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Cover: Private John P. Alldredge of Company A, 48th Alabama Infantry Regiment. Major General D.H. Hill commanded a division of troops from Alabama and North Carolina at the Battle of Antietam. See story page 24. Photo: Library of Congress.

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Affordable *New* Digital Hearing Aid *Outperforms* Expensive Competitors Delivers *Crystal - Clear* Natural Sound

Reported by J. Page

Chicago: Board-certified physician Dr. Cherukuri has done it once again with his newest invention of a medical grade ALL DIGITAL affordable hearing aid.

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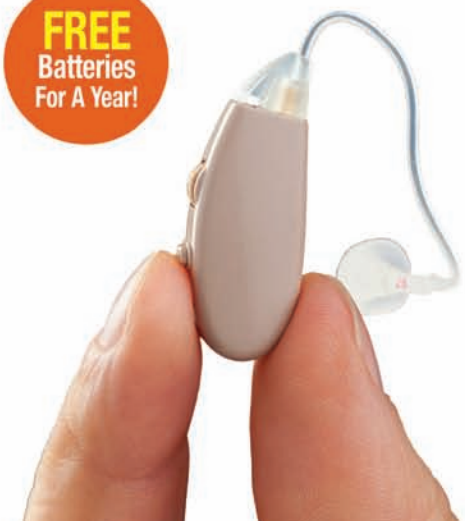

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A Nightmare Mission into Laos

THE SOUTH VIETNAMESE RAID INTO THE LAOTIAN panhandle in February 1971 only confirmed what everyone already knew. The North Vietnamese soldier was one of the most highly motivated, tenacious warriors of the 20th century. "The North Vietnamese are frightening," Tran Van Gu, a wounded South Vietnamese Ranger who participated in Lam Son 719, told *New York Times*' correspondent Gloria Emerson after he arrived at a Khe Sanh field hospital. "The North Vietnamese were hit by three waves of B-52 bombers last night, but still they survived and shelled us early this morning."

It is hard to believe looking back that anyone expected the North Vietnamese to allow a raid conducted entirely by South Vietnamese ground forces to go forward without an overwhelming counterattack. The North Vietnamese were incredibly proud of the logistical road and trail network through Laos and Cambodia that they had developed and refined over the previous 12 years. The Ho Chi Minh Trail allowed the communist People's Army of Vietnam to send supplies as far south as the Mekong Delta. Spurs ran from the main trail to key base areas, such as Ia Drang and A Shau valleys, allowing the North Vietnamese to shift forces rapidly as conditions dictated.

The Ho Chi Minh Trail "was the result of the labor of more than 30,000 troops and shock youths," said North Vietnamese General Tra Tien Dung. "The 8-meter wide route of more than 1,000 kilometers ... is our pride. With 5,000 kilometers of pipeline laid through deep rivers and streams and on mountains more than 1,000 meters high, we were capable of providing enough fuel for various battlefronts."

In January 1971, General Creighton Abrams, the commander of U.S. forces in South Vietnam, suggested the concept of a raid against Base Areas 604 and 611 in the Laotian panhandle. The area was already scorched earth as a result of U.S. airstrikes in the preceding years, but Abrams saw it as a way to disrupt a major PAVN offensive in the making.

The plan called for South Vietnamese mechanized troops to advance 40 kilometers on Route 9 from Khe Sanh to the village of Tchepone where they would conduct a sweep of the two base areas. South Vietnamese rangers would be helicoptered to firebases north and south of the dirt road to provide flank security. The United States would furnish fixed-wing aircraft and helicopters to conduct air strikes and resupply the ground forces.

In addition to disrupting enemy offensive preparations, the raid also would demonstrate the ability of the South Vietnamese to conduct their own operations as part of U.S. President Richard Nixon's Vietnamization program. Up to that point in the Second Indochina War, the South Vietnamese had not led a single major operation without the presence on the ground of U.S. military advisors.

"The operation, conceived in doubt and assailed by skepticism, proceeded in confusion," said U.S. Secretary of State Henry Kissinger. Thirty-six thousand North Vietnamese troops moved into the area to engage the 16,000 South Vietnamese participating in the strike. North Vietnamese infantry was backed by armor, as well as 122mm and 130mm guns that pounded the firebases. The South Vietnamese column on Route 9 never made it to Tchepone. South Vietnamese President Thieu ordered an airmobile assault into the village on March 6 simply so he could say the mission succeeded. The North Vietnamese overran some of the firebases and ambushed the column. The retreat became a rout.

The NVA inflicted crushing losses on the South Vietnamese forces participating in the operation. It also laid bare the high degree of incompetence of South Vietnamese officers who had learned little from a decade of apprenticeship under U.S. officers.

William E. Welsh

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WARFAREHISTORYNETWORK
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By John E. Spindler

Wladyslaw Anders led the Polish 2nd Corps through hard fighting in Italy that restored Polish pride and helped defeat the Third Reich.

ON APRIL 21 1945, THE POLISH 2ND CORPS CAPTURED THE ITALIAN city of Bologna and from the city's highest tower flew the flag of Poland. Although the war would continue, combat for this unit was over, and it went into the Allied reserve. Lt. Gen. Wladyslaw Anders led the corps before and during its service in Italy. He was not only an excellent commander with a keen sense of strategy and tactics, but also was a national hero to his fellow Poles, both soldiers and civilians, and did his best to look after their interests. But Anders' role in the Italian campaign is only part of his story. His story stretches from the creation of the unit to his postwar efforts for Poland and her people.

Anders was born on August 11, 1892, in Krosniewiece-Blonie, a village located in the area of the Russian Empire that constituted the Kingdom of Poland before it was partitioned in 1795. He graduated from high school in Warsaw and received additional education at Riga Technical University. During World War I he served as an officer in the 1st Krechowiecki Lancers Regiment of the Russian Army.

In the service of a reconstituted Poland, he rose to the rank of general during the Russo-Polish War of 1920. When Nazi Germany invaded Poland on September 1, 1939, Anders led the Novogrodek Cavalry Brigade into action near the Polish border with East Prussia. During the campaign he subsequently took command of two battered infantry divisions. When the Soviet Union invaded eastern Poland as part of the Soviet-German Pact, defeat of the badly outnumbered Polish Army was inevitable. Anders, who was wounded, led his brigade south to the relative safety of Hungary. Unfortunately, he was captured by Soviet troops on September 30.

Surviving a brutal captivity, Anders was a prisoner for two years. Like other Polish citizens, his imprisonment ended after the German invasion of the Soviet Union on June 22, 1941. Relations between the two countries became one of putting differences aside to fight a common foe. This led to a new arrangement that allowed for the creation of a Polish army on Soviet soil with Anders named as its commander. Much to the displeasure of Soviet

Soldiers of the Polish 2nd Corps participate in the final assault on Monte Cassino on May 18, 1943.

RIGHT: Lieutenant General Wladyslaw Anders.

Both: National Archives

Polish soldiers on parade in the Soviet Union before departure for Iran. Anders resisted repeated efforts by the Soviets to put Polish troops into battle without proper training and equipment.

leaders, he issued an order encouraging all Polish citizens to make their way to camps set up for them. Anders was under constant pressure from the Soviet regime to put Polish troops into battle immediately, but he resisted this demand. His stance was that his men would only be sent into combat after they had been properly trained and equipped.

The Polish military force continued to grow as more Poles arrived, and it became known as Anders' Army. At the start of 1942, the Soviet Union made an agreement with Britain and the Polish government-in-exile for the transportation of the Polish troops to Iran where they would continue training. Anders knew from personal experience in dealing with the Soviets that no Polish citizen could be left behind. He therefore took sole responsibility for the decision to evacuate civilians alongside the soldiers. The majority of evacuees crossed the Caspian Sea from the port of Krasnowodsk, while others completed the journey by rail around the inland sea. Between the first phase of evacuations in late March 1942 and the second in August 1942, approximately 41,000 troops and 74,000 civilians made the journey. Anders' fears were confirmed after the evacuations when Soviet leader Joseph Stalin decreed all persons on Soviet soil were Soviet citizens. Although the general did his best to save his countrymen, hundreds of thousands of Poles did not make it and were condemned to forced labor or compelled to serve in the Red Army.

While in Iran, Anders Army officially became the Polish 2nd Corps. The corps eventually was transferred to Palestine for training in terrain similar to that in Italy. Under the direction of Anders and his staff, the Polish 2nd Corps comprised the 3rd Carpathian Infantry Division, 5th Kresowa Infantry Division, 2nd Warszawa Armored Brigade, and various supporting elements. After maneuvers in September 1942 showed the Polish 2nd Corps was ready for combat, the British transported it Egypt for embarkation to Italy.

The 2nd Corps was transported to Italy in December 1943 and soon saw its first combat along the Gustav Line as part of the British 8th Army. The line was a 100-mile-long chain of fortified positions that stretched from the Garigliano River through Monte Cassino to the mouth of the Sangro River. After a third failed attack to take the key point of Monte Cassino in mid-March 1944, the Allied command told Anders that they were going to use a new strategy in which several corps would attack simultaneously along the entire front. The Polish 2nd Corps would participate in yet another attack on Montet Cassino. In addition to knowing that capture of these positions was of strategic value, Anders accepted the assignment for the pride of Poland and to dispel Soviet propaganda that Poles did not want to fight Germans.

Despite its two infantry divisions being understrength, the Poles were eager to show Allied commanders what they could do. Doubts had been raised about their fighting ability as most Allied officers knew only of the quick defeat of Poland and not of the heroic actions by her armed forces up to this point in the war. Anders knew from past experience that directly assaulting Monastery Hill and the town of Cassino would most likely result in heavy casualties. Unlike other Allied armies, Anders

had no way to replace his losses. Anders' strategy started with his divisions concentrating their attacks on the high ridges northwest of the abbey, believing their capture might compel the Germans to withdraw.

About 12 AM on May 11, the Polish 2nd Corps launched its part of the attack. A restriction that limited reconnaissance proved to be deadly for both infantry divisions. Troops ran into undiscovered German strongpoints and minefields, producing high casualties and throwing the attack off schedule. The handful of participating tanks had to be sent to protect the sappers who were clearing mines. This left the attacking infantry without armored support. Most of the Poles' gains were eventually reversed by German counterattacks. The casualties were staggering; some Polish companies had every man either killed or wounded.

The British suspended the operation to allow all Allied units to regroup. The next assault occurred on May 17, and lessons learned from the previous attack were used to modify the assault plan. Anders was permitted to reconnoiter the intended paths of attack more thoroughly. Not only did this help identify previously unknown German strongpoints and exploit any weakness, but also allowed the Poles to find and clear minefields. Nevertheless, better coordination was required between infantry and artillery. In the first attack, the artillery stopped firing too early, which allowed the Germans to prepare for the Polish assault. To help remedy this, Anders ordered that the artillery was to continue supporting the attackers until the objective was taken.

After the opening barrage of the resumed offensive, both infantry divisions seized their initial goals immediately, which supported the value of better cooperation with the artillery. Despite determined counterattacks by the Germans, the Poles held onto their gains. However, mounting casualties and the enemy's response prevented the Polish assaults from advancing. By then Anders was practically out of replacements as he had already thrown every fit man he could find into the battle. Fortunately for the Polish 2nd Corps, it learned from radio intercepts that the defenders had been ordered to withdraw from Monastery Hill after an attack by the French Expeditionary Corps, which cracked the Gustav Line. On the morning of May 18, the Poles found their path lightly defended and renewed their attacks with determination. At 10:30 AM a patrol from the 12th Podolski Lancers Regiment became the first Allied unit to enter the monastery ruins and hoisted the colors of Poland. Out of respect for 8th Army commander Lt. Gen. Oliver Leese, Anders ordered the Union Jack to be flown as well.

TOP: Anders adjusted tactics after the first assault on Monte Cassino so that the artillery would continue supporting Polish infantry until the objective was taken before switching to another target. BOTTOM: Polish soldiers fire a two-inch gun from a position beside a knocked-out German tank in Italy. In their advance north through Italy along the Adriatic Coast, the Polish 2nd Corps solidified its reputation as one of the best Allied units in Italy.

Shortly afterward, the Allied command withdrew the Polish 2nd Corps, which had suffered heavy casualties over the previous month, from the Allied advance. The figures from April 24 to May 31 were staggering: 923 killed, 2,930 wounded, and 345 missing. An allocated recovery time of four weeks was cut short and the corps was transferred across Italy to the far right wing of the British 8th Army. Positioned along the Adriatic Sea, the Poles were ordered to advance up the coast. They were tasked with capturing Ancona, which would give the Allies a major port on the east coast of Italy. To compensate for its losses, the Allied command supplemented the 2nd Corps with a few British formations and an Italian infantry corps.

The 2nd Corps' battle up the coast began on June 17 and ended 75 miles later on July 10 with the securing of positions advantageous for taking Ancona. For this assault, Anders devised a strategy that he hoped would result in the capture of the port without incurring heavy casualties or damaging port infrastructure. The 3rd Carpathian Infantry was to hold the right wing and fein an attack to keep the enemy occupied. On the left wing, the 5th Kresowa Infantry, the 2nd Warszawa Armored, and attached British elements would drive to the coast west of Ancona. The Italian corps would guard the left flank.

German reaction to the opening troop advances on the morning of July 17 showed that Anders' tactics worked as Polish and British armor captured several key locations by day's end. Before evening the next day, Ancona was encircled with the 2nd Warszawa Armored seizing the port. The objective given to the Poles was successfully completed, but the corps paid for its month of victories with 496 killed, 1,789 wounded, and 139 missing. The capture of Ancona was followed by a few weeks of rest and reorganization to prepare the corps for the next phase of the Allied advance. Anders was now able to replace the casualties from months of fighting by incorporating captured Poles who had been forcibly conscripted to serve in the German Army.

The next phase in the Italian campaign saw the Polish 2nd Corps solidify its reputation as one of the best units in Italy. From mid-August to early October, Anders and his men continued their advance north along the Adriatic coast toward the next major German fortified position, the Gothic Line. Anders' battle plans inflicted severe damage on the Germans.

After the Gothic Line was breached, the Polish 2nd Corps was relocated to the Apennine Mountains where it fought from mid-October, until mid-December. For the five-month span of both campaigns, the Polish 2nd Corps inflicted heavy losses on the Germans at the cost of 7,205 killed, wounded, and missing. From mid-December until the next Allied attacks in spring 1945, the Poles remained primarily on the defensive.

During 1944 and early 1945, U.S. President Franklin D. Roosevelt, British Prime Minister Winston Churchill, and Soviet Premier Joseph Stalin met several times to determine the future of postwar Germany and the countries liberated from occupation. Early in 1945 the so-called Polish question was finally resolved. Poland would be forced to cede her eastern territories to the Soviet Union, but it would be compensated with German land. The Soviets used various measures—such as not helping the Poles during the Warsaw Uprising in August 1944—to ensure that Poland's new government was pro-Moscow.

Throughout the war, Anders had demonstrated his capabilities as a tactician to achieve victory for the Allies. But the time had arrived to focus on the best interests of his men. On February 15, 1945, he met with British 8th Army Commander Lt. Gen. Richard McCreery to discuss a letter Anders wrote stating that the final decision regarding Poland was a "great injustice." He requested that the Polish 2nd Corps be relieved from frontline duty because he could not ask his men to sacrifice themselves any further. McCreery appealed to Anders, stating that he had no reserves to fill such a major gap. If the Poles withdrew, the consequences could be disastrous. In the end, Anders realized that McCreery was right. Not only would the British 8th Army be left in a potentially hazardous position, but a Polish refusal to go into battle would supply the Soviet Union and the pro-communist Poles with propaganda material.

A new Allied offensive into Lombardy was scheduled to begin in early April 1945. Augmented by British formations, the Polish 2nd Corps' objectives were to establish bridgeheads over the Senio and Santerno Rivers, after which they were to be ready to exploit any resulting gaps. On April 9 their attack began disheartenningly when Allied bombers dropped their load on the forward positions of the 3rd Carpathian Infantry, causing casualties. Due to material superiority and bomber saturation, the Poles crossed the northern Italian rivers with minimal casualties. A week later they had achieved their objectives. On April 18, General Mark Clark, commander in chief of Allied forces in Italy, asked Anders to refocus his attack to capture Bologna. For the next few days, the Polish 2nd Corps fought its way toward the city.

Late on April 20 the Poles prepared their last attack of the war. With the 5th Kresowa Infantry east of Bologna and the 2nd Warszawa Armored to the north of the city, Anders ordered the 3rd Carpathian to assault the city from the south. Most of the German defenders realized they were likely to be encircled and evacuated the city. This allowed the Poles to overwhelm those who remained. At 6:15 AM on April 21, the 3rd Carpathian Infantry had secured the city of Bologna. The final offensive for the Polish 2nd Corps resulted in a total of 234 killed, 1,228 wounded, and seven missing.

On May 8, 1945, Germany unconditionally surrendered and the war in Europe was over. The Polish 2nd Corps suffered 2,301 killed, 8,543 wounded, and 535 missing, and the Polish soldiers were left homeless. Although the Soviet-backed government in Warsaw offered to repatriate the soldiers in the winter of 1945, most of them chose to remain where they were stationed for the time being.

In July 1945 the Allied leaders met in Potsdam, East Germany. One result of the meeting was that the British government would no longer recognize the Polish government-in-exile; however, Polish units would still remain on duty. Deployed in the Marche region of central Italy along the Adriatic, the soldiers of the Polish 2nd Corps were joined by their families and refugees. Anders continued to accept recruits, and by May 1946 the corps totaled between 103,000 and 112,000, which was twice the number of soldiers Anders had led into Italy. A Polish government opposed to communist rule was formed in London. Anders flew between Italy and London to defend the interests of all Poles.

In the spring of 1946, the British government transferred the Polish 2nd Corps to England for demobilization and education to help the men make a successful transition from military to civilian life. The last of the corps left Italy on October 31 when Anders himself departed the country for the final time. Events in Poland confirmed that those who supported the Polish government-in-exile would not be welcomed back home. Some of exiles had their Polish citizenship and military rank stripped. Actively supportive of the government-in-exile, Anders' rank as a lieutenant general was still recognized, and he served as inspector general of the Polish forces in exile. He covered his personal experiences during the war in *An Army in Exile,* published in 1949.

On May 12, 1970, at the age of 77, Wladyslaw Anders died in London. After a service in London where former soldiers and exiled Poles paid tribute, he was buried alongside his fallen soldiers in Italy at the Polish Military Cemetery at Monte Cassino per his request. Labeled as a villain by the communist regime in Poland for decades, his accomplishments were treated as nonexistent. That changed in 1989 when the communist regime was toppled. Later that same year, the democratically elected government of Poland posthumously reinstated his citizenship and military rank and honored his service to the country.

Anders proved to be an excellent military leader whose talents as a strategist probably kept casualty figures for the Polish 2nd Corps lower than they might have been. The general was also a humanitarian who helped save tens of thousands of lives from certain death in the Soviet Union and despaired when he could not save more. In addition to being a great soldier, Anders always had the best interests of Poland and her people in his heart. □

By Erich B. Anderson

Although the bow and javelin are more famous projectile weapons, the sling was just as important to ancient skirmishers.

MORE THAN 3,000 YEARS AGO, AN ARMY OF ISRAELITES LED BY King Saul confronted a force of Philistine invaders in the valley of Elah. As the Philistines occupied a mountain on one side of the valley, and the Israelites occupied another on the opposite side, an enormous champion clad from head to foot in bronze, wielding a gigantic spear, emerged from among the front ranks and addressed the Israelites. The warrior declared himself as Goliath of Gath and challenged any soldier among them to face him in single combat. None of the Israelites was brave enough to fight the mighty Philistine warrior, except for one. The challenger was not a soldier, but instead a young shepherd named David.

At first King Saul refused to let the youth accept the challenge, stating that the boy was too young and inexperienced to defeat such a warrior. However, David's exceptional confidence quickly changed the king's mind. Saul offered David his own armor to wear, yet the shepherd respectfully declined once he realized how greatly the armor hindered his movement. Instead, David approached Goliath unarmored, armed simply with a sling in his hand, a sword in its scabbard on his side, and five smooth stones taken from a nearby stream that he kept in a small bag. As David got closer to the Philistine, he rushed forward and loaded his sling. While still running, he released the missile and struck the giant warrior directly in the forehead, killing him instantly. David then beheaded Goliath and brought his head to Jerusalem in triumph.

The story of David and Goliath is a perfect example of the deadly efficiency of the sling in ancient warfare. Although the bow and javelin are much more famous projectile weapons, the sling was just as important to ancient skirmishers. Due to the small size of its missiles, making them nearly invisible when released at such high velocities, the sling was particularly hard to defend against. This is especially true considering that the blunt trauma caused by the small stones upon impact could damage organs, shatter bones, and cause concussions or kill those struck in the head, even when the victim was armored. In the 1st century BC, the Roman medical writer Celsus stated that sling stones could even penetrate skin and become lodged within a victim's body. The most skilled slingers of the ancient world were even more accurate and had a far greater range than many archers, making them some of the most prized skirmishers available.

Since it is one of the simplest ranged weapons to construct, the earliest evidence of the sling has been dated back to 10,000 BC. Ancient warriors typically used animal hides and plant fibers to make the pouch,

British Museum

Assyrian slingers shown in action during the siege of the Judean city of Lachish in 701 BC. From a fragment of a wall relief.

while hair or sinews were used for the cord. The earliest ammunition was even easier to find because smooth stones were readily available along streams, lakes, rivers, and oceans. While the construction of the sling remained relatively the same for thousands of years, the differing sizes of the stones used decreased the overall accuracy of the sling, which led to several different innovations concerning the ammunition. By the end of 7,000 BC, slingers of the Near East began to use carved stones or baked clay that were manipulated to a uniform spherical shape, which greatly increased the accuracy of the missiles. The range of the sling was much improved by 3,000 BC when the stone and clay ammunitions were made into biconical or ovoid shapes instead of spheres.

As shown by the story of David and Goliath, the sling was a common weapon used by the Hebrews on the battlefield, but the ranged weapon was also their primary weapon in siege warfare. When the Hebrews besieged the Moabite city of Kir-hareseth in the 9th century BC, their slingers were so devastating that the Moabites were forced to send out 700 warriors to end the siege, but they were instead driven back to their fortifications. Like the Hebrews,

A Greek coin from 300 BC shows a slinger in battle. The importance of slingers increased within Greek armies during the Peloponnesian War and in the following decades.

Museum of Fine Arts, Lyon

many armies of the ancient world used slingers when conducting sieges because the arching trajectory of sling projectiles meant that they could fly over walls and still strike defenders.

The armies of the Assyrians also included many slingers within their ranks. The Assyrians also used slings effectively in siege warfare. In 701 BC, the Hebrews witnessed the lethality of slingers from the opposite perspective as the Assyrians used the deadly troops to launch missiles over the walls of the Judean city of Lachish while they moved their siege engines into position. Even though slingers were an important part of the Assyrian army, the skirmishers never came close to the prominence given to the archers.

With the rise of the Greek city-states in the 6th and 5th centuries BC, much more of an emphasis began to be placed on heavy infantry as opposed to light infantry. Many Greeks favored the close combat of hoplite tactics over ranged soldiers like archers and slingers. Yet the importance of skirmishers was never fully overlooked, which led to the rise of specialized troops who served as mercenaries for armies throughout the ancient world. Some of the most highly skilled slingers of that time period came from Rhodes. These Hellenistic slingers used lead projectiles, which drastically increased the damage caused upon impact since they were more than eight times denser than clay or stone missiles. Even with lead ammunition, mercenary slingers were still more cost effective than archers because the lead projectiles cost less than typical arrows.

The importance of slingers increased within Greek armies during the Peloponnesian War and in the decades afterward. When the Athenian army carried out its Sicilian expedition in 415 BC, General Nicias made sure 700 Rhodian slingers were in the ranks, which was a larger number than the Cretan archers included in the force. The famous mercenary group known as "The Ten Thousand" contained warriors from Rhodes as well, but they were not initially included because of their skill with the sling. Yet over time, the Rhodians among the mercenary force increasingly relied on the sling. They were pivotal in several confrontations because the range of their missiles was greater than those of the Persian slingers who still used stones, and the Rhodians could even fire at greater distances than the archers.

Slingers from Rhodes were not the only ones who fought with the ranged weapon throughout the Hellenistic Age. Skilled slingers also came from Acarnania and Achaea, and when the Boeotians required slingers for the siege of Delium, they recruited them from the Malian Gulf. By the 4th century BC, Thracian mercenaries were also hired as slingers; however, most Thracian light infantry were javelinmen or archers, making slingers a very small portion of the manpower available. Due to their extremely modest backgrounds as shepherds or herdsmen, Thracian slingers used whatever was available to them, which often meant stones rather than lead projectiles.

The Macedonians under Philip II recruited Thracian slingers, but also had their own corps of the ranged skirmishers as well. When the Macedonians besieged the city of Olynthus in 348 BC, slingers were in the armies of both sides. Much like the Assyrians had done before him, Philip ordered slingers to assault the walls first to distract defenders as siege engines and scaling ladders were brought to the fortifications. Slingers of the Macedonian army continued the practice started by earlier Greek armies of inscribing names or slogans on lead bullets; for example, archaeologists found a bullet with a message for its enemies stating, "Take that!" Bullets from Macedonian slingers have been recovered around Olynthus with similar messages, such as "a nasty present," or with the names of officers, or even King Philip.

The main reason that slingers were only found among certain groups and fought as specialized corps in the ancient world was because the sling required a much higher level of intensive training than any other weapon. Even the bow with its point-and-shoot firing can be mastered over a matter of years at almost any age, while the sling had to be practiced from childhood to achieve an adequate level of proficiency. Without the proper amount of training, it is extremely difficult to even launch a missile in the right direction. Therefore, cultures with a heritage of mastering the sling began the instruction as early as possible. According to the Roman historian Livy, slingers from Aegium, Patrae, and Dymae began training as children to launch projectiles at great distances through rings about the size of heads to simulate striking enemies in the face.

Johnny Shumate

TOP: A Balearic slinger wears a spare sling as a headband and carries a bag of missiles at his side in a modern illustration by Johnny Shumate. The Balearic slingers played a key role as skirmishers for the Carthaginian armies during the Punic Wars.

Arguably the most famous and skilled slingers of the ancient world were those from the Balearic Islands in the western Mediterranean. They underwent similar vigorous training from a very early age. Parents gave a sling to their children as their first toy so that they would become familiar with it as quickly as possible. Once familiarity had been achieved, a piece of bread was placed on a stake in front of the children. The parents withheld food from their children until they could successfully hit the bread and knock it off the stake. Using these severe training techniques, Balearic slingers became masters of three different sizes of slings used to launch projectiles at varying distances. While on campaign, extra slings were wrapped around the forehead or the waist. Interestingly, Balearic slingers occasionally used lead bullets, but they much preferred the use of stones.

Throughout the 5th and 4th centuries BC, the Carthaginians continuously recruited Balearic slingers. According to Greek historian Diodorus Siculus, the first Balearic mercenaries were hired in exchange for women and wine because the islands did not have a monetary economy; however, Carthaginian influence quickly changed that, which led to recruitment officers carrying huge payments when they arrived at the islands for the rest of the 5th century. Many times these ranged mercenaries were used in conflicts with the Greeks of Sicily, but by the 3rd century their primary enemy became the Romans.

Before Hannibal invaded Italy in the Second Punic War, he left 500 Balearic slingers to help hold Spain and sent 870 of the projectile troops to Africa to defend Carthage. The remaining Balearic mercenaries, numbering more than 1,000 slingers, accompanied him on his campaign against the Romans to great effect. At the Battle of Trebia in 218 BC, skirmishers, including the Balearic slingers, were the first Carthaginian warriors to confront the Romans in an attempt to disrupt the front lines before Hannibal led the army to a decisive victory.

Two years later at Cannae, Hannibal once again ordered his Balearic slingers and other skirmishers to confront the Roman skirmishers at the beginning of the battle. The Roman skirmishers included Cretan archers as well as light-armed, javelin-wielding velites. The light infantry spearmen of the Carthaginians would have been similarly armed as the Roman velites, and due to the shorter range of the javelins on both sides, the two forces advanced in front of the other skirmishers and confronted each other at the center of the battlefield. The Cretan archers fired on the Carthaginian army from behind the velites, as did the Balearic slingers from behind their javelin men, but with much greater effectiveness due to the increased range of the Balearic slings. Because of the large, heavy arrowheads preferred by the Cretans, their arrows were only accurate at a distance of a little more than 442 feet, while the sling could launch projectiles at least 492 feet, and most likely even farther due to the incredible skill of the Balearic slingers.

While the skirmishers confronted each other, the heavier line infantry of both armies formed up into position. The distraction of the skirmishing was particularly important for the Carthaginians because it shielded their movement into the peculiar crescent-shaped formation in which Hannibal had ordered them to advance. As the skirmishers of both sides retreated behind their infantries, the cavalry contingents of both armies collided on each wing and the line infantry advanced. Just as with the confrontation of the skirmishers, the

TOP: An Egyptian sling dating from 1900 BC. Slingers improved the accuracy of their missiles by using carved stone or baked clay fashioned in biconical or ovoid shapes. BOTTOM: A Roman sling missile made of lead and decorated with a spider. Greek armies started the practice of inscribing names or slogans on their lead missiles and other armies continued the tradition.

Carthaginian cavalry held the upper hand against the Roman cavalry. The Spanish and Celtic mercenary cavalry contingent completely routed the Roman equites on one wing, and the Numidian light cavalry kept the auxiliary cavalry of the Latin allies completely preoccupied.

After the two infantry lines collided in the center, the Roman heavy infantry had much more success against the Celtic and Spanish infantry. Yet as the Romans pressed their advantage forward in the center, the awkward crescent formation of the Carthaginians kept their flanks out of reach of the Roman front line, causing the Roman soldiers on each side to naturally gravitate toward the center where the combat was and gradually decrease the length of the front. Hannibal then used his Balearic slingers and other skirmishers to once again shield the movements of his Libyan infantry on the flanks, which advanced forward to attack the Romans exposed flanks. The trap worked perfectly as the Romans soon found themselves surrounded on three sides.

The end for the Romans came after the Latin allied cavalry fled the battlefield. The allies immediately retreated once they saw the Celtic and Spanish cavalry approach them from behind. The Numidian cavalry pursued the retreating horsemen, which left the Celtic and Spanish cavalry free to attack the rear of the Roman infantry and completely envelop the army. A massacre of Roman soldiers followed, as Carthaginian forces slaughtered almost the entire army. To add to the devastation, Hannibal ordered his Balearic slingers to rain barrages of missiles down upon the Roman mass. Even if their missiles did not instantly kill the Romans, any hits to the head would have brought soldiers to the ground where they were inevitably trampled to death.

After Cannae, the Balearic slingers continued to fight for Hannibal and the Carthaginians for the rest of the Punic War. However, after the Roman victory at the Battle of Zama in 202 BC, the Carthaginians were put on an irreversible path of decline. Therefore, slingers from the Balearic Islands were fielded less frequently by the North African city-state. Eventually the Romans destroyed Carthage, and from then on the conquerors continued to expand their dominion over the regions of the Mediterranean.

In 123 BC, the Roman consul Quinctus Caecilius Metellus sailed toward the Balearic Islands in search of a place to land his invasion force. Native opposition was fierce, especially from the skilled slingers on the coasts who launched so many missiles at the Roman ships that the consul was forced to order the men to protect the sides of the vessels with animal hides. Yet, just like the Carthaginians, the Balearic Islands also fell to the Romans and from then on the lethal slingers predominately fought for Rome.

The Romans also encountered slingers on several occasions when they faced the armies of Gaul. Like the Thracians, the Gauls did not have many slingers. The Celtic warriors generally preferred to fight up close, so their main ranged weapon was usually the javelin. However, their slingers were still effective skirmishers. In 54 BC, as one of Caesar's officers, Lucius Cotta, was riding down the line and encouraging the front ranks, a Gallic slinger struck him directly in the face and severely wounded him. To counter the threat posed by slingers in his conquest of Gaul, Caesar brilliantly recruited the renowned Balearic slingers.

Even though the Romans occasionally used slingers in their armies, there were never any cohorts created specifically for that purpose. Since there were no communities of Romans who trained their people from childhood with the sling, the Romans continued to rely on foreign auxiliaries such as the Balearic slingers. When the Romans besieged the city of Same on the island of Cephallania in the 2nd century BC, they recruited slingers from Achaea. The range of the Achaean slingers was so great that they could strike the Samean defenders without any fear of being struck back. In the 1st century AD, the favored siege weapon of the Hebrews was used against them once again when the Roman emperors Vespasian and Titus recruited Arab slingers for sieges in Judea.

Gradually, slingers began to fade away from warfare in Europe and around the Mediterranean, mostly because the cultures that once emphasized training on the weapon stopped the practice. This happened for several reasons, such as conquered peoples assimilating the culture of their conquerors and discarding native traditions, but was primarily due to the weapon becoming increasingly obsolete over time. The downfall of the sling began with the invention of the cestrosphendone by the Macedonians around 170 BC. The weapon consisted of a sling attached to a wooden shaft that launched a heavy dart. Although it sacrificed range, the weapon did not require anywhere near the amount of training needed to use the sling effectively.

By the Middle Ages, a variant of the cestrosphendone, known as the staff-sling, was the projectile launcher that eventually fully replaced the sling in sieges throughout Europe. It was also easier to operate, had the ability to launch larger projectiles, and the missiles launched had higher arcs in their trajectories, making the staff-sling even more suited to siege warfare than the sling. In addition, the staff-sling doubled as a close-combat weapon and was more reliable when launching early grenades over fortified walls in the late Middle Ages.

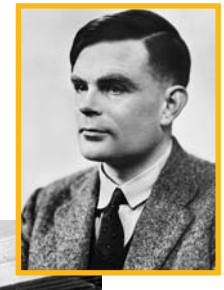
After several innovations to the bow and the crossbow, the two became the much preferred ranged weapons throughout Medieval Europe. Siege defense especially became more suited to bow-type weaponry as fortifications began to increasingly include slits or small holes to shoot through so the soldier was completely protected by the walls. Slings continued to be used in naval warfare since the constant moisture could damage bowstrings, and they were especially effective when used by the Byzantines to launch pots of Greek fire at enemy ships. But once gunpowder was introduced in Europe, the sling became obsolete. □

By William F. Floyd Jr.

The work of British code breakers at Bletchley Park during World War II foiled the German U-boat threat.

THE SMALL CRAFT FROM THE BRITISH DESTROYER HMS *BULLDOG* launched into the choppy, frigid waters of the North Atlantic. When she came alongside *U-110*, a boarding party climbed onto the deck of the abandoned German submarine. Lieutenant David E. Balme, who led the group, had orders to prepare the U-boat to be towed if it could be salvaged or simply carry off any important materials found inside if it was about to sink. As the men approached the conning tower, they noticed numerous holes in the structure caused by the *Bulldog*'s guns. After admiring the damage, Balme and his raiding party slowly began to work their way through *U-110*.

"I found the control room deserted," wrote Balme. "The U-boat had obviously been abandoned in great haste as books and gears were strewn about the place." Balme ordered the men to form a line. Captured charts and books were passed along the line to the small boat in which they had arrived. In the radio room, the boarding party found an Enigma cipher machine "plugged in and as though it was in actual use when abandoned," he wrote. "The general appearance of this machine being that of a typewriter, the telegraphist pushed the keys and finding the results peculiar, sent it up the hatch." The British attempted to tow *U-110* back to nearest base on Iceland, but she sank the next day. The recovered materials were sent to Bletchley Park where the German naval code was successfully broken.



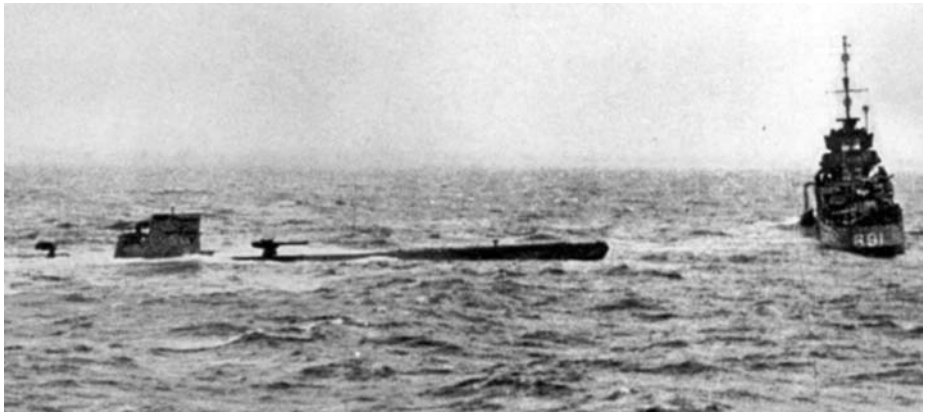
The successful capture of an Enigma machine from *U-110* on May 9, 1941, an operation that was later given the codename Primrose, began when the U-boat attacked North Atlantic Convoy OB-310 east of Greenland. After sinking two merchant ships that day, *U-110* was pursued by British warships escorting the convoy. The corvette HMS *Aubretia* located the submarine using sonar. It subsequently dropped 16 depth charges, which caused catastrophic damage to *U-110*. Two British destroyers, one of which was Escort Group 3 flagship *Bulldog*, remained on station to ensure the submarine did not return to action.

Following the depth charge attack, Captain Lieutenant Fritz Julius Lemp, the commander of *U-110*, ordered his vessel to the surface. When he saw three ships converging on his vessel, one of which was preparing to ram it, he ordered his crew to abandon ship. Lemp issued an order for the submarine's vents to be opened, which would cause the U-boat to sink, but because of a malfunction they remained closed. Believing the vessel would sink, he instructed his crew to leave behind the codebooks and Enigma machine.

German soldiers operate an Enigma machine. Code breakers at Bletchley Park decrypted thousands of German messages, giving the Allies a decisive intelligence advantage in World War II. INSET: British mathematician and mechanical engineer Alan Turing.

Both: National Archives

Imperial War Museum



HMS *Bulldog* closes in on *U-110*. The U-boat crew left the Enigma machine and code book aboard the damaged vessel because they believed it was going to sink, but it remained afloat long enough for a British boarding party to secure the encryption equipment.

When the British saw the Germans on the deck, they opened fire in the mistaken belief that they were going to fire their deck gun. But when the British realized the Germans were plunging into the icy waters, they stopped firing. About a third of the crew perished, and the rest were later plucked from the ocean.

The Enigma machine had been developed in Germany after World War I. Arthur Scherbius, a German engineer, hoped to interest commercial companies in secure communications. In 1923 he founded the Cipher Machines Corporation in Berlin to market a machine capable of transcribing coded information. In a matter of three years, the German Kriegsmarine began producing its own version, and it was followed by the Wehrmacht in 1928 and the Luftwaffe in 1933. The Germans eventually developed several types of the Enigma machine, each of which was more complex and harder to code break than its predecessors. An investigation by German intelligence concluded, wrongly as events would show, that the Enigma system was secure and the code could not be broken.

Bletchley Park was the old Leon estate, about 50 miles northwest of London. After the death of Fanny Leon in 1937, a number of developers led by Hubert Faulkner became interested in the property. The group successfully bid for the house and grounds. Faulkner intended to demolish the house and other buildings, build a new mansion, and sell the remaining land as a housing site.

In August 1938, a secret team calling itself Captain Ridley's Shooting Party arrived at the estate to assess whether the location was suitable for top-secret work. The group wanted a location far enough from London to avoid Luftwaffe air attacks. The party appeared to be a group of friends enjoying a weekend at a country house. However, the group comprised members of MI6, the Government Code and Cypher School, and a number of scholars turned code breakers. The group was satisfied with what it found. Government agents from the Foreign Office subsequently purchased the estate from Faulkner.

At the outset of World War II in September 1939, the code breakers returned to Bletchley Park to begin their work in earnest. GCCS was the organization responsible for deciphering German and other Axis military codes. The organization did not operate on its own. Instead, it received information from a multitude of sources.

The location was ideal because it had a large telephone cable running nearby and excellent road and rail links both to London and Oxford. In the early days, before huts sprung up everywhere, the code breakers at "Station X," as it came to be known, performed most of their work in the main house. But new construction using concrete and steel was undertaken to house the electromechanical devices that cracked the Enigma code settings. The machines, known as "bombes," were first installed in 1940. Outside of the huts, the workers lived in a sea of mud traversed by boards to walk on. The weather conditions were not good as everything seemed cold, damp, and foggy. The huts were heated by pot stoves and by heat coming off the huge machines. A sick-bay was added to the complex to which a number of those operating the bombes had to be sent. The operation of these machines was tedious, and along with the noise, could on occasion cause minor nervous breakdowns. When this happened, those who were stricken

Wikimedia Commons

would be given a couple of days in sickbay to recover before returning to work.

Alan Turing, a mathematician and mechanical engineer from King's College Cambridge, designed the bombes. Of all the brilliant personalities who worked at Bletchley, Turing was one of the most exceptional. He had written a paper on computable numbers before the war. He was in his late 20s with a disheveled and eccentric air. He used an old tie to hold up his pants, rarely shaved, and had a noticeable stutter. He was acutely shy and developed the habit of working continuously for days at a time before collapsing in exhaustion. The commanding military officers could never figure him out.

Turing ran Bletchley's famous Hut 8 where the bombes were first developed. These machines were six by eight feet, consisting of 30 rotating drums that ran through thousands of letter possibilities in order to find the correct match of plain letters with encrypted letters. The bombes led to the Colossus, the world's first operational computer. Initially, it could take days to decode a signal but with Colossus the time was eventually reduced to minutes. The bombes did require a lot of maintenance, as an average of one in eight would fail on a shift. Personnel from the Royal Air Force maintained the machines which had to be opened up to work through its labyrinth of cables and gears to make repairs. Turing went on to found the postwar computer industry. Sadly, Turing committed suicide in 1954 after being persecuted for being gay.

At its top level, there were 12,000 code breakers and staff at Bletchley and other remote locations, with three-quarters of them being women. One of the women employed at Bletchley described the working conditions: "It had been a wonderful place to work: a classless society where brains, application, and enthusiasm were the criteria," wrote Joy Etteridge. "The ethos of Bletchley meant that women were treated as equals…. It meant new ideas and not accepting old standards without question; it meant informality; it meant talking the same language with like-minded people."

Work was generally performed in shifts from 9 AM to 4 PM, 4 PM to midnight, and midnight to 9 AM. Along with military personnel, there were a great number of civilians working at Bletchley. The higher echelons of civilians were crypto analysts and compilers of records. Other personnel were interpreters, linguists, cipher clerks, teleprinter operators, and telephonists. In off-duty hours, the workers were entertained by theater, music, and dance professionals who would visit the park. There were facilities for various sporting events and even a cinema on site. The facility contained its own fire department, and even a mortuary; it was truly a self-contained city.

The recruitment of workers for Bletchley Park had to be a low-key affair due to the secret nature of the work. No job advertisements were allowed. Recruiters were in touch with headmasters of schools and those graduating from universities. For those coming to work at Bletchley, it became abundantly clear that there was to be no conversation or correspondence regarding the nature of the work.

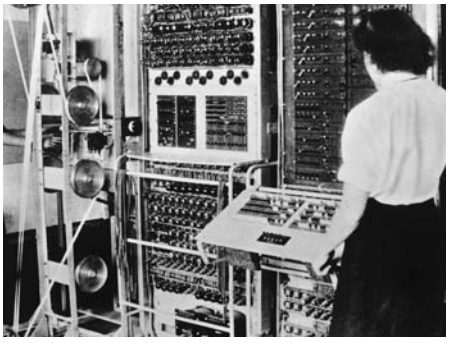
The primary function at Bletchley Park was breaking and reading the German Enigma code, particularly that of the Kriegsmarine. The naval code was of prime importance because German U-boats sinking were supply ships in the North Atlantic. Those losses inflicted on merchant shipping in the Atlantic became most serious in the period from July 1940 to July 1941.

The German naval code tended to leave nothing to chance. It did not permit its code clerks to choose the code wheel settings as the Luftwaffe allowed. The Luftwaffe enciphers, instead of choosing three letters at random, such as HWX, would often use a girlfriend's names, such as ANN, or letters near those of the preceding message so the setting up would be less work. This reduced the number of settings the British code breakers had to solve. As a result, the British began reading Luftwaffe intercepts in the spring of 1940, helping to win the Battle of Britain.

The German naval system was so well thought out that, at the time, no British code breakers could crack it. Then a brilliant Cambridge undergraduate, Henry Hinsley, had the idea of stealing Enigma keying books from a German ship or U-boat. One successful mission occurred with the boarding of *U-110*. The solutions obtained from the Enigma machines were translated, supplemented with information from previous solutions, and sent to the appropriate branch of the armed forces. The capture of the keying books aided greatly in allowing the Enigma codes to be read. Many historians believe it substantially shortened the war.

The German enigma operator would press keys similar to a typewriter using the hunt and peck method. When a key was pushed, current would flow through a set of wired code wheels that would illuminate an output letter on a glass panel containing the cryptogram of the original message. The message was then transmitted by radio to the designated U-boat. There, the radio man, using an identical machine, would type in the letters of the cryptogram that would flash on an illuminated panel showing the letters of the original text.

On February 1, 1942, the Kriegsmarine unexpectedly introduced a fourth rotor to its U-boat Enigma machine. The body of the disk was about the size of a hockey puck made of nonconducting material such as hard rubber. Evenly spaced around the circumference of the disk on both sides were electrical contacts wired together. If each contact represents a letter, the rotor embodies a cipher alphabet. An electrical impulse fired into the rotor at the input contact representing a given plaintext letter, for example, "A," will emerge at an output contact representing a cipher text letter such as "Q." The wiring is the heart, the basic secret of the machine. Any minor change could defeat the code breakers for months. The code that had



TOP: The development of the semi-programmable Colossus computer in 1943 enabled British code breakers to decode an encrypted signal in minutes rather than days. BOTTOM: Civilians and military personnel decipher German communications in Hut 3 at Bletchley Park. OPPOSITE: British intelligence officials selected the Bletchley Park estate for their code-breaking operations because it was far enough from London to protect it from Luftwaffe attacks. The British National Museum of Computing is located on the preserved estate.

first been solved in May 1941 could after the change leave the British Navy sailing blind in the Battle of the Atlantic. Being deprived of the codes would threaten Britain's very survival. In March 1942 alone the Germans sank 273 merchant ships. It was the worst month of the war in terms of shipping losses.

The information obtained from the German Enigma communications, generically known as Ultra, came on line in June 1941. British Prime Minister Winston Churchill was keenly interested in the Ultra work because of his grave concerns about the threat that the U-boat menace posed to the Allied war effort. "The only thing that ever really frightened me during the war was the U-boat peril," wrote Churchill. "I was even more anxious about this battle than I had been about the glorious air fight called the Battle of Britain."

The thrill of reading deciphered messages direct from the enemy appealed to Churchill. Instead of reading summaries of the messages, he wanted to receive the information raw, exactly as it had been decoded and translated. He did not like the idea of it being watered down, presenting a rosier picture than what was really happening.

Each day, no matter where he was, a special box containing the decoded messages was delivered to Churchill by a messenger from the Secret Intelligence Service. Churchill was the only one with the key to unlock the box. Even Churchill's closest aides knew nothing about the decrypts. Over the next few years, the mass of information decoded from the Wehrmacht, Luftwaffe, Kriegsmarine, Abwehr (German military intelligence), and even from the German police and railways revealed much about the enemy's military intentions.

Churchill began calling the code breakers "the geese that laid the golden egg and never cackled." In September 1941, Churchill made a personal visit to Bletchley. He was surprised at the casual dress and eccentric behavior he observed. He made an emotional speech to the workers, telling them how vital their work was. Because of the secrecy surrounding Bletchley Park, it was sometimes difficult to obtain much needed staff and resources. This all changed when Churchill received a letter from some of the leading code breakers at Bletchley. Churchill gave orders to give them whatever they needed and asked to be kept informed of the progress. Within a month, the needed expansion at Bletchley had begun. The Ministry of Works started erecting new buildings and began a recruitment program for 2,000 additional staff.

What did the decoding of the Enigma at Bletchley Park mean to the history of World War II? British critic George Steiner said, "It looks as if Bletchley Park is the single greatest achievement in Britain during 1939-45, perhaps during the century as a whole." If the German naval Enigma had not been solved, would the war have been lost? The war would probably have gone on longer and cost many more lives, but Germany could never have won. The forces arrayed against Germany and the other Axis powers were far too strong.

For those who had worked at Bletchley Park, there was always the feeling that every single contribution, no matter how small, counted. For the young people working in such an atmosphere, the excitement was unmatched in anything they had done before the war or would do after. How would they depressurize after years of working at maximum effort on tasks that could literally mean life and death for so many? As with those in the armed forces, demobilization at Bletchley was a gradual process. The staff was ordered to dismantle the bombes wire by wire and screw by screw.

However, after Victory in Europe Day, there was still work to be done. The focus shifted to

Continued on page 70

By Bruce Weigle

A scale model of the 19th-century Battle of St. Quentin offers the perfect setting for an epic miniature wargame.

MINIATURE WARGAMES HAVE BEEN PLAYED BY HOBBYISTS for decades, both for pure entertainment and as part of legitimate research. Indeed, wargamers have long used well-known historical battles as a means to test their military acumen. Could you win at Waterloo where Napoleon failed? Can you lead the Army of Northern Virginia to victory at Gettysburg? Those are just two classic challenges that recall the earliest days of the hobby.

Inevitably, though, those types of classical challenges become a bit too familiar with repetition. So you are looking for a new military challenge. You want something historically familiar, but not very well known—something in which the quality of the troops and their weapons, their commanders' mettle, and the historical details are unfamiliar to all but the most die-hard aficionados.

Which war might provide such a rich assortment of battles and a wide variety of military challenges?

Falling just about halfway between the end of the Napoleonic Wars and World War I were the Wars of German Unification. The largest of these was the Franco-Prussian War of 1870-1871. Because it was studied intensely by historians and military professionals up to and beyond World War I, it became one of the best documented European wars, giving birth to thousands of studies, histories, memoirs, and analyses. Fortunately, most of that historical material is still available, in English, for the discerning scenario designer.

I have published three sets miniatures rules covering the transitional wars involving the consolidation of the large European nation states such as Italy and Germany that occurred from 1859 to 1871. I will tentatively publish in the fall of 2015 a simplified set of fast-play rules known as "1871." The fast-play rules are designed to give wargamers a way to accurately refight large, less well known battles of the Franco-Prussian War in a single sitting. The fast-play rules are an outgrowth of an earlier set of rules I published covering the Franco-Prussian War titled "1870." I used a number of familiar conventions, as well as some new ones, to achieve my primary wargaming objectives, which are to enable a rapid pace, furnish a simple but accurate method of combat resolution, and adhere to historical authenticity.

The 11 scenarios selected (from both the Imperial and Republican periods of the war) needed to be well balanced, accurate, and challenging for the players and the designer. Because of its tactical possibilities and suitable obscurity, one key area of interest is the Battle of St. Quentin fought January 19, 1871. This was the Franco-Prussian War's last major field battle, fought between General of Infantry August von Goeben's First Army and General of Division

General Louis Faidherbe leads a marche regiment at a review at Bapaume on January 3, 1871. Faidherbe's marche battalions comprised roughly 40 percent of the French Army of the North at the Battle of St. Quentin.

All images: Author's Collection

ABOVE: Participants refight the Battle of St. Quentin using the author's 1:4000 scale terrain board representing about 65 square kilometers of the battlefield. Each infantry stand represents an infantry battalion, a battery, or two squadrons of cavalry. RIGHT TOP: The battle situation as seen from the northeast about three-quarters of the way through the game shows the French 22nd Corps on the left falling back on its front, while the French 23rd Corps has withdrawn almost into the city. RIGHT BOTTOM: The author made the buildings using balsa wood. He attached the buildings to the board using double-stick carpet tape.

Louis Faidherbe's Army of the North.

As a game, it is fraught with possibilities. The armies were roughly the same size—each fielded approximately 25,000 infantry. Although the Prussians undoubtedly were of better quality, they fielded fewer battalions than the French, who also held an interior position, including some excellent defensive terrain.

It's important, of course, to know the late-war situation to grasp the challenges of crafting the wargame rules. After six months of continuous warfare, France's ability to continue fighting was nearly at an end. Virtually all of France's professional army, which once was considered the best in Europe, was dead, incapacitated, or in Prussian prison camps. Hastily raised replacement armies kept the war alive in the provinces, but by January 1871 they had been defeated everywhere.

Paris had been under siege for three months and its citizens were on the verge of starvation. But the Third Republic was loath to admit defeat, even in extremis. One final effort was planned: a great breakout from Paris, with a supporting effort from the threadbare Army of the North. Both occurred on January 19 and both failed completely. As a result, the French government sued for peace a few days later.

Faidherbe's role was to distract the Prussian First Army, which stood between the Army of the North and the Prussian lines of circumvallation around Paris, to prevent it from responding to the breakout attempt. Another objective was to compel the Prussian high command to dispatch reinforcements from Prussian King Wilhelm I's army besieging Paris to Goeben.

Knowing that his small army, comprising four small divisions in two corps and two attached brigades, was incapable of actually defeating Goeben's veterans, Faidherbe planned a surprise march around the Prussian right flank. He intended to accomplish this by crossing the Somme River at St. Quentin and severing the First Army's vital rail line of communication near La Fere. When superior Prussian forces approached, he would slip away to the safety of one of his northern fortresses, specifically Cambrai, thus keeping his army intact.

Unfortunately for Faidherbe, Goeben became aware of the French maneuver in time. Gathering together as much of his army as he could (three incomplete divisions, as well as a few spare infantry and cavalry units), he shadowed the Army of the North's march from the southern side of the river and nipped at its heels from the northern side.

The cold, rainy weather turned the fields to mud and contributed to the misery of both armies. By the time Faidherbe arrived at St. Quentin late on January 18, he knew that his plan had failed. His army was strung out, exhausted, and faced an enveloping attack from the west and the south. Due to a staff error, the 22nd Corps, his best troops, already had crossed the Somme, while the 23rd was frantically deploying west of the town against the expected Prussian attack the next day.

Faidherbe hoped to check the Prussian advance long enough to extract 22nd Corps back across St. Quentin's solitary bridge and make good the whole army's escape to its northern bases. Goeben ordered a converging attack on the town, intending to trap and eliminate the Army of the North once and for all.

Superficially, the French appear to have had several advantages. Although the Somme River split both armies, the French possessed the only nearby bridge at St. Quentin. Moreover, the open, sodden fields enabled the French infantrymen to dominate the battlefield with their superior Chassepot rifle. The Prussians' excellent Krupp field guns were slow to arrive and slow to deploy in the muddy fields, while the less numerous (and less well served) French batteries were already largely in place on commanding terrain. But if the first-rate Prussian infantry could close with the less professional French troops, no one doubted what the outcome would be.

My first challenge was to factor in as many of the advantages and disadvantages each army

possessed as possible to produce a historically balanced game. Next, I sought to make readers thoroughly familiar with their armies' respective strengths and weaknesses. Contemporary accounts stressed that the Republican French armies were poorly managed.

With most of their professional officer and noncommissioned officer cadres long since removed from play, the composite, often ad-hoc formations of the French provincial armies were led by whatever talent they could locate. Former NCOs found themselves commissioned as company and even battalion commanders. Interestingly, former junior officers led battalions, and in at least two cases, they led divisions, while Faidherbe's division and corps commanders had been field grade officers less than five months earlier. In addition, staff officers were completely untrained and in short supply, and cavalry was almost nonexistent. This was not a well-led army, although fortunately there were some leaders and many humble soldiers who more than rose to the occasion.

Faidherbe's best troops were the second-string reservists, which included former soldiers and landed sailors, of his Marche regiments. Some had only a modicum of infantry training. About 60 percent of the rank and file, though, were half-trained guardsmen or barely trained conscripts. Their morale was shaky at best, and their combat effectiveness questionable. Goeben was quite aware of these shortcomings, declaring in his battle orders that his understrength 15th Division alone was "sufficient in number to fight with success the entire French Army of the North." Many of the French units could not be trusted to advance when ordered, and were prone to panic. Their game morale grades reflect this, and in the game, as in reality, some flunked their morale dice rolls at the first test. Others, to the surprise of the Prussians (and play-testing wargamers), defied the odds and fought like champions throughout the day.

I gave the Prussian units, as befitted their historical performance, better morale ratings and favorable modifiers when in close combat, particularly against the lower grade French troops. To reflect their superior command control ability, the Prussians were allotted more command chits each turn, which allowed them about twice the agility of their clumsier French opponents.

French units, besides being saddled with lower morale ratings, depending on the professional proficiency of each type regiment, were also more heavily penalized if they lost a close combat or failed a morale roll. Historically, French commanders in several of the late war battles complained that their advances were often hindered by the crowds of fleeing soldiers from the units they had been sent to assist. Last, the 60 percent lower grade units—the Garde mobile and Garde nationale regiments—were prohibited from initiating close combat. This left only the regulars of the Marche battalions and the sailors capable of undertaking offensive action.

With an army like that, how could the Prussians fail to achieve victory by turn three? Goeben's First Army, although superior in almost every respect, still had its share of difficulties to overcome. After two days of forced marches, it was as soaked and tired as were the French, and it would arrive on the battlefield piecemeal. Goeben, in his overconfidence, sent his only reserve formation, Colonel von Bocking's battle group, across the Somme to help the 16th Division's advance from the south. He also spread out his command even further in order to envelop St. Quentin from the north. Unfortunately, he had only a weak composite division and about seven squadrons of uhlans to do so. It was insufficient for the task.

The composite division, on the Prussian left, and the first brigade of the 15th Division arrived on-board in the late morning, and ejected the French from the towns and woods they had been defending. By early afternoon, when the

game begins, the Prussians had regrouped and were ready to resume their advance. The 15th Division's second brigade and the VIII Corps artillery had still not closed up. On the south side of the Somme, the first battalions of 16th Division to arrive were thrown directly into an assault against the numerically superior French troops of the 22nd Corps, which awaited them on the high ground beyond. Only after several setbacks, including a spirited French counterattack, would the 16th Division's second brigade be committed to the frontal assault, together with six additional battalions from other units as they arrived.

The Prussians' numerous cavalry units played only a minor role in this battle, being nearly useless for anything other than scouting and fighting other cavalry. Doggedly, the Prussians pressed forward, steadily pressing back the French everywhere until St. Quentin was entered almost simultaneously from the west and the south as darkness fell.

The battle was a Prussian victory. The Army of the North had taken grievous losses and was effectively hors-de-combat for the remaining nine days of the war. But it was not a complete victory. The bulk of the army survived, and therefore the First Army was compelled to remain in Picardy to keep an eye on it. With

The terrain board, which is based on a modern topographical map, is built up with layers of Styrofoam insulation board. Once it has been sculpted with a hot knife into an accurate representation of the terrain, the Styrofoam is covered with cloth and painted to replicate the landscape at the time of the battle.

his forces arriving piecemeal, Goeben had opted to advance straight toward the spires of St. Quentin, instead of setting his sights on the real prize, the annihilation of Faidherbe's tattered army.

The forces assigned to cut the Army of the North's escape route north to Cambrai were insufficient. The sailors of Michelet's brigade vigorously counterattacked these forces and checked their advance more than two kilometers short of the Cambrai road. The uhlans' attempt to break through to the road was thrown back by an unexpectedly steady brigade of rifle-musket armed militia, who were surprised, according to one source, that their old "baguettes" could actually kill people. Thus, the majority of the Army of the North escaped, albeit in ruinous condition.

Using the original orders of battle from each side's official histories, among other sources, and arrival times, the Battle of St. Quentin was play-tested five times by five mostly different teams of gamers on a 1:4000 scale terrain board representing about 65 square kilometers of the actual battlefield. The Prussian and French commanders' mission orders were those of Goeben and Faidherbe. But, of course, as soon as the game began the players on each side could react according to the situation as they saw fit. The special modifiers worked very well, forcing each army to behave authentically. French commanders could neither depend on their orders being carried out expeditiously nor place much confidence in their troops' staying power once engaged, especially as their casualties rose. The Prussians, with a paucity of infantry and late-arriving artillery, could not hope to prevail everywhere, nor could they afford the losses typically sustained by direct frontal assaults. They

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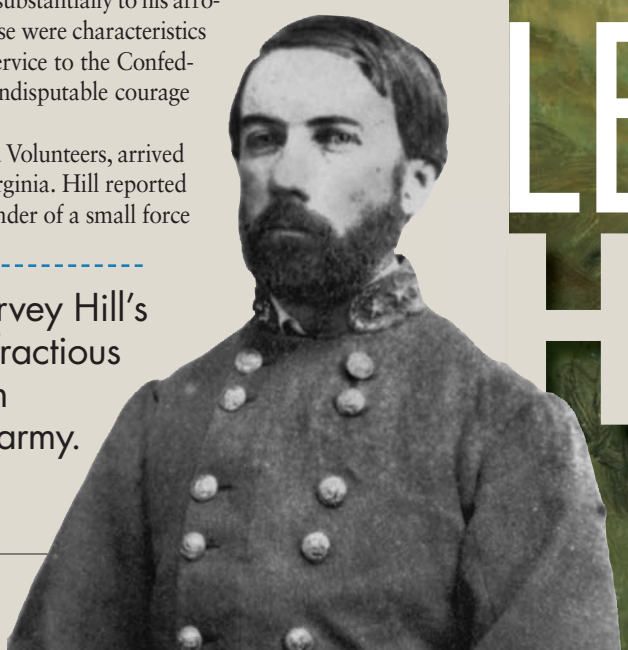
LEE'S Hard

No one doubted Daniel Harvey Hill's courage under fire. But his fractious nature cut short his career in Robert E. Lee's Confederate army.

BY WILLIAM E. WELSH



Two men rode forward from Sharpsburg, Maryland, on the morning of September 17, 1862. The one in front was of slight build with a scraggly beard, scrawny neck, sunken cheeks, and a high forehead. The second man was clearly not pleased that he had to accompany the two-star general in front of him. As if the danger posed by the Federal long-range guns from the east side of Antietam Creek was not bad enough, Yankee skirmishers a short distance to the north took aim at the two riders and tried to knock them from their saddles.

Major General Daniel Harvey Hill wanted a better view of the ground on which his brigades would be fighting that day, so he rode slowly to take in every detail of the rolling farmland. "We rode for a quarter mile along the fence, drawing the fire of the whole skirmish line as we rode in a slow walk," wrote Major James W. Ratchford, Hill's adjutant, who accompanied him on the reconnaissance. "During this ride three couriers started toward the general with messages, and each was shot down or had his horse shot from under him. I expected every moment that both of us would be killed, but we came through without a scratch."

Hill "seemed not to count danger for himself or his staff when duty required it," wrote Ratchford. "As we rode along, the constant fire from enemy sharpshooters did not in the least disturb his thorough examination of the enemy position."

Hill had a reputation in General Robert E. Lee's Army of Northern Virginia for exposing himself to danger. The North Carolinian was "positively the bravest man ever seen," said Lt. Col. Moxley Sorrel, who was Maj. Gen. James Longstreet's adjutant. It was only one of the unique characteristics of a complicated man, whose behavior often confused those who served under him, as well as his fellow officers.

Hill was born on his family's plantation in York District, South Carolina, on July 12, 1821. He was accepted into the U.S. Military Academy at West Point in 1838. Despite being short and thin and suffering from a chronic spinal condition, he successfully made it through the academy, graduating in 1842. A second lieutenant in the U.S. 4th Artillery, he served with distinction in the armies of Generals Zachary Taylor and Winfield Scott during the Mexican War.

Suffering daily from poor health, Harvey Hill resigned from the Army in 1848 to take a job as a mathematics professor at Washington College. He and his bride, Isabella Morrison, set up house at the college in Lexington, Virginia. After six years at Washington College, he transferred to Davidson College in Davidson, North Carolina, where he taught from 1854 to 1859. While the Hills were living in Lexington, Isabella introduced her younger sister, Mary Anna, to Thomas J. Jackson, a professor at Virginia Military Institute. When the two were wed in 1857, Jackson became Hill's brother-in-law.

Hill left Davidson in 1859 to help found the North Carolina Military Institute in Charlotte, North Carolina. At the outbreak of the war, he was eager to join the Confederate army and reported to Raleigh. North Carolina Governor John Ellis gave Hill the rank of colonel on April 24, 1861, and asked him to assist in training recruits.

Hill's many years in academia sharpened his intellect, but his debilitating spinal condition made him highly irritable and contributed substantially to his arrogance, sarcastic nature, and sharp tongue. These were characteristics that would hold him back during his future service to the Confederacy despite his strong leadership skills and indisputable courage under fire.

Hill and his regiment, the 1st North Carolina Volunteers, arrived in late May at the front lines in Yorktown, Virginia. Hill reported to Colonel John Magruder, the senior commander of a small force

Union troops charge through D.R. Miller's cornfield against the Confederate left flank at Antietam in a modern painting by Keith Rocco. The Union II Corps attack through William Roulette's farm against the Confederate center held by Maj. Gen. Daniel Harvey Hill's troops had the same intensity. INSET: Hill's slight build is apparent in a period photograph.

Fighter

Library of Congress

entrusted with keeping the Federals bottled up at Union-held Fort Monroe at the tip of the Virginia Peninsula. On June 10, Hill and his regiment played a key role in the Battle of Big Bethel in which the Confederates easily repulsed piecemeal attacks by Federal forces under Maj. Gen. Benjamin Butler.

For his splendid direction of the main part of the battle, Hill was promoted to brigadier general on July 10. Hill and his regiment remained at Yorktown through July and did not participate in the Confederate victory at First Manassas.

Confederate General Joseph Johnston, the senior commander of Confederate forces in Virginia, promoted Hill to major general on March 26, 1862. When Maj. Gen. George McClellan transferred his 121,500-strong Army of the Potomac by water to the Virginia Peninsula in mid-March, Johnston began a slow retreat west toward the Richmond defenses. During the ensuing Peninsula Campaign, Hill's division would play a prominent role in four battles: Williamsburg, Seven Pines, Gaines' Mill, and Malvern Hill.

Of the four battles, Seven Pines was Hill's best performance, exhibiting his initiative and skill at handling his brigades. The two-day battle began on May 31 when Johnston ordered three columns, one of which he entrusted to Hill, to attack the Federal III and IV Corps on the south side of the Chickahominy. Even though the other Confederate columns participating in the attack were not in place by midday, Hill received permission to begin the attack at 1 PM.

Hill's objective was to capture the crossroads of Seven Pines. To do this, he would have to defeat Brig. Gen. Silas Casey's Third Division of the Union IV Corps. Casey's men were entrenched three quarters of a mile west of the crossroads of Seven Pines. Brig. Gen. Samuel Garland's brigade spearheaded the attack. Hundreds of Rebels from Colonel George B. Anderson's and Brig. Gen. Robert Rodes' brigades advanced on Garland's left and right, respectively. Garland's men were caught in crossfire from converging Federal batteries and also had to endure heavy fire from Yankees protected by breastworks. A soldier in the 23rd North Carolina, one of Garland's regiments, recalled the ordeal. "The balls were falling all around us thick as hale (sic) all the time," wrote Private Leonidas Torrence. "It did not look like there was any chance for a man to go through them without being hit. I saw several trees nearly as thick round as my body cut down with cannon balls.... It was a very distressing place."

Hill's graybacks drove the Federals from their first line of entrenchments. Anderson's line overlapped the Federal right, which allowed his men to enfilade Casey's flank. On the Confederate right, Colonel John Gordon's 6th Alabama of Rodes's brigade captured an artillery redoubt. When Hill received reinforcements from Maj. Gen. James Longstreet, he pressed a fresh attack on Casey's second line, but heavy rains and nightfall put an end to the fighting that day. The fighting the next day was inconclusive. Hill had performed superbly on the first day, setting the tone of the battle, ably controlling his brigades, and capturing a key enemy position.

During the fighting on the second day, Johnston was severely wounded. Confederate President Jefferson Davis replaced Johnston with General Robert E. Lee. After a long lull in the fighting, Lee launched an offensive against McClellan on June 25. Lee's offensive was known as the Seven Days Battle. Hill's division fought well at Gaines' Mill and Malvern Hill during the offensive. During Lee's offensive, McClellan lost his nerve and retreated to a strong position at Harrison's Landing on the James River.

McClellan remained entrenched at Harrison's Landing throughout August. In the meantime, Lee shifted the bulk of his forces north. Hill's brother-in-law, Maj. Gen. Thomas J. Stonewall Jackson, defeated a Union army at Cedar Mountain on August 9. After that, Lee's army defeated Maj. Gen. John Pope's Army of Virginia at Second Manassas. While the Second Manassas campaign was under way, Hill served a month-long stint as commander of the Department of North Carolina, but Lee recalled him just before the pending Maryland invasion. Hill rejoined Lee's army at Chantilly, Virginia, on September 2.

At a council of war on September 9 near Frederick, Maryland, Lee decided to divide his army to capture the 13,000-man Union garrison at Harpers Ferry before moving farther north. Lee detailed Jackson to capture the town while Longstreet and Hill waited at Boonsboro just west of South Mountain. When Lee received what later turned out to be an erroneous report of Union cavalry operating near Hagerstown, he ordered Longstreet north to disperse it. Lee ordered Hill to remain behind at Boonsboro with his five brigades to cover the roads leading out of Harpers Ferry to the north if the garrison tried to escape. As for the Army of the Potomac, which was moving toward Frederick, Stuart was to cover the gaps through South Mountain and keep Lee informed of McClellan's progress.

After Pope's disastrous defeat at Second Manassas, U.S. President Abraham Lincoln turned again to McClellan to defeat Lee. McClellan moved faster in pursuit of Lee than the Confederate commander had expected. Jackson had divided his army into three groups to capture Harpers Ferry, which left Lee's army divided into five parts with the enemy rapidly advancing toward Turner's Gap where the National Pike crossed South Mountain.

Lee directed Hill on September 13 to hold Turner's Gap and informed him that Longstreet was marching to reinforce him. Harvey Hill rode shortly after daybreak on September 14 to survey the terrain. He found that Maj. Gen. J.E.B. Stuart had ridden south to oversee the defense of Crampton's Gap where Stuart mistakenly believed the main Federal thrust would be made because it was closer to Harpers Ferry.

Turner's Gap "could only be held by a large force, and was wholly indefensible by a small one," Hill later wrote. Although there was good defensive ground at Turner's Gap, the position was vulnerable to being turned on both flanks. Hill not only had to hold Turner's Gap but also cover Fox's Gap three quarters of a mile to the south and Frosttown Gap a mile to the north. The ground Hill's troops would defend was extremely rough with various hollows and knobs. It would give them a strong advantage on the defense.

Hill already had sent one of his five brigades, the one commanded by Brig. Gen. Alfred Colquitt, to Turner's Gap the day before. To assist Hill, Stuart had posted 250 troopers of Colonel Thomas Rosser's 5th Virginia Cavalry and a section of horse artillery under Captain John Pelham at Fox's Gap. Torn between watching the roads leading away from Harpers Ferry and covering the gap, Hill vacillated on how many troops to bring to Turner's Gap. The morning of his reconnaissance, Hill had ordered Garland's brigade to march to Turner's Gap to join Colquitt. This left the brigades of George B. Anderson, Rodes, and Brig. Gen. Roswell Ripley at Boonsboro to watch for any sign of Federals retreating north from Harpers Ferry.

Hill told Colquitt to pull his men back from the base of Turner's Gap to its crest, and he sent Garland's 1,100 men along a narrow road on the ridge to Fox's Gap where the cavalry was posted. Hill also ordered Captain James Bondurant's four-gun Jefferson Davis Artillery to follow Garland.

Major General Ambrose Burnside, commanding the right wing of McClellan's army, planned to conduct a double envelopment of Turner's Gap by sending the IX and I Corps against Hill's right and left flanks, respectively. From his headquarters at the Mountain House in Turner's Gap, Hill watched the long blue columns in Middletown Valley to the east that were slowly making their way toward the foot of the mountain. "It was a grand and glorious spectacle," Hill wrote, "and it was impossible to look at it without admiration. I had never seen so tremendous an army before, and I did not see one like it afterward."

Garland had to cover 1,300 yards at Fox's Gap, which was too much for his brigade. So he placed the 13th and 20th North Carolina north of the Old Sharpsburg Road and the 5th, 12th, and 23rd North Carolina Regiments south of the road. This left a large gap between the two groups of Tarheels.

Brigadier General Jacob Cox's Kanawha Division, which formed the vanguard of Maj. Gen. Jesse Reno's Union IX Corps, made contact with Garland's right wing at 9 AM. Colonel George Crook's brigade advanced on the left, and Colonel Eliakim Scammon's brigade advanced on the right. Cox's line overlapped Garland's right. Smoke blanketed the woods with men on both sides scrambling for cover behind stone walls on the mountaintop. Garland called for his two regiments north of the Sharpsburg Road to come to the aid of the three already engaged.

The Federals soon overran Garland's right wing. Rosser and Pelham retreated north to Daniel Wise's farm, which straddled the Old Sharpsburg Road. Like his division commander, Garland was fearless during the heat of battle. Garland was making adjustments to the deployment of the 13th North Carolina when he suffered a mortal wound in the chest from a minie ball.

Colonel Duncan McRae of the 5th North Carolina immediately took charge of Garland's brigade. McRae sent a messenger with an urgent request for reinforcements to Hill. Anticipating the need for more troops on the mountain, Hill had already ordered George B. Anderson's brigade to march to Turner's Gap. It arrived just in the nick of time. Hill personally led Anderson's 2nd and 4th North Carolina Regiments to McRae's aid. Hill had told Anderson to take his other regiments to reinforce Colquitt.

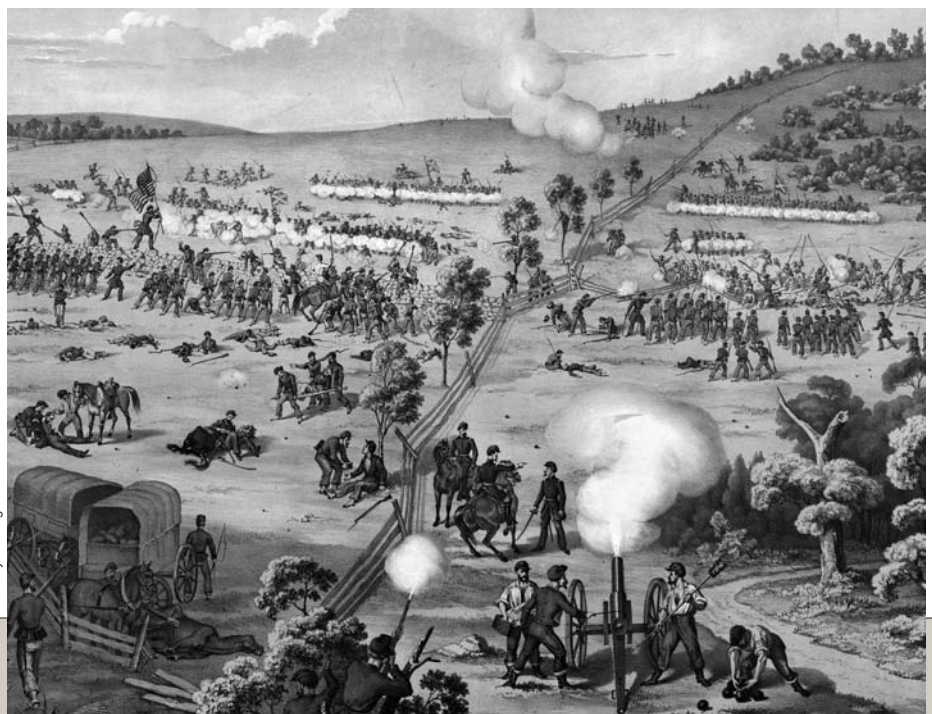
By 11:30 AM Cox's division at Fox's Gap controlled all of the ground south of the Old Sharpsburg Road on the ridge top. For a time, Bondurant's and Pelham's guns and Anderson's two regiments kept the Federals from advancing north of the Old Sharpsburg Road. McRae withdrew the remnants of Garland's brigade to the west side of the mountain. At that point, a lull in the fighting occurred as Cox waited for the other IX Corps divisions to arrive on the mountain.

While Garland was heavily engaged, Hill had ordered Ripley, Rodes, and Lt. Colonel Allen Cutts's Reserve Artillery Battalion to march to Turner's Gap. He also sent an urgent request for reinforcements to Longstreet. Hill's last two brigades arrived at about 11:30 AM, just as Hill was leading Anderson's regiments south to assist McRae. When Hill returned to Turner's Gap, he ordered Rodes to cover Colquitt's left flank and directed the rest of George B. Anderson's brigade and Ripley's brigade to Fox's Gap. Rodes deployed his brigade on two spurs just north of Turner's Gap to block access to the Dahlgren and Frosttown Roads that would allow the Federals to outflank Turner's Gap from the north.

At noon, the vanguard of Longstreet's forces arrived at Turner's Gap. Two brigades of Brig. Gen. David R. Jones's division, those of Brigadiers Thomas Drayton and George T. Anderson, arrived panting after the 13-mile forced march from Hagerstown. Hill ordered them to march south along the ridge to Fox's Gap.

Hill heavily reinforced his right at Fox's Gap at noon with the intention of defeating the Fed-

BELOW: The Union IX Corps attacks the Confederate position at Fox's Gap on September 14, 1862. The neatly arrayed battle lines depicted in the illustration bear little resemblance to the actual fight in heavily wooded, steep terrain. OPPOSITE: Confederates attack a Union position at Seven Pines during the Peninsula Campaign. Harvey Hill managed his troops better than any other Confederate general in the pitched battle.



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eral threat to his right flank before the Federals struck his left flank at Frosttown Gap. With this in mind, Hill ordered Ripley, who was the senior brigadier at Fox's Gap, to launch a counterattack using all four Confederate brigades.

Ripley formed the four brigades into a battle line along the Old Sharpsburg Road. Drayton's brigade was on the left flank. Drayton deployed his forces on the Wise farm, his three Georgia regiments facing east and his two South Carolina regiments facing south. The other three brigades—George T. Anderson's, Ripley's, and George B. Anderson's—deployed on Drayton's right flank. The deployment left Drayton dangerously exposed if he were to be attacked simultaneously from the south and east.

While Ripley was getting his brigades ready for the next phase of battle, the 3,000 Yankees of Brig. Gen. Orlando Willcox's division marched up the Old Sharpsburg Road to reinforce Cox. Meanwhile, to the north Maj. Gen. Joseph Hooker's 15,000-strong I Corps was slowly approaching Frosttown Gap. Both Hooker and Reno were cautious because they wrongly believed that Longstreet's entire command had been at Boonsboro and therefore was already deployed atop South Mountain.

It took an agonizingly long time for the right wing of the Union attack against Turner's Gap to get under way. Hooker ordered two divisions to advance in a flanking move. Although Brig. Gen. George Meade's division arrived at the base of the mountain at 1 PM, he was directed to wait for the rest of the corps to get into position before attacking. Meade was to advance on the right directly up the Frosttown Road, while Brig. Gen. John Hatch advanced on Meade's left along the Dahlgren Road, which joined the National Pike near Hill's headquarters at the Mountain House. Together the two divisions numbered approximately 8,000 men. As a diversion to pin down Confederate forces, Brig. Gen. John Gibbon's 1,300-man brigade of Hatch's division was to advance straight up the National Pike.

Two spurs of South Mountain straddled the Frosttown Road north of Turner's Gap. Rodes's 1,200-man brigade had the near impossible task of covering both against formidable odds. A graduate of Virginia Military Institute, the dashing 33-year-old did not shrink from the task at hand. From his perch observing the battle, Hill spotted Meade's column and ordered Rodes to shift his line to the north so that he covered the northern spur and the defile between the two, but not the southern spur. Rodes objected, insisting that the southern spur also should be covered. Hill agreed, and he granted permission for the 12th Alabama to occupy the southern knob.

Shortly after 3 PM Meade's men drove back skirmishers from the 12th Alabama. Working to Rodes's advantage were the thick woods that concealed the size of his force from Meade. The 5th Pennsylvania Reserves had their hands full trading volleys with Gordon's crack 6th Alabama on Rodes's left flank. A charge by Gordon drove the bluecoats back at one point. Shells from batteries belonging to Rebel guns posted at Turner's Gap crashed through the treetops, rattling the blue ranks. Two brigades of Yankees pushed up the defile, steadily driving back the 3rd and 26th Alabama Regiments. The Alabamians' fire for the most part was too high. Most of their bullets whizzed harmlessly over the heads of the attacking Pennsylvanians, but when they made contact they inflicted deadly head wounds.

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"In the first attack of the enemy up the bottom of the gorge they pushed on so vigorously as to separate the 3rd from the 5th Alabama Regiment," wrote Rodes. Still, the Confederates got in their licks. Colonel Cullen Battle, commanding the 3rd Alabama, ordered his men, who were well concealed behind rocks, to hold their fire until the Yankees were almost on top of them before he gave the order to fire. A wall of flame erupted from the 3rd Alabama that staggered the lead elements of Brig. Gen. Truman Seymour's brigade. The Alabamians owed their survival to the rugged terrain they were holding. They huddled behind whatever natural protection they could find to reload before emerging to fire at the bluecoats advancing slowly through the underbrush.

Meade had 13 regiments under his command, and he steadily fed fresh regiments into the fight in an effort to break the gray line. The fortunes of Rodes's regiments varied greatly. On Rodes's right, Colonel Edward O'Neal's 26th Alabama became completely demoralized upon their colonel's wounding and fled through the woods with the Yankees on their heels. In contrast, Gordon had kept his regiment "constantly in hand, and had handled it in a manner I have never seen heard or equaled [so far] in this war," wrote Rodes. The pressure on Gordon was so great, though, that he was forced to withdraw from the northern spur to prevent being encircled. Rodes's brigade lost 400 men, a third of its strength.

By 4 PM all four divisions of the Federal IX Corps were in place to dislodge Ripley's ad hoc division at Fox's Gap. The two divisions in advance, Willcox's and Cox's, advanced against Drayton's salient on the Wise farm. Colonel Thomas Welsh's brigade of Willcox's division tied into Cox's right flank and advanced south of the Old Sharpsburg Road against Drayton's right flank, held by 500 South Carolinians, and Colonel Benjamin Christ's brigade advanced north of the road toward Drayton's left flank, held by 750 Georgians. The other three Confederate brigades at Fox's Gap, which should have been facing east, were facing south. Ripley had allowed a dangerous 300-yard gap between Drayton's right flank and George T. Anderson's brigade that left Drayton's right flank open to being turned.

About the same time the Federals advanced,

Drayton ordered his South Carolina troops to advance south in compliance with Ripley's order for a counterattack. Screaming the famous Rebel yell, Drayton's South Carolinians ran headlong into a line of attacking Yankees. Lt. Col. John Curtin's 45th Pennsylvania was the first to engage Drayton's brigade. The South Carolinians fell back almost immediately in the face of Curtin's attack. With smoke obscuring the summit of the mountain, some of Drayton's men on the Old Sharpsburg Road fired at their fellow soldiers as they fell back through farmer Wise's fields.

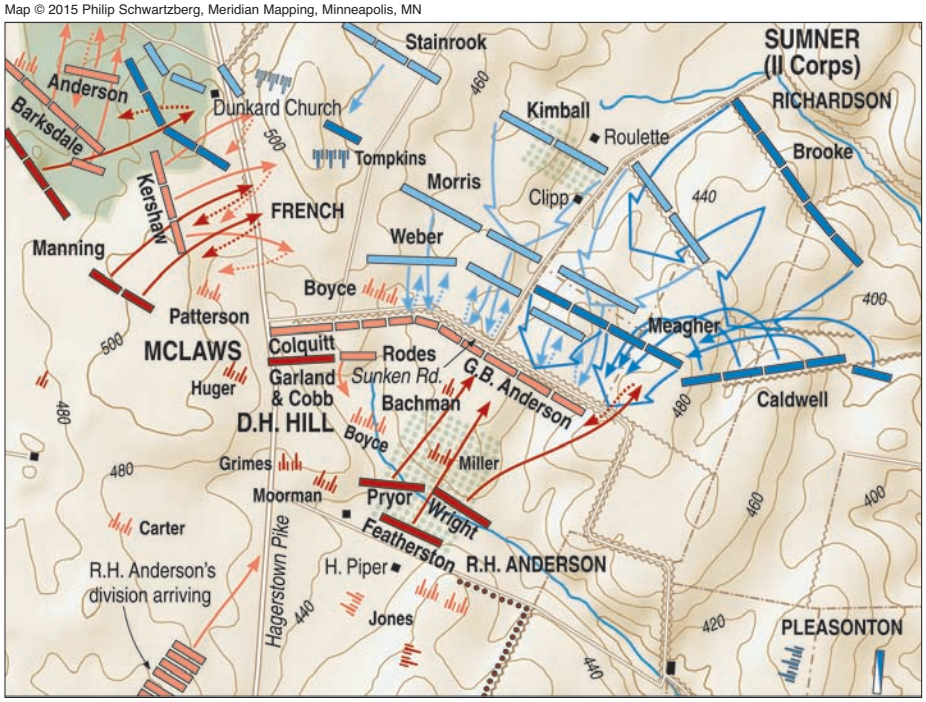
Meanwhile, Colonel William Withington's 17th Michigan, a green regiment, advanced toward the Georgians. The Michigan troops had only a rail fence for protection while Drayton's Georgians fired from the kneeling position behind a stone wall. Their blistering fire inflicted heavy casualties on the Michiganders.

Eventually Drayton's right flank crumbled from the pressure of Welsh's brigade supported by Cox's troops. The men of Lt. Col. George James's 3rd South Carolina made a desperate stand at the Wise house, firing from whatever cover they could find, but they were subjected to a hail of unrelenting fire from Welsh's brigade, which overran their position. James was killed in the fight and all except 24 of his 160 men were killed or wounded. Drayton's brigade lost 643 of its approximately 1,250 men.

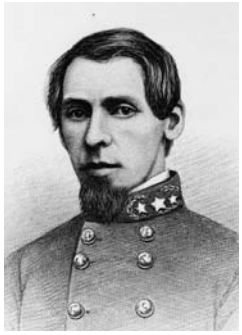
Hill later criticized Ripley for failing to organize a coordinated defense of the gap. Only Drayton's brigade had fought against the two Federal divisions. Ripley's other brigades "did not draw a trigger, why, I don't know," Hill wrote. The Confederates lost 1,100 men at Fox's Gap.

When Longstreet arrived at Turner's Gap at 4 PM with the rest of his troops, he took control of the South Mountain battlefield as senior commander. When he learned of the desperate situation facing Drayton, Longstreet ordered Brig. Gen. John Bell Hood to march his two brigades to Fox's Gap. Hood's men deployed north of the Old Sharpsburg Road. After assessing the situation, Longstreet sent a message to Lee informing him that he intended to conduct a general withdrawal once it was dark.

Also arriving in the late afternoon at Turner's Gap was the rest of Jones's division and Brig. Gen. Nathan Evans' independent brigade (led by Colonel Peter Stevens). These four exhausted brigades had not only marched 13 miles from Hagerstown, but an additional five miles. This was because Lee, who had arrived at the western base of Turner's Gap at midafternoon, had sent them first to reinforce Fox's Gap from the west, and then recalled them to go to Turner's Gap. As a result of straggling,



ABOVE: Brig. Gen. Robert Rodes' brigade held the left and Brig. Gen. George B. Anderson's brigade held the right in the Sunken Road, which anchored the Confederate center at Antietam. Harvey Hill personally led counterattacks to keep the Union II Corps from reaching Sharpsburg. RIGHT: Brig. Gen. Samuel Garland (left) was mortally wounded at Fox's Gap, and Brig. Gen. Alfred Colquitt held his ground on the National Pike at Turner's Gap. OPPOSITE: Brig. Gen. Robert Rodes' 1,200 Alabamians fought desperately on Harvey Hill's left flank at Turner's Gap although outnumbered more than three to one by Brig. Gen. George Meade's division.



Both: Library of Congress

only 1,200 men from this force arrived at Turner's Gap, which was the equivalent of one Confederate brigade.

While Hood's two brigades remained north of the Old Sharpsburg Road to prevent the Federals at Fox's Gap from reaching Turner's Gap from the south, Longstreet ordered the last of his troops to support Rodes. Stevens's 550 South Carolinians filed into position on the southern spur to check Hatch's advance. The other three brigades—Brig. Gen. James Kemper's, Brig. Gen. Micah Jenkins's (led that day by Colonel Joseph Walker), and Brig. Gen. George Pickett's (led that day by Richard Garnett)—deployed on Stevens' left to cover Rodes withdrawal.

From that point forward, the battle was Longstreet's fight and the remainder of the fighting occurred at Turner's Gap. Colonel Albert Magilton's Pennsylvanians advancing on Meade's left flank drove back Stevens's exhausted Palmetto Staters. Kemper, Walker, and Garnett deployed to the right of Stevens on the Dahlgren Road. Brig. Gen. John Hatch's 2,400 men forced all three brigades to retreat up the mountain toward the Mountain House. As for Brig. Gen. John Gibbon's weak diversionary attack, it did not budge Colquitt's brigade.

Under cover of darkness, the Confederates withdrew. From sun up to sundown, Hill had remained calm and focused in the face of overwhelming odds. It is fair to say he saved the army, although Longstreet also deserves credit. In the desperate fighting at Fox's and Turner's Gaps, the Confederates lost 2,300 men to the Federals' loss of 1,800 men.

In his battle report, Hill foolishly criticized Longstreet's handling of the second phase of the fighting at Fox's and Turner's Gaps. "Maj. Gen. Longstreet came up about 4 PM with the commands of brigadier generals N.G. Evans and D. R. Jones," Hill wrote. "I had now become familiar with the ground, and knew all the vital points, and, had these troops reported to me, the result might have been different. As it was, they took wrong positions, and, in their exhausted condition after a long march, they were broken and scattered."

Longstreet's command, including Hill's division, withdrew to the high ground around Sharps-

Library of Congress

ABOVE: Brig. Gen. William French's Third Division of the Union II Corps reels from the fire of Confederate massed artillery on Henry Piper's farm just east of Sharpsburg. OPPOSITE: Union Captain James Hope of the 2nd Vermont Volunteers fought at Antietam and afterward painted this tragic scene of Confederate dead lying in the Sunken Road. The Yankees captured the position but could not advance beyond it.

burg on September 15 to await the arrival of Jackson's command. Following the surrender of the Federal garrison at Harpers Ferry, Jackson arrived in Sharpsburg on September 16 with all but one of his divisions.

On the high ground on the west bank of Antietam Creek, Longstreet ordered Hill to post his men in the center of the Confederate line. Hill's line stretched from the Boonsboro Pike to the Smoketown Road. The North Carolinian set his men to work improving the natural trench afforded them by the deeply worn farm road known after the battle as the Bloody Lane. The men collected fence rails and stacked them in front of the road to serve as a crude breastwork.

Major General Joseph Hooker's I Brigade opened the battle at 6 AM with an attack on the Confederate left. After an hour of hard fighting, Jackson appealed to nearby commanders not yet engaged for whatever reinforcements they could send. Hill initially sent the brigades of Colquitt and Ripley, and a half hour later sent Garland's brigade (led by Colonel Duncan McRae). This left the Sunken Road uncovered, so Hill shifted Rodes and George B. Anderson to the key position. Rodes's men filed into place on the left of the salient, and George B. Anderson's men took up a position on the right. Longstreet ordered Brig. Gen. Howell Cobb's brigade, from another division, to cover Rodes's left. Altogether, Hill had about 2,500 men ready in the center of the battlefield.

Major General Edwin Sumner's three divisions of the II Corps joined the battle. Sumner's three divisions attacked in echelon from north to south over a period of 90 minutes. Maj. Gen. John Sedgwick's division was repulsed with heavy casualties when it attacked Jackson's command at 9 AM. Going into battle south of Sedgwick at 9:30 AM were the 5,700 Yankees in three brigades belonging to Maj. Gen. William French. The Marylander's three brigades advanced through the Roulette Farm toward Rodes's side of the Sunken Road salient. "A heavy force ... advanced in three parallel lines, with all the precision of a parade day, upon my two brigades," Hill wrote. "They met with a galling fire, however, recoiled, and fell back; again advanced, and again fell back, and finally lay down behind the crest of the hill and kept up an irregular fire." The bloody hour-long assault failed to carry Rodes's position.

At 10:30 AM, Maj. Gen. Israel Richardson's division emerged from the creek valley. Richardson launched a determined assault on George B. Anderson's brigade on the right side of the Sunken Road position. Just before French's attack, Hill had sent an urgent message to Longstreet for reinforcements. The burly South Carolinian ordered Maj. Gen. Richard H. Anderson to march his 3,400 men from their position in the Confederate reserve at Sharpsburg to Hill's aid. Richardson's Yankees fought with grim determination standing on the slope above the Sunken Road pouring volleys into George B. Anderson's North Carolinians. As the fighting intensified, a Yankee bullet struck George B. Anderson in the ankle, taking him out of the battle. He would die one month later from complications related to the wound.

In adherence with Longstreet's order, Richard Anderson's four brigades moved into the 15-acre apple orchard and large cornfield of the Piper Farm behind the Sunken Road. The Confederate reinforcements immediately were the target of Richardson's infantry, as well as Union rifled guns on the high ground east of Antietam Creek. In the maelstrom of iron and minie balls that swept the Piper fields, Richard Anderson received a thigh wound that took him out of the battle. The absence of a divisional commander severely reduced the effectiveness of Richard Anderson's brigades. Brig. Gen. Ambrose Wright's Georgians furnished some support to George B. Anderson's hard-pressed regiments. But Colonel Carnot Posey, who was commanding a brigade that day, led his Mississippians past the Sunken Road in a counterattack that produced heavy casualties.

About 11:30 AM the Confederate line began to waver. Colonel Risden Bennett of the 14th North Carolina had assumed command of George B. Anderson's brigade just as the last of Richardson's fresh troops struck the gray line. While awaiting the attack of Brig. Gen. John Caldwell's brigade, Richard Anderson's troops milled about without clear direction. When the fighting flared up again they "broke beyond the power of rallying after five minutes' stay," Bennett wrote. Caldwell's bluecoats launched a fresh attack. They advanced shouting and delivered crashing volleys into the Confederates on Hill's right. As the fighting rose to a crescendo, groups of Rebels on the right side of the Sunken Road began falling back without orders. When Posey ordered the remnants of his shattered brigade to withdraw, all of Rebel regiments on the right side of the Sunken Road withdrew.

This left Rodes's right flank dangerously exposed. Gordon, whose 6th Alabama was stationed on Rodes's right flank, received his fifth wound of the day and left the battle. Rodes saw the need to refuse his brigade's flank, and he ordered Lt. Col. James Lightfoot, the 6th Alabama's next in command, to pull back to the ridge behind the farm road. Lightfoot misunderstood the order and led his men back farther than Rodes intended. The other regimental commanders saw the 6th Alabama leave, and they wrongly assumed Rodes had ordered the retreat of the entire brigade. Richardson's Yankees advanced to occupy Rodes's portion of the Sunken Road. Unless Hill and Longstreet took immediate action to rally Hill's and Richard Anderson's men, the Federals might be able to fight their way through the Confederate center to Sharpsburg.

Longstreet cobbled together some troops for a counterattack against French's division. He

ordered Colonel John Cooke, the commander of the 27th North Carolina in Brig. Gen. John Walker's brigade, to bring the remnants of Walker's brigade from the Confederate left to reinforce Rodes. Although Longstreet intended Rodes and Cooke to advance together, the unexpected retreat of the Alabamians derailed the counterattack. Cooke led his 675 men through the high corn on Samuel Mumma's farm against French's right flank. Union Brig. Gen. Nathan Kimball quickly ordered his men to change front. The two sides exchanged heavy volleys at just 200 yards. Cooke's Rebels got the worst of it. When they ran out of ammunition, they withdrew having lost half of their number.

Meanwhile, Longstreet gathered as many available cannons as he could find and directed them to deploy on the Piper Farm to buttress the Confederate center. As Confederate infantry officers attempted to rally the remnants of their respective commands, the Confederate artillerists fired case shot and canister at the Federals in the Sunken Road. As many as 20 Rebel guns pounded the Federals. Sumner had deliberately kept all of the division's artillery in the East Wood to the north in anticipation of a Confederate counterattack against Sedgwick's division, which left French and Richardson with no direct artillery support to counter Longstreet's guns. The crews of the Federal long-range guns on the east side of Antietam held their fire for fear of shelling their own men, who were now in the Sunken Road.

To further harass the Federals, Hill led two unsuccessful counterattacks. The first one was an attempt to drive the Yankees from George Anderson's former position, and the second was an attempt to force them to retreat from Rodes's section of the Sunken Road. Neither succeeded, but they kept the Yankees off balance. Hill's leadership, again with Longstreet's assistance, staved off a possible disaster in the Confederate center. Hill's division lost a total of 2,316 killed, wounded, or missing in the Antietam campaign.

During the winter of 1862-1863, Harvey Hill griped about not being among the select few chosen by Confederate President Jefferson Davis for lieutenant general. Lee chose Longstreet and Jackson to serve as lieutenant generals commanding his first and second corps, respectively, in the Army of Northern Virginia. Lee also indicated that the closest runner-up had been Virginian Ambrose Powell Hill (no relation to Harvey Hill). This undoubtedly bothered Harvey Hill as he had seniority over Powell Hill.

Lee had accurately pegged Harvey Hill as someone who complained far too much. Word got back to Lee during the Seven Days Battle and the Antietam Campaign that Hill had been highly critical of Lee's tactical decisions, and also of the decisions of his commanding officers, such as Longstreet. An official in the Confederate War Department articulated Hill's pessimistic attitude. Hill was "harsh, abrupt, often insulting in the effort to be sarcastic," the official wrote, adding that Hill was most likely in a situation that called for diplomacy instead of an attitude likely to "offend many and conciliate none."

Hill's division, which formed part of the Confederate reserve at Fredericksburg, did not fight in the December 13 battle. This gave Hill plenty of time to plan his next move. Feeling slighted for not having been promoted to lieutenant general, Hill submitted his resignation to Lee on January 1, 1863, citing his deteriorating health as his reason. In the letter, Hill noted he had fought in 11 key battles since the beginning of the war. Although the details are not clear, Lee somehow managed to persuade the North Carolinian to rescind his resignation and once again take command of the Department of North Carolina.

On July 11, 1863, Davis informed Hill that he had been promoted to lieutenant general subject to confirmation by the Confederate Senate. In that capacity, Davis ordered him to report to General Braxton Bragg to assume command of a corps in the Army of Tennessee. Hill led his two-division corps ably at the Battles of Chickamauga and Chattanooga in late 1863, but afterwards became embroiled in a feud with Bragg. When Davis intervened, he sided with Bragg. The Confederate president was so disgusted with Hill that he refused to submit his promotion to lieutenant general for confirmation to the Confederate Senate.

In the last year of the war, Hill served in a variety of posts in secondary theaters, including as an aide to P.G.T. Beauregard at Petersburg for five weeks in the spring of 1864, then in the defense of Lynchburg, Virginia, and in command of the District of Georgia in January 1865. The latter post led to a brief return to division command under General Joseph Johnston at the Battle of Bentonville in March 1865. Hill passed away in Charlotte, North Carolina, on September 24, 1889, and was buried in Davidson College Cemetery.

Hill's testy personality tarnished his legacy as a great fighter, and undoubtedly prevented him from an even greater career with the Army of Northern Virginia in the second half of the war. If he had only gotten along better with Lee, he might very well have commanded a corps in the Army of Northern Virginia during its latter days and received formal confirmation of a promotion to lieutenant general. Hill had only himself to blame for not achieving that goal. □

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MAULED IN

A BUNGLED RAID INTO LAOS BY THE SOUTH VIETNAMESE ARMY DURING VIETNAMIZATION EXPOSED GRAVE DEFICIENCIES IN ITS OPERATIONAL ABILITIES. ONLY U.S. AIRPOWER PREVENTED COMPLETE DISASTER.

The South Vietnamese rangers huddled in their trenches and bunkers at landing zone Ranger North throughout the day of February 19, 1971, as mortar shells crashed inside the perimeter. The deadly shells sent geysers of dirt toward the low-hanging, gray sky over eastern Laos. To counter the encroaching North Vietnamese Army (NVA) regulars, U.S. Cobra gunships and F-4 Phantoms took turns rolling in to blast enemy positions. The 5,000 enemy soldiers laying siege to the hilltop base outnumbered the rangers 10 to 1. By the 11th day of operation Lam Son 719, U.S. air support was the only thing that separated life from death for the beleaguered troops of the 39th Ranger Battalion at Ranger North.

At dusk a regiment of the NVA 308th Division began a steady mortar bombardment of the base. Fanatical NVA regulars, who were supported by Soviet-built PT-76 and T-54 tanks, charged the perimeter repeatedly and eventually broke through. Hand-to-hand fighting broke out in a number of places. The rangers suffered from a severe shortage of antitank weapons and were not experienced with those they had. The air swarmed with U.S. supply and medevac helicopters, as well as aerial rocket artillery. The ground around the hilltop base lit up periodically with flames from napalm canisters dropped by Phantoms that roared down on the jungle. UH-1 "Huey" helicopters zipped onto the smoke-shrouded hilltop bearing supplies and, when possible, removed wounded while the Cobras pumped rockets at NVA caught in the open. For their part, NVA soldiers desperately tried to knock the Hueys from the sky with their AK-47s, rocket-propelled grenades, and heavy antiaircraft machine guns.

Dawn on February 20 revealed the contorted bodies of hundreds of dead NVA both on the hillsides and within the perimeter. Crews of U.S. helicopters alighting on the hilltop did their best to keep back panicked rangers who tried to grab their skids, threatening to overload their fragile airships. In the fighting over a three-day period, the force of 500 rangers on the hilltop base had dwindled to 323.

It was clear that afternoon that the rangers could not hold off the NVA. It also was clear that U.S. air units could not evacuate their allies under such intense fire. With no other option, the ranger commander ordered his men to fight their way out toward Ranger South just over three miles away. What followed was a running battle in the frantic retreat to Ranger South. Only 109 able-bodied survivors and 92 wounded made it to safety by nightfall. As for the NVA casualties, they lost at least 600 men and perhaps substantially more. It was a scenario repeated at a number of other firebases established to support the South Vietnamese raid to temporarily sever the Ho Chi Minh Trail and disrupt NVA offensive operations.

By 1970, with the U.S. military's withdrawal from Southeast Asia finally under way, it was apparent the long-standing American policy of supposedly respecting the neutrality of the bordering Indochinese countries of Laos and Cambodia while fighting a localized war of attrition inside South Vietnam had been a profound strategic blunder. As early as 1960, large portions of Laos and Cambodia had been, in effect, invaded and occupied by North Vietnamese ground forces, who established the Ho Chi Minh Trail as their principal route for funneling communist troops, weapons, and supplies into South Vietnam. The restriction confining the ground war to South Vietnam did not apply to American aerial bombing; indeed, North Vietnam and the Ho Chi Minh Trail were bombed extensively for years, yet the bombing campaign was not decisive in determining the war's outcome. Since 1966, more than 630,000 North Vietnamese soldiers, 100,000 tons of foodstuffs, 400,000 weapons, and 50,000 tons of ammunition had traveled south through the maze of gravel and dirt roads, footpaths, and river transportation systems that criss-crossed southeastern Laos and linked up with a similar logistical system in neighboring Cambodia known as the Sihanouk Trail.

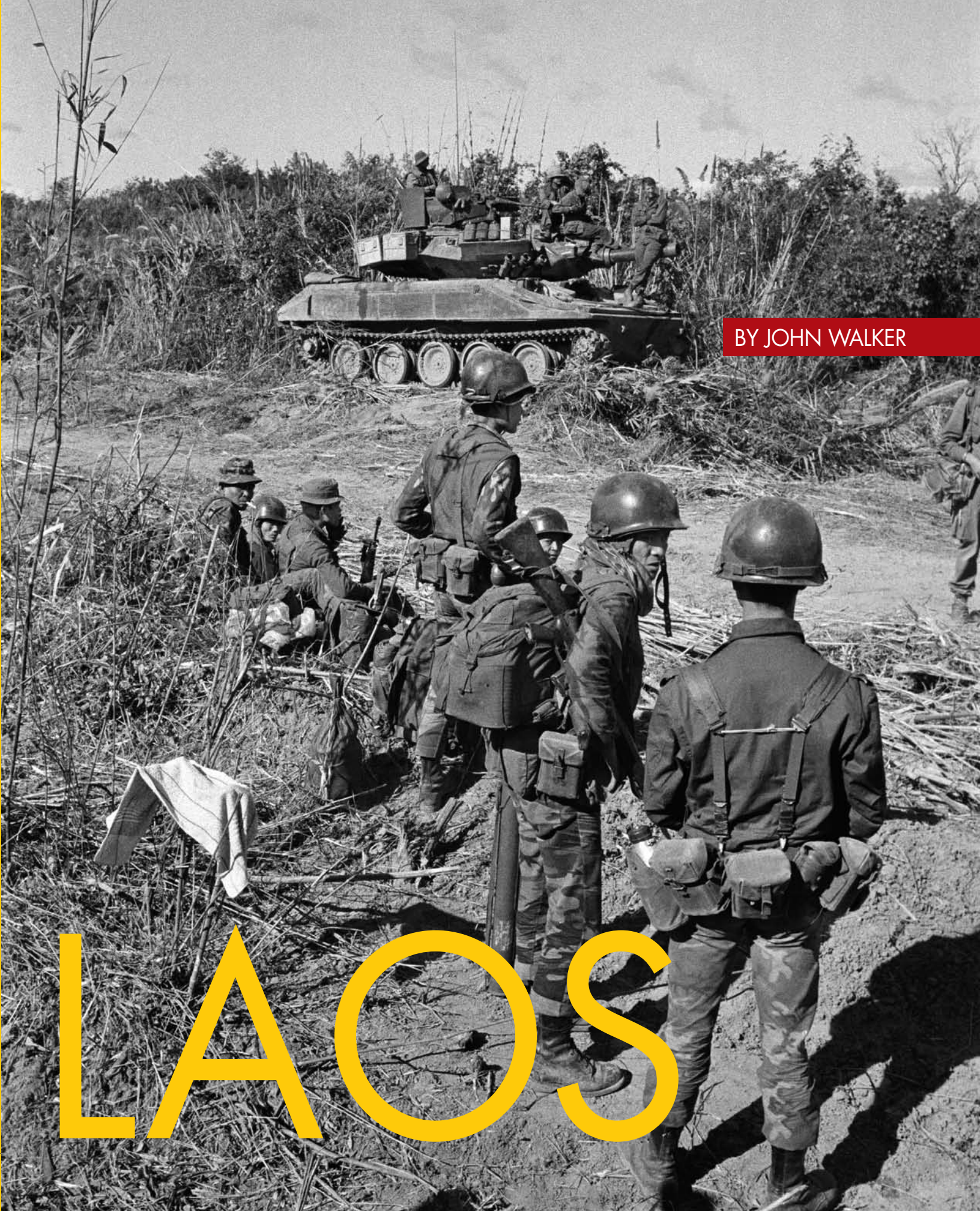
Following Prime Minister Lon Nol's overthrow of Cambodia's Prince Norodom Sihanouk on March 18, 1970, though, the new pro-American Lon Nol regime denied the use of the port of Sihanoukville to communist shipping. This was an enormous strategic blow to North Vietnam, since 80 percent of all military supplies that supported its effort in the far south had moved through this port. Lon Nol also ordered the NVA and Viet Cong (VC) out of Cambodia. The VC were South Vietnamese communist insurgents, fighting mostly as irregulars under the banner of the National Liberation Front and under North Vietnamese control.

The Ho Chi Minh Trail began in North Vietnam and ran through Laos into northern Cambodia, with spurs branching into each of almost two dozen bases along the border. The eastern sector of the Laotian panhandle had long been home to many vital logistical installations and base areas. The main hub of the entire complex in this sector of the trail was Base Area 604, sited in and around the district town of Tchepone, Laos, roughly 24 miles west of the Laos-Vietnam border. After the Cambodian government's closure of the port of Sihanoukville, Base Area 604 became even more vital to the North Vietnamese war effort.

The next largest supply base was Base Area 611 in Muong Nong Province, south and east on Route 914 from Tchepone. It was much closer to the Vietnamese border and was located on the western fringe of the A Shau Valley where it entered Laos. In late 1970, expecting an attack into Laos, the North Vietnamese created a field command—the B-70 Corps commanded by General Le Trong Tan, its nucleus the 304th, 308th, and 320th Divisions—specifically to fight in Laos and had substantial

A U.S. tank covers South Vietnamese troops as they prepare to enter Laos in early February 1971. The ambitious raid was conceived partly as a test of how the South Vietnamese would fare in a ground operation without American advisers.

AP Photo/Henri Huet



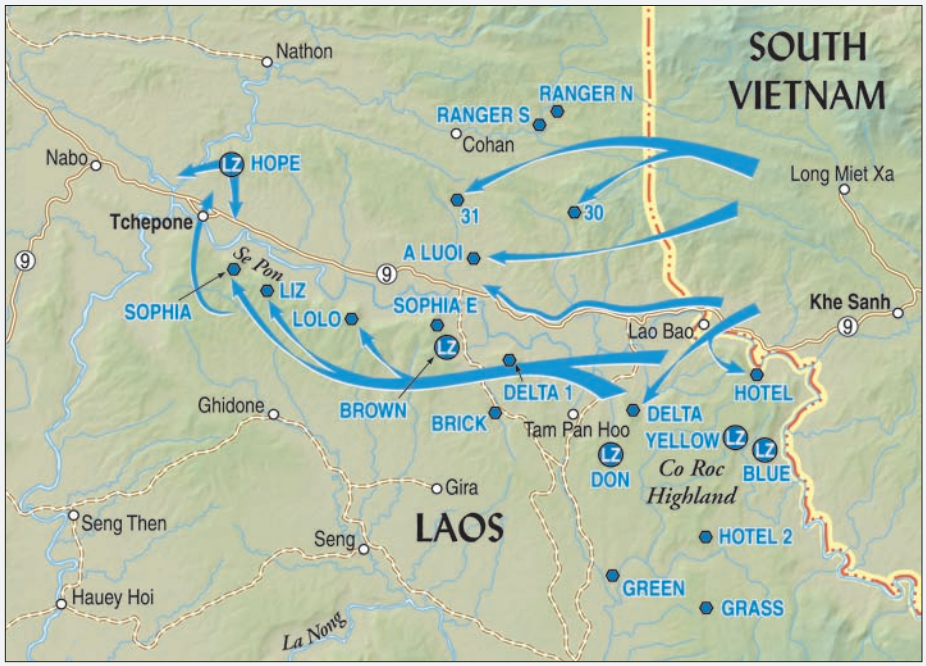
BY JOHN WALKER

LAOS

capacity to reinforce their original dispositions.

A further blow to the communist logistical system came in spring 1970 when U.S. and Army of the Republic of Vietnam (ARVN) forces crossed the border into Cambodia in strength and attacked NVA/VC base areas during the controversial Cambodian incursion. That allied offensive into Cambodia is sometimes portrayed as a strategic failure, but it was not. Though hugely unpopular in the United States, the operation was in fact the key event needed to sever the enemy's lines of communication and logistics in Cambodia, ease the American withdrawal program from the theater, and showcase the success of the Vietnamization program while also boosting the morale of ARVN soldiers.

The Cambodian incursion was a success by any measure. The allies seized enough weapons and ammunition to arm 55 battalions of an enemy main-force unit, killed 11,363 enemy soldiers, and captured more than 2,000 soldiers. But the allies failed to locate the military and political headquarters of the NVA/VC forces, and they also failed to encounter large enemy concentrations because the enemy had withdrawn deeper into Cambodia. Military activity increased after the operation in both northern Cambodia and southern Laos as the North Vietnamese attempted to establish new infiltration routes and base areas.



Map © 2015 Philip Schwartzberg, Meridian Mapping, Minneapolis, MN

After the near destruction of the enemy's logistical system in Cambodia, U.S. headquarters in Saigon determined the time was favorable for a similar campaign into the Kingdom of Laos (the coalition government of Laos had come to an agreement with influential North Vietnamese sympathizers that prevented them from objecting to communist operations inside their country). If such an operation were to be carried out, it would have to be done quickly while American military assets were still available in South Vietnam. Such an operation might potentially create severe supply shortages that would be felt by NVA/VC forces for at least one year, and possibly two, thus giving the United States and its ally a respite from possible enemy offensives in the vital northern provinces for a year or more.

The allies discovered signs of increased NVA logistical activity in southeastern Laos, activity that heralded just such an offensive. Communist offensives usually took place near the conclusion of the Laotian dry season (from October through March) after supplies had been pushed through the system by logistics units. One U.S. intelligence report estimated that 90 percent of NVA matériel coming down the trail at that time was being funneled into the three northernmost provinces of South Vietnam in preparation for offensive action. This buildup was alarming to both Washington and the American command in Saigon and prompted the perceived necessity for a preemptive attack to disrupt any attempted communist offensives.

On December 8, 1970, in response to a request from the U.S. Joint Chiefs of Staff, a highly secret meeting was held at Military Assistance Command, Vietnam (MACV) headquarters in Saigon to discuss a possible ARVN attack into southeastern Laos, across the border from I Corps in northern South Vietnam. The group's findings were sent to the Joint Chiefs in Washington. By mid-December U.S. President Richard Nixon had become intrigued by the idea of offensive actions in Laos and had begun efforts to convince General Creighton Abrams, supreme MACV commander in South Vietnam, and members of his own cabinet of the efficacy of such an attack. Nixon was well aware that another border crossing would severely enflame public opinion, but he and

ABOVE: The South Vietnamese established fire bases manned by Army rangers to prevent ambushes against the main column traveling west on Route 9. BELOW: A North Vietnamese armored vehicle moves along the Ho Chi Minh Trail. Hanoi's initial response to the raid was gradual because it believed North Vietnam was in danger of being attacked either across the demilitarized zone or from the sea by an amphibious landing.

U.S. Air Force

Associated Press

ABOVE: U.S. helicopters not only transported South Vietnamese troops to firebases inside Laos, but also carried them to Tchepone when the armored column stalled on Route 9. The March 6 air assault by elements of the South Vietnamese 1st Infantry Division was the largest helicopter assault of the war. LEFT: South Vietnamese President Nguyen Van Thieu.

Secretary of State Henry Kissinger were overly optimistic and believed a clearcut ARVN victory would trump any political consequences. As promised, Nixon had begun the systematic withdrawal of American forces from South Vietnam, lowering U.S. troop strength there to around 157,000 men by early 1971. (Nixon assumed office in January 1969 and troop withdrawals began in the summer of that year.)

On January 7, 1971, MACV was authorized to begin detailed, highly secret planning for an attack against Base Areas 604 and 611 in lower Laos. On the American side, the task was assigned to Lt. Gen. James Sutherland, commander of the U.S. XXIV Corps, who was given only nine days to submit it to MACV for approval. The operation would eventually consist of four distinct phases. During the first phase, the U.S. 45th Engineering Group would seize, rebuild, and secure Route 9, the main road leading east to and into Laos; the 5th Infantry Division (Mechanized) would reoccupy the abandoned Khe Sanh Combat Base, which would become the logistical hub and airhead of the ARVN part of the operation; and, in an operation dubbed Dewey Canyon II, the 101st Airborne Division would conduct diversionary operations into the A Shau Valley near the Cambodian border, long a communist stronghold.

The second phase entailed a three-pronged ARVN armored/infantry attack west along Route 9 across the border into Laos, pushing for the town of Tchepone, the perceived nexus of Base Area 604. Total American air, artillery, and logistical support—but no U.S. advisers or ground troops, who were now prohibited by law from entering Laos—would support the South Vietnamese incursion. The column's advance along Route 9 would be protected by a series of leapfrogging, heliborne infantry assaults on both sides of the highway, where rapidly erected ARVN fire bases and landings zones would cover the northern and southern flanks of the road-bound main column. The operation's third phase called for search and destroy missions within Base Area 604 and, it was hoped, against Base Area 611 if conditions permitted. Then, ARVN forces would retire, either going back along Route 9 or southeast to Base Area 611, through the part of the A Shau Valley that jutted into Cambodia, and across the border.

Because of the South Vietnamese military's notorious carelessness with regard to security precautions and the uncanny ability of communist agents to uncover detailed information, the planning phase lasted only a few weeks, divided between the American and South Vietnamese high commands. At the operational levels, it was limited to the intelligence and operational staffs of the ARVN I Corps, whose commander, Lt. Gen. Hoang Xuan Lam, would command the operation, and Sutherland's XXIV Corps. Lam was briefed by MACV and the South Vietnamese Joint Chiefs of Staff in Saigon just days before the operation's start. At this point, his operational area was restricted to a corridor no wider than 15 miles on both sides of Route 9 and a penetration no deeper than Tchepone.

In the highly politicized South Vietnamese military's command structure, where the support of key political figures was of paramount importance in promotion to and retention of command positions, the issues of command, control, and coordination proved problematic. Lt. Gen. Le Nguyen Khang, South Vietnamese Marine Corps commander and protégé of Vice President Nguyen Cao Ky, whose Marines were scheduled to participate in the incursion, outranked Lam, who was supported by President Nguyen Van Thieu. The same situation applied to Lt. Gen. Du Quoc Dong, commander of ARVN airborne forces also scheduled to participate. Rather than take orders from Lam, both commanders remained in Saigon and delegated their command authority to subordinate officers, which certainly did not bode well for the success of the incursion. The operation was dubbed Lam Son 719 after the village of Lam Son, birthplace of the legendary Vietnamese patriot Le Loi, who defeated an invading Chinese army in 1427. The numerical designation came from the year 1971, and the main axis of the attack, Route 9.

The attempt at secrecy jeopardized logistical and communications preparations that required lengthy lead time, and a combined tactical command post was not established until the operation was well under way. Most units did not learn about their planned participation until January 17. The Airborne Division received no detailed plans until February 2, less than a week before the campaign was to begin. Some of the best and most experienced units, the paratroopers and Marines, had always deployed in their own areas of operation as separate battalions and brigades and had no experience cooperating in combined unit operations. The U.S. 101st Airborne Division's assistant commander later said, "Planning was rushed, handicapped by security restrictions, and conducted separately and in isolation by the Vietnamese and the Americans." U.S. helicopters, artillery, and supplies were moved at the last minute into the Khe Sanh Combat Base, where an entirely new airstrip had to be constructed. Because there were few possible locations for attacks into Laos, and the North Vietnamese were already expecting some kind of activity in the area, any attempt at secrecy failed.

On their own for the first time without American advisers, South Vietnamese generals faced their

AP-Photo/Holger Jensen

ABOVE: U.S. artillerymen near the Laotian border fire mortars into Laos in support of the advancing South Vietnamese. American helicopter units supplied the South Vietnamese throughout the operation. OPPOSITE: U.S. strategic and tactical bombers pulverized the Ho Chi Minh Trail in the Laotian panhandle before the mission got under way.

biggest test yet. Lam Son 719 was ARVN's largest, most complex, and most critical operation of the war. The lack of time for adequate planning and preparation, as well as the absence of any real discussion of military realities and the true capabilities of the ARVN, could potentially prove decisive. Nixon gave his final approval for the mission on January 29 and the following day Operation Dewey Canyon II began (it was hoped the 101st Airborne's feints into the A Shau Valley might draw NVA attention away from what was going on at Khe Sanh). On the morning of January 30, as well, armored and engineer elements of 1st Brigade, U.S. 5th Infantry Division (Mechanized) headed west on Route 9 while the brigade's infantry units were helilifted directly into Khe Sanh. The government of Laos was not notified in advance of the intended operation; Prime Minister Souvanna Phouma learned of the invasion of his country only after it was under way (the same had been true of the Cambodian incursion a year earlier).

Tactical airstrikes set to precede the incursion to suppress suspected antiaircraft positions had to be suspended for two days due to poor weather. After a massive preliminary artillery bombardment and 11 B-52 Stratofortress missions, the incursion began on February 8, 1971. Spearheaded by M-41 light tanks and M-113 armored personnel carriers, a 4,000-man ARVN armor and infantry task force, comprising the 1st Armored Brigade, the 1st and 8th Airborne Battalions, and the 11th and 17th Cavalry Regiments, crossed the border and advanced six miles westward unopposed along Route 9.

To cover the northern flank, the 39th Ranger Battalion was helilifted into Ranger North while the 21st Ranger Battalion air assaulted into Ranger South. Meanwhile, the 2nd Airborne Battalion established FSB 30 while the 3rd Airborne Brigade Headquarters and 3rd Airborne Battalion moved into FSB 31 (both north of the road as well). These outposts were to serve as tripwires for any communist advance into the zone of the ARVN incursion. South of Route 9, units of the crack 1st ARVN Infantry Division simultaneously combat assaulted into landing zones Blue, White, Don, and Brown, and FSBs Hotel, Hotel 2, Delta, and Delta 1, to establish the southern flank of the advance.

Lam Son 719 was under way. Although intelligence reports indicated the terrain along Route 9 in Laos was favorable for armored vehicles, in reality it was a neglected, 40-year-old, unevenly surfaced, single-lane dirt road with high shoulders on both sides that left no room for maneuver. The entire area was filled with huge bomb craters, undetected earlier by aerial reconnaissance because of dense grass and bamboo. Tracked vehicles, jeeps, and trucks were, therefore, restricted almost entirely to the road, which threw the burden of reinforcement and resupply onto U.S. aviation assets. American helicopter units thus became the essential mode of logistical support, a role made increasingly more dangerous by regular low cloud cover and unremitting antiaircraft fire.

The mission called for the central column to advance down the valley of the Se Pone River, a relatively flat area of brush interspersed with huge swaths of jungle, dominated by heights to the north and the river and more mountains to the south. From the second day forward, the column was exposed to fire from the heights as NVA gunners fired down from preregistered machine-gun and mortar positions. U.S. Army helicopter pilots flying gunship and resupply missions—and later when they attempted to rescue ARVN troops from besieged hilltop firebases—encountered savage, accurate antiaircraft fire. The NVA's favorite antiaircraft weapon, among others, was the 12.7mm Soviet-made heavy antiaircraft machine gun, which fired 600 rounds per minute and could damage an aircraft at elevations up to 3,000 feet. The highly accurate weapon helped bring down of hundreds of American helicopters during the war.

The ARVN column secured Route 9 as far as the village of Ban Dong, known to the Americans as A Luoi, 12 miles inside Laos approximately halfway to Tchepone. By February 11, A Luoi had become ARVN's central firebase and command center for the operation. The plan now called for a quick ground thrust to secure Tchepone, but South Vietnamese forces found themselves stalled at A Luoi while awaiting overdue orders from Lam to continue. Abrams and Sutherland flew to Lam's forward command post at Dong Ha in a futile effort to speed up the timetable. After the commanders' meeting, Lam decided to first extend the 1st ARVN Infantry Division's line of outposts south of Route 9 farther westward before the projected advance, which took another five days.

Hanoi's response to the incursion was gradual because North Vietnamese leaders believed their country was in danger of being attacked, either by an allied ground assault north across the Demilitarized Zone or a U.S. Marine amphibious landing off their eastern coast. When Hanoi's leaders realized they were not going to be invaded, units of the B-70 Corps were ordered toward the Route 9 front. The 2nd NVA Division moved up from south of Tchepone and moved east to help meet the ARVN threat, while other units marched to the area from the A Shau Valley. By early March, the North Vietnamese had massed some 36,000 soldiers in the area, giving them a numerical superiority of two to one over ARVN's 17,000 men. The NVA committed elements of five infantry divisions (2nd, 304th, 308th, 320th, 324B) along with all their armor and artillery support, all of the logistical units operating in the area, an engineer regiment, six well-camouflaged antiaircraft battalions, and six sapper battalions.

The NVA had massed its combat power for

a larger purpose than defending their critical supply route. They were determined to seize an opportunity to fight a decisive battle on advantageous terms, destroy a large ARVN force, and thoroughly discredit and disrupt Vietnamization. The NVA opted to isolate the northern ARVN bases first, pounding those outposts with round-the-clock mortar, artillery, and rocket fire, as well as fierce antiaircraft fire against supporting air units. Although ARVN firebases were equipped with artillery, their guns were outranged by the enemy's Soviet-supplied 130mm and 152mm pieces, which simply stood off and pounded ARVN positions at will. Massed ground attacks backed by artillery and armor would then finish the job.

While the NVA assault on Ranger North raged, Thieu visited I Corps headquarters and was notified of the attacks on the ranger bases and the overall major increase in enemy activity that made an advance on Tchepone questionable. Thieu advised Lam to postpone the main column's advance on Tchepone and instead have the 1st ARVN Division, south of Route 9, begin a push southwest in the direction of Tchepone.

The North Vietnamese next shifted their attention to Ranger South. The outpost's 400 ARVN troops and the survivors from Ranger North fought bravely for two days to hold the post, after which Lam ordered them to fight their way three miles southeast to FSB 30. Another casualty of the campaign, though an indirect one, was South Vietnamese General Do Cao Tri, III Corps commander and ARVN hero of the Cambodian fighting a year earlier. Ordered by Thieu to take over for the overmatched Lam, Tri died in a helicopter crash on February 23 while en route to his new command. That same day, FSB Hotel 2, south of Route 9, came under an intense infantry attack and was evacuated the next day.

FSB 31 was the next ARVN position to come under heavy enemy pressure. Dong, the Airborne Division commander, had opposed deploying his elite paratroopers in static defensive positions because he believed it stifled their usual aggressiveness. When vicious NVA antiaircraft fire made resupply and reinforcement of FSB 31 almost impossible, Dong ordered elements of the 17th Armored Squadron to advance north from A Luoi to reinforce the base. The armored force never arrived, however, due to conflicting orders from Lam and Dong, who halted the armored advance a few miles south of FSB 31. On February 25, the NVA pounded the base with artillery fire and then launched a conventional ground attack. Smoke, dust, and haze at first precluded observation by an American forward air control (FAC) aircraft, which was flying above 4,000 feet to avoid antiaircraft fire. When a Phantom was shot down not far away, the FAC left the area to direct a rescue operation, leaving the defenders with no one to direct fire support. NVA troops and tanks overran the base, capturing 3rd ARVN Brigade's commander in the process, while losing an estimated 250 men killed and 11 tanks lost. The ARVN paratroopers suffered 155 killed and more than 100 captured.

A bit farther east, FSB 30 lasted almost another week. Although the steepness of the hill on which the base was situated precluded armor attacks, NVA artillery barrages were extremely effective, and by March 3 all of the base's 11 howitzers had been put out of action. ARVN armor and infantry from the 17th Cavalry moved north in a relief attempt and within days North and South Vietnamese tanks fought the first armored battles of the war. In the five days between February 25, the day FSB 31 fell, and March 1, three major engagements took place. With the help of U.S. airstrikes, the ARVN destroyed 17 PT-76 Soviet-built tanks and six T-54s at a loss of three of its five M-41 tanks and 25 M-113 armored personnel carriers. On March 3 the ARVN relief column encountered an NVA battalion without supporting armor, and with the assistance of B-52 strikes killed 400 North Vietnamese soldiers.

During each of the enemy's attacks upon FSB 30 and the ARVN relief column, communist ground forces suffered heavy losses from B-52 and tactical airstrikes, armed helicopter attacks, and various forms of ground fire. In each instance, however, the NVA attacks were pressed home with a competence and determination that both impressed and profoundly shocked those that observed them. The NVA lost more than 1,130 soldiers killed in the battle.

With their main column stalled at A Luoi and the rangers and paratroopers fighting for their lives, Thieu and Lam now decided to launch an airmobile assault upon Tchepone itself. The Tchepone area was sparsely populated; most of the nearby villages and towns had been evacuated or largely destroyed by the war. There was not much of military importance within the deserted town of Tchepone; most of the NVA's supplies and other war matériel had been moved to caches in nearby forests and mountains west and east of the town proper. A particularly large, lightly defended cache was located just west of Tchepone, but the ARVN was unable to reach it.

U.S. Air Force

But because the Tchepone road junction was near the center of NVA logistical activity in the vital Laotian panhandle area, the ghost town had become a political and psychological symbol of great importance, more than an object of military value.

American commanders and news media had focused on Tchepone as Lam Son 719's main objective. If ARVN forces could occupy at least part of the city, therefore, Thieu would have a political excuse for declaring a victory, of sorts, and withdrawing his forces to South Vietnam, as well as gaining political capital for the upcoming fall elections and saving his elite units from destruction. Thieu's orders called for an assault on Tchepone, not with the main armored column, but with elements of the crack 1st Infantry Division now deployed south of Route 9. The occupation of vacated firebases south of the road would be taken over by South Vietnamese Marine Corps units stationed back at Khe Sanh as the operational reserve.

To Thieu's credit, with the main ARVN column still miles away at A Luoi, the air assault on Tchepone caught the North Vietnamese off guard. It began on March 3 when one battalion from 1st Division was helilifted into two firebases, Sophia and Lolo, and landing zone Liz, all south of Route 9. Eleven helicopters were shot down and another 44 damaged. Three days later, in the biggest helicopter assault of the war, 276 Hueys, protected by Cobra gunships and fighter aircraft, lifted two more battalions into landing zone Hope, 2½ miles north of Tchepone. Only one helicopter was lost to antiaircraft fire and an entire regiment of the ARVN's best soldiers, several thousand men, was now on the ground in and around Tchepone. The NVA had not anticipated the move and could not react quickly enough to stop it; they did, however, hit the four bases, notably Lolo and Hope, with long-range artillery barrages.

Not far from Tchepone were several large storage areas still stocked with weapons, ammunition, medical supplies, rations, and equipment. Other areas nearby were used for troop replacement and training. ARVN soldiers scoured Tchepone and the surrounding area for almost a week, methodically destroying everything in sight or using artillery, tactical air, or gunships to destroy depot areas. Several thousand NVA soldiers (ARVN claimed 5,000), mostly rear area troops or troops in rest areas, were killed and another 69 captured. Almost 4,000 captured enemy weapons were airlifted out and returned to South Vietnam and several thousand tons of enemy equipment destroyed.

With their goal in Laos seemingly achieved and with enemy resistance near Tchepone mounting, Thieu and Lam now cut Lam Son 719 short and ordered the withdrawal of all South Vietnamese forces, to begin on March 16. A frustrated Abrams implored Thieu to reinforce his troops in Laos (with the 2nd ARVN Infantry Division) and continue the offensive until the beginning of the rainy season. Abrams believed the ARVN, if properly reinforced, could turn the tide, inflict a crippling defeat on the enemy, and seriously damage, if not sever, the Ho Chi Minh Trail. Thieu waited too long, however, as the battle shifted to Hanoi's advantage. Antiaircraft fire remained devastating and the communists had no trouble reinforcing or resupplying their troops in the battle area, which they knew well. When it became evident that ARVN had begun a withdrawal, the NVA mounted efforts to destroy South Vietnam's forces before they

North Vietnamese ground troops break through the perimeter of a ranger firebase during Lam Son 719. The communist attackers were supported by Soviet-built PT-76 and T-54 tanks.

Getty Images/Keystone

could reach the border. Antiaircraft fire was increased to halt or slow helicopter resupply and evacuation efforts, undermanned ARVN firebases and landing zones were attacked, and ARVN ground forces had to run a deadly gauntlet of ambushes along Route 9.

Only a well-disciplined and coordinated army can execute an orderly withdrawal in the face of a determined enemy, and South Vietnamese forces at this point were neither. The retreat quickly turned into a rout; one by one, isolated fire support bases and landing zones were abandoned or overrun by the NVA. On March 21, South Vietnamese Marines at FSB Delta, south of A Luoi and Route 9, came under intense ground and artillery attacks. During an attempted extraction of the Marines, seven helicopters were shot down and another 50 damaged, ending the evacuation attempt. The Marines finally broke out of the encirclement with heavy losses and fought their way to FSB Hotel, which was then hastily abandoned as well. During the extraction of the 2nd ARVN Regiment and Marines from FSB Hotel, 28 of 40 helicopters participating were damaged. The armored task force fared little better, losing 60 percent of its tanks and half its armored personnel carriers to fuel shortages, breakdowns, or deadly NVA ambushes. Some 54 105mm and 28 155mm howitzers were abandoned and had to be destroyed by U.S. aircraft to prevent their capture and reuse by the enemy.

The 1st Armored Brigade was assigned to the ARVN Airborne Division and ordered to cover the retreat on Route 9. When an NVA prisoner disclosed that two enemy regiments were waiting in ambush a short distance ahead to the east, the 1st Brigade commander, Colonel Nguyen Trong Luat, notified Dong. Dong responded by ordering the airborne commander to conduct an air assault to clear the road, but neither man bothered to inform Luat. To avoid destruction on Route 9, Luat ordered his column to abandon the road—just four miles from the South Vietnamese border—and move onto a jungle trail to find an unguarded way back. After the trail came to a dead end at the steep banks of the Se Pone River, the armored force found itself trapped. The NVA quickly closed in and savage rearguard actions ensued. Two bulldozers were airlifted into the ARVN perimeter to create a ford, and the 1st Armored Brigade's survivors crossed into South Vietnam on March 23 after a horrific 11-mile detour through the jungle.

By March 25, 45 days after the beginning of the operation, almost all remaining ARVN soldiers and South Vietnamese Marines had left Laos behind. For more than a week, a number

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A downed U.S. helicopter erupts in flames at Landing Zone Lolo. The raid failed to cut the Ho Chi Minh Trail and emboldened the North Vietnamese to launch a major invasion of South Vietnam the following year.

of exhausted ARVN soldiers, Marines, and American helicopter crewmen, separated from their units, straggled into American bases after walking out of Laos. For the first time, the ARVN found itself forced to leave behind a substantial number of dead and wounded, a devastating emotional blow to families whose sons had perished in Laos. (For the Vietnamese people, who traditionally held a special reverence for the dead, the inability to bury slain family members in their own country was profoundly traumatic.) Returning ARVN soldiers and Marines certainly did not look like victorious soldiers and without exception believed they had not won a victory. The forward base at Khe Sanh had come under increasing artillery and sapper attacks and on April 6 was abandoned as well. Operation Lam Son 719 was essentially over.

Coming under increasing criticism for terminating the operation so far ahead of schedule, South Vietnamese commanders, in a face-saving gesture, claimed that the incursion into lower Laos to cut the Trail was not yet over. To prove it, ARVN mounted two small airmobile raids into the Moung Nong area, the heart of Base Area 611 that had yet to be touched during Lam Son 719, with a 200-man strong force of elite troops from the 1st ARVN Infantry Division. Neither of the raids, which took place on March 31 and April 6, accomplished anything of real military value.

Thieu flew to Dong Ha to address the survivors of the incursion and claimed the Laos operation "was the biggest victory ever." During a televised speech on April 7, Nixon asserted, "Tonight I can report that Vietnamization has succeeded." In Saigon, the American command's claims of success were more limited in scope. It was clear that the operation had exposed grave deficiencies in South Vietnamese leadership, motivation, and operational ability. The incursion had turned into a disaster, decimating some of the ARVN's finest units and destroying the confidence that had been slowly built up over the previous three years. American airpower prevented a defeat from becoming a disaster that might have been so complete as to encourage the North Vietnamese to keep moving right into Quang Tri Province.

Though Lam Son 719 probably forestalled a communist offensive across the DMZ set for spring 1971 because enemy units slated for that offensive were diverted to lower Laos, truck traffic on the trail system increased soon after the ARVN withdrawal. Sightings averaged 2,500 vehicles a month within days of Lam Son 719's termination. The North Vietnamese viewed their efforts on the Route 9 front as a complete success and accelerated expansion of the trail on its western flank that had begun in 1970. After anticommunist Royal Laotian troops withdrew westward in the face of the NVA advance, the logistical artery known as the Ho Chi Minh Trail, 60 miles wide just a few months before, was expanded to 90 miles in width. In both Laos and South

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FALL OF TYRE

The island city of Tyre posed a major obstacle to Alexander the Great's campaign of conquest. But the Phoenicians proved no match for the resourceful Macedonians.

AS ALEXANDER THE GREAT marched his army south along the Levantine coast in January 332 BC, he must have felt as if the fates were unquestionably on his side. Two years earlier, he had led his army across the Hellespont to do the unthinkable and challenge the might of Persian King Darius, whose massive empire stretched from the Balkans all the way to the Indian frontier. Despite their great numbers, the Persian forces were quickly overwhelmed by the brilliant 24-year-old king of Macedon and the bristling spear points of his superbly trained phalanx.

After twice defeating Darius's army in battle, the territories of Anatolia had fallen before him in rapid succession. This time, though, the phalanx faced an obstacle that made even the most seasoned of Alexander's commanders shudder with dread. The island city of Tyre, fortified by high walls and crashing waves, had dared to offend the Macedonian king, who naturally demanded restitution in blood. To soothe their king's stinging pride and punish the Tyrians for their arrogance, the Macedonian army would change not only the course of history but also the face of the earth as well.

In the decades that followed the devastation of the Peloponnesian Wars, a new and unforeseen power arose to the north of Greece in the hilly wilds of Macedonia. Through a combination of shrewd diplomacy and military cunning, Macedonian King Philip II had transformed his country from a semi-barbarous backwater into the leading regional power. Boorish, hard-drinking, and blind in one eye from an enemy arrow, Philip was derided by his haughty southern neighbors as the "Barbarian King." However, his uncouth ways belied a sharp tactical and strategic mind that bordered on military genius. By craftily exploiting his sprawling kingdom's abundance in mineral wealth and natural resources, he built the Macedonian army into a powerful force that was unrivaled in skill and efficiency. The Greek city states, chronically divided by their mutual animosities, soon proved no match for the Macedon king, who by 337 BC, had forced them into a Macedonian-led League of Corinth. The league not only established Philip's hegemony over the Peloponnese, but also furnished the support he needed for his long-held dream of invading the Persian Empire.

Unfortunately for Philip, before he could fulfil his life's ambition he was stabbed to death at a public ceremony by one of his bodyguards. When the assassin was immediately struck down before he could be interrogated, rumors began to swirl that the murder had been orchestrated by Philip's wife, Olympias, and their 20-year-old son Alexander. Although nothing was ever proven, it was widely known that relations between father and son had soured considerably. Their relations were worsened irreparably when the birth of another prince, this time to a full-blooded Macedonian mother (Olympias was a princess of Epirus), threatened Alexander's succession to the throne. Philip's sudden murder by an unlikely assailant had, therefore, conveniently removed the one obstacle standing between Alexander and mastery of the Hellenic world.

BY ALEXANDER ZAKRZEWSKI

While sources differ wildly as to the Macedon prince's size and appearance, those closest to him describe him as having been blond with a ruddy complexion. Though he was of below average height, he possessed a strong neck and muscular upper body and was so fleet of foot that many encouraged him to enter the Olympic Games. His most striking physical feature was his piercing,

Alexander the Great's soldiers are shown attacking Tyre in a modern illustration. Simultaneous attacks by Alexander's fleet on both of the city's harbors after six months of fighting put an impossible strain on the Tyrians' resources.

Bridgeman Art Library

different colored eyes, which were deep set in his face. Along with a square jaw and chiselled cheekbones, they gave him a fierce look of determination that made up for his unimposing height. Everyone he met was struck by his unbridled sense of ambition, which surpassed even that of his formidable father. This was the product of the two great influences in Alexander's life—his tutor Aristotle and his doting mother. Aristotle instilled in the young prince the superiority of Hellenic civilization. The mysticism-obsessed Olympias believed her son to have been divinely conceived by Zeus himself through a series of intense dreams and visions she experienced while pregnant. It is hence no surprise that the young Alexander, born of a God into humanity's most enlightened culture, grew up believing himself destined to conquer the world.

Though he loathed admitting it, Alexander's military genius was unquestionably a product of the innovations and influence of his brilliant father. While the Greeks and Persians relied heavily on conscripts and mercenaries to shore up their ranks, Philip's army was composed of highly trained professional soldiers, of which the most famous units were the legendary phalanx. These well-drilled infantrymen advanced in dense formations 16 rows deep with each man carrying a long spear called a sarissas. This unique weapon, which may have been as long as 24 feet, allowed the first five ranks to engage the enemy simultaneously and gave the entire formation the intimidating appearance of a porcupine or moving forest. The phalanx was supported in battle by the elite Companion cavalry, armored horsemen recruited from among the Macedonian nobility and trained as a shock force for precision strikes against an enemy's vulnerabilities. At the Battle of Chaeronea in 338 BC, an 18-year-old Alexander led his father's Companions through a gap in the Athenian lines where they surrounded and annihilated to a man the crack Theban infantry regiment known as the Sacred Band. It was experiences like Chaeronea that imparted in the young prince the effectiveness of using stalwart infantry and mobile cavalry to manipulate an enemy into exposing a weakness, a tactic that would be the key to many of his future victories.

Alexander began his reign by purging his enemies at court, pacifying the barbarian tribes that plagued Macedonia's northern frontier, and burning a rebellious Thebes to the ground. Having firmly established his authority over the Hellenic world, he set upon a quest that would dwarf the achievements of his famous father and cement his place as history's greatest military genius. In the spring of 334 BC, Alexander launched his invasion of Persia with a force of 43,000 infantry and 6,000 cavalry. As is often the case with brilliant commanders, timing was on his side. The Achaemenid Persian Empire, while indeed vast and rich, was in a gradual state of decline, largely brought on by instability at the top. Its king, Darius III, had not inherited the throne but rather claimed it as the last survivor of a bloody series of court murders and intrigues. Because the empire was a heavily centralized state in which the king's power was absolute, years without a stable claimant had allowed the provincial governors, known as satraps, prone to corruption and petty jealousy, to govern as they pleased without interference from the capital.

As Alexander marched deeper and deeper into Persian territory, a high-ranking Greek mercenary in Persian service, Memnon, urged the local satraps to burn their crops and villages so as to deprive the overstretched Alexander of supplies. Unwilling to see their lucrative personal fiefdoms destroyed, and eager not to draw the meddling attention of the royal court, the satraps chose instead to confront the Macedonian army on the muddy banks of the Granicus River. Despite favorable terrain, superiority in cavalry and the presence of thousands of highly trained Greek mercenaries (all of whom were slaughtered or enslaved after the battle), the Persians were outmatched and outmaneuvered by Alexander's close coordination of phalanx infantry and Companion cavalry. The audacious victory was the Persians' first taste of Alexander's brilliance, and it left all of Asia Minor ripe for the Macedonian army's picking.

Many of the Greek cities along the Ionian coast, having long chafed under Persian suzerainty, willingly threw open their doors to Alexander and welcomed his men as liberators. Two exceptions were Miletus and the heavily fortified and well-supplied city of Halicarnassus, home of Mausolus's great mausoleum. The latter in particular provided Alexander's army with its first major experience of siege warfare. During his numerous campaigns, Philip had made several important innovations for the reduction of cities and fortresses that Alexander and his chief engineer, Diades, further improved upon. Philip introduced a host of lightweight rock- and javelin-throwing catapults and ballistae into his siege train; they were used to both clear enemy parapets and as a prototypical field artillery. Indeed, Alexander's Balkan campaign before the Persian invasion was among the first instances in military history in which these machines were effectively used to break up enemy formations and cover river crossings.

Detail from Alexander's sarcophagus shows him mounted in battle wearing a lion's head helmet.

Wikimedia Commons

The Macedonian corps of engineers also had devised an extremely efficient method for constructing and transporting large siege engines, such as towers and battering rams. Only the most essential and more complicated components of the engine were manufactured ahead of time and included in the siege train. The larger, bulkier items were instead hewn on the spot. At Halicarnassus, Alexander learned the importance of a strong naval presence (something he sorely lacked) when reducing coastal cities. This became glaringly apparent when the majority of the garrison managed to escape the Macedonian army with the help of the Persian fleet.

From there Alexander turned his army north into the Phrygian plain, where he took Gordium, city of Midas and home to the legendary Gordian knot, which he solved with one hack of his sword. It was said that whoever could undo the knot would become master of Asia. Hence, when that night a thunderstorm split the heavens, Alexander's seers duly interpreted it as a sign of Zeus's approval and a confirmation of his destiny. Buoyed by this turn of events, he turned his army south once again to begin the long march across the arid Eastern Anatolian plain, through the Taurus Mountains, and into modern-day Syria to seek out the decisive confrontation that would consolidate his conquests.

By that time, Darius had realized that the Macedonian interloper was a serious threat. The Persian king had been working feverishly for months from his palace in Babylon to assemble an army to quash the invasion once and for all. While estimates vary greatly, Darius's force probably numbered approximately 100,000, an indication of both the vast reserves of the far-flung Persian Empire and the seriousness with which the king was now taking the situation. At the town of Issus, near the Bay

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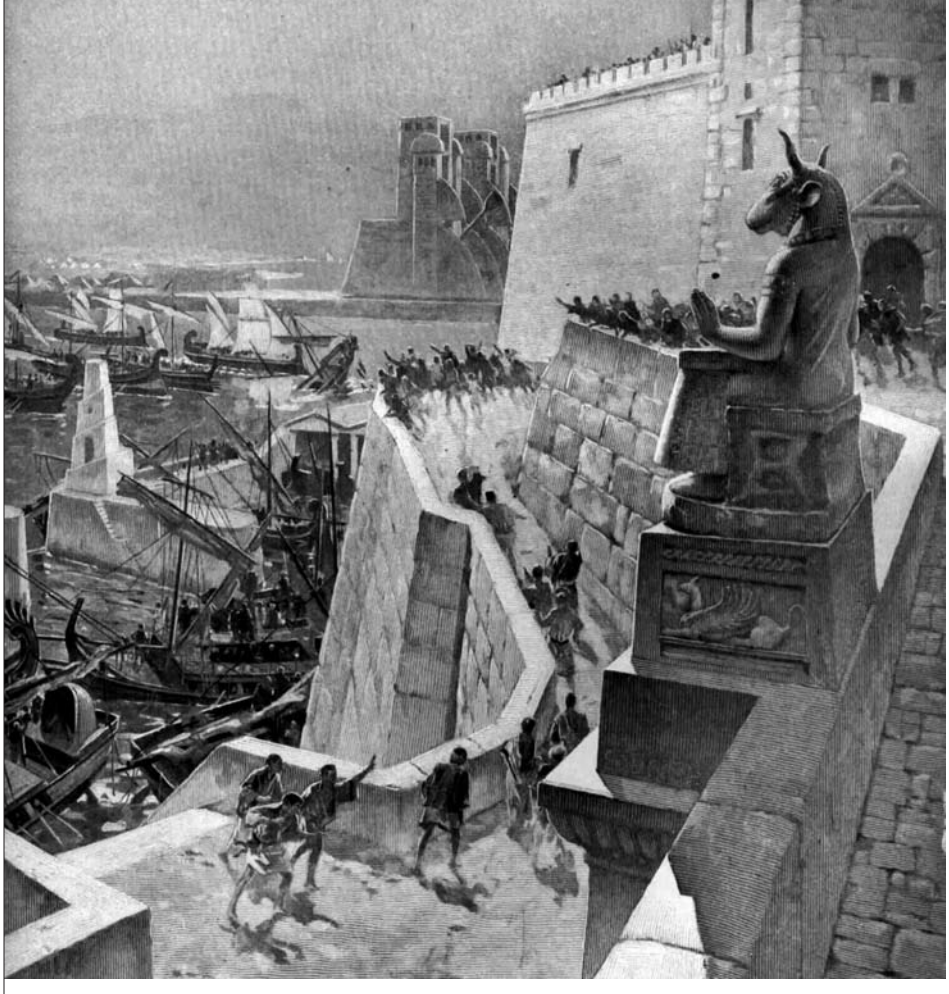
A Roman mosaic portrays Alexander defeating Persian Emperor Darius at the Battle of Issus in November 333 BC. The Tyrians underestimated Alexander's ability to overcome the defenses of their 53-hectare island fortress.

of Alexandretta, Darius foolishly forced Alexander to fight in a narrow coastal plain where he could not exploit the full weight of his numerical superiority. Although outnumbered three to one, the inferior Persian infantry once again found itself pinned against the spears of the phalanx while Alexander led his Companions in a devastating cavalry charge through the enemy's left flank and straight at Darius himself. In a scene forever immortalized in the famous "Alexander Mosaic," the Persian Household Cavalry fought desperately in defense of their king only to be hacked down in droves in front of his richly ornamented chariot. Realizing that all was lost, Darius threw off his royal garments and fled the field on a swift steed, leaving behind him not only his army but his wife, mother, two daughters, and a large cache of treasure. In the ensuing slaughter, an estimated 50,000 to 70,000 Persians are said have been either killed or captured, a catastrophic loss that opened the way to the heartland of the Persian Empire.

Although he bitterly resented having come so close to Darius only to watch him slip away, Alexander resisted the urge to pursue him into Mesopotamia and instead chose to continue southward along the Fertile Crescent's rich Mediterranean coastline. The Persians still enjoyed naval supremacy, and Alexander reasoned quite correctly that if he could deprive them of their crucial naval bases, their powerful fleet would be rendered useless. Since the time of Cyrus the Great, the major producers of ships for the Persian navy were the Phoenician cities of Sidon, Arwad, Byblos, and Tyre—and with good reason. The Phoenicians were among the great seafaring peoples of the ancient world. Known as the "Traders of Purple" because of their monopoly on the valuable dye that they expertly extracted from the murex shellfish, the Phoenicians had built a mercantile empire that stretched as far as the Atlantic coast. Among their great innovations were bireme galleys and a writing system on which all phonetic alphabets since are based. The foremost of their great cities was Tyre, which is celebrated in the Old Testament for both its wealth and for having provided King Solomon with the timber and artisans to build the Temple of Jerusalem.

For centuries, the Phoenicians were happy to provide the Persians with ships and crews (including at the Battle of Salamis) in exchange for a quasi-independence that allowed them to retain their prosperous trading network. However, in recent years, relations between ruler and vassals had soured to such an extent that only 12 years before Alexander's arrival, the city of Sidon had formed an alliance with Egypt and rebelled against Persian rule. The Persians brutal repression of the revolt was still fresh in the minds of the Sidonians, who were predictably more than happy to depose their puppet king and submit their city to Alexander. When Alexander reached the city of Tyre, his reception was far less welcoming.

Tyre was the richest and most powerful of the Phoenician cities and, in recent years, it had benefitted greatly from not having joined its sister city in rebellion. In fact, at the time of Alexander's arrival, Tyre's king happened to be away serving with the Persian fleet in its raids against the Peloponnese. The Tyrian envoys, desiring neutrality above all things, greeted Alexander with the customary gifts and diplomatic niceties and even offered peaceful terms that would allow the Macedonian army to pass through their territory unmolested. Alexander thanked them kindly for their gifts then made a seemingly benign request. There were two sections to Tyre, an old and a new. Old Tyre was a coastal settlement on the Asian mainland that looked out on New Tyre, a walled island about half a mile offshore. It just so happened to be the annual festival of the Phoenician god Melkart, who was considered by the Greeks to be the rough equivalent of Hercules. Because his family claimed descent from Hercules, Alexander requested that he be allowed to sacrifice at his famous ancestor's temple in New Tyre. The Tyrians, being of a merchant race well seasoned in tricky negotiations, immediately recognized that such a gesture, performed by a conquering king during a religious festival, would be tantamount to a formal submission of the city. Instead they informed Alexander that a perfectly suitable temple existed on the mainland and he was free to use it however he pleased.



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From the deck of his Macedonian flagship, Alexander could only watch with growing frustration as his resourceful opponents successfully warded off each costly attack. When a sudden gale blew up rolling waves that snapped apart the battering rams and sank many crews, the Macedonians must have wondered whether Poseidon himself was against them.

At this irreverent refusal, Alexander's explosive temper got the better of him and he flew into an uncontrollable rage. The envoys insisted that they were merely trying to maintain neutrality, but Alexander would not hear of it. So vitriolic was his anger that the shaken emissaries returned to their government with the recommendation that they at least consider letting the Macedon king worship where he desired. It was to no avail. Tyre had survived many sieges in its long history—including a 13-year effort by the Babylonian King Nebuchadnezzar—and they had every reason to believe that they would survive this one. So impregnable was the city considered to be that its name in Hebrew, "Tzu," literally translated to "rock" or "fortress."

Indeed, every aspect of the city's defenses seemed to favor the besieged rather than the besiegers. The waters around the 53-hectare island were particularly rough due to the southwesterly winds that swept the Levantine coast, and the seabed, shallow at first, dropped sharply nearer the city to a depth of 20 feet. The Tyrians had spent their legendary wealth wisely in bolstering these natural defenses with a thick circuit of walls that, on the landward side, stood as high as 150 feet. To prevent an attacking force from landing on the island, the city's architects had constructed the walls at the very edge of the water so that they appeared to rise straight out of the sea. The city possessed two harbors, one on the island's northeast side facing Sidon and another in the south facing Egypt. It was through these two ports, which were dubbed the Sidonian and Egyptian ports, respectively, that food and water were imported and the wealth of the Mediterranean was funneled. So long as these two crucial outlets to the sea remained open, the city's bustling population of 40,000 and its garrison of 8,000 defenders could survive and even continue to prosper.

Alexander and certainly his staff must have thought twice about the prospect of attacking such a position as he soon sent envoys to the island to once more attempt peace. This time it was the Tyrians who lost their composure, and they killed the heralds and tossed their bodies into the sea. This act of war greatly enraged Alexander's men and silenced the doubters on his staff. However, it did not solve the puzzle of how best to assault the island fortress. Conveniently, that night Alexander had a dream in which he envisioned Hercules standing on the walls of Tyre. His seers naturally interpreted this to mean that the city would fall only after a task worthy of the god himself. Luckily, Alexander had just such a labor in mind.

If the Tyrians could not be brought to fight on land, then the Macedonian Army would bring the land to the city of Tyre. It was determined that a mole would be built across the narrow channel separating the city from the mainland, across which its walls could be assaulted in a classic frontal attack. In order to be able to strike the wall from as wide a front as possible with men, siege engines, and artillery, the mole was to be no less than 200 feet wide. Accounts state that initially his soldiers took up the work enthusiastically and in the shallows close to shore his engineers made excellent progress packing down piles of stones to make a foundation upon which timber beams were laid.

As Alexander's men toiled in the hot sun, the Tyrian defenders, safe behind their battlements, jeered at them and the absurdity of their king's plan. To secure building supplies and labor, Alexander ordered the buildings of Old Tyre torn down and its inhabitants forced into labor, an order that his irritated men no doubt relished. Alexander personally directed the construction progress from the shore and organized foraging detachments to venture into the hinterland and find further sources of wood and grain.

As the mole began to creep precariously closer to their city, the Tyrians abruptly changed their mocking tone and started to show the tenacity that had helped them to withstand innumerable past invaders. Nearer the city, the ocean floor dropped sharply, bringing the rapid process to a screeching halt. Alexander's exhausted soldiers and workers were forced to toil for days to gain the same amount of ground they could initially achieve in hours. They now also found themselves within range of the city's defenders, who showered them mercilessly with arrows and other projectiles. Worse yet, the resourceful Tyrians, encouraged by the promise of relief from distant Carthage,

took to the offensive. Being seasoned sailors, intimately familiar with the local waters, they packed some of their swiftest sailing vessels with archers and slingers and cruised up and down the sides of the mole to harry the Macedonians from all directions.

To combat these threats, Alexander constructed two massive siege towers, taller than the city walls, mounted with catapults and ballistae. He placed these on the outer corners of the mole so that they could cover the work below. He also ordered rawhide screens erected along the edges of the causeway to further hide his men from the swarms of enemy assailants.

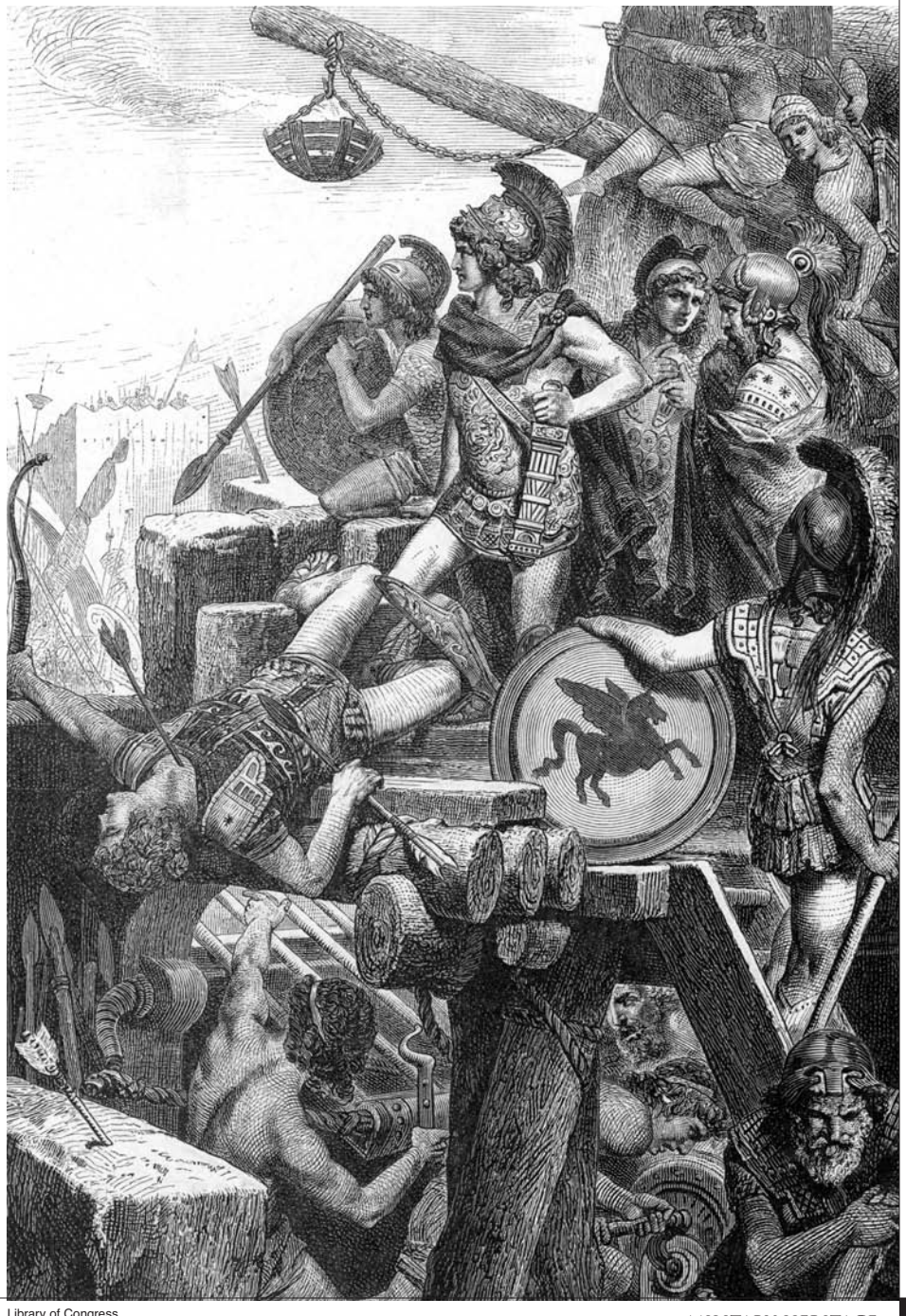
Undaunted, the Tyrians seized upon a timeless and terrifying tactic common to many of history's great naval encounters. They filled an old horse transport with dry wood, pitch, and sulphur and strung cauldrons of oil from the mast. They also weighed it down so that its bow rose straight out of the water. When the wind was right, two triremes towed the vessel out to sea and made straight for the front of the mole. Once they had picked up sufficient speed, the skeleton crew on board cut the towing lines, set fire to the combustibles, and dove overboard. The ship instantly burst into an unstoppable ball of flames. The vessel's raised bow allowed it to hop the edge of the causeway and sent it crashing straight into one of the towers. The collision cut loose the cauldrons of oil, which cascaded to the ground like a river of fire, engulfing everything in its path. As the men on the mole struggled to avoid the flames, a raiding party snuck up through the smoke to cut down as many Macedonians as possible and destroy whatever equipment had not caught fire.

The entire engagement unfolded so fast that, before reinforcements could arrive, the Tyrians had returned to their ships and triumphantly sailed for home, leaving Alexander's hard-built mole a mass of burning carnage. To make matters worse, a few days after the Tyrian attack, a sudden storm churned up a heavy swell that in a matter of hours undid much of the work his men had produced in months.

As Alexander watched powerlessly from the shore, he realized that it was impossible to take the city without naval support. Luckily for him, when word reached the Persian fleet of Alexander's conquests, many of the foreign squadrons began deserting en masse. When the kings of Byblos and Arwad learned of their cities' liberation from Darius, they immediately ordered their crews to raise their sails and make for Sidon, where Alexander was amassing as much naval support as he could garner. The Phoenician deserters were soon joined by contingents from Cyprus and Rhodes. Following the fireship and storm debacles, Alexander had given orders for the towers to be rebuilt and the mole widened even further before leaving to lead a brief punitive expedition into the Syrian hinterland to crush the Arab tribes that had been harrying his supply columns. So great was the rate of desertion among the Persian fleet that by the time he returned, he had more than 100 hundred warships from cities all across the Mediterranean waiting at anchor for him at Sidon.

Wasting no time, Alexander gave orders for the fleet to sail south in battle formation in the hopes of crushing the Tyrian navy once and for all. The Tyrians, who appear to have enjoyed a network of informants in the region, had caught wind of Alexander's naval force and immediately sailed north to confront it. They were just as eager for a decisive confrontation that would end the siege. However, when the Tyrian admiral saw the size of Alexander's fleet, which flew the flags of many

BELOW: Alexander observes the progress of the assault on Tyre from atop one of his mammoth siege engines in a modern illustration. After attempts to breach the city from the causeway failed, Alexander equipped allied Phoenician ships with rams, towers, and boarding bridges. LEFT: Phoenician squadrons in the Persian fleet defected to Alexander when they learned of his string of conquests. Alexander concentrated the squadrons at Sidon before sending them against Tyre.



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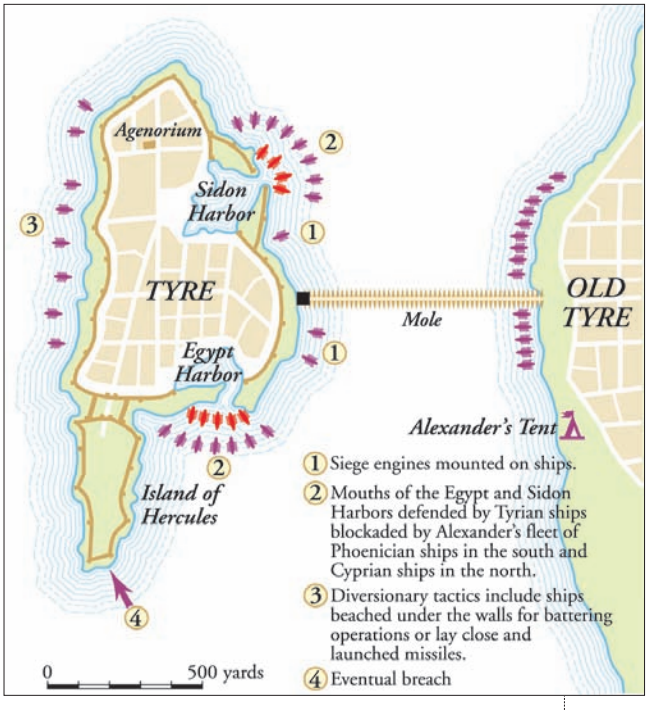

Combining the strength his elite army with his newly acquired naval assets, Alexander eventually was able to overpower the Tyrians.

of the great seafaring cities of the eastern Mediterranean, he promptly turned around and made for the safety of Tyre's northern Sidonian harbor. There he ordered the ships in both harbors to moor themselves bow to stern across the harbor mouths to form a protective wall, manned by marines, which Alexander's ships could not break without great loss. It was a Pyrrhic victory. Though the Tyrians had managed to save their fleet, it was now hopelessly blockaded and their crucial lifeline to the Mediterranean had been lost for good. Without sinking a ship, Alexander had achieved mastery of the seas.

With the city now surrounded on all sides and his mole reaching completion, Alexander unleashed the full fury of his siege arsenal. From the edge of the mole, heavy stone-throwing ballistae pounded the landward-facing wall. Above them, crammed into the newly built siege towers, archers and javelin-launching catapults picked off any defender who dared raise his head. At sea, Alexander's sailors and engineers devised a slew of ingenious methods for using their ships as siege weaponry. Some of the stronger vessels were chained together in pairs with wooden platforms extended across the space in between. On these platforms were mounted battering rams made from enormous wooden beams reinforced with iron heads. As these rams smashed away at the foundation of the city walls, a swarm of ship-mounted artillery pulverized the enemy parapets. Another weapon that may have been employed at Tyre was the "crow." Invented by Diades, Alexander's chief engineer, this weapon was in effect a large hook swung from a vertical frame that was used to pull apart the upper stones of a wall and even drag enemy defenders from their posts.

To their immense credit, the Tyrians refused to be intimidated by these violent contraptions. They continued to fight tooth and nail and forced the attackers to pay dearly for every stone removed from their walls. Before the arrival of Alexander's fleet, many of the city's women and children were shipped off to Carthage so that those who remained could die fighting without fear for their loved ones. All across the battlements hides were strung to deaden the blows of the battering rams, and repair crews raced about hurriedly filling any breaches with whatever materials were available. The Tyrians tossed large stone blocks, probably picked from the walls of their own homes, into the shallows at the base of the city walls to keep the rams at a distance and at night divers slipped into the sea to cut anchor cables and terrorize sleeping crews. Perhaps inspired by Diades's crow, the besieged devised cranes of their own, which they used to drop massive beams affixed with metal hooks and barbs onto the enemy ships. From the deck of his Macedonian flagship, Alexander could only watch with growing frustration as his resourceful opponents successfully warded off each costly attack. When a sudden gale blew up rolling waves that snapped apart the battering rams and sank many crews, the Macedonians must have wondered whether Poseidon himself was against them.

Despite their resolve, the strain of siege was beginning to tell on the people of Tyre. After six long months of almost unimaginable toil, the mole had finally reached the city walls, fulfilling Alexander's grandiose plan to join the city to the mainland. A frontal assault was now at last inevitable. The city had been blockaded for months with few supplies if any slipping through the Macedonian fleet. Worse yet, the Carthaginians, who for months had been promising relief, now suddenly reneged on their assurances. Morale dropped and tension in the city was at fever pitch. When one foolhardy man announced that he had a dream of the god Baal (the Phoenician incarnation of Zeus) abandoning the city, an angry crowd tried to stone him to death. As is often the case in such desperate times, superstition and religious fervor spread rapidly. To keep their god from abandoning them, statues of the deity throughout the city were tied down with golden cords. Others took their frustration out on the few enemy captives unlucky enough to fall into their grasp. Needless to say, these unfortunate individuals were dispatched with greater and greater cruelty as the suffering in the city increased.

Still, the Tyrians fought on. Alexander's first frontal assault on the landward wall was a disaster. The shields carried by the phalanx were relatively small and lightweight so as to allow greater control of the long sarissa. Rocks and projectiles dropped from a height of 150 feet would most certainly have crashed straight through, shattering bones and crushing bodies. The Tyrians were now also able to employ one of their most ingenious and horrific weapons. They filled great metal bowls with sand and heated the contents until it glowed white hot. The bowls were carried onto the ramparts and tipped on the tightly packed ranks of armored men jostling for space beneath the walls. One can only imagine the screams of agony among Alexander's troops as the burning sand leaked in between their helmets and breastplates, searing their skin and burning out their eyes. Most would have simply dropped their weapons and jumped into the crashing waves in a desperate and probably fatal effort to relieve the blistering pain. As Alexander watched his men retreat from the mole amid shouts of victory and derision from the defenders above, he is said to have for the first time contemplated leaving a garrison in Old Tyre and abandoning the siege altogether.

The Tyrians were heartened enough by the successful repulse to risk an attack of their own. A raiding party of 13 ships, led by handpicked captains and crews, slipped out of the north harbor and attacked a group of Cypriot blockaders, sinking many and casting others to founder. The attack, though courageous, stood no chance of real success. Seeing his opportunity, Alexander immediately hopped on his flagship and personally led his fleet in a counterattack. Being badly outnumbered, most of the Tyrian raiders were quickly sunk with only a small group of badly damaged vessels managing to reach the safety of the harbor. Now once again enjoying the initiative, Alexander launched a furious all-out assault on all sides of the city. Though the attackers were still unable to penetrate the northern harbor, a small breach was made in the walls at the city's southern end along a promontory nicknamed the "Island of

Hercules." As Alexander's men poured into the hole, the exhausted defenders once again drove them back with a ferocious hail of arrows and projectiles. It was a meaningless victory. The wall had been breached and the soft underbelly of the city's defenses had been exposed. The end result was now inevitable.

On July 28, after giving his men three days to rest and prepare for what both sides must have known would be the final decisive encounter of the siege, Alexander launched his assault. An assortment of siege craft pummeled the breach, reducing it to rubble while transports filled with men watched with anxious anticipation. At the same time, the attacking fleet made an assault on both the city's harbors, putting an impossible strain on the defenders' remaining resources. With the breach widened beyond repair, the order was given for the transports to lower their gangways. Spearheaded by the elite guards brigade, Alexander's men poured into the breach where they were once again met with a storm of arrows and projectiles. When the defenders had exhausted their quivers, the fighting degenerated into a brutal hand-to-hand struggle in which Admetus, the leader of the assault, was run through with a spear. Seeing his men falter at this gruesome sight, Alexander, who was in one of the troopships, now personally led a followup assault. As his men stormed the enemy battlements, they could hear great shouts of joy coming from both harbors—the attacking ships had at last broken through. With their battlements in enemy hands and yet more attackers pouring into the city from both the north and the south, the Tyrians withdrew into the city center for one last stand.

In the seven months since Alexander had been rebuffed by the Tyrian emissaries, his men had endured all manner of toil and suffering from angry seas to burning sand. Having at last come to grips with their tormenters, the resulting carnage was predictably ferocious. Like maddened dogs, the Macedonians rampaged through the streets killing men, women, and children alike with remorseless enjoyment. The city's rich houses, temples, and palaces, built by centuries of mercantile wealth, were systematically pillaged, desecrated, and razed. Those women who had bravely determined to remain by their husbands' sides rather than leave for the safety of Carthage, were ingloriously raped and murdered, while their children, if not slaughtered outright, were herded off for sale into slavery. So great was the destruction that the Sidonians, disgusted by the wanton killing of their fellow Phoenicians, covertly smuggled as many as 15,000 (mostly noncombatants) away to safety. Amazingly, when the Tyrian king and a number of other nobles barricaded themselves in the temple of Melkart for a final martyr's death, Alexander ordered that they be spared. The rest of the populace was not as lucky. Of the surviving garrison, 2,000 were crucified along the city's battered walls. A further 30,000 surviving citizens were sold into slavery.

Following the storming of the city, Alexander strode into the temple of Melkart and made his long-delayed sacrifice to Hercules. Gymnastic games and a great torch race were held to honor the deity and celebrate the victory. A lavish funeral was also held for the Macedonian dead, which after seven long months of continual fighting must have been numerous. His pride soothed and Darius's naval power permanently crippled, Alexander packed up his army and began the long march down the coastal road to Egypt and yet more glories. Over the centuries, the mole he built has been naturally expanded by coastal sediment and continues to connect the two sections of Tyre to this day. It is a lasting reminder of the scope of Alexander's ingenuity and an affirmation of his famous quote: "There is nothing impossible to him who will try." □

A medieval manuscript, while lacking realism, portrays the final stage of the siege when Alexander's mercenary navy ferried his soldiers to the city.

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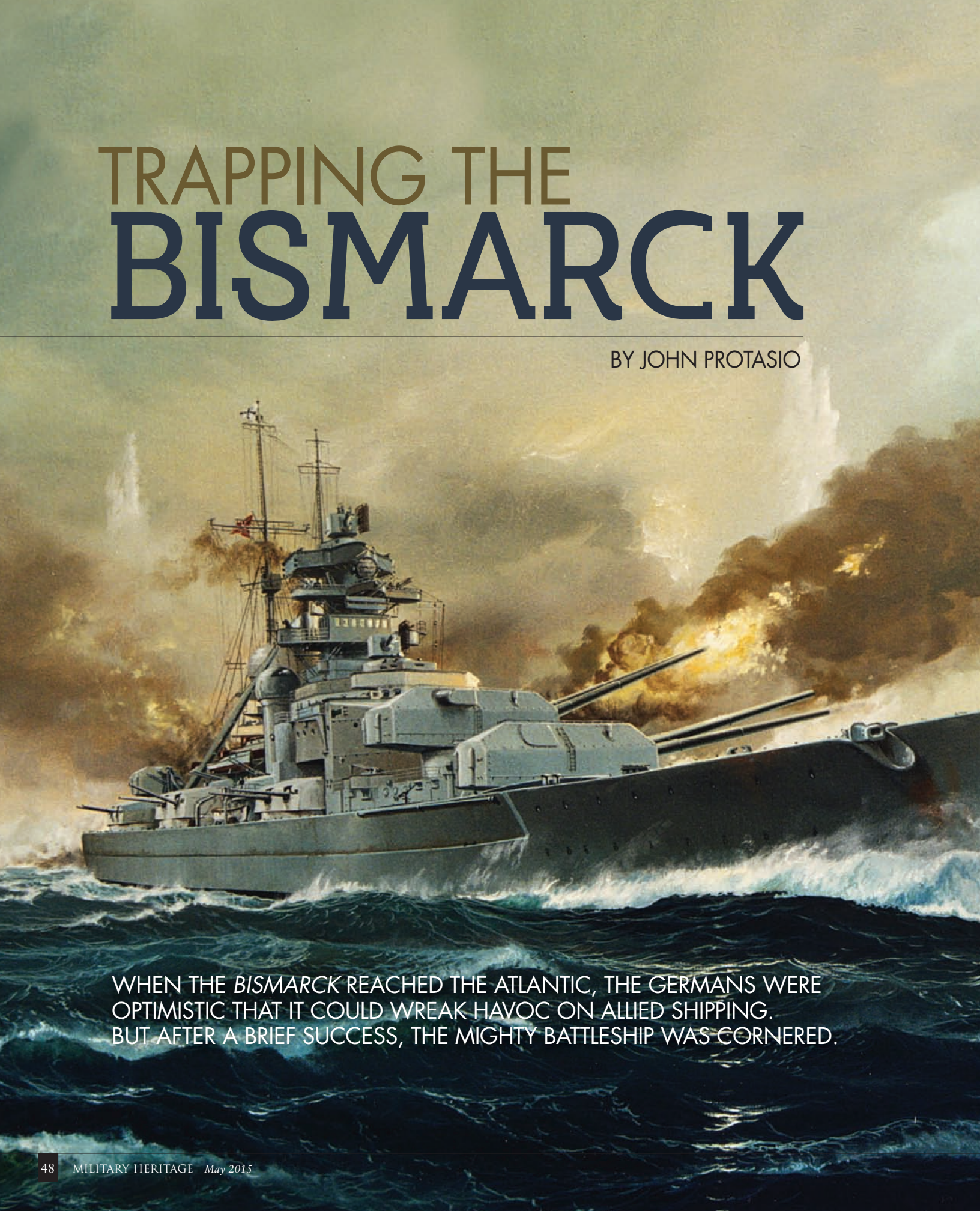
TRAPPING THE BISMARCK

BY JOHN PROTASIO



WHEN THE *BISMARCK* REACHED THE ATLANTIC, THE GERMANS WERE OPTIMISTIC THAT IT COULD WREAK HAVOC ON ALLIED SHIPPING. BUT AFTER A BRIEF SUCCESS, THE MIGHTY BATTLESHIP WAS CORNERED.

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Baron Burkhard von Mullenheim-Rechberg's life was in danger. An officer aboard the German battleship *Bismarck,* Mullenheim-Rechberg was at his station as his ship was trading salvos with several British warships. The young officer was able to make out two enemy battleships through his director. He felt his ship vibrate as she was hit by British shells.

The date was May 27, 1941. The place was the North Atlantic. Mullenheim-Rechberg's ship was heading to St. Nazaire on the Atlantic coast for repairs. She was damaged earlier in a battle with British warships. At 8:30 AM Mullenheim-Rechberg heard the alarm bells go off and rushed to his battle station along with hundreds of other sailors and officers.

At 9 AM the battle had been raging for half an hour. Suddenly a shell landed near Mullenheim-Rechberg's station. His director was shattered, and he was unable to locate the targets. Mullenheim-Rechberg and his men were lucky—if the shell landed a couple of meters lower they might very well have been killed.

Soon Mullenheim-Rechberg and his men were forced to abandon their stations. The German officer went near a gun turret where he found several men huddled together. "There's still time," he said. "We're sinking slowly The sea is running high and we'll have to swim a long time, so it's best we jump as late as possible. I'll tell you when."

The vessel Mullenheim-Rechberg was about to abandon was Germany's most powerful warship. Laid on July 1, 1936, and launched on February 14, 1939, the *Bismarck* joined the fleet in 1940. By this time World War II already had begun. When Kapitanleutant Mullenheim-Rechberg first saw her he was awed. "[I believed] she would be able to rise to any challenge, and that it would be a long time before she met her match," he wrote.

The young officer had good reason to be impressed. The *Bismarck* measured more than 800 feet in length, displaced 45,950 metric tons, and had a full-load displacement of 50,955.7 tons. In some parts of the *Bismarck,* the armor ran 320mm thick. She was divided into 22 watertight compartments. Originally the *Bismarck* was intended to have 138 horsepower driving her at a speed of 29 knots, but this was increased to 150,000 horsepower, giving the warship a speed of a little over 30 knots.

The *Bismarck* had tremendous firepower. The main armament consisted of eight 38cm guns in four twin turrets, two fore and two aft. The secondary armament was 12 15cm guns in six double turrets. Taking into account of the possibility of aircraft attack, the *Bismarck* had several anti-aircraft guns ranging in size from 10.5cm to 3.7cm.

The standard crew numbered 103 officers and 1,962 enlisted men, but additional crew and non-combatants, such as war correspondents, for the pending mission totaled about 2,200 men. To lead these men, the German naval high command selected Captain Ernst Lindemann. Born in Altenkirchen in the Rhineland in 1894, Lindemann joined the Imperial German Navy in 1913. Because of his physical weakness, he was accepted on probation. Yet during his training Lindemann applied himself and was able to pass his early training. The following year he attended Murwik Naval School but the outbreak of World War I resulted in his not finishing his schooling; instead, Lindemann was given sea duty. After the war Lindemann immersed himself with the details of gunnery and became one of the best authorities on the subject in the German Navy. In the spring of 1940 he was given command of the *Bismarck*.

In May 1941 the German high command decided to dispatch the *Bismarck* and the cruiser *Prinz Eugen* to the Atlantic Ocean to raid Allied commerce. The fleet commander who was to lead these two vessels was Admiral Gunther Lutjens. At the age of 51, Lutjens had many years of experience. He joined the German Navy in 1907 and graduated 20th in his class of 160 cadets. Lutjens soon was given the responsibility to train officer cadets. During World War I he served in torpedo flotillas. By the end of that conflict he was commanding officer and half-flotilla leader of the Flanders Torpedo Boat Flotilla.

After the war Lutjens commanded torpedo flotillas and served on the Naval Staff. When World War II began he was vice admiral in charge of reconnaissance forces in the North Sea. During the invasion of Norway in April 1940 he led the covering naval forces. A few months later, Lutjens was promoted to admiral and given command of the fleet. During the late winter of 1941 he did significant damage to British shipping with his flagship *Gneisenau* and *Scharnhorst*.

The *Bismarck* departed from Gdynia on May 19, 1940, and was joined by *Prinz Eugen,* which had departed the previous day. The battleship and her companion arrived at Fjorangerfjord, Norway, where Lutjens received reports that German air reconnaissance detected no

The *Bismarck* had tremendous firepower. She is shown firing her four double 15-inch guns in a modern painting.

National Archives

Imperial War Museum

TOP A view of the *Bismarck* from the stern. BOTTOM HMS *Hood* did not have as thick or extensive armor the Bismarck putting her at a decisive disadvantage in the Battle of the Denmark Strait.

enemy ships in the area. This convinced the admiral that the British fleet was at anchor at Scapa Flow. Lutjens was also under the impression that it would be safe for him to go out through the Denmark Strait. Thus, he was more determined to carry out Exercise Rhine, which called for *Bismarck* to destroy Allied merchant ships.

Unfortunately for Lutjens and the Germans, British air reconnaissance spotted the *Bismarck* and her company. The pilots reported two large warships were escorting 11 merchant ships northward in the Kattegat. The intelligence was passed to Commander-in-Chief of the Home Fleet Sir John Tovey.

Tovey and his staff believed one of the large warships might be the *Bismarck*; if so, the other naval vessel probably was not a battleship for the battle cruisers *Gneisenau* and *Scharnhorst* were known to be at Brest and *Tirpitz* was not ready for sea duty. Tovey concluded that the other ship must be either a pocket battleship or a Hipper-class cruiser.

The British admiral considered the enemy battleship's intentions. It could be that the German warships were merely escorting the merchant ships to Norway, or that they were preparing to cover an invasion or attack on Iceland or the Faroe Islands, or that they intend to break out in the Atlantic and conduct commerce raids. He decided that the most likely of the more dangerous possibilities was that the two German battleships intended to escape into the North Atlantic to attack Allied shipping. He faced many problems. If one of the large enemy warships was the *Bismarck*, Tovey had only two battleships, his flagship, *King George V,* and the *Prince of Wales,* to deal with her. Also available were the battle cruisers *Hood* and *Repulse* and one aircraft carrier, the *Victorious*.

Tovey decided to split his forces up to watch all possible courses the *Bismarck* might take. The *Hood,* with Vice-Admiral L.E. Holland aboard, along with *Prince of Wales,* would patrol near the Denmark Strait. Tovey in his flagship *King George V, Repulse,* and *Victorious* would guard the passages from the Faroes southward. Tovey also ordered reconnaissance flights to confirm that the ship spotted in the Norwegian fjord was indeed the *Bismarck*. If so, the aircraft were to track her movements once she left harbor.

This last order was difficult because the weather was uncooperative. Yet on the afternoon of May 21, a pilot photographed what he took to be two cruisers in Grimstad Fiord just south of Bergen. Upon examining these photographs it was determined that one of the ships was the *Bismarck*.

Armed with this knowledge, Tovey was faced with a difficult decision. If he waited in harbor until the German battleship left Norway, he might miss an opportunity to sink her and she would be able to break away in the Atlantic. Yet if he set sail it might be days before the *Bismarck* departed. The British ships would exhaust their fuel and be forced to return to base, leaving the enemy an opportunity to escape. In the end the admiral decided to send Holland's force out to sea; he would wait until he heard further reports. Further reports soon came in. Late in the afternoon of May 22, a British reconnaissance plane spotted *Bismarck* out of the harbor. That evening Tovey led his forces out to sea.

In the mistaken belief that the British warships were at Scapa Flow, Lutjens decided to pass through the Denmark Strait. He was ignorant of the fact that Holland was in the area and two cruisers, the *Suffolk* and the *Norfolk,* the latter of which was Rear-Admiral W.F. Wake-Walker's flagship, also were covering the Denmark Strait.

During the evening of May 23, Captain R.M. Ellis was on the bridge of the *Suffolk* when he heard a seaman call out that there was a ship in sight. A few seconds later the seaman corrected his report to two ships. Ellis and the bridge crew rushed out and saw what they knew was the *Bismarck* and another warship.

Ellis realized his ship, a cruiser, was no match for a battleship such as *Bismarck*. Instead of attacking the enemy ship, Ellis's duty was to shadow the battleship and report her movements to Tovey. The mist would hide him, but this meant keeping the enemy in sight would be difficult. Fortunately, his ship was equipped with a radar set, and therefore he could keep in

contact with this device. Ellis sent a radio message informing his superiors that he had sighted the enemy. Meanwhile, *Bismarck*'s radar and hydrophones picked up the *Suffolk*. Lutjens gave the order to prepare to fire upon her.

An hour later the *Norfolk* came on the scene. Again *Bismarck*'s radar detected the presence of a ship. Lindemann informed the crew with the loud speakers, "Enemy in sight to port, our ship accepts battle." The German battleship opened fire. The first few salvos resulted in straddles. Some splinters hit the *Norfolk* but the cruiser ducked into the fog. She then came out and along with *Suffolk* kept a discrete distance. The message, "Enemy cruisers are sticking to our course in order to maintain contact" was circulated to nearby British naval forces.

Word that the *Bismarck* and her companion were making for the Denmark Strait reached Holland aboard the *Hood*. He calculated where the enemy ships would be and turned his ships to that position. Holland increased speed to 27 knots. The admiral concluded he would make contact with the German ships at around 1:40 PM the following day. Holland ordered preparations for battle and hoisted his battle ensigns. However, it was not until shortly after 5 PM on May 24 that Holland's lookouts spotted *Bismarck* and *Prinz Eugen*. Holland ordered his ships to close in on the enemy.

This would be one of the most dramatic naval encounters of the war. The greatest capital ships of both sides would square off. The *Hood*'s keel was laid down during the later part of World War I. She was not completed until after that war. This battle cruiser displaced 41,200 tons and had four screws. She had a speed of 32.1 knots and was armed with eight 15-inch guns. She was the pride of the Royal Navy.

Unfortunately for the British, the *Hood* had defects with her design. A battle cruiser, the ship did not have as thick or extensive armor as a battleship like the *Bismarck*. This would soon become evident.

Earlier Holland had sent his destroyers to the north in the event that the enemy might try to escape in that direction. These destroyers were still patrolling in the north when *Bismarck* was sighted. Why the admiral did not recall them when it became evident the German battleship did not alter course is not known. Perhaps Holland feared the enemy would turn to port when the *Hood* was sighted.

At 4:30 PM the crew of *Prince of Wales* prepared to launch a Supermarine Walrus airplane to conduct reconnaissance. Unfortunately for the crew, ocean spray had contaminated the airplane's fuel. The crew was still trying to clear the fuel supply when it became evident that action would break out before they could launch the plane. Since the airplane posed a fire hazard, the crew jettisoned it.

Aboard the *Bismarck,* the lookouts spotted smoke to the south. Soon the British ships were sighted. The lookouts mistook them for heavy cruisers and Lutjens based his first few decisions at this time on this erroneous assumption.

When the British lookouts saw the enemy, men sprang to life. Orders were issued on both ships to prepare to fire. Holland knew *Prince of Wales* was not prepared to engage the enemy. One of her forward guns was defective and could only fire one salvo. It was Holland's intention to close in on the enemy ships and then turn to open fire with their broadsides. Yet this meant that during the first few minutes of the battle the two British capital ships could bear only their forward guns on the German ships. They were to concentrate on *Bismarck* and leave *Prinz Eugen* to *Suffolk* and *Norfolk*.

As *Hood* and *Prince of Wales* closed in on the German warships, Lutjens now realized these ships were not cruisers but capital ships. He mistook the *Prince of Wales* for the *King George V.* Likewise, Holland erroneously thought the *Prinz Eugen* was the *Bismarck*. Holland was confused by the similarity of design and the distance between the ships.

WORD THAT THE *BISMARCK* AND HER COMPANION WERE MAKING FOR THE DENMARK STRAIT REACHED HOLLAND ABOARD THE *HOOD*. HE CALCULATED WHERE THE ENEMY SHIPS WOULD BE AND TURNED HIS SHIPS TO THAT POSITION.

The battleship HMS *Renown* was one of many British ships called to assist in the search for the *Bismarck*.

National Archives

Aboard *Bismarck* battle stations was sounded. Mullenheim-Rechberg reported to his station. Through his director he saw the British ships come into view. At 5:52 PM *Hood* opened fire. *Prince of Wales,* which was only a few hundred yards astern, likewise fired her enormous guns. Captain J.C. Leach of the *Prince of Wales* almost immediately realized that the ship the flagship was firing on was the wrong ship. Nelson, like Leach, disregarded his orders and focused on *Bismarck*.

The *Bismarck*'s guns remained silent at first. Mullenheim-Rechberg was in the after station wondering what was delaying the order to return fire. The ship's first gunnery officer, Adalbert Schneider, asked by phone, "Request permission to fire." He received no answer. He then said, "Enemy has opened fire." "Enemy's salvos well grouped." He once more received no reply. Once again he asked, "Request permission to fire."

For some unknown reason, Lutjens hesitated. Lindemann was frustrated. He was not about to let his ship be destroyed without engaging the enemy. "Permission to fire!" he repeated. Then, *Bismarck* opened fire on the *Hood*. *Prinz Eugen* likewise fired her guns. The latter hit the *Hood,*

starting a fire on the battle cruiser. *Hood*'s gunners had difficulty seeing their target because of the ocean spray. The two British ships continued to close the gap between them and the enemy.

Bismarck's first two salvos missed, although the second came close to the mark. At 5:55 PM Holland signaled Leach to turn to the port. As *Hood* turned she fired one last time. A split second later, the *Bismarck*'s fifth salvo hit the British battle cruiser. There was a great explosion and flames leaped from the *Hood*. Mullenheim-Rechberg heard someone shout, "She's blowing up!"

"A colossal pillar of black smoke reaching into the sky," Mullenheim-Rechberg later wrote. "Gradually, at the foot of the pillar, I made out the bow of the battle cruiser projecting upwards at an angle, a sure sign that she had broken in two."

"'Straddling!' boomed out of *Bismarck*'s loudspeaker. In naval gunnery, when one round or salvo hits beyond the target, and the next falls short, the crew member observing the progress of the firing states that it is straddling. *Bismarck*'s crew was working as quickly as possible to get the target's exact range. A hit was imminent.

"At first we could see nothing but what we saw moments later could not have been conjured up by even the wildest imagination," said an observer in *Bismarck*'s charthouse. "Suddenly the *Hood* split in two, and thousands of tons of steel were hurled into the air…. Although the range was still about 18,000 meters, the fireball that developed where the *Hood* stood seemed near enough to touch. It was so close that I shut my eyes but curiosity made me open them again a second or two later. It was like being in a hurricane. Every nerve in my body felt the pressure of the explosions."

There were few survivors. Ninety-four officers, including Holland, and 1,321 other crew members were lost. Only three men survived, Midshipman W.J. Dundas, Able Seaman R.E. Tilburn, and Ordinary Singalman A.E. Briggs. The Germans won this battle and expended only a few shells: 93 from *Bismarck* and 179 from *Prinz Eugen*.

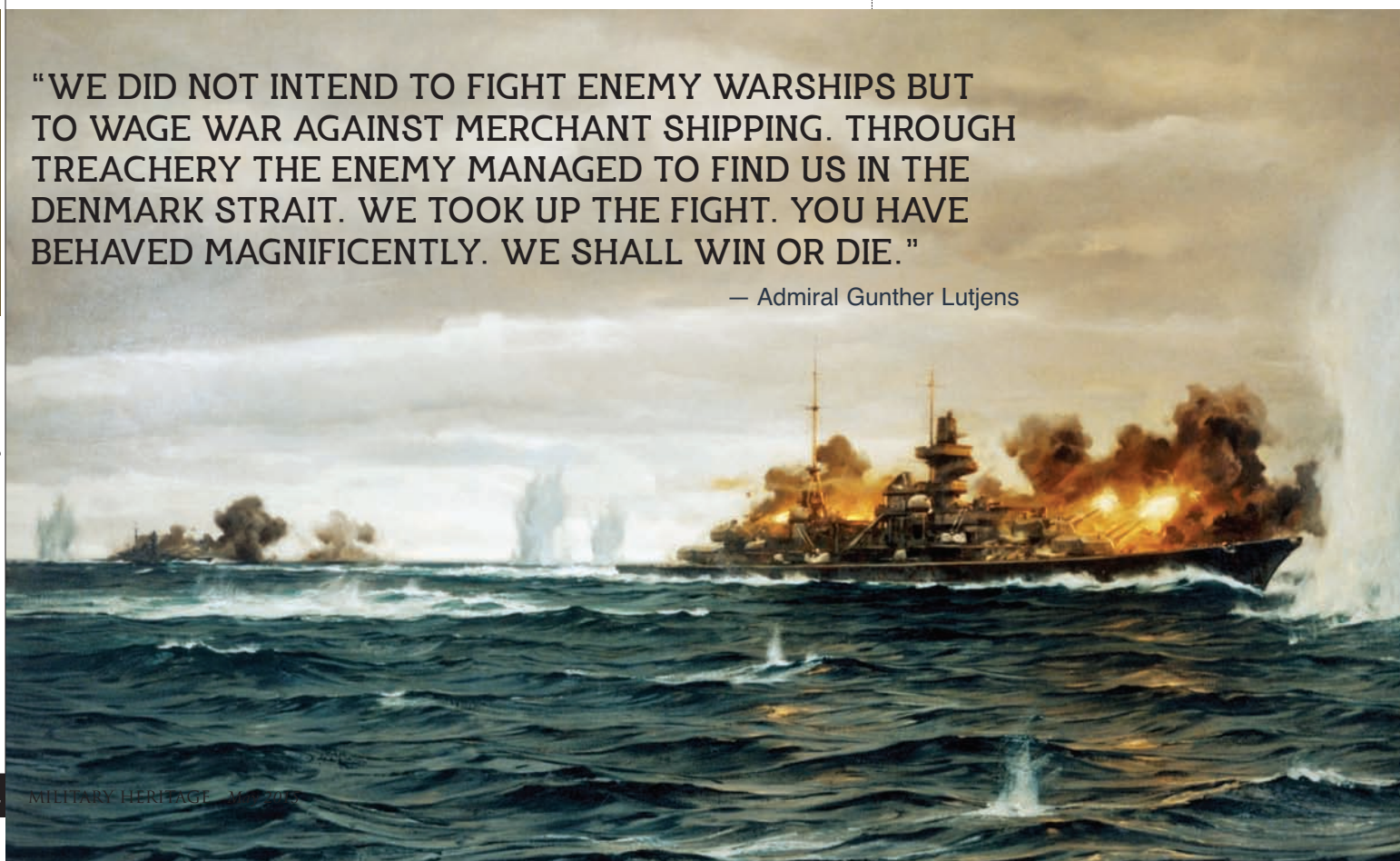
The British tried to comprehend what exactly had happened to the *Hood*. Why did Holland try to close the range when his guns could almost reach as far as the *Bismarck*? Why did he keep the *Prince of Wales* so close to him? And why did the battle cruiser blow up?

The reason most likely will never be known because Holland was lost. However, Holland might have decided to close the range so that if he were hit it would be on the sides of the ship rather than on the deck where the armor was less thick. Also, he knew that the new *Prince of Wales* was not fully prepared for battle, and this may have affected his decisions.

There is the question of why Holland was not pointing end on to the *Bismarck* as he tried to close the range. In coming closer to the enemy he would be able to fire only half his guns until he turned to give a broadside. But by steering away from the line by 30 degrees, Holland was presenting an easier target as well as limiting his fire power. The most likely reason is that this tactic was taught to officers in the Royal Navy during this era, and the admiral was following his training.

It most likely will never be known what caused the explosion that doomed the *Hood*. Obviously, her magazine exploded. Some believe it was the fire caused by *Prinz Eugen*'s hit while others think it was *Bismarck*'s fifth salvo. Either is possible. Leading up to World War I, the British built their capital ships with thinner armor than their German counterparts. As a result, the British paid dearly for this at the Battle of Jutland. Construction of the *Hood* began before the British learned this lesson. There was talk of adding armor during the interwar years, but nothing came of this partly because of the disarmament atmosphere during the 1920s and early 1930s. By the time the war broke out, the British Admiralty needed all available ships and there was no time to improve her armor.

The fault does not lie with the crew of the doomed warship. Holland took, it can be



ullstein bild / The Granger Collection, New York

argued, the rational course of action. The crew fought bravely. Mullenheim-Rechberg paid tribute to them. "I felt great respect for those men over there," he wrote. According to some observers, there was a flash of orange coming from her forward guns a split second after she blew up. *Hood* was fighting gallantly to the end.

Leach of the *Prince of Wales* knew he could not fight the two enemy warships alone. Some of his guns were not operating and he had received no fewer than seven hits. Leach decided therefore to join *Suffolk* and *Norfolk* in shadowing *Bismarck*.

The *Bismarck* was also damaged in the battle. She was hit three times by the *Prince of Wales*. None of the crew was hurt, but some of the compartments were flooded and a few of the fuel tanks were damaged. The ship's damage control crew went to work to effect repairs.

Lutjens was pleased with his ship's performance. Yet, he concluded the damage done to *Bismarck* would interfere with her carrying out Exercise Rhine. The German admiral therefore decided to make for St. Nazaire for repairs. Many wondered why he did not return to Norway by way of the south coast of Iceland to Bergen, which was 1,100 nautical miles, or Trondheim, which was 1,300 nautical miles distant. Alternatively, Lutjens could have gone back through the Denmark Strait to Trondheim, a journey of about 1,400 nautical miles.

Library of Congress

ABOVE: *Bismarck* captain Admiral Gunther Lutjens. LEFT: *Bismarck* and *Prinz Eugen* engage HMS *Hood* and HMS *Prince of Wales* during the Battle of the Denmark Strait on May 23, 1941. The *Bismarck*'s fifth salvo broke apart the *Hood*, sending her to the bottom of the ocean.

The Denmark Strait had poor visibility but despite its typical bad weather the British cruisers were able to spot him and shadow his ship.

There was the possibility that since the British had spotted the battleship they might have brought up more forces in the Denmark Strait. Also, going to St. Nazaire meant a more southerly course and more hours of darkness. Lutjens had a better chance to shake of the cruisers shadowing him in the open sea. What is more, St. Nazaire had dry docks large enough for the *Bismarck,* and once repairs were completed it would be easier for the battleship to make for the North Atlantic to resume Exercise Rhine.

Lutjens knew that his ship was making two knots slower due to the damage from the battle. To make matters worse, *Bismarck* was leaking oil, which could give her whereabouts away.

A British plane had spotted the oil track and reported to the Admiralty that *Bismarck* was losing oil. But since this plane had been fired on by *Bismarck*'s antiaircraft guns, the Admiralty believed that the pilot was saying his plane was leaking oil. Soon, however, his superiors realized it was the enemy battleship that was losing oil. This tell-tale oil slick would help the British locate the *Bismarck*.

At 6:30 PM *Bismarck* disappeared in a fog bank. Ellis observed her with his radar and noticed that she had turned back and was heading straight for his ship. Fearing an attack, Ellis turned to the port and increased speed. When the range was down to 20,000 yards, *Bismarck* came out of the mist and fired on the *Suffolk*. Ellis put up a smoke screen and retreated, firing his guns at the same time. *Prince of Wales* opened up her guns in support of *Suffolk*. After a few salvos *Bismarck* broke off her attack and headed westward.

Lutjens signaled the *Prinz Eugen,* "Intend to break contact as follows: *Bismarck* will take a westerly course during a rain squall. *Prinz Eugen* will hold course and speed until forced to change or for three hours after separating from the *Bismarck*. Then [it is] released to fuel from Belchen and Lothringen, thereafter to conduct cruiser warfare. Execute on code word *Hood*."

A few hours later Lutjens signaled, "Execute *Hood*." Thus, *Prinz Eugen* left the *Bismarck*. She later reached Brest on June 1.

By this time, Tovey was concerned that *Bismarck* might escape. He decided to slow her down with an air attack launched from the aircraft carrier *Victorious*. He asked Captain Bovell of the carrier if he could do it. Bovell replied that he could if the enemy was within 100 miles of the *Victorious,* and at the moment it was not. Bovell calculated he would be within range at 9 PM. He had hoped that *Victorious* would continue to cut down on the range after her aircraft took off so that the pilots would have a shorter distance on their return.

Unfortunately for the British, *Victorious* was not within 100 miles of *Bismarck* at 9 PM. She was 120 miles away from the German battleship. To make matters worse, the weather was not cooperating. Yet Bovell felt he could not wait much longer. So he ordered nine Swordfish torpedo planes to take off to hunt for *Bismarck*.

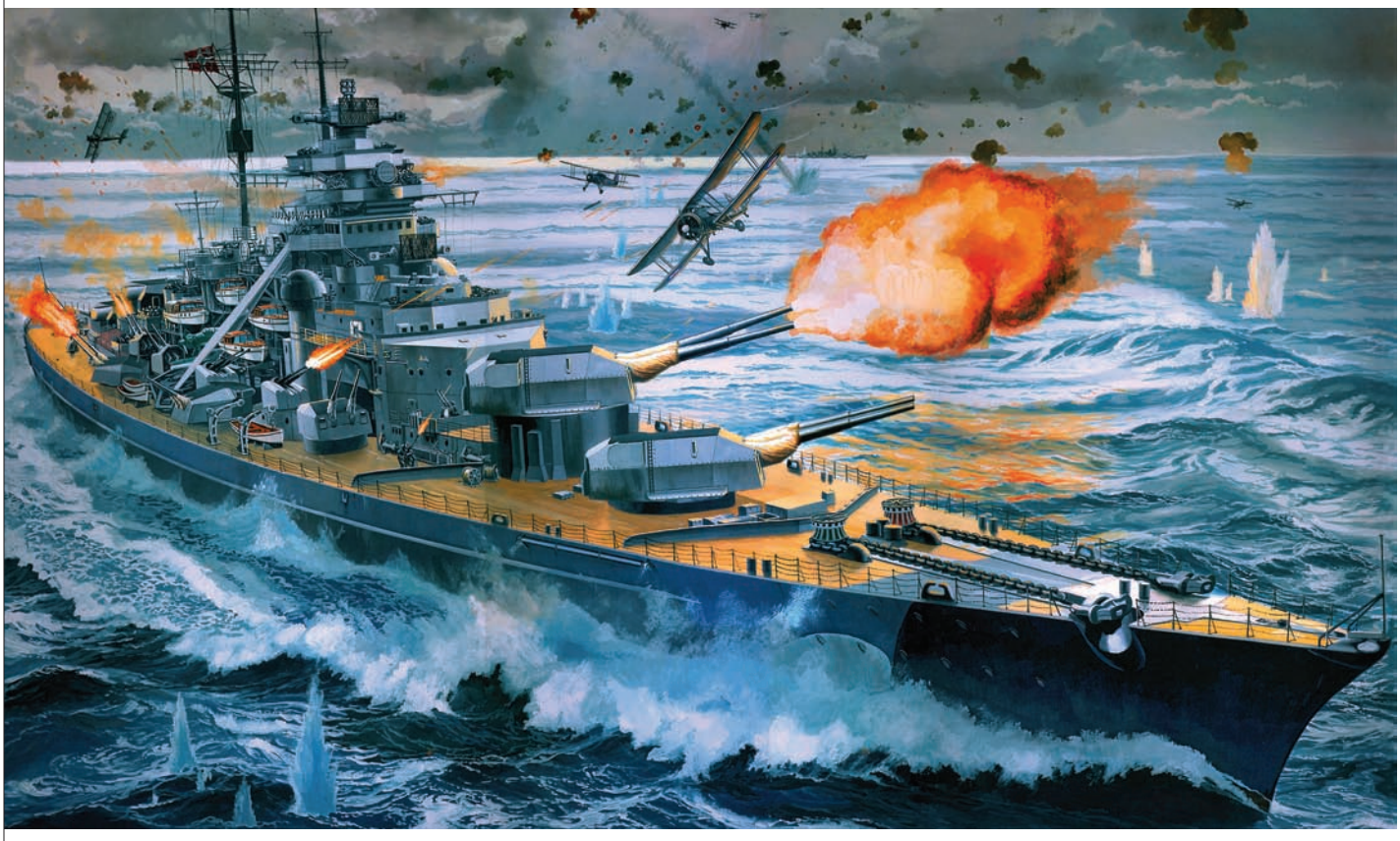
The Swordfish planes, with the use of their aircraft-to-surface-vessel radar, spotted what they took to be the enemy. When they closed in they discovered it was their own ships that were shadowing the target. *Norfolk* guided them to the proper direction.

The planes picked up an object on their radars they believed was the enemy. The Swordfish planes broke cloud cover to attack, only to discover it was not *Bismarck* but the Coast Guard cutter *Modoc* from the neutral United States.

The planes regrouped and found the *Bismarck*. They dove and began the attack. The delay involving the *Modoc* gave the crew of the *Bismarck* time to man their antiaircraft guns. The pilots of the nine torpedo planes attacked with seeming disregard to their lives. "[It was] incredible how the pilots pressed their attack with suicidal courage, as if they did not expect ever again to see a carrier," wrote Mullenheim-Rechberg.

Bismarck zigzagged to avoid the torpedoes but this was nearly impossible. The pilots dropped their torpedoes in several directions at the same time. Then there was an explosion. One of the torpedoes struck home. Mulelnheim-Rechberg looked at the speed and rudder-position indicators. To his relief the engines and rudder were intact.

The Swordfish planes then broke off their attack and returned to their carrier. *Bismarck* survived, owing largely to her thick armor belt, although one member of her crew was dead. The nine



Swordfish managed to land safely on their carrier. Given that the pilots were new and the weather was bad, it was remarkable they all returned safely and even scored a hit.

The British ships continued to shadow *Bismarck*. Reports of U-boats nearby caused the Allied ships to zigzag. On the outward leg *Suffolk* lost radar contact with the enemy battleship but soon regained it on the inward leg. When the cruiser moved inward, they had lost the *Bismarck*.

Tovey found this bit of news discouraging. He decided therefore to have the aircraft carrier *Ark Royal* launch her planes in search of the rogue warship. Several land-based aircraft also joined in the search. Thus, the crew of the *Ark Royal* prepared to launch its planes. Unlike the pilots of the *Victorious,* these naval aviators were among the most experienced in the world. Yet there were still problems. The weather and sea states made launching the planes difficult. At one point, some of the planes rolled over and nearly fell overboard. But in the end numerous Swordfish became airborne.

By this time Tovey became fearful that *Bismarck* would escape. His ships were running low on fuel and he would soon have to recall them. Luckily for him, a Catalina from the coastal command reported sighting a battleship steering southeast by east and furnished its coordinates to the Admiralty. This was later confirmed to be the *Bismarck*.

The *Ark Royal*'s Swordfish quickly made for the scene, discovered a warship that they took to be the *Bismarck*, and attacked her.

But it was not *Bismarck*; it was the cruiser *Sheffield* of the Royal Navy. Her captain, realizing the pilots had made a mistake in identity, began to zigzag at top speed. Fortunately for him some of the torpedoes from the Swordfish had been armed with magnetic pistols (the device on a torpedo that detects its target by its magnetic field and triggers the fuse for detonation), which were defective and exploded upon hitting the water. Other torpedoes did not explode, and by skill and luck the *Sheffield* managed to avoid them.

Lutjens knew that the enemy was closing in on him. "We did not intend to fight enemy warships but to wage war against merchant shipping," he told his crew. "Through treachery the enemy managed to find us in the Denmark Strait. We took up the fight. [You] have behaved magnificently. We shall win or die."

The Swordfish planes of the *Ark Royal* flew a second sortie to redeem themselves. This time their torpedoes were armed with contact pistols. At around 8 PM on May 26 they came upon the *Bismarck*. This time they were sure it was *Bismarck*. As they attacked, the German warship opened up with her antiaircraft guns.

ABOVE: *Bismarck* is shown under attack by British Fairey Swordfish torpedo biplanes from the HMS *Ark Royal* in a modern painting. One torpedo jammed its rudder, crippling the battleship by causing her to steam erratically. RIGHT: HMS *Dorsetshire* picks up *Bismarck* survivors. The heavy cruiser was one of the several British ships that finished off the *Bismarck* on May 27, 1941.

Aboard the *Bismarck*, Mullenheim-Rechberg heard an explosion aft. He became fearful as he glanced at the rudder indicator, which read "left 12 degrees." He waited for it to change but it continued to read "left 12 degrees." The young officer tried to cheer up his men at his station by saying, "We'll just have to wait. The men below will do everything they can."

But there was nothing the men below could do. *Bismarck* had been hit twice. One torpedo struck amidships but the armor belt protected the battleship from suffering much harm. But the other torpedo had struck aft and jammed the rudder hard to starboard. When reports came pouring in that the *Bismarck* was steaming erratically, Tovey could not believe his luck. He was about to withdraw his forces because of dwindling fuel. Now it seemed that he could sink the *Bismarck* after all.

By 10:30 PM, five British destroyers under the command of Captain Philip Vian came on the scene. Vian had intended to shadow the battleship and attack it if an opportunity arose. Unfortunately for Vian, the dark night and rough seas

made launching a torpedo attack difficult. Nevertheless, Vian would make the attempt.

As the British destroyers came close, *Bismarck* opened fire. The darkness made firing difficult but by spotting them on radar she was able to come close to hitting the destroyers. During the night Vian's ships fired a number of torpedoes at the *Bismarck* but it is believed none of them scored a hit. Vian then resumed shadowing the warship.

At 8:43 AM on May 27, Tovey, in his flagship *King Geroge V,* and the battleship *Rodney* sighted the crippled German vessel. Tovey knew he had to act quickly because German war planes might soon arrive. Furthermore, there was the distinct possibility that enemy submarines might be rushing to the area. He quickly closed in on the *Bismarck*.

Four minutes later, *Rodney* opened fire. *King George V* soon joined in. *Bismarck* hesitated for a couple of minutes then returned fire. Her first salvo missed but the next salvo came much closer.

A few minutes later the *Norfolk* came within 20,000 yards and assisted Tovey with her 8-inch guns. During this time the *Bismarck*'s main fire control position was knocked out of action. From then on the German battleship's fire became erratic.

Tovey turned to the south. A few minutes later the cruiser *Dorsetshire* arrived. She fired on the dying enemy vessel at the range of 20,000 yards. The range dropped to 12,000 yards and the *Rodney* employed her secondary armament.

By 10:00 AM the *Bismarck* was still afloat, to Tovey's surprise. He decided to fire on her at a reduced range. "Get closer, get closer," he said. "I can't see enough hits." At that point, *Rodney* and *Norfolk* launched torpedoes, some of which hit *Bismarck*.

Imperial War Museum

A short time later, Tovey decided he could not stay any longer. German planes and submarines might soon come to this area. Consequently, he ordered his ships to withdraw. Any vessels with torpedoes left were to fire them at the dying battleship. *Dorsetshire* fired two torpedoes, one of which exploded right under the bridge.

Aboard the *Bismarck*, Mullenheim-Rechberg was with crew near a turret. He decided to abandon ship. "It's that time," he told the men by the turret. "Inflate your life jackets, prepare to jump." The men were about to jump when Mullenheim-Rechberg shouted, "A salute to our fallen comrades." They all saluted the flag and then leaped overboard.

Slowly the *Bismarck* heeled over to the port and capsized. Then at 10:40 AM on May 27, 1941, she sank. Like the *Hood,* the *Bismarck*, the pride of the German Navy, went down fighting gallantly.

In the water, Mullenheim-Rechberg was surprised the cold water did not disturb him greatly. He was troubled, however, by the scent of the fuel oil floating on the surface. The young officer was picked up by the *Dorsetshire*. In all, 110 men were picked up by British ships. The remaining 2,090 men on the *Bismarck* were lost, including Lindemann and Lutjens.

"The sinking of the *Bismarck* may have an effect on the war as a whole out of all proportion to the loss of the enemy of one battleship," wrote Tovey. The destruction of this battleship was important for the British war effort. Britain already was suffering substantial shortages of food and war materials because German U-boats were sinking her merchant ships at an alarming rate. Had the *Bismarck* been able to escape into the North Atlantic, she and the *Prinz Eugen* might have wreaked havoc on convoys heading to the United Kingdom.

German naval personnel participating in Exercise Rhine performed bravely, but it takes more than courage to win a battle. Many Germans blamed Lutjens for not returning to Germany after sinking the H*ood*. However, his mission was to sink merchant ships and he may have believed he should carry out his orders. The German admiral may have believed that with the loss of the *Hood* there was no available enemy force sufficient to stop him from going to Brest or St. Nazaire for repairs. Lutjens ran the risk of air attack but he would also face this threat going back through the Denmark Strait or running down Norway going back to Germany.

One mistake the Germans made was to use their battleships piecemeal against Allied convoys. Perhaps instead of sending their battleships out alone or in pairs, they should have sent *Bismarck, Scharhorst, Gneisenau,* and *Tirpitz* (*Tirpitz* was ready for sea duty a few months after *Bismarck* was sunk) all in one group. It would have been difficult for the Royal Navy to deal with all four of them at once.

The naval campaign demonstrated the importance of air power in a modern naval battle. It was aircraft that first sighted the German battleship in anchorage in Norway and then later when she gave *Suffolk* the slip after the loss of the *Hood*. It was carrier-based planes that gave the *Bismarck* her fatal wound.

Although the future belonged to the aircraft carrier, there were some problems. The weather interfered with the air attacks delivered by the *Victorious* and *Ark Royal*. Also with her aircraft away on a sortie, the *Ark Royal* was vulnerable to an attack had the *Prinz Eugen* found her at this crucial time.

Although the era when battleships ruled the waves came to an end during this conflict, they were still important. Although ultimately the Swordfish planes inflicted the fatal wound, they would not have had the opportunity to do so had it not been for the damage done by the *Prince of Wales*. The hits from this warship damaged the *Bismarck* to the point that Lutjens decided to head for port for repairs. This brought the battleship within range of *Ark Royal*'s planes. Also, the hits from the *Prince of Wales* resulted in the oil leak that enabled the British to track their prey. Finally, it was Tovey's battleships that reduced the magnificent German battleship to shambles.

The episode also revealed the importance of radar in modern war. *Suffolk* was able to shadow the *Bismarck* during much of this time with her radar. *Bismarck* was able to locate and fire on Vian's destroyers

A key problem the British faced during their efforts to locate and destroy the *Bismarck* was fuel. Tovey's ships were low on fuel and were about to turn back until they discovered the German battleship was steaming erratically due to the torpedo hit in her rudder. The Royal Navy at this time had not developed the ability to refuel at sea with tankers.

Thus ended the story of the *Bismarck*. The pursuit and destruction of the battleship was one of the most dramatic and important episodes of the World War II. □

The United Irishmen's inability to meet the British Army on anywhere near equal terms doomed them from the outset. When the rebels made their stand on June 21, 1798, the outcome was never in doubt.

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British Captain Henry Evatt lies mortally wounded at the Battle of Ballynahinch, which was fought nine days before the clash at Vinegar Hill. The United Irishmen Rebellion erupted in isolated locations that allowed the British to systematically crush it. ABOVE: British soldiers flog a suspected rebel.

AN ARMY OF REDCOAT REGULARS AND MILITIA gazed up the contours of Vinegar Hill in County Wexford, Ireland. What seemed to be new forest growth bristled from the green slopes of the hill. The "trees" of Vinegar Hill were pikes, long ash-wood handles tipped with deadly iron points. Arrayed on the hill was an insurgent army of 20,000, so new that nine-tenths of them were armed with pikes instead of firearms. Whether wielding firelocks or pikes, the Irish patriots on the hill on the morning of June 21, 1798, were confident and surging in numbers. If they could hold out until promised help from France reached them, it could mean the fulfillment of a centuries-old dream: an independent Ireland.

Ireland was ablaze with rebellion in mid-1798. Centuries of oppression by English rulers in London and native aristocrats allied with the British had long sparked hopes of Irish independence. Embroiled in a war with revolutionary France, Great Britain was hard pressed to fight wars in Europe, its vast worldwide network of colonies, and on the seas. Acting with Irish patriots, the landing of a trained and well-armed force of French regulars could furnish the nucleus of an Irish army. Perhaps an Irish George Washington would lead another revolutionary army to victory at another Yorktown.

The United Society of Irishmen was formed in Belfast in October 1791. Inspired by the ideals of the American Revolution, and the hope generated by the beginning of the French Revolu-

Bridgeman Art Library

massacre at VINEGAR HILL

BY DAVID A. NORRIS

tion, its members sought independence for Ireland. The society's original rolls drew many members from the middle class and some from the aristocracy. Catholics, Protestants from the established Church of Ireland and members of dissenting churches such as the Presbyterians joined together in the cause. The authorities in Dublin Castle, the headquarters of British rule in Ireland, were instantly suspicious of the group. In 1793 war broke out between Britain and France, and the society's embrace of French revolutionary ideas soon got it outlawed.

Working within the political system now seemed pointless. Driven underground, the United Irishmen altered their strategy to armed rebellion. Intervention from France seemed the only road to success. Plans were set to coordinate a rising with the arrival of 14,000 soldiers from France in December 1796. The fleet set sail for Ireland, but storms forced the French troopships back to port.

Leaders of the United Irishmen continued to arrange for a new French invasion force. Throughout Ireland, members of the society hoarded muskets and ammunition to await the time to use them. In the country, thousands of pikes were secretly manufactured and hidden. Miles Byrne, a young County Wexford farmer who joined the United Irishmen, thought that nearly every blacksmith in his part of Ireland was with them. Blacksmiths produced great stockpiles of iron pike blades. Oddly enough, it was getting the handles that caused trouble. Numerous young ash trees disappeared, cut down to make the handles, and this aroused suspicion among the authorities.

As the movement grew, spies infiltrated the ranks of the United Irishmen. Their ties with France alienated many of their original supporters. Other formerly faithful revolutionaries came to fear the widespread violence that would sweep Ireland if there was another revolt, and they became informers.

Martial law was declared in Ireland on March 30, 1798. The Crown arrested several top officials of the United Irishmen. Lord Edward Fitzgerald, a prominent revolutionary leader, was

fatally shot while resisting arrest in Dublin. Throughout the island, regular troops, infantry militia, and mounted militiamen, called yeomen, raked the countryside searching for suspected rebels and caches of weapons. Soldiers on this duty lived at "free quarters," meaning they could force civilians to lodge them in their homes and could take whatever food and supplies they needed from the local population. Such broad latitude led to widespread looting.

Regular troops were strict in their searches for rebels, but their officers generally limited their excesses. Militia and yeoman units were much more harsh and vengeful. Suspected revolutionaries were arrested and flogged to extract information and implicate others. Worse were tortures such as "half-hanging" and "pitch-capping." The latter was a matter of soldiers pouring pitch on the top of a victim's head and setting it on fire. Despite the crackdown, or perhaps because of it, the remaining leaders of the United Irishmen decided to go ahead with another uprising without waiting for soldiers from France.

On May 23, 1798, parties of United Irishmen set out to seize the mail coaches leaving Dublin, and others were to start taking over the city. These acts signaled sympathizers across the island to begin a nationwide rebellion. The uprising unfolded in a sketchy and haphazard fashion. Most of the mail coaches escaped. With tip-offs from spies, the authorities quickly squelched most of the rebel activity around Dublin and the neighboring counties of Meath and Kildare. A rising in Down and Antrim, in the north, did not begin until a few days later and it was quickly put down.

When the militia was called out to quell civil disturbances in Ireland, the Crown relied on units brought in from other counties to lessen any sympathy felt for the locals. Among the officers sent to County Wexford was Lt. Col. Richard Foote [also spelled Foott], who commanded a detachment of the North Cork Militia composed of men who lived roughly 100 miles away from Wexford. After leaving their quarters in Dublin and coming to Wexford, Foote and the other militia officers arrested or tortured numerous civilians and burned scores of homes in farms and villages.

By May 26, far from preventing a revolt in County Wexford, the militia's harsh tactics provoked open rebellion. Mostly armed with pitchforks and scythes, scores of local farmers attacked a patrol of yeomen. Two of the horsemen were killed and the rest fled.

On May 27 Foote neared Oulart Hill in Wexford. About 20 yeomen rode with more than 100 foot soldiers. They neared a force of several hundred countrymen, led by a local priest, Father John Murphy.

A native of the area, Murphy traveled to Seville, Spain, to study for the priesthood. Returning to Ireland, he became the curate at the village of Boolavogue. Murphy had previously been a voice of moderation, swearing allegiance to the Crown and discouraging notions of rebellion. But, his peaceful convictions were overwhelmed by the suffering of his parishioners and the sight of the militia burning his parish church. Men from the surrounding countryside assembled at Oulart Hill to strike back. Most carried pikes, scythes, or pitchforks, but a few dozen of them had firelocks. Murphy's education and his standing in the community evidently made the farmers choose him as their leader.

Although heavily outnumbered, the militia's second in command, Major James Lombard, impulsively ordered the men to charge. The ditches and hedges that enclosed many small fields in the area provided cover for ambushers and limited the view of the soldiers. Rushing toward the assembled farmers, they were surprised when the rebels' hidden gunmen stood and fired a heavy volley from their muskets, blunderbusses, and fowling pieces. Few of Foote's part-time soldiers had ever endured a volley of such hostile fire. Their ranks cut up by the enfilade fire, the militia broke and ran.

As the soldiers fled, a young militia musician fell wounded and called out for help. A Lieutenant Ware of the North Corks, escaping on his horse, stopped to help him. Ware tried to lift the boy onto his horse, but before he could do so, he was slain by a pikeman.

While the mounted yeomen bolted from the field and escaped, almost every man of the foot militia was run down and shot or hacked to death. Scattered for about one mile from the line where the first soldiers fell, about 100 enlisted men and six officers were left dead on the field. Only Foote, mounted on a fast horse, one sergeant, and three privates survived to give the alarm in Wexford town. The insurgents lost only six men.

To an army equipped with pitchforks and pikes, the capture of more than 100 muskets from the battlefield was an invaluable prize. A local loyalist noted that the insurgents also captured "about 57 rounds of ball-cartridges per man, they not having fired above three or four rounds when they attempted to charge them with bayonets."

With Father Murphy as one of their leaders, the growing army of rebels set their sights on the town of Enniscorthy. Situated on the River Slaney, Enniscorthy is about 12 miles upstream from where the river reaches the town of Wexford and flows into the Irish Sea. Built by the Normans, Enniscorthy Castle rose above the town. A stone bridge spanned the Slaney.

On May 29, Father Murphy's army attacked the town's 300-man garrison. Although the insurgents greatly outnumbered the soldiers, most of the attackers were still armed only with pikes. The rebels used a simple but effective tactic to compensate for their lack of firearms. They gathered a herd of cattle and horses. Goading the animals with their pikes, they stampeded the herds toward the soldiers and broke up their formations. After heavy fighting that saw much of Enniscorthy set afire, the gar-

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The signal for outlying counties to rise up in rebellion was to be the interception of mail coaches from Dublin, but when the British learned of this beforehand, the rebels changed their plans. Only the Munster-bound coach was halted. OPPOSITE: Victorious rebels use pikes to impale a British yeoman drummer at the Battle of Oulart Hill fought May 27, 1798, in County Wexford. While the mounted yeomen bolted from the field and escaped, almost every one of the foot militia was run down and shot or hacked to death.

rison was driven out and retreated to Wexford. Rebel losses were unknown, but the militia of the garrison lost four officers and 71 enlisted men dead.

Political divisions in 1790s Ireland were not altogether simple and clear-cut. The majority of Ireland's inhabitants were Catholic, and laws restricted their political and civic rights. Only in 1778 could they own and bequeath property. By 1793 Catholics could practice law, hold ranks up to colonel in the army in Ireland (but not outside of it), and, with sufficient property, vote.

But the Rebellion of 1798 was not a simple Catholic-Protestant clash. Many of the British regular troops actually were Irish who found that military service offered careers and security. Although Protestants dominated the militia, there were many Catholic soldiers on their rolls. Dozens of the rank and file of the militia killed at Oulart Hill were Catholic. Although the rebellion was in part an Irish Catholic uprising, many of its leaders were Protestant landowners, barristers, and other men of prominence. Much of the Presbyterian population of the north of the island heartily supported the rebellion.

Lieutenant General Gerard Lake commanded the British forces in Ireland. Born in 1744, Lake served in the Seven Years' War, was captured at Yorktown in 1781, and fought on the Continent against the revolutionary French. He was also a close friend of the Prince of Wales, the future George IV. Although Lake was a heavy gambler, he was one of the steadier members of the prince's rather disreputable social circle.

Lake oversaw the quick putdown of the rebellion in Kildare and then turned to the growing outbreak in Wexford. His forces included some regular infantry and dragoon regiments, as well as a large portion of part-time or reserve troops, including militia and yeomanry. Among them were militiamen from England, Wales, and Scotland as well as Ireland.

Yeomanry, a term then used for cavalry militia, harkened back to the Middle Ages when yeomen were a class of free farmers. New regiments of yeomanry were raised in the face of threats of a French invasion in the 1790s. They had some latitude in choosing their own officers and could not be sent abroad without their consent.

A 1798 manual, *Instructions for the Armed Yeomanry,* offers some interesting glimpses into the troubles of commanding these amateur troops. Each yeoman "should take care that no young or idle visitor draw and hack his Sword in play; as its neat and proper edge is most necessary in Service." They were

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Assembling, organizing, and training a new army takes time, which was something the rebels did not have. Previous military experience was also in short supply. Some valuable training came from men who had served in the yeomanry.

reminded, when called up, to make it "a point of honor" to be at their assigned posts on time, as "the time is always meant to be precise, whether so expressed or not."

After taking control of Enniscorthy, the rebels of Wexford assembled their forces there. Despite the efforts of moderate leaders, harsh retribution fell upon the Protestants and loyalists who were caught in the town. The old Norman castle became a prison. Quick court-martials sentenced scores of loyalists to death. Scores were executed with pikes and thrown off the bridge into the Slaney.

Bagenal Harvey, a local landowner and lawyer, had long been a member of the United Irishmen. Arrested and jailed by the crown in Wexford on May 26, he was freed when the town fell on May 30. The rebels appointed Harvey as their commander.

After Enniscorthy, the rebels moved against the town of Wexford. After they smashed a small British column trying to reinforce Wexford on May 29, the town surrendered the next day. By then most of the county had been taken from royal control.

The insurgents split into three separate wings and attacked other royal garrisons. At Tuberneering on June 4, the rebels defeated a detachment of about 750 dragoons and militia. The British commander was killed and three cannons were captured. But otherwise in early June the divided forces were defeated in battles at Bunclody (or Newtonbarry), New Ross, and Arklow. The disciplined formations and musket fire of the trained soldiers saved them. New Ross was a hard-fought battle won in part by the Crown's advantage in artillery. Taking New Ross would have opened a route for the rebels to move into Carlow and Kilkenny, to the west of County Wexford.

Bagenal Harvey resigned after the defeat at New Ross and a massacre of prisoners the same day at Scullabogue. Philip Roche, a priest who became a colonel in the rebel forces, took over as commander.

Some days before at Enniscorthy, the insurgents chose a new defensive position. Vinegar Hill rose about 400 feet above the pastures and potato fields across the river from Enniscorthy. Anthony Sinnot, a visitor to the place in 1801, described the hill in *The Gentleman's Magazine* as rising from "a gentle swell from a plain till it becomes very steep on all sides, and ends in a craggy summit crowned with the ruins of a windmill."

In early June, more executions of loyalists and Protestants were carried out on Vinegar Hill, staining its slopes and the walls of the ruined stone windmill with blood. These reprisals in turn inflamed loyalists and the British military and authorities and would lead to a more terrible cycle

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Victorious rebels in County Wexford attempted to expand the rebellion into adjacent counties by fighting their way through the streets of New Ross on the River Barrow on June 5, 1798.

of bloodshed as angry or grief-stricken people sought revenge. Moderate rebels tried, often in vain, to prevent more executions.

The ad-hoc army made camp and dug some entrenchments on the sides of the hill. Many soldiers and camp followers slept in the open, the weather being mild and pleasant. Others huddled in a colorful array of tents. Made from tablecloths, draperies, blankets, and bed curtains plundered from the town, they were stretched over arches made from bent wooden poles. A bell taken from the church in town was mounted in camp to ring as an alarm in case of attack.

Eventually an estimated 20,000 rebels and dependents were assembled at Vinegar Hill to face the redcoats. But, they were woefully short of firearms. France had promised support but did little about shipping muskets to Ireland. In the weeks leading up to the start of the rebellion on May 23, the United Irishmen collected firearms by breaking into aristocratic homes. Among the Irish forces there was many a fine shot, his aim honed by years of hunting waterfowl in County Wexford. But British officers concluded from their sources that the insurgents had only about 2,000 firearms among them. This meant that 90 percent of the troops had only pikes or other edged weapons to face British muskets and cannons.

Assembling, organizing, and training a new army takes time, which was something the rebels did not have. Previous military experience was also in short supply. Some valuable training came from men who had served in the yeomanry. Many such men had been discharged for suspected disloyalty, and others deserted to join the rebellion. Veterans instructed the recruits in military life and the handling of firelocks. There were no drummers in the new army. Officers assembled their corps by sending out their standard bearers, who marched through camp and called their men.

As to the unit structure of the rebel army, Byrne noted that the force at Vinegar Hill was divided into units referred to as corps. Each corps was composed of men from the same town or locality and so probably varied by size.

To distinguish the units, each corps had its own flag. The Monaseed Corps, named for a village in northern County Wexford, had a fine banner described by Byrne as "adorned with harps and green emblems." Some young women of their region had sewn the flag and presented it to them.

Rebels of 1798 were called "croppies" by sympathizers and enemies. The term was taken from the short hair styles worn by most of the insurgents. For some, cropped hair affiliated them with the revolutionaries of France, who eschewed wigs and hair powder for simple haircuts. At any rate, short cropped hair was more in keeping with the styles of the country folk who made up the bulk of the rebel ranks.

For uniforms, practically everyone wore their ordinary work clothes. Some wore captured militia hats or coats or other military accoutrements. Byrne noted that few men heeded suggestions to adapt their clothing into uniforms by cutting their coat tails in a similar military style. Some men wore green cockades or wrapped a band of white cloth around their hats, but these insignia apparently were not universally adopted.

At Vinegar Hill, the rebels essentially had only infantry. Some officers had horses, but there were no cavalry units at all. Their artillery amounted to only 13 small pieces. Largest of their guns were two howitzers, of 4.5 and 5.5-inch diameters. There were three brass 6-pounders, one 3-pounder, and seven 1-pounder guns, which were evidently the swivel guns referred to in some accounts.

Experienced gunners seem to have been scarce. During the battle at New Ross, a captured royalist artilleryman was compelled to command one of the rebel guns. He was threatened with death if he did not aim properly, and before the battle was over he was slain for pointing the barrel too high.

Defeats at Bunclody, New Ross, and Arklow had stopped the progress of the rebellion. Uncertain of what course to take, many of the rebels stayed around Vinegar Hill and waited for a British attack. To Thomas Cloney, a young volunteer who joined the insurgents, "all now was disorder and confusion." Many already bore wounds from skirmishing, and many had seen their homes destroyed. The rebels seemed "divided into parties and cabals, each … urging that the neighborhood from which they came was in the greatest danger."

On June 20, Lake approached Vinegar Hill with an army of 13,000 regulars, militia, and yeomen, along with an artillery train. Major Generals Henry Johnston and Charles Eustace marched from the west and made camp outside Enniscorthy, about one mile northwest of the hill. Taking one of their field guns, some of the rebels advanced from the hill and skirmished with Johnston, but the attack was not pressed enough to have much effect.

Most of Lake's men were on the other side of the Slaney from Johnston and Eustace. Lake also sent for more troops under Maj. Gen. Francis Needham, who was about eight miles east at Oulart.

As the great confrontation loomed, Byrne was disappointed to return to the hill and see that little had been done to improve the defenses. He eyed a network of ditches, walls, and hedges at the base of the rise, thinking that they should have been leveled. Leaving them as

they were ended up providing cover to the advancing redcoats.

At 5:30 AM, June 21, the royal forces opened an artillery barrage against Vinegar Hill. The sound of the guns carried across the 12 miles to Wexford Town. On the British right was Maj. Gen. James Duff, marching on the Ferns Road. Duff had the river to his right and fired on the enemy with a battery of howitzers.

Duff sent part of his force, under Maj. Gen. William Loftus, to a small hill that rose north of the base of Vinegar Hill. Loftus's hill was very steep, and his way was blocked by some stone field walls. His men broke gaps in the walls. Detaching six guns from their horses, the soldiers pushed the cannons by hand up the hill and opened fire. From their vantage point, Loftus's guns poured grapeshot down into a section of the enemy line.

Lake was with Lt. Gen. Ralph Dundas, some distance to the left of Loftus. Of the rest of his force, Needham was to move all the way around the royal army to their left, where he could block any possible rebel retreat from the southeast side of the hill. Part of Lake's forces under Sir John Moore, future hero of the Peninsular War, were ordered to proceed to Wexford rather than take part in this battle.

The confiscated church bell on Vinegar Hill tolled as the insurgents fired their artillery. Some of the rebels wore shakos or brass helmets captured from the yeomanry units they had overwhelmed in the previous days. Everyone expected the arrival of a force under Edward Roche (their commander's brother) coming up from the south. Roche was believed to be bringing a substantial force of men armed with muskets who could help even the odds with the redcoats.

After the barrage had gone on for 1 1/2 hours, Lake's troops pressed forward onto the south slopes of Vinegar Hill. Across the Slaney, Johnston pushed into the town under the cover of his artillery. From upper floor windows, those rebels with muskets poured a heavy fire down on the troops. Pikemen fought the redcoats in the narrow streets.

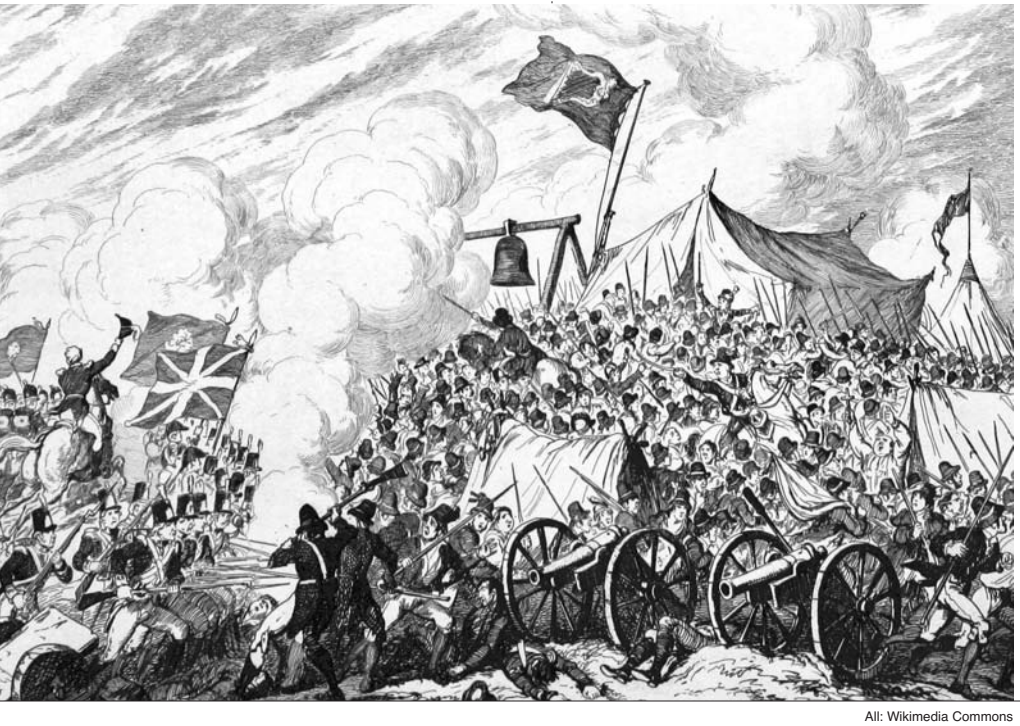
Some of Johnston's men brought a 6-pounder gun with them. They had reached an open space in front of the courthouse when a swarm of pikemen poured out of the building. Rushing the soldiers, the pikemen overwhelmed the soldiers and drove them away from the cannon. But, the gun was in rebel hands only a short time. A renewed attack by the soldiers reclaimed the yard in front of the courthouse and took back the gun.

About one-eighth of a mile beyond the courthouse, Johnston's men neared the town's only bridge across the river. Resistance collapsed and the defenders streamed across the bridge, aiming to link up with their comrades in Vinegar Hill.

Stubbornly protecting the bridge were William Barker and a corps of rebels under his command. Barker was a veteran of Walsh's Regiment, an all-Irish unit that served in the French Army. His military experience enabled him to hold the bridge long enough for most of the "croppies" to escape from the town.

Barker had only one gun, a small cannon mounted onto a cart. The gun did little damage to the royal troops but bolstered the morale of the rebels at the bridge. Byrne noted that Barker protected his flanks with the "gun-men," indicating he positioned his smaller number of musket-equipped men to protect the more numerous pikemen. Barker held the bridge until he fell with a serious wound to his arm.

Theobald Wolfe Tone (left), leader of the United Irishmen, and British General Gerard Lake. BELOW: Poorly armed and led, the United Irishmen were unable to break British lines at Vinegar Hill.



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Johnston ordered his light infantry to charge, but they showed "an unwillingness to do so," according to a witness. Johnston turned to the Dublin County Militia. Giving three cheers, they rushed toward the bridge, followed by the emboldened light infantry. With the bridge taken, Johnston's men crossed to unite with the rest of their army.

On the hill, the rebels had only a limited supply of gunpowder. A chronicler of the events of 1798, James Gordon, reported that all through the rebellion the insurgents were short of ammunition and so "used small round stones, and hardened balls of clay, rather than leaden bullets." Cannons might be fired, according to Gordon, "by applying wisps of straw in place of matches."

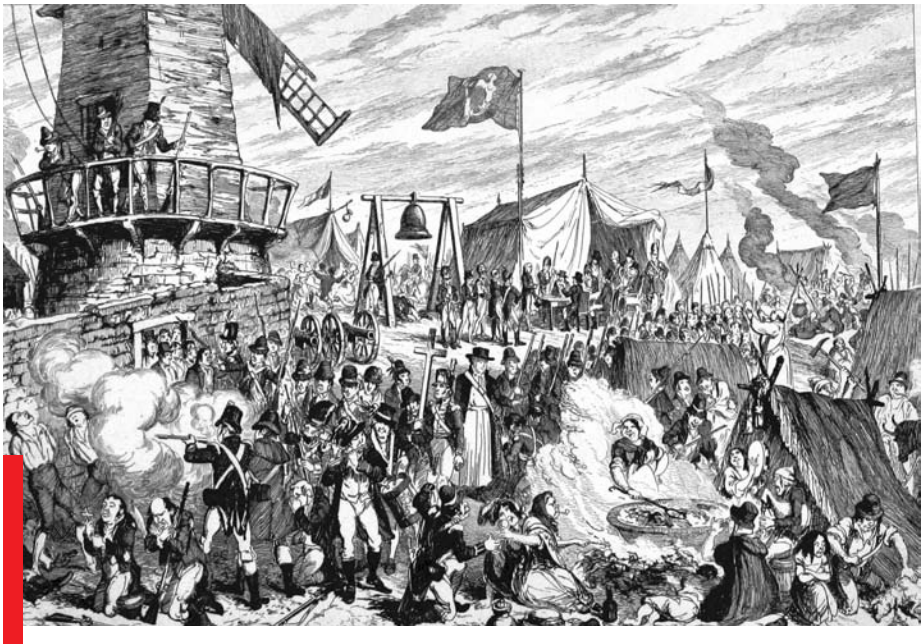
Nonetheless, the forces on Vinegar Hill put up a sharp resistance as long as they could. Lake's horse was shot from under him at the foot of the hill. Gradually, the redcoats pushed their way up the incline as Johnston forced the last defenders out of the town. Those forced out of Enniscorthy tried to join their comrades on Vinegar Hill, only to find Lake's redcoats had reached the top. Pulling down the Irish banner from the windmill, the royal soldiers raised their own standard. Johnston's force ascended the slope of the hill that faced the town.

An hour and a half after the royal infantry began their attack, the rebels ran out of gunpowder and were driven off Vinegar Hill. Escape routes toward Enniscorthy or upstream along the river were blocked, as were the northern and eastern sides of the hill. But, the fleeing army poured through an open space in the British lines, between the royal left and the river. Need-

ham, assigned to plug that opening, was late reaching his destination. Most of the rebels slipped through the break in the lines and escaped to the south, toward Wexford. A short distance from the battlefield, they met Edward Roche's forces. Although too late for the fighting, Roche helped by fending off the yeomanry who rode in pursuit of the main body of the fleeing army.

"Needham's Gap" was the subject of considerable speculation after the battle. Loyalists who blamed the commander sneered at him as "the late General Needham." Some commentators believed that for humanitarian reasons Needham deliberately dawdled to allow the enemy to escape, rather than cornering and slaughtering several thousand people. However, Needham's men had already made a long march the night before, and Lake's orders directed them on another long march around to the opposite side of the battlefield. His men worn down and burdened with the army's 400 baggage wagons, he was unable to make rapid progress. By the time Needham was where he was ordered to be, the enemy ranks on Vinegar Hill had collapsed and their army had already slipped away.

British losses at Vinegar Hill were small. In the fighting on June 21 two officers and 18 enlisted men were killed, 16 officers and 63 enlisted men were wounded, and six enlisted men were missing, for a total of 105 casualties. Most of the losses were among Johnston's men who were fighting in the streets of the town. Roughly one-fifth of the casualties were among the Irish regiments or the yeomanry. An anonymous officer of the militia wrote, "I have almost lost my hearing, but am content when the good old cause triumphs."



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Thomas Cloney saw the wreckage of the defeated army and its civilian dependents. "The dead and dying were scattered promiscuously in fields, in dykes, or in the roads, or wherever chance had directed their last steps.

Among the insurgent ranks on Vinegar Hill, "the carnage was dreadful," wrote Lake. "The rascals made a tolerable good fight of it." Losses among the Irish forces are unknown but ran to as many as a thousand. One account stated that 85 dead were found slain by grapeshot in the small section of trenches swept by Loftus's six guns. An unknown number of women were found among the dead on Vinegar Hill.

Hundreds of the dead had been chased down and slain in the countryside by the royal forces after the battle. Thomas Cloney saw the wreckage of the defeated army and its civilian dependents. "The dead and dying were scattered promiscuously in fields, in dykes, or in the roads, or wherever chance had directed their last steps." Strewn on the roads were "horses with their necks broken, and their carts, with women and children under them, either dead or dying in the roads or in the ditches, where, in their precipitate flight, they had been upset."

The rebels' lack of cavalry left them particularly vulnerable to attacks from the yeomanry and regular cavalry. Avenging the deaths in their own units and from the Protestant and loyalist population, the yeomen unleashed savage reprisals after Vinegar Hill. Anyone who was caught in "coloured clothes," as civilian attire was known then, might well be shot or sabered immediately. Scores of loyalists were cut down, their claims of fidelity not being believed.

Accounts put heavy blame for postbattle atrocities on the "Hessians" of Hompesch's Mounted Rifles, a unit recruited from the German states. A Doctor Hill, a local loyalist, had been arrested with his two brothers by the rebels. They took advantage of the confusion after the collapse of the position on Vinegar Hill to escape. Running toward the British troops, the first they encountered were the Germans. Three of the cavalrymen pointed pistols at the heads of Hill and his brothers. Their lives were saved accidentally by a pikeman, who came within sight of the horsemen and ran. The Germans rode after the pikeman and left the Hill brothers, who escaped.

As the royal forces secured Enniscorthy, William Barker was carried to his house. His life was saved because several English staff officers took over his house for their quarters and protected him as looting and retaliation gripped the town. An army surgeon amputated his arm and tended him for a time.

Few captured rebels were as fortunate as Barker. A house turned into a hospital by the rebels was set afire, perhaps killing numerous patients. One witness stated that the fire was accidental, being started by Hessian troops who were shooting the wounded. Wadding from their muskets set fire to the hospital bedding and spread through the building.

With most of the rebels escaping, their defeat at Vinegar Hill was not a final blow in itself. But, it was the last time the Irish army of 1798 fought a major battle. All of their artillery was lost, as were many of their muskets. After some smaller battles and skirmishes, the remnants of their army broke up. Some men tried to make it to the central counties and continue the war, while others opted to stay in Wexford and carry on a guerrilla campaign. Staying at what was thought to be a safe house, Father Murphy was arrested on July 2. He was court-martialed and executed on the same day.

When the French finally arrived in Ireland, it was too late. General Jean Joseph Amable Humbert landed on the western coast at Killala Bay in County Mayo on August 23. Instead

of the 14,000-man army that was gathered for the failed 1796 landings, Humbert had only about 1,000 men.

Humbert's small army did attract some Irish recruits. On August 27, they had a brief flush of success when they defeated a larger force under General Lake at Castlebar. Lake was routed so badly that the affair was called "the Castlebar Races."

Even after the victory at Castlebar, the disaster at Vinegar Hill ensured that no substantial Irish reinforcements were available. A large British force under Lord Cornwallis was sent after Humbert. On September 8, after losing the Battle of Ballinamuck in County Longford, Humbert surrendered. The French soldiers were treated as prisoners of war, but the captured Irish rebels were executed.

A final French force of 3,000 men sailed on September 17. With them was Wolfe Tone, one of the most charismatic leaders of the United Irishmen. The entire French fleet was captured, ending the last attempt at aiding the 1798 rebellion. Tone died in prison one week after he cut his own throat. Small-scale guerrilla actions continued for some time, but the capture of the French invasion forces and the death of Tone meant the rebellion was finished, militarily and politically.

Immediately after the battle, captive rebels were considered traitors instead of prisoners of war, and faced summary court-martials. Lake wrote to Lord Castlereagh, the acting chief secretary for Ireland, "I really feel most severely being obliged to order so many men out of the world; but I am convinced, if severe and many examples are not made, the rebellion cannot be put a stop to."

Even showing leniency to loyalists during the uprising was a fatal decision. Military courts held that anyone who stopped the execution of a loyalist prisoner was involved enough with the rebels to be guilty of treason. Bagenal Harvey and Philip Roche were among those executed despite testimony that they had intervened to save lives.

As the Crown regained control of Ireland, the regular army under Lord Charles Cornwallis clamped down on the savage reprisals carried out by the yeomanry and militia. Sir John Moore was so disgusted by their excesses that he famously said, "If I were an Irishman, I would be a rebel."

Under British pressure, the Irish Parliament passed an amnesty bill for participants in the rebellion on July 20. Conspirators arrested before May 23, and those accused of murder, were barred from amnesty. The assizes took over trials from the military. Slightly more than

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A small French army defeated a larger British force under General Lake at Castlebar at the Battle of Castlebar on August 27, 1798. Even after the victory at Castlebar, the disaster at Vinegar Hill ensured that no substantial Irish reinforcements were available to assist the French. OPPOSITE: British soldiers summarily execute rebels beneath the windmill atop Vinegar Hill following the disastrous rebel defeat on June 21, 1798.

1,000 cases came to trial in the civil courts between May and November. One third of the prisoners received the death penalty, although a quarter of these sentences were commuted. Smaller numbers were jailed or flogged, and some were acquitted. The rest were exiled to Australia.

In Australia, several hundred Irish convicts clashed with the government in what was called the Castle Hill Rebellion in 1804. These convict rebels, many of whom were exiled for taking part in the Rebellion of 1798, were captured at Rouse Hill in New South Wales. Such a large number of convicts involved had been transported after the 1798 uprising that the final clash was called "the Second Battle of Vinegar Hill."

The British never found Byrne. He made his way to Dublin, where he lived until the collapse of an attempted rebellion led by Robert Emmett in 1803. Escaping to France, Byrne joined the French Army and became an officer in the Irish Brigade in the army of Napoleon I. He later met his old comrade William Barker in France. Barker's brother, a man of considerable influence, won him a temporary release from jail on account of his health. With his wife and a few relatives, the freed prisoner slipped onto a ship bound for Hamburg. From there, he made his way to France and obtained a new commission in the French Army.

For the Irish Rebellion of 1798, no complete count exists for the number of dead. Combining rebel combat deaths, and far more rebel sympathizers and loyalist civilians fatally trapped in the cycle of killings, reprisals, and executions, the death toll in Wexford may have exceeded 30,000. As late as 1801, Anthony Sinnot noted that the southern slope of Vinegar Hill was "for some yards covered with the bones of men and animals, which are bleached as white as ivory by the weather." Three bodies of executed rebels still swung from a gibbet atop the summit. As if the macabre sight was not a galling enough reminder for rebel sympathizers, loyalists occasionally fired their muskets at the iron cages holding the skeletons of the martyrs.

The Battle of Vinegar Hill, and the blood-spattered war from which it arose, left a complicated legacy. As a result of the Rebellion of 1798, the British pushed through the Act of Union. Taking effect on January 1, 1801, the act changed Ireland from a separate country under British rule into a part of the United Kingdom. Ireland's parliament was abolished, and the island was represented by members of the Houses of Parliament in Westminster. The United Irishmen were eliminated as a political influence. Hope for an independent and egalitarian Ireland, based on the principles of the Enlightenment, vanished. Religiously motivated killings and reprisals left a lasting bitterness and served to drive Ireland's Protestants away from supporting independence to a firm adherence to the Crown. It would be more than a century before the dream of independence for Ireland was realized with the founding of the Irish Free State in 1922. □

By Christopher Miskimon

The three empires that battled during World War I crafted ambitious war plans, but their hopes were dashed by the realities of 20th-century warfare.

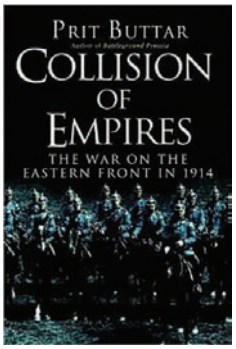
WORLD WAR I WAS ONLY DAYS OLD WHEN GERMAN GENERAL of the Infantry Hermann von François went forward to view his soldiers engaged in combat south of Stalluponen in East Prussia. It was August 17, 1914, and the Russians were advancing against the outnumbered Germans. François commanded the I Corps of the German 8th Army, and he decided that he could defeat the larger Russian force with his higher quality troops.

During the battle Francois moved south, where several battalions of the German 2nd Infantry Division under General Adalbert von Falk were engaged near an area known as the Rominte Heath. Russian troops from two different divisions were advancing toward that location. They not only were placing pressure on the Germans but also creating an opportunity by their movement. The two Russian units were from different corps, so they were not acting in a coordinated fashion. Soon a gap several miles wide yawned between the divisions.

Falk had only a regiment's worth of men available, but he acted aggressively. He marched toward the sound of the guns and counterattacked through the gap. The Germans were soon rampaging behind Russian lines. This was where François found his subordinate, leading an attack against one of the Russian division's flanks. Dead Russians littered the field interspersed among even more wounded. German troops led Russian prisoners away. A Russian colonel named Komarov, who was badly wounded in the chest, sat in a ditch. François went on as Russian medics tended their officer, who unfortunately died later.

By the end of the day, the outnumbered Germans had driven the Russians back toward their own border, thus achieving victory. The Germans had inflicted 5,000 casualties on the Russians while suffering 1,300 of their own dead and wounded. At least 3,000 more Russians were taken prisoner. It was a lopsided victory won essentially due to the initiative of various German officers and a lack of effective Russian communication.

The Battle of Stalluponen was the opening battle of World War I on the Eastern Front, a theater of that war largely overlooked in the West. Although the importance of the Eastern Front in World War II is now well established, the history of the fighting on that front from 1914 to 1918 is hardly known outside the Battle of Tannenburg. This history is



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German troops man a machine gun on the Eastern Front during the first months of World War I. This theater of the war has been largely ignored by English language publishers.

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How Will We Stop Iran?

Iran's global jihad seizes new ground, fortified by an obsessive quest for nuclear arms. Negotiations are failing. Do we need tougher sanctions?

Iran's Islamic fundamentalist leaders are sworn by their nation's constitution to pursue world conquest through jihad. Through global terror campaigns, Iran has already achieved dominance in Syria, Lebanon, Iraq and Yemen. It openly threatens to destroy Israel. Despite decades of Western-imposed trade embargos and sanctions, as well as recent U.S.-led negotiations, Iran's drive to amass nuclear arms continues unabated, and its leaders vow not to give up their quest. What more must the U.S. and the world do to stop Iran's apocalyptic nuclear threat?

What are the facts?

Iran is by far the world's most aggressive perpetrator of terrorist acts. It provides direct funding and leadership to Islamic terror groups Hizbollah, Hamas, Houthi rebels in Yemen, and Shiite militias in Iraq, as well as the ruthless Assad regime in Syria. The Islamic republic also has been tied to bloody attacks on civilians in nations as far flung as India, Thailand, Saudi Arabia and Bulgaria, as well as an attempted assassination of the Saudi Ambassador in Washington, DC. Iran was recently implicated in the 1994 bombing of a Jewish center in Argentina and a murderous cover-up attempt. But Iran's most belligerent threats have been directed at Israel, which Supreme Leader Ayatollah Khamenei vows to "annihilate."

> "Of course we bypass the sanctions, and we take pride in it."
>
> Iran's President Hassan Rouhani

Iran's terrorist tactics are motivated by its drive to become the dominant power in the Middle East. The Shiite ideology of Iran's leaders commands Muslims to wage global jihad, and their constitution commits them to "the establishment of a universal holy government and the downfall of all others." So far Iran's strategy has been successful, as its controlling influence now spreads over Lebanon, Syria, Iraq and most recently Yemen. More critically, Iran has an effective chokehold over the Gulf of Hormuz, through which much of the world's oil travels.

No wonder most of the world's nations, especially Saudi Arabia, Jordan and Egypt, are horrified at the prospect of Iran acquiring nuclear weapons. In fact, a nuclear Iran threatens the worldwide balance of power, particularly in the inflammable Middle East. For Israel, a nuclear-armed Iran poses an imminent threat to its very existence.

Unfortunately, the West, and particularly the United States, must share the blame for allowing Iran to increase its hegemony and acquire nuclear weapons capability. The U.S. pulled out of Lebanon in 1983 after an Iranian-engineered bomb killed 241 Marines, facilitating the rise of Shiite Hizbollah terrorists. When the U.S. pulled out of Iraq in 2011, Iran stepped in, seizing control of Shiite militias and exerting decisive influence on the Iraqi government. Syria's President Bashar Assad, roiled in a bloody civil war, has essentially become a proxy for Iran, and the Houthis, who just violently took control of former U.S. ally Yemen, are also on Iran's payroll. While the U.S. has designated Iran a state sponsor of terrorism and instituted a trade embargo in 1995, the Islamic republic's warlike acts against the U.S., Israel and many other nations have only increased. To halt Iran's nuclear weapons development, the West imposed sanctions in 2006, but Iran's centrifuges continue to spin defiantly.

Despite intense recent negotiations between the U.S. and Iran to reach a peaceful resolution, several deadlines for settlement have passed, and Iran still refuses to cease nuclear weapons development. Indeed, recent investigations indicate that Iran has already violated existing agreements by establishing secret nuclear supply networks. Iran's President Hassan Rouhani boasts, "Of course we bypass the sanctions, and we take pride in it." No wonder a majority of the U.S. Congress urgently supports harsh new sanctions on Iran unless it immediately agrees to give up weapons-grade nuclear enrichment and ballistic missile programs. President Obama, however, promises to veto any such measure, arguing that increased sanction threats will frighten the Iranians from further negotiations.

What is the solution? Most Americans share the President's hopes that Iran can be persuaded to set aside its nuclear ambitions—and its vendetta against Israel—through diplomacy. But one thing is certain: *Iran is our enemy*. Appeasement will not work. It is only crippling Western economic sanctions, backed by the threat of force, that have driven Iran to the negotiating table.

Above all, Iran must decommission its nuclear weapons infrastructure now. To this end, Senators Robert Menendez (D-NJ) and Senator Mark Kirk (R-IL) have introduced the Nuclear Weapon Free Iran Act of 2015, which toughens sanctions if Iran refuses to comply, thus strengthening the U.S. hand in forging an agreement that peacefully eliminates the Iranian nuclear threat.

Since sanctions brought the Iranians to the table, sanctions are the most powerful, peaceful means for convincing them to abandon plans to acquire nuclear weapons. But because the Iranians continue to declare themselves implacably committed to nuclear development, it's time to ratchet up economic pressure. The Nuclear Weapon Free Iran Act should be passed now. The survival of the world is at stake.

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FLAME

Facts and Logic About the Middle East
P.O. Box 590359 ■ San Francisco, CA 94159
Gerardo Joffe, President ■ James Sinkinson, Vice President

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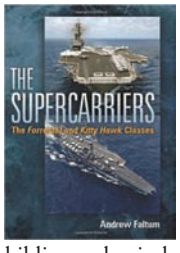
now getting its just due in ***Collision of Empires: The War on the Eastern Front in 1914*** (Prit Buttar, Osprey Publishing, Oxford, U.K., 2014, 472 pp., maps, photographs, notes, bibliography, index, $29.95, hardcover).

The story of the Eastern Front involved the three largest empires in Europe: Russia, Germany, and Austria-Hungary. The three empires had gone to war through a complex web of alliances and agreements. These treaties not only pulled their nations into war but also eventually involved the rest of the world's major powers in what became a global conflict. Each sought to gain advantage from what was expected to be a short war and later became badly drained by the lengthy confrontation.

The vast spaces of the East meant the war remained one of maneuver; neither side could have manned the number of trenches that would have been needed. The battles of this first year of the war proved crucial. After the relatively small opening at Stalluponen came the bloody battles of the Masurian Lakes and Tannenburg. The Russians fought the Austrians in Galicia. Meanwhile, the German drive toward Warsaw stalled. The year also saw horrible fighting in the Carpathian Mountains. All three empires had made great plans for the war, but by the end of 1914 these hopes were dashed by the realities of 20th-century warfare. None had been able to land the truly decisive blow they sought.

The battles in this book deserve books of their own; nevertheless, the author does an excellent job giving summaries of the fighting while simultaneously including enough detail to stimulate the reader's interest in each. His analysis is insightful, drawn from numerous sources woven together into a narrative that is easy to follow even if one knows little about this theater of the war. There is a useful list of key commanders at the beginning of the book that serves as a ready reference.

The centennial of World War I is under way, and authors around the globe are writing many new books about the war. This book certainly ranks among the best of them. It provides an effective introduction to a part of the war few English language readers know about. Relatively little has been published in English on the Eastern Front, and with this new work the author has established himself as an expert on the subject.



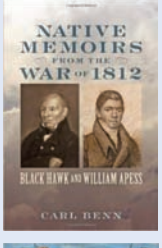
The Supercarriers: The Forrestal and Kitty Hawk Classes (Andrew Faltum, Naval Institute Press, Annapolis, MD, 2014, 288 pp,, maps, photographs, appendices, glossary, notes, bibliography, index, $42.95, hardcover)

One of the most ubiquitous symbols of the Cold War was an American aircraft carrier. Whenever the interests of the United States were threatened or conflict loomed, one could be sure a carrier task force was steaming close by. If a shooting war broke out with U.S. troops involved, several carriers would be offshore, bombing enemy targets and fighting to achieve air superiority over any opponents.

All the carriers built after World War II were supercarriers. They were vastly larger than anything left over from that conflict. Supercarriers were built to be floating cities capable of sustaining themselves for extended periods and able to handle the new, larger jet aircraft with ease. The eight ships of the Forrestal and Kitty Hawk classes, almost identical to each other, served for decades, taking part in numerous deployments and showing the U.S. flag around the world.

The strength of this book is in the author's ability to take technical subjects and describe them in an easy to understand way, thus enabling readers with little knowledge of naval and aviation matters to follow his descriptions and explanations. At the same time, the author's attention to detail should satisfy even readers who served aboard one of these mighty vessels. Each chapter covers significant events in the histories of these ships, from their conception in the early days of the

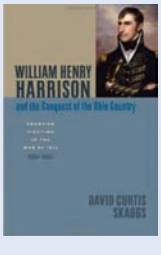
SHORT BURSTS



As the 200th anniversary of the War of 1812 draws to a close, here are some books that offer a better understanding of that conflict.

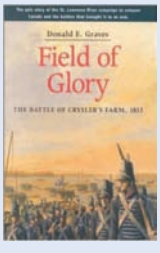
Native Memoirs of the War of 1812: Black Hawk and William Apess (Carl Benn, John Hopkins University Press, 2014, $$29.95, softcover) This work explores the writings of two Native Americans who participated in the conflict.

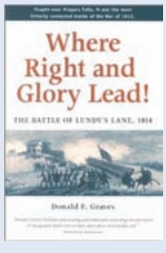
1812: The Navy's War (George C. Daughan, Basic Books, 2014, $19.99, softcover) The nascent U.S. Navy made a tremendous showing against the Royal Navy at the war's beginning. This work tells the story of how it accomplished this despite long odds.

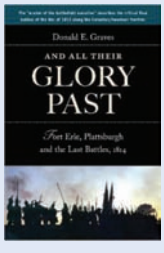


William Henry Harrison and the Conquest of the Ohio Country: Frontier Fighting in the War of 1812 (David Curtis Skaggs, John Hopkins University Press, 2014, $44.95, hardcover) Harrison fought an almost constant fight in the western United States against both British and Native American forces. His eventual victory was crucial to his successful campaign for the U.S. presidency.

Broke of the Shannon and the War of 1812 (Tim Voelcker, Naval Institute Press, 2013, $38.95, hardcover) Captain Phillip Broke restored the morale of the Royal Navy by defeating the USS *Chesapeake*. Badly wounded during the June 1, 1813, naval battle, he went on to establish a school of naval gunnery.







Donald Graves's trilogy gives great insight into the War of 1812 along the Canadian-American border:

Field of Glory: The Battle of Crysler's Farm, 1813 (Donald E. Graves, Robin Brass Studio, 2011, $27.95, softcover) The largest operation of the war was the U.S. invasion of Canada, which had the ultimate goal of capturing Montreal. The campaign's outcome was decided at Crysler's Farm on November 11, 1813.

Where Right and Glory Lead! The Battle of Lundy's Lane, 1814 (Donald E. Graves, Robin Brass Studio, 2014, softcover) This was the bloodiest battle of the War of 1812. Which side won is still a matter of argument to this day.

And All Their Glory Past: Fort Erie, Plattsburgh and the Final Battles in the North, 1814 (Donald E. Graves, Robin Brass Studio, 2013, softcover) The final installment of Graves' trilogy covers in detail the final battles along the Canadian border that had a telling effect on the war's outcome.

atomic era to their eventual retirement in the post-Cold War period. By the time they were finally replaced altogether by the even larger nuclear-powered ships of the Nimitz class, they had given more than a half century of service to the Navy and the United States.

China's Battle for Korea: The Spring 1951 Offensive (Xiaobing Li, Indiana University Press, Bloomington, 2014, 424 pp., maps, photographs, notes bibliography, index, $45, hardcover)

On April 22, 1951, China launched its largest and most vital offensive of the Korean War. It involved more than 700,000 troops with 33 infantry and four artillery divisions. This juggernaut pushed south with the goal of decisively defeating the American-led U.N. forces and ending the conflict. Those forces resisted, applying mass firepower; one Chinese soldier called the American artillery barrages "fire walls" and said they were so heavy that they could stop an attack cold. Eventually, the Chinese assault was stopped, the South Korean capital of Seoul was successfully defended, and Chinese troops were forced back to the northern side of the 38th Parallel. The defeat compelled Chinese leaders to enter negotiations rather than pursue total victory.

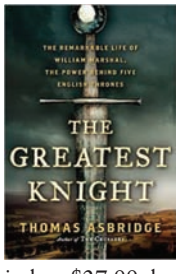
The author has written widely on the Korean War, and his expertise shows in this detailed study of the Chinese military. Little has been published in English about the Chinese point of view and their decision-making processes; this book goes a long way toward redressing that imbalance. The author uses Chinese archival material extensively, as well as American and other accounts, to present a balanced presentation of the Korean War.

Lords of the Sky: Fighter Pilots and Air Combat, From the Red Baron to the F-16 (Dan Hampton, William Morrow Publishers, New York, 2014, 623 pp., maps, photographs, appendices, glossary, notes, bibliography, index, $29.99, hardcover)

The history of fighter aircraft and those who flew them is now a century old. From the first scout-fighter planes of World War I to the supersonic technological wonders of the 21st century, the fighter has evolved from an adjunct reconnaissance asset to a major element of a nation's combat power.

Hampton is a retired fighter pilot who brings his expertise to his writing. From tales of the Red Baron to Lidiya Litvyak, the world's first female fighter ace, through to the pilots who dropped their ordnance on Saddam Hussein's Iraq, their stories are blended in with the wider picture of the wars in which they fought. This gives the book a well-rounded flavor, allowing the reader to understand how the battle in the skies of a given war fits into the larger conflict as a whole.

One item of note is the consistency of the fighter pilot over time. In terms of technology, aircraft have come a long way in a century from open-cockpit, propeller-driven biplanes to modern jets that could not even stay aloft without complicated electronics. Some modern aircraft would be practically unrecognizable to a World War I-era pilot. Those pilots are much the same type of person regardless of time, though. Most are cocky, aggressive, and confident whatever the age.



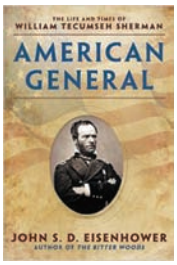
The Greatest Knight: The Remarkable Life of William Marshal, the Power Behind Five English Thrones (Thomas Asbridge, Harper Collins Publishing, New York, 2014, 432 pp., illustrations, appendices, index, $27.99, hardcover)

In 1861 a French scholar went to an auction and bid on an old manuscript described as a Norman-French chronicle in English Affairs. It fascinated him, but he was outbid. Twenty years later he tracked down the buyer's estate and found the manuscript. It turned out to be a biography of William Marshal, one of England's most famous knights. It was a priceless opportunity to learn about a pivotal figure in both British and European history.

Marshal's father had condemned him to the gallows at the age of five when he was caught on the wrong side of a civil war. Surviving that experience, he went on to become a leading retainer to numerous rulers, coming through a critical phase of English history as that nation began emerging from the tumultuous Middle Ages. He served both Richard the Lionheart and his brother John and was witness to the survival of the Angevin-Plantagenet dynasty. In 1217 Marshal was present at the signing of the Magna Carta.

This turbulent period of history is well covered by Asbridge, who has written several books on the Crusades. He describes in vivid detail the momentous events Marshal witnessed and took part in, artfully weaving Marshal's role in each

of the events. The book offers a deep look into the realities of the Age of Chivalry.

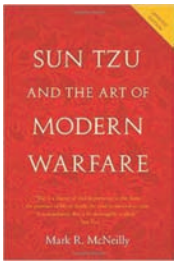


American General: The Life and Times of William Tecumseh Sherman (John S.D. Eisenhower, NAL Caliber, New York, 2014, 368 pp., maps, illustrations, appendices, notes, bibliography, index, $28.95, hardcover)

Major General William T. Sherman remains a complicated and fascinating historical figure. Born in Ohio, he entered the U.S. Military Academy at West Point in 1836. While at West Point his peers did not respect him because he did not display the grooming and manners that the majority exhibited. Nevertheless, he graduated sixth in the class of 1840. After a brief stint in the army, he resigned and attempted to go into business. Attempts at both banking and law met with little success. He later became superintendent of a school in Louisiana. When the Civil War broke out, he resigned his position and went north to seek a commission in the Union Army.

Once in that army, he served in numerous positions, not always successfully. In time, though, his dedication, skill, and loyalty brought him to the highest ranks of the army, both during the war and after. His famed March to the Sea is still studied as one of the first examples of modern war. Historian B.H. Liddell Hart called him the first modern general. His legacy is largely as a skilled but harsh leader who did what he had to do to achieve victory.

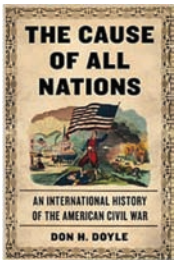
This is hardly the first biography of Sherman, but it is a joy to read. The author has a simple style that drives the narrative. Published after the author's passing, it nevertheless confirms his standing as one of America's great military historians and writers.



Sun Tzu and the Art of Modern Warfare (Mark R. McNeilly, Oxford University Press, Oxford, UK, 2014, 328 pp., maps, diagrams, notes, bibliography, index, $24.95, softcover)

The military writings of Sun Tzu have been evaluated and re-evaluated many times until they have become almost a cliché. They are touted as the perfect strategy for everything from running a business to one's own life. One question rarely answered when applying them to their originally intended field of warfare is how to apply them usefully in the real world on an actual battlefield. When answered, the example used is often a battle like Cannae; a timeless example to be sure, but not one always relevant to modern conflicts.

This new work strives to correct that, applying Sun Tzu's writings to modern battles, including some very recent ones modern readers will find familiar. Stalingrad, Desert Storm, Sherman's March to the Sea, and Kursk are all used to exemplify how concepts recorded millennia ago in China can be thoughtfully and effectively employed on battlefields using weapons Sun Tzu likely never imagined.

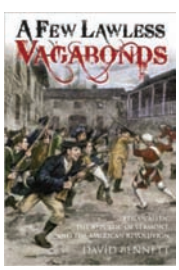


The Cause of All Nations: An International History of the American Civil War (Don H. Doyle, Basic Books, New York, 2015, 382 pp., illustrations, notes, index, $29.99, hardcover)

The American Civil War had worldwide consequences. Democracy struggled or had failed entirely in other nations, and many observers watched to see how it would fare as the United States descended into rebellion and conflict. Agents of both the Union and Confederacy worked abroad to gain support for their respective causes by appealing to the ideals of Republican liberties or aristocratic distrust of what the United States represented.

The various foreign powers had their own ideas as well. Some abhorred the war while other reveled in it. There were even plans to take advantage of the chaos and restore old territorial holdings in the Americas. The South sought support and recognition while the North aimed to keep any European nations from interfering, even by threatening war. When President Abraham Lincoln issued the Emancipation Proclamation, the situation abroad began to lean toward the Union. The upshot was that intervention on behalf of the Confederacy would be equivalent to support of the institution of slavery.

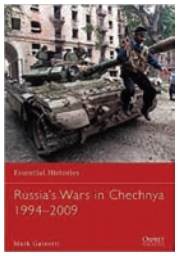
This work forcefully and effectively argues that the American Civil War had lasting importance not only for the United States, but also the wider world. Its points are made cogently, clearly, and with a sense of the international situation in the 1860s.



A Few Lawless Vagabonds: Ethan Allen, the Republic of Vermont, and the American Revolution (David Bennett, Casemate Publishers, Havertown PA, 2014, 336 pp., maps, illustrations, notes bibliography, index, $32.95, hardcover)

A relatively unknown aspect of the American Revolution is Vermont's consideration of returning to British dominion as a quasi-independent state. Vermont was determined not to be dominated by any power outside of its borders, whether British or American. During the war Ethan Allen actively strived to achieve this goal by combat or negotiation as circumstances dictated. Allen nominally betrayed the nascent U.S. government by negotiating in secret with the British. It was a complex situation during a difficult and chaotic period of American history. In the end, the U.S. government succeeded, and Vermont became the 14th state less than a decade after the war.

Ethan Allen is generally portrayed as one of America's first heroes, but this new study characterizes the man as more of an ardent patriot for Vermont. The author effectively makes his case using multiple archival resources that produce an engaging look not only at the fighting in and around Vermont, but also the little-known negotiations with the English Crown.



Russia's War in Chechnya 1994-2009 (Mark Galeotti, Osprey Publishing, Oxford, UK, 2014, 96 pp., maps, photographs, bibliography, index, $20.95, softcover)

The breakup of the Soviet Union led to numerous problems within its former borders. Chechnya had long been problematic for Russia, and in the mid-1990s the nation made a bid for independence. Russia could not allow this, and so began a decade and a half of conflict that has not yet ended. The Russians invaded in late 1994 only to meet defeat due to poor planning and preparation. Learning their lessons, the Russians stayed in the fight, which became a brutal struggle containing all of the horrors of a protracted insurgency. With dogged persistence, though, Russia eventually was able to gain a victory of sorts, though at a fearful cost.

This title is part of Osprey's *Essential Histories,* which provide the reader with summaries of wars through a wide perspective, including military, political, and cultural points of view. Vignettes are included showing individual experiences of the conflict. The book gives readers a general overview of one of the more significant and pitiless wars of recent history. □

DESPERATE TIMES CALL FOR DESPERATE MEASURES IN 11 BIT STUDIOS' GRUELING BUT IMPORTANT *THIS WAR OF MINE*.

This War of Mine is unlike any war game I've ever played. Part strategy game, part *The Sims*, 11 bit studios' bleak wartime experience is something that's tough to play but important. It's not the type of game that has you lording over the battlefield like an all-knowing, all-seeing commander, and it's not the kind that respawns you all over the map and rewards your kills with airstrikes and supply drops. There aren't attractive points popping up over the heads of your freshly wasted targets, but there is a real sense of dread looming as each day comes to an end. Hopelessness abounds, but anyone who wants something different from their war games shouldn't hesitate to enter the world of *This War of Mine*.

PUBLISHER
11 BIT STUDIOS

DEVELOPER
11 BIT STUDIOS

SYSTEM(S)
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That world is an unspecified Eastern European warzone, in which you and a few others find themselves attempting to simply live from day to day while battles are fought all around you. Leading the group and keeping everyone alive can involve everything from making sure your people get enough sleep to venturing out to scavenge for items to make the next day just a little bit easier. There's never enough time in the day to do everything, but you do what you can, hunker down, and hope the night and others in the war zone aren't as cruel to you as they may have been before.

There are plenty of dangers to look out for in *This War of Mine* outside of starvation, sleep deprivation, and depression. No matter how dark it gets inside your structure, it's most definitely darker outside, and a simple trip to gather medical supplies or food can turn into a nightmare. On the other hand, what seems like an otherwise ordinary night can end up being one during which a party decides to raid your group. They'll take your stuff, assault your people, and leave you all the wearier for the following day. The fact that this all happens off-screen is not reassuring at all. A note that your camp has been raided is just as devastating as seeing it happen for yourself.

It's not just raiders and marauders that attempt to enter your space, though. Sometimes other survivors will come by looking for some kind of relief. They'll ask if they can join your group, barter for or request some items, and these are the positive

interactions. Taking someone in could benefit your people. They could be another strong, able body that can craft things, patch walls, open up the space more, grow and catch food, etc. Or they could end up being relatively helpless themselves, resulting in another sad, pained mouth to feed. You could turn them away, or you could ignore the visitors entirely and hope they move on and leave you and yours alone.

No matter what you choose, there will be a nagging suspicion that you chose poorly. When you turn someone away, when an ally gets assaulted on a supply run, when someone is too tired to help and you know it's because you sent them out on their own the day before. *This War of Mine* is full of decisions, and none of them are easy. All of them have consequences, and all of them will leave you with a heavy heart.

If it sounds like the biggest bummer of all time, it certainly can be. Playing *This War of Mine* can occasionally feel like a chore. You won't always be in the mood to pick it up, and some of the setbacks will make you want to wipe your save completely and start from scratch. Characters will fall into a deep depression, and even commit suicide. Thankfully, 11 bit studios wedged a few beacons of hope in this rubble-strewn expanse. When you lose, for instance, you'll see small notes describing what each of the characters is fighting for. No, I don't mean that in war terms, I mean you'll read about why they're even bothering to survive. You'll see snippets of their story; the family and friends with whom they hope to be reunited. It's not much, but it's enough to encourage you to give survival one more shot.

PUBLISHER
505 GAMES

DEVELOPER
REBELLION DEVELOPMENTS

SYSTEM(S)
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The folks at 11 bit studios were able to craft such a believable experience because it hits close to home. The developers are based in Warsaw, Poland, and they put a great deal of effort into making sure *This War of Mine* is an authentic experience. Is it a fun experience? Not really, but it's still one that's worth having.

SNIPER ELITE III: ULTIMATE EDITION

If you've been holding out on getting Rebellion Development's *Sniper Elite III* on consoles, there's now an even better way to get into the x-ray-blasting action. *Sniper Elite III: Ultimate Edition* recently made its way to PlayStation 3, PlayStation 4, Xbox 360, and Xbox One, packing the base game with nine additional DLC packs.

The DLC in *Ultimate Edition* includes the Save Churchill missions—*In Shadows, Belly of the Beast,* and *Confrontation*—as well as 18 additional weapons, bonus multiplayer maps, and other modes that have been added since the shooter's initial launch. New gameplay modes are the single-player Shooting Range, the co-op Twilight Strike Overwatch mission, and multiplayer Capture the Flag mode. □

Intelligence

Continued from page 19

the Japanese codes until their surrender. The winding down and thinning out of hut personnel meant that normal days off, for those remaining, might be few and far between. But for those marching out of the gates for the last time back to a life of normal hours and work not governed by a 24-hour cycle could be difficult to negotiate. After this experience, normal life was a little too normal.

One of the more interesting experiences of the postwar period was that of mathematician John Herivel. It was Herivel whose brilliant work led to the solving of the Luftwaffe Enigma. When Herivel left Bletchley, he moved to Northern Ireland to teach. The experience was not to his liking. He had to leave the position when he realized he had no control over the boys he was trying to teach. Moving from the almost collegiate experience of Bletchley to this anarchy was more than he could tolerate. He moved to a position as lecturer in history and philosophy of science at Queen's University in Belfast. Herivel's father had absolutely no idea what his son had done during the war and the former code breaker was determined not to break the Official Secrets Act, no matter the circumstances. On his deathbed, the father accused the son of having accomplished nothing during the war. Even at this point, Herivel would not speak of his important work.

After the war, the Bletchley site was still to serve a number of useful purposes. A teacher training college for women opened at the site in 1948 and remained in use until 1976. The Government Communications Headquarters and British Telecon occupied the site until 1993. It was around that time that Bletchley was facing the prospect of being turned into a supermarket and housing development.

Bletchley might have been torn down were it not for the intervention of the Bletchley Historical and Archaeological Association. Prince Edward, Duke of Kent, became the trust's chief patron. In 1994 the site was tentatively opened as public space. The National Museum of Computing opened in Block H in 2007. The following year, the site was recognized by such organizations as English Heritage, which protects historically and culturally significant buildings and monuments. The preservation effort was due to the work of many veterans and volunteers. As a result of their work, the original look and feel of the site has been preserved. It is only fitting that such an institution be preserved for future generations to visit and appreciate. □

Militaria

Continued from page 23

had the initiative, but would need a well-considered plan to do better than the First Army actually did.

Surprisingly, the Prussians only managed to eliminate the Army of the North once in the five games, and the winning strategy was grasped by a player who had participated in two previous games. One game was an aberration–a succession of bad die rolls and poor tactics stopped the Prussians far from the gates of St. Quentin. The other three games tracked the original battle very closely; the Prussians attacked the town instead of the neck of the sack into which the French army had placed itself. By the time the Prussians entered the city, the Army of the North, having resisted as well and as long as it could, was withdrawing unhindered off the board, which was exactly what happened in 1871.

Research for this battle was challenging. A reprinted, affordable *History of the German General Staff 1657-1945* is available in English, but the French official history can only be partially accessed via Google Books. Several other detailed German and French histories exist, but they are difficult to access and a determined effort is required that entails access to a large library, assistance from a seller of rare books, or skilled Internet research. Most of them are contradictory, and for that reason, they must be constantly checked against other sources.

The cartography on which I based the terrain board for St. Quentin included a modern 1:50,000 scale topographical map and the excellent color map from the German official history. Using these sources, I sketched a map in Photoshop. I then constructed the board using carved Styrofoam and painted cloth. I built the 72-inch by 90-inch game board in six pieces so that it can be transported to different locations.

Since St. Quentin was a large battle, it was necessary to use figures of 6mm scale. The 6mm scale is frequently used in miniature wargaming to represent large battles in a small area. I chose to use 1,800 6mm figures (1,000 French and 800 Prussians) to portray infantry, artillery, cavalry, and commanders participating in the battle. I purchased the miniature figures from Heroics and Ros Ltd., of Reading, England. About 90 percent of these were painted by professional figure painters. Each stand represents an infantry battalion, a battery, or two squadrons of cavalry. They are placed on the board at their 1 PM positions for the eight-turn game. *St. Quentin 1871* offers a satisfying alternative to the overplayed well-known battles with which most people are familiar. □

Laos

Continued from page 39

Vietnam, captured communist documents contained exhortations to the troops to exploit their victory in lower Laos. Thus NVA troops began moving radar equipment and surface-to-air missiles into A Luoi.

That the ARVN reached its objective of Tchepone was of little consequence. Its stay there was brief and the supply caches it discovered disappointing, since most were in the mountains to the east and west. South Vietnam's forces failed to sever the Ho Chi Minh Trail; indeed, infiltration reportedly increased during Lam Son 719 when the North Vietnamese shifted traffic to roads and trails farther west in Laos. In addition to massive equipment losses, the ARVN reported nearly 1,600 men killed in action (a figure believed by many to be far below the actual total) and total casualties as 7,683, or 45 per cent losses, while the Americans suffered 215 men killed, 1,149 wounded, and 38 missing. The North Vietnamese suffered massive losses, especially as a result of massed infantry attacks and B-52 strikes, and their casualties may have approached 13,000. With another 7,000 men wounded or captured, communist losses may have reached or even exceeded 50 percent of their total strength.

What the allies had envisioned as a limited search-and-destroy mission—ARVN had committed only two reinforced Army divisions, one Ranger and one Airborne, and their lone Marine division, about 17,000 men—had turned into an intense, combined arms battle that found ARVN commanders experiencing their bloody baptism of fire in large-scale, conventional armored warfare. In retrospect, the operation had revealed the Saigon government's shortcomings. Like the late President Ngo Dinh Diem before him, Thieu had pursued a policy of preserving politically dependable military units and declaring phantom victories. In Thieu's case, caution may have been justified considering the unexpected strength of the enemy response in Laos.

In the end, a key consequence of Lam Son 719 was the decision by the emboldened Politburo in Hanoi to launch a major conventional invasion of South Vietnam in early 1972 that was meant to win the war. The North Vietnamese called it the Nguyen Hue offensive. In the west it was known as the 1972 Easter Offensive. Like Lam Son 719, it also failed in the face of overwhelming U.S. airpower, but it brought the North Vietnamese one step closer to their goal of toppling the South Vietnamese government and reuniting the two countries. □

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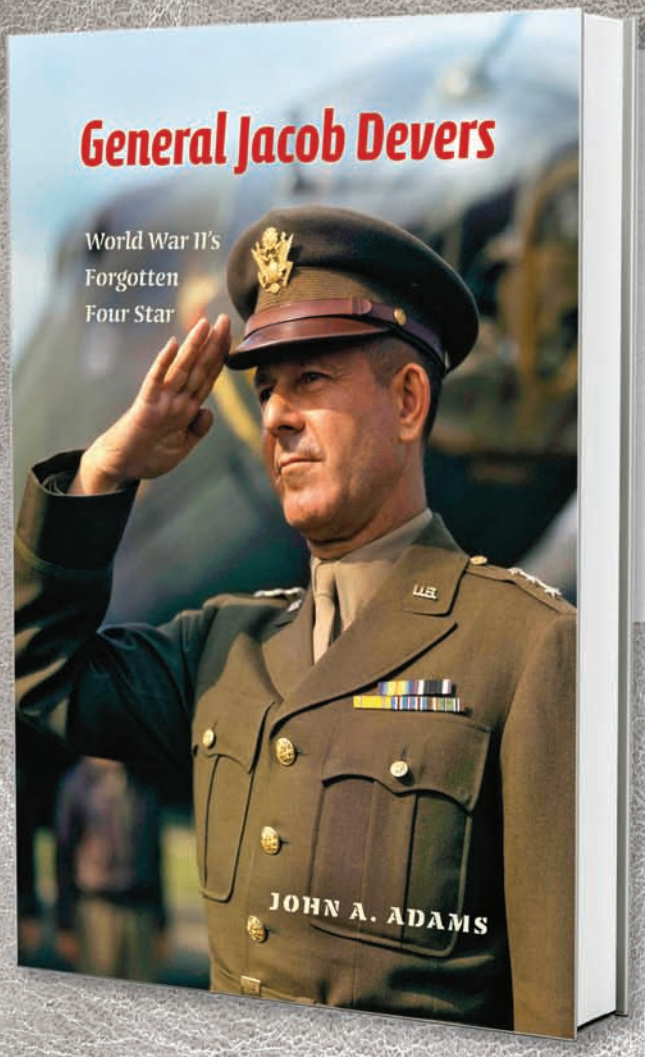

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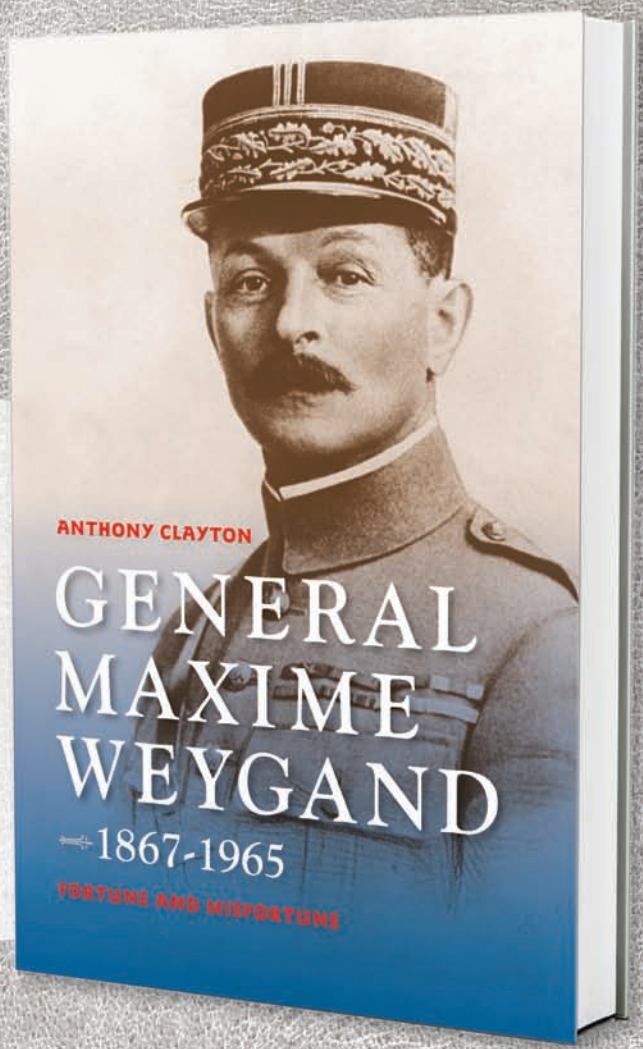

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