During April, Gibson reported "daily intensive flying training carried out when weather permitted." Sergeant F.E. Sutherland, RCAF, described the training: "I guess we had a lot of cross-country flying up as far as Scotland and round the Lake District, just low-level. I remember those canals in northern England or Scotland and flying along them, and I think it was all navigation and map reading."

At the end of April, Gibson reported all crews were competent to navigate at night and pinpoint locations at low level. Also practice with standard 11.5-pound bombs had been conducted on the Wash at the Wainfleet range. From April 26, crews had been instructed to bomb from 60 feet and at 210 mph.

Training switched to the Eyebrook Reservoir, near Uppingham in Rutland. The reservoir had a straight dam wall and was near full. Four wood and canvas towers were erected to simulate the towers on the Möhne Dam. Exercises began at 4:00 PM on May 4, startling nearby residents who took to their cellars and air-raid shelters.

However, they soon got used to the flights and began to watch the aircraft coming in low over the surface of the reservoir, releasing purple flares as they pulled up over the dam. Near Colchester, the Abberton Reservoir served to simulate the Eder Dam. Being more remote, there were no onlookers there.

Special aids were needed for the bomb-aimer to release Upkeep at the right point of the reservoir. A simple triangular wooden sight with two vertical nails was devised, through which the aimer looked. When the dam lined up with the two nails, the bomb was released.

Another problem was to keep the large aircraft stable at the low height long enough for the bomb-aimer. For the height requirement, spotlights were fitted beneath the wings, arranged in such a way that the beams merged on the water at 60 feet below the aircraft. To achieve this, the navigator stood behind the flight engineer on the pilot's right looking out of the Perspex blister; he then had to instruct the pilot to fly higher or lower to settle at the correct height.

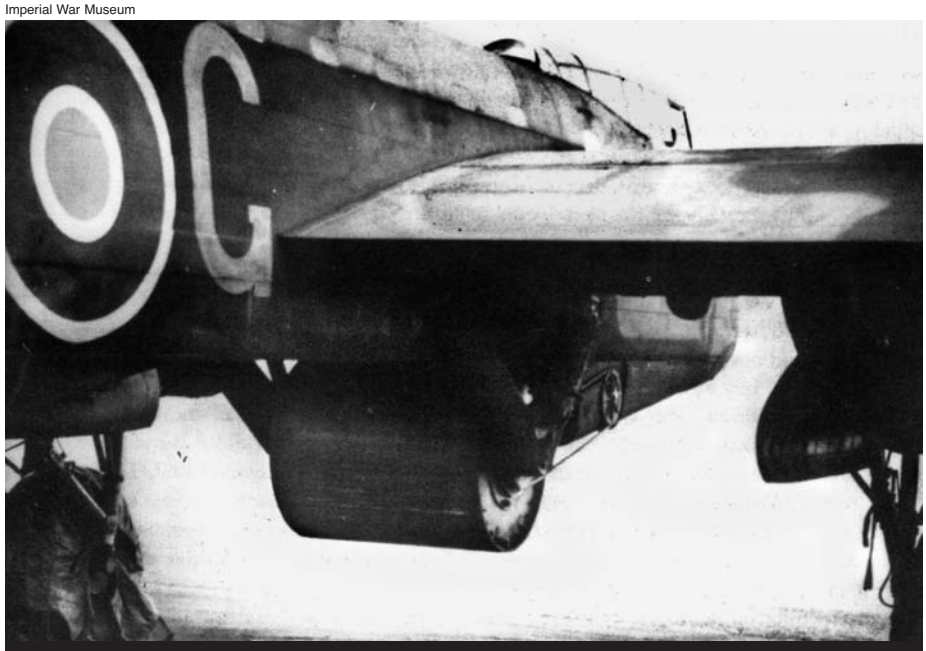
This method had been tried by aircraft attacking U-boats on the surface; however, it had proved of little use because of choppy seas in which the meeting beam could be lost. On the flat surface of the reservoir, though, it proved ideal.

During the night of May 14-15, 19 aircraft flew their last practice exercise before the real thing: Operation Chastise.

"Full dress rehearsal on Uppingham Lake and Colchester Reservoir. Completely successful," Gibson wrote in his logbook. Barely 48 hours later the mission would be launched.

Six dams were outlined for attack in the Air Ministry order sent to 617 Squadron on May 15. The Möhne Dam, completed in 1913 and holding 134 million cubic meters of water, was 26 miles east of Dortmund on the junction of the Möhne and Heve Rivers. The nearby countryside was heavily wooded, which would help conceal the aircraft on approach. Below the dam was a large power station. The dam had two towers that would aid the bomb-aimers; both towers, however, held flak guns.

Imperial War Museum



An 8,850-pound Upkeep bomb slung under the belly of Gibson's Lancaster shortly before the raid.

At the nearby village of Gunne were more flak guns that could engage the attacking aircraft. None of the AA guns were of heavy caliber, however, because the bigger guns had been withdrawn to defend the cities.

The Sorpe Dam was six miles southwest of the Möhne; it had a different structure and was about half the size. Bomber Harris argued this was the wrong dam to attack. "I knew, and asserted from the start," he said, "that the Sorpe Dam was the wrong construction to collapse from the bouncing bomb, though there was a faint chance that it might start a leak crack in the concrete 'blade' and then the escaping water might do the rest." But the decision was taken out of his hand.

The third Ruhr Dam outlined for attack was the Lister, much smaller than the other two but of a construction similar to the Möhne. Another dam, the Diemal, was of masonry construction.

The final Ruhr target was the Ennepe Dam. Like the Möhne, Diemal, and Lister, it curved in a convex manner into the reservoir. It was 20 miles due south of Dortmund, and the smallest of the targets.

Of the two dams in the Weser Valley, the Eder was the biggest and held 202 million cubic meters of water; its the reservoir was over seven miles in length. There were no flak defenses, for it was difficult to approach.

Operation Chastise was scheduled for Sunday, May 16. The 19 aircraft of 617 Squadron received final maintenance checks. The process to attach Upkeeps to cradles bolted below the Lancasters took about half an hour per aircraft.

Other than the Sorpe Dam, all the targets were to be attacked at right angles to

Imperial War Museum

Guy Gibson, commander of No. 617 Squadron, enters his Lancaster, followed by his crew, May 1943. Gibson, who was awarded a Victoria Cross in part for his role in the raid, was killed on September 19, 1944, when his plane, a de Havilland Mosquito, crashed while returning from a bombing mission over Germany.

the dam wall at a speed of 220 mph and at 60 feet altitude. At almost the last minute, Wallis decided that the Sorpe should be attacked in a different manner. Here the aircraft would fly along the top of the dam wall keeping the port outer engine on the crest and drop Upkeep in the middle. In theory, the bomb would then roll down the sloping support wall and explode 30 feet below the surface. It was hoped then the shock waves would crack the central core and water leakage would cause the collapse.

The weather forecast for May 16 was good. At 4:45 PM, a message from 5 Group arrived at Scampton: "Execute Operation Chastise 16/5/43 Zero Hour 2248."

Now all members of the air crew could be told the nature of the target at what Flight Sergeant T.D. Simpson, a rear gunner, called, "the largest briefing I ever attended."

Gibson told them they were going to "attack the great dams of Germany" and if they did not succeed, "you're going back tomorrow night."

Wallis then described each target in detail, and Cochrane told them of the need for secrecy at all times, as Upkeep might later be used against other targets.

The 19 aircraft were to be divided into three waves. Gibson would lead the first nine planes, divided into three formations and taking off at 10-minute intervals. They would fly over the North Sea, making landfall at the Scheldt Estuary and, skirting German defenses, they would attack the Möhne Dam (Target X).

Gibson would coordinate the attacks. Once the Möhne had been destroyed, remaining aircraft would fly to the Eder Dam (Target Y). After that, any aircraft still loaded with Upkeeps would move to the Sorpe (Target Z).

The second wave of five Lancasters led by Wing Commander McCarthy would attack the Sorpe flying over the Dutch coast and the German border farther north of the first wave.

The remaining five aircraft would form a mobile reserve, ready to attack wherever needed. They would take off 2½ hours after the others and be directed to the targets by a radio link from 5 Group.

Before takeoff, all crews were allowed to study the models of the Möhne and Sorpe Dams but, unfortunately, the model of the Eder was not ready. Sergeant F.E. Sutherland admitted he was frightened. "It was really scary to see the dams. The Möhne Dam had the flak towers and it just looked really rough. After a while you get a feeling like you were going to Essen, which with its 50,000 flak guns you know it's tough. But this one seemed to be worse; it just seemed to be the ultimate in dangerous things to do, so I was scared, really scared."

After the briefing the crews had their evening meals. Soon the time came for the men to be ferried out to the aircraft. Many saw Upkeep for the first time and G.L. Johnson, McCarthy's bomb-aimer, called it a "dustbin." Crews of the first two waves went through preflight tests. Engines were run and then shut down again.

At 9:28 PM, the signal was given, and aircraft AJ-E of Flight Lieutenant R.N.G Barlow, RAAF, began to roll. The aircrews of the third wave watched their comrades take off; they would have to wait two nervous hours for their own takeoff. Operation Chastise had begun.

Over the North Sea, each Lancaster tested its surface spotlights. Strong winds delayed the first formation, and the first wave reached the enemy coast at the wrong place. Instead of making landfall on the Scheldt Estuary, they flew over heavily defended Walcheren Island.

The Lancasters were proving difficult to navigate at such low altitude and needed constant correction. Gibson took his aircraft up to 300 feet to make it easier for his navigator, Pilot Officer H.T. Taerum, to plot a new bearing. The bomb-aimer, Pilot Officer F.M. Spatland, used a roller map to follow the terrain and was able to help Taerum when they descended to the required 100-foot altitude. They soon picked up the Wilhelmina Canal near the River Rees. Here they came under fire from flak barges on the river. Luckily, none of the aircraft was damaged.

Also, they were crossing more unplanned points of resistance. Near Dorsten all three Lancasters were caught in searchlights and fired upon. AJ-M, Flight Lieutenant Hopgood's plane, received light flak damage to the port wing but flew on.

The last turning point was the junction of several railway lines near Ahlen. Finally, AJ-G, Gibson's aircraft, breasted some tree-covered hills and there below them was the moonlit Möhne Reservoir. To Gibson's surprise, the other aircraft of the first formation that had lost contact with each other turned up at the reservoir at about the same time.

The second formation left Scampton at 9:47 PM, led by Squadron Leader H.M. Young in AJ-A, following Gibson's lead. Navigation in this case was better, and the formation made landfall over the Scheldt Estuary. Like Gibson, they had to take evasive action to avoid flak. Young's formation reached the Möhne at 12:26 AM, arriving individually. Flight Lieutenant D.J. Shannon in AJ-L arrived at the Möhne and was engaged by flak gunners firing from one of the dam's towers.

The third formation took off from Scampton at 9:59 PM. They ran into more trouble than the others, reaching the Scheldt behind schedule. At the turning point at the junction of the Rees and Dulmer Rivers, Flight Lieutenant W. Astell's Lancaster AJ-B was caught in a flak crossfire. It flew on for a short distance with pieces falling off, then burst into flames and exploded when it hit the ground.

About 12:20 AM, Gibson informed the other aircraft already at the Möhne: "Stand by, chaps. I'm going to look the place over." He took AJ-G on a circuit of the area. Reporting that he "liked the look of it," he then warned the others to be ready to attack. Hopgood in AJ-M was told to be ready to take over the mission if Gibson were shot down.

AJ-G made its final approach at 230 mph. All aboard concentrated on their tasks; Flight Sergeant G.A. Deering in the front turret engaged the dam's defenses.

Flight Lieutenant D.J. Shannon and his crew in AJ-L watched AJ-G going in, flak fire intensifing as they got closer to the dam, but they crossed through it safely and released their Upkeep at 12:28. The moon was bright with good visibility.

Gibson's rear gunner saw the bomb bounce three times and, after about 10 seconds, recalled there was "a terrific explosion" and a surge of water. However, once the water settled, the dam was still standing.

Gibson then called in Hopgood's AJ-M to attack, just as the two remaining aircraft of the third formation arrived. The German gunners were fully alert now. AJ-M was hit on the outer port engine and the starboard wing. The Upkeep was dropped late and bounced over the dam wall, landing on the power station below. AJ-M crossing the dam was already in flames. Hopgood climbed to about 500 feet, then one wing fell off and the plane blew up. Gibson reported he thought some of the crew might have bailed out due to Hopgood's heroic attempt to gain height. Indeed, three did, and two survived to be taken prisoner.

Operation Chastise was off to a bad start. Gibson and Flight Lieutenant H.B. Martin, flying AJ-P, ensured the effort did not falter, though. Gibson came in slightly ahead and to starboard of Martin to distract and engage the flak gunners. AJ-P was hit but in none of its vital parts. At 12:38 AM, Martin's bomb-aimer dropped the third Upkeep. Again, it hit the dam wall although not in the center, having veered off course, and exploded on the left bank of the reservoir. The dam remained intact.

Gibson next called Young forward in AJ-A, while he patrolled the far side of the dam to again distract and engage the flak gunners. Gibson noticed Young's Upkeep made "three good bounces" and exploded dead center on contact with the dam that still apparently held.

But Young's bomb had breached the dam although

THE AVRO LANCASTER: BRITAIN'S FINEST BOMBER

The four-engine Avro 683 Lancaster was the finest British heavy bomber of World War II, some say the best serving on either side in World War II.

The prototype flew on January 9, 1941, and was an immediate success, resulting in large production orders being placed. This was strange in a way, as the Lancaster design was based partly on the unsuccessful twin-engine Manchester.

It was the Lancaster B.III model used by the Dambusters of 617 Squadron. This type went on to attack and sink the German battleship *Tirpitz* in November 1944, using 12,000-pound "Tallboy" bombs, also designed by Barnes Wallis. These were the ultimate in conventional bombs reaching 22,000 pounds with the Grand Slam, a weapon designed to have an earthquake effect. In all versions, 7,377 Lancasters were produced.

SPECIFICATIONS

Crew: Seven

Power: Four 1,640-hp Rolls Royce Merlin engines.

Performance: Maximum speed 287 mph. Cruising speed 210 mph. Service ceiling 24,500 ft. Range: 2,530 miles with 7,000 lb. bomb load.

Armament: Eight 303-cal. machine guns mounted in three turrets, four in the rear turret.

Bomb Load: One 22,000 lb. bomb, or up to 14,000 lbs. of smaller bombs.

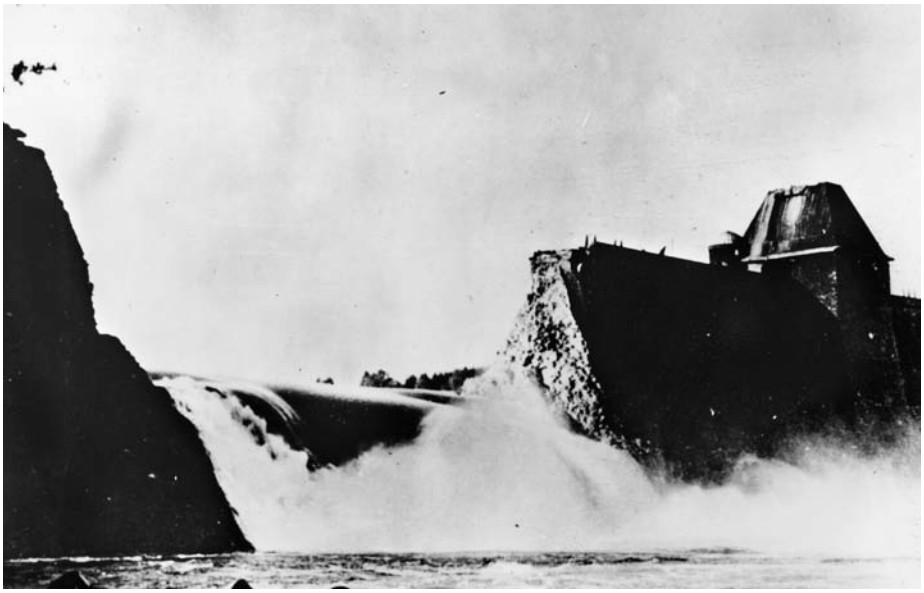
Dimensions: Wingspan 102 ft., length 69 ft., height 20 ft., wing area 1,297 sq. ft.

it was not immediately apparent from the observing aircraft. Gibson ordered forward his fifth aircraft, AJ-J, piloted by Flight Lieutenant D.J.H. Maltby. On his approach, Maltby suddenly realised the top of the dam wall was crumbling and recalled, "There was a breach in the centre of the dam."

Maltby dropped his bomb, which bounced four times, struck the dam, and exploded. He reported, "Our load sent up water and mud to a height of a thousand feet."

Gibson went in closer and saw the dam shattered and water surging down the valley. At 12:56 AM, he transmitted the signal for success. However, they could not linger and admire their handiwork. The aircraft that had expended their bombs turned for home while Gibson, accompanied by Young, now deputy leader, and the three remaining aircraft with bombs, headed for the Eder, 14 minutes flying time away. They made their way individually to the target.

Both: Imperial War Museum



Two views of the destroyed Möhne dam east of Dortmund, photographed several hours after the raid.

Back at the 5 Group operations room, despair at the loss of two aircraft soon turned to joy when the success signal came through and was confirmed. Bomber Harris congratulated Wallis on the success of the mission, saying that now he could even "sell me a pink elephant."

The five remaining Lancasters had trouble finding the Eder because the area was covered in mist. Gibson found it first but was too far to the west and spent several minutes flying west above the narrow part of the reservoir lying beneath the surrounding steep, tree-covered hills. The area around the dam itself was luckily clear of mist. Young joined him fairly quickly, but neither had an Upkeep.

The other armed aircraft arrived shortly. There were no flak defences at the Eder Dam. About 1:30 AM, Gibson ordered Shannon in AJ-L to attack, but the approach was difficult. Three times he tried it without releasing his Upkeep, unable to reach the right height. Maudslay in AJ-Z then tried twice with the same result. Shannon came in again and dropped his bomb. This time it bounced twice before striking the dam with a now familiar explosion and water spout. Shannon used his landing lights to aid his steep climb after crossing the dam over the surrounding hills.

On Maudslay's third run, his bomb-aimer got Upkeep away but late, and it exploded on contact with the parapet. Most observers believed AJ-Z was not damaged by the detonation of her own bomb as the aircraft was well clear of the dam and was seen banking away steeply. But then it vanished without a trace.

Finally, Pilot Officer L.G. Knight's AJ-N, the last bomb-carrying aircraft, attacked. Like the others, Knight had difficulty lining the aircraft up after the steep descent to the reservoir and made one dummy run. However, on the next run his Upkeep was released, bounced three times, and hit the dam to the right of center. Gibson saw the dam collapse "as if a gigantic hand had pushed a hole through cardboard." After Knight's run, Shannon's bomb-aimer heard "one hell of a bang," then Buckley, the rear gunner, yelled over the intercom, "It's gone."

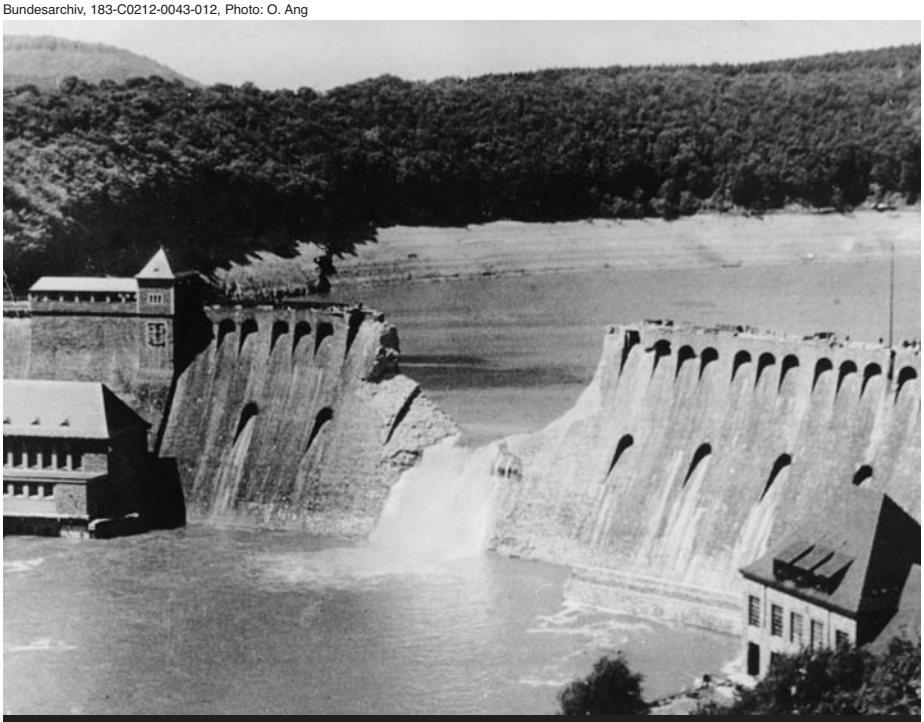
At 1:54 AM, Gibson signalled "Dinghy,"the code word indicating that the Eder Dam had been breached.

Maltby's AJ-J was the first back to Scampton. With an uneventful trip back, he landed at 3:11. Maltby met the adjutant, Flight Lieutenant H.R. Humphries, at the debriefing room. Maltby was asked, "Hello, Dave, and how did it go?"

Maltby's reply: "Marvelous, absolutely marvelous. Water, water everywhere, wonderful, wonderful."

Knight's AJ-N was the last back, landing at 4:20 AM. It was time to count the cost. Four aircraft were missing. Other crews had witnessed the losses of Astell's AJ-B and Hopgood's AJ-M. Maudslay's AJ-Z had not crashed at the Eder; it was brought down by flak near the Rhine oil refinery at Emmerich. There were no survivors.

Bundesarchiv, 183-C0212-0043-012, Photo: O. Ang



The Eder Dam (Target Y) on the Weser Valley, photographed the day after the raid.

Young's AJ-A had been shot down crossing the Dutch coast near Castricum-ann-Zee at 2:58 AM. None of the crew survived. Bodies were later washed up on the coastline, confirming the loss. They were not the only aircraft of 617 Squadron downed that night.

The aircraft of the second wave to attack the Sorpe Dam left Scampton before the nine Lancasters of the first wave but had farther to go on the longer northern route. They were led off by Flight Lieutenant R.N.G Barlow in AJ-E at 9:28 PM. Barlow crashed near Haldern at 11:50 PM. It is believed from German reports to have hit high-tension wires, possibly after receiving flak damage. Their Upkeep's self-destruction device was not armed, so it did not explode and was recovered intact by the enemy.

Flight Lieutenant J.L. Munro's AJ-W took off from Scampton right after Barlow. The northerly route joined Gibson's first-wave route at the Rees turning point. AJ-W was damaged crossing Vlieland by fire from a flak ship. Sergeant W. Howorth, the front gunner, felt the aircraft was badly damaged: "The intercom was put out of action and VHF for communication with other aircraft of the wave was lost."

Power for the rear turret was also lost. "We could not speak to the other planes in the wave," Howorth reported, "and were left with one rather unreliable compass and had very little defence against fighters." They had little choice but to try and return home.

AJ-K's Pilot Officer V.W. Byers, a Canadian, had taken off at 9:30 PM. As with Barlow, nothing more was heard from this aircraft. It is likely it was shot down while flying low over the heavily defended Dutch island of Texel. AJ-H Pilot Officer G. Rice's crew reported an aircraft being caught by flak "off Texel" while flying at 300 feet.

Rice's AJ-H itself suffered a bizarre fate. Crossing the narrow neck of land at Vlieland, Rice was too low, and he had to pull up sharply. He climbed to 300 feet to check position. Returning to low-level flying over water, the flight engineer realized too late that the altimeter was giving a wrong reading. A heavy shudder struck the aircraft. Rice pulled up and felt another "violent jolt." They had lost their Upkeep. The operation was over for AJ-H.

American Flight Lieutenant Joe McCarthy was in trouble before he left the ground. His AJ-Q had developed a coolant leak in the starboard outer engine, so he and his other six crew members had to change over to the only reserve aircraft, AJ-T, which was "bombed up" but had no VHF radio or Aldis lamps.

Like all the others, the crew of AJ-T found navigation difficult. However, 15 minutes after midnight they reached the Sorpe. McCarthy's aircraft was the only one of his five-plane section to reach the target by flying low, as he recalled: "Very hot reception from the natives. When we crossed the coastline at Vlieland, they knew the track we were coming in on, so their guns were pretty well trained when they heard my motors. But, thank God, there were two large sand dunes right on the coast which I sank in between."

McCarthy was puzzled to be alone but did not hesitate in making his attack. It took them 10 runs before Sergeant Johnson, the bomb-aimer, was satisfied enough to release the bomb close to the center of the dam. McCarthy turned away to port, climbing rapidly with the loss of weight. There was evidence of damage to the top of the dam wall, so the aircraft lingered a while, hoping it would collapse, then turned for home at 1:00 AM.

Despite their best efforts, they had not breached the dam. In fact, four of the target dams remained intact, while only five Lancasters of the Mobile Reserve remained. It was now their turn.

Once 5 Group learned the Möhne and Eder Dams had been breached, it ordered the third wave to attack the Lister Dam. The third wave took off singly and followed Gibson's southern route over the Scheldt Estuary. AJ-C was the first aircraft to take off at 9:09 AM on Monday, May 17, captained by Pilot Officer W.H.T Ottley.

Ottley was followed by Flight Sergeant W.C. Townsend's AJ-O. While crossing the enemy coast, Townsend's navigator noticed a flash to starboard. "Ahead and to starboard" he noted, "searchlights broke out and an aircraft was coned at something over 100 feet, more searchlights and lots of flak and a terrific explosion in the sky." It was Ottley's AJ-C.

Flight Sergeant K.W. Brown of AJ-F saw it, too, and that "his tanks exploded then

his bomb." Miraculously, one of Ottley's crew, rear gunner Sergeant F. Tess, survived. He was blown clear of the Lancaster with third-degree burns and spent the rest of the war as a POW.

AJ-S, with Pilot Officer L.J. Burpee, left Scampton two minutes after Ottley and was soon posted missing. His end was also seen by Mobile Reserve crews. Brown in AJ-F crossed the enemy-held coast at 1:30 AM, finding his compass in error by five degrees. Shortly thereafter, the crew witnessed AJ-S being shot down. Brown's bomb-aimer, Sergeant Oancia, saw AJ-S stray off course over the Luftwaffe base of Gilze-Rijen. It was hit by ground fire and went down in flames, the bomb exploding as it hit the ground.

Brown ran into trouble trying to shoot up a train that "did them no favours," according to Sergeant H.B. Feneran, the flight engineer, but merely drew attention to them. Over Germany and fearing fighters, Brown flew so low he once followed a road below the surrounding tree line. Crossing the Möhne, they saw a clear break in the dam and water pouring down the valley.

Brown's AJ-F was the second Lancaster to attack the Sorpe Dam. Mist had come down thickly, and it took them quite a time to find the target. At about 3:14 AM, the mist cleared, and their Upkeep was released. It rolled down the sloping bank and exploded in the moonlight with a great plume of water, but the dam remained intact. At 5:33, with the sky becoming light, AJ-F returned to Scampton.

The fourth reserve aircraft, W.C. Townsend's AJ-O, almost stalled on take-off and went through the top of the perimeter hedge before gaining height. According to his navigator, Pilot Officer G.L. Howard, Townsend flew his Lancaster "as if it were a Tiger Moth trainer."

At 2:22 AM, Townsend attacked the Ennepe Dam. Again, the crew had trouble finding the target. Finally, they found it through drifting mist, but it took four runs before the bomb-aimer was able to release Upkeep. The crew saw the bomb explode but also saw it had fallen short, about 50 meters from the wall.

Imperial War Museum

Post-raid RAF reconnaissance photo of the reservoir once held back by the Möhne Dam shows it nearly drained.

Night fighters had been scrambled to intercept this aircraft, but AJ-O, flying low and on a roundabout route, got back to Scampton, landing safely in daylight at 6:15 AM. An oil-pressure concern had forced them to shut down one engine, requiring Townsend to land on three.

The final aircraft of the reserve, AJ-Y, under Flight Sergeant C.T. Anderson, had difficulty finding the target in the mist, which was not helped by 5 Group, which had ordered him first to attack the Diemal Dam and then changed it to the Sorpe.The rear turret of AJ-Y was out of action due to a breakdown, and was dawn coming fast. Anderson decided to turn back. He landed at Scampton at 5:30, only the second Lancaster to return with its Upkeep.

The efforts of the Mobile Reserve brought Operation Chastise to a close in the early hours of May 17.

For the members of 617 Squadron and the ground staff at Scampton, the promising results of Operation Chastise were tinged with the feeling of heavy loss: eight aircraft had not returned and 56 men were lost. That Monday morning the sorrowful task of contacting bereaved relatives began.

However, despite this, there was a mood, a gathering strength of elation. Messages of congratulation began to come in. Cochrane to Gibson: "All ranks in 5 Group join me in congratulating you and all in 617 Squadron on a brilliantly conducted operation."

Early that morning, reconnaissance Spitfires were over the dams and the surrounding areas, bringing back dramatic pictures of the destruction caused by the floods. The Möhne Dam had a gap 250 feet long and 72 feet deep ripped in its wall. Of the 130 million cubic meters of water it had contained, 116 million had escaped in 12 hours, floods extended over 65 kilometers, and countless bridges and buildings were destroyed.

Two power stations also had been swept away.

The official German figures were that, between the Möhne and Ruhr Valleys, 11 factories were destroyed, 114 damaged, 25 road or rail bridges were wiped out, plus numerous power stations, pumping stations, and water and gas facilities were affected. There were some 1,300 casualties—over 1,000 dead, the rest missing.

The picture with the Eder was different as the RAF's aim was to disrupt river and canal communications. The Eder Dam had a 230-foot wide and 72-foot deep gap blasted in its wall. Over 150 million cubic meters of water had poured out, and four nearby power stations were put out of action. Water spread for a considerable distance, breaking the banks of the shallow rivers, and a large area of valuable agricultural land was flooded.

Regarding the Sorpe, it was concluded that McCarthy's lone attack had come close to success, but the wall had held. No damage was discovered at the Ennepe Dam.

Albert Speer, the German Minister of Armament and War Production, flew over the area on the morning of May 17. For two days he conducted inspections and concluded that the water supply to the Ruhr was "imperiled" and this might bring industry "to a standstill." There is no doubt that the effect on industrial output for Germany was not long lasting. However, there were serious implications for agricultural output as much of the flooded land could not be tilled for years afterward.

Some 30,000 workers were diverted into the Ruhr area to complete repairs, away from other projects like completing the Atlantic Wall—a string of coastal fortifications designed to prevent a cross-Channel Allied landing. Also, antiaircraft batteries were moved from other areas to defend the dams. Hitler raged at Reich Air Marshal Hermann Göring for permitting the raid to happen, asking why the Luftwaffe allowed such a handful of aircraft through.

Elation in the Allied press was understandably widespread. The *London Daily Mail* headline on May 18 crowed: "The Smash-Up: RAF Picture Testifies to Perfect Bombing." The *Illustrated London News* said the raid was "A Titanic Blow at Germany." And the *New York Times* noted: "The RAF has secured another triumph and with unexampled daring, skill and ingenuity it has blasted two of Germany's important water dams" and "all Americans should congratulate Wing Commander G.P. Gibson on his feat and mourn with him the loss of eight aircraft and their gallant crews."

On May 28, King George VI and Queen Elizabeth visited 617 Squadron at Scampton. Gibson was awarded the Victoria Cross, five other members of the squadron received the Distinguished Service Order (DSO), 14 the Distinguished Flying Cross, two Gallantry Medals, and 12 Distinguished Flying Medals; the American Joe McCarthy received the DSO.

The bombing of the dams did not, in itself, win the war. But the raid did strike a blow at the Third Reich's industrial heartland and seriously diminished its capacity to continue churning out the tools of war that Hitler so desperately needed. □

A view of the flood damage in an industrial area near the Möhne Dam. The Germans stated there were at least 1,300 casualties from the raid and subsequent flooding, but it did not permanently curtail the German war effort.

Bundesarchiv, 1011-637-4192-37, Photo: Schalber

A 5-inch gun crew in action during gunnery exercises in spring 1942 aboard USS *Astoria* (CA-34), a New Orleans-class heavy cruiser. The *Astoria* was sunk during the battle of Savo Island. Note the old-style helmets worn by the crew.

SHOOTOUT IN "The Slot"

An American task force caught the Japanese sleeping at Guadalcanal, but the enemy quickly sprang into action to repel the invasion.

BY JOHN J. DOMAGALSKI

Backstory: The fading daylight of August 6, 1942, found the American heavy cruisers Astoria *and* Chicago *as part of Task Force 61, under the command of Vice Admiral Jack Fletcher, steaming toward the South Pacific island of Guadalcanal. The force that was to deliver the first American amphibious invasion of the Pacific War—Operation Watchtower—had thus far escaped Japanese detection. The final approach to Guadalcanal lay ahead.*

The final hours of the day found the ships of the amphibious force plodding along at 12 knots, bound for the almost 20-mile-wide channel that separated the northwest tip of Guadalcanal from the Russell Islands. As midnight passed, the sky remained overcast, blotting out the moon and keeping the visibility poor. Conditions, however, began to get better during the early morning hours. Visibility, too, began to improve shortly after midnight.

From their forward positions and through the dark of night, the destroyers *Bagley* and *Henley* led the task force into the waters off Guadalcanal. At 1:33 AM, *Henley* sighted a dark mass on the horizon. Guadalcanal was now in sight.

From her position right behind the cruiser *San Juan*, lookouts aboard *Chicago* quickly sighted the coast. The cruiser was steaming at 12 knots with six of her eight boilers in use. The crew was at Readiness Two. Under the semi-alert arrangement, half the crew was at its battle stations, while the other half rested off duty. The two groups rotated every four hours.

The stroke of midnight brought a change of watch aboard *Astoria*. Commander William H. Truesdell climbed into position at sky control. The 39-year-old officer had graduated with the Annapolis class of 1925 and had been promoted to commander right after the Battle of Midway, June 1942. As gunnery officer, he was responsible for just about everything related to the ship's armament.

Located near the forward main battery director, sky control was high up on the superstructure—the control center for the cruiser's guns. From his vantage point, Truesdell would direct the preinvasion bombardment later in the morning. At this particular time, the area was filled with a crowd of men busily going about their duties. Lookouts manned the outdoor areas, carefully scanning the horizon with their binoculars.

By way of headphones, Truesdell was connected to various key parts of the ship. He quickly was brought up to speed on the latest information. There was no contact with the Japanese. Apparently TF 62 had not been sighted. Outside some stars could now be seen. It was not long before men aboard *Astoria* also sighted Guadalcanal. The land mass was dark, and it seemed as if the island was sleeping.

At about 3 AM, the task force was located just off the northwestern tip of the island and it was time for the two squadrons—"Yoke" and "X-Ray"—to split. The Yoke Squadron turned slightly to the northeast and began to venture around the north side of Savo Island. *Chicago* maintained her position behind *San Juan,* then went to general quarters at about 3:30 AM. The X-Ray Squadron and *Astoria* turned to the east and entered the narrow passage between Savo and Guadalcanal. The distance between the islands was only about 7½ miles. The ships were truly entering the unknown.

Aboard *Astoria,* Captain Greenman wanted to make sure his ship was ready for action early. "I decided that 2 AM

National Archives

Both: National Archives

would be the right time to go to general quarters," he recalled, "but I had no instructions at that time or any other time." Helmets and life jackets were donned as every sailor reported to his battle station. Every lookout had to be extra alert.

It was possible that Japanese patrols were lurking in the vicinity of Savo Island. The water was calm and could be heard slapping against the ships' hulls, while the waves could be heard breaking against the shore in the distance. A quarter moon had risen in the northeast, silhouetting the islands. The partial moon provided just enough light for good visibility. As fate would have it, no Japanese were encountered. The ships peacefully cruised past Savo Island unmolested.

During the last hours before dawn, the final preinvasion preparations were completed. Aboard the transports heading for Guadalcanal, the men of the 1st Marine Division were up at 4:30 AM and ate a heavy breakfast. Many would soon be nervously loitering on deck, lining the rails to get a good look at the distant island. Before long, the Marines, loaded with rifles and packs, would be waiting on deck to board the landing craft.

Aboard the aircraft carriers of Fletcher's TF 61, sailing in the waters southwest of Guadalcanal, the flight decks were loaded with planes. The pilots aboard the *Saratoga* had gathered one last time the night before for a final review of the maps. They had been studying their impending missions nightly during the voyage north. Blue exhaust streaked from engines of planes that were warming up on the flight deck in the predawn hours. At about 5:35 AM, the first plane, a Grumman F4F Wildcat fighter, rose from the flight deck of *Enterprise*. A total of 93 planes were soon airborne and on the way to the Guadalcanal area.

Final Approach

The early morning light revealed Guadalcanal and Tulagi for the first time in full color. The weather was generally clear except for a few scattered clouds. Some light mist or fog was hovering in the area

ABOVE: The *Astoria* test fires her 8-inch guns off Hawaii on July 8, 1942, a month before the Guadalcanal action. BELOW: Smoke from the naval shelling rises from Gavutu Island as transports transfer troops into landing barges. Photo taken from the heavy cruiser *Chicago* (CA-29).

but seemed to be burning off.

As *Chicago* passed Guadalcanal bound for Tulagi, Fred Tuccitto was among the sailors who wondered what the next day would hold. "[The Japanese] knew what it was like to be in a war. We didn't," he recalled. "We had no inkling of what we were getting into. I don't think anybody knew."

For the men who were on deck, it was a chance to see the islands that they had heard so much about. Ken Maysenhalder was at his battle station, a 5-inch gun mount on *Chicago*'s starboard side. "Approaching the island of Guadalcanal, I could smell the aroma of tropical plants as the wind blew the smell out to sea. All was quiet as we approached the island," Maysenhalder recalled the calmness. "It was very eerie."

Charles Germann was topside on *Enterprise* during the approach. "I was on the flight deck for some reason," he remembered. At first he had trouble seeing the islands off in the distance, but his view improved, and he recalled, "I could see everything."

Fred Tuccitto recalled the first time that he saw the island. "It was sort of covered with a lot of clouds," he said. "It was sort of mysterious. As we approached the island, we

could see land on the horizon. And then you don't see it. And then you see it. Finally we got pretty close to the island. You could smell it. It smells different than being out in the ocean."

After arriving off Tulagi as part of the Yoke squadron, *Chicago* stayed with the transports as she did not have a specific gunfire assignment.

Gene Alair was at his battle station on the forward 1.1-inch gun mounts as *Astoria* nudged closer to Guadalcanal. "You could smell it. We knew we were getting near land," recalled Alair. "We knew what we were doing, but it was new to us. We had never gone into an amphibious operation."

Also topside was Henry Juarez. He was manning the 1.1-inch guns near the stern of the ship. "We knew we were going into something," he said. "Early in dawn in the morning, we could see the islands. It was dead quiet."

Like many others, pilot Richard Tunnell simply remembered the approach to Guadalcanal as being quiet. "It was spooky," he said. "It was an eerie sensation."

Off the coast of Guadalcanal, *Astoria* was following the cruisers *Quincy* and *Vincennes* toward the fire-support position. The three heavy cruisers were joined by four destroyers. There appeared to be no activity on land as the seven ships quietly approached the island.

Intelligence made available to *Astoria* as part of the operation plan suggested that supplies, motor vehicles, and antiaircraft guns were likely in her assigned bombardment area. In the days leading up to the invasion, Boeing B-17 Flying Fortess bombers had reported the existence of 12 antiaircraft guns at various locations on the island.

At exactly 6:13 AM, the silence of the morning was shattered by the tremendous blast of *Quincy*'s 8-inch guns. Directed to the west of Lunga Point, her shots soon started a large fire. *Vincennes* then spoke with an 8-inch salvo of her own. Finally, it was *Astoria*'s turn. Her three turrets trained out to the starboard side, and she opened fire with a full nine-gun main battery salvo directed at the area east of the Lunga River. A flash of light coming from the 8-inch guns was quickly followed by thin streaks of red heading in the direction of land. A flash ashore indicated the approximate point of the impact.

When *Astoria* opened fire, Chaplain Matthew Bouterse was below deck at his battle station, but his location did not stop him from wanting to see the action. "I managed to snatch a few quick glimpses through a hatch that we had loosened in the huge water-tight door that led topside from the chief's quarters," he later recalled. He soon paid the price when the concussion of an 8-inch salvo sent the hatch crashing down on his head. He later returned to the viewing point wearing his steel helmet for protection. With the firing of the 8-inch guns, he saw red streaks reaching out to the beach area. "I can still remember the way the concussion of those blasts felt in my gut. And this was the sending end!"

National Archives

Smoke from a fire on Tulagi rises after an attack by American dive bombers, photographed from the bow of the *Chicago*.

David Bouterse

Ken Maysenhalder

LEFT: *Astoria*'s Chaplain Matthew Bouterse received a headache. RIGHT: Ken Maysenhalder, aboard *Chicago*, recalled the quiet before the battle.

Gene Alair

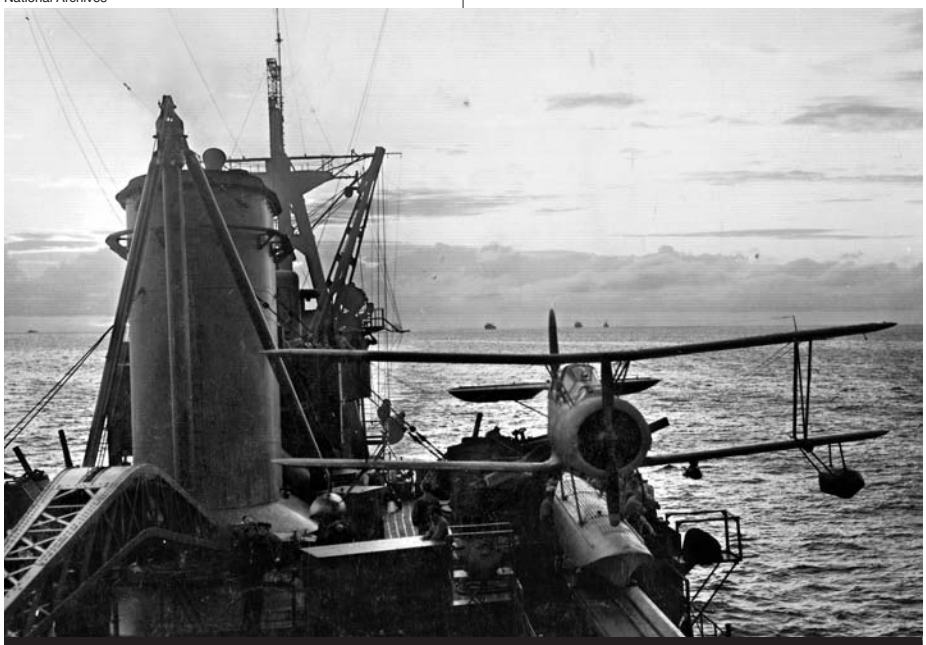
Gene Alair

LEFT: Gene Alair, a gunner on the *Astoria*. RIGHT: On *Chicago*, Fred Tuccitto worried about the fight to come.

As Guadalcanal shook from the rumble of explosions, coconut trees became uprooted and crashed to the ground as debris flew through the air. By many accounts it was a spectacular show of force. Shortly after the bombardment began, a flare or series of small rockets shot up from the island in the direction of Tulagi. Perhaps it was some type of belated warning.

In what seemed like only a matter of a few minutes since the bombardment started, the carrier planes suddenly appeared overhead, roaring past *Astoria* to begin the attack from the air. Fighter planes swooped down near Tulagi, shooting up the Japanese seaplanes that bobbed on the water; all seven of the large, four-engine flying boats, as well as the nine floatplane

National Archives



ABOVE: One of *Chicago*'s catapult-launched Curtiss SOC "Seagull" observation floatplanes. The photo wad taken during practice landings, July 30, 1942. The cruiser was hit by a Japanese destroyer-launched torpedo during the Battle of Savo Island and was forced to withdraw for repairs. BELOW: Tanambogo Island under bombardment by Allied ships and U.S. carrier aircraft on August 7, 1942. A causeway links Tanambogo with Gavutu Island, part of which is visible at the lower left.

U.S. Navy

fighters, were destroyed on the water. No Japanese planes made it airborne.

From his gun mount on *Chicago,* Ken Maysenhalder saw the planes coming in for the attack. "After only a few minutes," he recalled, "all hell erupted. Overhead our carrier planes approached and dropped bombs. When these bombs hit the target, you could feel the explosion and the impact that they made." Additional fighters and dive bombers pounded targets on Tanambogo, Florida, and Guadalcanal.

The naval bombardment continued. Each time *Astoria* fired her 8-inch guns, the entire ship shook from the concussion. There was a slight pause between salvos, just enough time for minor adjustments to be made to the bearings. *Astoria* poured salvo after salvo onto Guadalcanal with no return fire coming from the island.

Action was suddenly taking place at sea off *Astoria*'s port bow. The destroyers *Dewey* and *Selfridge* were firing at some type of small craft. An observer aboard *Astoria* believed that the target was a Japanese patrol boat. However, it was actually a small schooner loaded with gasoline that had initially been set aflame by the carrier planes. The destroyers finished off the boat, which burned furiously before going under. It was now time for the Marines to get into the action.

Invasion

Exactly eight months to the day since the attack on Pearl Harbor, the first full-scale American amphibious operation since the Spanish-American War was about to begin. As the sea and air bombardment drew to a close, the transports moved toward the assigned beach. The decks of the transports were crowded with Marines, each carrying a rifle and loaded down with various packs. Davits swung outward and slowly lowered landing craft into the water, each of which carried a small American flag perched on the stern. Marines then descended rope ladders into the bobbing craft below.

Off Guadalcanal, the transports slowly glided to a stop at a debarkation point that was 4 1/2 miles directly north of the beach area. The final step before the Marines could go ashore was a thorough blasting of the beach. As the first wave of fully loaded landing craft began to move away from the transports, the bombardment force moved into position.

Seven ships were assigned to fire away at the landing zone. *Astoria* and four destroyers covered the actual landing beach plus an additional 800 yards on each side. The ships had been instructed to fire from the water's edge to a depth of 200 yards inland and to avoid hitting wharves, jetties, and bridges that did not appear to be threats.

Map © 2012 Philip Schwartzberg, Meridian Mapping, Minneapolis, MN

Admiral Fletcher's Task Force 61 entered Sealark Channel—"the Slot"—between Guadalcanal and Florida Island, arousing a fierce Japanese response.

The bombardment commenced at 9:03 AM with the thundering roar of gunfire. Gun crews aboard *Astoria* worked at a feverish pace to keep up the bombardment. Five-inch guns cracked out single shells as the main batteries shot sheets of flame. As the shellfire continued, the landing boats sped toward the beach, maneuvering in a 1,600-yard-wide channel that was marked by a destroyer on each side. Directly in front of the small boats, the beach area was a mass of explosions. As the landing craft came to within 1,300 yards of the beach, the guns fell silent. The bombardment was over, having lasted only about six minutes. In the short time, *Astoria* had expended 45 rounds of 8-inch and 200 rounds of 5-inch shells.

From his vantage point in the forward antiaircraft director, John Powell had a bird's eye view of the bombardment. "Before the troops went ashore, we bombarded all the area where they were going to land; knocked down a lot of coconut trees," he said. "It didn't hurt anything, just shook up a couple of natives over there."

In the aftermath of the bombardment, a thick haze of dirty smoke floated in the air over the beach. Just four minutes after the firing stopped, the first troops landed without opposition and the Marines quickly advanced inland about 600 yards to establish a beachhead. No Japanese were encountered. Word quickly reached Admiral Richmond Kelly Turner, commanding the amphibious force of Task Group 61.2, that things ashore were going better than expected.

Scouting Mission

Astoria's scout planes were called on to participate at the very start of the landing operation. As the senior aviator aboard *Astoria*, Lieutenant Allan Edmands flew the first flight off the cruiser. Most of the initial missions were related to fire support, with the planes acting as spotters for the ship's gunfire. However, with no opposition reported ashore, the air patrols later shifted to antisubmarine flights.

Richard Tunnell was one of the pilots assigned to fly a morning mission over Guadalcanal. His specific mission was to fly over Red Beach, repeatedly dropping smoke flares at each end, and then acting as a forward spotter. His rear-seat passenger for the flight was Marine Major Campbell. Just prior to departure, Tunnell reported to Captain Greenman for final instructions. The captain warned him of Japanese float fighter planes reported to be at Tulagi. The thought crossed the pilot's mind that Greenman believed that he was not coming back. "When he said goodbye," recalled Tunnell, "I think he meant it."

Just after launching, Tunnell spotted two planes diving down close to his position. He felt a bit unnerved but was relieved when they turned out to be American fighters. A short time later he caught a glimpse of tracer bullets passing below the plane on the right side. Believing his plane to be under fire, Tunnell immediately began evasive maneuvers. He yelled back to check on Major Campbell. "I was just test-firing the machine gun," the Marine replied. The mission continued, although with a somewhat irritated pilot.

At the appointed time, Tunnell guided his plane over the beach. The bombardment of the landing zone had just been completed. Campbell dropped the smoke flares, replacing earlier ones that were on the verge of burning out. Emerging from the beach area, Tunnell banked his plane and headed over the island, swooping in low for a close look at the Japanese airfield that was under construction. Flying over a nearby camp, he noticed smoke gently wafting up from some cooking grills; there was no sign of the Japanese. Tunnell soon noticed some type of warehouse that the Japanese had con-

structed under a cluster of coconut trees and decided to attack it.

Climbing back to 2,000 feet, the plane dived down and unleashed two small, 100-pound bombs on the structure. After pulling up, Tunnell yelled back to Major Campbell to see if he had observed any hits. There was no reply. Turning around, he soon noticed that the major was out cold. The observer had not properly secured the rear machine gun after his earlier surprise test firing. During the dive, the gun swung around, striking the Marine in the head and knocking him out.

Additional searches of the immediate area yielded no sign of the Japanese. "We could see the Marines getting ashore," Tunnell said. "Everything was quiet." With the mission completed, the pilot and passenger headed back to *Astoria* after having been in the air for almost five hours.

By midmorning, the Marines on shore began to advance west, moving along the coast toward the Lunga River. *Astoria* was assigned to follow the westward progress of the troops along the beach, then stand by to provide gunfire support as needed. However, since no Japanese opposition was encountered the fire support was not necessary.

While *Astoria* was fulfilling her duties as part of the bombardment group, *Chicago* continued to operate with the screening group. The ship cruised at various speeds near the transport area off Tulagi. The operation plan called for *Chicago* to stay under way just outside of the 100-fathom curve in close proximity to the transports. The screening force was now operating without the four cruisers and six destroyers that had departed to shell the beaches.

Just after 8 AM, *Chicago* launched two seaplanes for antisubmarine patrol; 20 minutes later an additional plane was launched for the same duty. The original two planes were recovered after spending about an hour in the air. The alternating process of launching and recovering planes continued throughout the late morning hours. However, *Chicago*'s role of hosting the fighter director officer would soon be taking center stage.

National Archives

Despite heavy antiaircraft fire, four Japanese Mitsubishi G4M1 (or Type 1 land-based attack planes, later nicknamed "Betty") skim the water during an aerial torpedo attack on U.S. Navy ships maneuvering between Guadalcanal and Tulagi on the morning of August 8, 1942.

Complete Surprise

Japanese naval leaders believed that the Solomon Islands would be the scene of an American counterattack. However, such a move was not expected until sometime late in 1943. The first indication of trouble in the Guadalcanal area on the morning of August 7 came to the major Japanese naval base at Rabaul in a plain-language emergency radio message. The commanding officer of the Tulagi communication base reported, "Enemy surface force of 20 ships has entered Tulagi. While making landing preparations, the enemy is bombarding the shore."

A later message reported one battleship, three cruisers, 15 destroyers, and various transports in the waters offshore. The final message was received just short of two hours after the initial warning: "Enemy troop strength is overwhelming. We will defend to the last man. We pray for the continuance of military fortune." A short time after the last message was sent, gunfire from *San Juan* knocked out the radio station, silencing the Tulagi garrison forever.

The Japanese commanders at Rabaul wasted no time preparing a response to the American landings. The initial task fell to Rear Admiral Sadayoshi Yamada, commander of the 25th Air Flotilla. On the airfields around Rabaul, he had at his disposal an assortment of bombers and fighters. As it turned out, the Japanese already had an attack force ready. Only a few days earlier the Japanese discovered the existence of a small Allied airfield at Rabi on the far eastern end of New Guinea. In the hours before dawn, ground crews had prepared 27 bombers and nine fighters for an attack.

The stunning news from Tulagi suddenly changed the mission. Admiral Yamada quickly issued new orders for the planes to instead attack Tulagi. Additionally, he directed nine dive bombers to attack. The transports were to be the main target unless the American carriers, assumed to be part of the operation, could be located.

The Japanese bombers were no strangers to American sailors. The Mitsubishi G4M1 entered service in April 1941. Officially named the "Navy Type 1 Attack Bomber," the plane was known to the Allies as the Betty. The twin-engine, land-based bomber had a long, thin cigar-like fuselage. The Betty was fast and had a long range, but it lacked armor

protection for the crew of seven. An internal bomb bay could carry four small bombs, two larger bombs, or could be modified to carry a torpedo.

Chicago had survived an attack in the Coral Sea by Japanese twin-engine bombers of a similar type nearly three months earlier. Bill Grady remembered how Captain Bode's seamanship helped the cruiser survive the attack. "He wasn't afraid of nothing," Grady said. "In the Battle of Coral Sea he was at the helm and he saved us. If one [torpedo] was at starboard, he would swing the helm to port. It would lean to starboard and it would bring the keel up out of the water and the torpedo would go under us."

Aerial Encounter

The 27 Bettys took to the air at about 10 AM. Since there was no time to switch to torpedoes, the planes contained the same payload of bombs intended for the Rabi mission. The escort was increased to 18 Mitsubishi A6M Zero fighters, as American carrier planes were expected to be in the area. Scout planes scurried out just ahead of the bombers in hopes of locating the carriers. After departing Rabaul, the planes traveled southeast over Bougainville.

About an hour after the main attack group departed, a second group of Japanese planes took flight. Nine Aichi D3A Val dive bombers comprised the second wave of the air attack. Flying without the benefit of a fighter escort, the single-engine planes did not have the range to make the round trip so, after attacking the American ships, the pilots were instructed to ditch their planes off the southern coast of Bougainville where a flying boat and seaplane tender would be waiting to pick them up.

From a perch atop a hill in southern Bougainville, Australian coastwatcher Paul Mason took note of the first group of passing planes. As the planes roared past his jungle hideout, he quickly counted the bombers and transmitted a radio message using an emergency frequency. The message was picked up by Pearl Harbor and quickly relayed to the invasion fleet.

With the news that enemy planes were on the way, the task force sprang into action. A simple message, hoisted from the flagship read, "Repel air attack." The transports ceased unloading operations and made ready to get under way. In the event of an air attack, the ships of the screening force were to form a tight ring around the transports.

At 10:40 AM, *Chicago* received the warning that enemy planes were approaching; at the time she was patrolling with the cruiser HMAS *Australia* and destroyers *Henley* and *Helm* near the Yoke transports. Lieutenant Bruning, the guest fighter director officer from *Saratoga* who was stationed aboard the cruiser, would have his work cut out for him over the next day and a half. Bruning and his small staff controlled the fighters that were providing combat air patrol over the transport area.

The Japanese attack force winged its way south, reaching the approximate halfway point over the island of Vella Lavella in the Central Solomons. The jagged mountains of Guadalcanal came into view when the planes reached the Russell Islands; the target was only about 50 miles ahead. Scattered clouds hung at about 13,000 feet with clear sky above and below.

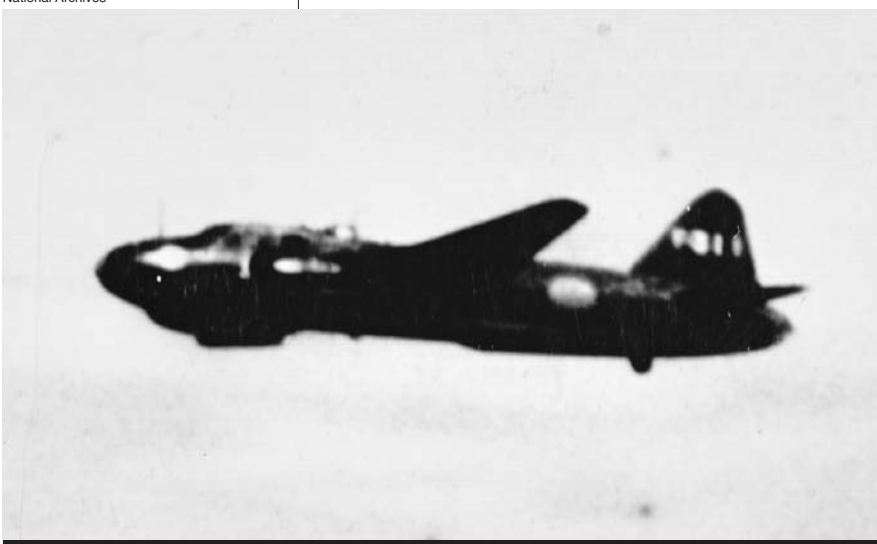
Approaching the target area, Japanese pilots were astonished at what they saw. The wakes of the ships below appeared as hundreds of white lines in the waters off the northern coast of Guadalcanal, and the warships, transports, and landing craft were simply too numerous to count.

The 27 Japanese bombers flew in three tight formations of nine planes each and approached the waters between Guadalcanal and Tulagi from the northwest, passing over Savo Island.

At 1:14 PM, the enemy planes appeared on *Chicago*'s CXAM radar set at a distance of 43 miles. Just then, 12 Wildcat fighters from *Saratoga* tore into the attacking Japanese formation. Some of the fighters were able to make a clean pass at the bombers, but others were jumped by the escorting Zeros.

Less than 10 minutes after the radar sighting, lookouts aboard *Chicago* visually sighted 25 bombers and three escorting fighters. Two minutes later, the lookouts reported that one bomber dropped out of formation and was falling toward the water in flames as an air battle shaped up. It looked as if the enemy planes were headed toward the X-Ray transports.

National Archives



Close-up of a Japanese Betty bomber, photographed as it passes *Chicago*.

The bombers were outside the effective range of the cruisers antiaircraft guns but within range of the ships that were off the beach. Dots of antiaircraft fire soon began to appear in the sky, but the enemy planes came on.

John Powell was on duty in his director when he received word that enemy planes were on the way. He remembers *Astoria* being about five miles from the transports. "I heard it on the radio," he recalled. "We

were off of a big plantation area on the west end of the island between Lunga Point and Cape Esperance." As the bombers moved closer to *Astoria,* Powell's director started tracking the incoming planes. "We tracked them just to find out how fast and how far they were going. They were making 165 knots."

The young fire controlman remembered the high altitude and tight formation of the approaching planes. Then he saw the bombs fall. "We could see the bombs coming down. Everybody dropped their bombs at once," he said. Powell felt that the planes were too high for effective antiaircraft fire.

National Archives

Marines of the 1st Division storm ashore at Guadalcanal on D-day, August 7, 1942, from a Landing Craft Personnel (Large)—LCP(L)—barge launched from either the attack transport *Barnett* and attack cargo ship *Formalhaut.*

The bombers dropped their deadly payloads in unison from an altitude of almost 12,000 feet. The mass of bombs curved slightly during the long drop to the sea before exploding harmlessly in the water between some of the cruisers and the X-Ray transports. The formation of bombers then banked to the left for the journey back to Rabaul.

As a Marine aviator, Roy Spurlock was not accustomed to seeing air attacks from a ship. "I shall never forget the silver of those Betty bombers directly overhead in formation," he recalled from his position aboard *Astoria,* "silhouetted against the blue sky over Guadalcanal. This attack was quickly over and the invasion continued."

From his battle station on *Chicago,* Art King gazed into the distance and saw a group of American dive bombers tangling with a Japanese fighter. "I saw three of our dive-bombers flying low in formation," he said. "All of a sudden, I could see this little plane way behind them, but catching up in a hurry and, of course, it was a Zero. As it got into range, the three SBDs started firing at it, and the little old fighter did a 90-degree turn going straight up and disappeared. So the three dive bombers went ahead to their target and did what they were supposed to do." It was just one of the many battles that took place on that particular day in the sky above Task Force 62.

One of the American planes shot down was piloted by Ensign Joseph Daly of *Saratoga.* His Wildcat was caught from behind by Zeros as he was readying to make another pass at the bombers. A 20mm shell exploded somewhere under his cockpit, and suddenly everything around the young pilot, including his clothing, was on fire. Managing to open the canopy and unfasten his belt, Daly jumped out of his stricken plane, barely clearing the tail. A Japanese Zero streaked by as Daly began to freefall toward the water almost 13,000 feet below. Pulling the ripcord at about 6,000 feet, he landed in the water some two miles from Guadalcanal. He could see ships on the horizon and began to swim in that direction.

With the attacking planes gone from the area, *Chicago* resumed her position in the screening force near the Yoke transports. Just after 2 PM, the cruiser catapulted off two seaplanes for antisubmarine patrol. The task force had received a message from Pearl Harbor earlier in the day warning that enemy submarines were en route to the area, so the planes flew low to scour the area for any sign of the underwater craft.

Meanwhile, Ensign Daly was not making much headway swimming toward the distant ships. Several destroyers had passed near his position but had not noticed the downed aviator. After being in the water for about two hours, he heard the sound of a plane coming up from behind. It was one of *Chicago*'s seaplanes. The pilot, Ensign John Baker, noticed the downed flier waving and splashing in the water. He circled his seaplane around and came in for a landing. Baker drew his pistol as he pulled up, not sure if the darkened face in the water was American or Japanese. Daly believed that there was a good chance that he was going to be shot. However, the *Chicago* pilot quickly saw that the downed aviator was an American. With his left leg wounded, Daly struggled to get aboard the plane. He was soon airborne riding on the lap of the back-seat radioman. Baker initially wanted to drop off his wounded passenger at the first heavy cruiser he came upon, *Vincennes*. However, he decided to continue on to *Chicago*.

The second wave of Japanese aircraft arrived in the Guadalcanal area just before 3 PM. The nine Val dive bombers had flown down the north side of the Solomon chain, keeping out of view of the coastwatchers as well as off the radar sets of American ships. Entering the sound over Florida Island, the pilot's vision was obscured by cloud cover, blocking out the ships of the Yoke squadron below. The Japanese planes continued on toward Guadalcanal.

Appearing unannounced near the ships of the X-Ray squadron, the attackers were

U.S. Navy

A U.S. Marine Corps M2A4 Stuart light tank is hoisted from the attack cargo ship USS *Alchiba* (AK-23) into a LCM(2) landing craft off the Guadalcanal invasion beaches on the first day of the landings, August 7, 1942.

quickly jumped by as many as 15 American fighters. Five of the bombers were shot down, but not before one successfully planted a bomb on *Mugford*. The destroyer was the first American ship to be damaged in the Guadalcanal campaign. The four remaining Vals splashed near Shortland Island, just south of Bougainville. The surviving Japanese crewmen claimed to have damaged two light cruisers.

At 4:35 PM, *Chicago* recovered both of her seaplanes. Joseph Daly was hoisted aboard and immediately carried down to sickbay for treatment by the ship's doctor. The pilot was soon diagnosed as having second-degree burns and a gunshot wound to the left leg. His prognosis was recorded as favorable.

Progress on Land

While the ships were fending off the air attacks, operations on land continued throughout the day and into the early evening hours, and the Marines on Guadalcanal were advancing steadily inland from the beachhead without much resistance. The 2,500 laborers and 150 Japanese troops on the island had disappeared into the hills soon after the opening bombardment had begun.

The initial landing on nearby Tulagi had also been relatively uneventful. However, heavy fighting erupted in the afternoon as the Marines approached the southeastern end of the island. The small Japanese garrison was well entrenched there and was prepared to fight to the death. Reports of heavy American casualties soon reached Admiral Turner aboard his flagship, the attack transport *McCawley*. By the end of the day, the Japanese were still clinging to positions on the southeastern tip of Tulagi.

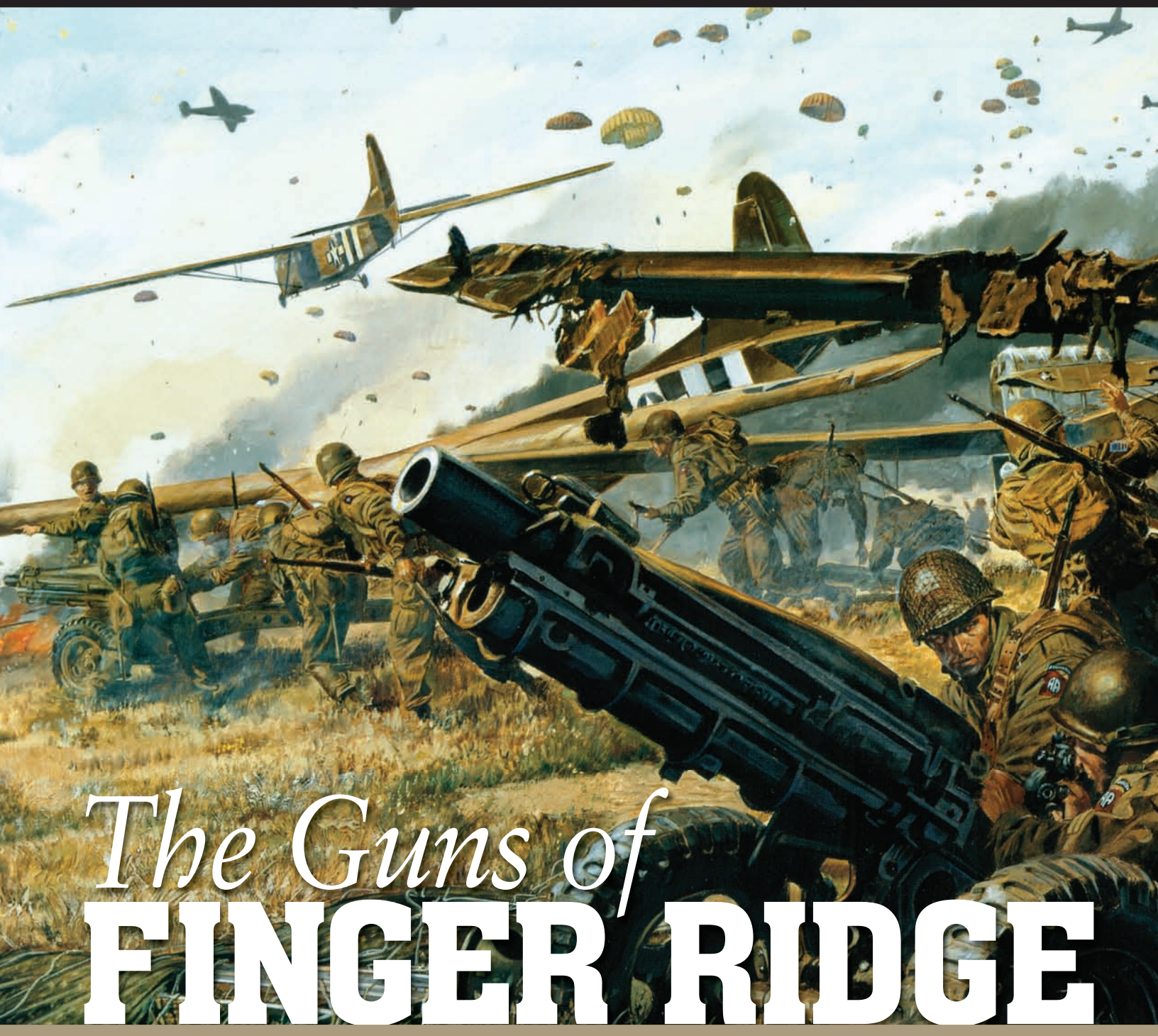
Uncertain Future

The night of August 7-8 was uneventful for the sailors aboard *Chicago* and *Astoria*. Both cruisers patrolled the waters around Guadalcanal and Tulagi as part of the screening force. As the night progressed, *Chicago* went off general quarters and set condition two. It was time for some of the weary sailors to get much needed rest. As the night progressed, the junior officer of the watch made two inspections of the lookout stations to make sure that the lookouts were alert and had received proper instructions.

On *Astoria*'s first night off Guadalcanal, John Powell stood watch at his director. He alternated duties with Chief Fire Controlman Henry Henryson. "He was an old China hand, as nervous as anything," recalled Powell of Henryson. Each worked a six-hour shift, two hours longer than the normal condition two shifts.

Some of the men aboard *Astoria* had received piecemeal reports of the day's operations ashore: no opposition on Guadalcanal and fighting on Tulagi.

Looking at Guadalcanal through a set of binoculars, an observer aboard the cruiser saw men, trucks, and tanks on the beach, with some tents nearby. It had been a long and exhausting day, and no one knew what tomorrow would hold. There would be plenty of combat ahead. □



The Guns of FINGER RIDGE

On September 17, 1944, a massive but hastily planned airborne invasion of the Netherlands was launched. Code-named Market-Garden, the operation called for three Allied airborne divisions (British 1st and American 82nd and 101st) to land along a narrow corridor reaching from advanced positions along the Dutch-Belgian border to a bridgehead on the northern bank of the Rhine River at Arnhem.

It was a bold move and would yield tremendous results as long as everything unfolded just right. But Arnhem was about 70 miles behind German lines, and that was farther into enemy-occupied territory than any large-scale airborne drop that had been attempted up to that time. Nonetheless, as it was conceived by British Field Marshal Bernard L. Montgomery, the plan could immediately place American and British forces within striking distance of the German industrial heartland.

As the world now knows, things did not go as planned. Unbeknownst to the Allied command, two rehabilitated SS divisions, along with a strong contingent of German

In this James Dietz painting, *Guns from Heaven,* troops from the 320th Glider Field Artillery Battalion man-handle their 75mm pack howitzers from their just-landed Waco CG-4A glider on the battlefield near Nijmegen, Holland.

The courage of a handful of glider troops in one of Operation Market-Garden's skirmishes kept a German counterattack from turning into a disaster.

BY JOSEPH S. COVAIS

paratroopers, were coincidently in the vicinity, refitting close to the Allied drop zones, making resistance was far greater than the operation's planners were expecting.

Moreover, the British armored column that was tasked with racing through the two American airborne divisions to join the British paratroopers at Arnhem proceeded cautiously, fell far behind schedule, and left its countrymen beleaguered on the north bank of the Rhine.

By the morning of September 25, time had run out for the besieged British 1st Airborne Division at Arnhem. With their armored column lingering miles away in the vicinity of the Nijmegen Bridge, on the northern bank of the Waal River, the British paratroopers had been cut off from the rest of the Market-Garden operation for over a week.

Outnumbered and with their supplies exhausted, the survivors had little choice but to begin surrendering, although small groups attempted to slip through the encircling Germans. Some very few were successful, but the British 1st Airborne Division and the attached Polish Brigade ceased

National Archives

A 57mm antitank gun is loaded into a Waco glider on September 16, 1944, in preparation for the drop into Holland. The nose of the glider was hinged to allow for large pieces of equipment to be loaded and off-loaded.

to exist as a fighting force. With their demise went the entire reasoning behind Montgomery's Market-Garden plan.

From this point forward, all pretense of a sudden movement that would quickly end the war came to a close, and the efforts of the invasion would henceforth be conducted on a broad front.

On the afternoon of September 24, the 82nd Airborne Division was redeployed to accommodate its newly arrived 325th Glider Infantry Regiment. Infantry units that had seen the heaviest fighting were placed in reserve but, as any artilleryman knows, those who serve the guns are never really relieved. The 319th Glider Field Artillery was among them. It was ordered to take up new positions farther south, closer to the town of Mook, where it would support the 325th.

The 319th had been part of the 82nd since day one. It was a veteran outfit—arguably the most experienced of all the division's artillery battalions, having already seen extensive action in Italy and Normandy. On the afternoon of September 18, the unit landed by glider northeast of Groesbeek and within 90 minutes was hammering German positions with its 75mm pack howitzers.

For the first few days it was a touch and go situation. Encircled as the division was, the 319th found itself firing continuously in every direction. "We were firing 3200 mills. That's a circle!" is how one sergeant in the battalion's A Battery later put it.

The unit was part of the 508th Regimental Combat Team, with instructions to supply close-in artillery support to that regiment in all its operations. This it did admirably as fighting surged back and forth for the city of Nijmegen, as well as the villages of Beek, Wyler, and the Groesbeek Heights.

The 319th was organized as two firing batteries: "A" or Able and "B" or Baker, together with a headquarters battery. Able was under the command of Captain C. Lenton "Charlie" Sartain, a native of Baton Rouge, Louisiana, and 1942 graduate of LSU. Having just turned 24 on the day after the battalion landed in Holland, Sartain had risen from an ROTC 2nd lieutenant to command of one of the premier batteries in the division's field artillery since joining the battalion two years before. He was an energetic and charismatic officer who, despite his gentle southern Louisiana style, did not suffer fools.

Sartain had earned a reputation with his superiors as enterprising, if sometimes unmindful of their authority. Meanwhile, enlisted men in the battalion knew him as an officer who never cut into a chow line or flaunted his rank. With his law school background, Sartain was also recognized as a guardhouse lawyer who had rescued numerous enlisted men from the legal consequences of GI high-jinx.

As the 319th's batteries set up their new gun positions along the railroad tracks west of Groesbeek, the previous day's rain eased off but left behind a thick carpet of clouds. The weather was now sharply cooler; everyone felt the first real taste of autumn. Activity overhead was lively despite the gray skies, and the cannoneers were enthusiastic spectators of dogfights between German and British fighters.

Those in the battalion who were veterans of Italy and Normandy remarked that the German air presence was stronger here in Holland than in the previous campaigns, no doubt because they were now closing in on the enemy's homeland air bases.

While the gun crews finished digging their emplacements and stretching camouflage netting over their 75s, orders were issued confirming new liaison and forward observer assignments with the 325th.

Word was also received at battalion headquarters that the 319th had been awarded a second Presidential Unit Citation; their first PUC was earned while fighting alongside Darby's Rangers in Italy. This time the decoration was in recognition of the role the unit played in the battle for Normandy. The award of any Presidential Unit Citation was, of course, a real distinction, but to be given this honor twice was exceptional.

Now, on the afternoon of September 25, satisfied that his battery was well established in its new position, Sartain decided to make his customary visit to each of his forward observers while there was still daylight. Just as he told his driver, Corporal Louis Sosa, to get the jeep, the battery telephone rang. It was Captain John R. Manning, the battalion's assistant S-3 (operations officer) calling Sartain from battalion HQ and asking if he could go along on Sartain's usual daily rounds of the observation posts. Sartain said fine.

A few years older than Sartain, Manning was another ROTC product. Tall and muscular, the soft-spoken Manning came from New York's Hudson River Valley and was recognized throughout the battalion by the British Naval duffel coat he had acquired in Italy. By the time of Operation Market-Garden, he was serving as the Assistant S-3 of the 319th.

Sartain and Manning had a long history together in the 319th stretching all the way back to Fort Bragg. In June 1943, when a temporary third "Charlie" Battery was formed from men whom Sartain remembered as "oddballs," Manning was placed in command, with Sartain as his executive officer. With a working relationship that was a perfect complement to each other's command style, and with a combination of respect for the men and high expectations, the two molded "C" into the best battery in the battalion.

Afterward, once the battalion was sent to England to prepare for the invasion of France, the 319th reverted to two firing batteries. Able Battery was given to the Manning/Sartain command team. Just as they had done with "C," the duo polished A Battery into a high-morale, high-efficiency outfit where things got done without busting the men's chops unnecessarily.

On the night of June 6, 1944, however, Manning had been badly injured in the glider landings. He was evacuated off Utah Beach and command of A Battery went to Sartain. Once the outfit returned to England the arrangement was made permanent. "I really thought Johnny would come back to the battery, but they wanted him up at Battalion Headquarters, so I stayed with the battery," Sartain later explained.

On September 24, the 325th Glider Infantry Regiment, with which the 319th's forward observers were now placed, had taken over the positions formerly occupied by the 505th PIR. Their line was an irregular semicircle defending the approaches to Mook and Groesbeek. This arc extended from the Maas-Waal Canal, west of Mook, to the Groesbeek Heights, facing due east toward the Reichswald. Between the two flanks was the regiment's 2nd Battalion, southeast of Mook and squared off against German positions in another thickly forested cluster of hills known as the Kiekberg Woods.

Louis Sosa, Sartain's driver, was a Tampa Cuban who became Captain Manning's driver in Italy during the old C Battery days. Now that Manning was up at Battalion HQ, he drove for Sartain. Sosa first took the two captains out to a point near the observation post occupied by Lieutenant Bob McArthur. As was routine, he parked the jeep in a protected spot and stayed with it while Sartain and Manning went the rest of the way on foot.

"Things were quiet, there was nothing going on," recalled Sartain of that day. "It looked like it was going to be a quiet afternoon." McArthur's position was on a promontory south of Mook. From this vantage point, McArthur indicated the known German positions while Sartain looked through his field glasses. At an outpost near those trees was a suspected machine gun in the rubble of a building; Manning marked them on his corresponding map overlay. Everything was in order and, for Sartain especially, it was good to see his old chief of sections now serving as a very competent commissioned officer. When they were finished, Sartain ended the conference saying to him, "You're doing a great job, tiger. Carry on!"

Back at the jeep, Sosa drove them to the next destination. They were on the road to Mook when he told the captains that he had something that might interest them. Sosa tapped on a German grenade box wedged between the seats and in which he was known to keep valuables. When Manning lifted the lid, his face lit up. There were several hens' eggs inside, offering a welcome break from Army chow. Sosa pulled off the road and found a discreet place to park the jeep. He heated a Bunson burner he had with him, fried the eggs, and made some coffee for the three of them.

Refreshed, it was now time to check on the other forward observers (FO) with the 325th's 2nd Battalion. Part of this battalion's line included a position known as Finger Ridge. This piece of high ground followed a "U" or horseshoe shape. One arm of the horseshoe protruded some distance toward the German positions within the Kiekberg Woods to the northeast. It ran alongside the main highway leading to Mook from enemy-held territory along the German border and also commanded the large expanse of open ground to its east and south.

This open terrain extended all the way to the Maas River, and at the point opposite Finger Ridge that distance was not great, creating, in effect, a choke point for any movement up or down the highway from Mook. Finger Ridge was consequently of some strategic importance to both the Americans and Germans in any attack or defense in the area.

Author's Collection

Members of the 319th Communications Section pose outside their glider, *Flak Happy*, on September 18. They are, left to right, kneeling: T-4 Ed Ryan, First Sergeant Irving Rosenwasser, George Barron, and Dimitrios Vassal. Standing, left to right: glider pilot Marks, Corporal Ernest Osborne, Seymour Englander, and Motor Pool Sergeant Jarret Fury.

Though mostly covered in pine forest, and affording an excellent view of any approaching forces, the ridge was still an exposed location, vulnerable to attack from three sides. Lieutenant Fellman's FO team was located on the ridge with a platoon of E Company of the 325th Glider Infantry, and it was there that Manning and Sartain chose to make their next inspection.

Sosa drove up a dirt lane that led up the eastern side of Finger Ridge. It wouldn't be safe to proceed farther, as they would be visible to Germans in the Kiekberg. Instead, Sosa parked the jeep out of sight behind some trees and said he'd wait for the officers to return.

Even as they were getting out of the jeep,

National Archives

ABOVE: Men of the 325th Glider Regiment, 82nd Airborne, move into the woods in heavy fog during operations in Western Europe. OPPOSITE: Captain C. Lenton "Charlie" Sartain, one of the heroes of Finger Ridge, photographed with his jeep, *Indiana Anne,* November 1944.

the sound of machine-gun and artillery fire was erupting from over the ridge. "Just before Manning and I got there we heard all the racket, all this commotion, so we rushed up there," remembered Sartain. The two captains came running into the position, bent over low to present a smaller target. Twenty-millimeter rounds were blasting through the trees above and machine-gun fire was snipping through the air all around. Interspersed among the trees were foxholes and slit trenches.

The captains jumped into one of the first holes they reached and demanded to know where the officer in charge was. The soldier just shook his head. He was young and very frightened. What about the FO team, did he know where they were? Again, the man couldn't help them.

They got up and kept going. In another foxhole a man pointed and told them, "I think your people are over there." Then realizing he was speaking to two officers, added, "Sir, do you know where our CO is?" Sartain and Manning exchanged glances. They noticed that none of these men were returning fire. Instead, they all seemed to be huddled at the bottom of their slit trenches, paralyzed. Manning next got up and bounded to the adjoining foxhole, then repeated the process. Sartain followed.

Farther up they noted a telephone line and guessed that it might at least guide them to their forward observer. It did. Sartain and Manning tumbled into a slit trench on the edge of the tree line. Placed at a bend in the ridge, this hole was a little larger than the others. In it was Lieutenant Fellman with his radio operator. Sartain immediately wanted to know who was in charge of this position; Fellman didn't know. Besides himself, he said, there hadn't been an officer up here since he arrived the night before.

Sartain looked his lieutenant square in the face. Fellman still had a nasty, albeit scabbed-over, gash running forehead to chin from the glider landing the week before. "Well, somebody's running this shooting match; who the hell is it?" was Sartain's repeated question.

"Captain, nobody seems to be in charge up here," was all Fellman could tell him. Fellman then started explaining that there had been more and more German presence throughout the day, that the infantry in the foxholes were uneasy, under increasing sniper and machine-gun fire, and for the last hour or so they had heard the sound of tanks.

Pointing skyward to the 20mm rounds passing overhead, Fellman's radio operator added, "Now these Heinie bastards are throwing this shit at us, too!" When Manning picked up the telephone receiver it was obvious the line had been broken. "God damn it," he said. "Get Fire Direction on that radio right now!"

Sartain took off to assess the situation and hopefully find someone responsible for this position. Jumping from hole to hole, he found the infantrymen confused and without leadership.

"There was no NCO with them, there was no officer with them, and they were hunkered down in their foxholes," he recalled. "This surprised the hell out of me. I would say there was probably a full platoon or more. But they didn't know boot turkey. I mean, this had to have been the first time those kids had ever heard a shot fired over them. Had to be, because they really did not know what to do, there being no NCO or lieutenant, platoon commander, or anybody with them. Wasn't anybody there! That's what I never could believe and nobody ever explained it to me."

When Sartain returned to the observation post, Manning was on the radio in a deep huddle with Fire Direction. He closed out the communication, turned to Sartain, and assessed the situation.

Sartain reported that there were about 50 infantrymen holding this position—a platoon from E Company—but they had no mortars, no light machine guns, no bazookas, or any other weapons heavier than a BAR (Browning Automatic Rifle). There was, moreover, no apparent commanding officer. "Johnny," Sartain said, "these kids are scared."

"All right," Manning answered, "let's give them a pep talk, get a few of the corporals together, and get them settled down. There's got to be a few corporals at least that we can talk to."

Sartain shook his head. "I don't think so, John. And besides, these boys up here don't know what they're doing. They're pretty shook up, and if hell breaks loose, there's no telling what they'll do."

Manning thought for a moment, then agreed that they couldn't risk leaving. He told Sartain, "I want you to get a defense going. I'll get us supporting fire from the battalion."

In a flash, Sartain was gone. By this time it was clear that an outright attack on the position was on the way. Several enemy light and heavy machine guns continuously peppered the Americans in their foxholes, kicking up dust all over the place. Germans could be seen rising up from the tall grass to spring forward or get a clear shot at the GIs on the hill, then they'd disappear again to crawl closer.

Describing what happened, Sartain said, "Manning took over the radio and I took over reorganizing them. All this time I was jumping from one group to another. I kicked a few kids in the butt and then we were ready for them."

At first the GIs were slow to respond. The absence of their own leadership had left them having to shake off a strange torpor. "They were not seasoned airborne troopers," said Sartain. "You could just tell. They were frightened, you know? But you keep going among them and give them a little spirit and then they start responding. We started returning small-arms fire and the troops started to act like troopers. But I was lucky that I had been with the infantry enough to really know what to do."

For the platoon on the ridge, the welcome sound of artillery came screaming overhead. They all knew this was their own supporting fire, and that knowledge raised their spirits immensely. Explosions now erupted all over the plain across which the Germans were advancing. Given the volume of fire, the shells had to be coming from not only the 75s of the 319th Glider Field Artillery, but the 105s of the 320th as well. Licking their wounds, the Germans retreated into the grasslands they had attacked from, probably all the way to the banks of the Maas.

The respite gave Sartain a chance to better consolidate the defense. "First thing I observed," he said, "there were no outposts. Now that's basic infantry tactics, basic common sense. You get your outposts out so no one can sneak up on you. So I got two guys to go down the damn hill and set up an outpost so we could figure out what in the hell was going on down there."

Nor did Manning lose time taking advantage of the lull. It was obvious to him that infantry couldn't hold The Finger alone. Had it not been for the artillery barrage, the position might have been overrun during that first attack, and there were bound to be more. Of course, accuracy and speed of response would be key.

First he dispatched Fellman's radio operator and another man to repair the break in the telephone line. With Fellman filling in, Manning next had himself put in direct communication with the 319th's batteries.

Looking back, Sartain explained why, saying, "Once all the noise and everything else cleared, Manning systematically picked out and zeroed in on various concentration points. He had concentration points throughout the area. All he'd have to do is call Concentration Two, or Concentration Four, Concentration Eleven. Manning took the radio from Fellman and really took over the artillery, and I'm delighted because Manning had a lot more savvy about artillery fire. Fellman was over in the foxhole with Manning, but Fellman was brand new."

There hardly had been time to register the battalion's guns when the fusillade of 20mm cannon fire resumed, this time accompanied by the unmistakable growl of armored vehicles. Looking out across the open plain, Sartain, Manning, Fellman, and all the other GIs on Finger Ridge could see armored tracked vehicles advancing toward them.

At this distance, under the confusion of battle, it was difficult to identify just what variety of German armor they were watching. Enemy soldiers in greater numbers than had attacked before could also be seen riding on and clustered behind the advancing armor.

The GIs readied themselves by placing grenades along the tops of their slit trenches and filling their pockets with clips of ammunition. They started firing, more to feel like they were fighting back, since even well-aimed shots would have to be very lucky to hit a target at that range.

Author's Collection

Still, the armored attack pressed closer. One vehicle would stop momentarily to lay down a withering fire from its 20mm cannon, while the other would roll on toward the American position. Sartain went dashing from foxhole to foxhole, heartening the men to hold their ground. At first he scrambled along on all fours,

but then realized this was an unnecessary precaution because, oddly, all the heavier 20mm fire was passing overhead.

As Sartain put it, "These 20mm guns just kept shooting up the trees above us. I guess they couldn't depress their guns enough, but it all went over our heads. Everything they shot at us went over our heads, and there was an awful lot of it. It made a big roar, but once I was satisfied that they could not lower their guns in front of us, then I was safe in running back and forth."

By now supporting fire from the American artillery batteries was falling. There were air bursts, high explosives, and phosphorous shells going off in quick succession. No direct hits were scored, however, and the German infantry was getting closer.

"The grass was between knee and waist high," said Sartain. "They would drop down and you couldn't see them. Sometimes we'd see a German head pop up in the grass and the whole outfit would start firing. Or then they'd give an order and jump up and all come at us. When they were close enough, then our infantry with their rifles could take care of them."

At one foxhole Sartain came across a soldier paralyzed with fear. The man was holding out his M-1 rifle to the captain. He had a panicked look in his eyes and kept saying, "It's stuck, it's stuck. It's jammed!" Instinctively Sartain knew he had to restore the man's initiative and belief that he could help himself.

"Well," he told him, "you know how to break it down. Clean the son of a bitch! Clean it, clean it!" Sartain went onto the next foxhole, but made a mental note that he'd need to check back with this man. "Well, after a while I passed him again. He'd broken it down and cleaned it. He was firing and he was so proud of himself."

As aggressive as this second reinforced German attack was, Manning's astute preparation allowed him to pinpoint fire on the approaching armor with unusual speed and accuracy. Armor that had stopped to fire and even moving targets were showered with explosives. There was no time lost since the exact elevation and deflection of the battalion's guns on so many points had already been registered back at fire direction.

Moreover, Manning ordered that phosphorous shells be used. Sartain later explained why this type of round was most effective. "We had the phosphorus shells to strip the German troops from the tanks," he said. "When it went off, it scattered that hot phosphorus all over the countryside in itty bitty pieces, and it was just flaming hot. If a speck of that white phosphorous got on you, it'd burn through your clothes and everything else. It burned, man, it really burned!

"Manning had already established the coordinates with single gun registrations, so then the battery would just shoot on them and the battery really came through. When the infantry people took off or were eliminated, those tanks would turn around and leave because they had no protection. No, I don't think the tanks were knocked out, but once they stripped the infantry support from around the tanks, then they took off and left."

The German attack was now repulsed, but there was every reason to believe they would be back for another try. Sartain looked out over the open plain. There was a thin haze of smoke from the phosphorous and explosives. Dead and wounded Germans were scattered through the trampled, charred, and ground-up grassland, many of them horribly burned and screaming in pain. After a few minutes, white flags appeared, followed by litter bearers picking up these unfortunate souls and taking them away for medical treatment.

Sartain took the opportunity to make his way back to the OP to commiserate with Manning. He advised him that ammunition would become a problem if these attacks went on much longer. Manning made due note and assured Sartain that he would renew his efforts to establish either radio or telephone contact with the 325th, along with continuing to build up his repertoire of registered concentration points.

By now the telephone line was fixed. That made communication with both the 319th and the 320th more secure, but they needed to get communications going with the 325th, too. It was still a mystery to them why no one from this regiment had appeared at the position, either alone or with reinforcements.

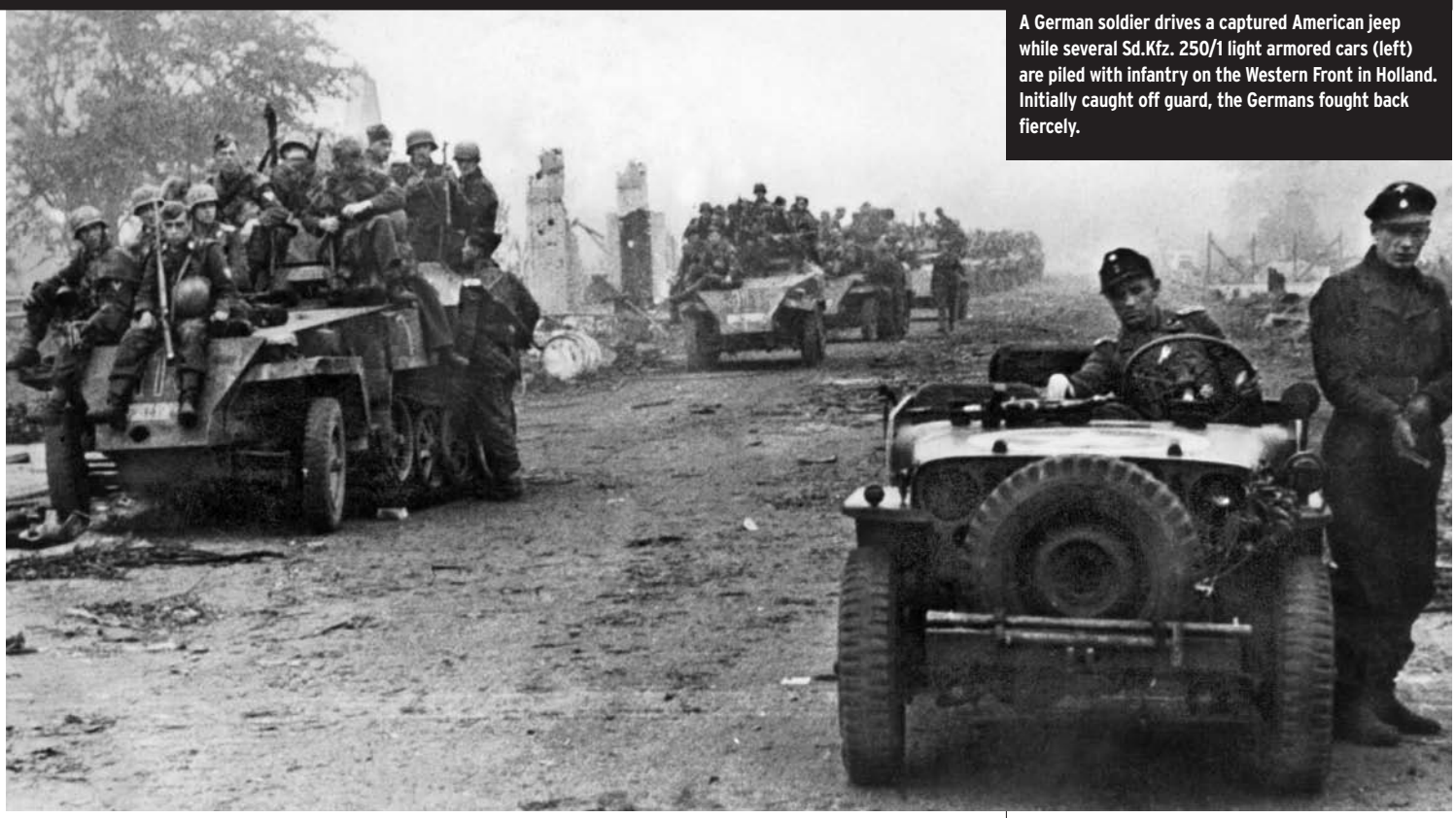
The conference between Manning and Sartain had not gone on long when the rumble of tracked armored vehicles started to rise out of the distance. Someone shouted out, "Hey, here they come again!" When they heard this, the captains hurriedly concluded their meeting. Sartain set off for the infantry's foxholes, while Manning was already cranking up the artillery support.

The E Company platoon had beaten back two attacks by now. They had confidence that they could face down another, but when they began opening fire, the Germans replied with a weapon that engendered fear in even the bravest of men. It was the flamethrower.

The German Flammenwerfer was, according to an early 1944 U.S. Army intelligence bulletin, a weapon normally used against enclosed fixed positions such as pillboxes, or for its shock value when placed with storming columns. Operated by combat engineers or Pionieren, the Germans were in the habit of assigning pairs of flamethrowers to infantry companies when the situation was appropriate. The apparatus consisted of two concentric rings filled with compressed nitrogen as its burning agent.

Worn on the operator's back, the containers held about one and a half gallons of fuel. The nitrogen was sent through wire-wrapped tubing to a hand-held nozzle about 18 inches long, fitted with a valve and ignition trigger. Earlier versions of the Flammenwerfer utilized a battery-started hydrogen flame to ignite the nitrogen, but by this point in the war most German flamethrowers used a blank rifle cartridge to set off the nitrogen agent.

When filled with burning agent, the entire weapon weighed 47 pounds and was capable of throwing its flame about 25 yards. This was not, in fact, very far. Consequently, the engineer troops who operated flamethrowers relied on being able to approach their target under cover of supporting machine guns or tanks before letting loose with their flame. In addition, once flame was discharged the exact location of the man operating



A German soldier drives a captured American jeep while several Sd.Kfz. 250/1 light armored cars (left) are piled with infantry on the Western Front in Holland. Initially caught off guard, the Germans fought back fiercely.

the apparatus was invariably disclosed, making casualties among flamethrowing engineers inordinately high. (See *WWII Quarterly,* Fall 2010.)

There was, though, another way of employing the Flammenwerfer that did not require that the operator be placed in such close proximity to the enemy. This was the flamethrower as an agent of terror. Even the U.S. Intelligence Bulletin described the effect of the flamethrower as "chiefly psychological." The prospect of being roasted alive was simply more than most men could endure, and crews of any flame unit depended on this fact to a large extent.

The German armor was still some distance out when the Flammenwerfer crews announced their presence on the field with short bursts of flame, evidently playing on the psychological impact of their weapon.

Indeed, at least one German flamethrower had already been reported by members of E Company around dawn that day when an enemy raiding party stormed through a portion of the Finger Ridge positions. It is possible that some of the men on The Finger with Sartain and Manning could have had a brush with it at that time. At very least it is safe to assume that rumors of flamethrowers had already circulated among them and contributed to their uneasiness.

Whether or not the two men whom Sartain placed in a forward outpost had heard rumors about Germans in the vicinity with this weapon, they came bounding up the hill immediately when the first signs of flamethrowers appeared. "They really hustled their asses up to us," Sartain remembered. As the two threw themselves into the first foxholes they reached on the ridge, Sartain jumped up to meet them. "Get your asses back down there," he ordered. "No one told you to abandon your post!"

Sartain understood their fear, but he also knew that fear was a very contagious disease. "I was kind of upset about it because, unless they got personally attacked, they had no business leaving their outpost. I fussed at them and sent them back down the hill." When Sartain next looked across the field it was clear the panzers were getting rapidly closer, bringing with them infantry spitting jets of flame. Immolation would be a horrible way to die and Sartain thought: "If they ever get close enough, that's gonna be our ass."

Meanwhile, back at A Battery's gun position, a radio call came in directly from Captain Manning. Lieutenant Marvin Ragland was the battery's executive officer, and he remembered the call: "He called in and said, 'There's a counterattack coming. I want you to fire in this area, and I want you to keep firing until we tell you to stop.' So, I don't know how long we fired, but we had a lot of ammunition and, man, those guns were getting pretty hot."

Although the air and ground across which the Germans were advancing was filled with exploding ordnance of all kinds, as well as small-arms fire from E Company, the enemy was determined to take Finger Ridge and kept pressing forward. Aware that they were holding an advanced point, Sartain grew concerned that the Germans would try to encircle the position. Periodically he would scramble up to the crest to take a look behind the ridge for signs this was happening but never did see any attempt at encirclement.

Now the events on Finger Ridge were

German infantry patrol a Dutch field in search of Allied airborne and glider troops. The soldier in the foreground is armed with a Sturmgewehr 44.

generating attention from other artillery battalions, and a Piper Cub from one of them made air observations. Considerable supporting fire beyond the 319th was brought in. "Oh yeah, there could have been a lot of it," Sartain commented. "They brought in some heavy artillery. I know we had some 155s that were attached to the division. There could have been contributing fire from the 320th because that was a large area out in front of us. Manning would call, 'Fire for effect,' and they would just clobber the area, but that was farther out."

As the Germans closed in, a furious battle boiled up involving artillery, machine guns, armored vehicles, 20mm cannon, flamethrowers, and any number of small arms. Dug in as they were, the GIs were protected and inflicting terrible casualties on the Germans now that they had them well within rifle range. Until that point, artillery took its toll on the enemy the whole way.

"There was only one tank that got anywhere close to us," said Sartain. "Then the flamethrowers were right behind him and it was only one flamethrower that got within distance to do us any damage. If it'd gotten any closer he could have hit us, but he was about 40 yards away and we were just out of his range."

Continuing his account, Sartain said, "Manning brought the artillery to within 75 yards of us, but he only registered one gun and only brought one gun in real close. See, he didn't want to worry about all six of them shooting. We didn't want the whole battery in on it, no, no. One shot. Then, when the targets were out farther, we used the whole battery. And they would bring in B Battery also. But on real close-in shots, we registered with one gun."

Calling in concentrations at such a close proximity necessarily required an extraordinary degree of coordination and skill. In a memoir written by Manning about 50 years after the event, he described how he was able to pinpoint artillery fire so that it would land just beyond the foxholes on Finger Ridge. "It got down to me talking directly to Battery B, under Captain Hawkins, and his Section Chief, Sergeant Delos Richardson, who had been my first sergeant in Battery C," Manning wrote.

"Del and I coordinated things down to the last mil of elevation and the last yard of distance. We were able to drop the artillery rounds on the attackers within 25 or 30 yards of where we sat. We blew up two flamethrowers, a few tanks, and caused a good amount of damage and confusion. Finally got things cooled off. Evidently the Germans were impressed enough to take their attack somewhere else."

When compared, some inconsistencies emerge between Manning's written account and Sartain's memory that deserve to be examined. That Manning would have insisted the closer concentrations be fired by the batteries of the 319th is both plausible and to be expected. After all, the battalion was as accustomed to Manning's manner of adjust-

ing fire as he was with their response to his directions. The gunners of the 319th would naturally have had his trust more than those of any other unit.

Also, given the gun positions of the 319th and 320th relative to Finger Ridge, Sartain's statement that, "The shells came over from right to left, not from behind us. That's why Manning was able to get them in so close," also supports the idea that it was the 319th that conducted the close fire.

Both agree that one gun was used when the panzers and flamethrowers were at their closest. But Sartain also maintained that when single-gun fire was called for, it came from A Battery, saying, "Manning wanted only one gun, and he wanted that gun from A Battery. It was brought in so close that I'm positive Manning didn't want anybody else but A Battery shooting those damn shells."

Battalion records indicate that B Battery fired considerably more rounds than A Battery during the period of the Finger Ridge attacks—627 for B compared with 386 rounds fired by A. Unquestionably, B Battery was more active, but these numbers could be interpreted as supporting the idea that only one gun of A Battery was firing during selected periods of time.

Manning, however, was very specific in his account about personally arranging this fire with Sergeant Delos Richardson. When one considers that Manning's greatest experience working one on one with any firing battery's chief of sections took place during the tricky fire missions in Italy at Chiunzi Pass with Sergeant Richardson, then of C Battery, it is understandable that he would have sought this same section chief on that day in Holland.

Whether the Germans were sending tanks in the sense of vehicles with enclosed turrets fitted with a high-velocity cannon against the Finger Ridge position is ambiguous, even though Manning used the term "tanks" in his memoir and 319th Battalion records also describe the vehicles as tanks. Yet, Sartain did not recall, nor Manning mention, any direct cannon fire such as one would expect from attacking panzers.

In this area of Holland the Germans were generously equipped with half-tracks on which 20mm antiaircraft guns were carried, and they were in the habit of using them on both air and ground targets. Given the volume of 20mm fire directed against Finger Ridge and the absence of direct cannon fire, it is most likely that at least some, if not all, of the enemy armor was comprised of half-tracks mounted with these guns.

With all this array of firepower directed against them, it appeared to the men on Finger Ridge that they were fighting alone. In fact, the American command structure in the Mook area was aware that the position was under attack. Possibly Manning was able to get through to the 325th's 2nd Battalion HQ, or other members of E Company elsewhere on the ridge may have reported what was happening.

However it occurred, beginning at about 6:00 PM, 325th HQ acknowledged that a full-scale assault was under way. The flank of C Company, the next unit to E Company's west, was described in that unit's combat journal as "threatened." Men of E Company who were posted at other points along the extended Finger Ridge also recorded being attacked that day. All this suggests that the attack on Sartain and Manning's position was not an isolated one, but rather part of a larger offensive operation, and that the Germans were having some success.

At 6:45 PM a notation was made at 325th Regimental Headquarters stating there was a call from E Company that it needed help, followed later that evening by a call for ammunition to that company's right flank.

"I remember ammunition getting low," Sartain said. "It was a bad situation. I told them all, be sure you know what you're shooting at." Though the need for ammunition remained, 325th Regimental records indicate that at 7:53 PM a jeep loaded with ammunition was to be stopped en route. Presumably this was not because the need for ammunition replenishment had passed but because the road to E Company's position on Finger Ridge had been cut.

About this time Lieutenant Fellman came bounding into a foxhole where Sartain was reminding one GI to pick his targets carefully. The captain was doing his best to be everywhere at once, but of course that was impossible. Sartain shouted in Fellman's ear, "Get down to the other side of the OP. Tell those boys over there not to go hog wild shooting off their ammo, and make sure they keep their asses put!" With a slap on the back, Fellman was off. Sartain felt better, knowing he had one of his own officers out there, encouraging the troops with him.

The fighting was now at such an intensity the reports of individual weapons couldn't be distinguished. Then one German soldier got up and rushed forward. He tossed a stick grenade toward the Americans, even as he was cut down by rifle fire. Another did the same and was killed as quickly as his comrade. It was suicidal of them to do so, but in the intoxication of battle soldiers often take risks that no "sane" man would ever consider.

Ed Ryan, a radioman with the 319th's Headquarters Battery, wasn't on Finger Ridge that day, but he'd found himself in the middle of plenty of hammer-and-tongs firefights. Describing the experience of losing one's sense of danger, he said, "When you get into that kind of combat, different people act different ways. There'd be so much fire you'd get so scared that you couldn't handle it anymore. You get scared to death, then it seemed like the adrenaline would take over. You'd get this adrenaline rush and it'd stay with you, then you didn't care anymore."

The Germans were never able to breach the Finger Ridge position, though some of them fell only yards from the American foxholes. The enemy pulled back, regrouped, and in the growing twilight hit the GIs again. "They would attack us, then settle down, then attack us again. Eventually the one with the flamethrower quit, but not until well after dark," remembered Sartain.

Everybody on Finger Ridge felt they'd avoided being overrun by a hair's breath, and they were right. Though more fighting

was expected, ammunition was low and the isolated platoon never did get any reinforcements. Lest they be taken by surprise, Sartain and Manning knew that the men would also have to remain awake and alert, fighting exhaustion now that darkness was upon them.

"All that night we could hear them out there," Sartain said. "We'd send up some illuminating shells and light up the battlefield. You could see them scurry for cover. In the daylight you didn't have to worry because you could see what they were doing. But they didn't attack. The Germans didn't like to fight at night, they just didn't. We found that out early."

Though there were no further assaults, the Americans were nervous and would sporadically let loose with outbursts of fire whenever they heard noises or flares gave them a target to shoot at. But as the hours advanced closer to dawn, these incidents ceased, a gentle rain started falling, and the field became quiet.

Sartain continued his story of Finger Ridge: "They picked up their wounded and dead after dark. They never had a white flag to come pick them up, and I kept wondering why, but once it got to be daylight they withdrew. It was unreal. You'd think nothing had happened; all that commotion going on, all that afternoon and the night before."

The two captains remained at the Finger Ridge position until late morning, by which time it was clear that the Germans had no intention of renewing their attacks. Moving from foxhole to foxhole, Sartain reviewed the essentials of their defense with the individual infantrymen who had displayed the most leadership. Before parting, he'd tell them, "All right, tiger, you know what to do. Carry on."

Meanwhile, Captain Manning reviewed things with Lieutenant Fellman, making sure he was familiar with every preregistered concentration point on the map and its corresponding location on the flatlands before them. Content that the situation was stabilized, Manning and Sartain left Finger Ridge.

Back at the jeep, Sosa had a canteen cup

ABOVE: 319th GFAB positions in Holland, September 1944. Sartain's and Manning's position at Finger Ridge is due west of Groesbeek. OPPOSITE: Sartain's driver, Louis Sosa (second from left), and a glider artillery gun crew pose by a 75mm pack howitzer, Holland, October 1944. The gun was relatively light (1,439 pounds), easily transportable, and had a maximum range of approximately five miles.

of coffee waiting for each of them. They sat down and drank deeply, suddenly aware of how thirsty they were. Then Sartain remembered his pipe. He took it out and slowly prepared to smoke it. Manning pulled off his helmet, placed it beside him, and ran fingers through his matted hair. No one said anything. It was obvious to Sosa that his captains were exhausted. He wouldn't bother them by asking where they'd been since yesterday afternoon. After all, from the sounds of battle that had drifted over the ridge, Sosa had a pretty good idea.

When Sartain and Manning were finished with their coffee, Sosa started the jeep and drove off toward battalion headquarters. The light rain had cleared off and, as he drove, Sosa noticed both captains had fallen asleep.

As the jeep approached 319th Headquarters, Sosa's passengers roused themselves. Major Silvey was already waiting outside the command tent and trotted up to the jeep as it rolled to a stop; Colonel Todd, the battalion commander, was following a few yards behind, shouting greetings. Sartain remembered, "They were glad to see Manning and me. I guess both Headquarters and A Battery were kind of concerned about our butts."

Inside the command tent, Manning and Sartain took seats at a folding table. They hadn't eaten since the fried eggs Sosa had made the day before, so Todd saw to it that they were brought some hot chow. Even though the food was a strange amalgam of Ameri-

can, British, and German rations, the famished officers scarfed it down with great efficiency, followed by a period of debriefing.

The two captains told of the absence of infantry officers, the repeated frontal assaults, the German armor, the flamethrowers, and the way the batteries had saved the position. All the while Major Silvey took notes. Other officers and enlisted men who were within earshot, or who came by in the course of their duties, couldn't help but linger and listen in.

Of course, it was only a matter of minutes before details of the Finger Ridge battle were being passed from man to man throughout the battalion. Manning and Sartain were already held in high regard, but now their reputations soared. As Sartain said, "They made a big deal out of it." The men were also projecting the pride they felt in their own accomplishments onto the two captains. According to Sartain, "It was a high point for the men, particularly in A Battery. I really believe if they had any feelings about me or Manning, it increased their respect, I really do."

After the debriefing was over, Colonel Todd suggested that the two get a few hours' sleep. By now it was clear to anyone familiar with the events of September 25 that Manning's and Sartain's actions on Finger Ridge were something extraordinary and worthy of recognition. Colonel Todd and Major Silvey certainly thought so, and when Colonel Andy March, commander of the 82nd Airborne Division Artillery, stopped in shortly afterward he thought so, too.

Todd began investigating the idea of nominating them for decorations. Decorations required corroborating written statements that then needed to be reviewed by a board of officers from outside the unit. All this would take some time, and for the present Sartain and Manning still had their jobs to do.

Sixty-five years later, Sartain was still proud of but also perplexed by what took place on Finger Ridge. "On reflection," he said, "I've never understood why there were no NCOs or officers with this group, or why—once we were under attack—the infantry battalion did not send reinforcements. We got absolutely no reinforcement from their headquarters. We had no contact with the infantry battalion, and that just amazed me. It was like those kids were stuck out there and nobody even knew they were there.

Author's Collection

"But those kids on that ridge, they did all right, they really did. Nevertheless, if it hadn't have been for Manning and the artillery, and the way he conducted the artillery fire, we couldn't have held on. If it hadn't been for Manning, we never would have survived."

As far as the Germans who attacked Finger Ridge are concerned, Sartain remained puzzled by them as well. True, their performance at Finger Ridge displayed determination, doggedness, and even valor. But it plainly lacked ingenuity, and the attacks were poorly executed. For example, there were the simplistic frontal assaults by the Germans in the face of repeated failures. Their methods had a primitive and amateurish quality suggestive of inadequately trained soldiers.

Sartain commented, "I don't know who it was, but I don't think it was SS because they continued their frontal assault. And a couple of them that were killed pretty close to us looked like real young kids. That's the thing I was shocked about in Holland, the German soldiers—they were just kids."

The inexperience and youth of the Germans was so apparent that, even in the heat of the battle, Sartain and Manning couldn't help feeling pity for them. Reflecting on this years later, Sartain suddenly remembered one peculiar episode during the fight that illustrated this point.

"Manning was shooting at people out there with the artillery when this kid rose up out of the grass," he recalled. "He was shooting up at us, but he was just a teenager, less than a teenager. He may have been older than he looked but he wasn't much taller than the grass he was in. I motioned to Manning, pointed to this kid and Manning realized he was just a teenager, too. We called off the fire on that particular concentration. We held up fire on him, just held up the fire till I felt like he was out of the

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BREACHING THE

Slugging northward on the Italian Front in the autumn of 1944, the Allied Fifth and Eighth Armies battled rugged terrain, miserable weather, and determined German resistance.

BY MICHAEL E. HASKEW

The reason for it was unthinkable. A last line of defense in Italy was necessary, but senior German commanders had not been concerned that it would ever be contested by Allied forces. Before the actual inception of the Italian campaign, preliminary plans for a strong defensive line in the northern Apennine Mountains were approved, and by the summer of 1944, the unthinkable had become reality.

To the north of the Apennines lay the broad expanse of the Po River Valley and the Plain of Lombardy, favorable ground for the movements of a modern, mechanized army. Field Marshal Erwin Rommel, who had preceded Field Marshal Albert Kesselring in command of German troops in northern Italy, recalled his earlier service with the Army in World War I and favored a line even farther north, in the Alps. Rommel, however, was overruled.

Defending the Apennines would, it was hoped, deny the Allies the tactical advantage that seizing the favorable Po Valley terrain would mean, for there the cities of Bologna, Modena, and Milan—and the rich agricultural land that provided much of the food for the Axis—lay. Hitler had further decreed that the territory was to be given up only grudgingly, and Highway 9, the only good road running east to west in northern Italy, would allow the Germans to transfer forces with reasonable speed.

By August 1944, German forces in Italy had been in retreat or fighting a skillful defensive war for more than two years. They had been pushed off the African continent, forced to abandon Sicily, and compelled to execute a fighting retirement up the boot of Italy. Losses in tanks and other vehicles were irreplaceable as the Reich was pressed by the U.S. and British armies in France and by the Soviet Red Army advancing inexorably from the east. Casualties were high, and there were few quality replacements available.

In the spring of 1944, the focus of the Todt Organization, Germany's paramilitary construction arm, was the building of the Gothic Line, finally a priority for Kesselring following months of preoccupation with events farther south. Augmented by conscripted Italian workers, many of whom were rounded up in the streets of the country's large cities, the Germans were hastily building a thick band of defenses that stretched 200 miles from the naval base at La Spezia in the west, across the Apennines and the Foglia Valley, to the Adriatic port of Pesaro.

While any German troop movement of appreciable size and any Allied offensive thrust along either Italian coastline would be within range of overwhelming U.S. and British naval firepower, control of the air

U.S. Fifth Army troops slog their way up a muddy road in the Il Giogo Pass-Monte Altuzzo area of Italy's northern Apennine mountains, September 20, 1944. Bad weather, mountainous terrain, and stubborn German resistance all conspired to slow the Allied advance north of Rome.

GOTHIC LINE

Painting by Harry A. Davis, U.S. Army Art Collection

Both: National Archives

had long been conceded to the Allies. Tactical airstrikes could devastate German columns moving during daylight hours, and the Fifteenth Air Force, based at Foggia, conducted daily raids on industrial targets in northern Italy and in Germany. By the spring of 1944, the manpower of the Fifteenth Air Force topped 50,000, while more than 1,200 heavy bombers, most of them Boeing B-17 Flying Fortresses and Consolidated B-24 Liberators, were dropping tons of bombs.

The realists among the German commanders harbored no illusions of victory, but they were grimly determined to make

ABOVE: Troops of the 1st British Infantry Division, attached to the Fifth Army, advance up a steep mountain trail near Monte Pratene, September 1944. LEFT: Allied brain-trust in Italy (l. to r.): Lieutenant General Sir Oliver Leese (Eighth Army), Field Marshall Sir Harold Alexander (commander of Allied Armies in Italy), Lieutenant General Mark Clark (Fifth Army).

the Allied ground troops pay as dear a price as possible for every successive yard of Italy. Allied senior commanders, on the other hand, hoped to breach the Gothic Line and race into the Po Valley before winter.

Facing supply and manpower shortages of their own, the Allies did possess the ports of Leghorn on the Ligurian coast and Ancona on the Adriatic. These were only about 35 miles from the front lines, much closer than smaller ports and the facilities at Naples, which had been wrecked by the retreating Germans following the American landings at Salerno in September 1943. Therefore, a breakthrough might be sustained more efficiently and allow for more rapid movement to the north.

During the two weeks prior to the early August attempt of the II Polish Corps to cross the Metauro River in the east, tactical aircraft had flown nearly 400 sorties against German positions. The Poles hammered at the German 278th Infantry Division and drove it back beyond the Metauro, losing 300 dead in heavy fighting. On August 25, 1944, the Eighth Army renewed its offensive operations with the V Corps and the 1st Canadian Corps advancing rapidly across the river. Three days later, the Germans withdrew the LXXVI Panzer Corps and the LI Mountain Corps into the defenses of the Gothic Line.

Rapidly moving on Pesaro, the Eighth Army, under General Oliver Leese, was poised to outflank the eastern end of the Gothic Line. First, the strongpoint of Monte Gridolfo had to be neutralized. Elements of the 26th Panzer Division had taken up positions around the town only hours before the first British troops arrived. Leading a platoon in the attack of August 31, Lieutenant G.R. Norton of the 1st Battalion, 4th Hampshire Regiment won the Victoria Cross as his men took on a series of concrete bunkers but became pinned down by fire from their right flank.

The 4th Hampshire regimental history relates, "On his own initiative, Lieutenant Norton at once went forward alone and engaged a series of enemy positions.... he attacked the first machine gun position with a grenade, killing the crew of three; then, still alone, he worked his way forward to another enemy position containing two machine guns and fifteen riflemen. After a fight lasting ten minutes he wiped out both machine guns with his Tommy gun and killed or took prisoner the rest.

"Throughout these engagements Lieutenant Norton was under direct fire from an enemy self-propelled gun and, still under fire from this gun, he led a party of men who had come forward against a house and cleared the cellar and upper rooms, taking several more prisoners and putting the rest to flight. Although by this time he was wounded and weak from loss of blood, he went on calmly leading his platoon ... and captured the remaining enemy positions."

When Norton was later evacuated to a field hospital, the nurse assigned to care for him turned out to be his twin sister. The next day was their birthday.

On September 2, the Poles outflanked the Germans at Pesaro. Canadian troops had already taken Tomba di Pesaro and driven a wedge between the 26th Panzer and 1st Parachute Divisions. The following day, the Eighth Army had penetrated 10 miles and

compromised the Gothic Line defenses along the Adriatic. It appeared as if the months of work the German laborers had invested might derive no tangible benefit whatsoever. The stunning advance of the Eighth Army had netted 4,000 prisoners, and General Traugott Herr, commanding LXXVI Panzer Corps, established a patchwork defensive line along the Coriano Ridge.

The British 46th Division and the 1st Canadian Corps tried for more than three days to take the ridge, but the veteran German defenders held firm. During the week of September 3, torrential rain fell, stalling the Eighth Army effort. Beyond the Coriano Ridge lay the key positions of San Fortunato and the town of Rimini. With Rimini in their hands, the British hoped to exploit the Romagna Plain, believed to be good tank country with firm ground.

The deteriorating weather, however, proved to be a major adversary and sapped momentum from the drive. More than 8,000 casualties had been sustained, and the Gothic Line was behind them, but the troops of the Eighth Army were exhausted and facing fresh German reinforcements.

When the Eighth Army began its offensive, Kesselring wavered before committing precious German reserves. Events subsequently compelled him to pull troops from the center of the Gothic Line and move them eastward along Highway 9 to stop the advance on the Adriatic front. Credit must be given to General Harold Alexander, commander of 15th Army Group, who had foreseen such a turn of events and an opportunity for the U.S. Fifth Army, under General Mark Clark, to deliver a roundhouse blow against the weakened Gothic Line center, less than 20 miles north of Florence.

The bulk of Fifth Army crossed the Arno against only light opposition. Pisa, home of the famous leaning tower, was captured on September 2, and the II, IV, and XIII Corps moved ahead, IV Corps lagging behind somewhat against strong resistance along Highway 65. As Clark consolidated his gains, he considered two avenues of approach to the Gothic Line: Futa Pass on Highway 65 and Il Giogo Pass, six miles to the east. The Germans had placed stronger defenses at Futa Pass, believing that an Allied thrust would take the best road in the area.

Clark reasoned that advancing through Il Giogo Pass would outflank the strong defenses at Futa Pass, take Firenzuola five miles distant, and then facilitate a resumption of the advance along Highway 65 or a secondary road through Imola to the city of Bologna, 60 miles north of Florence and the gateway to the Po Valley. He also hoped for assistance from a renewed Eighth Army offensive toward Bologna.

When Fifth Army drew up to the Gothic Line on September 12-13, only one German regiment, the 12th Parachute of the 4th Parachute Division, held Il Giogo Pass; the two other regiments of the 4th were at Futa Pass. The capture of Monticelli, a 3,000-foot ridgeline on the left, and Monte Altuzzi, a peak of roughly the same height on the right, would force Il Giogo Pass open.

Two battalions of the U.S. 91st Division's 363rd Infantry Regiment began the painstaking ascent of the western slope of Monticelli on the 13th and encountered heavy mortar and small arms fire. The vanguard of a Fifth Army fighting force that numbered more than 260,000 was at times reduced, due to difficult terrain and a determined enemy, to no more than a handful of soldiers clinging to a mountainside.

One company was stopped by German artillery. Under cover of darkness, an officer and six volunteers crawled forward to pinpoint the enemy position. The following day, accurate 155mm counterbattery fire from American artillery silenced the enemy. When a company of American troops moved forward and captured five dazed Germans, they had achieved the first penetration of the center of the Gothic Line.

Bundesarchiv, Bild 101I-316-1163-09, Photo: Demmer

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ABOVE: Germans, and conscripted Italian workers, construct fortifications beneath camouflage netting on the Ligurian coast. RIGHT: Before its capture, a German bunker in the Gothic Line had the highway well covered.

The elite German Fallschirmjäger troops launched several violent counterattacks against the lodgment. During one of these, Sergeant Joseph Higdon, Jr., leaped from cover with a light machine gun. Firing from the hip, he forced the Germans to retire but was seriously wounded. He fell 30 yards short of his own line and died before medical assistance could reach him.

Private First Class Oscar Johnson, a member of a mortar crew, assumed the role of a rifleman when all his mortar rounds were expended. The six other members of his squad had been killed or wounded by the afternoon of September 16. Johnson collected weapons and ammunition from his fallen comrades and held his position through the night. His Medal of Honor citation reads, "On the

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night of 16-17 September, the enemy launched his heaviest attack on Company B, putting his greatest pressure against the lone defender of the left flank.

"In spite of mortar fire which crashed about him and machine-gun bullets which whipped the crest of his shallow trench ... Johnson stood erect and repulsed the attack with grenades and small arms fire. He remained awake and on alert throughout the night, frustrating all attempts at infiltration. On 17 September, 25 German soldiers surrendered to him.... Twenty dead Germans were found in front of his position."

Johnson was credited with killing more

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ABOVE: The first African American artillery unit in the Italian theater fires its 105s at German positions across the Arno River, August 29, 1944. LEFT: Looking northward at the switchback road (Highway 6524) running up to Il Giogo Pass, September 13, 1944.

than 40 enemy soldiers, and 150 dead Germans lay in front of Company B. In return, the company had taken 75 percent casualties, its effective strength reduced to 50 men before Monticelli was secured on the 18th.

While the 363rd Regiment was fighting there, the 338th captured Monte Altuzzo after five days of hard fighting. Three U.S. divisions had sustained a total of 2,731 casualties in six days. On the night of September 17, General Joachim von Lemelson directed the I Parachute Corps to vacate the Gothic Line. Futa Pass was given up as well.

During a diversionary attack on September 14, which had kept the German defenders of Futa Pass from moving reinforcements to Il Giogo Pass, 2nd Lt. Thomas Wigle of the 135th Infantry Regiment, 34th Division, was hit when he led an assault near Monte Frassino, but drew fire to himself and allowed his command to maneuver over three stone walls. He then dashed into the first of three houses and drove the Germans out, followed them into a second, and routed them.

Wigle was mortally wounded on the steps of the cellar at the third house, where the enemy soldiers had sought refuge. Within minutes, 36 Germans emerged from the cellar and surrendered. Wigle received a posthumous Medal of Honor.

Supported on air and sea, the British V and Canadian I Corps renewed their assault against Coriano Ridge on September 13. The Irish Regiment of Canada put a battalion of the 29th Panzer Division to flight and cleared the town of Coriano house by house.

The following day, the Canadians were two miles north of the ridge at the southern bank of the Mariano River. Both flanks of the German Tenth Army were bending precariously backward. The Canadians moved again on September 19, taking the San Fortunato Ridge, but bad weather stalled the Canadian armored spearheads.

Elsewhere along the line, floodwaters and thick mud slowed the entire offensive. Nevertheless, the loss of the San Fortunato Ridge made it impossible for the Germans to defend Rimini.

General Traugott Herr withdrew his Fourteenth Army troops from the city on September 20 but left intact a stone bridge across the Marecchia River, which had been built

nearly 2,000 years earlier during the reign of the Roman Emperor Tiberius. The Triumphal Arch of Augustus, built in 27 BC, was also still standing amid modern ruins when the Canadians and the 3rd Greek Mountain Brigade rolled into Rimini.

Afterward, Kesselring wrote in his diary, "I have the terrible feeling that the whole thing is beginning to slide."

When the Canadian tanks deployed onto the Romagna Plain, however, they found that the ground had been turned into a quagmire by the seemingly endless rain. Alexander had hoped to advance beyond the line from Pisa to Rimini, but such was not to be. In 26 days, the Eighth Army had advanced only 30 miles. "The plains so long hoped for and so fiercely fought for," he wrote in a dispatch, "[were] clogging mud and brimming watercourses."

Clark weighed his options at Il Giogo Pass and decided that a secondary advance to Imola could support the Eighth Army fighting north of Rimini along Highway 9 and cut off Germans falling back from the British attacks. The U.S. 88th Division advanced down the asphalt road into the Santerno River Valley and was obliged to capture high ground at Castel del Rio and a road junction beyond the town before reaching Imola.

Hard fighting in foul weather produced only limited successes as the Germans reinforced a vulnerable area between the Tenth and Fourteenth Armies. A battalion each from the 362nd and the 44th Reichsgrenadier Divisions defended Castel del Rio, but the American 350th and 351st Infantry regiments managed to take several peaks in the area, forcing the Germans to withdraw. The 350th Regiment occupied nearby Monte Battaglia, defending it against savage German counterattacks.

The terrible weather hampered the forward momentum of the IV Corps and slowed the advances of II Corps and XIII Corps to the east. Air support was fogged in, and the situation confronting Fifth Army became quite similar to that which had reduced the Eighth Army drive to stagnation.

Both: National Archives

LEFT: Second Lieutenant Thomas Wigle received the Medal of Honor posthumously for heroic actions on September 15. RIGHT: Mortarman Oscar Johnson's aggressive courage earned Medal of Honor on September 16.

Bundesarchiv, Bild 101I-315-1127-03, Photo: Lüthge

Germans fire an antitank gun at Eighth Army troops near Rimini on the Adriatic coast, September 1944.

The Germans, meanwhile, took advantage of the lull to deploy what reinforcements they could. Aware that his lunge toward Imola had caused the diversion of few German troops from the Eighth Army front and concerned that the single good road in the area could facilitate little freedom of movement for his troops, Clark abandoned the Imola effort and redirected the mass of Fifth Army strength toward Bologna.

At the end of the month, Bologna was only 24 miles away from II Corps' positions along Highway 65 and, at Monte Battaglia, the Po Valley was only 10 miles distant from British troops. Clark was required to think of his overall position, and the three divisions of the XIII Corps were extended across 17 miles of the Santerno Valley while the IV Corps was holding a 50-mile front; neither was able to affect a rapid move forward.

Further, the commander had seen it necessary to pull the 1st Armored Division out of the line for rest. Therefore, the Germans were able to shift troops to the most-threatened sectors of their line while the uncertainty of autumn and winter weather served as a wild card for operational planners.

As so often had occurred during the Italian campaign, the objectives of the Allied armies seemed so near and yet so distant. Clark observed that he "could see for the first time the Po Valley and the snow-covered Alps beyond. It seemed to me that our goal was very close."

In reality, September was a time for Clark's superior, General Alexander, to take stock. His assessment of the situation confirmed the sense of frustration that he had felt for some time. The official history of the U.S. Army in World War II relates, "Although September had seen both the Fifth and Eighth Armies make impressive gains by breaking through the Gothic Line and driving, respectively, to within sight of the Po Valley and moving northwestward along Highway 9, some 17 miles from Rimini to a point just east of Cesena, both were still far from their original goals of

destroying the Tenth Army south of the Po and pushing the Fourteenth Army north of the river.

"The worsening weather and attrition of the September battles made it seem, at least to General Alexander, that those goals could not be gained in the near future."

The U.S. Army history continues, "On 21 September Alexander informed the Chief of the Imperial General Staff [Field Marshal Sir Alan Brooke] that, although the Allied armies in Italy had inflicted severe losses on the enemy, Allied losses also had been heavy. The Allied commander [Alexander] added that the nature of the terrain in the mountains as well as in the Romagna Plain necessitated a three-to-one superiority in troop strength for successful offensive operations.

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ABOVE: Livergnano, strategically situated on Florence-Bologna Highway 65, was reduced to ruins by heavy fighting. RIGHT: Troops of the 91st Infantry Division man entrenchments near the village of Livergnano along Highway 65. The fighting here lasted October 9-15, 1944.

"Since his armies were not likely to achieve that ratio in the foreseeable future, General Alexander believed that decisive victory in Italy was no longer possible before the end of the year—a conclusion that the U.S. Army's Chief of Staff, General Marshall, had reached in August.

"Five days later Alexander returned to the same theme in a message to the theater commander, observing that 'the trouble is that my forces are too weak relative to the enemy, to force a breakthrough and so close the two pincers. The advance of both armies is too slow to achieve decisive results unless the Germans break, and there is no sign of that.'"

Continuing to focus on Bologna, General Geoffrey Keyes's II Corps took the offensive on October 1 and managed to advance four miles in four days against the depleted 4th Parachute and 362nd Grenadier Divisions. Racing the calendar in anticipation of winter snow and ice, the Americans took nearly 900 prisoners but lost 1,734 killed and wounded.

Troops of the 91st Division entered the fight on October 5, capturing the town of Loiano and the heights of Monte Castellari. Progress was agonizingly slow. During four more days of fighting, the II Corps center moved forward but three miles.

The Germans fell back to the Livergnano Escarpment, which offered the best defensive positions they could take advantage of north of the Gothic Line. The high ground menaced a section of Highway 65 and caused Keyes to maintain his focus to the east, in the zone of the 85th Division.

Monte delle Formiche, nearly 2,100 feet high, stood in the way of the advance on the escarpment. Troops of the 338th Infantry Regiment captured the heights with artillery and air support, while taking 53 German prisoners and repelling a counterattack. However, they managed to advance only another mile during the next three days. The 337th Regiment, supported by a battalion of the 338th and later relieved by the 339th, captured Hill 578, but that was the extent of the 85th Division drive.

Two battalions of the 88th Division fought for three days before finding a gap in the German defenses, crossing the Sillaro River, and pulling even with the 85th Division. The 91st Division had managed to hold the attention of most of the Germans on the Livergnano Escarpment by pressuring the two natural gaps in the gigantic ledge, which towered 1,800 feet. One approach was through the town of Livergnano on Highway 65, while the other was a steep ravine more than a mile to the east near the town of Bigallo.

When the 91st Division's attacks toward both locations commenced on October 9, a German counterattack threw the timetable of the Livergnano assault well behind. Trying to make up for lost time, one company was virtually surrounded in the town and captured almost to a man when a pair of German tanks blasted the walls of the house in which they had set up a defensive position. The 10 soldiers who managed to get back to their own lines had hidden in a pig sty. Near Bigallo, two companies of the 361st

Bundesarchiv, Bild 183-J28017, Photo: Gebauer

ABOVE: German troops in Italy, October 1944. By holding the high ground, the Germans kept the much larger Allied forces from advancing. BELOW: Germans captured near Livergnano carry a wounded comrade, October 13, 1944.

National Archives

Infantry were pinned down. Reinforced, these troops finally scaled the escarpment on October 13 and took Hill 592 to outflank Livergnano, which the Germans evacuated.

With the Fifth Army now only 10 miles from Bologna, the 34th Division moved into the line in the former positions of the 85th and 91st Divisions. The 6th South African Armoured Division covered the right flank of the IV Corps during the first two weeks of October, while the 78th Division, now with the Fifth Army, continued a painstaking advance in the Santerno Valley after taking over for the 88th Division.

On the 13th, the South Africans launched their heaviest attack since the pivotal battle of El Alamein two years earlier and captured 2,200-foot Monte Stanco along with 100 German prisoners from the 94th Grenadier and the 16th SS Panzergrenadier Divisions.

The quagmire of the Romagna Plain and more than a dozen rivers that flowed through it had reduced the Eighth Army advance to a crawl. On October 1, General Leese had relinquished command of X Corps to General Richard McCreery in preparation to assume command of all British forces in Burma.

McCreery decided to move westerly into the foothills of the Apennines and sent the war-worn 5th Kresowa and 3rd Carpathian Divisions of the Polish II Corps toward Highway 9. The Poles took Montegrosso and moved on to Preddapio Nuova on the banks of the Rabbi River. On October 26, they took the town, lost it, and then took it for good the following day. Their advance in the previous five days had covered six miles.

During the same period, V Corps troops advanced toward Cesena and the Savio River. Attacking up Highway 9, the Carleton and York Regiments of the 3rd Infantry Brigade also headed for Cesena. The 46th Division moved into the town from the south on October 19, while the 1st Canadian Corps advanced from the southwest. As the Canadians crossed the Savio River on the night of October 21, Ernest Alvia Smith earned the Victoria Cross.

Smith, a private in the Seaforth Highlanders of Canada, was leading a PIAT antitank crew across an open field when his company was counterattacked by three tanks and at least 30 German infantrymen. Smith fired a PIAT, disabling one of the tanks, and gunned down several German soldiers who came directly at him. Smith then gave first aid to a wounded comrade and held his position until relieved.

At the end of October, Eighth Army was covering a 30-mile front from the Adriatic along the Ronco River and was utterly exhausted. McCreery had two divisions in reserve—the British 1st Armoured and the 56th—but both were terribly understrength due to a lack of replacements. The 46th Division had just left the line, and the 4th Indian Division was slated to move to Greece. Senior commanders resigned themselves to the necessity of halting. The experience had been something quite different from the prospect of tanks rolling hell for leather across the Romagna Plain.

The frustration of Fifth Army was not yet complete. On October 16, the left

wing of II Corps started northward again with the 34th Division leading the way from Monte della Formiche, and the 91st Division attacking along Highway 65. Both were stymied, and General Keyes ordered them to take on an "aggressive defensive" posture.

A redoubled effort to break through to Highway 9 was undertaken by the 88th Division on October 19 and supported by concentrated naval gunfire and XXII Tactical Air Command fighter bombers flying sorties at 15-minute intervals. Monte Grande was taken easily, and the 85th Division joined the action on the 22nd.

Shrouded in fog, Hill 568 was quickly occupied. However, the fog also obscured the movement of the reinforcing 90th Panzergrenadier Division, and the 351st Regiment of the 88th Division was obliged to fight off two counterattacks. Later, Company G of the 351st took the town of Vedriano a mile and a half to the northeast and rounded up 40 prisoners. Two more companies failed to reach Vedriano when two German strongpoints took them under fire.

By the afternoon, a German emissary offered to allow Company G to retire in exchange for the 40 prisoners taken that morning. When the offer was refused, an attempt was undertaken to reinforce the men in Vedriano. An intercepted German radio message, however, noted that the town had been retaken along with 80 American prisoners.

Another attempt to take Vedriano was chewed up on the morning of the 26th as a German counterattack scooped up another company of the 351st Regiment, only one man escaping the trap.

Due to a casualty rate that could not be sustained, and supply constraints that had caused medium-caliber artillery units to ration ammunition, Clark authorized General Keyes to order his troops to dig in. In the IV Corps sector, the Brazilian Expeditionary Force's 6th Regimental Combat Team captured Barga, while the 370th Infantry Regiment of the 92nd Division held Monte Cauala for good on October 12, after losing it twice. But the Fifth Army offensive had shot its bolt.

With all its difficulties, the advance had exceeded the goal that had been set for the Allies during the Teheran Conference of the "Big Three"—British Prime Minister Winston Churchill, Soviet Premier Josef Stalin, and U.S. President Franklin D. Roosevelt—the previous year. The forces were indeed beyond the line running from Pisa to Rimini.

General Clark could not contain his disappointment when he reflected on the II Corps' offensive operations: "We didn't realize it then, but we had failed in our race to reach the Po Valley before winter set in. Our strength was not enough to get across the final barrier to which the enemy clung."

The Germans, of course, were faced with shortages of everything as well. The command problems for Army Group C were compounded when Lemelson fell ill and was temporarily replaced by General Fridolin von Senger und Etterlin in October. Then, on the 23rd, Field Marshal Kesselring was traveling along a foggy mountain road that was crowded with military vehicles of every description. When his staff car collided with a towed piece of artillery, Kesselring was seriously injured. Transferred to a field hospital and then on to another facility in Ferrara, he did not return to command until the following February. General Gottfried von Vietinghoff took command of Army Group C, while a recovered Lemelson moved from Tenth Army to the Fourteenth, and Senger once again left the XIV Panzer Corps for the Fourteenth Army.

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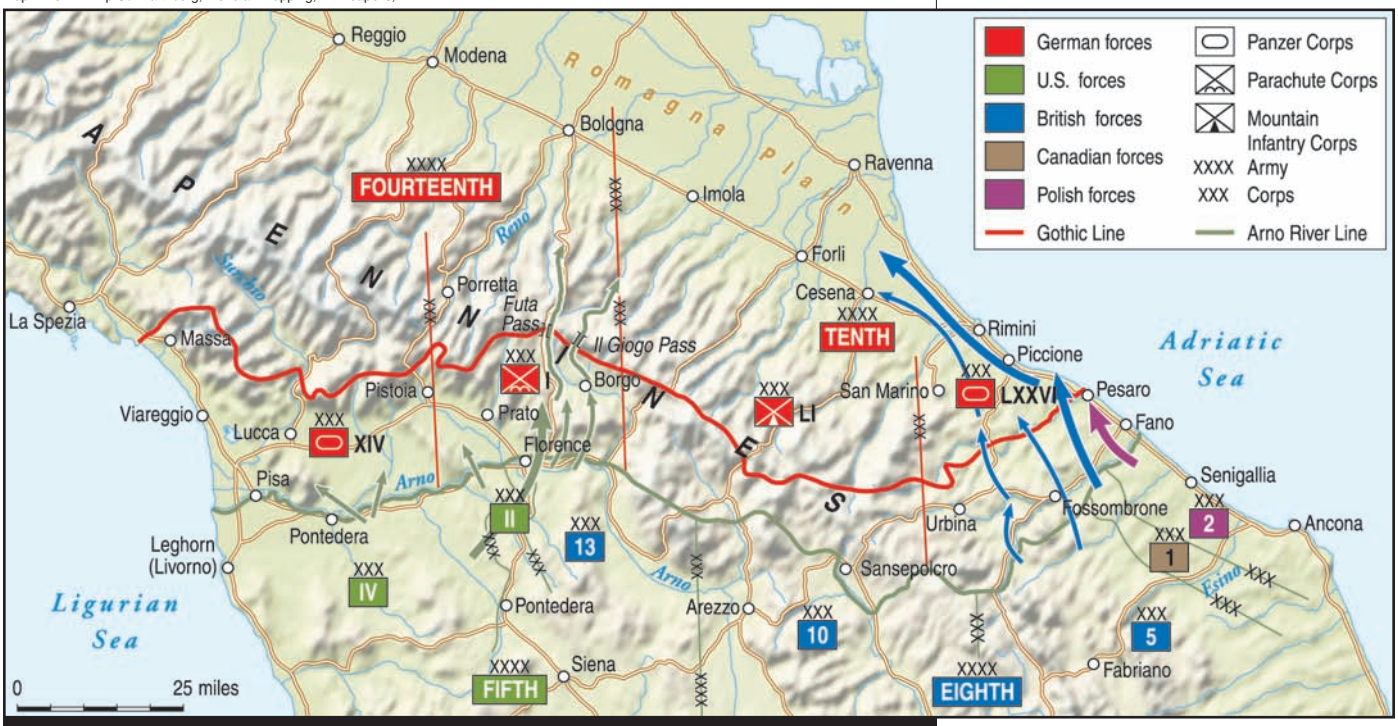
ABOVE: M-10 Tank Destroyers from 6th South African Armoured Division fire on Germans during approach to Bologna, November 17, 1944. The South Africans were transferred from Eighth Army to Fifth Army in September. LEFT: Men of the African American 92nd Infantry Division fire mortars near Massa, November 1944.



Allied armies, advancing from the south, were prevented from breaking into the Po River Valley by a strong line of German defensive positions in the northern Apennines during the fall and winter of 1944-1945.

General Alexander considered a thrust by Eighth Army across the Adriatic to potentially outflank the Germans in northern Italy. If he could move sufficient forces into Yugoslavia to occupy the ports of Sibenik, Split, and Zadar, then in February the bulk of Eighth Army could transfer through these and quickly take Fiume and Ljubljana. The Germans would have to fight in country that finally favored the British.

However, Bologna had to be taken as a base for renewed Fifth Army operations, which Alexander expected could tie down 11 German divisions during his end run. The capture of Ravenna by the Eighth Army was also a prerequisite to the Adriatic venture.

Alexander extended the end of Allied operations in Italy one month, from November 15 to December 15, and ordered General McCreery to set a plan in motion. First, the combined weight of the 4th and 46th Divisions attacked Forli, a communications center on Route 67.

These forces were supported by a diversionary effort from elements of the 56th Division and the drive to Monte Maggiore by the Polish 5th Kresowa Division. The Poles outflanked the Germans in Forli, and they withdrew under cover of darkness on November 8. Six miles northeast of Forli, the 12th Lancers captured Coccolia, the last German strongpoint of any consequence on the Ronco River.

Next, V Corps forced the Germans from Faenza, and they withdrew across two more rivers to the banks of the Lamone. Then, the heavens opened and torrents of rain slowed progress. The Poles pressed forward with the 5th Kresowa Division, capturing Montefortino before being driven back. In relief, the 3rd Carpathian Division retook Montefortino on November 21.

Rifleman Thaman Gurung distinguished himself in combat during a patrol along Monte San Bartolo on November 10. A soldier of the 5th Royal Gurkha Rifles, he earned the Victoria Cross and gave his life gallantly. As Gurung and another soldier advanced along the slope, they observed a German machine-gun position preparing to open fire. Gurung charged the enemy soldiers and forced their surrender without firing a shot. As he continued to advance, he reached the summit and suppressed fire from a group of Germans threatening his section with automatic weapons and hand grenades.

Covering the withdrawal of his hard-pressed unit, Gurung remained alone and exposed as he fired into German slit trenches with his Tommy gun until his ammunition was exhausted. He then threw two grenades into enemy positions, exposed himself to machine-gun fire while obtaining two more grenades, and hurled these at the enemy. The diversion allowed most of his patrol to reach safety.

"Meanwhile," Gurung's Victoria Cross citation reads, "the leading section, which had remained behind to assist the withdrawal of the remainder of the platoon, was still on the summit, so Rifleman Thaman Gurung, shouting to the section to withdraw, seized a Bren gun and a number of magazines. He then, yet again, ran to the top of the hill and, although he well knew that his action meant almost certain death, stood up on the bullet-swept summit, in full view of the enemy, and opened fire at the nearest enemy position. It was not until he had emptied two complete magazines, and the remaining section was well on its way to safety, that Rifleman Thaman Gurung was killed.

Both: National Archives

"It was undoubtedly due to Rifleman Thaman Gurung's superb gallantry and sacrifice of his life that his platoon was able to withdraw from an extremely difficult position without many more casualties than were actually incurred, and very valuable information brought back by the platoon resulted in the whole Monte San Bartolo feature being captured three days later."

While Fifth Army rotated tired divisions out of the front line and welcomed additional strength to the Brazilian Expeditionary Force, along with 5,000 replacements, General Clark was making plans to resume the drive through the northern Apennines to Bologna in early December. Political and battlefield events, however, caused a change of plans and a refocusing of the Allied effort in Italy.

Alexander's designs on a landing in Yugoslavia were laid to rest permanently when the Germans temporarily reoccupied western areas of that country. Further, Tito's communist partisans were bolstered by the approach of the Red Army and made it clear that Allied soldiers would not be greeted with open arms on the Dalmatian coast.

Compounding the difficulties in planning the offensive, a shuffle in the high command was announced in late November to be effective the middle of December. Sir John Dill, the leader of the British military mission in far off Washington, D.C., had died unexpectedly. General Henry Maitland Wilson was promoted to field marshal and named as his replacement, setting off a chain reaction. Alexander was promoted to field marshal and elevated to command in the Mediterranean Theater, while Clark rose to the leadership of 15th Army Group, and General Lucian Truscott, former head of VI Corps, was recalled from France to take charge of the Fifth Army.

Followed by heavy airstrikes on December 2, the 1st Canadian Corps advanced toward Ravenna against heavy opposition. With the Canadian 5th Armoured Division in the van, the corps cut Highway 16 and occupied the undefended city two days later. The Canadian 1st Infantry Division bridged the Lamone River on December 5.

ABOVE: Brazilian Expeditionary Force troops, serving with Fifth Army, move forward, October 3. BELOW: After the Allied campaign to penetrate the Gothic Line in the autumn of 1944 failed, the front lay dormant until February 1945, when a new, ultimately successful, offensive began. Here a member of the 10th Mountain Division, which spearheaded the new offensive, covers his buddies approaching a German-held farmhouse.

The Polish II Corps took the town of Montecchio west of the Lamone and anchored the left flank of the Eighth Army.

Determined to hold Faenza, Hitler allowed Vietinghoff to withdraw from threatened positions near the Lamone while General Herr's LXXVI Panzer Corps was bolstered with the arrival of the 90th Panzergrenadier and 98th Infantry Divisions.

Fighting in the vicinity of Faenza on December 10, Lieutenant John Henry Cound Brunt performed heroically. Serving as an acting captain with the Sherwood Foresters (Notts and Derby Regiment) attached to the 6th Battalion, Lincolnshire Regiment, Brunt defended a position that was attacked at dawn by troops of the fresh 90th Panzergrenadier Division.

Brunt shot down 14 Germans with a Bren gun and covered the withdrawal of his men to safety. He then returned to his original position to help evacuate several wounded sol-

diers. During a second German attack that day, Brunt directed the fire of a Sherman tank from atop its hull. He then leaped from the tank and pursued small groups of enemy soldiers, inflicting numerous casualties. He was killed by mortar fire the following day and his family was later presented with his posthumous Victoria Cross.

The V Corps advanced directly on Faenza from three sides on December 14 and the Germans escaped the closing trap just ahead of the 43rd Motorized Indian Infantry Brigade, 10th Indian Division, which rolled into the town as morning broke. The V Corps' advance then came to a halt against strong German positions and flooded fields along the Lamone. Engineers worked to repair a bridge across the river on Highway 9. Meanwhile, the 1st Canadian Corps had three bridgeheads across the Lamone by December 12 and forced the Germans back to yet another river line, at the Senio, five miles to the west.

At this point, rather than giving the go ahead to the Fifth Army thrust toward Bologna, Alexander ordered a postponement. According to the official U.S. Army history, "The offensive that had been under way since August on the Eighth Army's front and since September on the Fifth's had left the troops near exhaustion by the beginning of December. Faced with the need to rest the weary divisions, Alexander had no choice but to call the offensive to a halt."

In mid-December, word of a major German offensive against the Allied armies in France, Belgium, and Luxembourg reached the Italian front. What came to be known as the Battle of the Bulge was raging, and General Truscott, newly in command of the Fifth Army, redeployed troops to bolster the untried soldiers of the Brazilian Expeditionary Force and the 92nd Division, which held the area near the Ligurian coast north of Leghorn six miles inland to the valley of the Serchio River. Truscott reasoned that any German counterattack would likely be aimed at the Fifth Army's major port of entry.

The 92nd Division had already been the subject of some controversy before its arrival in Italy. Composed of black soldiers and primarily white officers, the unit was disadvantaged from the start. Its troops were from poorer educational and socioeconomic backgrounds, and white officers shunned assignment to it. Only one regiment, the 370th, had limited combat experience.

On December 26, Truscott's worries were confirmed when a German attack, codenamed Operation Wintergewitter, or Winter Thunderstorm, descended on the 92nd's positions. Elements of the German 285th and 286th Infantry Regiments, the 4th Alpine Battalion, and the Mittenwald Battalion advanced up to five miles, capturing several villages and putting many soldiers of the 92nd Division to flight.

The 366th Regiment of the 92nd, with the exception of a few pockets of resistance, gave way, opening a 500-yard gap in the line. By the 27th, the Germans had advanced beyond the town of Barga and begun to pull back, their mission completed. Two brigades of the 8th Indian Division were moved forward on the 26th and retook the lost ground against light opposition.

After the Germans had withdrawn, the decision was made to postpone a Fifth Army drive to Bologna until the spring of 1945. This was the fourth and final postponement of the offensive, and it was due in part to the tactical success of Operation Winter Thunderstorm.

With the Eighth Army at the Senio River, Fifth Army was roughly where it had been at the end of October and would spend another miserable winter in the mountains amid snow and ice. Offensive operations ceased. It was time for the Allies to rest and replenish as much as possible. The final offensive in Italy would come soon. □

Bundesarchiv, Bild 101I-478-2164-39, Photo: Bayer

National Archives

ABOVE: A wounded soldier from the 85th Division receives medical attention from an Army Corpsman. LEFT: German tanks (Panther Vs) take up a battle line in a farmer's field near Ravenna, east of Bologna.

finger ridge

Continued from page 83

way. Manning moved the fire off to other concentrations. Then that kid squatted down in the tall grass and he was gone; we never saw any more of him again."

Why the Germans never employed anything beyond the most archaic of tactics remained a mystery for Sartain. "I couldn't understand why they didn't try and make a flanking attack. I couldn't understand why they kept coming at us straight on. I mean, they never gave up, and when they continued the frontal assault they were just artillery meat."

The failure of the Germans to depress their 20mm guns enough to bring them to bear effectively on the American position was another indication of their lack of proficiency. When coupled with the youth of some of the enemy casualties that Sartain recalled, it is apparent that the Germans were deploying underage and ill-trained troops as the war dragged on.

September 26 was a chance for the men to clean up and get some rest. Many had not touched razor to face since landing in Holland, and by now the higher brass were complaining to Colonel Todd about their scruffy appearance. Taking advantage of the lull, water was heated up in helmets and the beards disappeared.

Later that afternoon the seaborne element of the 319th arrived from England, having crossed the Channel and driven clear across France. With them was a small convoy of 2½-ton trucks loaded with much-needed supplies, as well as the first mail delivery since the battalion had landed by glider on the 18th. When news spread to A Battery that the mail was in, the mail clerk went up to Battalion HQ to retrieve it. A little while later he was back at the battery, ready to distribute the mail and crying out, "Hey, hey, hey, we've got mail today!"

There were several letters for Captain Sartain, including birthday greetings from his parents and fiancée, Peggy Lou. In all the activity of the invasion, it had never occurred to him that his birthday had come and gone. □

new mexico

Continued from page 49

would wage a Cold War for 40-plus years—years which saw spycraft and combat between the two nations and their surrogates. The world would live under the shadow of nuclear destruction for all those years and in 1962 would almost see it become a reality during the Cuban Missile Crisis. However, it can be argued that greater wars were not fought because of the threat of these weapons.

The first of the events impacted by the Manhattan Project was the almost immediate end of the Pacific War following the use of the bombs. While hundreds of thousands of Japanese lost their lives in the atomic attacks, further millions of Japanese military and civilians, Chinese civilians, and U.S. military were spared by a quick end to hostilities. Estimates of Japanese and American casualties in the planned invasion of Japan are all well above the bomb casualties.

Add to this the anticipated further Japanese deaths from starvation due to the ever-tightening U.S. Navy submarine cordon as the war would have continued, and the numbers far eclipse the bomb casualty estimates. And what if the Soviets had invaded Japan? What if one includes continued Chinese casualties as the war went on? Poignantly, the 500,000 Purple Hearts minted for the American invasion casualties were never awarded but are still being handed out. Clearly the bomb decision was justified from the American viewpoint 65 years later. Additionally, in the years that followed, Europe was not invaded by the Soviets. The line was held in Korea. Berlin never fell to Soviet control.

A legacy of scientific advancement stems from the Manhattan Project in the sleepy tranquility of New Mexico. The state was no longer a somewhat backward locale. Instead, it became a major center of the nation's science.

The chile are still green and the sunsets stunningly beautiful, but a new blinding light that the world hopes never to see again was added in that high desert. □

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personality

Continued from page 11

opened fire. As he flew over the bomber it exploded, and a large chunk of the plane hit his right wing, cutting out his turbo supercharger intercooler. Another large piece hit the underside of his gondola, making a very large dent in it.

After this, he, Holmes, and Hine fired at more Zeros. Barber said that both he and Holmes shot down a Zero, but Hine was seen heading out to sea smoking from his right engine. As Barber headed home, he saw three oil slicks in the water and hoped that Hine was heading for Guadalcanal, but that was not the case.

Lanphier, having scattered the Zeros, found himself at about 6,000 feet. Looking down, he saw a Betty flying across the treetops, so he came down and began firing a long, steady burst across the bomber's course of flight, from approximately right angles. In another account, Lanphier said he was clearing his guns. By both accounts, he said he felt he was too far away, yet, to his surprise, the bomber's right engine and right wing began to burn and then the right wing came off and the Betty plunged into the jungle and exploded.

Lanphier said that three Zeros came after him, and he called Mitchell to send someone down to help him. Then, hugging the earth and the treetops while the Zeros made passes at him, he unwittingly led them over a corner of the Japanese fighter strip at Kahili.

He then headed east and, with the Zeros on his tail, he got into a high-speed climb and lost them at 20,000 feet; he got home with only two bullet holes in his rudder. Contrast this to the 104 bullet holes in Barber's plane, plus the knocked-out intercooler and the huge dent in his gondola.

Flying back to Guadalcanal, I heard Lanphier get on the radio and say, "That SOB won't dictate peace terms in the White House." This really upset me because we were to keep complete silence about the fact that we had gone after Yamamoto. The details of this mission were not to leave the island of Guadalcanal. □

philippines

Continued from page 39

airmen had completed 10,406 effective combat sorties and dropped nearly 5,000 tons of bombs on Mindanao alone.

Thousands of Japanese remained on the island, but they were not under a central authority as they fought on through the cessation of hostilities in August. Marine Air remained on call on Mindanao until the end of the war, but there were few profitable missions flown after the middle of July.

In sum, the efforts of Marine Air in the Philippines were pivotal. In addition to bolstering the Army's Far East Air Forces during the critical early phase of the bold jump into the central Philippines in late 1944, Marine Air undertook a specialized and ultimately integral ground-support mission that U.S. Army Air Forces units were neither equipped nor trained to accomplish.

Despite early mistrust of their techniques on the part of would-be clients, Marine airmen provided necessary and at times critical support of U.S. Army ground forces from nearly the beginning of the Philippines campaign to the very end. In selling their vision, they more than proved the value of their then unique concepts for supporting ground forces from the air.

These concepts were studied and polished while they were being put to use in the Philippines, and they served as the forerunners of air-ground cooperation techniques that exist as a matter of course to this very day. Marine Air's undeniable contributions to the success of the Philippines campaign are all the more savory for their having been initiated as an afterthought, as a means to put hard-won, often unique combat expertise to fitting, war-winning use at a time when the entire Marine aviation enterprise was in danger of being relegated to a necessary but peripheral role.

Marine aviators serving in the Philippines more than overcame the initial skepticism of their colleagues in other services; they wrote new chapters in the handbook on war in the air, and they made their particular expertise indispensable in their war and in all American wars since. □

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