

The Evolution of Artillery

American Field Artillery traces its history to 1775. However, artillery as we know it today is a proud profession that traces its origins and honorable traditions to centuries before the birth of Christ.

Siege machines, the earliest forms of artillery weapons, were used as early as 800 B.C. against the walls of Jerusalem and were later employed by Alexander the Great in 322 B.C. during the siege of Tyre. The most common types of siege machines were the catapult and the ballista.

The Chinese are credited with the application of gunpowder to weapons of war in the 11th century. However, Western philosophers had knowledge of the Chinese “thunder of the earth” as early as 300 A.D. Also, a 9th century Latin manuscript contains a gunpowder formula.

Cannons came into general use during the Hundred Years War (1337-1453). They were small, made of iron or bronze and fired lead or iron balls. In a short time, small and ineffective weapons developed into massive bombardiers capable of firing iron or stone balls against castle walls.

The 18th century saw the advent of horse artillery pioneered by Frederick the Great of Prussia. By mounting cannons on the backs of horses, Frederick gave the Field Artillery unprecedented mobility and the ability to accompany cavalry. Horse artillery was highly specialized, expensive and complemented horse-drawn artillery in which the cannons walked beside the horses or draft animals that were pulling the artillery piece. With the development of trucks, horse artillery and horse-drawn artillery evolved into the towed artillery we know today.

The American Revolution

The American Field Artillery was born November 17, 1775, when Henry Knox, a 26-year-old self-taught artilleryman, was appointed Chief of the Continental Artillery.

The colonists' artillery initially consisted of 21 nine-pounders confiscated by a New York militia company that raided a British battery on Manhattan Island in August 1775. Private Alexander Hamilton participated in that raid.

Upon assuming command of the Continental Artillery, Knox organized an expedition to bring the cannons captured by Ethan Allen and his Green Mountain Boys from Fort Ticonderoga. General Washington ordered that “No trouble or expense should be spared to obtain them [the cannons].” The expedition took 50 days to return the cannons to Cambridge by a combination of boats and sleds pulled by oxen and strong men.

By March 2, 1776, 59 cannons had been positioned on Dorchester Heights and Nook's Hill overlooking Boston. Washington ordered the bombardment of the city, and thus began the traditions of the American Field Artillery. On March 17, 1776, the British loaded their troops on the men-of-war in the harbor and, with Washington's guarantee of safe passage under the guns, set sail for Halifax.

After a series of defeats in the fall, General Washington held a staff conference on Christmas Day to plan an attack against the German mercenaries (Hessians) at Trenton. Colonel Knox suggested the artillery move in the column with the infantry so it could be put into action quickly—a unique strategy Napoleon later used to the fullest extent. By 3 a.m. on December 26th, the force, including 18 pieces of artillery, had crossed the Delaware River and landed in New Jersey. Alexander Hamilton, just previously commissioned, marched with his New York artillery company.

The American column was well into Trenton before it was noticed by a Hessian guard. The artillery pieces were quickly maneuvered to cover all avenues of retreat from the small settlement. As the Hessians were aroused from their Christmas slumber and formed into ranks, the American artillery greeted them with canister shot and cannonball.

In the next one-and-a-half hours, 40 Hessians were killed and 1,000 captured. The patriots also confiscated six brass cannons, which were added to Colonel Knox's growing artillery corps. The American losses were four dead and four wounded. On December 28th, Colonel Knox was promoted to Brigadier General.

In June 1778, at the Battle of Monmouth, General Knox massed his guns in concentrations of 10 pieces. The Americans' aim was accurate and their courage kept them at their guns while the enemy was at musket range. The manner in which the Americans conducted themselves reflected long hours of training under Knox. In tribute to his artillery, General Washington published in his general orders: “The American Artillerist proved himself a match for the batteries of Britain; the enemy had done them the justice to acknowledge that no artillery could be better served.” This was the last general engagement in the North since the British were too strong for Washington to take the offensive again.

The Battle of Monmouth also witnessed the emergence of one of the stellar figures of Field Artillery—Molly Pitcher. Mary Hays McCauly shared the rigors of Valley Forge with her husband William Hays, but she is far better known for her selfless performance of June 18, 1778. On that hot, dry day, Mary carried pitcher after pitcher of water to swab the bores of overheated cannons and to quench the thirst of the gunners who dubbed her “Molly Pitcher.” Moreover, she carried wounded Continental soldiers to the rear and, upon her return, stepped forward to grab a rammer staff and take her wounded husband's place at the cannon. In recognition of her heroism, General Washington issued Molly Pitcher a warrant as a noncommissioned

officer, and she became universally known as “Sergeant Molly.”

The remaining major artillery action of the Revolutionary War was the final confrontation at Yorktown. In this final battle, Cornwallis found himself between the French fleet in the Chesapeake Bay and the combined American French armies under the command of General Washington to his front. On October 9, 1781, the allies opened the bombardment. During the artillery siege, General the Marquis de Lafayette, who had come to regard himself as an American, enthusiastically shouted above the roar of the cannon, “We fire faster than the French. Upon my honor I speak the truth. American artillery—one of the wonders of the Revolution.” The infantry moved forward to within 400 yards and secured an advanced position, into which the artillery moved. At this range, the combined artillery poured a devastating stream of iron into the cramped and crowded enemy. Finally, on the 17th of October, Cornwallis surrendered.

The War of 1812

At the outbreak of the War of 1812, the Field Artillery was in a sad state of neglect—artillerymen were on the frontier serving as infantrymen.

The bulk of the War was fought at sea; however, the Americans used artillery in several ground engagements. The American artillery consisted mostly of six-pounders. At the Battle of Chippewa on July 5, 1814, the American artillery supporting the charge of General Winfield Scott's brigade was faster and more accurate than the Royal Artillery. In honor of the victory at Chippewa, the West Point cadets were uniformed in the gray they wear today.

On July 25, 1814, the American artillery, supporting Scott's brigade at the Battle of Lundy's Lane, again dueled with the Royal Artillery. This battle near Niagara Falls, was the hardest fought, most stubbornly contested battle of the War—both sides claimed victory, but neither gained its objective.

The British burned Washington, D.C., but failed to take Baltimore, since they lost an artillery battle to subdue Fort McHenry, a post guarding the harbor. Francis Scott Key penned the words to our National Anthem while observing the British bombardment of the Fort.

In 1824, the first of the service schools, the Artillery School of Practice, was established at Fort Monroe, Virginia. It was during this time that the numerous sizes of howitzers were reduced to 12-, 18- and 24-pounder howitzers; and 8- and 10-inch mortars. European artillery manuals were translated, and US forces began to use the single- or stock-trail gun carriage they used throughout the Civil War.

In 1839, Secretary of War Joel Roberts Poinsett directed the establishment of an artillery training camp at Camp Washington, near Trenton, New Jersey. Secretary Poinsett also directed the establishment of four “light batteries;” one for each of the four artillery regiments. The authorization for these batteries had been granted by congress in 1821, but never used. The four batteries were: Captain Francis Taylor's Company K, 1st Artillery; Captain James Duncan's Company A, 2nd Artillery; Captain John Washington's Company B, 4th Artillery and Major Samuel Ringgold's Company C, 3rd Artillery. The first three companies were designated as “mounted artillery.” In mounted artillery, the cannoneers would walk as much as possible to save the horses pulling the cannons and limbers. However, when the need arose to move quickly, the cannoneers would mount the limbers and caissons. Major Ringgold's battery, the fourth “light” battery, was equipped with the new light 6-pounder and was the only true “horse artillery” in the service. In horse artillery, the cannoneers were individually mounted. Mounted thusly, his “flying” battery could move with the cavalry or be directed about the battlefield to provide the firepower advantage that comes with mobility.

The Mexican War

Texas wanted independence from Mexico and asked to be annexed by the United States. The Mexican government warned that the annexation of Texas would be tantamount to a declaration of war.

During the Battle of Palo Alto, the American Army, facing a Mexican Army twice its size, won the day through the use of its superior artillery. The American artillery outranged the Mexicans', and the superb Mexican cavalry found itself exposed to grape and canister shot and cannon ball, with no support from the Mexican guns.

Artillery played a vital role in the Battle of Monterey on September 20, 1846. After the walls had been breached, Captain Braxton Bragg's guns entered into street fighting, firing point-blank at the Mexican snipers. After a long, bitter fight, the Mexicans were forced from the buildings to the plaza. Concentrated there, they were bombarded through the night by mortar and artillery fire. At dawn, the Mexicans surrendered. Meanwhile Santa Ana, who had assumed control of Mexico as Dictator General, marched to meet General Taylor at Buena Vista.

The Battle of Buena Vista on February 23, 1847, hung in the balance for hours. But Bragg's artillery galloped into action at the crucial point on the battlefield and swung the battle to the Americans, who finally repelled the Mexicans by inflicting 2,000 casualties.

The weapons used by the American artillery were the 6- and 12-pounder guns, the 12-pounder mountain howitzer, the 12-pounder field howitzer, the 24- and 32-pounder howitzers, and the 8- and 10-inch mortars.

Our nickname “Redlegs” came from this era when artillery uniforms had a two-inch red stripe on the trousers and horse artillerymen wore red canvas leggings.

The Civil War

The controversy over the slavery question caused relations between the northern and southern states to deteriorate during the 1850s. After the election of Abraham Lincoln in 1860, seven southern states seceded from the Union and confiscated all US government property within their borders. President Lincoln resupplied the garrison at Fort Sumter off the South Carolina coast, an act that was considered aggressive by General Pierre G.T. Beauregard, the local Confederate commander. The Confederation demanded that the garrison at Fort Sumter surrender and was politely but firmly rejected. On April 9, 1861, the shelling of Fort Sumter began the American Civil War. Lincoln declared the seven southern states in insurrection against the laws of the United States and blockaded the entire coast with naval vessels from South Carolina to Texas. These actions prompted four more of the slave states to leave the Union and join the Confederacy.

Artillery played an important role in many Civil War battles. Toward the end of the first day of the Battle of Shiloh, the Rebels overran the Federal lines and were on the verge of victory. Then 10 Union batteries were hastily collected and positioned. Their massed fires, aided by the fires of the heavy pieces of two gunboats in the Tennessee River, beat down the attacking southerners.

During General George McClellan's drive against Richmond in a classic artillery battle of the War on July 1, 1862, Colonel Henry Hunt, McClellan's brilliant Chief of Artillery, emplaced an arc of 340 guns on the summit of Malvern Hill. As General Robert E. Lee ordered a charge against the hill, Hunt, in a masterful display of fire coordination, controlled a group of 60 cannons as if they were one battery and leveled the charging divisions, brigade by brigade, causing 5,000 casualties. Simultaneously, he had his heavy artillery fire on the Confederate batteries. The Union was victorious, but the next day, McClellan retreated as he had after all preceding engagements.

At the second Battle of Bull Run, southern artillery brought 175 guns into action against the Federal troops. Colonel Hunt was not present to direct the efforts of the artillery of the North. In this action, the Rebel batteries were at the right place at the right time. General Thomas “Stonewall” Jackson's divisional artillery supported him ably until he closed with the Union troops. Jackson's column buckled at the counterattack of the northern soldiers. Suddenly, the Rebel batteries flanked the attacking Union troops and opened fire on their exposed rear flank. These artillery volleys hamstrung the surge of the Blue, and Jackson's slashing charges drove the Union troops from Bull Run for the second time.

In the Battle of Antietam on September 17, 1862, vicious point-blank artillery fire resulted in 12,400 Union casualties and 8,000 Confederate casualties.

In a battle near Fredricksburg, two Federal divisions attempted a river crossing. A Southern artillery captain, John Pelham, held the divisions at bay for almost an hour with just one cannon section.

At Chancellorsville on May 2, 1863, Stonewall Jackson's division skirted the Union right flank but was prevented from completely destroying the Union by an Ohio battery under the command of Hubert Dilger. The Ohio cannoners checked Jackson's charge long enough to allow the Union troops to fall back and regroup.

As an aftermath of Chancellorsville, the Union Chief of Artillery was given authority to reorganize his artillery. Batteries were grouped into battalions and battalions into brigades. Horse artillery was increased, and efforts were made to compensate for the shortages of officers and noncommissioned officers.

By 1863, the War had entered into the professional phase. The troops were well-trained and had ample combat experience. Officers generally mastered their jobs and were able to deploy their forces skillfully in accordance with the day's tactical principles.

Encouraged by their victory at Chancellorsville, General Lee and President Davis were anxious to invade the North. Meanwhile, President Lincoln had placed a priority on the destruction of the Army of Northern Virginia—Lee's army. The stage was set for the Battle of Gettysburg, a three-day holocaust, largely unplanned and uncontrolled.

Outposts of both armies clashed during the afternoon of June 30th near the quiet Pennsylvania town of Gettysburg. The terrain in the area included rolling hills and broad, shallow valleys. Roads leading to Harrisburg, Philadelphia, Baltimore and Washington, and the mountain passes to the west converged at Gettysburg. The local commanders sent reports and recommendations to their superiors who relayed them upward. Both widely dispersed armies started moving toward Gettysburg.

Unlike Hooker, General George Meade, the commander of the Union troops, understood the value of artillery. General Meade had well-deserved confidence in General Hunt, his artillery commander. Hunt directed 370 guns to Gettysburg. He established guards for his artillery trains and directed that a liaison orderly be sent from each battery to the brigade headquarters to coordinate fire support. For this battle, the artillery chief established a basic load of 270 rounds per weapon. About 100 rounds per weapon (or 32,781) were expended. The Army of Northern Virginia had only 272 guns of various calibers.

The Battle of Gettysburg reached its climax with General George Pickett's charge. Fifteen thousand men emerged from the woods and, as if on parade, began the march toward Cemetery Ridge. The assault force of 47 regiments moved at a walk until it neared the Union lines and then broke into a run. Federal artillery opened fire, enfilading the ranks of the Gray. Despite heavy casualties, the Confederates kept their formation until they were intermingled with the northerners. With bayonets stabbing, the Rebel riflemen flung themselves on cannons firing point-blank, taking their vengeance on the cannoners. Battery commanders and crews died at their guns. The Blue infantry closed in and pushed the Confederates back. As the Confederates retreated, the Federal artillery beat at their backs, taking a deadly toll.

Lee started moving his army back toward the Potomac, knowing the best he could do was delay the inevitable. The armies had suffered a total of 51,000 casualties in the three days at Gettysburg with the preponderance on the southern side. The bulk of the Confederate casualties had been caused by the old muzzle-loading, smooth-bore cannon; however, flanking fire from rifled batteries had been used very effectively. The rifled batteries' advantage of range and the new fuzes that caused the projectiles to detonate on contact demonstrated the great potential of rifled Field Artillery. But it was the *rifled musket* that forced artillery off the main battle line. And this technological improvement was the impetus for the move toward indirect fire after 1865.

President Lincoln was elated over General Meade's victory. He thought the War could be ended in 1863 if Meade would launch a resolute pursuit and destroy Lee's army before it could cross the Potomac and get back into Virginia. But Meade's army was too mangled for pursuit, and Lee slipped away.

The Post-Civil War Era

After the Civil War, most artillery units were disbanded or reorganized. Artillery played a very small part in the Indian wars; the guns usually delivered covering fire from forts. Mortars were used against the Indians entrenched in the California lava beds during the Modoc outbreak of 1872-1873. The only major use of cannon was against Chief Joseph and his Nez Percés during their retreat to Canada in 1877.

The Prussian Army had developed a smokeless powder for artillery pieces. But for economic reasons, the United States Army continued to use black powder until its stock was exhausted.

Artillery materiel began to improve. Elevating, traversing and sighting mechanisms were invaluable innovations; rifled cannons replaced smoothbores; and breech loading superseded muzzle loading. Fixed or semifixed ammunition was used for the light pieces. Time and impact fuzes were improved. With the new sighting mechanism came indirect laying, which had been employed in a few instances in the Civil War. Indirect laying replaced the old direct or point-blank method of engagement except on rare occasions.

The French 75-mm was invented in 1897. Its hydropneumatic recoil system made all other cannons obsolete and forced other nations to redesign their ordnance as soon as they could get the closely guarded secret. The US Army introduced the 3-inch gun as the standard field piece until 1917.

From 1900 to 1916, the political atmosphere prevented any investment of monies for updating the Army's weapons. In 1911, the School of Fire for the Field Artillery was established at Fort Sill, Oklahoma. A succession of commandants slowly overcame grave shortages in personnel, quarters and classrooms and developed the School into an efficient, extensive professional artillery institution.

World War I

World War I raised artillery to a new level of importance on the battlefield. Unprecedented Allied support provided the weapons the American artillery had to fight with. Materiel used by the Americans was mostly French. During the War, only 100 American weapons saw action. The French alone contributed 3,834 field pieces and mortars and 10 million rounds of ammunition. The old 3-inch gun—the US Army had only 600 at the beginning of the War—was replaced by the French 75-mm gun. It was the best of its type. Its recoil system worked on glycerine and air, was easy to aim and could be fired more rapidly than other artillery pieces. The gun could shred infantry columns to pieces but was unable to penetrate reinforced earthworks. Germany had about 3,500 105-mm and 155-mm howitzers; France, about 300.

The years before the American entry into the War had seen several developments in the art of warfare on the Western Front. Trench warfare necessitated the reintroduction of the mortar. The Germans used gas shells in 1915 and the Allies followed their example. Although light artillery was still horse-drawn, trucks were coming into use to draw heavier pieces.

In late 1917, American troops moved into quiet sectors of the Western Front. The honor of firing the first American artillery round in the War went to Battery C, 6th Field Artillery Battalion (later 2nd Battalion, 6th Field Artillery, 3rd Armored Division) on October 23, 1917.

In the spring of 1918, American troops were thrown into Chateau-Thierry to halt General Erich Ludendorff's massive offensive. Counterattacking under a heavy artillery barrage, they cleared the Germans out of Belleau Wood in two weeks of hard fighting.

The capture of plans for the reopening of the German attack in the Champagne region, on the eve of July 4th, enabled Allied artillery to lay down a devastating barrage one hour before the enemy's guns were scheduled to begin their preparation for the attack. The 75-mm guns of the 42nd Division, standing hub-to-hub, joined the artillery of the Allies in shredding the German assault. The 38th and 3rd Divisions stood firm on the Marne despite the ferocity of Germany's last desperate gamble for victory. Finally, the enemy fell back, and a massive Allied attack was launched in the direction of Soissons. At the same time, the Saint Mihiel salient, which the Germans had held for years, was sealed off by American troopers, including those led by the great artilleryman General Charles P. Summerall.

Again, artillery played a key role. About 3,010 guns of 26 calibers and 46 models poured 74 types of ammunition into the salient in the four hours and 45 minutes before the attack. Altogether, 838,019 rounds of ammunition—high explosive, smoke and nonpersistent gas—were expended in a single battle. The careful preparation of the attack and the Allies' air superiority paid off with 16,000 German prisoners and 443 artillery weapons captured.

In the final Allied offensive of the War, the First and Second US Armies, operating between the Meuse and the Argonne, were thrown forward against the Hindenburg line. An unprecedented artillery bombardment supported the advancing infantry. French and American artillery averaged one gun per eight yards of front, whereas the enemy had only one gun per 25 yards. In the US sector, more than a quarter-million rounds rained down on the enemy in the first of the attack.

Stunned, but taking a heavy toll on American troops, the enemy pulled back. By the end of October, the Allies had reached the last German defensive stronghold, the Kriemhilde Stellung. Blasted by the massed firepower of divisional, corps and Army artillery that careful aerial observation directed, the enemy offered little resistance to the infantry attack that followed the two-hour barrage of October 31, 1918. The Allied forces rushed for Sedan and the German border. The Germans capitulated on November 11, 1918.

World War I saw the development of a variety of new techniques and devices of destruction. Tactics during this war included preparation fires, which lasted anywhere from four hours to 16 days. The introduction of the chemical shell, the appearance of massive and effectively controlled artillery barrages and the new dimension aerial observation added to combat were among the most significant artillery advances. Most important of all, the artillery established itself as the greatest killer on the battlefield, inflicting more than 75 percent of the casualties suffered by the enemy.

The Interim Years

The interim years between the end of World War I, the “War to End All Wars,” and the start of World War II were marked by contrasts in the direction taken by American armed forces. Not surprisingly, the years immediately following the Armistice were characterized by a decrease in the size of the military as the nation turned toward peacetime priorities. Very little change or progress took place. However, in the 1930s as the winds of war began to stir in Europe, increased attention and concern were focused on our armed forces.

Beginning in 1935, the Armed Forces received substantially larger appropriations, which allowed them to improve their readiness. Army improvements during the next three years reflected not only the increasingly critical international situation, but also the careful planning of the War Department during General Douglas MacArthur's tour of duty as Chief of Staff from 1930 to 1935.

During the years just prior to the United States' entry into World War II, vehicles replaced horses as the means of transport for the artillery. Mules would still be used to transport pack artillery in Italy and the Pacific. Mortars and howitzer companies were assigned to the infantry to provide close support. And the fire direction center (FDC) concept enabled artillery units to mass fires on a target for the first time. Also, a growing Air Corps was learning to support the ground forces with firepower. And methods of parachuting equipment, to include disassembled pack howitzers, were devised.

Part of the United States' preparation for the coming conflict was the establishment of the Artillery Officer Candidate School (OCS) at Fort Sill on July 10, 1941. Originally, the Artillery OCS consisted of a 13-week training program administered to warrant officers and enlisted men desiring to become second lieutenants in the artillery. In 1943, the course was lengthened to 17 weeks.

World War II

Weapon developments in the years during World War II (1941-1945) were to dwarf earlier advances. Some improvements were based on the experience of World War I, whereas others were the natural outcome of scientific progress.

The German use of armor in blitzkrieg tactics stimulated the development of 76-mm and, eventually, 90-mm antitank weapons. The 155-mm howitzer reached the troops in 1942. The 8-inch howitzer was in action, and the 240-mm howitzer soon followed. The introduction of self-propelled pieces increased the mobility of the artillery, which was in line with the markedly higher speed of warfare. The development of the variable time (VT) fuze proved to be a significant factor in increasing the effectiveness of both field and anti-aircraft artillery.

The age-old artillery requirements for mobility, massing fires, flexible control and accuracy had not changed; the advent

of the fire direction center resulted in increasingly devastating concentrations of fire. Swift and murderous accuracy was achieved through the use of forward and aerial observers.

The first American encounter with the Germans in Africa pointed out lessons already learned by the British in their desert war with Field Marshal Erwin Rommel. The German 88-mm gun first appeared in the Spanish Civil War as an anti-aircraft weapon. In Africa, Rommel successfully employed it against tanks and personnel. As a result, the heavy British "Matilda" tanks were nicknamed "Rolling Coffins." American tanks, reaching the British Eighth Army in time for the Battle of El Alamein, cut down the German advantage. Soon the US 90-mm rifle was able to match the German 88. German development of flashless as well as smokeless powder also increased the hazards of the African conflict.

Yet the artillerymen trained at Fort Sill were prepared to meet the enemy. When the German tanks broke through the Faid and Kasserine passes in Tunisia and threatened to encircle the British First Army, the US 9th Infantry Division Artillery rushed 735 miles in 100 hours from the Algerian port city of Oran into position near Thale in southern Tunisia. At point-blank range, American 105s and 155s fought it out with vicious Mark IV tanks operating with Stuka dive-bomber support. With the assistance of the British Eighth Army advancing up from Libya, the Americans achieved their objective. Africa, at least, was cleared of the invader.

The Sicilian and Italian campaigns saw no slackening in the artillery's contribution. During the amphibious assault on Salerno, cannon crews were stripped to a minimum so artillerymen could fight off German attacks with rifles and machineguns. Headquarters battery personnel, bandsmen, mechanics and truck drivers reinforced the most threatened sectors while artillery fire support continued uninterrupted. They held the beachhead.

On June 5, 1944, General Dwight Eisenhower ordered the Allied invasion fleet of 5,000 vessels to a 50-mile sector of the coast of Normandy. The role of artillery in that invasion was vital and extremely difficult. Solving the problem of getting artillery pieces ashore was not easy. The 111th Field Artillery Battalion, at Omaha Beach, lost all but one gun in the landing, and the advance group of the Battalion died fighting beside the infantry on the beach and in the shallows. The 7th Field Artillery Battalion lost six pieces. (The 111th and 7th Field Artillery Battalions were only two of many Field Artillery units involved in the Normandy landings.) Nonetheless, the formidable fortifications of Hitler's Fortress Europa were pierced before the end of D-Day.

Once the Allies were on German territory, enemy resistance stiffened. In taking Aachen, American artillery had to fire point-blank at German troops in fierce house-to-house fighting. "When the Americans start using 155s as sniper weapons," said the German commander, "it's time to give up." He surrendered the city.

On December 16, 1944, Hitler launched his last offensive. Armored columns broke through the Ardennes, aiming for the Belgian North Sea port of Antwerp. Cold weather and snow aided the Germans in bringing the Allied advance to a grinding halt. Allied vehicles bearing ammunition and supplies bogged down in the snow. Sled dogs were flown in from Greenland and Labrador. But when the SS tanks attempted to force their way through at Monshau, they were met by the massed fire of four battalions of 105-mm howitzers, six of 155-mm howitzers, one of 4.5-inch guns and two of 155-mm guns. Three times the German Armor tried to break through, but as more battalions of American artillery joined the cannonade, the enemy at last gave way. The single battalion of German infantry that managed to reach American lines was quickly crushed.

Spurred by atrocities such as the slaughter of the men of Battery B, 285th Field Artillery Observation Battalion, at Malmedy, the Allies blunted the German penetration and resumed the march to victory.

On May 7, 1945, with Allies beating down on them from all angles, German government emissaries surrendered at General Eisenhower's quarters in Reims, France. May 8, 1945, was declared VE Day.

The amphibious operations and jungle fighting in the Pacific presented the artillery with new tasks and responsibilities. Heavy casualties at Tarawa showed the necessity for close artillery support of landing and newly landed infantry. As a result, battalions of 105s and 155s were sent into action on unoccupied islands within range of Kwajalein, raining explosives on the Japanese fortifications as our amphibious assault took place. Army and Marine landings were unopposed, and within six days, all resistance on the Kwajalein Islands ended.

In the conquest of the Philippines, artillery was brought to bear on a strongly fortified Manila. Semicircles of 155-mm and 8-inch howitzers blasted Japanese strongpoints in the buildings of the University of the Philippines and elsewhere. The enemy retreated into cellars and had to be driven out or destroyed by direct fire.

In 1946, as part of the general demobilization, the Artillery OCS was discontinued. The School had commissioned 26,209 second lieutenants since its opening in 1941.

The Korean War

The period of peace following the end of World War II, in 1945, was short-lived. The communist invasion of South Korea on June 25, 1950, plunged the United States into armed conflict once again. The first American troops that were thrust into Korea fell back to Pusan, a port city in southern Korea. They formed a protective perimeter around this city and port and

fought for time to allow troops and supplies to arrive. The American artillery was subjected to attack from the front, flank and rear by North Korean infiltrators.

As a result of the general mobilization that followed the communist invasion of South Korea, the Artillery OCS was reactivated at Fort Sill. The course consisted of 23 weeks of demanding training.

The chaotic conditions that characterized the early days of the conflict were especially difficult for American artillery units. The rapidly advancing North Korean forces initially overran the hastily established defensive positions of the American forces, resulting in the disappearance of the classical front lines. Artillery units frequently found themselves surrounded by the enemy and were forced to fight as the infantry in defense of their guns. One unit, the 63rd Field Artillery Battalion, was overrun near Choan and lost all of its guns but was on line with new equipment within 24 hours.

The Inchon landings and the breakout from the Pusan perimeter caught the North Korean Army between two forces, and it was promptly driven from South Korea. The War had not yet ended, as the UN troops advancing across North Korea discovered when they were struck by Chinese Communist forces that had been secretly assembled in Manchuria. Again, the artillery was called on to play many roles.

The 2nd US Division Artillery formed the rear guard in the difficult withdrawal of the Division through the Kunu Ri Pass. The 8-inch howitzers of the 17th Field Artillery Battalion were attacked by the Chinese from flanking ridges as the Battalion moved along the single traffic-clogged highway to the south. The attacking Communists were beaten off by fire from .50- and .30-caliber machineguns mounted on prime movers and by direct fire from howitzers. The 17th lost only one howitzer in the retreat.

American artillerymen had pressure put upon them from their first shot to their last. To make up for their lack of artillery, the Chinese made American battery positions their prime targets. Batteries had to fight off invaders between rounds. One cannoner of the 159th Field Artillery Battalion suggested the crossed cannons of the artillery be changed to one cannon and one rifle. Guns were lost in attacks and recovered in counterattacks—artillerymen were determined to save their guns. The weapons used by the American Artillery during the Korean Conflict were basically the same as those used during World War II.

Post Korea—The Fifties and Sixties

The years following the truce in Korea, in 1953, were marked by significant advances in artillery weapons, support systems and tactical and strategic doctrine.

The Field Artillery entered the tactical nuclear age in May 1953, when a 280-mm gun, nicknamed “Atomic Annie,” fired the first atomic shell on target seven miles away. The artillery now had a nuclear mission.

During the 1950s, advances were made in air transport of artillery. Both rotary- and fixed-wing aircraft were used to transport as well as parachute artillery pieces once considered too heavy for this means of deployment.

The Honest John and Little John rockets were developed and then deployed to units in the field. The Corporal and Redstone missiles then came along to add range and payload to the Army's nuclear delivery system. Later, these weapons were replaced by the sophisticated and increasingly effective Sergeant and Pershing missiles.

The Vietnam War

During the late fifties and early sixties, the United States deployed advisors to South Vietnam to train and assist government forces in the struggle against communist guerrillas known as Viet Cong, or “VC.” In 1965, President Johnson made the decision to deploy major US combat forces to South Vietnam to stem the tide of communist aggression and prevent the downfall of the South Vietnamese government.

The nature of the conflict and the terrain, which ranged from flooded rice paddies to mountains to triple-canopy jungles, provided new challenges and unfamiliar situations for American forces.

Front lines common to previous wars were replaced by perimeter defenses. Battles were fought at ranges of less than 100 meters, placing extreme demands on the responsiveness and accuracy of the artillery.

New tactics and operational techniques were developed to meet the unusual requirements of jungle warfare and counter-insurgency operations. The emergence of the helicopter as a prime mover of troops and equipment gave US forces a degree of air mobility unparalleled in any previous conflict. Infantry units were inserted by air assault operations into hostile territory. To provide continuous fire support to the maneuver units in contact, howitzers were airlifted by helicopter into fire support bases carved out of the jungle. And the floating artillery of the 9th Infantry Division's Riverine Force repositioned quickly to support operations along major waterways.

Artillery units positioned in fire support bases were set up to fire 6,400 mils. Howitzer crews quickly honed their direct-fire skills, often firing just beyond the protective wire to defend their positions against ground assault.

Aerial rocket artillery, initially employed on modified UH-1 helicopters and later on AH-1 Cobra gunships, provided an additional form of responsive and lethal fire support. To ground units in close contact, the arrival of gunships on station was

the answer to an infantryman's prayer.

The artillery's ability to provide rapid and devastating fires at the critical time often spelled the difference between victory and defeat. Very few major engagements were fought without artillery support. From the 1st Cavalry Division's engagement with regular North Vietnamese troops in 1965 in the Ia Dang Valley through the Marines' defense of Khe Sanh and the Tet Offensive of 1968 until the final drawdown in 1970, the Field Artillery provided the quantity and quality of fire support that won the admiration and respect of the infantry soldier. Today, thousands of Vietnam combat veterans can relate to this Kipling quotation written many years ago. "An' as their firin' dies away, the 'usky whisper runs, from lips that 'aven't drunk all day: The guns! Thank Gawd, the guns!"

Post-Vietnam Through Today

For the Field Artillery, the years following the end of our involvement in Vietnam were characterized by peace, although the artillery played a role in three military operations in the 1980s.

In October 1983, artillerymen of the 82nd Airborne Division provided timely and effective fire support to elements of a joint task force during its incursion into the troubled island of Grenada to rescue endangered American students.

Target Acquisition units from Fort Sill were deployed to Lebanon in 1983 to 1984 to support US Marine units there. These units, using technologically advanced radar equipment, served with distinction in their counterfire role.

An armed conflict involving US artillery was the December 1989 American incursion into Panama. Operation JUST CAUSE was a well-planned and executed multiservice attack into Panama with the mission to protect US soldiers and civilians living there; displace the dictator, General Manuel Noriega and restore a democratic Panamanian government. The predominance of American forces employed were light infantry, airborne and ranger units. But the supporting light artillery played a key role by reducing the headquarters of the Panama Defense Forces in Panama City to rubble with devastating fires of howitzers in a direct-fire role.

The 1970s and 80s were a period of dynamic change in fire support. Quantum technological advances were made in virtually every aspect of the Field Artillery.

Computerized command, control and communications systems such as the tactical fire direction system (TACFIRE), provide a previously unheard of responsiveness in command and control of the battlefield.

Advances in target acquisition, to include the weapons locating Firefinder Radar System, the Ground/Vehicular Laser Locator Designator (G/VLLD) and the OH-58D helicopter (AHIP) with an advanced target location/designation system, have greatly increased the target-locating and counterfire capabilities of the artillery.

Improvements in the range, accuracy and lethality of artillery munitions has greatly increased the firepower-to-delivery system ratio of the fire support system.

The Paladin has upgraded the M109 howitzer with fully computerized fire direction and land navigation systems that permit it to operate independently on "shoot and scoot" missions.

The development of the Multiple Launch Rocket System (MLRS) and its follow-on system, the Army Tactical Missile System (Army TACMS), has provided a second- and third-echelon tactical attack capability not previously possessed by the Field Artillery. The Pershing II Missile, with its incredible accuracy, proved to be a key bargaining chip in the Intermediate-Range Nuclear Forces (INF) Treaty with the Soviet Union.

Organizational changes, such as converting six-gun batteries to eight-gun batteries, increased the number of howitzers from 18 to 24 per battalion. The 3x8 concept gave the batteries a true split-battery operational capability so necessary for survival on the AirLand battlefield.

Operation Desert Storm of 1991, that drove Iraqi armed forces out of Kuwait, provided the American Army with the first opportunity to employ its new technology and organizations introduced during the 1980s. The Multiple Launch Rocket System illustrated its ability to move, shoot and survive, and to inflict serious damage on enemy forces, while the Army Tactical Missile System was employed against high-value enemy targets at ranges beyond 100 kilometers. In the meantime, Firefinder radar systems (AN/TPQ-36 and AN/TPQ-37) detected any object moving in a ballistic trajectory on the battlefield. These target acquisition systems were supplemented by the target acquisition capabilities of OH-58D helicopters and unmanned aerial vehicles. By the time that Operation Desert Storm was completed, US tube, rocket and missile Field Artillery weapons had shown their devastating capabilities and played a significant role in the United Nations crusade to drive Iraqi military forces out of Kuwait.

All through the evolution of artillery, from catapult to missile, the purpose has remained the same: to be the maneuver commander's most responsive combat arm and, thereby, to assist the other arms, especially the infantry, on the battlefield. In 13 wars and 167 campaigns, gunners, missileers, rocketeers and target acquirers have always stepped forward when the chips were down. Time and again they proved the wisdom of Major General H.G. Bishop's 1935 characterization of our Branch as the "King of Battle."

As the Army moves into the 21st century, its ability to capitalize on technology to maneuver with fires to all parts of the

battlefield will be pivotal to its success. Field Artillery's continued role as King is, therefore, assured if the Army is to be successful in protecting the nation's interests.

Marine Corps Field Artillery

The Marine Corps Field Artillery, along with the 10th Marines, was formed, as we now know it, on April 25, 1914, at Camp Lejeune, North Carolina. Its history includes some of the bloodiest fighting in the South Pacific campaigns of World War II. As the Corps' oldest artillery unit, the 10th Marines created much of the doctrine for artillery employment in the amphibious assault.

The Battle of Veracruz

Refusing to recognize the 1914 revolutionary government in Mexico, President Woodrow Wilson sent the Marines to protect US interests from warring factions. The Marines who landed at Veracruz had orders to “take the customs house and prevent the delivery of arms and ammunition.” As a result of these orders, Colonel John A. Lejeune formed an artillery battalion. On April 25, 1914, the unit manned its 3-inch field guns with 12 officers and 406 enlisted Marines. The Marines accomplished their mission without firing their guns.

Haiti and the Dominican Republic

Political unrest sparked intervention in Haiti to protect American interests. The Marine Battalion landed with twelve 3-inch guns and two 4.7-inch heavy field guns. However, the artillerymen fought as infantrymen to suppress the insurgents.

A contest for political control erupted in the Dominican Republic in 1915. The Marines had orders to coordinate with the local government to suppress rebel forces. Enemy troops occupying a ridge, known as Las Trencheras, blocked the Marines' advance toward Santiago. Supported by artillery, the Marines attacked and seized the objective. Colonel Joseph H. Pendleton, Commander of the 4th Regiment, noted: “The artillery fired until just a few moments before [the infantry's] arriving at the position preliminary to charging. It was well-handled, and excellent judgment was shown. . . as the ceasing and opening [of] fire deserves the highest praise, as any mistake might have resulted in serious damage being inflicted on our forces.” This was the Marines' first combined-arms battle.

World War I

General George Barnett, the Marine Corps Commandant, wanted a Marine division to participate in World War I. Consequently, he ordered General John A. Lejeune, Commander of the Marine Barracks at Quantico, Virginia, to organize the 10th Field Artillery Regiment under the command of Lieutenant Colonel Robert H. Dunlap on January 11, 1918. Four days later, Dunlap formed the Regiment from the original Veracruz and Haiti artillery veterans. Unfortunately, the War Department refused to send the Regiment's 3-inch guns to France because they were the wrong caliber—Allied artillery units used primarily French 75-mm and 155-mm guns. These guns were unavailable to the Marines because of wartime priorities. The Regiment did not participate in the War.

Between the Wars

Demobilization reduced the Regiment to a single battalion that varied between four and five firing “companies.” French 75-mm guns and 155-mm Grande Puissance Filloux (GPF) guns replaced the 3-inch field guns. Between 1921 and 1924, the Regiment participated in popular annual maneuvers associated with famous Civil War battles.

In 1924, US Fleet maneuvers at the Panama Canal allowed the Regiment to practice amphibious landing techniques on Culebra Island using “Beetle” boats. Such boats were the prototypes for World War II landing craft.

In 1927, the war between Chiang Kai-shek and Marshal Chang Tso-lin endangered the Shanghai International Settlement and threatened American interests. The Regiment deployed from Quantico to Tientsin, China, to support the 3rd Brigade, commanded by General Smedley Butler. This show of force was enough, and no fighting occurred in the one year of duty.

Between 1930 and 1931, the Marine Corps replaced the French 75-mm gun with the 75-mm Pack Howitzer. Originally, the Army developed the gun for use as mountain artillery. Each piece weighed only 1,305 pounds; six pack mules could transport the gun.

On July 10, 1930, the term “Regiment” was replaced by the name “Marines.” Therefore, the 10th Regiment is known as the 10th Marines.

World War II

In 1941, Winston Churchill asked President Roosevelt to relieve the British garrison on Iceland. Britain needed all available

manpower to fight Germany. Roosevelt agreed to the request and sent a Marine brigade augmented by the 2nd Battalion, 10th Marines. Unfortunately, the weather was bitterly cold, and the brigade had little opportunity to train. But the mission served to advance the Allied cause in Europe.

The Japanese bombing of Pearl Harbor propelled the United States into the War. The land offensive in the South Pacific started in August 1942 with the landing at Guadalcanal. The plan was to seize Pacific islands, one by one, leading to the strategic objective—the Japanese mainland.

On August 7, 1942, Marines began landing on Guadalcanal and the Florida Islands. Alleged fuel shortages and aircraft losses forced the Navy to steam away without landing all the troops and artillery. The Marines had to fight without carrier air support. The absence of the US Navy also allowed Japanese warships of the “Tokyo Express” to shell the landing force every night. In addition, many Marines contracted malaria. While US rations and supplies dwindled, the Japanese reinforced their garrison almost without resistance. The landing force faced a perilous situation. After several naval engagements, the US Navy landed the remaining troops on October 19th. On November 4, 1943, the 2nd Battalion, 10th Marines landed.

The 10th Marines made fire support history when they attached naval gunfire spotters and used them to adjust destroyer fire in support of the infantry.

After a grueling battle, the Island was declared secured on February 9, 1943. The fight for Guadalcanal had lasted six months, longer than any other island campaign of the Pacific war.

The Marines departed for Wellington, New Zealand, to recuperate. By that time, the Regiment had five battalions; two were armed with the new 104-mm howitzer. At Wellington, the Marines prepared for the upcoming invasion of Tarawa atoll.

Tarawa was a veritable fortress; the Japanese commander declared his island could not be taken “with a million men in a hundred years.” The Marines invaded on November 20, 1943. The artillery didn’t land immediately, and the artillerymen “were growing impatient out there in the water, many suffering the discomfort of seasickness.” Three of the five sections that initially landed failed to negotiate the shallow reef in their landing craft. Cannoneers dutifully disassembled their pack howitzers and carried them through waist-deep water to shore. Eventually, two artillery battalions landed. On the night of November 22nd, the 1st Battalion, 10th Marines, fired 1,500 rounds to repel Japanese “banzai” attacks. The next day, 325 dead Japanese were counted. The Marines conquered the elite garrison of more than 4,000 men in three days.

On June 15, 1943, Marines assaulted the beaches of Saipan. With more than 30,000 soldiers, the Japanese were not only prepared to repel the invasion on the beach, but also to defend the island in depth. The Japanese counterattacked with tanks and infantry to force the Marines off the beachhead. The 10th Marines defended their shore with deadly volleys. Crowded beaches interfered with battery positions; one position had no concealment. Each side engaged in counterbattery fire. The Japanese had the advantage because they still held the high ground. Regardless, the Marines defeated the attack.

The Regimental command post and fire direction center came under fire from a Japanese battery during the night of June 23rd. The Regimental Executive Officer, Sergeant Major and the Operations Chief were killed. The 1st Battalion temporarily assumed fire control responsibilities.

As the Marines and Army came closer to victory on Saipan, the Japanese conducted “banzai” attacks on July 7th. After the Japanese overran frontline Army positions, the 3rd Battalion, 10th Marines, cut its fuzes at four-tenths of a second. Shells exploded 50 yards from the muzzles. The Army counterattacked and recaptured most of the lost ground. The 3rd Battalion's tenacious resistance accounted for 322 dead Japanese. Secretary of the Navy James V. Forrestal awarded the Navy Unit Commendation to the 3rd Battalion for gallantry in action.

The Marines and Army finally beat the Japanese at Saipan. Tinian, the next objective, was only four miles away. Marine batteries on Saipan helped fire 25,000 artillery rounds on Tinian in support of the landing and subsequent operations. The 10th Marines also landed 75-mm pack howitzer batteries on Tinian during the initial landing. On the morning of August 1st, artillery from both the 10th Marines and the Army prevented a 700-man charge from reaching the front lines of the infantry. Tinian was declared secure that day.

Marine and Army forces fought two and one-half months of grueling combat on Okinawa. The 2nd Battalion landed on June 3, 1945, to suppress the last vestige of resistance on the southern end of the island. Artillery positioned across the bay from the fighting supported the final attack. Afterward, the Marines raised the American flag over Okinawa. Just a few months later, World War II ended with the Japanese surrender on September 2, 1945.

After the War

From September 22, 1945, to June 24, 1946, the 10th Marines were part of the occupation force in Japan. The artillerymen supervised the Nagasaki area. Battery commanders were responsible for billeting, sanitation, patrolling and coordinating with the local Japanese authorities. When duty in Japan ended, the Marines relocated to their new home at Camp Lejeune, North Carolina, where they remain today. Reconstruction of the 10th Marines back at Camp Lejeune took five months.

The Korean War

When North Korean forces invaded South Korea on June 25, 1950, the US Marines immediately prepared to mobilize. During August and September of that year, the 11th Marines (originally the 10th Marines that had been redesignated back at Camp Pendleton) loaded aboard Navy ships and steamed for Korea.

Upon landing, Marine artillerymen were immediately called upon to support the defense and subsequent breakout of the Pusan perimeter. Later and farther North, elements of the 11th Marines supported the amphibious landing at Inchon and the drive to liberate the South Korean capitol of Seoul.

In one of the most famous battles of the Korean War, the Chosin Reservoir, the artillery of the 11th Marines supported the encircled Marines' dramatic “attack in another direction” through communist Chinese lines.

Marine artillerymen remained committed throughout the Korean War, participating in the East-Central-Front and Western-Front campaigns. Following the War, the 11th Marines remained in Korea in defense of the Demilitarized Zone from July 1953 to March 1955.

Post-Korea—The Fifties and Sixties

On July 15, 1958, Lebanon requested help from the United States to quell the belligerence among rival factions. President Eisenhower decided to send the Marines. The landing force occupied the Beirut International Airport. Batteries of the 10th Marines also went ashore. In addition to the 105-mm howitzer batteries, Marine artillery mustered three 8-inch platoons and eight 4.2-inch mortars. After an exchange of small-arms fire, the Lebanese factions relented. Service in Lebanon ended on October 10, 1958.

From the 25th through the 27th of October 1962, the 10th Marines loaded their artillery on board ships and prepared to invade Cuba. Fortunately, Soviet Chairman Nikita S. Khrushchev removed the threatening Soviet missiles from the island and avoided war with the United States.

In 1965, elements of the 10th Marines accompanied an expeditionary force to the Dominican Republic where a communist coup was in progress. The Marines landed on April 27th. Dominican leftists ambushed and killed three artillerymen. In addition, rebels fired artillery rounds very close to the 2nd Battalion's headquarters. However, the Marines were not allowed to return fire or register their guns. An inter-American peacekeeping force soon relieved the Marines, who returned to the United States on June 6th.

The Vietnam War

In May 1965, elements of the 12th Marines deployed to the Republic of Vietnam in support of the US and Allied forces

committed there. These Redlegs served with distinction at Da Nang, Chu Lai, Phu Bai and Hue.

January 1966 witnessed the arrival of the 11th Marines in Vietnam. In addition to the campaigns just mentioned, the 11th Marines also conducted operations at Quang Tri, Thua Thien and An Hoa in support of the 1st and 3rd Marine Divisions.

Post-Vietnam Through Today

The 10th Marines provided howitzer batteries to assist the multinational peacekeeping force in Beirut, Lebanon, from 1982 to 1984. A suicide truck-bomb exploded at the Beirut International Airport on October 23, 1983, killing several Marines assigned to the 3rd Battalion.

Also in October of 1983, a battery of the 3rd Battalion, 10th Marines, acted as a provisional rifle company and participated in the successful elimination of a communist threat on the island of Grenada.

In April 1988, Marine security forces deployed to the Republic of Panama. These forces came primarily from the 2nd Marine Division and were supported by forward observers from the 10th Marines. In December 1989, Task Force Semper Paratus accomplished its objectives in Operation Just Cause.

During Operation Desert Storm of 1991, United States Marine Field Artillery units served proudly using much of the same equipment that the United States Army Field Artillery employed. The 10th Marines and 11th Marines, along with elements from the 12th Marines, fought valiantly to drive Iraqi armed forces out of Kuwait. Marine artillery raids in pre-G-Day operations deceived and disrupted Iraqi forces operating in the defensive belts along the southwestern Saudi-Kuwaiti border. Subsequently, Marine Field Artillery played a vital role in driving Iraqi armed forces out of Kuwait.

Today, the Marine Corps Field Artillery continues its proud tradition of serving the country with unmatched professional competency and indomitable spirit.