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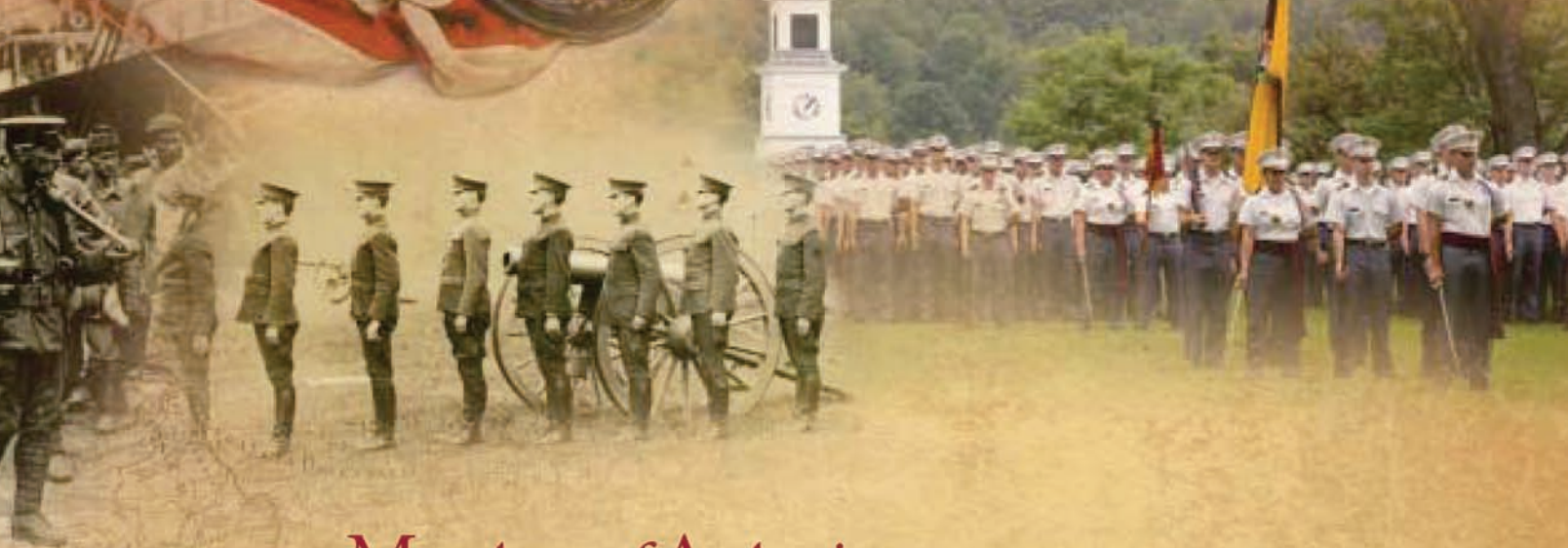

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MILITARY HERITAGE April 2006

features

columns

Cary Wolinsky

COVER: Men of the 100th Infantry Division en route to Germany. See story on page 42. (Photo: National Archives)

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As a young prince, the future Frederick the Great desperately sought to escape his father's shadow.

BEFITTING HIS GRANDIOSE NICKNAME, FREDERICK THE Great was a living embodiment of the old axiom that some people are born great, some achieve greatness, and some have greatness thrust upon them. With Frederick, it was a little of all three, and it came at a terrible cost, physically and emotionally.

As the son of Prussian King Frederick William I, Frederick was born into greatness—the crown was his from birth. But it was not easy. His father, grim, abusive, and cold-hearted, cared for little except his burgeoning army. Habitually clad in a blue military uniform, Frederick William scorned his own father's patronage of the arts in favor of the sober Prussian virtues of discipline, strength, and militarism. He sought to impart these values, often violently, to his eldest surviving son. On several occasions the king publicly beat Frederick in front of the royal court, once smashing him in the face with a cane and bloodying his nose.

Unsurprisingly, the youth rebelled. Although surrounded by heavy-handed tutors whom the king had enjoined to avoid any traces of foppery or intellectualism, Frederick grew into a cultured, sensitive young man who wrote poetry and composed music. "Fritz is a flute player and a poet," his father grumbled. There were also rumors, never proven, that the prince was homosexual. The king himself warned his son to "bear in mind that I can't bear effeminate fellows, who have no normal human inclinations, who do shameful things, who can't ride or shoot, [and] who grow their hair long and curl it like fools."

Frederick defied his father as much as he could, mocking him behind his back while feigning slavish obedience to his face. He particularly abhorred the king's devotion to hunting—the monarch and his courtiers once killed 3,000 wild boars in one month's time—observing that "to kill for pleasure is odious." He preferred instead to read, write, and compose music, all in French, much to his father's annoyance.

When he was 18, Frederick and his older sister Wilhelmina became unwitting pawns in a power struggle between Austria and Great Britain, a struggle that centered on the pair's proposed double marriage to their English cousins, the Prince of Wales and Princess Amelia. Frederick's mother, Queen Sophia Dorothea, was the sister of the new king of England, George II, and naturally sought to forge even closer ties between the two royal families. Frederick William, unsurprisingly, opposed the marriages. The king interceded to end the long-distance courtships, and by doing so inadvertently drove his son to a desperate act of insubordination.

With the help of sympathetic noblemen, Frederick planned to flee to England and marry Princess Amelia in defiance of the king. His best friend, Hans Hermann von Katte, an officer in the Prussian Army, agreed to accompany Frederick to France, where he would obtain temporary sanctuary before crossing the Channel to England. At the last moment, another conspirator informed the king of his son's intentions. Furious, the king had Frederick and Katte arrested and thrown into prison. Since the prince was technically a lieutenant colonel in the army, he faced court-martial and a potential sentence of death.

The court-martial refused to condemn either Frederick or Katte, leaving it up to the king to decide their fates. Frederick William spared his son but ordered Katte beheaded for his role in the plot. He then had the executioner's block placed directly below Frederick's cell window and forced the prince to watch his best friend die at the edge of a sword. At the fatal stroke, the prince fainted dead away. When he woke, he learned that his father had pardoned him. Ten years later Frederick ascended to the throne of Prussia, having learned a painful and protracted lesson in filial obedience. It was a lesson he never forgot.

Roy Morris Jr.

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By Mark S. Longo

Vlad the Impaler more than lived up to his fearsome surname—Dracula—during his long and tumultuous reign of terror.

TO MILLIONS OF PEOPLE, THE NAME DRACULA IS SYNONYMOUS with horror. The mere mention of Dracula invokes terrifying images of bats, Gothic castles and, of course, vampires. This was not always the case. Until the late 1800s, the name referred to a real man—Vlad Dracula, a medieval nobleman who ruled the Eastern European province of Wallachia (now part of Romania). In many ways, he was more fearsome than the fictional Dracula could ever hope to be.

Vlad Dracula was born in 1431 in the Transylvanian city of Sighisoara, a descendant of a long line of Wallachian rulers. His grandfather, Mircea the Great, fathered a number of illegitimate children, including Dracula's father Basarab. When Mircea died, Basarab was sent to the court of the Hungarian Emperor Sigismund. While his brothers squabbled over their father's throne, Basarab was busy learning warfare and diplomacy under Sigismund. As a reward for his diplomatic skills, Basarab was named the military governor of the province of Transylvania. A few months before Dracula was born, Basarab was inducted into the prestigious and secretive Order of the Dragon, a group of European leaders who were sworn to defend the Holy Roman Empire against infidels. Upon his induction, Basarab took the name Dragon, pronounced Dracul in his native Romanian. Ironically, Dracul is also the Romanian word for devil, a term that would later be applied to his murderous son.

The Granger Collection, New York

A ghoulish Vlad Tepes (the Impaler) lives up to his fearsome image as he feasts amid his victims in this 15th-century German woodcut.

Although a sworn member of the crusading order, Dracul was not blind to the political and military reality of his time. The Turks were massing an invasion force on his southern border, and Dracul's small army was not strong enough to repel them. The situation worsened when Emperor Sigismund died in 1437. Without his benefactor, Dracul was left to face the Turks alone. Realizing that he was powerless to stop the impending invasion, Dracul made a hard choice. He agreed to continue the Wallachian custom of paying the Turks a tribute of 10,000 gold ducats every year. As a way of proving his loyalty to the Ottoman Empire, Dracul accompanied Sultan Murad II on a raid into neighboring Transylvania, during which the Turks destroyed a number of villages and captured 70,000 prisoners. Not surprisingly, his overtures to the Turkish sultan strained his ties to the Hungarian empire and, more important, to the powerful Hungarian warlord Janos Hunyadi.

As ruler of Wallachia, Dracul was caught between the towering egos and massive war machines of Hunyadi and Murad II. It was an unenviable position. In 1441, Hunyadi began planning a crusade to drive the Turks from their positions in

Serbia and Bulgaria. He called on Dracul to honor his sworn oath and join the crusade, but the Wallachian ruler refused. Instead, Dracul remained neutral in the conflict. His attempt to please both parties backfired. Both Murad and Hunyadi were enraged by his refusal to participate on either side. The furious sultan summoned him to a meeting to discuss his loyalty. Foolishly, Dracul took along his two youngest sons, 12-year-old Vlad and eight-year-old Radu. Upon their arrival, the sultan took all three captive.

Dracul remained a prisoner for a year, until he swore on both the Koran and the Bible not to participate in any future wars against the sultan. Murad then allowed him return to Wallachia, but he held onto Vlad and Radu as hostages to insure that Dracul kept his word. Vlad's captivity at the sultan's court proved to be the formative experience of his life. He endured harsh discipline and strict supervision, but he also gained deep insight into Turkish life and, more important, their military. Vlad and Radu both trained with the Turkish Janissary corps, the sultan's elite warriors. Consisting primarily of European children who had been stolen from their homes or sent to the sultan as tribute, the Janissaries were converted to Islam and raised as fanatical Muslim warriors.

With his two youngest sons in captivity, Dracul continued trying to play both sides against the middle, but his crusader oath and his pledge of neutrality to the sultan were in direct conflict. When Pope Eugenius IV called for a new crusade against the Turks, Hunyadi demanded that Dracul join the crusade, but again he refused. Instead, he sent his oldest son Mircea and a contingent of Wallachian cavalry. He hoped that this solution would placate both the sultan and Hunyadi. For a short while, it appeared to be working. The early part of the crusade was a resounding success. Hunyadi's forces won spectacular victories at Sofia, Peretz, and Nish. However, the "Long Campaign," as the crusade came to be known, ran out of steam at the battle of Varna in November 1444, where the Turks outnumbered Hunyadi's forces by almost three-to-one. The crusaders were slaughtered, and Hunyadi barely escaped with his life.

Despite Dracul's violation of his pledge of neutrality, Murad II allowed Vlad and Radu to live. He knew that they could be useful in bringing their recalcitrant father to heel. The sultan locked the boys away while he considered what to do with Dracul. It was during this time that Vlad supposedly acquired his penchant for impaling. His cell had a view of a courtyard where the Turks executed criminals. Impalement through the rectum was a popular form of Turkish execution, and Vlad had many opportunities to watch this excruciatingly barbaric procedure put into practice. The effect this had on his still-developing mind is easy to guess.

Fearing the wrath of the sultan, Dracul made peace with the Turk, signing a new treaty that gave the sultan control of all Wallachian territory on the Danube. Hunyadi, still smarting from his defeat at Varna, was infuriated by Dracul's latest concessions to the infidel. Sensing an opportunity to rebuild his shattered reputation, he invaded Wallachia in 1447. This invasion, in turn, sparked a revolt among the Wallachian boyars, or noblemen. The combination of Hunyadi's forces, Vladislav's men and the rebellious boyars was too much for Dracul. He attempted to flee, but was captured and killed by Vladislav. His oldest son Mircea was tortured by the rival boyars before being buried alive.

With his father and older brother dead, 17-year-old Vlad was finally released from captivity. As the oldest surviving son of a member of the Order of the Dragon, Vlad inherited his father's crusading oath. He also took pains to assume his father's mantle, even going so far as

to adopt the nickname "son of the dragon," or Dracula. Murad, furious that a Hungarian-backed *voivode* was sitting on the Wallachian throne, supported Vlad in his attempt to reclaim his birthright. Dracula led a small Turkish invasion of Wallachia in 1448 and succeeded in driving Vladislav II from the throne. However, his victory was short-lived. Two months into his reign, Hunyadi and Vladislav II reassembled their forces and drove Dracula from power. He was forced to flee to Turkey and then to Moldavia, where he remained for three years.

Dracula lost his last friend and protector when his brother-in-law, Prince Bogdan of Moldavia, was assassinated in 1451. He was forced to flee again, this time into the wild Transylvanian hinterlands controlled by Hunyadi. However, just when it seemed that Dracula's luck had run out, the political pendulum swung back in his favor. Sultan Murad II died and was replaced by his son, Mehmed II. Mehmed was an ambitious man who made no secret of his desire to conquer Constantinople. Hungary, Wallachia, and Transylvania were also in his sights, and Hunyadi began preparing for a confrontation with the new sultan. He was counting on the support of Vladislav II in the coming battle, but his puppet *voivode* had a change of heart, negotiating a separate alliance with the sultan. The infuriated Hunyadi immediately set about looking for a replacement. The only viable candidate was Dracula.

The Granger Collection, New York

Vlad's legendary cruelty may have given rise to the Dracula legends. His piercing eyes and long nose give him at least a passing resemblance to the vampire of popular legend.

Dracula was given a commission in Hunyadi's army and charged with defending the Transylvanian border against Turkish or Wallachian incursions. When Mehmed besieged the Serbian city of Belgrade with 90,000 men, Hunyadi rallied to the city's defense. With only a handful of men, he dealt the Turks a crippling defeat. Mehmed lost almost a third of his force and was personally wounded while trying to rally his troops. This stunning victory became known as the "Miracle of Belgrade" throughout Christendom. While Hunyadi and the sultan battled for Belgrade, Dracula mounted an invasion of Wallachia. After a series of bloody skirmishes, he finally reclaimed his father's throne in 1456. He wouldn't be able to count on Hunyadi's support to help him hold the throne, however—the old Hungarian warlord succumbed to the plague shortly after the siege of Belgrade.

No sooner did Dracula take the throne than he came into conflict with the boyars who controlled much of the country. These were the same nobles who had revolted against his father and buried his brother alive. Dracula's desire

for revenge, along with his need to consolidate his power, drove him to commit one of the most notorious acts in his bloody career. He invited 200 rival boyars to a feast, ostensibly to discuss their differences. However, at the end of the meal, the boyars were dragged from the hall and marched 50 miles to the ruins of Castle Dracula. There, they were immediately put to work rebuilding the old castle, and many died of exhaustion. Those who were too old or too weak to work were impaled on the spot. This was the genesis of Dracula's famous nickname Vlad Tepes, or Vlad the Impaler.

The slaughter of the boyars was the first of many violent atrocities committed by Dracula during his reign. In order to tighten his grip on power, he created new positions in his government called the armasi. He filled these positions with foreigners, gypsies, thugs, mercenaries, and other outsiders. The armasi became his secret police, willing to carry out his most horrific orders without hesitation. Dracula used the armasi to enforce his personal obsession with law and order by brutally executing people for even minor infractions. Dracula's execution methods were literally demonic—he killed some by crushing them under the wheels of carts. Others, stripped of their clothes, were skinned alive. Still others were impaled on stakes or roasted over red-hot coals.

Historians estimate that the victims of Dracula's armasi numbered between 50,000 and 100,000. Dracula's worst atrocities, however, occurred in the neighboring province of Transylvania, a thriving commercial center that had a large German population. He launched a punitive raid on the Transylvanian town of Bistrita in 1457, burning and looting the town and slaughtering much of its population. He launched another raid the following year, destroying entire villages and leaving hundreds of German merchants twisting on stakes. He even boiled some of the poor souls alive inside a massive cauldron. In 1459, he crossed the border again, centering his anger on the trading center of Brasov. He burned the city to the ground and impaled any survivors he could find.

Dracula's atrocities in Transylvania caused a tremendous backlash in the German community, which began to disseminate vicious propaganda against him. After extensive interviews with the survivors of the St. Bartholomew's Day massacre, German poet Michael Beheim wrote "The Story of a Bloodthirsty Madman Called Dracula of Wallachia." In his poem, Beheim describes Vlad as dining amongst his impaled victims after the massacre. He even accuses Vlad of dipping his bread in their blood—the genesis of the enduring association of Dracula with vampires. Vlad's horrific link to Transylvania is undoubtedly why Victorian novelist Bram Stoker later chose to turn the real-life Wallachian prince into a fictional Transylvanian count.

The Granger Collection, New York

Dracula's benefactor, Hungarian warlord Janos Hunyadi, successfully defends Belgrade against Mehmed II's Turks.

Although Mehmed had been defeated at Belgrade, the Turks were still a potent force in the region. One of Dracula's first actions as *voivode* was to continue the Wallachian tradition of paying tribute to the sultan. He also gave the Turks free movement through his lands and sent 500 boys a year to the Turkish Janissary corps. However, all that changed when Pope Pius II called for another crusade in 1459. The only European head of state who responded to his call was Dracula. Perhaps in an attempt to honor his father's oath, Dracula stopped paying tribute and refused to send any more boys into the Janissaries. Turkish recruiting officers who ventured over the Danube to steal children were captured and impaled. These executions were direct affronts to the authority of the sultan, who responded by sending ambassadors to Dracula's court in 1460. When the Turkish ambassadors arrived, they refused to remove their turbans in Dracula's presence. Dracula responded by ordering their turbans nailed to their heads. He then sent their bodies back to the sultan as a warning.

Enraged by Dracula's continued insolence, the sultan planned a trap for the Wallachian ruler near the fortress of Giurgi, an imposing fortress that had been constructed by Dracula's grandfather on an island in the center of the Danube. The Turks had captured Giurgi in 1416, but Dracul recaptured it years later and then handed it back over to the Turks after the disaster at Varna. Unlike his father, Dracula learned of the sultan's trap ahead of time and avoided it. Relying on knowledge gained from his years in captivity, Dracula disguised himself as a Turkish officer, and in fluent Turkish convinced the sentries to open the gates of the fortress. His men then rode in unopposed and conquered the massive citadel without resistance.

Dracula next embarked on a series of raids along the Danube. With the onset of winter, he was able to cross the frozen river easily. He managed to capture or destroy a number of key ports, making it difficult for the Turkish fleet to operate on the river. The open rebellion was more than the sultan could bear. He sent a force of 18,000 men to recapture the ports and teach Dracula a lesson. The Turks penetrated deep into Wallachia, destroying villages and capturing numerous prisoners. Dracula caught up to them as they were returning to the Danube, laden with captives and the spoils of war. The Turks lost over half their number in the ensuing battle. These early successes made Dracula a hero throughout Europe. Even the Pope took notice.

Mehmed, enraged at Dracula's continued defiance, embarked for Wallachia at the head of a massive invasion force. The Wallachian army, consisting mostly of untrained citizen levies and light cavalry, numbered roughly 25,000 men—less than one-tenth the size of the sultan's army. After a failed attempt to prevent the Turks from crossing the Danube, Dracula retreated deep into the mountains of Wallachia. He engaged in a scorched-earth policy, burning villages, butchering cattle, and poisoning wells. His forces left nothing behind for the advancing Turks. At night, his cavalry raided the Turkish supply lines and slaughtered any stragglers they could find. Despite Dracula's efforts, by early June 1462, Mehmed had advanced to within 60 miles of Tirgoviste, the Wallachian capital. There, on the plains before the city, he beheld an unspeakable sight—a virtual forest of impaled Turks. The sight of thousands of impaled corpses caused the sultan to immediately order his army to turn around and return home.

The Turkish withdrawal was hailed as a mighty victory for Dracula. But his victory had come at great cost. Much of Wallachia had been laid to waste. Dracula's small army suffered terrible losses, and thousands of Wal-

lachian citizens were killed or taken prisoner. What was left of Dracula's force scattered to the winds after the fighting was over. Although the sultan had withdrawn his main army, he left Vlad's brother Radu behind with a small Turkish force. Radu entreated the boyars to support his claim to the throne and end the pointless conflict with the Turks. The boyars, weary of war and tired of Dracula's bloody reign of terror, threw their weight behind Radu. Like his father before him, Dracula found himself facing an invasion from without and an insurrection from within. Unable to fight both the boyars and Radu's army, he fled.

Dracula succeeded in reaching Transylvania, where he appealed to Hungarian Emperor Matthias Corvinius, the son of his former benefactor Janos Hunyadi, for help. But old loyalties counted for little. Dracula, an overthrown prince with no supporters and no money, was of little use to Corvinius. Instead, the Hungarian emperor recognized Radu as the rightful ruler of Wallachia and imprisoned Dracula. In order to justify his actions, Corvinius claimed to have uncovered documents that showed Dracula had entered into a secret truce with the sultan. These documents were clever forgeries created by Germans merchants as revenge for Vlad's atrocities in Transylvania. Once their contents were revealed, Dracula's popular support melted away.

Dracula remained a prisoner of the Hungarian emperor for 12 years, whiling away his time torturing and impaling rodents that he caught in his quarters. However, all was not lost for the outcast prince. The emperor resisted pressure from the Germans to execute Dracula. He even allowed Dracula to marry one of his cousins, with whom he fathered two children. Radu ruled Wallachia until 1473, when he was ousted by Basarab Liota, a member of the rival Danesti clan. Once in power, Liota began making peace overtures to the Turks. This unsettled Corvinius and prompted him to release Dracula from prison. After accompanying the emperor on a crusade into Bosnia, Dracula invaded Wallachia for the third time in 1476. He defeated Liota in a bloody battle and once again claimed his father's throne. But his final reign was short-lived. Two months after recapturing his throne, Dracula's bloody and headless body was found lying in a field.

No one knows exactly how Dracula died. He had a long list of enemies, including the German merchants, Orthodox priests upset over his late-life conversion to Catholicism, Wallachian boyars weary of his incessant bloodletting, rival claimants to the Wallachian throne, the Turkish sultan, and many others. Whoever was responsible for killing Dracula, they couldn't kill the legends and myths that surrounded him. Thanks to the German propaganda, Dracula's infamous deeds lived on for centuries after his death. As stories of his brutality spread, his association with vampirism grew. However, it wasn't until the intervention of English novelist Bram Stoker in 1897 that Dracula's name became forever linked with the undead. Although Stoker never traveled to Transylvania, he did extensive research on Romanian history and the life of Vlad the Impaler. Stoker's novel cemented the image of Dracula as a blood-drinking creature of the night. The occult perception was furthered in the 1930s when Romanian archaeologists excavated Dracula's grave at the Snagov monastery. To their surprise, they found the tomb empty.

Dracula's image underwent a significant overhaul in the latter half of the 20th century. Romanian dictator Nicolae Ceausescu, looking to foster Romanian nationalism, ordered a new investigation into Dracula's life. The result was a slew of propaganda depicting Dracula as a national hero. Statues of Dracula were erected throughout Romania, and his image even appeared on Romanian postage stamps. At the same time, all mention of his atrocities was omitted from public records. Stoker's novel, and the slew of Dracula films and books that followed, were condemned as anti-Romanian propaganda. Ceausescu styled himself a modern-day Dracula, and his reign resembled Dracula's in many ways. Like Vlad, he used a brutal secret police force to intimidate, oppress and murder his own people. Some Romanians quietly referred to him as the "second Dracula." In the end, Ceausescu died a violent death just like his idol, gunned down by rebellious countrymen alongside his equally evil wife.

Despite his overwhelming brutality, many Romanians still regard Vlad the Impaler as a national hero. Dracula's victories against the Turks, although ultimately Pyrrhic, made him a standout figure in Romanian history. Dracula has also become popular for a far different reason—tourism. In modern Romania, Dracula is big business. A steady stream of vampire junkies and Gothic horror fans flock to Romania every year to see the place where the legend began. There are even plans to build a Dracula Land theme park. The bold but murderous tyrant has been known variously as hero, villain, and undead fiend. Now he has become the inspiration for a cottage industry of kitschy t-shirts, theme parks, and vampire tours—an unlikely end for one of history's most infamous monsters. □

By Kate Cooch

Israel's attack on the Iraqi nuclear facility at al-Tuwaitha, codenamed Operation Babylon, did the world a huge favor.

IN THE LATE 1970S, IT BECAME CLEAR TO THE INTERNATIONAL COMMUnity that Iraq, under the despotic leadership of Saddam Hussein, was attempting to acquire nuclear weapons through the guise of buying nuclear reactors for power generators. At the time, Iraq had well-known expansionist ambitions and unyielding animosity toward what it called dismissively "the Zionist entity," Israel. Hussein, a congenital thug born literally on the wrong side of the tracks, had ascended to the presidency of Iraq after two decades spent as a brutish street fighter and assassin for the militant Ba'th Party, which had seized political power in 1968.

Once in charge, Hussein stepped up his efforts to make Iraq a nuclear power to counteract Israel's supposed nuclear capacity. Trading on the diplomatic and financial contacts he had made with France earlier in the decade, Hussein completed a deal in 1975 in which the European nation agreed to sell Iraq the equipment necessary to construct a nuclear reactor at al-Tuwaitha, a research site located on banks of the Tigris River, a mere 12 miles from the center of Baghdad. The French also agreed to supply Iraq with 72 kilograms of enriched, weapons-grade uranium, which could easily be converted for use in an atomic bomb. Such a bomb, which experts calculated could be completed by the early 1980s, could easily kill at least 100,000 people if dropped on Tel Aviv, the capital of Israel.

The world reacted with alarm to news of the sale. The United States and Great Britain expressed measured diplomatic concern, and the United Nation's International Atomic Energy Agency increased monitoring efforts of Iraq's nascent nuclear program. But the West was reluctant to alienate the Arab world in the immediate wake of the 1973-74 oil embargo. It fell to Israel, the nation most immediately threatened by Hussein's obvious thirst for atomic weapons, to devise a suitable response to Iraq. The first move came in April 1979, when agents of Israel's incomparable Mossad intelligence agency intercepted a shipment of nuclear cores from France to Iraq at La Seyne-sur-Mer. Working swiftly, a team of agents blew up the warehouse where the shipment was stored, severely damaging the cores. Iraqi officials, fearing Hussein's reaction to the news, agreed to accept the damaged goods anyway.

Over the next 15 months, a number of key nuclear scientists from Iraq and other Arab countries were assassinated by Israeli agents while the scientist were visiting western Europe. The spate of suspicious deaths, including throat cuttings, hit-and-run automobile accidents, sudden flu-like illnesses, and virulent "food poisoning," greatly slowed the pace of research on Iraq's nuclear

An Israeli pilot in an American-made F-16 fighter jet cruises at low altitude over the Tigris River en route to the al-Tuwaitha nuclear facility near Baghdad.

Israeli Government Press Office

program, but Hussein continued pressing forward. "How could a people who only know how to ride camels produce an atomic bomb?" he scoffed when asked about his plans. Meanwhile, he threatened to suspend payments—and much-needed oil shipments—to France unless the French fulfilled their original contract calling for delivery of 72 pounds of 93% enriched uranium. The French agreed to honor their terms.

The next blow to Iraq's nuclear efforts came nine days after the start of the Iran-Iraq War, on Sept 30, 1980, when Iran sent two Phantom F-4-E jets to attack several Iraqi targets, among them the uncompleted nuclear reactors at al-Tuwaitha. The Phantoms fired two rockets. One did not explode, and the other hit the housing of one of the reactors, damaging the dome and cooling system, but causing no significant destruction. Hundreds of French and Italian technicians and engineers working at the facility were evacuated, however, and work at al-Tuwaitha ground to a standstill.

Over the course of the following year, Israeli Prime Minister Menachem Begin considered various options, including attacking Iraq's reactors. Such a move entailed major concerns, including probable adverse world reaction, the distance from Israel to Iraq (over 1,100 miles to the target and back), and concern that even though Iraq was in a war with Iran, it might counterattack Israel as well. More important, Begin was concerned about the reaction of Egyptian President Anwar Sadat of Egypt, who had brokered a separate peace treaty with Begin at Camp David in 1979. While an attack would not violate Israel's treaty with Egypt, which called for Israel to pull out of the Sinai in April 1982, Sadat's reaction was still unpredictable.

Begin weighed the risks and decided that a nuclear-armed Iraq was too dangerous for Israel to endure and that a preemptive strike was worth any possible aftereffects. He felt that a relatively swift attack was the best option, particularly when Iraq was weakened by its ongoing ground war with Iran. And since the reactor was not yet in operation, an attack would not result in any kind of nuclear fallout over the city of Baghdad—a humanitarian and public-relations nightmare in the making. By the end of March 1981, Mossad reported that foreign workers were returning to al-Tuwaitha, and that construction had resumed on the Osirak nuclear reactor. Begin and his advisors finalized plans for a surgical air strike on the Iraqi facility in early May. It was codenamed Operation Babylon.

Following a series of delays, during which time Mossad learned that France had finally

Israeli Government Press Office

Israeli Prime Minister Menachem Begin ordered the air strike known as Operation Babylon.

Israeli Government Press Office

Eight Israeli pilots underwent intensive training on F-16 fighters prior to the raid.

shipped all 72 kilos of enriched uranium to Iraq, the attack began near sunset on Sunday, June 7, 1981. It had been carefully planned for a Sunday, on the assumption that the 100 to 150 foreign experts employed at the reactor would be absent on the Christian day of rest. Additionally, a late-afternoon attack would give the Israeli Combat Search and Rescue Team (CSAR), riding in CH-53 helicopters, all night to search for any downed pilots. At 3 PM, the CH-53s took position, hovering at 100 feet just west of the Jordanian border. The crews were not told what the mission was—just that if a plane went down they had permission to violate any sovereign airspace to pick up the pilots. At 4 o'clock, eight of Israel's American-built F-16 fighter jets took off from Etzion airbase in the Sinai desert, carrying extra 370-gallon fuel tanks to increase their range.

Due to weight considerations, the F-16s were stripped of two of their four air-to-air Sidewinder missiles and jamming devices for protection against Iraqi MiGs and SAM-6 radars. Despite attempts to get their weight as low as possible, they still took off at a weight that exceeded nearly twice the planes' design specifications. They were equipped with special racks that carried two 2,000-pound MK-84 "dumb" bombs, called dumb because they used gravity only in targeting. The idea was to make the bombing process as simple as possible. The bombers were escorted by eight F-15 fighter interceptors for protection against Arab aircraft, to provide jamming of Iraqi radar over al-Tuwaitha, and to act as communications relay stations to a Boeing 707 command post that would be orbiting over Israel.

The fighters had to fly over or circumvent seven separate Arab airfields along their route of attack. This meant danger of aerial interception from Jordanian F-5-Es and Iraqi Mirage-4000s, MIG-23, and MIG-25s. At al-Tuwaitha itself, the fighters would face antiaircraft artillery (AAA) batteries and SAM-6s. The route of the attack from takeoff in the Sinai was east across the Gulf of Acaba, then across the northern part of Saudi Arabia near the border of Jordan, where Israel believed it had discovered some radar blind spots. Additionally, the Israelis had intelligence that the Saudis would only have one of their American-supplied Airborne Warning and Control System (AWACS) intelligence aircraft in the air at the time of the attack and that it would be overlooking the Persian Gulf. Radio communication, only to be made at five checkpoints, would be single words in English, the international language of

aviation, so that if overheard the communication might be mistaken for a commercial flight.

The eight pilots, all chosen for their previous intensive training in F-16s, were divided into two teams. Team one included Lt. Col. Zeev Raz, the wing commander, Amos Yadlin, Doobi Yaffi, and Hagai Katz. Team two, led by Lt. Col. Amir Nachumi, included Iftach Spector, Relik Shafir, and Ilan Ramon.

The formation flew low, about 100 feet, and fast, about 360 knots, again to avoid detection. Once the formation was across Saudi Arabia, it turned toward Baghdad. The first bombers reached their target 12 miles past Baghdad. Once on the scene, the attack took place in a matter of minutes. The F-16s swept across the sky in pairs of two, reaching 5,000 feet in four seconds and then diving at the target, sending their bombs toward the sides of the reactor, as they had practiced for months in the Sinai. The first bombs hit the side of the reactor, opening holes for the second set of bombs, which found and destroyed the reactor inside. In all, 14 out of 16 bombs hit the reactor precisely. A French worker who witnessed the Israeli attack called the accuracy of the Israeli bombing "stupefying." Eight workers, including one French technician, were killed in the bombing.

Within two minutes the attack, timed for sunset, was complete and the larger Tammuz I (or Osirak) reactor was destroyed. The smaller Tammuz II reactor's sensitive equipment and foundation were ruined. Iraqi antiaircraft unit personnel were eating when the attack occurred, which was another reason for the timing of the bombing, and had turned off their radars. As a result, there was a fatal delay in their reaction time, and no SAM-6s were fired at the Israeli planes. A number of Iraqi soldiers on the ground, however, were killed by errant antiaircraft fire. As predicted, the Saudi AWACS aircraft was facing the Persian Gulf and did not detect the Israeli aircraft. The attack squadron landed safely back at Etzion at 7 PM, having faced no enemy aircraft on the return flight. (In a cruel twist of fate, pilot Ilan Ramon, Israel's first astronaut, would die in the Columbia space shuttle accident in February 2003.)

The world universally condemned Israel's action, including the United States. The Reagan administration, normally sympathetic to Israel, chose to condemn the attack through a speech by American UN ambassador Jeanne Kirkpatrick, who called the raid "shocking" and compared it to the recent Soviet incursion into Afghanistan. France declared the Israeli actions "unacceptable," and made a brief

Continued on page 66

By Brandt Heatherington

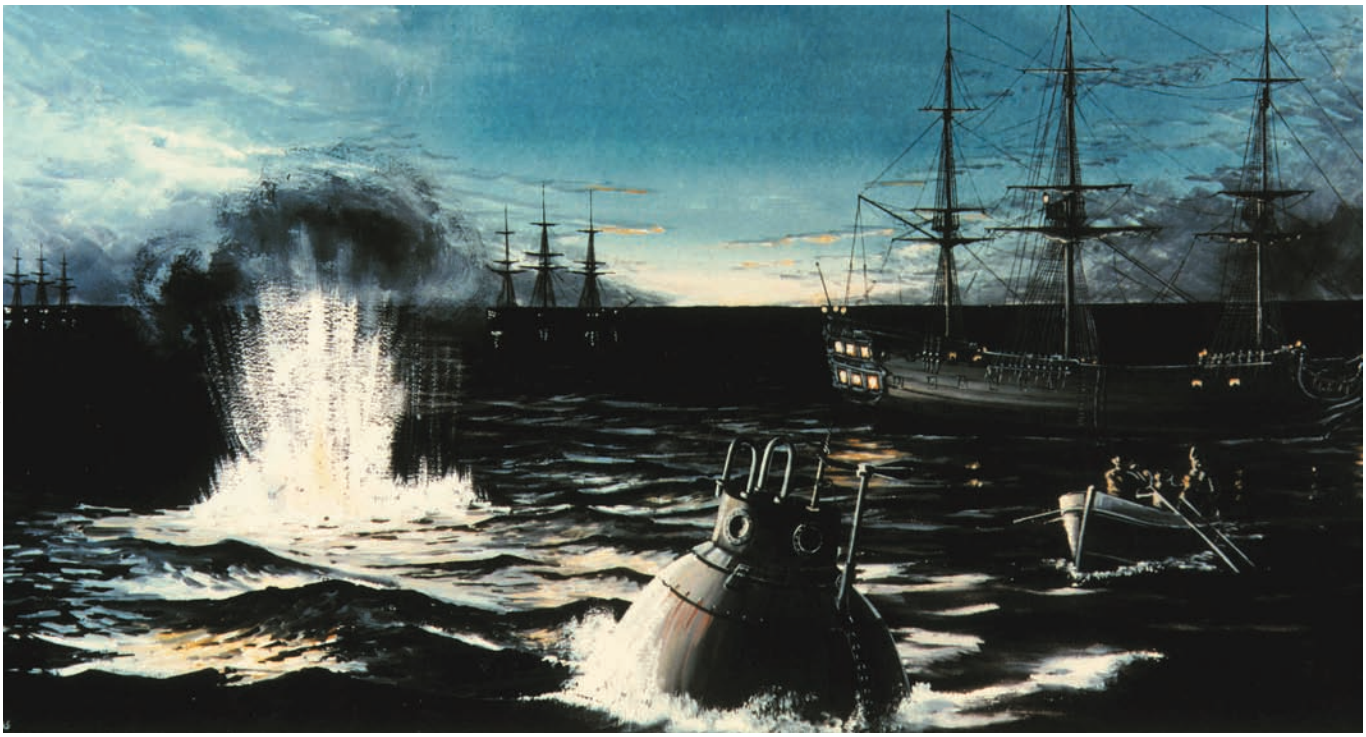
American inventor David Bushnell's Revolutionary War submarine *Turtle* was a major breakthrough in naval warfare.

THE WORLD'S FIRST COMBAT SUBMARINE WAS SOMETHING OF AN afterthought on the part of its creator. The revolutionary craft, known as the *Turtle* for its odd profile, was the progeny of David Bushnell, who was born in 1742 in West Saybrook, Conn. Bushnell did not start his career as an inventor, engineer, or even as a seafarer. In fact, he was a farmer for most of his early life. Bushnell's father passed away when he was 29, and he eventually decided to sell the family farm. At the relatively advanced age of 31, Bushnell elected to pursue a higher education and entered nearby Yale College to study mathematics.

Bushnell graduated from Yale in 1775, on the eve of the American Revolution. He was a fervent patriot who felt strongly that technology would be the key to winning the war, so he and fellow inventor and Yale intellectual Phineas Pratt set to work. The powerful British Navy would have to be dealt with in order for the Revolution to be successful, and it was apparent that America's fledgling navy would hard-pressed using conventional tactics. One of the pair's first concepts was an underwater bomb with a time-delayed flintlock detonator, a forerunner of modern naval mines. The idea met with considerable skepticism as to whether gunpowder could be made to explode underwater, but Bushnell successfully proved that it could. The only dilemma facing the inventors was how to deliver the mines, or "time bombs," to their intended target. For this purpose, Bushnell and Pratt developed a one-man, hand-propelled submersible vehicle to transport their bombs to an enemy vessel. The *Turtle* was born.

During the *Turtle*'s initial trials in the relative safety of the rivers of Connecticut, another famous colonial inventor, Ben Franklin, was an admired of the awkward-looking vessel, watching from shore as the *Turtle* was tested. Bushnell lacked the physical strength and stamina to operate the vessel himself, so his

Piloting David Bushnell's *Turtle* submarine, Sergeant Ezra Lee attacks ships in New York Harbor.

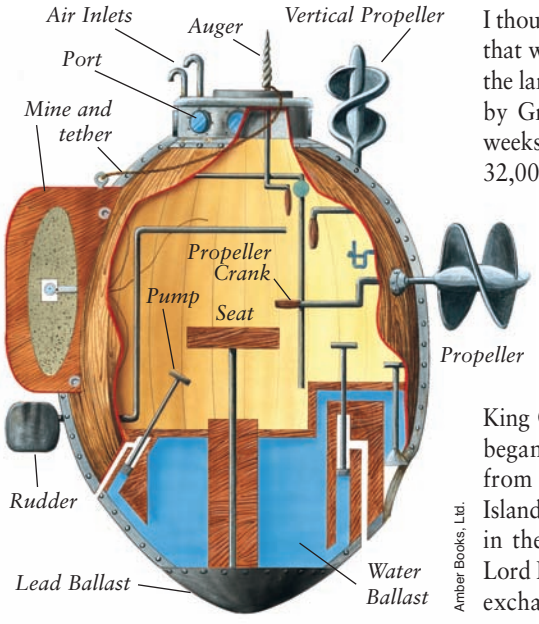


The Art Archive / Smithsonian Institution / Eileen Tweedy

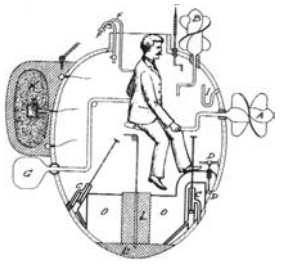
brother Ezra volunteered for the job. The *Turtle* bore almost no resemblance to the modern concept of a submarine. It looked more like a beer keg, with an oversized screw sticking out from the top, and its propellers and rudder oddly positioned on three different sides of the contraption. The hull of the vessel looked like two halves of a turtle shell pressed together, hence its nickname. The *Turtle* was constructed of oak, covered with pine-tar pitch for waterproofing, and held together with iron bands. Measuring a mere 7 1/2 feet tall and six feet wide at its center, it was barely large enough for its single operator to squeeze inside. The operator entered through an airtight hatch on the top of the sub, sat on a traverse beam mounted inside the vessel, and drove the submersible with hand-cranked propellers, a large one in front and a smaller one on top. He steered by means of a rudder at the rear of the vessel.

The operator determined where he was going while on the surface by looking through a set of glass ports surrounding the hatch. Submerged, he made use of a compass lit by phosphorous. The *Turtle* could float on the surface and pump in fresh air through a leak-proof intake valve, but once under water the operator could only keep the vessel below until the air ran out. The ship dove and surfaced by means of brass pumps that took in or expelled seawater as ballast, as well as using 700 pounds of lead weights, increments of which could be played out on a 50-foot line and retracted as needed. A decidedly uncomfortable feature of the seawater ballast system was the fact that the *Turtle* had no true ballast tanks; the incoming seawater simply flooded the floor of the craft, leaving the operator knee-deep in water until it was eliminated with the pumps when it was time to surface.

Once the *Turtle* made its way to its target, the job was only half finished—the operator then had to deliver the ordnance. The *Turtle*'s crank handle operated an external screw system whose controls were located in the vessel's upper chamber. Attached to the screw was a waterproof fuse that led to the explosive charge. The charge, consisting of 150 pounds of black powder, was designed to be buoyant, and fastened to the outer hull of the enemy ship by means of a detachable screw device. Bushnell's idea was for the operator to navigate under an enemy ship, drill the screw into the hull, detach the entire assembly while setting the fuse—a clockwork device with up to a 12-hour delay—and make his getaway. The mine would hopefully stay in place while the fuse burned down to the charge and exploded, leaving the enemy vessel with a hole blown in its hull. It was a lot to hope for—as it turned out, perhaps too much.



Amber Books, Ltd.



Submarine Force Museum (Archives)

The diagram above and the 19th-century engraving at right show the *Turtle*'s basic components, as well as the position of the operator. The world's first combat submarine actually contained no ballast tanks. As a result, when diving, the operator might find himself knee-deep in seawater.

After the British withdrawal from Boston to Halifax, Nova Scotia, in March 1776 following a protracted siege, General George Washington decided to move most of the Continental Army to New York City, which he did that April. Washington realized that New York would be difficult to defend, but its strategic and symbolic importance dictated that the effort at least be made. Fortifications were erected around the city, which was then confined to the southern tip of Manhattan, as well as on the Brooklyn Heights area of Long Island, east of the city. The Continentals built Fort Washington in what is now northern Manhattan, and constructed the Battery, a line of artillery near New York Harbor. Washington spread his troops out over both sides of the East River and up and down Manhattan Island. The Americans were unsure where the British would choose to strike first, but they knew that the enemy was regrouping. The Continentals prepared for the coming assault.

By late summer 1776, the British began arriving in force under the command of Generals William Howe, Henry Clinton, and Lord Charles Cornwallis. Their fleet controlled New York harbor with a massive array of gunships. Daniel McCurtain, an eyewitness, wrote: "The whole bay was full of shipping as it could be. I thought all London afloat." In fact, the force that was preparing to attack Washington was the largest expeditionary force ever assembled by Great Britain. Over a period of several weeks the British army had amassed close to 32,000 men, including more than 8,000 German mercenaries. Erroneously known as Hessians—Hesse-Cassel was one of many German principalities at the time—the German soldiers actually came from a number of city-states whose rulers sent them to fight in America in return for bounties from King George III. Eventually, troop transports began to arrive to ferry the Crown soldiers from their ships off Staten Island to Long Island by way of Gravesend Bay. Meanwhile, in the waters off New York City, Admiral Lord Richard Howe, William Howe's brother, exchanged fire with American batteries on Manhattan.

The combined British Army and Navy threatened to push Washington and his Continental Army up the Hudson River and gain control of the entire Hudson River Valley. This would effectively split the colonies in two, which was Howe's grand strategy for bringing the Revolution to a sudden end. As his plan became apparent, it also became apparent that the Americans desperately needed to break up the British naval blockade. During this untenable situation, the *Turtle* was pressed into service for the first time, with the monumental task of breaking the blockade by attacking the British fleet as it lay at anchor.

After a year of training, Ezra Bushnell was ready to pilot the *Turtle*, but on the night before the mission he became seriously ill with a fever. The mission had to be scrubbed and a new pilot had to be trained in a considerably abbreviated timeframe. Bushnell retreated with the *Turtle* back into Long Island Sound and quickly sought out a new volunteer. An army sergeant named Ezra Lee, of Old Lyme, Conn., was chosen to maneuver the submarine and deploy the mine. By then it was late August, and the situation facing the American forces had become even more serious. A large part of Washington's army had been lured into a trap, and the British overran Long Island on August 26, brutalizing Washington's troops and forcing them to retreat to New York City. Bushnell knew that time was running out. He cut short Lee's training session and returned to New York.

With preparations tentative at best and Continental General Israel Putnam's staff watching,

the *Turtle* set out on its historic mission at 11 PM on the night of September 6, 1776, with scant hopes for success weighing heavily on the contraption, its inventor, and its pilot. After several grueling hours of cranking, Lee and the *Turtle* finally reached the HMS *Eagle*, Howe's flagship, which was anchored in the approximate present-day location of the Statue of Liberty. Before dawn, Lee managed to submerge beneath the ship's keel undetected. Bushnell and his team knew that attaching the mine would be a difficult task under any circumstances. British naval ships of the period protected their hulls with a process called "graving," smearing the hull with a thick compound of tallow, sulfur and resin. This process repelled wood-boring shipworms, barnacles, and other destructive sea creatures, but did not prevent weeds from growing up through the hull or other undesirable growths from attaching to it. Unfortunately for Bushnell and his team, the British had discovered that "coppering," sheathing the hull in thick copper plate, protected their ships from all forms of seaborne menaces. Most of the fleet was undergoing coppering during the Revolutionary War, and surely the admiral's flagship would have been one of the first to receive such an improvement. This unhappy development most likely accounts for Lee's inability to attach the mine to the *Eagle*. He made two arduous attempts, but struck metal both times and failed to penetrate the hull with the hand-driven screw. Exhausted, unable to attach the explosives and running out of breathable air, Lee had no choice but to abandon his mission.

By now it was nearing daylight, and on his return to New York, Lee was discovered by the British as he passed near Governor's Island. They pursued him, and in an effort to hasten his escape he detached the mine, the fuse of which was still burning. Fearing a rebel trick, the British sailors rowed frantically back to shore. Lee was eventually spotted by his men waiting on shore and was hastily rescued, but the freed mine continued on its rogue mission. It was set to go off after one hour and, according to a witness, "drifted past Governors Island into the East River where it exploded with great violence, throwing large columns of water and pieces of wood high in the air." Putnam, thinking Lee had succeeded in his mission, shouted for joy, but the mine had done no actual physical damage to the enemy. Thus ended the maiden voyage of the world's first submarine.

Submarine Force Museum (Archives)

Sergeant Lee enters the *Turtle* before his attack on the HMS *Eagle*.

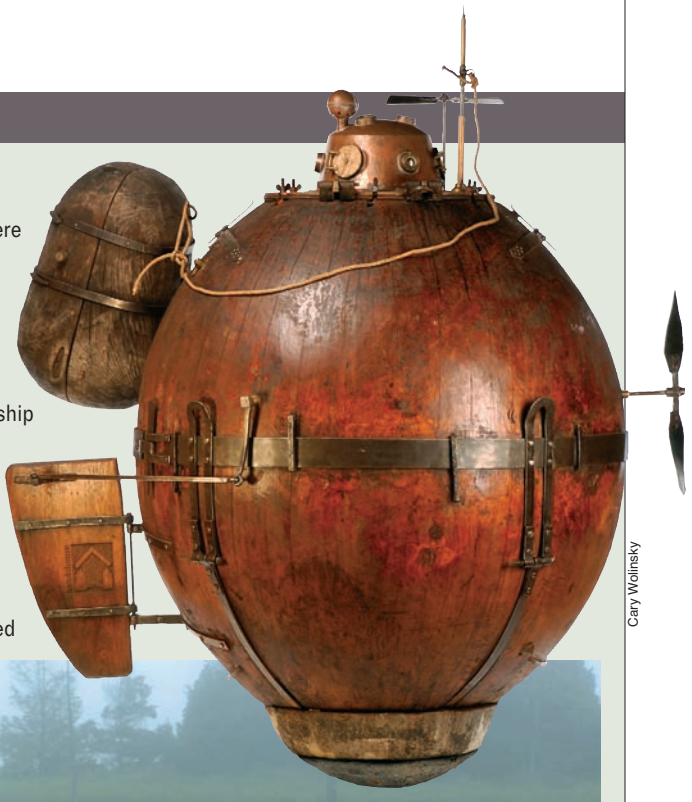
The *Turtle* saw action during two more battles at Fort Lee on the Hudson River, but again failed to inflict any damage. The prototype was subsequently destroyed when the tender that was transporting it back up the Hudson River was sunk by British artillery. George Washington was impressed with Bushnell's ingenuity and appointed him to a commission in the Continental Army Corp of Engineers, hailing him as "a man of great mechanical powers, fertile in invention and a master of execution." He further elaborated on the *Turtle* expedition: "I thought, and still think, that it was an effort of genius, but that too many things were necessary to be combined, to expect much from the issue against an enemy who are always on guard."

Despite the praise from the commander-in-chief, Bushnell nevertheless abandoned work on another *Turtle* and returned to his original pursuit, developing naval mines, and eventually designed a model that would explode on contact. In January 1778, Bushnell sent a fleet of so-called "death kegs" down the Delaware River to destroy British ships controlling the waterway. Owing to the darkness, the kegs were mistakenly set adrift at too great a distance from the British fleet, and were dispersed by the ice that blanketed the river. Nonetheless, during the following day they exploded and blew up a boat, causing no small amount of alarm to the British. The incident spawned a humorous poem by Francis Hopkinson entitled "The Battle of the Kegs." Bushnell's mines were successful in harassing and sinking British ships throughout the remainder of the war, but were never again used in conjunction with the *Turtle*.

Bushnell served continuously during the war, attaining the rank of captain in the Corps of Engineers, and saw duty at New York, Hudson Highlands, Philadelphia, Yorktown, and elsewhere until the conclusion of the Revolution in 1783. By 1787, Bushnell had disappeared from his home in West Saybrook. Rumored to have moved to France, it was only after his death in 1824 at the age of 82 that it became known he had actually relocated to Georgia and become a doctor and professor under the name of David Bush. Why he changed his name remains unclear—perhaps to avoid association with the infamous *Turtle*. It is equally unclear why Bushnell fled his career as an inventor and engineer to take up medicine, but if his past was any indication, intellectual curiosity is the most likely explanation. Sergeant Ezra Lee received a commission as a lieutenant for his bravery and served until 1782. Both men were founding members of the Society of the Cincinnati, an alumni association of Continental Army officers. Not surprising, considering the financial instability of the Continental Congress during the American Revolution, Bushnell was never reimbursed for his expenditures related to the development of the *Turtle*.

Despite the inability to sink the *Eagle*, the use of the *Turtle* was the first attempt to end a naval blockade using a submarine, and ultimately forced the British to move a fleet of nearly 200 ships to what they perceived as a safer location. The threat of underwater attack kept the British fleet jittery throughout the war and influenced their use of resources and positioning of their ships—hardly a failure for the tiny one-man vessel. This fact was not lost on military strategists, who saw the potential of the submarine as a weapon, and it also marked the beginning of submarine development by the American Navy. The basic principles used by the *Turtle* still remain valid in submarine warfare today. In recognition of Bushnell's achievement, the U.S. Navy named two submarine tenders in his honor, one during World War I and one during World War II. Inevitably, the ships were nicknamed "*Turtle*."

A full-size working replica of the *Turtle* is on permanent display at the Connecticut River Foundation in Essex, Conn. (www.ctrivermuseum.org). This replica was launched in 1977 into the Connecticut River in a mock attack on a ship anchored offshore that proved successful in every way, thereby validating Bushnell's vision almost 200 years later. Replicas are also on display at the Intrepid Museum, located on Pier 86 in New York City, and a cutaway version showing the interior of the *Turtle* can be seen at the Submarine Force Museum in Groton, Conn. □



Cary Wolinsky

Rick and Laura Brown, co-founders of Handshouse Studio and faculty members at the Massachusetts College of Art, led a research team in creating an accurate working replica of David Bushnell's *Turtle*. After locating and analyzing original letters and written accounts from the American Revolution, and investigating period technologies and materials, they began reconstructing the *Turtle* as late 18th-century craftsmen might have. Collaborating with faculty, students, and alumni at the Massachusetts College of Art and the Timber Framers Guild, they used a variety of 18th-century methods, including copper brazing, bronze casting, blacksmithing, and glass blowing. Borrowing a technique of the Pequot Native Americans, the body of the turtle was split and hewn from a single log—using only period hand tools.

Upon completion in January 2003, the *Turtle* was successfully water tested in Duxbury, Mass., and soon after the *Turtle* was tested further at the United States Naval Academy in Annapolis, Md. Utilizing the Academy's hydro-mechanical laboratory, tests were conducted to evaluate water-tightness, while drag tests verified calculations made in the Naval Architecture and Ocean Engineering department. The results of these rigorous tests proved that the *Turtle* replica was indeed seaworthy. Manned tests were conducted with the replica taken to a depth of 15 feet during a reenactment of the famous attack on HMS *Eagle* in 1776. During the reenactment, the *Turtle* successfully attached a mock bomb to a replica ship hull rigged inside the testing tank.

Following the *Turtle* replica's success at the Naval Academy, it was again taken to the harbor at Duxbury where it was launched into open waters. Once in the harbor, operator Rick Brown conducted a series of exercises to simluate how the *Turtle* actually operated under real-world conditions using its propeller and rudder system. The Brown's have been involved in other, similar history projects. They worked on the raising of an ancient Egyptian obelisk, recreated two large 18th-century construction cranes, and participated in creating a full-scale working medieval catapult. All of these projects have been executed using only period-correct tools and techniques.

Handshouse Studio

Not long after the final tests conducted in Duxbury, the Discovery Channel, England's Channel Four, and France's Channel Five aired the one-hour documentary film, *First Submarine* as part of the *Machines Lost in Time* series chronicling the submarine's reconstruction and its origins in the American Revolution. Handshouse Studio is a non-profit educational organization dedicated to creating adventurous hands-on projects to explore history, understand science, and perpetuate the arts. Handshouse is preparing a traveling museum exhibit featuring its *Turtle* replica, and copies of letters, drawings, models, and other documents relating to David Bushnell's creation. □

C.R. D'Amore

By Allan T. Duffin

Nearly 60 years after its debut, *12 O'Clock High* remains a tribute to the American airmen of World War II.

RIGHT: Since its successful premier in December 1949, *12 O'Clock High* has proven popular with movie buffs and military personnel alike, serving as a training aid for would-be leaders.

BELOW: B-17s of the 8th Air Force, accompanied by fighters, cruise over England.

A HARD-HITTING NOVEL THAT INSPIRED A CLASSIC WAR FILM, *12 O'Clock High* was a very personal project for co-authors Beirne Lay, Jr., and Sy Bartlett. Drawing from their own experiences as Eighth Air Force officers during World War II, Lay and Bartlett crafted a heady mix of combat heroics and interpersonal drama based primarily on the exploits of the 306th Bombardment Group, one of the first American units sent to England to battle for air supremacy in the European theater. The resulting novel and film boasted an authentic grittiness that only true life could inspire.

Ironically, the project almost didn't get off the ground. At the end of the war, Bartlett tried to convince his friend Lay that a novel would serve as a powerful historical record and an equally good motion picture. Lay, a writer and pilot who had served as a bomb group commander, wouldn't agree to such an emotional project so soon after the last shot of World War II had been fired. "The time just isn't right," Lay told his friend. "People are tired of war films." But the enthusiastic Bartlett finally coaxed Lay into agreeing, and the two men got to work.

At the time, Lay was sharing a small apartment with relatives in Los Angeles. Unable to work in such cramped quarters, he turned the basement of the building into a makeshift office. "Once I had seated myself at the orange crate which served as a desk for my portable [typewriter], illuminated by a naked ceiling bulb and a small cellar window on one wall, I was on my own. There was nothing else to do but write." For the next 15 months, Lay and Bartlett crafted a tale of a bomb group commander, Brig. Gen. Frank Savage, whose hard-charging leadership boosts his unit's combat performance but ultimately overwhelms him psychologically. Bartlett had returned to his prewar civilian career as a writer-producer at Twentieth Century Fox studios, and he would get together with Lay in the evenings. Credit for the book's title went to actress Ellen Drew, who was married to Bartlett at the time. According to Lay, "She overheard us discussing German fighter tactics, which usually involved head-on attacks from 'twelve o'clock high.' 'There's your title!' she cried." Harper Brothers publishers rolled out the first hardcover edition of *12 O'Clock High* in the spring of 1948.

National Archives

The real-life inspiration for *12 O'Clock High*, the 306th Bombardment Group, served in combat from October 1942 until April 1945. Nicknamed "The Reich Wreckers," the unit was based in the village of

Twentieth Century-Fox

Brigadier General Frank Savage addresses the men of the 918th Bombardment Group in a still from *12 O'Clock High*.

Thurleigh, 30 miles west of Cambridge, England. During its early forays against enemy targets, the 306th suffered heavy casualties. "We were averaging 10 percent losses" on each mission, noted Bill Lanford, one of the pilots. "Not a happy thought for those that hoped to complete a 25-raid combat tour." In seven months, the 306th lost 20 of its original 35 crews in addition to several replacement crews. Bomber Command held the group commander, Colonel Charles "Chip" Overacker, responsible for his unit's weak results. Part of the problem was Overacker's growing commitment to his troops. A social man who cherished close relationships, Overacker was more a father figure than a hard-nosed combat leader. At VIII Bomber Command headquarters, Brig. Gen. Ira Eaker grew more and more concerned with the 306th's performance. In January 1943, Eaker replaced Overacker with someone he hoped would overhaul the 306th Bombardment Group—Colonel Frank Armstrong.

In *12 O'Clock High*, Lay and Bartlett modeled much of their central character of Brig. Gen. Frank Savage on Armstrong, an expert at bombing operations who had joined the fledgling Army Air Corps in 1928 and led the first American heavy bombing mission into occupied Europe during World War II. According to Donald Bevan, a B-17 waist gunner in the 306th Bomb Group, "Armstrong was a strong, leading-man type, with Hollywood flair of dress." He privately considered the 306th "a sharp outfit with an excellent record," and he soon brought the unit out of the doldrums. "Frank Armstrong was the kind of tough leader that was needed to turn the situation around," remembered John Lambert, a pilot with the 306th, "and that is exactly what happened as a natural consequence of his taking command in January of 1943. I do not remember any one thing that he did to get these results. He was just a good combat commander who inspired confidence and, to a man, the group quickly shaped up under his leadership."

A key plot point in *12 O'Clock High* is Savage's mental "crack-up." Emotionally overwhelmed, unable to deal effectively with the repeated losses of men to the enemy, Savage collapses under the strain. During World War II, in addition to creating a daylight bombing strategy from scratch, the Eighth Air Force had to map its way through uncharted psychological territory. How would aircrews react to combat, and what was the best way to deal with it? Problems ranged from physical exhaustion to mental breakdowns like the one Savage experiences in *12 O'Clock High*. "When a flyer was undone by missions," recalled Harry Crosby of the 100th Bomb Group, "when he saw too many planes blow up in front of him, when his tail gunner was cut in two on a mission, when too many of his friends were killed, he sometimes quit. We did not call them 'cowards,' we called them 'combat failures.'"

Both photos: Twentieth Century-Fox

ABOVE: A camera crew sets up shop on Eglin Air Force Base's Duke Field, near Pensacola, Fla. INSET: Brigadier General Savage (Gregory Peck) is restrained by Colonel Keith Davenport (Gary Merrill) and Major Stovall (Dean Jagger).

Military personnel familiar with *12 O'Clock High* were aware that the character of Savage was based on Armstrong, but not everyone knew that the Savage's psychological breakdown was fictional. "At least a hundred times people who did not serve with us in England asked how long it took me to recover from the breakdown," said Armstrong, slightly miffed. "Those who were there have never ceased to jokingly tell me, 'It's too bad you never quite got over your mental problem!'"

While completing their novel, Lay and Bartlett pitched *12 O'Clock High* to film studios, and in 1948, Hollywood gambled on a movie adaptation. Darryl F. Zanuck, studio chief at Twentieth Century Fox, bought the war story for $100,000, a rather large sum at the time. To recreate a World War II airbase for the film, Fox needed the help of the U.S. Air Force. That September, on the same day that he received Bartlett and Lay's draft script for the film, Zanuck leapfrogged the entire military chain of command and wrote directly to General Hoyt S. Vandenberg, the Air Force Chief of Staff. In an enthusiastic and name-dropping letter, Zanuck gently prodded Vandenberg for help: "I do not know whether or not I am a fool to attempt this project at this time. It will call for an investment of approximately $2,000,000 at a time when the national box office has slumped and when most producers are looking for the so-called sure-fire box office entertainment."

Zanuck played his cards just right. Vandenberg replied that the Air Force was definitely interested and would assist the studio. A technical advisor, Colonel John DeRussy, was assigned to the project. He had served as operations officer for General Curtis LeMay's 305th Bombardment Group in Chelveston, England, during the war. DeRussy was teaching at the Air Command and Staff school at Maxwell Air Force Base in Montgomery, Ala., when he received his temporary duty orders for a 90-day assignment on *12 O'Clock High*. For the film's flying sequences, the Air Force lent the studio 12 B-17 Flying Fortresses and their crews. Some of the aircraft had served as drones and drone controllers, others had flown in the 1946 atomic bomb testing program known as Operation Crossroads. Still radioactive, they could be flown only for short periods of time.

At Fox studios, Zanuck assigned Henry King, an expert at period pieces, to direct *12 O'Clock High*. Bartlett and Lay revised their script, focusing their story on the difficulties inherent in combat leadership and gradually building up to Savage's psychological breakdown. Meanwhile, King hopped in his private Beechcraft to scout locations for the film. A do-it-yourself individual, King noted that he flew "nearly 16,000 miles scouting locations in my usual way, taking my own plane and doing the job personally." With the assistance of technical advisor DeRussy, King hopscotched a number of military installations until he found the right one: Eglin Air Force Base, a sprawling facility of more than 500,000 acres situated 30 miles east of Pensacola, Fla. Eglin was the proving ground for Air Force and Navy aviation programs and had 10 satellite airfields. King found the terrain he wanted at Auxiliary Field Number 3, better known as Duke Field, which stood almost 20 miles north of the main base. Duke Field would appear as *12 O'Clock High*'s aerodrome in the fictional English town of Archbury. The studio constructed 15 buildings and packed the set with period aircraft, equipment, and vehicles.

One additional location was required for the film. In March 1949, King and DeRussy checked out Ozark Army Air Field, a quiet, weed-infested airstrip near Maxwell AFB in Alabama. King figured that he could use the field for some B-17 aerial shots, but more specifically for the opening and closing scenes of *12 O'Clock High*, when leading character Harvey Stovall visits his old English airbase, now overgrown and fallen into disuse. At Ozark Field, King noted, "weeds had grown as high as a man's shoulders in some places, and the adjacent scenery was perfect as an English countryside." After filming those scenes, the crew would hire mowing machines from local farmers to trim the grass for B-17 takeoff and landing scenes, as well as a nail-biting belly-landing sequence. To maintain an authentic period look, scenes with airborne aircraft were shot at Ozark because British airfields during World War II had dark-colored runways to camouflage them from enemy eyes.

With filming locations ready to go, Twentieth Century Fox chartered cargo planes to haul the production crew and its equipment from Hollywood to Florida. The cast and crew shuttled between the two bases during the six-week shooting period. Seventy-two members of the production flew on a DC-4 Skymaster from one

spot to the other in a short 22 minutes. By car the trip would have taken five hours. Meanwhile, DeRussy secured one million dollars' worth of 1942-era Army Air Force uniforms and gear to use on set. Cocooned in heavy flight clothing, the actors battled the hot, humid Florida environment each day. DeRussy came away with a new appreciation of the Hollywood film machine. "I understood why film actors get paid so much," he said. "They work hard!" DeRussy recalled that the production crew worked "fantastic hours" on sets that cost $65,000 per day to operate. King typically allowed the actors one dry-run rehearsal, and then tried to film each scene in one take. Shooting began daily at 8 AM and lasted into the evening. "Dailies"—sequences of recently-shot raw footage—were reviewed until 8 or 9 PM.

Twentieth Century Fox contract player Robert Arthur played Savage's clerk and driver, Sergeant McIllhenny, in the film. "It was a large cast," recalled Arthur, "and we had been given hundreds of 'dog faces' for background atmosphere." Eglin Air Force Base was a huge facility with a large workforce, and Twentieth Century Fox was able to use active-duty Air Force personnel as background extras in many scenes. Fresh from basic training, James Storie was at Eglin awaiting his first active-duty assignment when he volunteered for temporary duty with *12 O'Clock High*. "I was an Airman 3rd Class with spare time on my hands. They asked me if I would be interested in helping out in a movie that was being filmed at Field Number 3. I had no idea at that time what kind of movie it was."

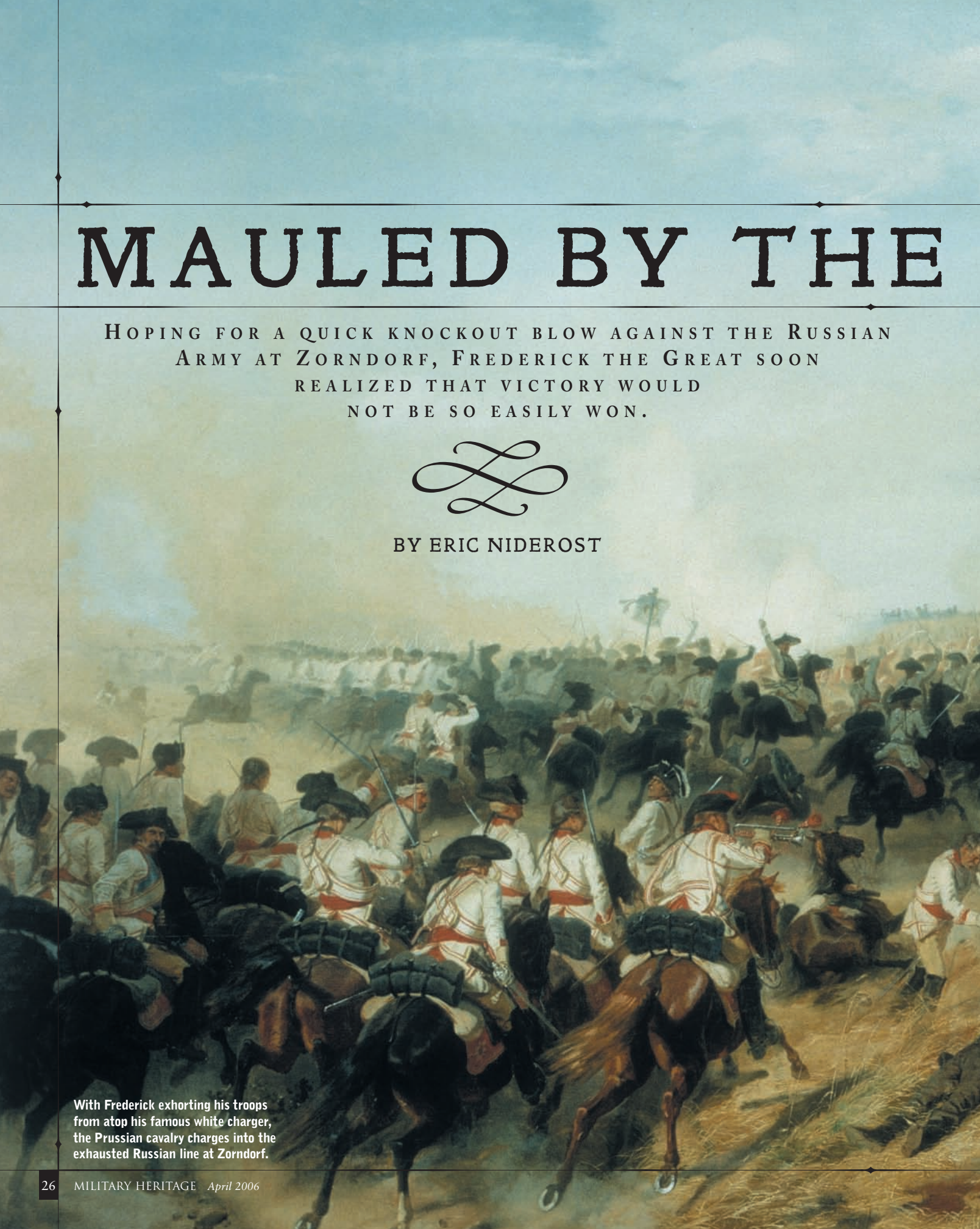
Storie reported to the set five days a week for about three weeks, arriving between seven and eight o'clock each morning. "We then lined up at a building and filed through. There was a counter where some person would judge by sight what size clothes we wore. He put our clothes for that day on the counter and told us to don them." After getting dressed, the airmen were led to a holding area until they were called to the set. As for the rank each background player wore, "it was random selection," remembered Storie. "You might be a captain that day, or a private, or anywhere in between." As shooting progressed, Storie came to appreciate the Hollywood actors' laser-like focus on their craft. Gregory Peck, playing Savage, always knew his lines and rarely needed to complete more than two takes of each scene. The eager extras, on the other hand, weren't as well trained. In the critical scene where Savage makes his fiery introductory speech after taking command of the 918th Bombardment Group,

Continued on page 74

MAULED BY THE

HOPING FOR A QUICK KNOCKOUT BLOW AGAINST THE RUSSIAN ARMY AT ZORNDORF, FREDERICK THE GREAT SOON REALIZED THAT VICTORY WOULD NOT BE SO EASILY WON.

BY ERIC NIDEROST



With Frederick exhorting his troops from atop his famous white charger, the Prussian cavalry charges into the exhausted Russian line at Zorndorf.

RUSSIAN BEAR

ON DECEMBER 5, 1757, PRUSSIAN KING FREDERICK II crushed the Austrian Army at Leuthen, Silesia, a masterpiece of military skill and maneuver that established Fredrick's reputation as one of the great commanders of the 18th century. The Austrians lost 21,000 men, including 12,000 prisoners, many standards, and 131 guns. His momentum growing, Frederick followed up the victory at Leuthen by sweeping the Austrians entirely out of Silesia. A number of key fortress towns were put under siege and their Austrian garrisons compelled to surrender. The capture of Schweidnitz in the spring of 1758 completed the cycle of Austrian woes.

The heavy snows and bitter cold of the central European winter effectively ended the campaigning season until spring. Prince Charles of Lorraine, the main Austrian commander, had tried his best, but had proven to be no match for Frederick's tactical genius. In September the Austrian army had numbered 90,000 men; by December, scarcely 25,000 cold, ragged, and thoroughly demoralized survivors remained. "I venture to assure you," Frederick wrote to his sister Wilhelmine, "that this battle [Leuthen] will procure the peace."

His assessment proved overly optimistic. Empress Maria Theresa of Austria was deeply distressed when she heard about her army's rout at Leuthen, reportedly crying for two full days. But the empress was a courageous woman who nursed an implacable hatred of the Prussian monarch. She had never forgiven Frederick for seizing Silesia 17 years earlier, during the War of the Austrian Succession. After the initial shock of defeat was over, Maria Theresa was more determined than ever to crush her implacable foe. She summarily dismissed Prince Charles and appointed Count Leopold von Daun as the new Austrian commander-in-chief. The shattered army was gradually built up again, partly with new recruits and partly through a prisoner-of-war exchange with the Prussians. Frederick also mustered new recruits and prepared for yet another campaign if his hopes for a negotiated peace with Austria proved illusory.

Shining success though it was, the Silesian campaign was merely the latest step in a blazing war that was far from over. In the spring of 1756, Austria, Russia, France, Sweden, and a host of smaller Germanic states had formed a self-protective alliance against Frederick's Prussia. In short order, Frederick found himself beset on all sides by a multiplying host of

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enemies bent on the total destruction of the Prussian state. Great Britain, Fredrick's only major ally, stood ready to given him huge cash subsidies and, to a lesser extent, military support. But Britain was not a continental land power, and Frederick felt the need to launch a preemptive strike against Saxony in the summer of 1756. These opening moves began the Seven Years War, which would prove to be the most bloody and destructive war of the 18th century.

Frederick's situation was somewhat eased by the successes of his brothers, Prince Ferdinand of Brunswick and Prince Henry of Prussia, who commanded troops fighting in central and western Germany. The pair managed to checkmate the French, which relieved Frederick of a major headache. But when it became clear that Maria Theresa was not going to sue for peace, Frederick once again turned his thoughts to a new campaign. Although he was preoccupied with Austria, a new menace was looming to the east. The Russian army, ponderous but powerful, was finally on the move.

Russian Czarina Elizabeth Petrovna hated Frederick and feared the growing power of Prussia. Much of the loathing was on a personal level. The czarina was a handsome, blonde-haired woman who had been beautiful when she was young. Over the years a steady succession of lovers had paraded though the imperial bedroom. Frederick took note of this and called Maria Theresa, Elizabeth Petrovna, and Louis XV's mistress Madame de Pompadour the "first three whores of Europe." The czarina was not going to forgive, and certainly was not going to forget, that stinging slur. After lengthy consultations with her allies, particularly Maria Theresa, Elizabeth decided to target the very heart of Prussia. She would make Frederick pay for his words.

As a preliminary step, a new commander was placed at the head of the main Russian army. General of Cavalry Villim Villimovitch Fermor was a competent officer who in the past had pushed through several much-needed military reforms. But Fermor tended to be slow and indecisive at times, and like most Russian officers, he was addicted to luxury. Nevertheless, when the Russians invaded east Prussia in January 1758, Fermor showed remarkable skill and energy. The isolated Prussian province fell with no resistance. By January 22, the Russians had entered Konigsburg, the east Prussian capital, an event that significantly boosted allied morale. The next step was to advance through Poland to the Oder River. Once there, Fermor could attack Silesia or thrust deep into the Prussian heartland at Brandenburg.

Peter Newark's Military Pictures

During Frederick's 46-year rule, Prussia was transformed from a European backwater to a military and political powerhouse.

To Frederick, the conquest of east Prussia was nothing more than a minor setback, a petty irritation that was not going to divert him from his main goal. The Prussian king had utter contempt for the Russians, whom he considered ill-disciplined "rabble." They would be swept aside in due course. The grandly named Lt. Gen. Christoph Burggraf und Graf zu Dohna, 65 years old, would be in charge of Prussia's defense in Frederick's absence. Frederick sent Dohna a series of letters that outlined the situation as he saw it. Sweden was another partner in the allied coalition, and there was a possibility the Swedes might try to act in concert with the Russians. This was to be avoided at all costs. Sweden must be watched and persuaded—or forced—out of the war. As for the Russians, Dohna was to confront and beat them in short order. It all seemed simple enough on paper.

The Prussian king felt that Dohna could easily defeat the Russians by himself, and in the meantime, Frederick had other things on his mind. He decided to invade Moravia and take the fortress town of Olmutz. The new Austrian commander, von Daun, was in neighboring Bohemia, where the next Prussian blow was expected. By marching on Olmutz, Frederick hoped to lure von Daun into giving battle on ground of Frederick's own choosing. If the Austrians refused to rise to the bait, it would not be a problem. In fact, the whole scheme was a win-win situation for the wily Prussian leader. If von Daun failed to arrive, Olmutz would fall and the path to the Austrian heartland would be open. Frederick could march on Vienna, threatening Maria Theresa's vulnerable capital. And if Vienna were taken, Maria Theresa would suffer a terrible loss of prestige. In fact, there was a real possibility that the whole allied coalition would collapse like a house of cards.

It was a brilliant plan, at least on paper, and when spring came Frederick lost no time in implementing it. The main Prussian army advanced on Olmutz, catching the Austrians by complete surprise. Frederick himself arrived at the walls of Olmutz on May 5, 1758. He immediately ran into trouble. The Austrians had built up the defenses over the years, much to Frederick's chagrin. The walls were strong, bristling with 324 cannon, and Olmutz's garrison was well supplied with food and ammunition. To make matters worse, the Prussian siege train was late, and Frederick's engineers proved barely competent. The formal siege did not begin until May 31.

At first Frederick kept his composure. He remained as active as usual, working harder than most of his general officers, patrolling, inspecting, and reconnoitering. The king even found time to play the flute and read a French play, although he confessed that "after each act I read, [I must have] a pinch of snuff." Soon, however, things began to sour. Prussian communications were disrupted by swarms of Austrian irregular troops, particularly the Pandours, who usually patrolled the frontier regions of the empire. The Pandours were hard-riding men from Croatia who excelled in ambush and hit-and run tactics. They also were wild and ill-disciplined, much given to rapine and pillage whenever the opportunity presented itself. Unsurprisingly, Frederick loathed the Pandours, calling them "bands of brigands."

One of those brigands almost changed the course of European history by killing Frederick himself. The king was out riding with a

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Prussian hussars skirmish with Austrian cuirassiers during the siege of Olmutz. Frederick abandoned the siege on July 2, 1758, and marched north to attack the Russians.

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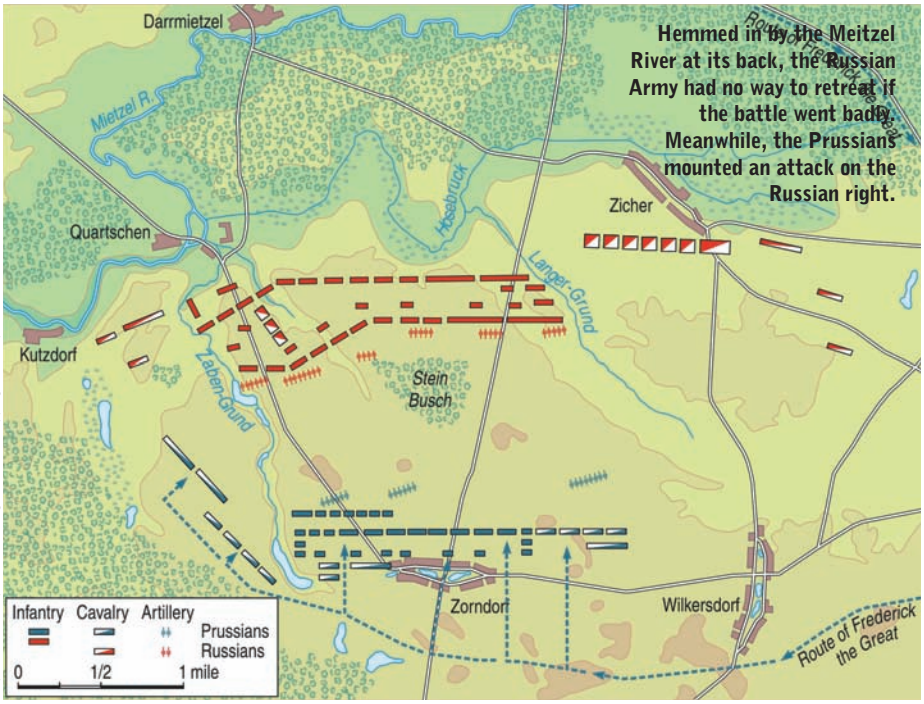
small staff when he spied a Pandour hiding behind a tree. The irregular was armed with a musket and obviously attempting to ambush any Prussians that might come along the road. He leveled his musket at Frederick, the muzzle only a few feet from the Prussian king. Frederick looked at his assailant directly, his eyes blazing. "I hope you have no powder in the pan," he blustered. The Pandour might not have understood the language, but he realized he had been spotted—and by the Prussian king himself. Shocked and shamed by the king's courage, the Pandour slowly lowered his weapon. Frederick rode on unharmed.

The siege was not going well, and Frederick's impatience mounted by the day. It was discovered that Prussian engineers had miscalculated the placing of the first siege parallel. In consequence, Prussian cannon were too far away, and only two shots out of 100 even reached the fortress. The mistake was corrected, but at the cost of much lost time. Equally bad, the Austrian irregulars were leaving Frederick tactically blind. Von Daun could show up at any moment. Frederick's impatience had gastric roots. He was plagued by indigestion, brought on by bolting "too much macaroni," and hemorrhoids made horseback riding a torture. Frederick arranged for a 4,000-wagon convoy to be assembled in Silesia to relieve his growing supply problems. The huge caravan also included nearly 1,000 ammunition wagons. This additional component was vital—after a month of pounding, Olmutz was finally beginning to show signs of weakening.

At Altliebe, a mere 20 miles from Olmutz, the Prussian convoy was ambushed by Austrian forces. The result was a disaster for Frederick's plans. Over 3,000 wagons were captured, their precious contents seized. Whatever the Austrians couldn't carry off was ruthlessly burned. Only about 100 wagons managed to escape and reach Frederick's army at Olmutz. The approximately 8,000-man Prussian escort, largely new recruits, had been badly mauled. Many survivors simply took to their heels. The king took the news with his customary stoic calm. Having received reports that Dohna was being hard-pressed by Fermor, Frederick considered that perhaps it was time to alter his plans. He had come within an ace of success at Olmutz, but Frederick wasn't one to dwell on what might have been. The loss of the convoy helped him decide. The Prussians would lift the siege and march north to face the Russians. Olmutz was abandoned on July 2.

The king left Margrave Carl of Brandenberg-Schwedt in charge of Prussian troops in Silesia while he marched north with 14 infantry battalions and 38 cavalry squadrons, somewhere around 15,000 men. Dohna was sitting tight at Frankfurt an der Oder, doing virtually nothing even though it was plain Frederick intended to take on the Russians. While Frederick was besieging Olmutz, the Russian offensive had stalled. After their successful conquest of east Prussia, the Russians had simply run out of steam. The Russians had to use Polish roads, muddy quagmires in the spring and dust-choked, rutted tracks in summer. The rivers in Poland and central Germany, running along east-west lines, formed natural defensive barriers that impeded Russian progress. The Oder River was particularly formidable, with fortified cities all along its length, from Stettin in the north to Custrin, Glogau, and Breslau in the south

Fermor reached Custrin and began to bombard the fortress town in the early morning hours of August 16. Russian shells started several fires, which joined together to make a raging conflagration. Long trailing fingers of flame shot high into the air, producing dark, acrid clouds of smoke that could be seen for miles around. Custrin rapidly became a blackened, rubble-choked ruin, although the city still held out against beseiging Russian forces. Would the charred ruins of Custrin also be the funeral pyre of Frederick's plans? The Prussian king knew that time was running out. The Swedes might march on Pomerania, and the newly resurrected Austrian army might pounce on weakened Prussian forces in Silesia. The Russians had to be decisively dealt with so that Frederick could go back to his original objective, the destruction of the Austrian army.



Frederick's march north was one of the most brutal of the war, with soaring August temperatures making the sandy ground a literal hell on earth. Scissoring legs kicked up clouds of sand and dust, the gritty particles caking every pore and parching throats already dry from lack of water. The king, generally a humane man, was utterly ruthless when forced by the pressure of events. Frederick issued strict orders that anyone who left the line of march would be shot without mercy. The grueling trek continued, some soldiers dying of exhaustion and the effects of heatstroke. The men's dark blue coats were made of wool, and soon armpits, backs, and chests were stained and soaked with rings of sweat. Felt cocked hats were topped with colored pompoms, but such martial smartness offered little protection from the broiling sun. The grenadiers perhaps had the worst of it. Their miter caps, with fronts made of brass or white metal, were cumbersome and gave little protection. Worse still, they were so hard to keep on a soldier's head that they had to be pinned in place.

Frederick reached Frankfurt an der Oder, where he could hear the rumble of Russian guns at Custrin farther downstream. The Prussian king hurried on, finally effecting a junction with Dohna at Manschnow, west of the beleaguered fortress, on August 22. The meeting gave Frederick a combined strength of some 36,000 men. The troops had covered 160 miles in eight days under a scorching summer sun.

EVOLUTION OF THE PRUSSIAN CAVALRY

When Frederick the Great became king of Prussia in 1740, he inherited a cavalry force that was quite possibly the worst in Europe. This was a legacy of Frederick's father, Frederick William I, who along with his principal military adviser, Prince Leopold of Anhalt-Dessau, had concentrated all his efforts on the nation's foot soldiers. Consequently, the Prussian infantry became preeminent on the Continent, its ceaseless drill, tight-fitting utilitarian uniforms, and draconian discipline admired and slavishly copied throughout Europe.

The Prussian cavalry was another matter. During Frederick William's reign it was an afterthought, a useless appendage that was mainly kept around for show. In 1739, the Prussian army of 81,000 had only 18,000 horsemen, or about 22 percent of the grand total. Frederick the Great noted its deficiencies as early as the 1730s, when he was still crown prince. To begin with, Prussian horses were big, powerful beasts, some of them 19 hands high. Many Prussian troopers could barely ride, let alone control their large, unruly horses, and drill was often conducted on foot. Cavalry officers knew little of tactics or maneuvering. Frederick complained they were "more farmers than officers." In battle, they were often glacially slow, and had little effect on the overall outcome.

Once Frederick came to the throne, he set about reforming and improving the cavalry. Cavalry was very expensive, which was another reason why Frederick William had neglected it. Frederick the Great made sure that smaller, swifter, and more manageable mounts were introduced as soon as circumstances—and Frederick's treasury—would allow it. Training began from the ground up with the individual trooper, then moved on to larger formations. Frederick took a personal hand. At one point, cavalry majors had to report to him for direct and detailed instructions.

Frederick was fortunate to find new officers to aid him in his task. By 1756, the Prussian cavalry was equal to any cavalry in Europe, but without effective leaders, all the reforms would have produced little results on the battlefield. The ensuing Seven Years War saw the emergence of two great Prussian cavalrymen: Lt. Gens. Frederick Wilhelm von Seydlitz and Hans Joachim von Zieten. Seydlitz, a charismatic leader and brilliant battlefield tactician with an uncanny sense of timing, was 35 years old when the war started. He usually appeared in the uniform of the 8th Cuirassiers, the ribbon of the Order of the Black Eagle, a reward for his brilliant contributions to the Prussian victory at Rossbach, worn over his heavy, black breastplate. Zieten was a hussar, small in stature but brave as a lion. Pint-sized but pugnacious, he was cashiered early in his career for fighting, but later recalled to duty. He survived wounds in several major battles, living to the then-incredible age of 87.

With the help of officers such as Seydlitz and Zeiten, tactics were reformed as time went on. The traditional three-line cavalry formation was abandoned in favor of a two-line formation. Frederick was always offensive-minded and advocated the attack in most situations. The king also favored the *arm blanche*—the sword—over the carbine in cavalry operations. But Frederick was fiercely pragmatic and never quibbled about which weapons were used in battle. In discussing the use of sword or musket, the king once remarked, "Kill your enemy with the one or the other. I will never bring you to an account with which one you did it."

The three basic types of Prussian cavalry were the cuirassiers, dragoons, and hussars. The cuirassiers were shock troops whose main mission was to deliver powerful, hammering blows on an enemy line. Dragoons were still making the transition from mounted infantry to true cavalry. They could, at least in theory, ride to

Frederick took the time to personally visit Custrin. The civilian inhabitants were much heartened by the sight of their king, who seemed genuinely touched by their plight. After promising to do all he could to rebuild their homes and lives, Frederick left Custrin with a burning hatred for the enemy. The entire Prussian army shared his sentiments, with "every man longing for action."

Frederick had three major objectives. First, he had to establish a bridgehead on the eastern bank of the Oder River, then cross with the bulk of the Prussian army. That accomplished, Frederick would cut the Russian line of communication, isolating General Peter Aleksandrovich Rumyansev, who commanded a smaller Russian army downstream at Schwedt, and preventing him from joining Fermor. The Prussian king wanted nothing les than a second Leuthen, a victory so complete it might knock Russia out of the war. Fermor, for his part, was greatly alarmed when he heard of Frederick's approach from Prussian prisoners and deserters. Hasty preparations were put in place to deal with the new threat. Fermor ordered Rumyansev to destroy all bridges and boats between his location and Custrin. The Oder River had once been a barrier, stalling Russian progress west. With Frederick's arrival on the scene it became a protective "moat" that shielded the Russians from the reinforced Prussian army.

The Prussians successfully kept the Russians off balance by cannonading the Russian siege lines at Custrin and staging noisy demonstrations at Schwedt. While the Russians' attention was focused at Custrin, a suitable crossing site was found about 20 miles downstream at Alt-Gustebiese. An assault force of grenadiers took a few boats, rowed across, and established a foothold on the eastern bank. They were spotted by some roving Cossacks, but the wild horsemen of the steppes made no attempt to intervene. Prussian engineers quickly built a pontoon bridge across the Oder, speeding up the labor by drafting local peasants. By noon of August 23, the Prussian army was crossing the Oder without opposition. At that point, the chief enemy remained the unrelenting summer heat, which seared through uniforms and bathed bodies in torrents of sweat. The troops were given little rest; a Prussian lieutenant recalled that his men "had to eat their bread on the march and satisfy their thirst from whatever puddle they came across."

When Fermor learned that Frederick was across the Oder in force—he overestimated the enemy strength at 55,000 men—he concluded that the Prussians would attack from the south and southwest in an area around the village of Zorndorf. The Russian general raised the siege of Custrin and hurried to meet Frederick just south of the Mietzel River, a tributary of the Oder. The landscape was a patchwork of fields, rolling tree-studded hills, and three low-lying hollows that the locals called *grunds*. These rough grooves in the earth, which featured small creeks, hardly more than meandering trickles of water, were choked by bogs and marshes as they fitfully flowed north into the Meitzel. To the west was the Zaberngrund, whose slopes in places reached 30 feet. The Galgengrund (literally "gallows hollow") was next, and finally the Langengrund anchored the east. The thread of water that flowed through the Langengrund was called Hosebruck, or "stocking brook," because it was so marshy that one needed to take off his shoes and stockings to cross. A high wooded hill called the Stein Busch lay just to the north of Zorndorf and southeast of the Zebern-grund. Its fir-studded slopes were going to restrict visibility and hamper maneuvering. A

Seydlitz (left), greets Frederick after his successful cavalry attack at Zorndorf.

Anne S.K. Brown Military Collection

an action, then dismount and fight on foot. Dragoon uniforms were of an infantry cut, which underscored their origins and dual mission. The hussar concept had Hungarian roots, and at first they were mainly used in the Austrian army. Prussia soon created hussar regiments as well, some nine squadrons in 1740. At first it was though that only real Hungarians could fill the ranks. But Hungarians proved to be unreliable soldiers, especially since they had little love for Prussia. Gradually, the truth dawned on the Prussian leaders that it was not necessary for a man to be born in Hungary to be a good hussar, although Frederick retained the traditional Hungarian uniform style—drooping mustache, fur hat, and pelisse, or fur-edged jacket, slung over the left shoulder.

The Prussian infantry was a mechanical monster, its soldiers merely parts of a well-oiled killing machine. Everyday beatings, floggings, and other corporal punishments were intended to make soldiers automatons who could march and fight as one and instantly obey blindly and without question. There was no room for individuality in the infantry—Frederick that felt such notions would ruin a soldier's effectiveness. The cavalry was a different story. Discipline was strict, but there was some leeway given to individual initiative. Some of this relative freedom came from the very nature of a cavalryman's work. Hussars, for example, often operated as scouts or guarded small supply convoys. If you were roving the countryside, you had to rely on your own wits. Certainly, you would not be expected to send a stream of messages asking for orders on what to do next.

Zorndorf provided a good example of how a cavalryman could show some initiative and independence of spirit. During the flank march to Zorndorf, a hussar spotted a Russian battery in the woods. Thinking that this discovery was important, the hussar rode to Frederick and told the king what he had seen. Frederick, skeptical, dismissed the report out of hand, saying, "I've heard stories of plenty of batteries!" The hussar started to ride away, muttering, "That's a lesson to me never to make a report!" Seydlitz was nearby and saw what had happened. He went to the king and told him he personally knew the trooper, "a first-rate man." "Get him back!" the king responded. When the hussar returned, Frederick made a kind of oblique apology, saying, "I didn't fully understand your report, my son!" Turning to Seydlitz, he remarked, "A bright hussar! He'll go far!"

The Prussian army was saved from almost certain disaster at Zorndorf by its hard-riding cavalry. Heroic charges—particularly Seydlitz's sudden emergence from the Zaberngund to fall on the Russian right's flank and rear—turned a near-defeat into a hard-won, if inconclusive, victory. Long years of preparation and improvement of the army's cavalry arm had paid for themselves in a single afternoon. □

broad patchwork of thick forests, mainly fir trees, hugged the Mietzel's southern bank from Quartschen to the village of Zicher.

Fermor placed his men just north of Zorndorf, between Zaberngrund and Langengrund. The Russians were facing north, in the direction of the Meitzel River, as if Fermor expected Frederick to cross immediately to his front. The Prussian king, however, had no intention of making a direct frontal attack. Consulting with local foresters to get a better idea of the terrain, Frederick decided on a flank march around the Russian right. As a first step, the bulk of the Prussian army would cross at Neudammer Muhle (new mill dam). The cavalry would cross farther upstream at Kerstenbruck, using a bridge that was still intact. Once across, the Prussian infantry would march through Zicher woods, the thick trees and a cavalry screen successfully hiding their movements from the enemy.

The Prussians would reunite with the cavalry near the village of Batzlow, then the entire army would continue its flank march, sweeping in a wide arc until it reached the vicinity of Zorndorf village. Frederick intended to steal a march on Fermor—a great tactical victory would be gained at the cost of a little shoe leather. In the meantime, Zermor learned that Frederick was at Neudammer Muhle. The news hits him like a blow. Fermor may not have been a great general, but he wasn't stupid. He knew what was about to occur, and realized immediately that the Russian army was facing the wrong way. The Russian commander quickly issued a flurry of orders—his army must literally execute an about-face, or else the Prussians would be attacking their rear.

The Prussian army broke camp and began its flank march at about 3 AM. It was Friday, August 25, 1758, and the Battle of Zorndorf was about to begin.

In the opening hours, all went according to plan. The Prussian army crossed the river and marched rapidly through the dense woods, finally breaking cover near Batzlow about daybreak. Fermor's position looked more and more like a trap, with the local topography representing a two-edged sword. The *grunds* secured the Russian flanks and prevented Frederick from fully employing his celebrated oblique-order maneuver. On the other hand, the natural dips in the ground restricted Fermor's own maneuvering and confined his men in a relatively cramped space. Even worse, once the about-face was completed, the Russian army now had its back to the Meitzel River and the swampy banks beyond. What had been a defensive moat against Fredrick was now a barrier that blocked off any avenue of retreat. Fermor compounded his problems by ordering Cossacks to put Zorndorf to the torch. The flames produced volumes of thick, black smoke that drifted back and partly blinded the Russian right wing.

Frederick and his staff kept pace with the army's progress, pausing occasionally to sweep the horizon with their telescopes. The king saw a *wagenberg*, a huge concentration of Russian supply wagons, on the horizon to the southeast. Its identity was confirmed by Prussian cavalry patrols, but Frederick was not overly worried. He had another objective in mind—namely, the destruction of the Russian army.

The Prussian forces arrived just south of Zorndorf and began to deploy for the coming offensive. All were in position by around 9 AM. While his army settled in, Frederick decided on his next course of action. His intended target would be the Russian right wing, hemmed in by the Zaberngrund on one side and the Galgengrund on the other. The king realized that he could not maneuver as he did at Leuthen, but a modified oblique order might still work, delivered in the form of a frontal attack. Lt. Gen. Heinrich von Manteuffel would have the honor of spearheading the Prussian attack on the enemy right wing. His advance guard of two musketeer battalions and six grenadier battalions would need close support if the plan was going to succeed. This task would fall to Lt. Gen. Hans von Kanitz and his wing of nine musketeer battalions, four fusilier battalions, and two grenadier battalions.

The Russian center and left had to be neutralized if the right was going to be isolated and defeated in detail. That task was assigned to Lt. Gen. Friedrich Ludwig von Dohna, who would command the "refused wing" of 10 musketeer battalions and one grenadier battalion. About 9 AM, the Prussians began their offensive with an artillery barrage on the enemy lines. The cannon opened up about 600 yards from the Russians, but at that distance the Prussian gunners were also vulnerable to return artillery fire. Guns vomited great gouts of smoke and flame, the recoil knocking them back on their trails. Gunners manhandled the pieces back to their original positions, swabbed out the hot barrels, and loaded them once again. This was hard, repetitive work, made worse by enemy fire and rising summer temperatures as the morning wore on. Soon, great dirty-white clouds of cannon smoke shrouded the field, a choking, blinding, evil-smelling "fog of war" that grew with each salvo. The Russian guns fired in counter-battery, adding to the heat, smoke, and stench. It was one of the most furious artillery duels of the war, the noise clearly audible at great distances. Civilians many miles away were startled when the ground began shaking in a continuous peal of thunder.

Clutching the colors of the 46th Infantry Regiment, Frederick rallies his men to a last-ditch stand on the Prussian left. Seydlitz's cavalry would save the day.

Just before 11 AM, the guns fell silent. The heavy smoke began to clear, and before long the Zorndorf battlefield was bathed in bright sunlight. It was time for Manteuffel to begin the infantry attack. The Prussian troops moved off, long skeins of blue tramping in almost parade-ground order. Officers made sure the ranks were properly dressed, aligning the men with the long wooden hafts of their half-pikes. As the attack commenced, the fifers and musicians of one regiment began playing the Ger-

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man hymn "*Ich bin ja, Heer, in deiner Macht*" ("Now, Lord, I am in Thy Keeping"), an appropriate sentiment for men going into battle. Frederick, a notorious atheist, couldn't help but be moved. He repeated the words with visible emotion.

A 20-gun battery was moved up to keep pace with Manteuffel's advancing infantry, and once in their new position they did terrible execution. Cannonballs flayed, disemboweled, and amputated arms and legs with horrific ease. Russian soldiers, most of them peasants inured to brutality and able to bear horrific wounds with scarcely a murmur, stoically endured the rain of death. One Prussian cannonball killed or wounded 42 Russians in a single flight. Manteuffel's troops emerged from the smoke, only to be confronted with a mass of Russian infantry not 40 paces away. Officers barked commands, and the Prussian ranks leveled muskets as if one man. A volley crashed out, then another and another, but the Russians absorbed the punishment and responded in kind. When cartridges ran low the Russians launched a bayonet attack. Fighting became hand-to-hand, with no quarter given or expected.

Eventually, the Russians began to give way, and a great Prussian victory seemed in the offing. All that was needed was for Kanitz to come up and support Manteuffel's tiring soldiers. But suddenly the truth dawned—Kanitz was nowhere to be seen. What had gone wrong? Kanitz had begun the march as planned, but as time wore on he realized that his right flank was exposed. Dohna was supposed to plug the gap, but he was bearing too far east. Worried about his flank, Kanitz extended his line to the right against orders. Battalion after battalion of his command followed suit, until there was virtually no support for Manteuffel's faltering drive. Frederick's planned one-two punch to the Russian right flank was becoming a weak jab.

With Kanitz missing, the moment for a decisive victory began to slip through Frederick's

Continued on page 67

FIRE OVE

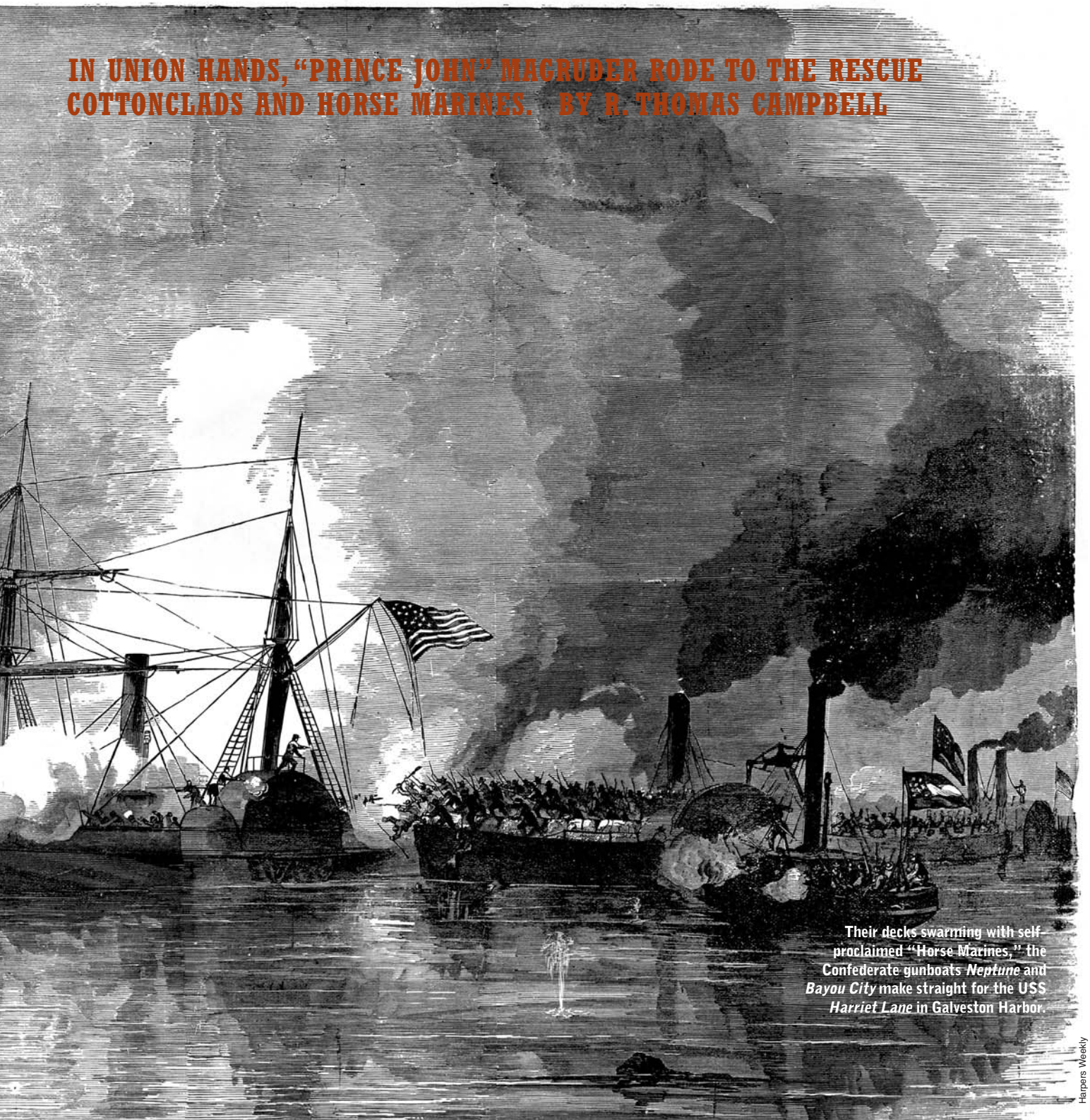
WITH THE VITAL PORT OF GALVESTON
WITH THE HELP OF HIS IMPROVISED

WHEN TEXAS SECEDED FROM THE UNION ON February 1, 1861, it did not take long for the new Confederate government to realize that the state's 385-mile coastline was extremely vulnerable to enemy assaults. With most of Texas's newly raised troops shipped off to Virginia, where the first battles of the war would be fought, there were precious few soldiers left to guard against a Federal attack back home. To add to the state's anxiety, the Lincoln government in April 1861 declared a blockade of the entire southern coastline from Virginia to the Rio Grande. Proclaiming a blockade was one thing—having enough warships to enforce it was another thing altogether. With most of the Federal attention focused on the major harbors of Charleston, Mobile, and New Orleans, and with few vessels available to guard the approaches to Galveston, the port became a haven for Southern blockade runners whose profits were high and risks were low. Even before the war, the city had established itself as the busiest anchorage on the Texas coast. Of the 300,000 bales of cotton produced in Texas in 1860, 200,000 were shipped from Galveston.

On August 14, 1861, Confederate Naval Commander William Wallace Hunter was ordered to proceed to Galveston and report to Maj. Gen. Earl Van Dorn, the military chief of the district. Hunter's responsibilities included assuming the overall command of all Confederate naval forces in the area and, once in charge, "to take measures to guard against any surprise by the enemy in the harbor and bay of Galveston." Hunter was also instructed to fortify Virginia Point across the bay from Galveston Island and to protect the two-and-a-half-mile railroad bridge that connected the island with the mainland. Hunter immediately directed all his energies and talents to fortifying Galveston, Brownsville, Pass Cavailo, and Sabine Pass. With only a few improvised "cottonclad" river steamers under his command, Hunter rendered efficient service to the army, transporting troops and munitions and guarding the coast from marauding expeditions.

Both Hunter and Brig. Gen. Paul O. Hébert, who assumed command of the district when Van Dorn was transferred east, considered Galveston essentially indefensible. Accordingly, they concentrated what few forces they had on Virginia Point and began fortifying the mouth of the Trinity River where it empties into the bay. All available guns, except for one 10-inch Columbiad that had to be left at Fort Point, were moved to the mainland,

IN UNION HANDS, "PRINCE JOHN" MAGRUDER RODE TO THE RESCUE COTTONCLADS AND HORSE MARINES. BY R. THOMAS CAMPBELL



Their decks swarming with self-proclaimed "Horse Marines," the Confederate gunboats *Neptune* and *Bayou City* make straight for the USS *Harriet Lane* in Galveston Harbor.

Harpers Weekly

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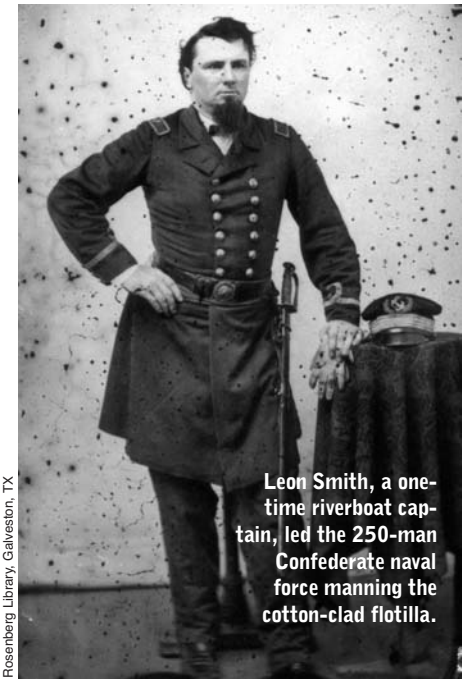
and all stores and ammunition were likewise salvaged. By the fall of 1862, when a Federal fleet suddenly appeared to threaten the city from the Gulf of Mexico, Galveston had become a ghost town.

At daylight on October 4, 1862, eight Federal vessels heaved into view off the bar of Galveston Bay. The fleet included the *Westfield*, a sidewheel steamer with six guns; the *Harriet Lane*, another sidewheeler carrying five guns; the *Owasco* with five guns; the *Clifton,* carrying eight guns; and the mortar schooner *Henry James*. Three additional schooners loaded with supplies also accompanied the Union flotilla. The Federal armada was under the command of Commodore William B. Renshaw, who flew his pennant aboard the *Westfield*. At 7 AM, *Harriet Lane*, flying a white flag, crossed the bar and steamed into the bay. Confederate soldiers watched apprehensively until she came opposite their position on Fort Point, at which time they opened fire with their lone 10-inch Columbiad, sending a shot whistling across the ship's bow as a signal to stop. Her commander, Lieutenant Jonathan M. Wainwright, immediately complied and the Federal warship abruptly came to anchor.

Wainwright sent an officer ashore in a small boat to ask for an immediate interview with the Confederate commander. Confederate Colonel Joseph J. Cook, heading up the island defense, hurried to Fort Point and was told that Wainwright wanted him to come by boat to Renshaw's flagship to meet with the fleet's commander. Not having a boat at the point, Cook returned to Galveston to make the necessary arrangements. After much difficulty, the colonel finally located a small skiff and dispatched two officers on their mission. By this time, however, Wainwright had grown impatient. Turning *Harriet Lane* around, he steamed back over the bar to communicate with Renshaw himself. Soon, Southern soldiers at the point were aghast to see the entire Federal fleet, white flags flying from their peaks, cross the bar and head for the harbor. Cook's messenger boat was making slow progress toward the oncoming Union warships, when suddenly the big Columbiad on Fort Point thundered again, sending another shell streaking across the bow of the lead Federal ship.

This time, however, the Union vessels refused to stop. Ignoring the white flags still flying from their own masts, they opened fire on Fort Point and the Confederate positions on the narrow neck of land between the fort and the city. The green Texas troops manning the Columbiad had never been under fire, and with shells from 20 heavy guns bursting around them, they quickly



Rosenberg Library, Galveston, TX

Leon Smith, a one-time riverboat captain, led the 250-man Confederate naval force manning the cotton-clad flotilla.

National Archives

Confederate General John B. Magruder took command of the Department of Texas, and was determined to regain the harbors—including Galveston.

spiked their lone piece and fled toward the city. By this time, Renshaw's fleet had come alongside the Confederate flag-of-truce boat carrying the two Southern officers. Renshaw ordered his flotilla to drop anchor and cease firing.

An uneasy silence now prevailed, as the two Confederate officers conferred with Renshaw on board *Westfield*. In his report, Cook described the results of the meeting: "At about 3:00 p.m. our flag-of-truce messenger returned to the city, bearing a demand from the enemy for the surrender of the city and demanding an immediate answer. I sent a messenger with the answer that I should not surrender the city, directing the messenger also to say to the commander of the fleet that there were many women and children, and to demand time to remove them. After some negotiation it was agreed that no attack should be made upon the city for four days; that during that time we should not construct any new or strengthen any old defenses within the city, and the fleet not to be brought any nearer the city. This arrangement gave us ample time for the removal of all who desired to leave the island, and also for the removal of our troops and material of every kind."

Renshaw had no available troops with which to take possession of the city, but he effectively controlled every part of the town and island that lay within reach of his guns. At the end of the agreed four-day truce, the Federal commander was left with a stalemate. As a token gesture by Cook to avoid a useless bombardment, Renshaw was given permission to dispatch a detail to raise the American flag over the Customs House for a period of a few hours. With this done, the Union fleet closed the port and made access to the mainland over the railroad bridge a hazardous journey for the few Confederate troops still remaining in the city. Heavy planking was laid down on the bridge, and Confederate cavalry patrols frequently crossed over and visited the city, but for all intents and purposes, Galveston was now in Union hands.

On November 29, Confederate Maj. Gen. John B. Magruder, fresh from his stubborn defense of the Peninsula in Virginia, arrived to assume command of the Department of Texas. The tall, courtly Virginian, nicknamed "Prince John" by his admiring men, found the situation desperate. "On my arrival in Texas," he wrote, "I found the harbors of this coast in the possession of the enemy from the Sabine River to Corpus Christi; the line of the Rio Grande virtually abandoned, most of the guns having been removed from that frontier to San Antonio, only about 300 or 400 men remaining at Brownsville. I resolved to regain the harbors if possible and to occupy the valley of the Rio Grande in force. I remained a day or two in Houston, and then proceeding to Virginia Point, on the mainland, opposite Galveston Island, I took with me a party of 80 men, supported by 300 more, and passing through the city of Galveston at night, I inspected the forts abandoned by our troops when the city was given up. I found the forts open in the rear, and taken in reverse by every one of the enemy's ships in the harbor. They were therefore utterly useless for my purposes. The railway track had been permitted to remain from Virginia Point to Galveston, and by its means I purposed to transport to a position near the enemy's fleet the heavy gun hereinafter mentioned, and by

assembling all the movable artillery that could be collected together in the neighborhood, I hoped to acquire sufficient force to be able to expel the enemy's vessels from the harbor."

Acting on Magruder's orders, Hunter was making every effort to arm several new boats that had been purchased by the Confederate government. Two iron-strapped river steamers, which were being operated by the Texas Marine Department, were reasonably large and could carry a sizable boarding party. These two boats, *Bayou City* and *Neptune*, were moved to Harrisburg, on the Buffalo Bayou, where workers began building bulwarks of lumber and cotton bales. Workers stripped off *Bayou City*'s upper cabins and pilot house, and cotton bales were placed on their sides and stacked three tiers high. Another row, two bales high, backed these and provided a fortified firing platform for sharpshooters. Boarding planks were constructed on each side of the boat and hoisted beside the smokestacks, where they could be dropped on an enemy vessel. Mounted on a pivot and protruding from among the cotton bales on the bow was an old 32-pounder that had been reworked into a rifle.

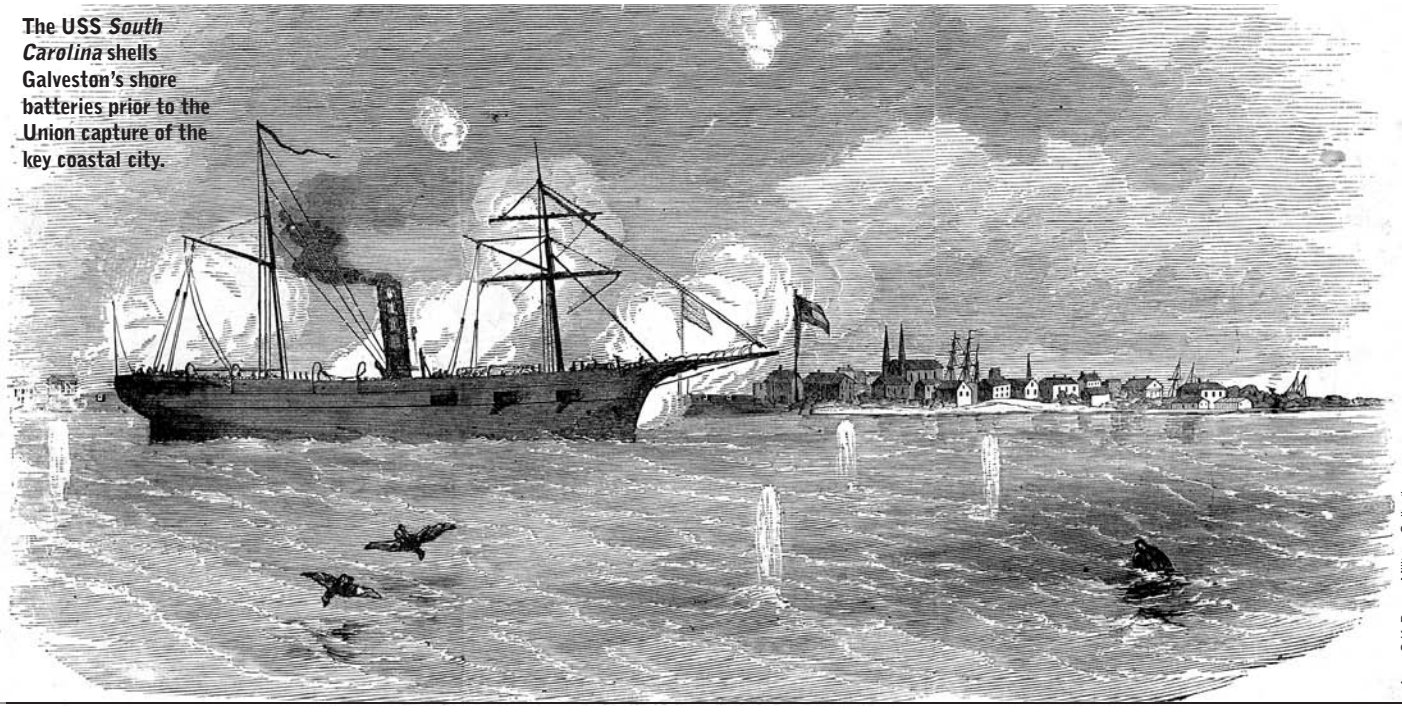
A company of cavalry from Colonel Tom Green's 5th Texas and a number of volunteers from Colonel Arthur Bagby's 7th Texas Cavalry went aboard as sharpshooters. These troopers had fought well as part of Brig. Gen. Henry H. Sibley's famous brigade during the New Mexico campaign. From a distance the 165-foot *Bayou City*, under the command of Captain Henry S. Lubbock, resembled an ironclad ram. For her part, *Neptune* sported two small 24-pounder howitzers, and she too was armored with cotton bales. Commanded by Captain William H. Sangster, *Neptune* also carried a complement of sharpshooters from the 7th Texas Cavalry. Two transports, *Lady Gwinn* and *John F. Carr*, accompanied the tiny fleet. The latter vessels had cotton bales protecting their engines and machinery, but otherwise were unarmed. All the "Horse Marines," as the cavalrymen described themselves, were armed with Enfield rifles and double-barreled shotguns.

The Confederate naval force of approximately 250 men was under the command of one-time riverboat captain Leon Smith, who, like Green, had fought in the Texas war for independence. Magruder had met Smith while in California, and being impressed with his knowledge of steamboating, had offered him a position on his staff. Along with the navy, Magruder was marshaling his land forces. Again drawing upon the Sibley Brigade, the Confederate commander tapped the untried 20th Texas Infantry, the 21st Texas Infantry Battalion, and detachments of the 2nd and 26th Texas Cavalry for the land attack. The units had been preparing to leave for Louisiana, but had been delayed by lack of transportation. Magruder scraped together all the artillery pieces he could find, and by December he had accumulated 14 field pieces, six larger siege guns, and one 9-inch Dahlgren that he had mounted on a railroad flatcar.

Magruder's haste in preparing his forces was well founded. On Christmas morning, 240 members of Companies D, G, and I of the 42nd Massachusetts Infantry Regiment, under the command of Colonel Isaac S. Burrell, landed on Kuhn's Wharf at the end of 18th Street in Galveston. Working with haste, the New England troops ripped out the planking leading from the wharf to the main dock area, which was called the Strand, and proceeded to erect barricades and firing positions on the wharf itself. With the heavy naval guns at their backs, Burrell was confident that his men could successfully resist any determined Southern attack. Having learned through informants that more Union troops were on their way to Galveston as reinforcements, Magruder realized that he had to act quickly.

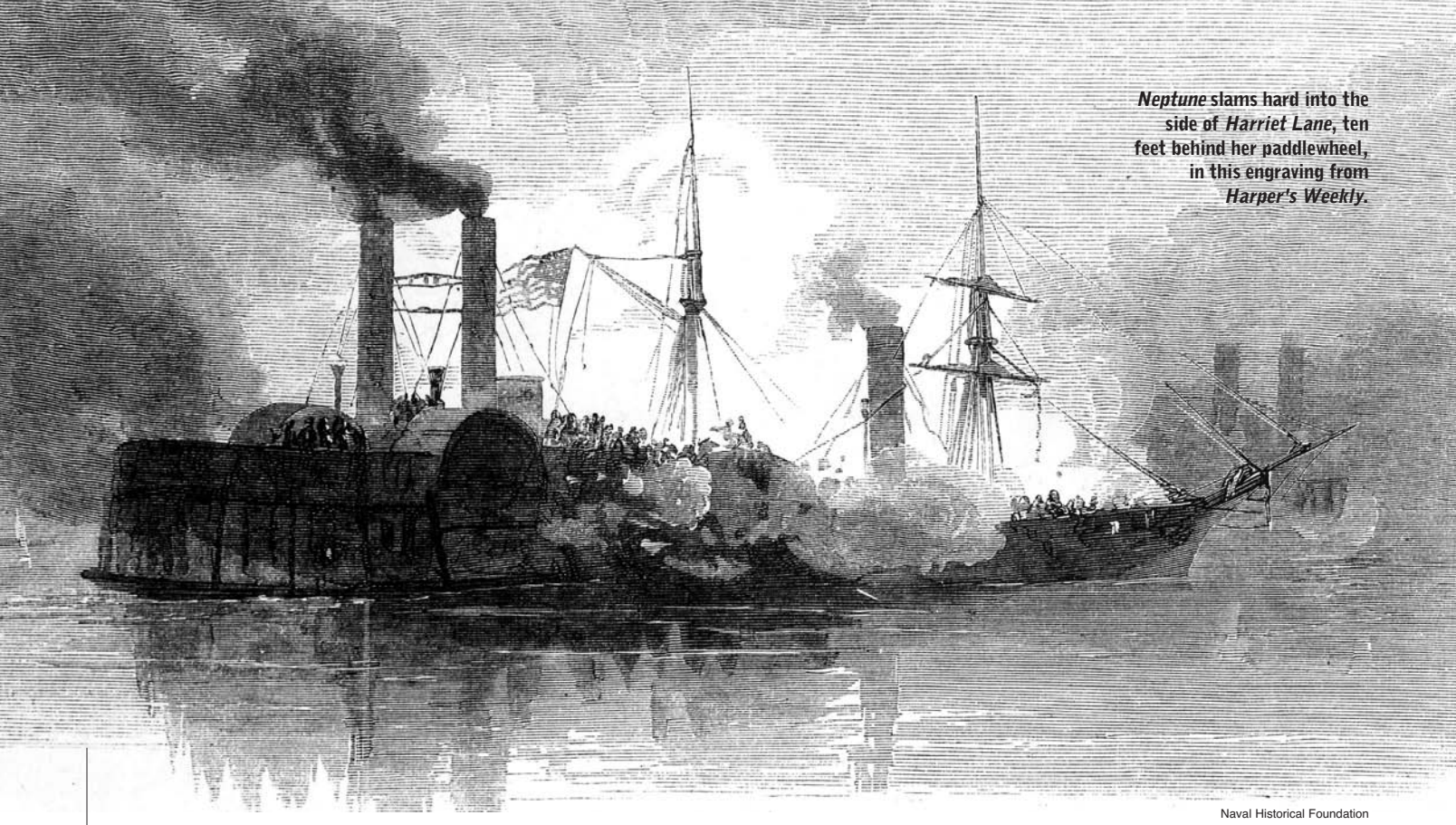
Wednesday evening, December 31, was clear and cold. A brilliant full moon cast its rays over the placid waters of Galveston Bay, where the Federal warships swung gently at their anchors. On board each vessel, deck watches began their usual rounds. Hammocks were lowered by tired Union sailors, who hoped the persistent rumors of a Rebel attack would prove untrue for at least one more night. On Virginia Point, however, Confederate Army forces were already on the move. Horses and mules strained at their harnesses as they pulled the six heavy siege guns across the wooden planking laid down on the long railroad bridge. Gray-clad troops trudged along beside, while other willing hands pushed ahead the old railroad flatcar carrying the 9-inch Dahlgren.

Captain S.T. Fontaine and the men of the 1st Texas Heavy Artillery had the farthest to go. Their objective was to occupy Fort Point at the mouth of the harbor and direct the fire of their



The USS *South Carolina* shells Galveston's shore batteries prior to the Union capture of the key coastal city.

Anne S.K. Brown Military Collection



***Neptune* slams hard into the side of *Harriet Lane*, ten feet behind her paddlewheel, in this engraving from *Harper's Weekly*.**

Naval Historical Foundation

heavy guns on the Federal fleet in the bay. Meanwhile, Captain George R. Wilson's six siege guns would engage the Massachusetts troops on Kuhn's Wharf, while the big Dahlgren was run up to a point only 300 yards from the *Harriet Lane*, which was anchored off the end of 29th Street. The remaining artillery pieces were positioned within the town, where they could bring their fire to bear on the other Federal vessels in the bay. In all, five formidable warships lay offshore, their 30 heavy guns covering the Union troops on the wharf. Meanwhile, Cook had assembled a determined attack force of 500 men whose mission was to storm the Northern troops barricaded on the wharf. Magruder planned to have everyone in place by midnight, at which time he would give the signal to open fire.

By the appointed hour, Smith and his cottonclad flotilla had reached a point just north of Pelican Island. Fearful that he would be spotted in the bright moonlight—he was, and lookouts aboard the *Harriet Lane* flashed the alarm—Smith ordered his forces to withdraw northward several miles up the bay. With the faint sound of hissing steam audible from the engine rooms, the weary Confederate Horse Marines dropped down behind their cotton bales for a short period of rest, while Smith and his anxious commanders waited for the opening sounds of the land attack.

Midnight came and went, and all was still quiet in Galveston. Confederate soldiers, careful to stay out of the bright moonlight, huddled in the shadows of the buildings and in alleyways along the waterfront. Weapons were checked and double-checked. Some men, aided by the moonlight, wrote letters to their families and sweethearts. Waiting was always the most difficult task for soldiers, and it was now well past the appointed time and the order to attack still had not come. Unknown to those awaiting the signal, Magruder had decided to delay the assault in order to be certain that Fontaine had reached his position at Fort Point. By 4 AM, the moon had slipped below the horizon and a thin mist spread its veil over the darkened bay. While their horses were hurried behind some of the brick buildings, Texas gunners jostled their pieces to more advantageous firing positions and squinted across their sights at the enemy vessels still visible by the faint light of the stars.

A little after 4 AM, Magruder walked to the center siege cannon located at the end of 20th Street and pulled the lanyard. The heavy gun responded with a thunderous roar, and at once the entire Confederate line exploded in a sheet of flame as every gun opened up. The Battle of Galveston had begun.

It did not take the Federals long to reply. Within minutes every gun that had the range was sending charges of grape and canister whistling through the midst of the Confederates on the Strand. The deadly iron balls tore into buildings and flesh alike. Cries of the wounded mixed with the dust and smoke as Texas gunners struggled to return fire. The Union gunners began to alternate between shells and canister and the streets and alleys leading to the Strand became a fiery death trap of massive explosions and streaking canister.

Four miles to the north, the thunderous discharges were distinctly heard. Smith, shouting into *Bayou City*'s speaking tube, yelled to the engine room, "Give me all the steam you can crack on!" *Neptune* came alongside and the two cottonclads' paddlewheels churned the water to foam as they began to pick up speed. Black smoke poured from their stacks as engines puffed and throbbed, while high-pressure steam hissed from escape valves. The sleepy Horse Marines were now wide awake, and with dry mouths and pounding hearts they scrambled for their positions behind the cotton bales.

On the Strand things were not going well for Magruder's Texans. Federal warships had edged in closer to the wharves and now, at less than 300 yards, were sending their charges tearing into the enemy positions. Some Confederate gun crews had abandoned their pieces, while others struggled bravely to maintain their fire. Even the heavy Dahlgren on the flatcar was abandoned. Some damage had been inflicted on the enemy vessels, but not enough

to drive them off. Seeing the danger, Cook led his 500-man storming party in a desperate bid to dislodge the Massachusetts troops barricaded on Kuhn's Wharf. The green troops of the 20th Texas immediately ran into trouble. Wading through the cold water from the Strand to the wharf, they attempted to raise their scaling ladders, only to find that they had miscalculated the depth of the water and that the ladders were too short. Fire from the Union ships combined with the musket fire from the 42nd Massachusetts spread panic among the floundering Texans, and they scrambled for any cover they could find.

Knowing that it would be suicide to try to keep his troops and gunners in position at daylight, Magruder ordered his men to begin falling back. Exhausted and dazed Confederates troops, many encrusted with blood, dust, and gunpowder, stumbled through the town, some not stopping until they reached the Gulf shore. The decision to shield the horses behind the buildings proved fortuitous, for most gun crews were able to retrieve their pieces. Fontaine's exposed guns, however, were spiked and abandoned at Fort Point. As daylight began

to reveal the carnage and destruction around them, a feeble cheer arose among the Confederate troops. Off to the north, through the smoke and early morning haze, the Horse Marines were coming.

Puffing and snorting from high-pressure steam, the Confederate cottonclads drove straight for the Union vessels. Rosin and turpentine had been thrown into the improvised vessels' furnaces to increase their speed. When *Bayou City* and *Neptune* drew within range, their bows suddenly belched smoke and flame as their 32-pounder and howitzers let fly at the Federals. While the Union gunners on board *Harriet Lane* hurried to pivot their pieces to meet the unexpected new threat, Texas cavalrymen aboard *Bayou City* loaded another round and sent it streaking toward the *Harriet Lane*. Their aim was true. The shell tore through the side of the Union gunboat, blasting a hole that was big enough for a man to crawl through. Someone shouted for them to give the Yankees another New Year's present, and the old 32-pounder exploded in a mass of flames, sparks, and spinning pieces of jagged iron. When the smoke cleared, the ship's captain and several others lay lifeless on the deck, their bodies torn to pieces by the misfired gun.

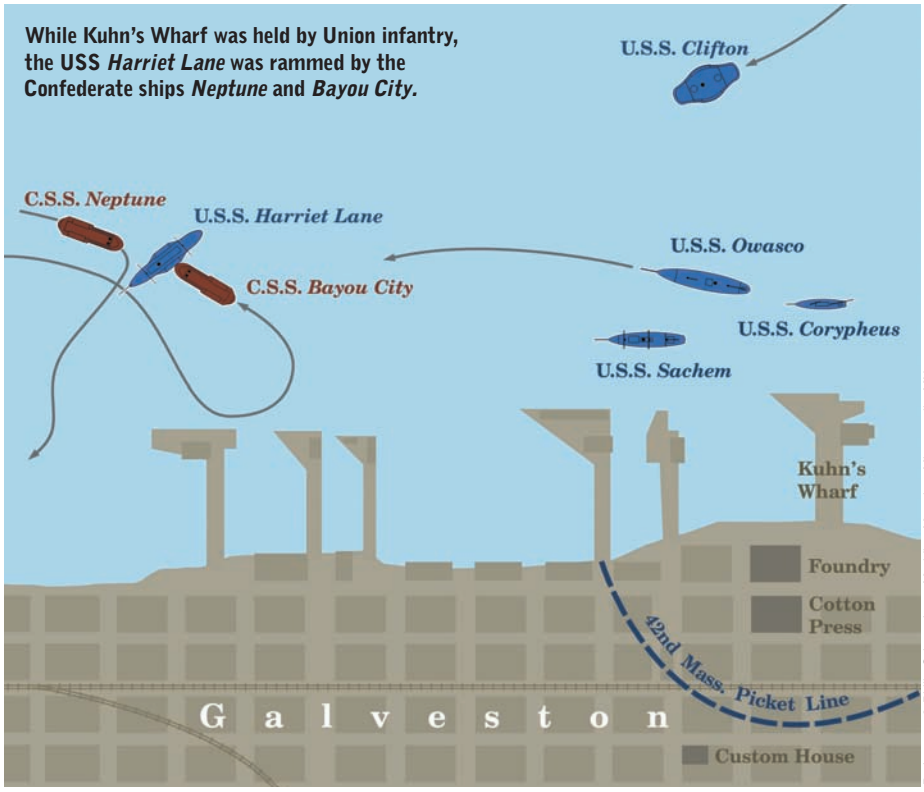
On came the cottonclads, *Bayou City* slightly in the lead. The Horse Marines opened a blistering fire on the Federal warship with their Enfield rifles. Blue-clad sailors scurried for cover, abandoning any attempt to return the fire. Captain Lubbock shouted for the pilot, Captain Michael McCormick, to ram the Union vessel. McCormick later reported, "The *Harriet Lane* was lying at anchor with steam on, swinging with a strong ebb tide, bow to the west. I was instructed to endeavor to so hit her as to allow the men a chance to board. Going with a strong ebb tide I dared not run against her bow, so I endeavored to strike forward of the larboard wheelhouse. Owing to the position of the *Lane* and the strength of the ebb tide, I missed my aim, struck a glancing blow and passed by. The wheelhouse and upper works of the *Harriet Lane*, being very strong, tore off the outside planking of the *Bayou City*'s larboard wheelhouse and side."

Blasts from double-barreled shotguns now mixed with the Enfields, while crewmen swung axes to cut the lines holding the port boarding ramp. The interval proved too great, however, and the ramp splashed into the water, where it swung to the rear and was smashed to pieces by *Bayou City*'s revolving wheel. The ship made a slow turn to port, as frantic crewmen tore at the wreckage in an effort to free the port wheel. Meanwhile, *Neptune* bore down on the beleaguered *Harriet Lane*. Captain Sangster ordered his helmsman to bring the bow a little more to port for a better ramming angle. Enemy cannonfire struck *Neptune*'s deck, sending cotton bales flying and deadly wooden splinters whizzing through the air. With a full head of steam, the charging *Neptune* slammed hard into *Harriet Lane*, 10 feet behind her starboard paddlewheel.

The men of the 7th Texas Cavalry, having been thrown to the deck, struggled without success to grapple and secure the enemy vessel. Other Union warships, notably the *Owasco*, approached to aid their stricken comrade, and a devastating fire was poured into the Confederate cottonclad. Sangster recognized at once that his ship was in trouble and ordered the engine room to reverse engines and back away. Water poured in through the shattered bow and several holes punched in her side by *Owasco*'s fire. The *Neptune* was sinking, and Sangster steered for the shallow water off 32nd Street. There, as she settled into the mud, the Horse Marines, standing knee-deep in water, continued to pour musket fire into the *Harriet Lane*.

By this time, the crew aboard *Bayou City* had cleared the debris from her port wheel and Lubbock hastened toward *Harriet Lane*, which

While Kuhn's Wharf was held by Union infantry, the USS *Harriet Lane* was rammed by the Confederate ships *Neptune* and *Bayou City*.



was attempting to back down the channel. With the musket fire from the Horse Marines keeping the Federal bluejackets from manning their guns, *Bayou City* was able to maintain her collision course without drawing enemy fire. With a tremendous crash, the Confederate boat drove her pointed bow deep into the port-side paddlewheel of the Union ship. The crash sent stunned men on both ships tumbling across the decks as iron and wood splinters hurtled through the air. *Harriet Lane* heeled far over to starboard. Timbers buckled and broke as the iron wheel braces impaled the *Bayou City*, locking the two vessels together in a death embrace.

Smith scrambled to the shattered bow and began slashing at the netting with his cutlass. Cutting the ropes free, he called for his men to follow him and bounded onto the deck of *Harriet Lane*. With a Rebel yell, the Texas troops downed the rest of the netting and scrambled aboard with pistols drawn. The scene on the Federal vessel was one of absolute carnage. Dead Union crew members lay sprawled across the deck, along with their commander, Wainwright. *Harriet Lane*'s executive officer, Lt. Cmdr. Edward Lea, lay dying with five bullets in his abdomen. As the excited Texans surveyed the scene of destruction, a Federal sailor stepped out from behind a hatch, raised his hands, and surrendered the ship.

Once the commander of *Owasco,* the closest Union warship to *Harriet Lane*, realized what had happened, he ordered his ship underway in an effort to recapture her. Soon *Owasco*'s guns were delivering a hot fire at her beleaguered sister ship. From a distance of 1,000 yards, *Owasco's* powerful 11-inch Dahlgren hurled round after round of shell and canister at the Confederate boats. Gray-clad troops scurried for cover. Several men attempted to train *Harriet Lane*'s guns on the other Federal warship, but she was listing so badly from the collision that the guns could not be brought to bear. Confederate Enfields continued to bark, their fire swelling in intensity as more and more Texans fought savagely to retain their prize. Union sailors aboard *Owasco* were soon driven from their guns by the intense fusillade, and their commander ordered his vessel to back away.

An uneasy quiet now settled over the bay. A white flag fluttered from *Harriet Lane*'s stern, while the Horse Marines, fearful that the Federals would renew the attack, worked to separate the two vessels. It was no use—*Bayou City's* bow was jammed tightly into the wheel braces of the Union ship. The tender *John F. Carr* was called and, passing a line, attempted without success to pull the two boats apart. The two antagonists were dragged slowly toward the 27th Street wharf, where Texas troops gathered on the bow and tried rocking them apart. *Bayou City*'s stem, however, still would not budge. It would take the skill of several mechanics and carpenters to eventually separate the two vessels.

While the Confederates struggled to untangle the two warships, Lubbock and Smith initiated a daring bluff to guarantee complete victory for Magruder's forces. Ordering a small boat lowered, Lubbock and *Harriet Lane*'s acting master, J.A. Hannum, ordered the oarsmen to row him to the closest Union vessel, *Clifton*. Clambering aboard the Union warship, Lubbock boldly demanded the surrender of the entire Federal fleet and instructed the Federal commander to choose one ship that would be allowed to carry the surviving Union crews out of the harbor. Captain P.L. Law, *Clifton*'s commander, explained that he did not have authority to surrender the entire Union flotilla, but would have to communicate with Renshaw. Lubbock agreed to the request and stipulated a period of three hours in which Law was to transmit the demand to Renshaw and return with the commander's answer.

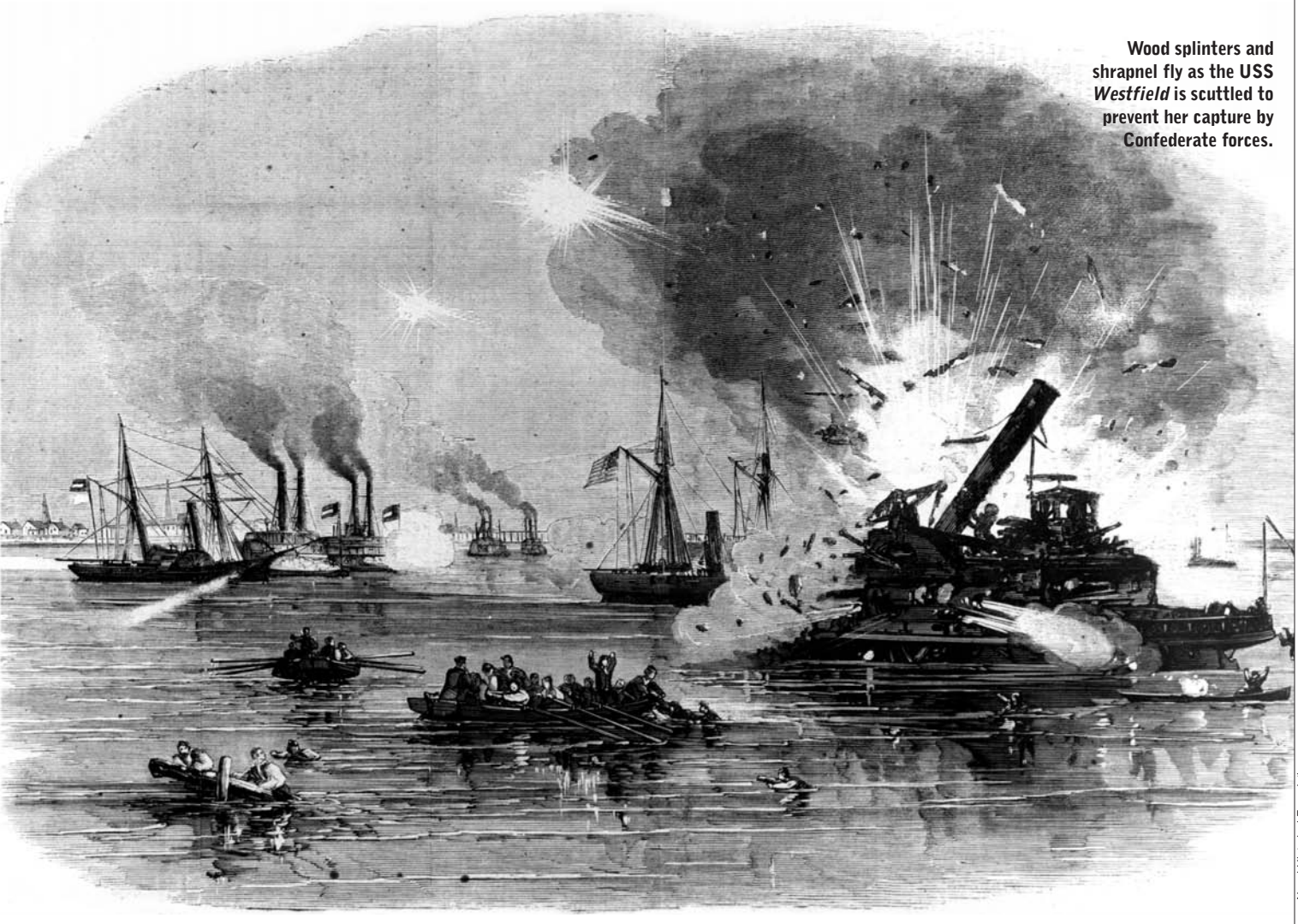
While the demand for surrender of all the Northern vessels was being carried to the *Westfield*, Magruder ordered the 130 prisoners from the *Harriet Lane* removed and marched through town to safety in the event that shelling should begin anew. Also removed were the dead and wounded, including *Harriet Lane*'s ill-fated commander, Wainwright, and his executive officer, Lea. As the bodies were carried ashore, Texas cavalrymen watched in silence as the stretcher bearing the lifeless form of Lea passed by. Walking beside the litter was the young Union officer's father, Major A.M. Lea of the Confederate Army, a member of Magruder's staff. The following day, Wainwright and Lea were buried with full military honors. Confederate and Federal officers stood quietly together, while a grieving Major Lea read the solemn service of the Episcopal Church for the burial of the dead.

Back on Kuhn's Wharf, Burrell's three companies of the 42nd Massachusetts were still holed up behind their barricades. Peering over the obstructions, Burrell observed a flag-of-truce team approaching, headed by Brig. Gen. William R. Scurry, commander of the 2nd Texas Cavalry. Scurry demanded the immediate surrender of the 240 Union troops on the wharf. Seeing the white flags flying from all the Federal vessels in the bay, Burrell felt that he had little choice but to surrender his entire command.

It was now after 7 AM. The end of the three-hour truce period was approaching and still no word had come from Renshaw. The Federal commander, whose flagship, *Westfield*, had run aground near Pelican Island at the beginning of the engagement, apparently was panic-stricken. He refused to surrender his vessels, but rather than order continued resistance to the Southern forces, Rendshaw instructed Law to order the commanders of the remaining Union warships to attempt to escape as best they could. Against the remonstration of his own officers, Renshaw

The CSS *Neptune* (left) heads toward the beleaguered USS *Harriet Lane*. CSS *Bayou City* can be seen in the distance approaching from the right.

John Horton, artist; Texas Seaport Museum



Wood splinters and shrapnel fly as the USS *Westfield* is scuttled to prevent her capture by Confederate forces.

Naval Historical Foundation

ordered his crew to board the nearby transports *Mary Boardman* and *Saxon*, and laid a fuse to the magazine, intending to blow up his flagship. Once the crew and their belongings were safely aboard the transports, Renshaw poured turpentine over the deck and lit the fuse. As he descended the ladder into his gig, *Westfield* exploded in a thunderous blast, killing Renshaw, three other officers, and the entire crew in the waiting boat.

While the Federal commander was suicidally destroying his flagship, Law had proceeded down the channel toward the wharves, informing the commanders of the four remaining warships, the schooners *Velocity* and *Corypheus* and the screw steamers *Sachem* and *Owasco*, that they must escape or destroy their vessels. Lubbock, still awaiting Renshaw's response to his surrender demand, hurriedly rowed out to confer with Law and ascertain why the *Westfield* had exploded. Even while the two men spoke, the *Clifton* was getting underway. Angrily, Lubbock accused Law of a breach of faith and returned to his boat. Along the wharves, Confederate officers watched in growing astonishment as all the Federal vessels, white flags still flying from their mastheads, began running for the bar.

Southern artillery crews unlimbered their guns and, with some hesitation because of the white flags, opened fire on the fleeing vessels in an attempt to prevent their escape. Smith dashed aboard the *John F. Carr* at the 27th Street wharf and, calling for volunteer sharpshooters, ordered the tender in pursuit. Even at full throttle, however, the little steamer was unable to catch the Union warships before they had crossed the bar. With the rough waves of the Gulf breaking over the *John F. Carr*'s fragile bow, Smith abandoned the chase and returned to the city. He was consoled somewhat by capturing and towing back with him the Federal coal bark *Elias*. It had been six hours since Magruder had jerked the lanyard of the center artillery piece to signal the beginning of the Confederate attack.

The retaking of Galveston was not without a price. Confederate losses amounted to 27 killed and more than 100 wounded. The *Neptune* sank into the mud off 32nd Street as a result of her collision with the *Harriet Lane*, and the *Bayou City* was badly damaged. Federal forces counted five fatalities and 12 wounded on board the *Harriet Lane*. The remaining crewmembers were taken prisoner. *Owasco* sustained 16 casualties, and 12 crewmen had died in the premature explosion of the *Westfield*.

Harriet Lane would be repaired and later enter Confederate service as the CSS *Harriet Lane*, while the guns from *Westfield* were salvaged and employed in the defenses of the city. Galveston, although blockaded, would remain in Southern hands until the very end, becoming the major port of supply for the beleaguered Confederate forces west of the Mississippi. In addition to becoming a safe haven for blockade runners, the recapture of Galveston denied the port to the Federals as a forward base of operations and, more importantly, protected the interior of the state from northern invasion. Through the courage and determination of the Confederate naval forces and their Horse Marines, the largest port west of New Orleans had been returned to the Southern cause. □

SENSING VICTORY AT LAST, AMERICAN GIs BATTLED EXHAUSTED BUT DETERMINED GERMAN DEFENDERS IN THE STRATEGIC TOWN OF HEILBRONN IN THE FINAL DAYS OF WORLD WAR II.

BY ALLYN VANNOY

FOLLOWING ITS SWIFT ADVANCE TO THE RHINE, THE AMERICAN 100TH (Century) Infantry Division resumed its pursuit of retreating German forces. On the morning of March 31, 1945, elements of the division crossed the Rhine between Ludwigshafen and Mannheim and headed straight into the heart of Germany. The war in Europe was in its last throes, but there was still plenty of action to come.

After passing through Mannheim, the division fanned out to the south. The 399th Infantry Regiment, on the right flank, headed toward Hockenheim to establish contact with the II French Corps. On the left was the 397th Infantry, with the 398th Infantry in reserve. The 10th Armored was out in front of the division, with the French coming up on the right. The units moved with all possible speed to prevent German forces from reorganizing. Roadblocks and blown bridges formed the only appreciable German resistance.

The advance continued on April 2, rolling toward Heilbronn, a city with a pre-war population of 100,000. Located at the head of the Neckar valley, Heilbronn was well situated, with roads leading south to Stuttgart and east toward Ulm, the much-vaunted German "National Redoubt." On April 3, the Germans relinquished the town of Neckargartach, on the west bank of the Neckar River just north of Heilbronn, to the 10th Armored after a stiff rear-guard action. The Germans withdrew across the river into the city's factory district, blowing the bridge over the river after them. Since the French advance was lagging behind, the 399th was detailed to guard against a possible counterattack on the exposed right flank and rear.

The city of Heilbronn, on the east bank of the Neckar River, now lay open to the American division. As a key rail and communications center, the Germans could be expected to defend Heilbronn to the end. The city was an ideal spot for a last-ditch defense. The deep, swift-flowing Neckar River was a formidable barrier. The three road bridges and one railroad bridge leading into the city had been blown. Forming a semi-circle behind the city was a group of easily defended hills with thick woods that afforded excellent concealment for German artillery and an unbroken line of observation to the river. Despite several previous bombings, the city was relatively intact. The thick stone walls of the numerous factory buildings functioned as miniature fortresses. Beneath the buildings was a labyrinth of tunnels. The city was a focal point for many battered *Wehrmacht* units that were regrouping, as well as numerous local *Volksturm* units.

A quick study of the ground convinced the 100th Division commander, General Withers A. Burress, that Heilbronn was pivotal if the Germans hoped to stop the American advance toward their strongholds in the mountains of southern Germany. With the division's right flank still seriously exposed due to the lagging French, Burress decided against encircling Heilbronn from the north and south. Instead, he chose to throw the main strength of the 100th across the Neckar near Bad Wimpen, north of the city, swing south across the Kocher, and come

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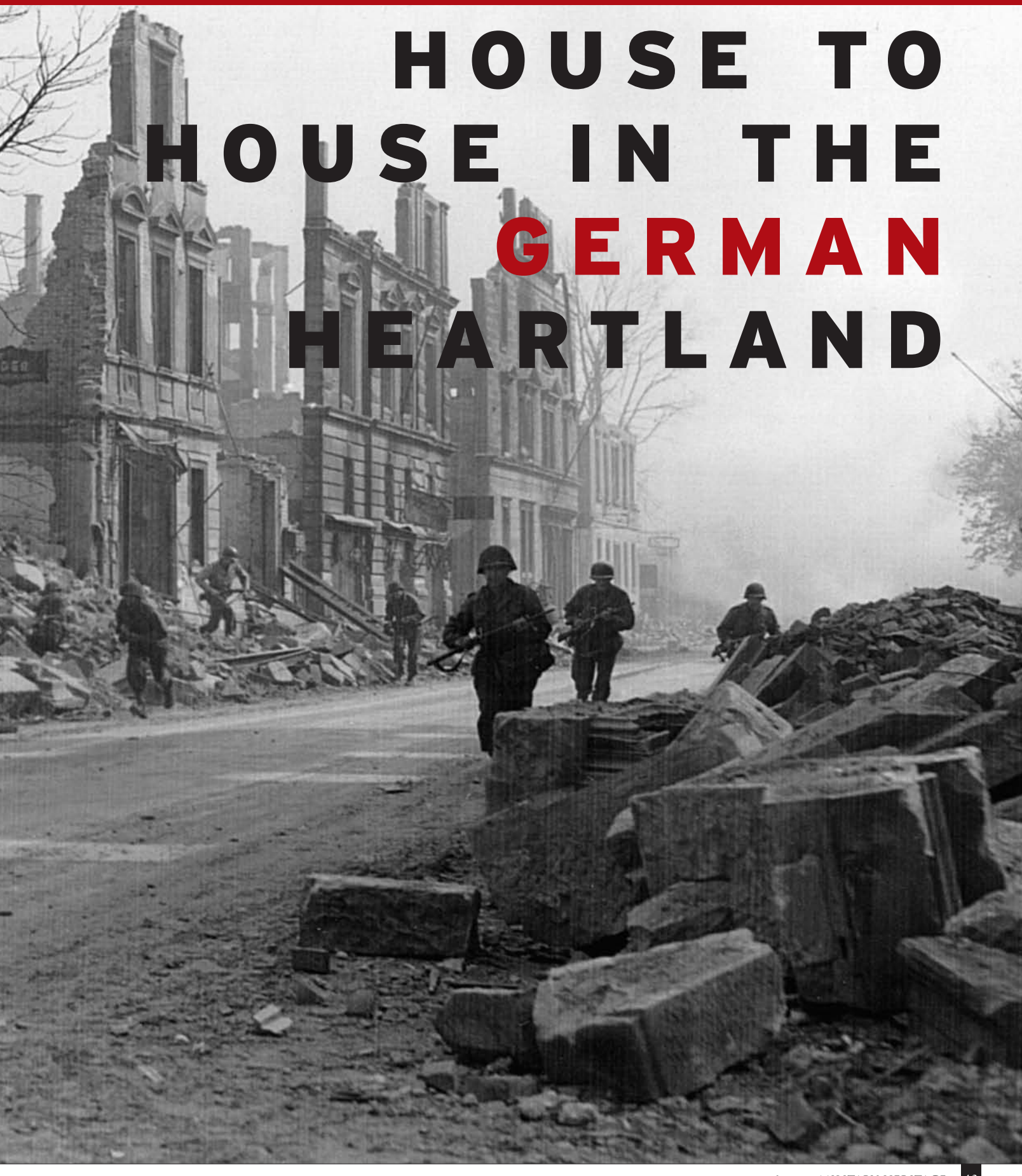
Soldiers of the 399th Infantry Regiment move quickly past the bombed-out shells of buildings in the German city of Heilbronn during the last days of major combat in the European Theater.

HOUSE TO HOUSE IN THE GERMAN HEARTLAND



All photos: National Archives

LEFT: Men of the 100th Infantry Division penetrate the long-dormant Maginot Line at Bitche, in eastern France, en route to Germany. TOP: U.S. tanks loaded with infantrymen pass through a final roadblock before crossing the Rhine River. ABOVE: Major General Withers A. Burress commanded the 100th (Century) Division.

at Heilbronn from the rear with the 397th and 398th Regimental Combat Teams. The 399th was to move directly toward Heilbronn and hold the enemy in place while protecting the division against attacks from the south.

The plan started coming apart almost as soon as it was created. On the afternoon of April 3, while the division was still about 24 kilometers from the Neckar River, Burress was forced to detach one infantry battalion and rush it forward to join the 10th Armored Regiment, already near Heilbronn, to assist in establishing a bridgehead. Accordingly, the 3rd Battalion, 398th Infantry, advanced into Neckargartach and took up positions along the river 300 yards north of a blown bridge. To avoid alerting the Germans, the crossing was to be made without artillery preparation. At 3 AM on April 4, Company K crawled into assault boats and made the crossing without firing a shot.

The infantry swiftly fanned out and formed a bridgehead. Before them loomed the silhouette of an enormous power plant. Members of the battalion's Raider platoon, leading the advance, began drawing sniper fire. Taking cover along the river bank, they returned fire and waited for Company K. The entire force then advanced into the deserted power plant. Despite the fact that the Germans had been alerted, Company L successfully made the crossing, followed by Company I. Within an hour, the entire battalion had navigated the river and assembled in and around the plant.

At dawn, Companies K and L, each supported by a platoon of heavy machine guns from Company M, moved toward their objectives. Company L was to branch out to the north and occupy a group of lumberyards situated along a rail line, while Company K was to advance south about 300 yards to the edge of the factory district and then turn east along the Neckargartach Bridge road and advance into the hills southeast of the town. The 1st Platoon was assigned the mission of taking Tower Hill, a height whose steep, barren slope, devoid of cover, was topped by the skeleton of an old tower. The 3rd Platoon was to take Cloverleaf Hill, directly south of Tower Hill, while the 2nd Platoon was to clean out a glassworks just south of the crossing site. Company I, meanwhile, was to dig in on a line parallel to the river about 300 yards in front of the power plant.

By 9 AM, the advance was well under way. Company L moved forward some 500 yards to the northeast, skirted a large, water-filled ditch about halfway to the lumberyards, and reached the railroad and the highway that ran alongside it at the junction with the Neckargartach road. On Company L's right, the 1st Platoon, Company K, began to climb Tower Hill. At the same time, the 2nd Platoon entered the factory district to the south, and the 3rd Platoon advanced to the south along the road paralleling the river on the far side of the factory district.

While all the troops of the battalion were in motion, the Germans suddenly launched a counterattack along the entire battalion front with a force of between 500 and 1,000 men. The Germans, having infiltrated the American lines through underground passageways, appeared in a building on the northern edge of the factory district behind the 2nd Platoon. Another force appeared east of the highway and cut off the platoon struggling up Tower Hill. A third group attacked Company L and the 3rd Platoon along the highway. From the lumberyards to the north, a fourth German force caught the men in the center of the 3rd Battalion front in a withering crossfire with the force in the factory buildings to the south.

Lieutenant Almon Brunkow, commanding a section of heavy machine guns attached to the 3rd Platoon, was hit when he walked out onto the road to reconnoiter a new position for his guns. As Brunkow lay helpless in the open, Private Leland L. Zeiter and other members of his machine gun squad made an effort to reach the fallen officer, but enemy fire was too intense. The platoon was forced withdraw north to the railroad bridge at the junction of the Neckargartach road. There, together with the elements from Company L, the Americans made a gallant attempt to hold out against attacks from three sides. Outnumbered and facing the possibility of being surrounded, the GIs were forced to withdraw in small groups to Com-

pany I's position in front of the power plant. The 1st Platoon on Tower Hill and the 2nd Platoon in the factory district were now isolated.

American mortars and artillery, which had been unable to provide fire support due to the close proximity of friendly forces to the enemy, now began shelling the Germans. With the help of this support, the battalion regrouped and succeeded in regaining some of the lost ground, advancing across the open field to its front. Company L was on the left rear of Company I, and Company K, now numbering only 20 men, protected the right flank. Intense fire continued to blanket the field that the battalion was advancing across, but with effective artillery and mortar support, the battalion managed to push forward.

As a result of the attack, 3rd Battalion found itself on a line along the far edge of the water-filled ditch that Company L had passed earlier in the morning. There the battalion prepared to make a stand. By now, it was evident that the German forces in Heilbronn were far stronger than anyone had anticipated. From the lumberyards to the north and the factories to the south, German reinforcements were pouring into the area. Their artillery, emplaced on hills to the east, poured intense fire onto the Americans below. To make matters worse, the 10th Armored Regiment had failed to construct a promised pontoon bridge behind the 3rd Battalion, and the accurate German artillery fire made forward movement dangerous, if not suicidal.

Despite the enemy fire, the 1st Platoon advanced to the top of Tower Hill before daybreak, surprising and capturing several Germans. In the fierce fight that followed, the outnumbered platoon was cut off. Despite a shortage of ammunition, Lieutenant Alfred J. Rizzo radioed that he was confident they would be able to hold out and work their way back to the battalion after nightfall. The last word from the platoon was a request for fire on an enemy gun to the east that was giving them trouble. A group of Raiders tried to reach the platoon after dark, but was unable to cross the highway. Meanwhile, the platoon, although outnumbered and surrounded, fought fiercely until its ammunition was expended, throwing hand grenades at the Germans as they closed within a few yards. A German officer said later that it took all 90 men of his company to subdue the Americans.

To add to the division's problems, word was received that the 10th Armored had been relieved and was being shifted to the north flank of VI Corps, presumably to take advantage of a gap there that would allow them to approach Heilbronn from the rear. This left Burress with a staggering tactical problem—one of his battalions was on the east side of the Neckar, under attack by a superior German force. Any attempt to withdraw the battalion would be disastrous. Burress, therefore, abandoned his original plan of attack and began rushing the 397th Infantry across the Neckar. At 2 PM on April 4, the 2nd Battalion, 397th Infantry, began crossing the Neckar. By 5:40 PM, the battalion was on the right bank, having negotiated the crossing without casualties.

Immediately after landing on the east bank, Company E pushed toward the factory district. The company advanced through a breach in the concrete wall along the factory district's northern perimeter, and headed for the first factory, a red-brick building 200 yards away across an open loading yard. The advance was made in the face of heavy crossfire from the factory and a building to its left. Once at the factory doors, the men in Company E had little difficulty convincing the few Germans who had remained inside the structure to surrender. The factory building to the left, a former glassworks, where a considerable size force of Germans was holed up, was more troublesome. Hugging the perimeter wall, the 3rd Platoon crawled toward the sturdy, red-brick building. Despite heavy machine gun fire, one squad battled its way into the structure, but the rest of the platoon was unable to move forward. The squad inside the factory slowly fought its way through the building until just before nightfall, when they were joined by Company F.

Having cleared out the first two factory buildings, the GIs turned their attention to two shell-pocked houses on the right and slightly behind the first factory building. Unable to approach the nearest house directly because of intense enemy fire, members of the 3rd Platoon crawled along a catwalk to the rear of the house. From there, with fire support from the 1st Platoon, who had remained behind the concrete wall, they cleared the structure. Darkness halted further operations. Company F remained in the factory next to the wall in the northeast corner of the factory district, and Company E bedded down in the battered house they had just captured. Their situation remained precarious since the Germans were still in the second house across the courtyard.

During the night the two companies came under attack. Company E was forced to attempt a withdrawal. The 2nd and 3rd platoons managed to get back over the catwalk to the factory, where they joined Company F. The 1st Platoon, together with the mortar men of the Weapons Platoon who had joined the company earlier, was less fortunate. Sergeant Thomas Convery, in command of the 1st Platoon, although wounded, ordered his men to withdraw as best they could to the Company E command post across the loading yard. Most of the men were wounded, but somehow they managed to fight their way across the Neckargartach road to the command post. In all, Company E suffered 54 casualties that night.

Meanwhile, a large German force attacked

In this overhead snapshot, the massive devastation from Allied air assaults on Heilbronn is readily apparent.

National Archives

the 2nd Battalion in the glassworks. Armed with a considerable number of *panzerfausts*, the Germans took a heavy toll. Lieutenant Carl Bradshaw, Company F commander, decided to call on the big guns for help. Waiting until all elements, with the exception of Company F, had withdrawn, Bradshaw called for artillery support. He directed the fire of 8-inch guns so effectively that the German were thrown into confusion and broke off their assault.

To the north, the 3rd Battalion was having its own difficulties. Attacked by a determined force along its 500-yard front, the battalion beat back repeated assaults. Several of the German attacks were led by panzers, but with the support of two tank destroyers and two Shermans tanks, which fired from the left bank of the Neckar, the battalion fought off every effort to drive them back. The 3rd Battalion was also assisted by accurate fire from the 374th and 242nd Field Artillery Battalions. Performing yeoman service was the Raider Platoon—nine men armed with machine guns—which held the battalion front north and east from the water-filled ditch.

After dark, Company A, 31st Engineers, attempted to complete a treadway bridge and assemble rafts capable of carrying tanks and tank destroyers to the east bank. German artillery concentrations on the bridge site were so accurate that the project had to be abandoned, but the engineers grimly continued efforts to assemble pontoons. Silhouetted by fires in Neckargartach and the factory district, 14 engineers were hit by shellfire. Each attempt to launch pontoon floats was met with uncannily accurate artillery fire that punctured the floats and caused additional casualties. Because of the continued German shelling of the river bank, no attempt at building a bridge was made the next day. Fog oil was used as a smoke screen over the river, providing sufficient cover to allow a trickle of supplies to be ferried across in small boats.

Companies F and G attacked again before dawn, moving south. Company F, surging out of the factory building in which it had spent the night, took over the factory between it and the building that Company E had taken the previous day. While reconnoitering for a suitable way out of the first factory building, Lt. Bradshaw, Company F commander, was killed by a sniper. The company, having found an easier way, left the building, moving to the in-between factory and later to Company E's factory, where they waited for Company G to move up from their positions beyond the concrete parameter wall to join the drive.

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During their retreat from Lyon, a pair of German soldiers walk down a desolate city street.

Throughout the morning, Company F engaged in a firefight with the Germans in the loading yard north of the buildings. The shacks and loading platforms provided excellent cover for the Germans in the yard, and it was difficult to fire on them, because their comrades covered them from the two neighboring houses Company E had occupied the night before. Company G, advancing with the 2nd Platoon, did not know that there were Germans in the loading yard. As they ran across the field in front of the concrete wall, a burst of machine gun fire wounded one man. Gaining the protection of the wall, the platoon lay behind the bank on which the wall was built and formed a skirmish line, preparing to attack through the railroad gate at the northern end of the loading yard.

Sergeant Dalton Yates was surprised to see a German stick a gun barrel through a hole in the wall. That was their first indication that there were Germans on the other side. The platoon began to toss grenades over the wall into the enemy's laps. The Germans returned the compliment with potato-masher grenades of their own. For the next few minutes a lively game of catch ensued over the six-foot-high wall. Some of the Company G men moved to fire at the Germans through holes in the wall. One man opened a gap in the wall with a grenade, and another helped enlarge it with his rifle butt. Looking through the hole, they saw some 40 Germans well dug-in in the loading yard, some 15 yards away. By this time, six men of the 2nd Platoon lay dead, and Lieutenant John Slade, seeing that something drastic had to be done, called for mortar fire on the Germans in the yard despite their proximity to his own troops. The 60- and 81-mm mortars opened up, while the men of the 2nd Platoon hugged the earth in a shallow depression just behind the wall.

After several minutes of bombardment, the Germans lost interest in continuing the fight. Leaving their holes, they ran toward Slade's men with their hands in the air, crying, "*Komerad!*" Six of the Germans were shot by their own officers as they attempted to give up, but another 37 poured through the railroad gate into the hands of the 2nd Platoon, weeping, bleeding, and screaming hysterically.

The loading yard cleared, the 2nd Platoon prepared to attack its original objectives, the two houses just to the right of the factory where Company F was waiting. Meanwhile, efforts were being made to bring reinforcements into the bridgehead. With artillery fire all along the river still too intense to build a bridge or construct a large raft or ferry, the only way across the river was by assault boat and small rafts. In the absence of tanks, Lt. Col. Gordon Singles, commanding the forces in the bridgehead, called for artillery fire. Particularly bothersome to the men crossing the loading yard were two long warehouses that ran north and south along a lagoon on the western edge of the factory area. Accordingly, 155-mm guns of the 373rd Field Artillery blasted the entire length of the warehouses. The two houses which had caused so much trouble for Slade's platoon were reduced to shambles, and the two huge warehouses were set afire.

Although German artillery still commanded the city and both banks of the Neckar, the American artillery countered using excellent observation points on the ridge along the western bank of the river, supplemented by artillery observation aircraft. At 11 AM on April 5, Companies I and L crossed the river without casualties and prepared to join the fight. Following an artillery and mortar preparation on the loading yards that blasted out the diehard Germans entrenched there, the assault was resumed at 2:45. Company F moved through the factories the 2nd Battalion had reduced in the previous day's action and made contact with Company G and the remaining men of Company E. Moving cautiously ahead, Company G pressed on to the two burning warehouses. In the warehouses the men found 100 Germans still dazed from the artillery fire. The enemy surrendered without a fight.

Company G waited in position until Companies I and L caught up with them. Meanwhile, Company F mopped up the few remaining buildings in the glassworks and advanced to

a small grove of trees at the southern tip of the works. Company I, on the left, pushed to the Fiat automobile plant on the eastern edge of the glassworks and cleared the building in the face of intense machine gun and *panzerfaust* fire. Company L guarded the left rear of the advance, extending the line of the 3rd Battalion south from the Neckargartach road to the Fiat plant. Company K, having crossed the river in the meantime, stood in reserve.

Blocking the advance to the south was a large open area that provided the Germans with a clear field of fire. In the center of the area, approximately 200 yards south of the grove of trees held by Company F, was a gray stone and concrete house, situated at the junction of the railroad spur connecting the glassworks to the city. A key spot, the junction was a natural defense point. Waiting until dark, four riflemen and a medic from Company F crept out from the grove and made their way along the railroad track toward the stone house. After the first group had advanced some 20 yards, a second squad followed. Suddenly, a German machine gun opened up from a window of the house, killing all five men in the lead squad. Realizing that the building was too strongly defended for a frontal assault across open ground, the second group withdrew to the grove. It was decided to put off the advance until the next day.

While the 2nd and 3rd Battalions were battling the Germans, Company G moved north to cross the Neckar at Neckarelz, where the 63rd Division had thrown a bridge across the river. Late on the afternoon of April 5, the 1st Battalion prepared to cross the Neckar and establish a second bridgehead in the center of the city. Using assault boats, Company C was put across at 6:30 PM. While the crossing operations were being conducted, German artillery hit the west bank and snipers fired from the buildings north and south of the crossing site. On the east bank, however, German opposition was negligible, as the boats swung north to land near a large brewery. Advancing toward the brewery after landing, the 2nd and 3rd platoons drew increasing fire from the structure, but had little difficulty in taking the building and the 40 young Germans defending it.

At dusk, Company A made the crossing, and joined Company C in the brewery for the night. At about 4:30 AM, Company B crossed, and by daylight the battalion was ready to fan out and expand its bridgehead. Company A was given the mission of moving north to relieve the original bridgehead. Companies B and C were to fan out and protect the right and rear of Company A and widen the bridgehead sufficiently for the engineers to throw a span across the Neckar. Company A advanced through two dense city blocks to *Kaiserstrasse*, the street leading to the center bridge of the three over the Neckar that had been blown by the Germans. Now in the heart of the city, they began running into the core of the German resistance.

The American strategy was to expand the second bridgehead and form a pincer with the northern bridgehead on the center of Heilbronn. Company C, guarding Company A's right and rear, pushed two blocks east of the Flein road, running south from the center of Heilbronn. Company B, on the right, advanced east to the road and took the sugar refinery south of the brewery, as well as a few apartment houses, meeting only scattered sniper fire. But the right flank of Company B, along the line of the sugar refinery and the Knorr works southeast of the refinery, was dangerously exposed. In the afternoon, a patrol from Company B was forced to re-enter the sugar refinery and clear it of infiltrating Germans, while the rest of the company prepared to clean out the Knorr works.

Before they could launch their assault, however, the Germans counterattacked. Swarming through narrow alleys between the houses, German infantry supported by four panzers charged the American positions. Company A, which had been trying to extend its right flank beyond *Kilianskirche*, a large church two blocks east of the river, was forced back to its original positions. Company C, fighting along the Flein road, came under savage attack, but managed to hold its positions despite having two panzers assault its right flank. Sergeant Pittman Hall was on the second floor of an apartment house on the corner when the German panzers struck the company's positions. Firing a bazooka, he disabled the main gun of one panzer. Meanwhile, an artillery forward observer zeroed in 8-inch guns on the panzers, causing both to beat a hasty retreat.

Company B was the hardest hit by the German counterattack. The GIs had set up a strongpoint in an apartment house on the west side of the Flein road, across the street from the Knorr works. Two panzers, together with two platoons of infantry, came up the Flein road from the south. Private B.R. Smith fired on the enemy force with a light machine gun, killing or wounding some 20 to 30 of the infantrymen. The Tigers kept coming, but by the time they had reached within 150 yards of the Company B position, 8-inch shells were falling around them. The American line, however, was not strong enough to withstand the fire of the Tigers, and Lieutenant Owen Kirkland, company commander, ordered a withdrawal. Shortly after he gave the order, he was killed by a sniper.

The company withdrew to a line along the northern edge of the sugar refinery. The two Tigers came after them, but as they moved into

A pall of smoke shrouds an M-18 firing in support of 100th Division infantrymen attacking in Wieslock, Germany.

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the open field before the refinery, the American artillery began to find the range, forcing them to leave. In the interim, a liaison plane took off to over fly the area and direct artillery fire. The plane, with Lieutenant R.W. Sands serving as pilot and Sergeant Richard Hemmerly serving as observer, chased the Tigers. A direct hit was scored on one with an 8-inch shell, and a near-miss caused a brick wall to collapse on the other, damaging it heavily.

Meanwhile, the 2nd and 3rd Battalions, finding that they could not attack the gray stone house frontally, initiated a four-pronged drive to link-up with the 1st Battalion. Sergeant Harold Kavarsky led the attack with his squad from Company I. They made it to the first row of warehouses without drawing fire, but when the artillery was shifted, the Germans fired on them from the cellar of the westernmost warehouse and from foxholes in front of the house. Kavarsky withdrew his men and called for renewed artillery. For 30 minutes shells fell on the warehouse in front of the gray house, killing 15 Germans as they tried to escape. Kavarsky then set up two light machine guns on the second floor of the warehouse and sprayed the windows of the warehouses in the second row and the enemy foxholes.

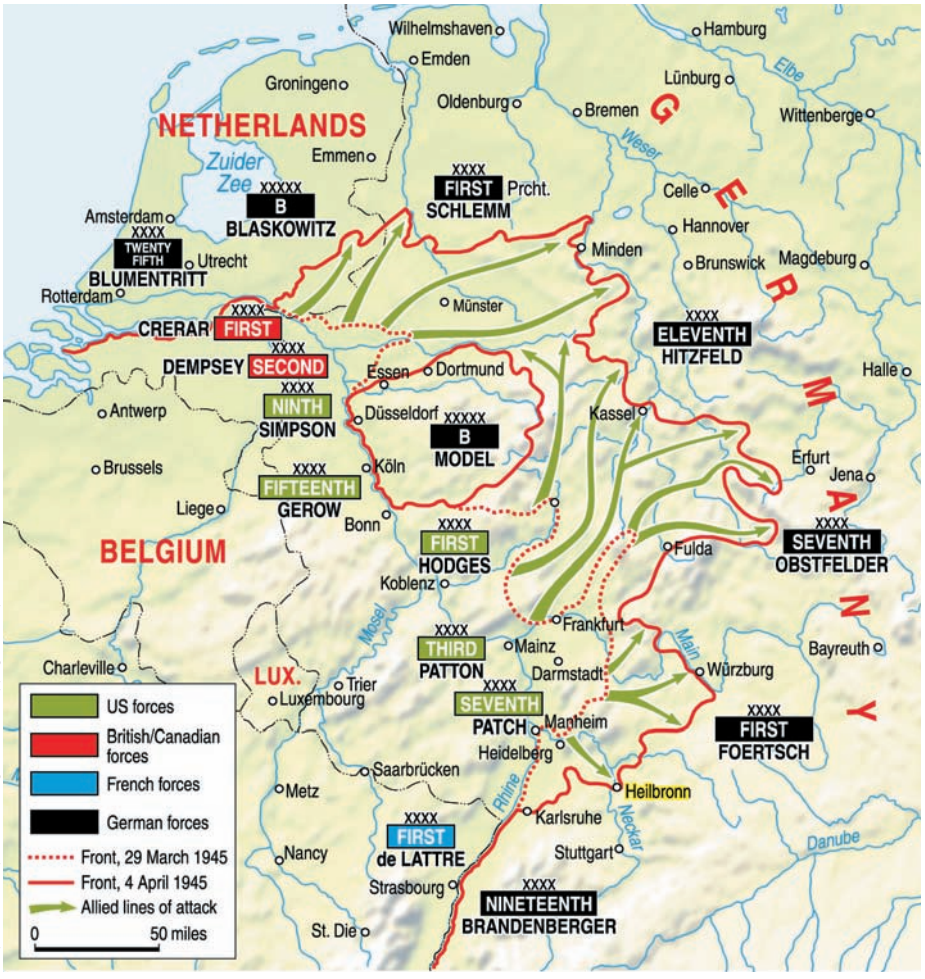
Kavarsky and his men ran the 50 yards to the middle building, reached the ramp leading up into the first floor, and fired a machine-gun burst into the windows of the building before entering the structure. As they waited, a round of their own artillery struck the building, hitting Kavarsky in the leg. Four men led by Sergeant John P. Keelen went down into the cellar and captured five prisoners. In the cellar they found a tunnel leading from their warehouse to the westernmost warehouse in the row—the one nearest the gray house. The group proceeded through the tunnel to the next warehouse and found it deserted. From the upstairs window they could see the cement bunker between them and the house. They fired four bazooka rounds into the bunker, killing two Germans and causing those in the foxholes to retire into the house.

Early in the afternoon, Company F came down into the last warehouse to finish the job of taking the gray house. Sergeant Joseph A. Snyder leaned out of the window and fired two rifle grenades into the window of the house at the same moment that some Germans were putting out a white flag. Meanwhile, the GIs worked through the buildings around the house, taking 20 prisoners from the house itself and 53 from the factory across the street. With the second German strongpoint in American hands, Companies I and F found comparatively easy going. They advanced four companies abreast, Company G on the right, next to the river, Companies F and I in the center, and Company L on the left. Company K covered the left and rear of the advance. That night, they cleared the block below the gray house.

On the following day, they worked down 550 yards of the next block. Company L continued down the block into a group of shell-torn apartment houses, but as they entered the buildings they were met by a heavy burst of machine-gun fire from across the railroad tracks 100 yards to the east. As the 1st Platoon moved into the southeasternmost building, they were attacked from the east by a small force, but the platoon held its ground. Although it was growing dark, the Germans continued to fire into the corner apartment house. From the roofless top floor of the building, Private Arthur Nimrod fired his BAR down on the railroad tracks, keeping the Germans from crossing the tracks and attacking the apartment houses in force.

The intensity of the American assault on Heilbronn continued to increase in fury. During the night of April 6-7, Company C of the 399th Regiment crossed the river and was attached to the 1st Battalion, 397th. The members of the 399th spent the night in the sugar refinery, waiting for dawn, when they would attack the Knorr works, which had been recaptured by the Germans. At 8:30 AM, however, the Germans struck first with more than 100 infantry supported by three panzers and a flak wagon. The attack came from the south, moving around the Knorr works toward the southern flank of Company B. One of the panzers rolled up to the crossroads directly between the sugar refinery and the Knorr works and fired a few rounds before being driven off by artillery.

The counterattack threatened to cut off the men of Company C. The Germans had infiltrated along the east side of the sugar refinery in which Company C was battling and around the rear of the building to the river. If the German force was there in strength, Company C would effectively be isolated from the rest of the troops at the bridgehead. Sergeant James Harte, using an eight-man patrol, eliminated the threat. In the meantime, Company C suf-



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BELOW: American foot soldiers run for cover as they come under sniper fire at Heilbronn. German defense of the key rail and communications hub was fanatical. OPPOSITE: After passing through Mannheim, the U.S. 100th Infantry Division fanned out to the south. On April 2, they would reach Heilbronn, situated on the eastern bank of the Neckar River.

fered two more counterattacks, one at noon and another shortly afterwards, but beat them back. The two companies then moved out to attack. Company C captured the Knorr works for the second time with little difficulty, and Company B, also facing negligible opposition, reestablished positions on the Flein road that it had been forced to abandon earlier.

The bridgehead was now secure, but the purpose of the crossing, to relieve the northern bridgehead, had not yet been accomplished. Company A found that it could not move north from *Kilianskirche* without armored support. Assault boats continued to operate on the Neckar River throughout the day and night. On the morning of April 6, the boats were moved north 400 yards to a new site at the ruins of a foot bridge where Company A, 397th, had cleared the east bank. However, the Germans infiltrated behind the company's lines and fired on the engineers and on the landing site, harassing operations to such an extent that tanks from Company C, 781st Tank Battalion, and tank destroyers from Company B, 824th Tank Destroyer Battalion, were brought down to the river bank to fire on the houses the Germans were using. This did not stop the enemy artillery, however, which kept finding the engineers and forcing them to move their site.

Under cover of darkness, the indefatigable engineers of Company C, 31st Engineers, began to build a treadway bridge 100 yards south of the demolished span. At daylight, smoke generators were put to use screening the engineers. As part of the plan, three small generators were ferried across the river to the east bank so that if the wind shifted to the west, the crossing would still have cover. The generators, skillfully concealed in rubble or placed deep in cellars, produced smoke in puffs that diffused quickly, leaving no telltale sign of the source. By evening the treadway bridge was nearly completed and tanks and tank destroyers lined the bank ready to roll across. Then, at 5:30 PM, German artillery thundered ominously and five floats were knocked from under the bridge.

That night, as fewer German shells fell along the river banks, the engineers were able to rebuild the bridge, completing it by daybreak. Before 8 AM on April 8, 24 tanks from Company C, 781st Tank Battalion, and nine tank destroyers from Company B, 824th Tank Destroyer Battalion, crossed over to the east bank and joined the infantry. Traffic was still pouring across the bridge when the wind fishtailed, leaving the bridge perfectly visible. At 11:30 AM, German shells knocked out two floats, reducing the carrying capacity of the bridge to 10 tons. Two hours later, the bridge was underwater again. The division went back to supplying the troops in the bridgehead via assault boats.

On the morning of the eighth, Companies G, F and L, 397th, had to hold up their advance while Company I cleared a group of Germans from an orchard in their sector. From a small brick house in the southeast corner of the orchard the Germans could fire on the factory in which Company F was preparing to conduct attacks on the southern part of the factory district. Along the east side of the orchard was a

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ABOVE: A U.S. tank, disabled during the fighting, sits among the rubble of Heilbronn. OPPOSITE: An American soldier looks out over Heilbronn from an observation post.

long factory, with all but half of its first floor blown away. In the center of the orchard, a German machine gun was emplaced in a dugout where the trees were sparse enough to afford good lanes of fire.

Sergeant Richard C. Olson led his squad of the 2nd Platoon, Company I, across the road into the factory. From there they planned to work along the walls on the inside of the battered building to a point opposite a red-brick house. They had to keep low behind the walls of the factory because the machine guns in the house would fire on them every time they raised their heads. The first scout, Private James Van Danne, climbed over a sheltering wall and made it into the next room. Private Henry P. Perkins didn't make it. As he followed Van Danne over the wall, a sniper from the brick house killed him. At the same time, machine guns in the orchard opened up on the Company I men, forcing them to rush for cover.

Olsen got two bazookas into firing position. Sergeant Edward Eylander, leader of the 2nd Platoon, placed two light machine guns in windows in the factory across the road and opened fire. Several bazooka rounds and an anti-tank grenade quieted the fire from the house, and a smoke round from one of the bazookas forced the machine gunner from the center of the orchard. After a heavy preparation burst of machine gun fire from positions across the road, Sergeant Thomas E. Cooper led four men across the orchard and up to the front door of the house. Private Arthur Hare smashed the front door with the butt of his rifle and seven Germans rushed out and surrendered.

After Company I had cleared the orchard, Company L advanced into the block of factory buildings to the left of the orchard. The company moved through the block with little difficulty until reaching an office building at the southern end of the block next to the junction of two rail lines. From the railroad station at the junction, the Germans zeroed in their machine guns, pinning down the company. American artillery registered 12 direct hits on the building, silencing the enemy machine guns and enabling Company L to continue into the next block of factories.

By noon on April 9, the American forces in the north bridgehead were ready to cross the railroad tracks, move into the heart of Heilbronn, and hook up with the troops pushing up from the south. Only 1,000 yards away, the tall spire of *Kilianskirche* could be seen rising out of the smoke. That night, the bridging engineers constructed a motor-powered pontoon assault ferry capable of transporting tanks. Assembling five floats, they loaded them onto trucks, transported them to the river bank, and by 6:30 AM had the ferry in the water. For once, the German artillery did not bother them, and by 11:30, 13 tanks and tank destroyers, in addition to the 81-mm mortar platoon of Company D, 399th Regiment, had been carried across the river.

While the first pontoon bridge had been coming under artillery shelling, the 1st Battalion, 399th, was moving across the river to take positions in the southern bridgehead facing south and east. Company C was already across and helping the 1st Battalion, 397th, protect and expand the bridgehead. Company B crossed the river on the pontoon bridge and took positions on the right of the 397th. The remainder of the company negotiated the crossing in assault boats, digging in on the right flank of Company B.

At the southern bridgehead, Company A, 397th, had been stopped on the afternoon of April 6 along the east-west road running along the north side of *Kilianskirche*. There the Germans put up the most furious defense during the entire battle for the city. Company A had been advancing with its 2nd Platoon on the left next to the river, and 3rd Platoon on the right. Sergeant Bennie Ray was able to get two of his squads across the road that evening, but he withdrew them upon hearing that Lieutenant John H. Strom, leader of the 3rd Platoon, had also gotten men across the road.

Early in the evening, the 1st Platoon, led by Lieutenant Walter Vaughan, was sent to clear the city block directly behind *Kilianskirche*, which had been bypassed by the 3rd Platoon.

Sergeant Edward Borboa's 3rd Squad went through the center of this block. As they rounded a corner, they came upon a group of seven men talking together near a pile of rubble. Thinking they were men from Company C, Borboa called to them. As they looked around, Borboa saw that they were Germans. The squad's BAR man, Private Paul Guzlides, and Private Laurence Mills opened fire, killing them all. The platoon went on through the western half of the block, but as darkness fell, they met heavier sniper and machine gun fire, and stopped their advance for the night.

The following morning, Vaughan, from his position near *Kilianskirche*, sent Sergeant Carl Cornelius with five men across the street into a large building, diagonally northeast from *Kilianskirche*, to establish an outpost and prepare for the attack that was planned for the afternoon. With the 19 men he had left, Vaughan waited in the building directly across the street from *Kilianskirche*. About 2:30 PM he saw a platoon of Germans coming down the road from the north and another platoon coming along the road from the east. Their movements threatened to cut off Cornelius and his five men in the outpost across the street. Both his platoon and Strom's platoon in *Kilianskirche* opened up on the two German columns.


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The German columns withdrew, but were soon back again, this time more cautiously, hugging the building walls and using the rubble piles and doorways for protection. They squeezed off Cornelius and his five men in their corner building and drove a wedge between *Kilianskirche* and Vaughan's platoon. At the same time, another German counterattack was launched on the southern end of the triangular block, and the right rear of Vaughan's platoon was forced to withdraw, breaking contact with Company C on the right. Now completely cut off, the platoon was forced to withdraw altogether from the triangular block and form a line along the road leading southwest from *Kilianskirche*. There they held, driving out the Germans south of *Kilianskirche*.

Another German counterattack came from the north as well as from the east. *Kilianskirche* was pounded all afternoon by a heavy German self-propelled gun that would roll up near the church, fire, withdraw, and then return from a different direction. Strom's platoon, in the church, fired constantly at the attackers and dropped grenades out the window to halt the infiltrating Germans. The 2nd Platoon, next to the river, had already begun to attack northward when the counterattack hit. Five men led by Sergeant Max Dow crossed the road and set up an outpost, joining in firing on the Germans advancing from the open square north of the road, diagonally across the road from *Kilianskirche*.

Vaughan, with three men, tried to reach Cornelius and his squad holding out across the street from the church. They got as far as the building on the apex of the triangular block, where they ran into a German patrol. After a short grenade fight, the GIs were forced to withdraw. Soon, however, the short-lived pontoon bridge was completed and the tanks and TDs crossed into the bridgehead. One tank, commanded by Corporal Vincent J. Neratka, immediately raced to the aid of Company A. As the Sherman came up the road leading toward *Kilianskirche* from the southwest, it was hit by a *panzerfaust*. The crew bailed out and ran for cover as a German machine gun began to fire down the road from the north. Another Sherman and a TD were dispatched to help Company A. Approaching up a different road, the two vehicles reached *Kilianskirche* safely. After several exchanges, the Germans ceased firing from behind the square, but it took three hours of steady shelling before the machine guns, firing into the intersection from the north and east, were silenced.

The way was clear for Strom's and Ray's platoons, which had been stymied along the river road. In short dashes, one man at a time, Strom's platoon crossed the road and took up positions in the open square amid the rubble of the wrecked buildings. By dark, a line had been established on the far side. Ray's platoon had it easier. The roads in their sector were clear, and they were able to advance faster, with the support of two tanks and a TD, through the sniper-infested rubble along the river. Vaughan's platoon, to the right and rear, was still unable to secure Company A's right flank. Armor was brought up to stabilize the situation. On the afternoon of April 8, two Shermans were thrown into the struggle for the triangular block of houses. By the end of the afternoon, the Germans had withdrawn all along the line, and the three platoons of Company A, 397th, were able to establish contact with each other.

Throughout the night, artillery and *nebelwerfer* rocket fire harassed the Americans. The Germans also infiltrated through tunnels to take up sniping positions to fire on the GIs from the rear. Early the following morning, Hall was back in line with his platoon. Together with the tanks, the platoon pushed eastward along the road to the south of the triangular block, concentrating fire to the north and down the road to the east, where they had been receiving heavy *panzerfaust* and machine-gun fire. The tank fire, together with that of Hall's and Vaughan's platoons, drove the Germans out of the triangular block. In the afternoon a squad from Vaughan's platoon entered the house where Cornelius' patrol had been surrounded. Six gas masks and a bazooka were all that was found. The most serious German resistance in Heilbronn was over.

Fighting would continue for another four days against light resistance as the GIs cleared the rest of the city. The operation effectively ended with the capture of the 1,000-year-old castle atop Tower Hill. The battle for Heilbronn had raged for nine days before the American armor and infantry closed their pincers on the city. The 100th's losses were comparatively light, given the intensity of the battle: 60 killed, 250 wounded, and 112 missing. It was impossible to determine the number of German dead and wounded, but it was believed to be considerable. The German heartland now lay open to the onrushing Americans. The end of the war was near. □

The Dragon and the Boar:

The Battle of Bosworth Field

BY WILLIAM E. WELSH

Like bees guarding their hive, the royal host of King Richard III swarmed atop 400-foot-high Ambion Hill near the Leicestershire village of Market Bosworth on the morning of August 22, 1485. Protected by low-lying marshes on three sides, the hill was a naturally formidable defensive position. Richard and his nobles formed a battle line facing southwest across the section of the hill most vulnerable to attack. The Yorkist defenders were organized into three separate battles, the contemporary equivalent of a modern division. A "dragon's teeth" formation of primitive cannons was strewn in front of the main line, augmented by a screen of 1,500 archers spread out as far as possible in each direction to appear more threatening to the attackers. Commanding the vanguard was John Howard, Duke of Norfolk and Marshal of England, whose job it would be to meet and repel the rebel forces of Henry Tudor, Earl of Richmond, the Welsh-born claimant to the English throne.

Behind the front line stood the cream of Richard's army, approximately 3,000 knights, men-at-arms, and footmen, all of whom watched the enemy move into position as the morning mist burned slowly away in the valley below. They were armed with all manner of staff weapons; some even had primitive handguns. Behind them, standing with the

A golden crown atop his helmet, Richard III impales Henry's standard bearer, William Brandon, with his lance at the climax of the Battle of Bosworth Field. Painting by noted military artist Graham Turner.

A motley rebel army led by Henry Tudor marched into the heart of England in the summer of 1485 determined to topple the wobbly monarchy of Richard III.

Prints of this painting are available at www.studio88.co.uk.

king, impatient knights encased in plate armor from head to toe held tightly to the reins of brawny steeds that stamped and pawed the open ground. Members of Richard's household guard held aloft the royal arms and the king's personal standard, bearing a white boar on a red-and-blue background. Farther back was a reserve of 3,500 knights and footmen under Henry Percy, the Earl of Northumberland.

Henry Tudor's outnumbered army was on the march by 7 AM. From its camp at White Moors it marched east, crossed Sence Brook and a sizable marsh, and wheeled around toward Ambion Hill. Henry's motley army comprised 5,000 troops of various nationalities and allegiances—English exiles, Welsh mountaineers, French mercenaries, and Scottish highlanders. The force was organized into one large battle under the command of John de Vere, the Earl of Oxford, a veteran commander and one of Henry's most ardent supporters. Like Richard, Henry intended to watch the battle unfold from the rear, where his position was marked with his red dragon standard set against a background of white and green.

As the two armies closed, archers on both sides unleashed a rain of arrows that arced gracefully through the sky and plummeted down on their opponents, while the cannons at the front of the Yorkist positions blasted their Lancastrian foes. The contest was observed from a distance by another 6,000 troops under Lord Thomas Stanley and his younger brother, Sir William Stanley, whose sympathies rested with Henry—Thomas Stanley's stepson—but who shrewdly intended to wait and see which side would prevail before joining the fray. Richard instructed Norfolk to wait until the enemy had passed the marsh and come onto firm ground before advancing. Once the Lancastrians reached the base of the hill, trumpets sounded and Norfolk's battle strode downhill. The two sides clashed together with a tremendous roar, slashing and stabbing with long bills, swords, maces and battleaxes that crushed bones and armor. The day was young and already Bosworth Field ran red with the blood of the armies of Lancaster and York.

The grim clash marked the first time that a king and his challenger had met on the battlefield since the so-called Wars of the Roses began three decades earlier. The civil war between the Lancaster and York branches of the House of Plantagenet had been in progress for five years when Richard Plantagenet, Duke of York, attempted in 1460 to wrest the throne forcibly from Henry VI, the third monarch of the House of Lancaster. As descendants of Edward III, each man had defensible claims to the throne. Although Richard had served Henry faithfully throughout much of his reign, even acting as lord protector during Henry's frequent bouts of mental illness, the power vacuum created by the weak-minded monarch eventually led Richard to press his claim to the throne. The subsequent Act of Accord by Parliament left Henry on the throne and decreed that the York line would succeed him. The Lancastrians understandably rejected the accord and sought a more equitable solution on the battlefield. At the Battle of Wakefield on December 30, 1460, they surrounded Richard's army and killed him and his second son, Edmund, Earl of Rutland.

Richard's eldest son, Edward, was on the Welsh border raising troops when he learned of his father's death. He successfully repulsed an attack by Jasper Tudor, Earl of Pembroke, at the Battle of Mortimer's Cross on February 2, 1461,

Soldiers, Weapons, and Tactics

The Wars of the Roses were fought primarily by private armies recruited by the peerage and gentry classes backing either the House of Lancaster or the House of York in their ongoing struggle for the crown of England. The nature of war had changed noticeably since the Hundred Years' War, which ended with the expulsion of England from France in 1453. The lesson learned from that conflict was that mounted knights were no match for disciplined, mobile longbowmen. As a result, knights in subsequent conflicts in the 15th century fought dismounted. These men-at-arms, as they were called, wore heavy armor that had curved or fluted elements designed to deflect blows from swords and other weapons in close combat and to stop arrows shot from afar.

Battles often began with an archery contest between both sides and progressed to a general melee between well-trained, heavily armed men-at-arms augmented by more lightly armored footmen. Because the armor was heavy and uncomfortable, such clashes typically lasted a few hours at most.

Men-at-arms fought with a variety of weapons that were designed to offset the advantages of fluted armor. Although swords were still used, men-at-arms also began to fight with heavy weapons, including hammers or spikes designed specifically for battering and puncturing plate armor. Horsemen may have used a lance to charge, but once in a melee they resorted to weapons that could be held in one hand, such as the battleax, mace, or war hammer.

Retainers employed by the peerage in turn recruited levies from towns and villages to supplement the armies. These soldiers wore kettle hats or skull caps to protect their heads and brigandines, a type of vest lined with small plates, or padded jacks, to protect their upper bodies. They might also wear chain-mail sleeves or bucklers to ward off blows in hand-to-hand combat. The lightly clad infantry were often referred to as billmen. This reflected the widespread use of the agricultural tool known as the billhook, which could drag horsemen to the ground or be used during combat with other infantry. The billhook consisted of a blade with a hook or spike mounted on pole anywhere from six to ten feet long. A weapon of similar purpose was the halberd, which featured a large curved blade on one side with a spike opposite it. A Welshman wielding a halberd struck down Richard III at Bosworth Field.

Also present on the battlefields of the Wars of the Roses were longbows, handguns, and artillery, but these weapons played a tangential role to the infantry and cavalry fighting. Archers used a longbow that could send an arrow up to 1,000 feet and was capable of puncturing even plate armor. Early handguns that required lighting the powder with a slow match were used in small numbers, but were less numerous and effective than the bows. The better-equipped armies also brought with them field guns that used serpentine powder to fire stone or iron balls. □

A knight in typical English armor (left), a billman in padded jack and livery (right), and a soldier in armor and livery coat. Painting by Graham Turner.

Graham Turner, www.studio88.co.uk

but suffered a temporary setback when his allies were defeated at St. Albans on February 17. However, the Lancastrian forces had so alienated and terrorized the populace that when 18-year-old Edward marched into London shortly thereafter he was hailed as a savior. He took the royal oath and was proclaimed King Edward IV on March 4. Richard, the youngest of the four Plantagenet sons, was made Duke of Gloucester. Thus began a period spanning more than two decades when the House of York controlled the throne of England, except for a brief six-month period in 1470-1471 when Henry VI was temporarily restored to the throne.

The first decade of Edward's reign was fraught with troubles. His impulsive marriage in 1465 to Elizabeth Woodville, a Lancastrian, upset the balance of power among the peerage and alienated many of his followers. A revolt led by Richard Neville, the Earl of Warwick, and Edward's own brother, George Plantagenet, Duke of Clarence, forced brothers Edward and Richard to flee to the continent in October 1470. On March 14 of the following year, Edward returned to retake the crown. With Richard by his side, Edward embarked on a two-month campaign in which he crushed the Lancastrians under Warwick.

The young Duke of Gloucester, then 18 years old, performed ably in both battles. At Barnett on April 14, Richard drove back Warwick's left flank, while at Tewkesbury on May 4 he held firm when the enemy launched a surprise flank attack. Barnett and Tewkesbury resulted in the deaths of Warwick and Edward of Lancaster, the Prince of Wales, respectively. For his fierce loyalty to his brother, Gloucester was handsomely rewarded. Already warden of the West Marches near Scotland, he was made Warden of the Middle and East Marches as well. On top of this, he was appointed to serve as the Constable of England. His power base was second only to his brother Edward IV.

Edward IV's untimely death on April 9, 1483, sparked a fierce struggle for control of the throne. The king's successor was his 12-year-old son, Edward, Prince of Wales. The new sovereign's protector, as designated in his father's will, was Gloucester. Away from London, both the prince and his uncle learned of Edward's death five days later and set out immediately for London. Gloucester was suspicious of Queen Elizabeth, whose family, the Woodvilles, had increased their power and control during her husband's 12-year reign. Fearing a Woodville-dominated monarchy in which he might be cast aside, imprisoned, or killed, Richard took swift action. Intercepting Edward V en route to London in late April, Gloucester had the young king and the trio of nobles accompanying him arrested and imprisoned. The queen took sanctuary at Westminster with her younger son, Richard Plantagenet, and her daughters. When Gloucester arrived in London on May 4, he had his young captive transferred to the Tower of London and pushed back the king's scheduled coronation to June 22.

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TOP: Henry Tudor, the Earl of Richmond, was the last surviving heir to the Lancastrian throne. ABOVE: Richard III, implicated in the death of 12-year-old King Edward V, quickly lost the support of the English people.

At some point in early June, Richard made up his mind to seize the throne. He launched a second round of arrests on June 13 during a meeting of the Royal Council in the Tower. William, Lord Hastings, the most trusted advisor of Edward IV and an ardent supporter of his young successor, was charged with plotting against the protector and summarily executed. Following this unseemly episode, Edward V's coronation was delayed again, this time until November 9. This gave Gloucester time to build a case for usurping the throne. He enlisted clergymen sympathetic to him to declare that Edward IV's marriage to Elizabeth Woodville was invalid because the king had entered into a marriage agreement with another woman before his marriage to the queen. As a result, the clergy maintained, the two princes were illegitimate and Gloucester was the rightful heir to the throne. Nine-year-old Richard joined his brother in the Tower of London.

Richard's cause was further championed by Humphrey Stafford, Duke of Buckingham, who asserted Richard's right to the throne and called upon the nobility assembled in London to draw up a petition asking the protector to take the crown for himself. On June 26 the signed petition was delivered to Gloucester, who was subsequently crowned King Richard III on July 6. Locked in the Tower, the princes were never seen in public again. At some point that summer they were murdered by someone loyal to Richard. (It is not clear whether Richard himself had a direct hand in their deaths, although he certainly condoned them.) Whatever his actual guilt or innocence, Richard had gained the throne, but in so doing he had sown the seeds of discord. By late 1483, the populace realized that the princes were dead and that the new king was somehow responsible for the crime.

The Woodvilles soon recovered enough to propose a marriage between Elizabeth of York, the daughter of Edward IV and Elizabeth Woodville, to Henry Tudor, the Earl of Richmond and the only surviving heir of the House of Lancaster. Henry's claim to the throne traced back through his mother's family, the Beauforts, a branch of the House of Lancaster, by virtue of Catherine Swynford's relationship with John of Gaunt, the Duke of Lancaster, who was Edward III's third son. Henry's mother, Margaret Beaufort, married Edmund Tudor and gave birth to Henry in 1457 shortly after his father died of natural causes. During the unrest that followed, 14-year-old Henry was rushed to safety on the continent by his uncle, Jasper Tudor, to avoid imprisonment or death when Edward IV was restored to the throne in 1471. For the past 12 years, he and his uncle had been living in obscurity under the protection of Duke Francis of Brittany. Events moved swiftly for Henry, then in his mid-twenties, when Edward IV died in 1483. He was encouraged to claim the throne both by his strong-willed mother as well as by Henry IV's widow, Elizabeth Woodville.

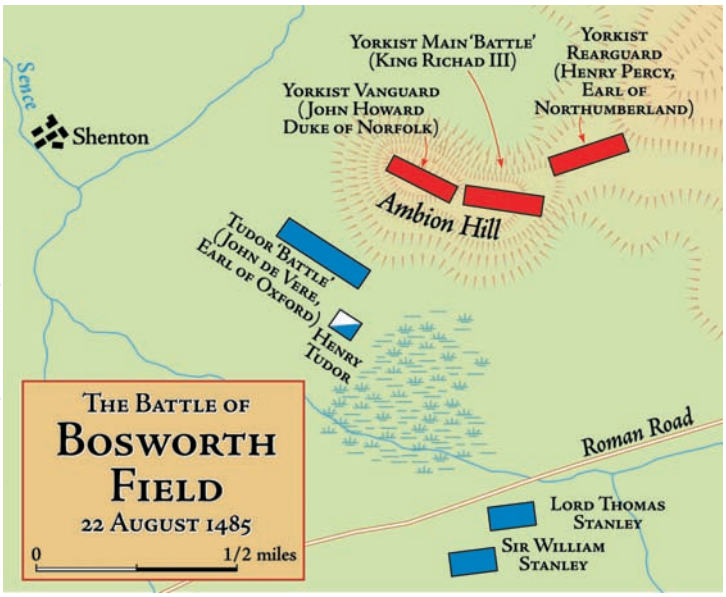
Following the disappearance of the two

princes, it didn't take long for open rebellion to break out. A pair of separate but related conspiracies was hatched in fall 1483 that threatened Richard's fragile monarchy. One was initiated by Buckingham, and the other by prominent Lancastrians, notably Margaret Beaufort and Elizabeth Woodside. The conspirators had different agendas, but they shared the common goal of wishing to dethrone Richard III. Buckingham wrote to Henry on September 24, inviting him to join forces against Richard. The uprising, known as Buckingham's Rebellion, was hampered from the outset by a lack of leadership and coordination. Richard, who had traveled to his favorite retreat, Nottingham Castle in the Midlands, following his coronation, learned of Buckingham's betrayal in October and took immediate steps to crush it. He galvanized loyal peers in the northern part of the realm and assembled his forces in Leicester on October 20. Norfolk secured London for the king, while Richard marched south through the seat of the rebellion, dispersing the rebels.

Buckingham went into hiding after his Welsh retainers refused to back him. He was caught on October 30 and executed several days later. Henry, who was sailing for England at the time, turned back when it appeared that he would be captured upon arrival. In the aftermath of the rebellion, parliament passed 104 bills of attainder at Richard's request, which essentially confiscated lands and transferred titles from southern peers and gentry to his northern supporters. This, in turn, drove into Henry's camp most of the knights and squires of the southern shires, many of whom joined Henry in Brittany.

After Buckingham's unsuccessful rebellion, Henry and his supporters redoubled their efforts. Amidst a gathering of exiled English lords in a cathedral in Rennes on Christmas Day 1483, Henry formally laid claim to the throne and pledged to marry Elizabeth of York. Men and money soon began to flow to him. Among the key nobles who detested Richard and flocked to Henry's cause was Oxford. A bitter foe of the House of York, he had succeeded to the family title in 1462 after Edward IV had his father and older brother executed for allegedly plotting against him. Henry had been living in Brittany, but when he learned that members of Duke Francis' entourage were preparing to turn him over to Richard in 1484, he left the duchy for the court of King Charles VIII. Although he received additional funds from the French, he still lacked sufficient manpower to launch another invasion. Henry established his headquarters at Rouen in Normandy and spent the first half of 1485 corresponding with supporters in England and Wales as well as gathering ships and supplies for the high-stakes venture.

By April 1485, Richard's spies had informed him that another invasion was imminent. The king took public action against Henry on June 21 by issuing a proclamation condemning him and his followers. The proclamation stated that Henry and the earls of Oxford and Pembroke were guilty of treasonous actions. The following day, Richard ordered a full-scale mobilization that involved dispatching troops to southern England, instructing the fleet to actively patrol the English Channel, and informing loyal peers of the realm to muster their retainers.



Richard III held a strong position atop Ambion Hill, but the treacherous Lord Stanley and his brother, deployed to the south, refused to join the fighting.

Richard's power base was in northern England, and he moved his headquarters to that section of the country later that same month. Nottingham Castle was centrally located so that if Henry's landing was successful and he penetrated the interior of the kingdom, Richard could unite with forces from other sections of his realm at nearby Leicester, a major crossroads of the Midlands, and from there pursue the invaders in strength. Whether the king would succeed against the challenger depended in large part on the loyalty of key peers of the realm. These were landholders who, under the contemporary social order known as bastard feudalism, possessed hereditary titles of nobility, such as duke and earl, and controlled the military resources of the realm. During the Wars of the Roses, the peerage figured heavily in any struggle for the crown. With their support the crown could be held; without their support the king was in serious jeopardy.

Richard could count without question on two individuals: Norfolk, who was based in East Anglia, and Sir Robert Brackenbury, the sheriff of Kent, who was in charge of the royal armory and the Tower of London garrison. Although the king also counted Lords Thomas Stanley and Henry Percy, Earl of Northumberland, among his supporters, they were considerably less reliable. Stanley was a veteran campaigner of the Wars of the Roses and a powerful warlord whose strength lay in Lancashire on the Irish Sea. Following the death of Edmund Tudor and her second husband, Henry Stafford, Margaret Beaufort married Stanley in 1472, the act that made him Henry Tudor's stepfather.

Stanley had ample reason to dislike Richard. He had been imprisoned following the council meeting of June 13, 1483, at which time Hastings had been executed for treason. When Stanley requested permission to leave the king's court in Nottingham and return to his home in Lancashire, Richard demanded that he leave behind his eldest son, George Stanley, also known as Lord Strange, as a hostage. While Richard was wary of Stanley, he still counted Northumberland among his loyal followers. The House of York had treated the Percys well during the Wars of the Roses, and before Richard was crowned king the two dukes had campaigned together in Scotland. However, Northumberland regarded Richard's frequent presence in the north as a threat to his power base and secretly longed for his undoing.

Henry's small fleet embarked from Harfleur at the mouth of the Seine on August 1, 1485. The fleet of ships carried 500 English and Welsh followers as well as 2,000 French and Scottish mercenaries. The ships sailed west through the English Channel away from Richard's fleet at Portsmouth. Rounding Cornwall, the flotilla arrived opposite the rock-

In an Abraham Cooper painting, Richard III swings a sword in the thick of the fighting at Bosworth Field. His actual weapon of choice that day was the battle hammer.

Anne S.K. Brown Military Collection

bound coast of Pembrokeshire on August 7. Under cover of darkness, the ships slipped quietly into Milford Haven and turned into Mill Bay, the first cove on the western side of the inlet. Here, the rebel force debarked from its ships onto a small stretch of sandy shoreline.

Henry was keenly aware that his invasion force was insufficient to overthrow an enemy that heavily outnumbered him. He deliberately chose a remote location for his landing to allow him sufficient time to recruit forces from his family's ancestral lands. He planned to march north along the Welsh coast, recruiting men from the local gentry before turning east and crossing into England at Shrewsbury, where he hoped to link up with the Stanleys. During that time, he wanted to double or triple his forces, which would allow him to meet Richard in battle on roughly equal terms. After dispatching messages to the Stanleys and to Sir Gilbert Talbot, the sheriff of Shropshire, Henry pushed north.

The response from the Welsh during the first week was disappointing. Rhys ap Thomas, the leader of a powerful Welsh family who had a large retinue and held sway over many of the southern counties of Wales, did not immediately join the army, but instead shadowed its movements as it marched north. Richard had been pressuring him to block or even stop the invaders, and Thomas put his men between Henry and Richard to make it appear to the king that he still supported him. It was a strategy that would be repeated by the Stanleys once Henry crossed the English border.

Over the course of the next week, Henry's army would grow considerably with the addition of more fresh forces to his banner. The first of several groups to rally to Henry's cause was that led by Thomas, who finally joined Henry after he turned east toward England. Bands of men led by other Welsh gentry and chieftains also joined the challenger before he reached the border. The new recruits more than doubled the Welsh contingent that formed the core of Henry's army, giving Henry the confidence to attack Shrewsbury on August 15. The town surrendered after offering only feeble resistance. More good fortune followed when Gilbert Talbot with 500 English retainers and levies fell in with Henry as he pushed on toward Newport. Meanwhile, the two separate armies commanded by the Stanley brothers began gathering their forces as they marched south.

William Stanley rode down from Stone and met with Henry in Stafford on August 16. Sir William told Henry that he and his brother would not come to his aid openly until the right opportunity presented itself. Just when that moment was, Henry couldn't say, but the Stanleys seemed to know when it would be. The armies of the two brothers were moving independently at the time, with Sir William shadowing Henry's advance and Lord Thomas falling back before it to make it appear that he was contesting the advance. The latter was providing a valuable service to Henry, acting as a smokescreen to keep information about his position and strength from Richard's spies. Henry had marched 150 miles in little more than a week through difficult terrain from Pembrokeshire to Shrewsbury, but it would take him nearly another full week to march the 50 miles from Shrewsbury to the battlefield over good roads. He may have deliberately slowed his march at the suggestion of the Stanleys to allow his men to rest and enable the Stanleys to maneuver into position.

More than half a week after Richard learned that Henry had landed, the king prepared to confront Richmond himself. The most likely explanation for the delay was that Richard was counting on his allies in Wales to contain Henry themselves. But the king soon learned not only that Rhys ap Thomas and others had gone over to the challenger, but also that Henry had advanced farther than he had expected and was already inside England. Cursing the leaders of Wales and Lancashire for their perfidy and vowing to turn their lands into his private hunting grounds, Richard prepared to meet Henry in battle before the size of the latter's army grew any larger.

On August 16, Richard ordered his lieutenants to muster their forces and assemble at Leicester. Both Norfolk and Brackenbury prepared to march immediately to Leicester to join the king's forces from Nottingham, but Northumberland and Lord Stanley dragged their feet. At the same time, Richard learned from his hostage Lord Strange, who had been caught trying to escape, that both William Stanley and Sir John Savage were planning to fight with the Lancastrians rather than the Yorkists.

The king promptly branded each as traitors.

Richard left Nottingham on August 20 in battle formation and reached Leicester by sunset. Norfolk already had arrived in the town; Brackenbury and Northumberland arrived the following day. A number of other peers loyal to Richard's cause, including the earls of Surrey, Lincoln, and Shrewsbury, also were on hand. The royal army marched out of Leicester on August 21. Norfolk led the van, while Richard marched with his troops in the middle and Northumberland brought up the rear. Richard's destination was Atherstone, on Watling Street, the last reported position of Richmond's army.

Henry marched south on Watling Street, a major thoroughfare built by the Romans that linked north Wales to London, arriving in Atherstone late on August 20. The following day he met again with William Stanley in a secluded location outside of the town. The younger Stanley again declined Henry's invitation to join forces, but promised that he would confer with his brother and keep Henry apprised of their plans. Rather than continuing south, Henry turned northeast toward Leicester and marched directly toward the royal army that had mustered to meet him. Although Henry remained deeply disappointed at the Stanley's reluctance to openly support him, his spirits were lifted when Sir John Savage and several other prominent persons entered his camp at White Moors on the eve of the battle.

Upon learning that Henry was now within striking distance, Richard left the Roman road near Sutton Cheney and ordered his army to camp on the high ground south of a large village known as Market Bosworth. Later that evening, the villagers noticed a large number of campfires in their southern fields, indicating that the royal host had arrived in force. Just west of Sutton Cheney, a high ridge of ground runs westward before dropping to level fields through which flows Sence Brooke. The high ground has been known for centuries as Ambion Hill, and at the time of the battle it was about two miles south of Market Bosworth. At the base of the hill was a large area of marshy ground fed by natural springs.

The sun rose over the landscape that would become known as the Battle of Bosworth Field shortly after 5 AM on August 22. The king had not slept well, and the morning seemed to go from bad to worse. The first thing he did was ride to the top of the hill to observe whether the enemy was advancing. He found to his surprise that not only were the rebels advancing with determination on his position, but that Lord Stanley's forces were present and doing nothing to contest the advance. Seeing this, and being sharply stung by Lord Stanley's treachery, the king gave orders to have Lord Stanley executed at once. The order was never carried out because those responsible for doing so decided that it was more important to get ready for the coming battle. On returning to camp, Richard ordered his lieutenants to deploy their forces on the crest and southern slope of the hill. A frenzy of activity took place as the army scrambled to get into position atop Ambion Hill.

Henry awoke before daybreak. His force amounted to about 5,000 men, including his original force of 2,500 and an equal number recruited from Wales and England on the march east. Because of its small size, Henry organized his force into one battle and turned over field command to Oxford, who 14 years before had led the Lancastrian vanguard at the Battle of Barnett. The French mercenaries were led by Philbert de Chandee, the Scottish mercenaries by Bernard Stuart. Talbot and Savage commanded cavalry on the right and left flanks, respectively. Henry oversaw the advance from the rear, where he rode with a hand-picked bodyguard of nobles.

Henry drafted an eleventh-hour message to Lord Stanley inviting him to join him in the advance. Once more the elder Stanley declined the invitation, but said that he would be "at hand" with his own men ready to lend assistance if necessary. The Stanleys commanded a combined force of 5,000 to 6,000 men. William Stanley commanded a slightly larger force numbering 3,000, while Lord Stanley commanded a force ranging between 2,000 and 3,000. Most if not all of the Stanleys' forces were arrayed just south of the Roman Road near the village of Dadlington, from which point they could join the battle at a moment's notice.

The royal host had a difficult time deploying on the 700-yard-long ridge. It was tightly packed, with bowmen and artillery thrown forward and men-at-arms and cavalry holding in the rear. The Yorkists were arrayed in three battles: a vanguard led by Norfolk, a main body under Richard, and a rearguard entrusted to Northumberland. The force was deployed on an east-west axis, with Norfolk farthest west, Northumberland farthest east, and the king protected by both in the center. Richard's army comprised at least 8,000 men, but may have been larger. Norfolk commanded 1,500 archers and men-at-arms, Richard commanded 3,000 dismounted men-at-arms and his household cavalry, and Northumberland commanded 3,500 men-at-arms and heavy cavalry. Brackenbury controlled the lead elements of Richard's battle, which were interspersed with Norfolk's vanguard at the outset of the battle.

The rank and file of Henry's army must have been intimidated by the position of the king's army, which substantially outnumbered them atop Ambion Hill. From where they stood in the flat plain, they could see the cannons and archers arrayed against them, backed by rows of men-at-arms clad in thick armor and billmen whose tall staff weapons glistened in the late-summer sun. When Henry's men marched passed the swamp, the artillery opened fire on the enemy. Oxford continued marching his troops toward the Yorkists' right flank. Once he reached his position, his bowmen prepared to fire their arrows. With a great shout, the archers on each side drew their bows, aimed at the sky and let loose their deadly missiles.

Shortly thereafter Norfolk ordered a general advance, and the Yorkist vanguard went into motion. The knights rolled downhill like an avalanche. The attack was a deliberate attempt by the Yorkists to regain the initiative from the advancing rebels. Hundreds of soldiers shouted at the top of their lungs as the two armies locked horns on the open plain. Heavily armored men-at-arms fought with swords, maces, and deadly poleaxes, while more lightly armored footmen wielded deadly bills, weapons intended to crush armor and bone alike, to slash and stab and fatally unseat riders from their horses.

To keep his army from wavering under the powerful onslaught of the Yorkists, Oxford had ordered that his soldiers were to move no more than 10 feet from the standards of their noble

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or chieftain. The French and Scottish mercenaries were well trained and followed the instructions to the letter. They planted their tall standards in the ground and formed tight perimeters around them. The Englishmen and Welshmen did the same. The result was that the rebels fought in tight-knit groups that were able to withstand the pressure applied by the king's superior forces.

After an hour had passed, it became apparent to the Yorkists that the battle had reached a stalemate, and the attackers began to fall back. While some may have been genuinely frustrated with their lack of success, others may have been reluctant to die for a king for whom they had little personal regard. This would have been particularly true for those under Norfolk and Brackenbury, who were drawn from the southern shires that had risen against the king during Buckingham's Rebellion. Whatever the explanation, the king's impressive attack stalled completely, bringing alarm to the Yorkists and jubilation to the rebels.

Richard watched his attack unravel from the crest of Ambion Hill. As his men fell back to regroup, Oxford took advantage of the lull to rally his men in a wedge-like formation in preparation for a counterattack. It was a bold maneuver, and one that might very well win the battle for the rebels if not met by an equally decisive counterstroke on the part of the king. All the while, cavalry under Gilbert and Talbot harried the dismounted footmen and men-at-arms under Norfolk and Brackenbury. As if that weren't enough, the Stanleys hovered close by ready to throw in their lot with the rebels and tip the scales in Henry's favor. And where was Northumberland? The earl sulked at the rear and made no effort to support the king. His fresh cavalry not only could have checked the rebel cavalry on the flanks, but might even have ridden into the enemy rear if it had been engaged and properly led.

Accounts differ on why Richard decided to charge the enemy. Some state that Richard observed Henry riding to meet the Stanleys, while others say that he simply had no other choice if he wanted to win the battle. At any rate, a swift horse was brought to the king, and some of his closest retainers suggested he switch mounts and flee from the battlefield. The king turned down the offer and remained astride his brawny warhorse. "God forbid I yield one step," he said. "This day I will die a king or win."

The treachery that swirled around Richard like an evil wind seemed to harden his resolve to take personal action. Leading a charge down the hill directly at Henry Tudor was a major gamble on the king's part. If he failed, he would lose the crown and almost certainly his life. He did not hesitate. Richard put on a helmet adorned with a gold crown. Accompanied by his standard bearer, he rode to the front of the throng atop Ambion Hill and prepared to lead a grand charge, one that he hoped would result in the death of the "Welsh milksop," as he referred to Henry. His bodyguard included a dozen titled nobles and was supported by as many as 800 horsemen. Each man in the force adjusted his helmet, checked his weapons, and followed the king downhill toward Henry and the rebels. The charge was the swan song of medieval English chivalry.

The Granger Collection, New York

Discovered under a hawthorn bush, Richard's crown is presented to Henry by Lord Thomas Stanley at his headquarters near Stoke Golding.

The front rank, which included the king, leveled their lances and crashed into the enemy with the screech and bang of steel against steel. Richard's lance impaled Henry's own standard bearer, William Brandon, who fell lifeless from his horse. The standard was quickly picked up by Welsh chieftain Rhys Fawr ap Maredudd, a fellow of enormous stature and tremendous physical strength who defended it throughout the rest of the action. Richard's warhorse, clad in barbed armor to protect it from arrow and sword, carried him deep into the enemy ranks. The king tried in vain to hack his way toward Henry, using all his might and fighting skill. A member of Richmond's bodyguard, Sir John Cheney, was the first to block his way. Having discarded his broken lance, Richard used his war hammer to pound Cheney from his saddle. Other nobles intervened to trade blows with the king in an effort to keep him from reaching Henry.

Even though Henry was spared a personal duel with the king, he was still caught up in the melee, and historical accounts indicate that he fought bravely that morning. He drew his sword and fought side-by-side with members of his bodyguard who managed to hold their ground in the face of the ferocious onslaught. The struggle between the two mounted commands became the center of the battle. Gradually, the Lancastrians gained the upper hand, and Richard and his retainers were pushed back, losing cohesion as a fighting force. Once again members of Richard's bodyguard, concerned for his life, shouted to the king to flee while he still had a chance, but Richard fought on.

William Stanley, already branded a traitor by Richard, threw in his forces as soon as Richard's charge struck the Lancastrian line. Stanley's followers, clad in red livery denoting their allegiance to their lord, eagerly entered the fray, rushing to support Henry's bodyguard. In twos and threes they swarmed around Richard's knights, unhorsing them with their long bills and slashing them to pieces once they were on the ground. Richard's standard bearer, Sir Percy Thirlwall, was one of these unfortunates. He was unhorsed and his legs were cut off by Welsh footmen wielding halberds to prevent him from raising the king's standard. But in a superhuman effort, the legless Thirlwall continued to hold Richard's standard aloft while the king continued fighting.

Continued on page 66

A STORM OF TERRORS

WHEN THE BESIEGED PERSIANS AT HALICARNASSUS LAUNCHED A SURPRISE NIGHTTIME ASSAULT ON HIS CAMP, ALEXANDER THE GREAT GOT MUCH-NEEDED HELP FROM AN UNEXPECTED CORNER—HIS LATE FATHER'S WHITE-HAIRED VETERANS.

A MAJOR DILEMMA CONFRONTED ALEXANDER THE Great and his 35,000-man Macedonian army in the summer of 334 BC, as they moved to secure the northwestern corner of Asia Minor. Alexander had just destroyed a vast Persian army at the River Granicus in early June, and subsequently had conquered the hostile tribes in the region of Mysia. His next move would be crucial. He could move east to engage the Persian emperor Darius immediately, leaving key Persian-controlled port cities untouched on the western coast. His other option was to march down the coast and systematically seize control of the Persian naval bases. After considering the counsel of his top generals, Alexander's sense of pragmatism won out against his desire for an immediate confrontation with his rival—he elected to push down the coast. In his path stood well-fortified enemy strongholds manned by the remnants of the Persian army from the battle at the Granicus and other components of their western army. In addition to these forces, large contingents of Greeks and other mercenary troops served in the army of Darius.

When Alexander led his army across the Hellespont and into Asia in May 334, he left behind a force of only 12,000 infantry and 1,500 cavalry to maintain a tenuous grasp on the Macedonian-dominated alliance of Greek city-states, the League of Corinth. The southern cities on the Peloponnesus—most notably Sparta—put up resistance against Macedonian interference in Greece. The Aegean Sea was under heavy Persian influence during this period, patrolled by an extensive Persian fleet. From the port cities on the western coast of Asia Minor, the Persians maintained frequent communication with the southern Greek cities, in addition to recruiting heavily from the regions of Lycia, Lydia, and Caria. As dangerous to Alexander's Asian expedition as losing a battle in the field was the ever-present threat of a significant rebellion at home. The Persians were more than content to cultivate anti-Macedonian sentiment in Greece, an opportunity that their presence in the Aegean enabled them to pursue. This had, in fact, been the advice of Memnon, a talented Greek general-in-exile then serving under the Emperor Darius, prior to the engagement at the Granicus. In addition to the risk of Persian interference in Greece, the considerable natural resources to be found in the coastal regions of western Asia Minor were well worth a difficult fight, Alexander reasoned.

Alexander arrived in the Troad, the northwestern corner of Asia Minor, in May with an army of 30,000 infantry and 5,000 cavalry. Upon his arrival he visited a number of sites venerated from the Trojan War. The locals even presented him with a suit of armor from that epic conflict, and thereafter he always had this mystical panoply carried near him in battle. When the Persian satraps in western Asia

RIGHT: In the course of his remarkable 13-year reign, Alexander the Great found very few strongholds he could not reduce. Here, in a 15th-century French illustrated manuscript, Alexander's men take Celene Castle. The Persian fortifications in Asia Minor fared no better in resisting his attacks.

Art Archive

BY JEFFREY A. EASTON

Minor finally reacted to the Macedonian invasion, they proceeded boldly to face the upstart young king. At the River Granicus the Persian army deployed using the waterway as a defensive barrier, believing that Alexander could not cross and attack them where they stood. In heroic Alexandrian fashion, the Macedonian king defied this belief and personally led his infantry and cavalry across the river in a headlong charge into the enemy lines. The stunned Persian army was routed, losing some 15,000 men compared to Alexander's meager 100 casualties.

Following the battle, the Persian army reeled south. There, the mercenary general Memnon first took the reins of the Persian forces in the western part of the empire. Memnon had opposed facing Alexander in open battle at the Granicus, and he subsequently followed a similar strategy. He gathered another vast Persian army, possibly including as many as 20,000 Greek mercenaries. Memnon's first move was to retreat from Mysia and garrison the fortified city of Ephesus, in the region of Lydia to the south.

Alexander's situation on the western coast of Asia Minor was further complicated by the fact that he had a small fleet of only 120 ships. He could not realistically hope to seize the Persian port cities in a naval action with such a small force. One of his chief generals, Parmenio, advised him to give battle at sea, nonetheless, to make a show of strength. Alexander, however, did not want to risk a defeat that could spark an open rebellion in Greece and strand his army in Asia. Instead, he devised a plan to attack the fortified cities by land. If he could capture the cities, the Persian fleet would have no significant bases in the Aegean and would be forced to sail to other waters. As Alexander gathered his forces to move south, Persian scouts monitored his every move. The Macedonian army was marching straight into the teeth of a large, well-supplied enemy force that knew it was coming and was already deployed behind densely constructed walls.

The first Persian stronghold lay several miles into the hinterland of Asia Minor at Sardis, a key city in the region of Lydia. Capturing Sardis was the key to controlling Lydia, and Alexander moved swiftly on the city. Upon receiving news of the approach of the Macedonian army, the Persian satrap at Sardis, Mithrines, surrendered the city without a fight. Next, Alexander marched southwest for four days until he came to the city of Ephesus. Here again, the Persian force under Memnon made a hasty retreat rather than risk battle with Alexander, and the city fell into Macedonian hands with minimal bloodshed. At Ephesus Alexander displayed a rare (for him) humanitarian quality, pardoning even those citizens who had opposed him before his arrival. He also restored democracy to the city and recalled Ephesians who had been exiled by the Persians.

Macedonian detachments also captured the important cities of Magnesia on the coast and Tralles along the Maeander River, thereby securing western Asia Minor north of Caria. In the capable hands of Parmenio, Alexander left behind 5,000 troops to subdue the final pockets of resistance in the area and to extend his lines of supply and communication. In the meantime, Alexander had received word that the vast Persian force that had thus far eluded him was gathering in the port city of Miletus, positioned on a small peninsula just south of the Maeander. The final pieces of the puzzle concerning the conquest of the western coast, however, would not be as bloodless as the minor scrapes at Sardis and Ephesus had been.

Miletus, one of the two major harbors in Caria, boasted a strong outer wall behind which defenders could survey the surrounding landscape. The inner section of the city contained a second wall and the fortifications on the citadel proper. With the Persian fleet in the Aegean never far from its port, the garrison at Miletus was well supplied and informed. It was there that Memnon decided to make his first stand against the oncoming Macedonian wave. Parmenio and his detachment soon rejoined Alexander and the bulk of the army en route to the city.

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After he made camp, Alexander discovered that the Persian fleet was out of port. Parmenio once again urged the king to send out the small Macedonian fleet to surprise the Persian ships, arguing that a naval victory would be momentous, while a defeat would not spoil the campaign significantly. Alexander held a different view, not wishing to risk his limited resources on such a precarious mission. Instead, he ordered his admiral, Nicanor, to blockade the harbor of Miletus with the Macedonian ships on hand. By this point, Nicanor commanded a fleet of 160 vessels, and his quick maneuver succeeded in blocking the much larger Persian fleet from entering the shallows of the harbor once it arrived, thereby negating the superior Persian numbers.

With the Persian fleet barred from the harbor of Miletus and Memnon's army garrisoned inside the city walls, Alexander launched a siege. In the early days of the action, the outer wall of Miletus crumbled under the constant Macedonian sorties. Alexander was unable to exploit the breach in the defenses, however, and at about the same time Persian naval reinforcements arrived on the scene. He had to siphon forces away from the main siege to bolster Nicanor's blockade, including a detachment of Thracian cavalry and 4,000 mercenary infantry that was transported to a tiny island within the harbor. Despite several attempts to lure the Macedonian ships out of their strong position, the Persian fleet failed to dislodge Nicanor's line of defense, and they put in at the nearby island of Mount Mycale. The mighty Persian navy would have to observe the remainder of the siege of Miletus helplessly and from a distance.

Over the next few days the Macedonians pounded away at the damaged defenses of Miletus. Memnon commanded a strong defense, positioning defenders brilliantly and launching timely counterattacks to neutralize the Macedonian forays. The first to crack under the pressure of the situation at Miletus were its citizens, who were largely indifferent toward both the Persians and the Macedonians. A leading aristocrat named Glaucippas visited the Macedonian camp, advising Alexander that the Milesians wished to end hostilities. In an answer that defined the resolve of Alexander's cause, he advised Glaucippas to prepare his people for a lengthy siege— neither he nor his army were about to abandon the operation. Alexander ordered the construction of additional siege equipment, and the battering of the city walls continued unabated. Finally, after many days, the Macedonian maelstrom took its toll on the defenses, as the inner walls of the city gave way. Alexander ordered a mass

infantry advance to rout the remaining defenders out of the city.

A number of the Persian defenders, including Memnon and his command staff, managed to slip out of Miletus unharmed. Many other Persians and Greek mercenaries, as well as many Milesian citizens, were not so fortunate. Some fled the scene by floating away on makeshift rafts and even shields. A small number of the runaways escaped and linked up with Persian ships outside the blockade, but most drowned in the harbor. Alexander granted amnesty to the remaining Milesians, and even welcomed 300 of Memnon's Greek mercenaries into his own ranks.

With Miletus safely in Macedonian hands and the shattered western Persian army fleeing southward again, the Persian fleet sailed out of the area. At this point, Alexander made a crucial decision—he disbanded all but 20 ships of his fleet. He believed that Nicanor's blockade at Miletus had been a stroke of good luck that was unlikely to be repeated. Moreover, the maintenance of even a small fleet placed a significant drain on Alexander's already overextended coffers. One ancient historian speculated that Alexander sent away his navy to inspire his men to fight even harder, since they now had no means of escape from Asia. Whatever the case, Alexander had placed himself in a situation where he had to capture Caria's other major port exclusively by land assault.

Halicarnassus was the greatest city in Caria, and it was there that Memnon retreated following the abandonment of Miletus. Halicarnassus stretched across the Gulf of Cos and was located in a naturally defensible position. The Persians had gone to great lengths to strengthen the battlements, constructing perhaps the most imposing walls and towers of any city in the western Persian Empire. A moat, some 40 feet wide and 23 feet deep, surrounded the city. Three strongly fortified gates, well guarded and maintained, represented the weakest spots in the awesome city walls. The outer defenses also enclosed three main citadels, with the two strongest, Salmacis and Arconnesus, positioned on either side of the harbor. In addition to the regular Persian garrison at Halicarnassus, mercenaries and reinforcements swelled Memnon's ranks. In all, some 30,000 Persian defenders awaited Alexander's army. The Persian fleet also sailed into the harbor at Halicarnassus, ensuring ready supply to the defenders.

By August, Alexander was marching his army south through Caria, liberating settlements as he went. In the Greek towns, he granted autonomy and exemption from taxation in the growing Macedonian sphere of influence. He won the support of the Carian citizenry when he promised to restore an exiled native princess as governor of the region. Yet when he caught sight of the walls of Halicarnassus, Alexander's altruism gave way to ferocity and brutality. He ordered the first Macedonian assaults on the city almost before he set up camp about a half mile southeast of the city. At the Mylasa gate on the city's western wall, the advancing Macedonians drove back the Persian skirmishers that were sent out to meet them. The next few days saw Alexander's infantry escalate its attack on the city walls, while sappers began to fill in the immense moat and the lumbering siege engines began to deploy. At Halicarnassus, as at Miletus, the diversity of Macedonian troop types—slingers, spearmen, and the numerous heavy cavalry that Alexander always led personally—played a limited role in the siege operations. It fell to the infantrymen and engineers to do all they could to wreck the solid Persian defenses. Meanwhile, Memnon's defenders kept pace with a steady barrage of missile weapons and sporadic counterattacks outside the walls.


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Alexander began his expedition to Asia Minor with a pilgrimage to Troy to visit Achilles's grave. Upon leaving the temple, he took a sacred suit of armor with him.

A few days into the siege, Alexander diverted his attention from the main assault on the city and assembled a mixed force of cavalry, infantry, and missile troops for a special mission. He led the convoy around the city to a road leading to the nearby town of Myndus. After feigning an attack at the western Myndus gate, he marched his army west toward the settlement. An envoy from Myndus had previously sent word to Alexander, promising to turn the town over to the Macedonians. Capturing Myndus would provide another base of operations in the area and enable the Macedonians to place more pressure on the defenders at Halicarnassus. Believing that he could occupy the strategic position without much difficulty, Alexander took along no siege equipment for the mission. Once word of Alexander's march spread, Memnon hurried reinforcements to Myndus, closing the city gates. Finding his small detachment outmatched, a frustrated Alexander was forced to turn back to camp.

After pounding the walls of Halicarnassus for days, Alexander found that he had made little progress in bringing Memnon's army to its knees. By this time the Macedonian sappers had completed filling in the moat. With solid footing now available, Alexander ordered his siege engines to prepare for an assault. However, when night fell on the field, a Persian patrol infiltrated Macedonian lines and set fire to many pieces of siege equipment. The startled Alexander managed to organize an effective counterattack. Officers on both sides spurred on their fatigued units, while soldiers fought over the bodies of their fallen comrades. Finally

the skirmish ended, but not before the Macedonians had suffered 316 casualties, as well as significant damage to their engines.

The siege dragged on, the pattern of alternating Macedonian attack and Persian repair and counterattack becoming a daily occurrence. The stress of the protracted struggle began to take its toll on both sides. Alexander risked losing control of his fatigued army. One night a number of frustrated Macedonians under the command of Perdiccas got drunk and rushed headlong at the Mylasa gate in a foolish attack. The Persians inside were all too eager to deal with the renegade force and hurried outside to meet them. The ensuing skirmish escalated rapidly into a full-scale engagement as Perdiccas brought up support troops to aid his comrades. Memnon responded in kind, sending out additional defenders to engage the enemy. The Persians gained the advantage—they had quickly amassed a superior number of troops—and burned several more pieces of Macedonian siege equipment. The action ended only when Alexander himself appeared on the scene with additional troops and the Persians retired through the city gate. Memnon and Alexander agreed to a brief truce, just long enough for the Macedonians to gather their numerous dead and wounded from the base of the city walls.

Alexander remained in a difficult position. For over a month his army had hammered away at the defenses of Halicarnassus with little success. The hot, dry summer of western Asia Minor was giving way to autumn, and Memnon's garrison still sustained an impressive resistance. In some instances, repaired sections of the wall were even stronger than the original walls. The success of the entire Macedonian expedition hung in the balance as its momentum stalled against the strong walls of Halicarnassus. If Alexander were to withdraw, he risked losing prestige in the eyes of both the Persians and the Greeks, and he would leave a key enemy stronghold intact on his western flank. He had no genuine hope of starving out the defenders, who remained well supplied by sea. The Macedonian king had no choice but to redouble his effort to punch through the walls and overthrow the city's garrison.

In one mass attack on the city's main gate, a Macedonian force finally threatened to penetrate the walls. A Persian counterattack resulted in a large-scale battle in the shadow of the mighty gate. The Macedonian phalanxes gained the advantage, and the defenders scrambled for the safety of the walls. The fleeing Persians created a human traffic jam on the moat

With the unexpected help of veteran soldiers from the ranks of Alexander's father, Philip of Macedonia, Alexander successfully besieged Persian strongholds and naval bases up and down the western coast of Asia Minor.

bridge, which gave way under the weight, killing many soldiers. Although Alexander could have followed up this success, he called off the assault because of his men's fatigue and because he did not want to risk a slaughter inside the walls—he still harbored the faint hope that the Halicarnassian citizens would pressure Memnon to surrender. The day's battle was the biggest engagement of the siege to that point. Some 1,000 defenders and 40 Macedonians were killed, the latter figure including some of Alexander's most trusted officers. Alexander remained undeterred in his commitment to capture the city, and his army showed no sign of relenting.

The following morning Memnon held a council of his generals, and the consensus was that they needed to launch an offensive to break the Macedonian siege. A Greek mercenary officer named Ephialtes was selected to lead a handpicked unit of 2,000 infantrymen on a raid against the unsuspecting Macedonian camp. Under cover of darkness on the chosen night, Ephialtes led half of his saboteurs toward the Macedonian camp and ordered the other half to set fire to the remaining siege engines near the city walls. The Macedonians were surprised by the night attack, but a few units were able to form up and engage Ephialtes. A bewildered Alexander emerged from his headquarters and rapidly assessed the situation. He ordered the best of his infantrymen into three phalanxes and instructed additional crews to extinguish the flaming siege equipment. Alexander, on foot, took up position at the head of the formation and advanced on Ephialtes. For once the king could not inspire his men, and the Macedonians could not gain an advantage, their situation made worse by the countless missiles being fired down on them from atop the city walls and from a special 100-foot-high wooden tower constructed for the raid.

When the Macedonian phalanx began to falter, Memnon, sensing victory was at hand, rushed forth from the gate with additional troops. Alexander faced one of the most crucial single moments of the entire Persian expedition, and the young king could not have planned what happened next. A number of Macedonian veterans, men who had long served under Alexander's father Philip and were exempt from combat duty under Alexander, suddenly emerged on the scene. In a display that rivaled the dramatic flair of Alexander himself, the savvy veterans chided their younger counterparts and rallied the infantry. The inspired Macedonians tightened their ranks and surged forward against Ephialtes's force. The tide turned swiftly in favor of the Macedonians as the defenders were driven back by the rhythmic push of the Macedonian *sarissae* and shields. Memnon's force suffered extensive casualties, with Ephialtes among the slain. Memnon ordered a full retreat, and in the chaotic rush back to the gates, a number of energized Macedonians penetrated the city walls before breaking off the pursuit.

The great night battle was the turning point of the siege. Alexander had been surprised by the enemy assault, and the decisive factor in the victory had been out of his hands. Nevertheless, as the sun rose the next morning, the weary but invigorated Macedonian troops took stock of their situation, which had suddenly improved greatly. The morning following the botched attack, Memnon called another assembly of his generals. It was now October—over two months into the siege—and the Persian high command realized that the defenders, both Persian and Greek, were exhausted. Memnon's position within the formidable defenses at Halicarnassus had been a strong one. His men had been well supplied

Musee des Pays de L'Ain, Bourg-en-Bresse, France, Lauros / Giraudon / Bridgeman Art Library

Alexander's army of 35,000 dealt the Persians a crushing blow at the Battle of Granicus in 334 BC. The Persians lost 15,000 men to a mere 100 Greeks.

and enjoyed superior numbers. Despite these considerable advantages, the defenders failed to hold up against the unrelenting onslaught thrown at them by a determined Macedonian army. The decision of Memnon's council was to abandon Halicarnassus as they had done at Miletus months earlier.

While Alexander's men continued to hammer the walls, Memnon ordered a small garrison of skilled soldiers under his subordinate Orontopates to remain behind and hold out in Salmacis and Arconnesus, the two strongest citadels of the city. These well-fortified positions along the harbor would allow the remaining forces to hold out for a significant amount of time, and thereby continue to occupy at least part of the Macedonian army. Meanwhile, Memnon and the bulk of his army escaped by sea to the nearby island of Cos, but not before setting fire to many buildings within Halicarnassus. As the defending army evacuated the city, Persian deserters alerted Alexander to the situation. The young conqueror triumphantly led his army through the gates that for so long had withstood their challenge. He ordered crews to extinguish the blazing structures and issued a decree that the citizens should not be harmed.

Over the next few weeks, Alexander rapidly consolidated his power in Caria by subduing the remaining pockets of resistance. He left Ptolemy behind with 3,000 infantrymen and 200 cavalrymen to capture Salmacis and Arconnesus, the last vestiges of the Persian presence at Halicarnassus. The strongholds held out for another year before finally capitulating. The last months of 334 found the Macedonians marching along the southern coast, battling hostile forces in Lycia, Pamphylia, and Cilicia. Region by region, they drove the Persians out of Asia Minor. During the winter, Alexander allowed some of his veterans and recently married soldiers to visit Macedonia. These furloughed men were also instructed to recruit new levies from Corinthian League members, as well as from the Peloponnesus, further evidence of Alexander's tightening grasp on his Greek empire.

In the spring the Macedonian forces gathered at Gordium, where Alexander cut the legendary knot before resuming his campaign against Darius. According to legend, whoever could unravel the knot was destined to rule Asia. Memnon continued his resistance against Alexander, and spent the later part of 334 and early 333 carrying out small operations on islands in the Aegean. He enjoyed limited success in winning allies in the Greek islands before he died suddenly in the spring. Memnon's plans were thoroughly abandoned following his death, and any hope Darius had of regaining influence in the Aegean was dashed. Late in 333, Alexander finally had his head-to-head confrontation with Darius himself at Issus, which resulted in another decisive Macedonian victory.

Alexander's brute-force approach at the sieges of Miletus and Halicarnassus contrasted greatly to the strategic and tactical precision he exhibited in routing numerically superior Persian armies at Granicus and Issus. But these victories at the coastal bases effectively broke the resolve of the Persian army in the west and set the unrelenting tone that characterized the remainder of the Persian expedition. The determined Macedonian army, led by the example of their indomitable young king, had endured great hardship and defeated considerable enemy forces in a difficult environment. In winning the test of military prowess at Miletus and Halicarnassus, Alexander secured his western flank and control of the Aegean Sea, an achievement that contributed greatly to his ultimate success in his celebrated campaign against the Persian Empire. □

Intelligence

Continued from page 17

national hero out of an unfortunate French nuclear technician, Damen Chaussepied, who was killed while working in a lab next to the reactor at the time of the raid. Great Britain denounced it as "a grave breach of international law." A *New York Times* editorial thundered: "Israel's sneak attack on a French-built nuclear reactor near Baghdad was an act of inexcusable and short-sighted aggression." A United Nations Security Council resolution condemning Israel's raid passed unanimously. But despite loud denunciations inside the Arab world, Israel was never attacked in reprisal, and no UN sanctions were ever put in place against it (the result of a threatened American veto). As for the president, Ronald Reagan shrugged off the dramatic event with a characteristic shrug. "Boys will be boys," he said.

Saddam Hussein, playing the victim to the hilt, called on "all peace-loving nations of the world to help the Arabs in one way or another acquire atomic weapons" in order to offset Israel's obviously aggressive tendencies. At the same time, he sought to deflect blame for the attack away from his army's own less-than-stellar defensive performance at al-Tuwaitha by accusing the French of being complicit with Israel in the attack. A few months later he showed up at the bomb site, wearing battle fatigues and carrying a pistol on his hip. "If you are scared now," he told Iraqi scientists, "how do you think you would do in a real shooting war?" He harangued his captive audience, but significantly did not punish anyone for the bombing fiasco, perhaps because he had personally vetoed plans to build the reactor underground. Instead, he gave the scientists 26 new, French-built automobiles as a parting gift.

The Israelis stood firm against the adverse public opinion. "Israel has nothing to apologize for," Begin told a news conference a few days after the raid. Noting that Sadaam Hussein had frequently butchered his closest colleagues, to say nothing of his opponents, Begin warned that Iraq would have had "no hesitation in dropping three or four or five of those bombs on Israel." Three weeks later, Begin's hard-line Likud Party was given a thumping endorsement at the polls, and a few months later the United States quietly resumed the sale of F-16s to Israel. When American forces invaded Iraq in 1991 and 2003, they did not have to confront the fear of an Iraqi nuclear response. The audacious Israeli raid on al-Tuwaitha had seen to that. □

Bosworth

Continued from page 59

At some point, Richard's horse became mired in the marshy ground at the base of the hill, and the king stumbled from his saddle. Now on foot, he was surrounded by Welsh footmen in the employ of the younger Stanley. Finding himself alone and outnumbered, he fought on even though there was hardly a glimmer of hope that he would survive. All around him his retainers were dying without a shred of mercy being shown them. Cut off and surrounded, Richard cried out against those who had betrayed and deserted him. In vain he sought to hold his attackers at bay. Swinging his war hammer, he shouted over and over again, "Treason!" He was eventually overpowered and struck a deadly blow by a Welsh foot soldier wielding a halberd. Once he was down, more footmen rushed forward to hack at his body with their weapons until it was horribly mutilated and his face unrecognizable.

The battle drew to a swift close once Richard was slain. It had lasted just over two hours. Many of the Yorkists attempted to flee south in the direction that the king had made his charge, but they were cut down by the victorious army, whose numbers swelled with the addition of the Stanleys. Both Norfolk and Brackenbury died in the fight, along with another 1,000 men. Lancastrian losses were much lighter. The treacherous Northumberland was taken prisoner shortly after the battle, but he was eventually allowed to go free and his lands were not taken from him. He was murdered four years later in Yorkshire by diehard supporters of Richard when he tried to collect taxes from them.

Henry retired after the battle to a hilltop near Stoke Golding, where Lord Stanley brought him the gold crown that has been knocked off the slain king's head and found lying underneath a hawthorn bush. Richard's mangled corpse was stripped naked, tied over a horse, and taken to Newarke, where it was displayed for two days in a church for the public to see that the king was truly dead. In appreciation for his support, Lord Stanley was made earl of Derby in October 1485 and William Stanley was made chamberlain of the royal household and chamberlain of North Wales. Nearly a decade later, Sir William would be executed for his role in another rebellion. Henry entered London on September 3 and was crowned King Henry VII on October 30. On January 18, 1486, he married Elizabeth of York, uniting the houses of York and Lancaster. The battle marked the end of the House of York and the start of a 120-year reign by the House of Tudor. □

Zorndorf

Continued from page 33

hands. Russian units from the Novgorod, Ryazan, Voronezh, and St. Petersburg regiments reestablished the Russian line and put new backbone into the Russian defense. As Manteuffel's battalions took heavy casualties, his overall frontage began to inexorably shrink. Soon, a gap opened between the Zeberngrund and the 2nd Infantry Regiment, Manteuffel's easternmost anchor. The Russians saw what was happening and cavalry moved forward to exploit the gap. The horsemen hit Manteuffel's troops from the front, flank, and rear. Unable to stand any more punishment, the Prussians broke and ran, many of the fugitives running headlong into Kanitz's advancing soldiers.

Kanitz was having his own troubles—Russian round shot and canister were ripping gore-splattered holes in his orderly blue ranks. A well-timed Russian bayonet charge was the proverbial straw that broke the camel's back. Kanitz's men joined Manteuffel's in a headlong flight for survival. The entire Prussian left wing, at first so near to victory, was melting into an unreasoning mob.

Frederick rode up and made a courageous attempt to stem the tide. Dismounting, he seized the colors of the 46th Infantry Regiment from its standard-bearer and began walking briskly toward the enemy. At this moment, legend and reality merged—here was the celebrated Frederick, affectionately known to his men as *Der Alte Fritz*—putting his life on the line like any common soldier. He was an iconic figure, dressed in a dark blue general's uniform coat, a silver sash girded around his waist. His uniform was shabby and stained with snuff, the pocket bulging with an exquisitely bejeweled snuffbox. The Star of the Order of the Black Eagle was pinned to his coat, his only concession to the trappings of royalty. Although his face was weathered and seamed, the piercing blue eyes effortlessly commanded obedience.

Sword in hand, Fredrick shouldered the heavy standard and moved forward on foot, followed by his staff. One battalion of the 46th Infantry Regiment gathered near the king, but the noise and confusion of battle nullified his efforts. The retreat threatened to become a rout. There was but one chance of salvation—the cavalry under Lt. Gen. Friederich Wilhelm von Seydlitz, posted just west of the Zabern-grund. Seydlitz was a brilliant officer, and he had three cuirassier regiments, one dragoon regiment, and two hussar regiments under his immediate control. If Seydlitz could somehow get his men through the Zaberngrund's treacherous slopes, he might be in a position to surprise the Russians and take them in flank. The king sent message after message to Seydlitz, ordering the cavalryman to move forward. He refused the royal commands, airily informing messengers, "Tell the king that after the battle my head is at his disposal, but meantime I hope he will permit me to use it in his service!"

Seyditz knew that in battle timing was everything, and he judged that the time was not yet ripe for a cavalry attack. His men had already discovered that there were some parts of the Zaberngrund that horses could cross, and he carefully noted the locations. It was all a matter of when to attack. Events soon proved Seydlitz right. When he saw an opening, he moved off, the 2nd and 3rd Hussars in the north, the 8th and 10th Cuirassiers in the center, and the 13th Cuirassiers and 4th Dragoons in the south. The Zaberngrund was steep, its lowest reaches boggy, and Seydlitz's formations were disordered by the crossing. Once they were safely over the hollow, he formed his men into regimental columns on a three-squadron front.

The Russian cavalry and infantry, pressing forward against the fleeing Prussian left wing, were caught by surprise and ruthlessly slaughtered. Other Prussian cavalry under Moritz of Anhalt Dessau, already in action before Seydlitz's appearance, joined the formidable cavalryman and redoubled their efforts. The sabering went on for quite some time. Russian soldiers scattered in all directions, some seeking refuge in the Zaberngrund or continuing on to the Drewitzer Woods. Others came across the Russian light baggage train and began to pillage its contents. Casks of brandy were discovered, and before long many Russian soldiers were blind, staggering drunk. When officers tried to restore order, they were threatened and even shot.

The majority of the shattered Russian right crossed the Galgengrund and joined what remained of the army. The Prussian cavalry was triumphant, but their horses were blown and the troopers spent by the sheer exhaltation of their success. The Russians were badly shaken, but so was the remnant of the Prussian left, and Frederick was far from a decisive victory. Seydlitz's magnificent charge had saved the Prussians for a time, but the battle was not yet over. It was about noon, and a temporary lull ensued while each side licked their wounds and considered future options. In general the Russians were the worst off, having suffered terrible casualties. They were also a body without a head—throughout much of the battle, Fermor was nowhere to be seen. (He later claimed he was in Quartschen having a wound dressed, but some reportedly saw him miles from that village.) Fermor seemed to have had a loss of nerve, completely abdicating his responsibilities and abandoning his post. Deprived of leadership, the Russian soldiers had nothing left but their stoic, fatalistic courage and their ability to endure any punishment with stubborn pride.

The second half of the battle mainly consisted of heavy and ultimately fruitless attacks on the reconstituted Russian line. There were advances and retreats, attacks and counterattacks, but neither side gained much from their efforts. Zorndorf degenerated into a soldier's battle, a bloody, toe-to-toe slugfest where the two sides bludgeoned each other with little finesse and less mercy. At 3:30 PM, Dohna's command, some 9,000 men in all, attacked the Russian line in a last bid for victory. After the usual exchange of volleys, the fighting again became hand-to-hand, with bayonets, clubbed muskets, swords, and pikes doing deadly service. The dead and wounded covered the ground like a blood-spattered carpet of blue and gray.

In truth, the Prussians had never encountered such an enemy. The Russian soldier was incredibly tough, able to absorb terrible punishment and still keep fighting. By 6 PM, however, the battle was over. The Russians had been horribly decimated but not broken. British envoy Andrew Mitchell wrote movingly of the "horror and bloodshed," noting that "the country was all in flames around us." Mitchell felt that without Frederick's coolness and courage, the Prussians would have been destroyed. "His firmness of mind saved all," Mitchell insisted. "The Russians fought like devils incarnate."

Frederick had won a somewhat pyrrhic victory, absorbing crippling losses he could ill afford. Worst still, Zorndorf was not the knockout blow he needed to compel the Russians to sue for peace. He had hoped for a second Leuthen, but what he got was an inconclusive massacre. Casualty figures bore mute testimony to the battle's sheer ferocity. The Prussians lost 13,000 men, and Russian casualties were even higher—some 18,000 killed or wounded and another 2,000, including six generals, taken prisoner. But Russia had a large population and the depleted ranks were easily filled again. Frederick's losses were not so easily replaced, especially when Prussia still faced a host of enemies.

All in all, Zorndorf had been a sobering experience. Frederick now realized that the Russian army, which he had treated with utter scorn, was a formidable enemy when properly led. It was a lesson he would not forget. □

By Harold E. Raugh, Jr., Ph.D., U.S. Army (Ret.)

The Continental Army was transformed at Valley Forge, even as Washington fought a "secret war" to save it.

THE FREEZING WINTER OF 1777-1778, WHICH GENERAL GEORGE Washington's Continental Army spent on the verge of starvation and collapse at Valley Forge, was a turning point of the American Revolution. The Continental Army emerged from this ordeal a better trained, disciplined, and more cohesive force capable of engaging and defeating the British Army in the field.

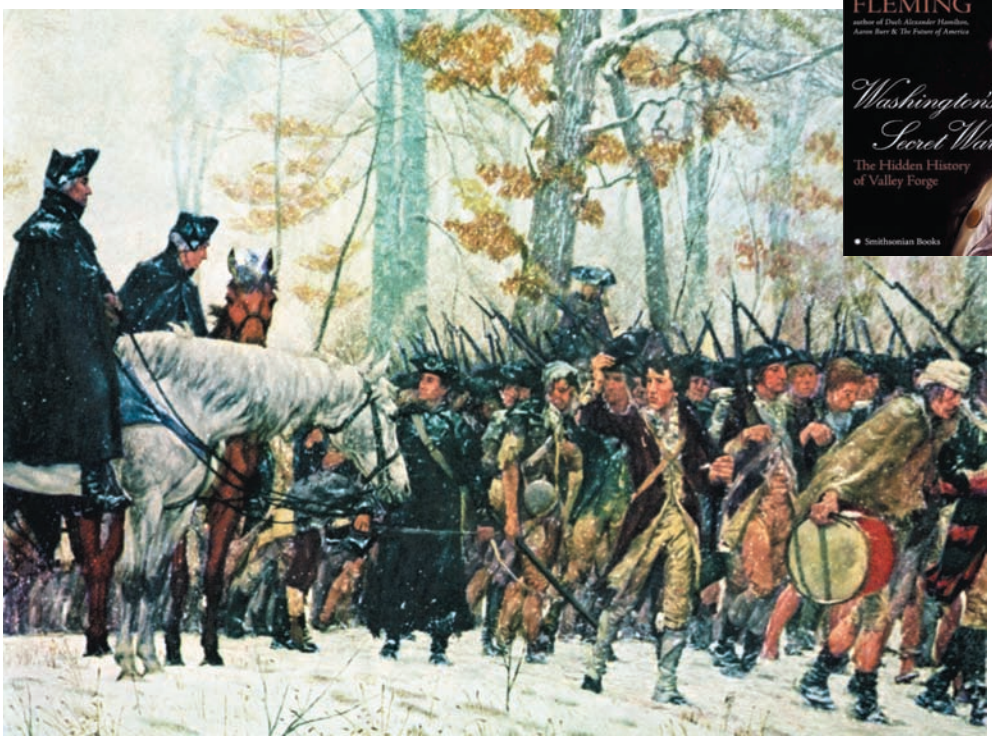
During this apparent lull in the fighting, Washington was engaged in a more deadly form of combat that could have resulted in his dismissal as commander-in-chief and the demise of the Continental Army. Washington's "secret war"—against misguided political zealots, ideological detractors, and jealous competitors—is the subject of Thomas Fleming's superb popular history ***Washington's Secret War: The Hidden History of Valley Forge*** (Smithsonian Books/Collins, New York, 2005, 384 pp., illustrations, maps, notes, index, $27.95, hardcover).

The Continental Army that trudged into Valley Forge in December 1777 was demoralized by recent defeats at Brandywine (September 11, 1777), Paoli (September 21), and Germantown (October 4). Moreover, after the rout at Paoli, the Continental Congress fled Philadelphia—America's largest and most prosperous city and the third largest in the British Empire—which was occupied by the British on September 26.

Disillusionment and defeatism were rife in this environment, and doubts were being expressed about Washington's generalship and his ability to continue to lead the army. One of Washington's most outspoken critics was Irish-born Brig. Gen. Thomas Conway. For three months, from September to December 1777, the "Conway Cabal" tried to stir congressional dissatisfaction with the war effort and have Washington replaced by General Horatio Gates. Conway failed and resigned shortly thereafter.

Other factors contributed to Washington's and his army's difficulties. The Continental Congress tried to micro-manage the army's supply system, convinced that no one should make money out of the war, which resulted in shoddy or inadequate equipment. Washington's soldiers were unable to interdict British foraging parties.

Washington, generally not considered a political figure while in uniform, proved himself a skillful and resolute politician against many domestic foes. One was Samuel Adams, leader of the Massachusetts delegation; another was the "true whig extremist" Dr. Benjamin Rush, who slandered Washington in unsigned letters to other politicians. With the aid of loyal politicians, Washington adroitly outmaneuvered his adversaries. At the same time, assisted by devoted military leaders



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General Washington reviews his ragged Continentals as they march into their Valley Forge encampment.

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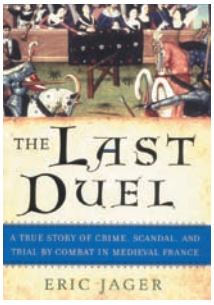
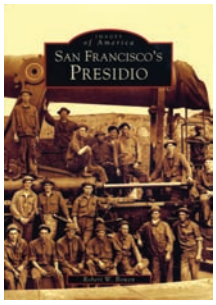
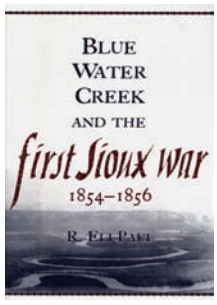
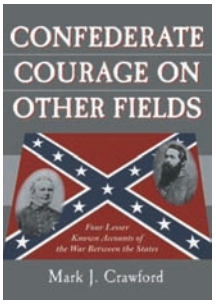
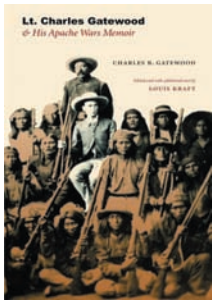










(such as the Marquis de Lafayette and General Friedrich von Steuben), the charismatic and conscientious Washington molded the Continental Army into a relatively effective fighting force.

While Washington's political machinations have been neither "secret" nor "hidden," this compelling narrative sheds new light on the complex character of the American icon General George Washington.

Recent and Recommended

The Last Duel: A True Story of Crime, Scandal, and Trial by Combat in Medieval France, by Eric Jager, Broadway Books, New York, 2004, 242 pp., illustrations, maps, appendix, notes, list of sources, index, $24.95, hardcover.

On a cold December morning in 1386, eager crowds thronged a large field near a Paris monastery. A determined, fully armored knight sat at each end of the rectangular enclosure, ready to fight his opponent to the death. This is the true saga, as told compellingly by Dr. Eric Jager, of French knight Jean de Carrouges, his wife Marguerite, and squire (later knight) Jacques le Gris. When Carrouges returned home to France from campaigning in Scotland, his wife accused Le Gris, her husband's old friend and rival, of savagely raping her. Carrouges took his complaint and sought justice directly from the king. The deadlocked court decreed a "trial by combat" to settle the case.

In medieval times, the outcome of the judicial duel was certain death for one party, a result believed to be in accordance with God's will. If Carrouges won the trial by combat, his and his wife's honor would be avenged. If Carrouges lost, he would not only forfeit his own life and property, but his wife would be burned at the stake since the result of the judicial duel had seemingly proved that she had committed perjury. The chivalric dance of death between Carrouges and Le Gris began with resolute jousts and eventually included excruciating battle on foot with swords, axes, and finally daggers. The suspenseful and lively action, described blow-by-bloody blow, resulted in victory for…. Read this fascinating account of the last legally ordered judicial combat in Paris and find out for yourself!

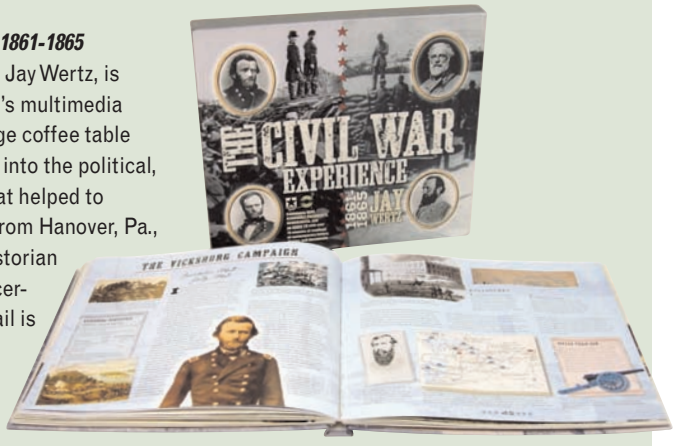
In Brief

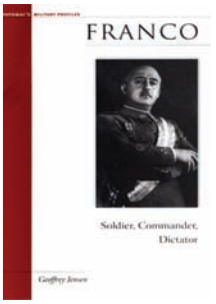
The Greatest War Stories Never Told, by Rick Beyer, Collins, New York, 2005, 214 pp., illustrations, sources, $18.95, small format hardcover.

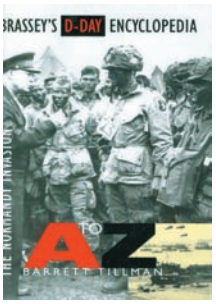
"War can be a catalyst for change, an engine for innovation," observes History Channel documentary producer and writer Rick Beyer, "and an arena for valor, deceit, intrigue, ambition, audacity, folly, and yes, humor." Many of these elements are contained in the 100 two-page and well-illustrated vignettes from military history that Beyer has included in this volume. These "tales" begin in 371 BC with the "Sacred Band," a unique Theban military unit consisting of 150 homosexual couples who would fight to the death both to protect their lovers and to avoid shaming themselves in front of their lovers. Others include the introduction of cannon into Europe in 1287; the inspirational and "amazing" story of Joan of Arc leading the French to victory at Orleans in 1428; the "defenestration of Prague" in 1618 that began the murderous Thirty Years' War; and the War of Jenkins' Ear. Almost 20 stories pertain to World War II episodes, and the last anecdote alludes to predicting the start of the Gulf War in 1991 based on the surge of late-night pizza deliveries at the Pentagon. Many of these short stories do "astonish, bewilder, and stupefy," but it is definitely an exaggeration to state that these are war stories that have never been told before. Nonetheless, this slim volume is an enjoyable and interesting "read."

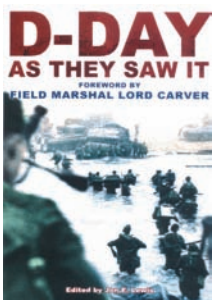
San Francisco's Presidio, by Robert W. Bowen, Arcadia Publishing, Charleston, SC, 2005, 128 pp., illustrations, maps, $19.95, softcover.

The Civil War Experience 1861-1865 (Ballantine-Presidio, $50), by Jay Wertz, is quite literally a Civil War buff's multimedia dream-come-true. This 64-page coffee table book offers a unique glimpse into the political, social, and military events that helped to shape the Civil War. Hailing from Hanover, Pa., Wertz is both a prominent historian and an award-winning producer-director. His attention to detail is impressive: The book is fully-illustrated, and contains many unique reproductions of rare and historical objects. Readers are treated to campaign maps, letters, diaries, newspaper clippings, and even a wanted poster for Lincoln assassin John Wilkes Booth. The book is printed on heavyweight, glossy paper, and includes a cardboard slipcover for storage. Additionally, a 72-minute CD—found on the inside cover—contains readings of first-hand accounts from American journals, diaries, and letters. Altogether, the package looks to offer a unique visual, auditory, and tactile journey through one of the most important periods in American history. -C.R. D'Amore









The Presidio (fort) of San Francisco in northern California was established by the Spanish in 1776 to protect their newly claimed territory and the immense anchorage of San Francisco Bay. The United States formally occupied the abandoned Presidio in 1847 during the U.S. Mexican War. From that time to the present, the history of the Presidio of San Francisco is told pictorially and in a chronological manner. The approximately 200 illustrations and photographs included in this volume are interesting, thought-provoking, and poignant. They depict not only the history of this storied military installation, but also the evolution of the U.S. Army and its uniforms, training, weapons, architecture, and culture. The Presidio of San Francisco was one of many military installations closed in 1994, and this fine pictorial history does an outstanding job of preserving and perpetuating the military history and heritage of this memorable military post and the stalwart soldiers who served there.

Blue Water Creek and the First Sioux War, 1854-1856, by R. Eli Paul, University of Oklahoma Press, Norman, 2004, 256 pp., illustrations, maps, notes, bibliography, index, $34.95, hardcover.

The U.S. military campaigns against the Sioux Indians after the Civil War have overshadowed the seminal First Sioux War of 1854-1856. R. Eli Paul reconstructs in absorbing detail, using the first-hand accounts of military and Indian participants, Army reports, and various government documents, this clash between conflicting cultures and westward expansion. A small Army detachment, led by Lt. John L. Grattan, was sent to a Miniconjou Sioux village near Fort Laramie, Wyoming, on August 19, 1854, to apprehend an Indian who had allegedly stolen an emigrant's cow. In the ensuing confrontation, Grattan and his men were wiped out, and the First Sioux War was ignited. The following year, Brevet Brig. Gen. William S. Harney led a 600-man punitive expedition that attacked a Sioux village on the Blue Water Creek, a tributary of the North Platte River, on September 3, 1855. Most of the 86 Indians killed were shot fleeing the area; less than a dozen soldiers were casualties. This was the major action of the First Sioux War, as chronicled vividly by Paul, which ended with the Fort Pierre treaty council of 1856.

Confederate Courage on Other Fields: Four Lesser Known Accounts of the War Between the States, by Mark J. Crawford, McFarland Publishers, Jefferson, NC, 2005, 189 pp., illustrations, maps, appendices, references, index, $29.95, softcover.

The large-scale and prominent battles of Shiloh, Antietam, Vicksburg, Chancellorsville, Gettysburg, and Atlanta, among others, have overshadowed many smaller and little known episodes of the Civil War. In this book, Mark J. Crawford has written four accounts of Confederate combat and valor on lesser known fields. The first chronicles the long march and dramatic Confederate charge across a rain-swollen stream at Dinwiddie Courthouse (March 31, 1865), where many of the attackers were swept away and drowned. The second section is woven around the letters of Colonel Charles Blacknall, 23rd North Carolina Infantry, who yearned for combat. Blacknall was wounded in the foot in 1864, refused amputation, and died shortly thereafter. A series of conflicts and acts of retaliation in southeastern Missouri, frequently including civilians, is chronicled in the third section. The fourth vignette is an account of the history and operations of Confederate General Hospital One, located at the former exclusive resort at Kittrell's Springs, North Carolina, from 1864-1865. This account is based largely on the observations of the hospital chief surgeon and the chaplain. These interesting narratives, containing much information from soldiers' accounts, help put a human face on the frequently anonymous aspects of war and suffering.

Lt. Charles Gatewood & His Apache Wars Memoir, by Charles B. Gatewood, edited by Louis Kraft, University of Nebraska Press, Lincoln, 2005, 264 pp., illustrations, maps, appendix, notes, bibliography, index, $39.95, hardcover.

U.S. Army Lieutenant Charles B. Gatewood graduated from West Point in 1877 and reported for duty at Camp (later Fort) Apache, Arizona, in 1878. From March 1879 to June 1880, and again from November 1881 until October 1885, Gatewood was in charge of Indian scouts. This coincided with periodic outbreaks of violence, led by Victorio and later by Geronimo. Gatewood led numerous patrols, and by 1882, he "had ridden the war trail with native scouts constantly since his arrival in the Southwest." He became known as one of the Army's premier "Apache" men. These hardships, however, had a negative impact on Gatewood's health. His empathy with the Indians made him realize that "white men cheated their Indian wards" and set him on a collision course with his superiors and the Army. Gatewood's significant role in Geronimo's 1886 surrender was downplayed. He was denied promotion to captain, and he died in 1896. Based on Gatewood's unpublished memoir, this book reveals many of the good, and not so good, elements of the frontier army and its last campaigns against the Indians.

Franco: Soldier, Commander, Dictator, by Geoffrey Jensen, Potomac Books, Washington, D.C., 2005, 135 pp., illustrations, maps, notes, bibliographic note, index, $19.95, hardcover.

Generalissimo Francisco Franco is best known as the brutal leader of the victorious Nationalist forces during the Spanish Civil War, 1936-1939, and as the ruthless dictator of Spain from 1939 until his death in 1975. In this fine biographical account, historian Geoffrey Jensen divides the life of *El Caudillo* (the "supreme leader") into six parts. The first chapter chronicles Franco's life from birth in 1892 until his graduation from the Infantry Academy in 1910. In 1912, as described in Chapter 2, Franco was posted to Morocco where he participated in counterinsurgency operations against Berber tribes. Chapter 3, "The Rising Star," and Chapter 4, "From Reluctant Rebel to Generalisimo," cover Franco's service from 1920 to 1936. The Spanish Civil War, the "dress rehearsal" for World War II in which Franco played a leading role and allied himself with Hitler and Mussolini against the "godless Marxists," is the topic of Chapter 5. A concluding chapter traces Franco's life and dictatorship until his death in 1975. This well-crafted book provides an insightful starting point for additional study of Franco's life, leadership, and times.

Hospital at War: The 95th Evacuation Hospital in World War II, by Zachary B. Frieden-

SIMULATION GAMING *By Eric T. Baker*

One of the coolest things the internet has enabled gamers to do is team up and battle together. The majority of players are teaming up in first person games like *Battlefield 2: Special Forces* (see below), but also available are simulations that let gamers cooperate in other combat situations. ***Dangerous Waters***, for the PC from Strategy First Games, is a great example of the variety and power of these simulations. *DW* allows players to take the roles of various crewmen on different "platforms" that are engaged in modern day submarine combat. Whether it is a frigate, helicopter, airplane, or one of the submarines themselves, each vessel has as many as ten stations, each of which can be manned by a human player or a computer AI.

The number of commandable "platforms" in *DW* is limited, but the number of units in the game is amazing: 270 from 17 of the modern world's armed forces. There are a number of stand-alone missions to help players learn the game, but the meat comes from a long, complicated campaign concerning a mutiny by the Russian Navy in the Pacific—a conflict that rapidly sucks in the other powers. Because of its length, the campaign will probably be a single player project for most gamers, but pickup games utilizing the shorter missions are well worth it.

As much fun as it can be examining radar readouts and resolving torpedo trajectories, in the mass market there is no substitute for looking down the barrel of an assault rifle and scoring a head shot on some unsuspecting, human-controlled soldier. ***Battlefield 2: Special Forces***, a massive, multiplayer first person shooting game from EA Games for the PC, provides the chance for this kick in many different ways. *Bf2:SF* is an expansion pack, so gamers will need the original *Bf2* to play it, and they'll need to be sure that *Bf2* is fully upgraded and patched before they try to install this expansion pack.

Once the expansion is installed, however, the game is markedly improved. The additional Special Forces teams consist of the Navy Seals, British SAS, Russian Spetznas, and MEC Special Forces. Also included are rebel groups and insurgents. There are eight new maps (the best of which is a submarine base that the SEALs assault) and ten new vehicles (the most fun being the Apache Longbow). New equipment includes night vision goggles and a simple, but handy grappling hook which allows players to have their characters climb into spots previously inaccessible.

For fans of alternate history, ***War Plan Orange: Dreadnoughts in the Pacific 1922-1930***, for the PC from Matrix Games, provides a more traditional wargame experience. The game takes its name from the post-WWI planning done by the United States to confront Japanese aggression. To cover all the possibilities, eight large scenarios, two smaller scenarios, and two campaigns (each with three variants) are selectable. The game contains 74 different airplanes and 311 ship types. Units represent the Japanese, American, British, French, Canadian, Australian, Dutch, Chinese, and Siamese militaries. The game is focused on actual command; there is a production system, but it is turned off by default.

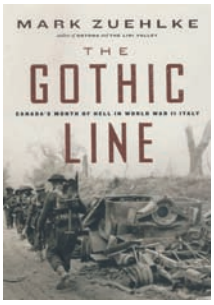
Mixed among the ships and units of the time, the game also contains "never were" units that consist of ships, planes, and tanks that were planned but never actually constructed. Among the ships are the Tosa, Kii, and South Dakota class battleships, and the Amagi, Lexington, and G3 class battle cruisers. The game isn't a true multiplayer, but it does contain a play-by-email option that allows for leisurely and traditional play against a human opponent.

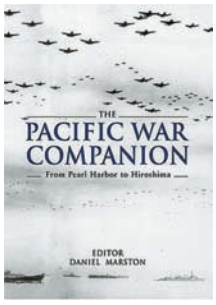
berg, Texas A&M University Press, College Station, 2004, 158 pp., illustrations, maps, appendices, index, $32.50, hardcover.

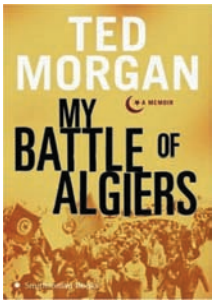
The 95th Evacuation Hospital was one, and probably representative, of the 107 U.S. Army evacuation hospitals active during World War II. This interesting and perceptive volume, written by a former wartime unit surgeon, is a collective history of the 95th, highlighting its operations, activities in treating combat casualties, and personnel. Elements of the unit assembled at Camp Breckenridge, Kentucky, in early 1943, and the 95th deployed to North Africa in April 1943. The unit landed at Salerno on D-day in September 1943, and served in Italy (including Monte Cassino and Anzio), before landing in southern France in August 1944. The hospital followed the action to the north of France, participated in the Battle of the Bulge, and crossed the Rhine into Germany in March 1945. Motivated by a sense of duty, service, and urgency, the 95th admitted 41,663 wounded combat troops in almost two years of overseas operations. Friedenberg wrote this book to "pay homage to the spirit, energy, and heroism of the members of the 95th Evacuation Hospital and the thousands of wounded soldiers it treated." On all counts, the mission was accomplished.

Brassey's D-Day Encyclopedia: The Normandy Invasion, A-Z, by Barrett Tillman, Potomac Books, Washington, D.C., 2005, 302 pp., illustrations, maps, bibliography, index, $18.95, softcover.

This worthwhile volume is an A-to-Z encyclopedia of entries on military, naval, airpower, and cultural topics related to the Normandy invasion of June 6, 1944. Many key, senior, and prominent military leaders of the various Allied and German military services are included. Entries on "Aircraft" and "Weapons," for example, enumerate with specific information the diverse aircraft and weapons used on D-day. Topics related to popular culture include "music, motion pictures, museums, even D-day quotations." Apparently for continuity purposes, a number of post D-day military activities in Normandy (such as the capture of Cherbourg) are included. It is annoying, however, that division, brigade, regimental, and battalion numerical designations are spelled out and not given properly as Arabic numerals (e.g., 1st). While Chandler and Collins's 1994 D-day encyclopedia remains authoritative, *Brassey's D-Day Encyclopedia* will be of use and value to American military readers and enthusiasts.







D-Day As They Saw It, edited by Jon E. Lewis, Carroll & Graf, New York, 2004, 336 pp., illustrations, map, appendices, $14.00, softcover.

The amphibious assault at Normandy on D-day, 1944, was truly watershed battle that has become representative of World War II. This enthralling volume contains first-hand accounts of participants in the preparatory events, the actual amphibious landings and operations on D-day, and the subsequent fighting in France during the summer of 1944. Accounts of prominent military leaders, such as U.S. General Omar N. Bradley and German Field Marshal Erwin Rommel, are compiled in this collection, as are the combat reports from experienced war correspondents, including Ernie Pyle, Ernest Hemingway, and Alan Melville. Other soldiers, sailors, and airmen, American, British, Canadian, and German, provide emotion-filled eyewitness accounts that candidly depict the hopes and fears, courage and sacrifices, and trials and tribulations of combat in Normandy. These interesting accounts also serve as a lasting tribute to those who stared death in the face on that "longest day," June 6, 1944, and the subsequent ferocious military operations in Normandy.

The Gothic Line: Canada's Month of Hell in World War II Italy, by Mark Zuehlke, Douglas & McIntyre, Vancouver, 2005, 551 pp., illustrations, maps, appendices, notes, bibliography, index, $29.95, hardcover.

The slugfest in the mountains and mire of Italy made this campaign one of the most hard-fought, yet underappreciated, operations of World War II. This was especially true in the fall of 1944, when the Canadian Corps (Canadian 1st Infantry and 5th Armored Divisions) was tasked to spearhead the Eighth Army's breakthrough of the heavily defended German Gothic Line. In this operation, dubbed Operation Olive, the Canadian Corps attacked northward on the Adriatic road on August 25, 1944. The important role of the Canadian Corps in breaking the Gothic Line is vividly told through the eyes and accounts of participating Canadian soldiers.

The Pacific War Companion: From Pearl Harbor to Hiroshima, edited by Daniel Marston, Osprey Publishing, Oxford, 2005, 272 pp., illustrations, maps, endnotes, bibliography, index, $29.95, hardcover.

This interesting collection of essays, all written by prominent military historians, was published to coincide with the 60th anniversary of the end of World War II in the Pacific. Edited by Dr. Daniel Marston of the Royal Military Academy Sandhurst, the 13 chapters in this fine volume provide American, British, and Japanese perspectives on various topics and issues of the Pacific War. These chapters include Dennis Showalter's "Storm Over the Pacific: Japan's Road to Empire and War," Ken Kotani's "Pearl Harbor: Japanese Planning and Command Structure," and "Coping with Disaster: Allied Strategy and Command in the Pacific," by Raymond Callahan. Early Pacific naval and land operations are examined by Robert Love in "The Height of Folly: The Battles of the Coral Sea and Midway," and in Marston's "Learning from Defeat: The Burma Campaign." The experiences of men in battle are conveyed well in Joseph H. Alexander's "Across the Reef: Amphibious Warfare in the Pacific," and "The Island Experience—The Battle for Okinawa: April 1-June 21, 1945," by Bruce Gudmundsson. The last essay in this handsomely produced, profusely illustrated, and uniformly excellent volume is Richard B. Frank's "Ending the Pacific War: 'No Alternative to Annihilation.'" His grim and arguably realistic conclusion about the use of atomic bombs is that they "were awful, but the alternatives were much worse."

No One Ever Asked Me: The World War II Memoirs of an Omaha Indian Soldier, by Hollis D. Stabler, edited by Victoria Smith, University of Nebraska Press, Lincoln, 2005, 182 pp., illustrations, maps, appendix, index, $24.95, hardcover.

"I'm not a hero, you know," proclaimed Hollis D. Stabler, "I was just a guy in the army, part of a team." In 1939, before American entry into World War II, 21-year-old Omaha Indian Stabler enlisted in the Army and served largely in combat through the war. He was one of about 25,000 American Indians, out of a total U.S. Indian population of about 350,0000 in 1940, to serve in the armed forces during World War II. Initially serving in the prewar 11th Cavalry Regiment, this unit was converted to an armored cavalry regiment early in the war. Stabler fought in North Africa and Sicily before volunteering to serve with the Rangers, and saw further combat at Anzio and Cisterna. As a member of the 1st Special Service Force, Stabler participated in Operation Anvil. As his brother was killed earlier in the war, Stabler was reassigned to noncombat duty. This collaborative biography, containing extracts from Stabler's oral interviews and written recollections, is woven together by the editor's narrative (which contains too many avoidable historical errors). Providing a glimpse into the experiences of a World War II Indian warrior, Stabler's interesting memoir serves as a reminder that war "is unrelenting hunger and thirst, fatigue, grime, noise, pain, anger, stench, fear, courage, death, homesickness, loneliness, vulnerability, valor, heartache … ingrown toenails."

My Battle of Algiers: A Memoir, by Ted Morgan, Smithsonian Books/Collins, New York, 2006, 304 pp., illustrations, maps, index, $24.95, hardcover.

Noted biographer and historian Ted Morgan was born in France as the aristocrat Sanche de Gramont in 1932. Even though he graduated from Yale University, Morgan remained a French citizen and was drafted into the French Army in 1955. Morgan chronicles in fascinating, thought-provoking, and occasionally ribald detail his French Army training, resulting in his commissioning as a second lieutenant in August 1956. This was during the build-up of French forces in Algeria to fight the growing "insurgent" independence movement. Morgan initially served in the 1st Regiment of the Colonial Infantry, in the countryside south of Algiers. His experiences were harrowing and he admits pummeling to death an Arab during an "interrogation." A few months later, largely due to family connections and prior journalism experience, Morgan was reassigned to write French propaganda in Algiers. He observed and participated in the fierce but effective urban terrorism in Algiers, and in this book explains the French tactics. This riveting and timely book can serve as a prelude to the current morass in Iraq, where the results will echo those of the French in Algeria. □

Continued from page 25

hundreds of airmen playing Savage's crews were crammed into a Quonset hut at Eglin AFB. It took 13 takes to get the scene right. Recalled Storie: "We were dressed in big coats and were given packs of cigarettes to smoke up the room. By the time we finished we were sweating and coughing pretty badly!"

Although the production of *12 O'Clock High* went smoothly, not everything went as planned. Paul Wurtzel, a member of the production staff, remembered an incident in which the filming of the B-17 flying sequences almost caused a tragedy. "They had one shot with a B-17 taking off," said Wurtzel. "They had the camera out in the middle of the runway, and the plane never got up high enough to clear the camera. One of the wheels was retracting. It hit the top of the camera. There were a couple of cameramen out there that shouldn't have been. They should have just turned it on and run away, you know." But they didn't. "The cameramen waited, and the wheel hit a box of filters that was sitting there, and a lot of red filters went up in the air. And they thought this guy got killed. I remember his name as Red Crawford, the camera assistant. After it was over, they went into the NCO Club for a drink or something, and he just fell flat on his face, passed out in a faint. He didn't react 'til a few hours later. He didn't know what had happened to him!"

After initially refusing to provide an operational B-17 for the belly-landing scene, the Air Force relented and instructed DeRussy to select one of the aircraft already loaned to the production. Filming of the dangerous belly-landing sequence took place at Ozark Field. It could only be done once—if the scene was unsuccessful, it was doubtful that the Air Force would provide another aircraft for the studio to destroy. Although the Air Force allowed its pilots to fly the B-17s in formation scenes, it refused to lend any of its crews for the stunt crash. DeRussy, who had personally led some of the formation flying, was eager to belly-land a B-17 himself, but as an active-duty Air Force officer he was prohibited from doing so. Stunt pilot Paul Mantz, who had been hired to film the flying sequences from his camera-equipped B-25, volunteered but requested a weighty paycheck for the job. When an annoyed King offered to perform the stunt himself, Mantz conceded and settled on a price of $2,500.

King set up four cameras to record the shot. According to author Bruce Orriss, Mantz' mechanic loaded the aircraft with minimal fuel and welded a rod across the power switches so that Mantz could cut them as soon as he hit the ground. The scene called for Mantz to barrel the huge ship between two tents and knock down the poles that were holding them up. Behind the controls of the B-17 *Eager Beaver*, Mantz flew at 110 miles per hour and carefully


National Archives


David Bartlett Collection

LEFT: Colonel Beirne Lay, Jr., just prior to the release of his book, *I've Had It: The Survival of a Bomb Group Commander*, in 1945. RIGHT: Writer-producer Sy Bartlett coauthored *12 O'Clock High* with his friend, Beirne Lay.

dropped the 38,000-pound aircraft, wheels-up, on the grass at Ozark Field. It slid almost 1,200 feet on its belly and gradually ground to a halt. The nail-biting stunt would become one of the most memorable scenes in *12 O'Clock High*.

Director King and his company of 150 people completed the four-week location shoot in June 1949, then returned to the Fox studios in Hollywood, where craftsmen had built the interior sets for *12 O'Clock High*. These included barracks and offices, as well as the ornate rooms of Wycombe Abbey, the headquarters of Bomber Command. Five more weeks of studio time involved process-shooting in a B-17 mock-up, an abbreviated fuselage modified for camera access. Actors delivered their lines from the mock-up while film of real B-17s in formation was projected behind them to simulate flight. Production wrapped on July 1, 1949, and the finished product premiered in December of that year.

More than half a century since its creation, *12 O'Clock High* remains a popular and highly respected war film, enjoyed by movie buffs and military personnel alike. *12 O'Clock High* has also been used by civilian and government organizations as a leadership training aid. From 1964 to 1967, the ABC network aired a television series based on the film. For actor Robert Arthur, the quality of the project was evident early on. "I think *12 O'Clock High* has withstood the test of time because it is a very fine example of filmmaking," Arthur said. "The entire cast and crew was devoted to making a fine example of the spirit of the U.S. Air Force. There wasn't a moment that we weren't determined to make a great movie." □

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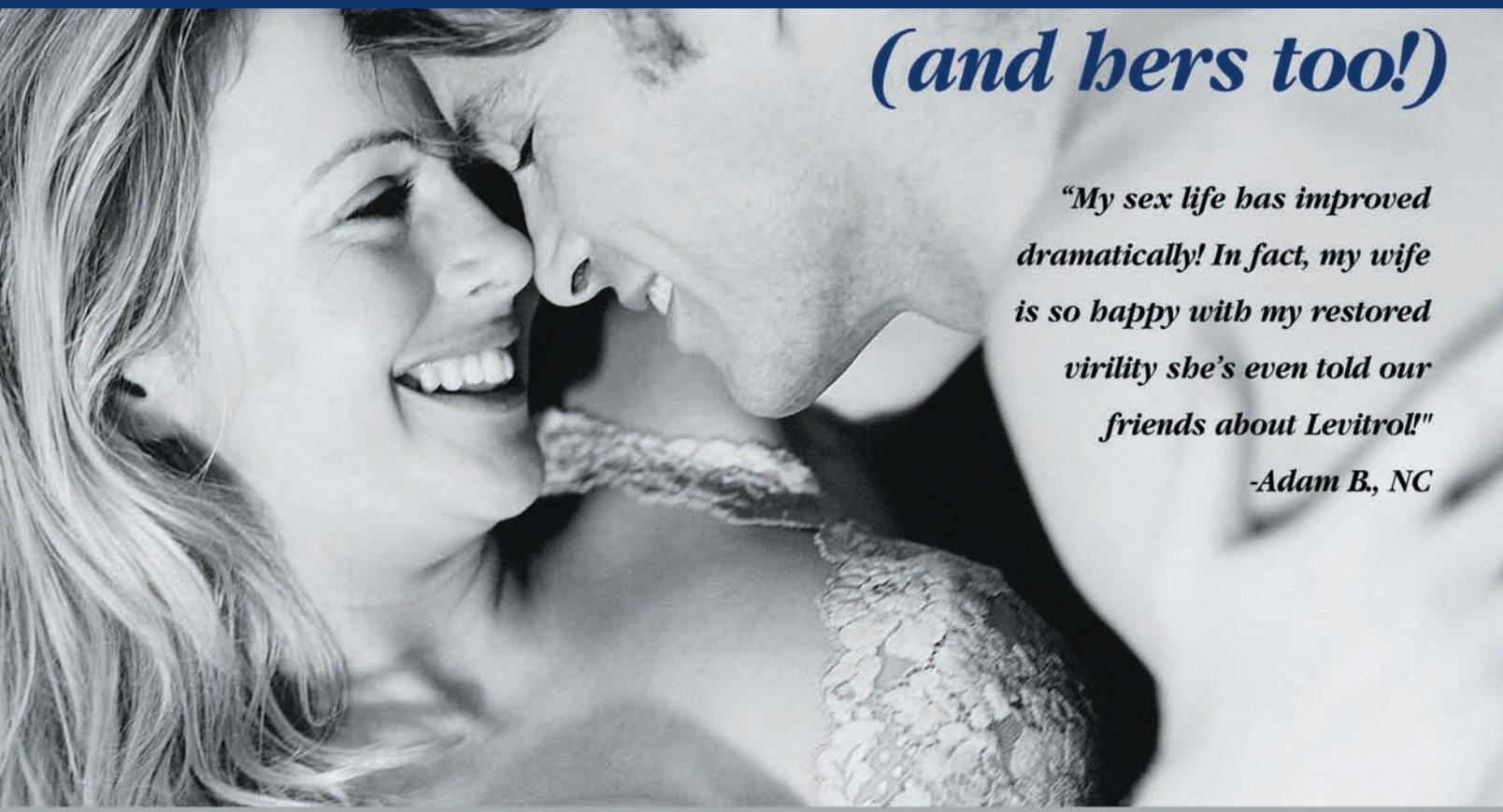

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