

Capture of Fort Eben-Emael 10 to 11 May 1940

The fortifications at Eben-Emael were key to the Belgian delaying operations in front of the Dyle-Breda Line. The German plan to send its Sixth Army around Liège required that the river crossings west of Maastricht be captured intact. The bridges across the Albert Canal at Kanne, Vroenhoven, and Veldwezelt were under the fortress's guns, and they had to be neutralized for any invasion in this sector to appear legitimate.

Objective	To neutralize the fortress, which barred German troops from utilizing bridges across the Albert Canal.
Forces Belgian: German:	1,200 men (Major Jean Jottrand) 85 men (Oberleutnant Rudolf Witzig)
Result	The fort was quickly neutralized
Casualties Belgian: German:	23 dead, 60 wounded, and over 750 PoW 6 dead and 15 wounded
Location	Liège is 370 km northeast of Paris; Eben-Emael is 25 km north of Liège

Built between 1932 and 1935 as the northernmost fortification of the Secteur Fortifié de Liège, Eben-Emael was thought at that time to be the strongest fort in the world. Its armaments included six 120-mm guns, sixteen 75-mm guns, and twelve 60-mm antitank guns – all in armored turrets or casemates. To the northeast, the canal cut's steep sides rose 40 meters above the canal waters and formed an ideal glacis for protection from attack across the canal. In other directions, antitank trenches, barbed wire, and bun-

kers provided protection. Machine guns swept the approaches. Defensive positions were linked by tunnels that also linked the underground barracks, storerooms, and hospital. Ventilation was provided through filters which offered protection from poison gas. Twelve hundred men commanded by Major Jean Jottrand were assigned to the fort, although many were billeted in the

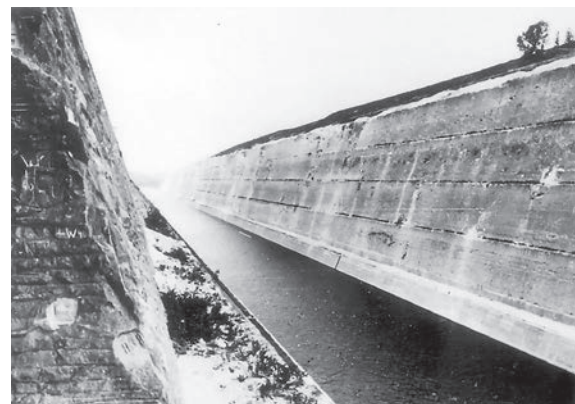
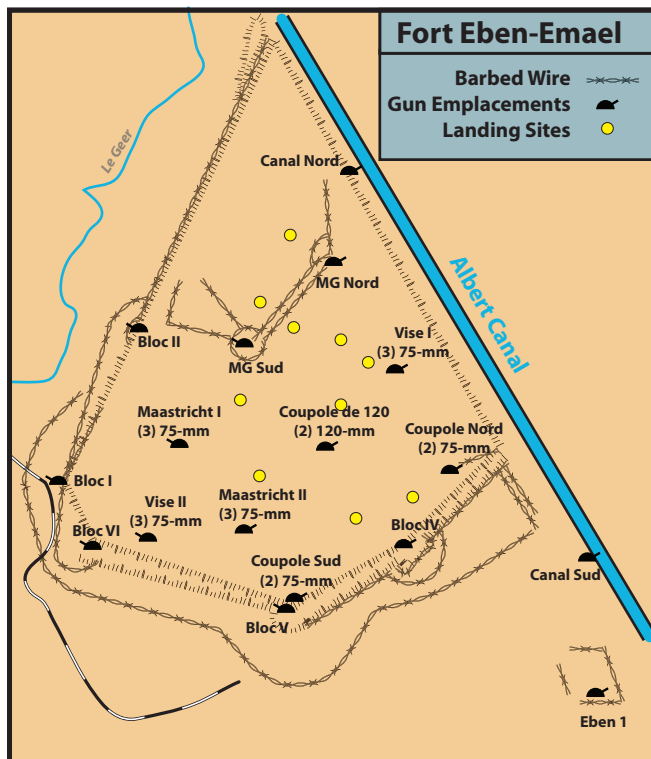


Figure 1. Albert Canal



Figure 2. German Fallschirmjäger of Sturmabteilung Koch appear near Liege after conquering Fort Eben-Emael on 12 May 1940 Photo: 2-E-2 NARA

presented a special problem because they were able to survive a direct hit by large caliber artillery shells. The sappers carried 50-kg cone-shaped, hollow-charge explosives adapted from the mining industry to penetrate the domes. The special shape focused the explosive effect, resulting in an impact more powerful than otherwise achieved. In a ruse replayed by American Airborne troops on D-Day, the Germans airdropped dummy parachutists to the west to sow confusion within the Belgian command structure.

Battle

In the pre-dawn darkness of 10 May, eleven gliders left airfields around Cologne. Their departure was timed for arrival at the fort at 05:30, H-hour for the invasions of Belgium, Holland, and Luxembourg. Thirty additional gliders divided into three groups to attack the three critical Albert Canal bridges. Towed behind Junkers JU 87 transport aircraft, the gliders climbed to an altitude of 2,100 meters (7,000 feet) before being released 20 km from the Belgian frontier. Two of the attack gliders became lost during the flight, including that of the assault commander, Oberleutnant Rudolf Witzig.¹



Figure 3. Rudolph Witzig

Belgian Major Jean Jottrand alerted his troops at approximately 03:00, when he received reports of German troop movements toward the border. The confusion caused by the silent approach of the gliders and small arms fire from the direction of the canal bridges, however, had prevented the fortress from firing. Antiaircraft gunners hesitated to fire against aircraft that they could not definitely identify as hostile.

In Witzig's absence, Hauptfeldwebel Helmut Wenzel took

neighboring villages and hence not permanently within its perimeter.

A volunteer 100-man special force known as Sturmabteilung Koch — named after its commander, Hauptmann Walther Koch and composed of volunteers from Koch's I Battalion, Fallschirmjäger Regiment 1 — was established to capture the fort and the three critical bridges. Under tight security, training began in November 1939. A parachute sapper (engineering) detachment designated to capture Eben-Emael was codenamed Granit.

The attack relied upon surprise and the use of heretofore untried tactical weapons. Noiseless, unmarked glider aircraft, a weapon previously unused in military situations, seemed an ideal method to land men silently on top of the fort. The 25-cm thick, armored domes which sheltered the cannon

¹ Hauptmann Koch, Oberleutnant Witzig and seven other fallschirmjäger were awarded the Knight's Cross of the Iron Cross for the unit's successful capture of the fortification.

Oberstleutnant Walter Koch died on 23 October 1943 in a hospital in Berlin from the effects of his injuries sustained in a plane crash in Tunisia. His body was buried in a military cemetery in Bonn. Witzig survived the war and published a book in 1954.



Figure 4. Main entrance of Fort Eben Emael as seen after its capture. Photo: 4-EE-6 NARA



Figure 5. The destroyed bridge at Kanne; the foreground shows one of the canal's defensive bunkers. Photo: 242-GAP-4-A NARA



Figure 6. A bunker built into the base of the Veldwezelt Bridge is cleared by German troops on 11 May 1940. Photo: 5-A-19 NARA



Figure 7. German motorized troops cross the Albert-Canal bridge at 10:00 on 11 May 1940 Photo: 5-A-24 NARA

command of the paratroopers, who disembarked immediately upon landing.² First the anti-aircraft guns were attacked and destroyed. Within ten minutes the fort's surface armaments were disabled, most using the cone-shaped charges. Flamethrowers destroyed machine gun positions. The turret housing the twin 120-mm cannon was too well armored even for the special explosives. It was eliminated by placing charges into the cannon barrels before they fired a single round. The northern gun emplacements, thought to be critical because of their proximity to the bridges, were found to be dummies.

Repeated attempts by Jottrand's fortress troops to exit the fort for reconnaissance or counterattack were met with fierce machine-gun fire and hand-grenades. Since they were not skilled infantrymen, Major Jottrand called upon the Belgian 2nd Grenadier Regiment outside of the fort for assistance. Belgian infantry moved against the fort across its northwestern slopes; however, the defenses designed to protect against outside attack now benefited the Germans. In addition, the troops were strafed and bombed by Stuka dive-bombers. During the afternoon, the fort's exterior came under artillery fire from Belgian gunners, while the fortress troops continued to cover within the fort's interior. The paratroops assembled 55-kg charges and dropped them down cannon access shafts. The effect was devastating as explosions rocked the fort and convulsed the passages.

² Helmut Wenzel was awarded the Iron Cross First and Second class. He was captured by British troops in Tunisia in March 1943 and spent the remainder of the war in a Canadian PoW camp. He was released in 1947, returned to Germany, and became a logger. Wenzel died in 2003, aged 89.

German reinforcements came under fire from canal-side emplacements that were still under Belgian control. During the night, elements of the German Infantry Regiment 151 managed to cross the canal in inflatable boats and reinforce the small paratroop force on the fort. German artillery moved sufficiently close to keep the remaining casemates under fire. Around noon, with all hope of relief gone and at risk of suffocation from the contaminated air, Capitaine Georges Vamecq appeared at the entrance to Bloc I with a soldier carrying a white flag. The fortress capitulated.

Although the bridge at Kanne was successfully blown, German paratroops had captured the other two bridges and defended them against counterattack until the arrival of the 4th Panzer Division. The Belgian 7th Division, which had responsibility for 18 kilometers of front, was completely overwhelmed, forcing King Leopold to issue an order for withdrawal. On 11 and 12 May, thirty-nine Allied bombers attempted to sever the German lifeline to its advanced troops by destroying the bridges. The attack resulted in twenty-eight losses and no damage to the bridges. Additional attempts were canceled.

Propaganda Minister Joseph Goebbels celebrated the use of shaped charges, mysteriously describing them as a 'new method of attack.' Rumors of saboteurs and fifth columnists spread, but the truth was more poetic – and daring. The dramatic conquest of Europe's most formidable military installation brought the security of France's Maginot Line fortifications into doubt. Combined with attacks against other northern targets, the episode strengthened Germany's plan to misdirect allied efforts away from the primary attack through the Ardennes.

Battlefield Tour

Leave Liège toward Maastricht on the E25 (A25) Autoroute. Just before entering Holland, take exit #1 toward Lixhe (N602). In that village turn north toward Lanaye (rue de la Croix); exit the highway to the left onto Pl du Roi Albert and proceed down the ramp before making the right turn toward Lanaye. The road changes names several times as it passes through Lixhe and Nivelles and proceeds into Lanaye. This mostly industrial area lies between the Albert Canal on the left and the Maas River on the right. Continue through Lanaye and proceed north (quai de Caster). Stop at the parking area for views of the Albert Canal. (50.78773, 5.69135)

The canal divides at this point providing a connection to the Maas through the locks in the Canal de Lanaye to the right. The roadway crosses over the locks, and although the roadway looks private, it is accessible to the public. The left channel is the continuation of the Albert Canal, where it passes through the deep cut in the limestone hill known as the tranchée de Caster.

This route allows for observation of the defensive nature of the eastern side of the fort. The 40- to 60-meter limestone cliff face still has two blockhouses, Canal Nord and Canal Sud. All seven blockhouses contained 60-mm antitank guns, twin machine guns, and searchlights to illuminate nighttime targets. Visible on the summit of the cliff opposite is one of these casemates, showing its gun embrasures and armored cupola. During the afternoon of 10 May, fire from the casemate to the north frustrated elements of the German Engineer Battalion 51 in their attempts to cross the canal and reinforce the assault team. They were eventually successful the following morning.

Reverse direction, turn right and cross the Pont de Lanaye. Park near the west end of the bridge. (50.784339, 5.687467)

Three gun emplacement bunkers remain as protection for the Pont de Lanaye. The first stands along the Rue de Garage with its entrance doorway clearly visible and its bullet marred gun embrasure aimed directly at the bridge. (50.784007, 5.686453)

A second bunker remains on the canal bank immediately below the western end of Pont de Lanaye. (50.784495, 5.687628)

Farther south a third bunker lays along the banks of the canal with gun embrasures on both ends of the extended concrete structure. Although a path runs along the west edge of the canal, it is not recommended to attempt visiting the third bunker. (50.771932, 5.682178)

Continue toward the village of Eben-Emael (rue du Garage), and follow the zigzag road up into the village. Turn north on highway N609 and proceed a few hundred meters to the signed access road to the fort. Turn right (rue du Fort) and continue to the parking area. (50.796363, 5.6722260)

Fort Eben-Emael

Rue du Fort 40

B-4690 Eben-Emael

Tel: +32 (0)4 286 28 61

Email: secretariat@fort-eben-emael.be

Web: <https://fort-eben-emael.be/en/>

Open Tuesday through Sunday from 10:00 to 17:00 during summer months; other days during the remainder of the year. See website for full listing of open days and hours. Jackets are strongly recommended even during summer hours. Guided tours available upon request. Fee. Partially handicap accessible.

Eben-Emael is situated on the west bank of the Albert Canal, north of Liège, and near the junction of the Albert Canal and Maas — the Dutch name for the Meuse River — only 8 kilometers from the Dutch city of Maastricht. The triangular-shaped fort runs 900 meters from north to south and 700 meters from east to west at its wider, southern end. It remains a Belgian Army military establishment, and admission is restricted. Its position and surroundings are suitable for a tour even without an internal visit, but a fort tour significantly enhances the experience.

Before reaching the Fort Eben-Emael entrance, several memorials stand to the defenders of Eben-Emael including a stele to civilian victims of Eben Emael and a field gun to the Regiment d'Artillerie of Chasseurs Ardennais, which fired upon the German attackers on 10-11 May 1940. A plaque mounted upon smoothed stone commemorates the liberation of this sector in 1944 by the 120th Regiment, US 30th Infantry Division and states: 'In Memory of Major Leland Lambe and the Men of the 120th Regiment 30th



Figure 8. Fort Eben-Emael entrance Bloc © French Battlefields

Division USA. Major Lambe was killed in action at Fort Eben-Emael on September 11, 1944.' Major Lambe was battalion commander in the 120th Regiment.³ An altar surrounded by stone forms the War Memorial Fort Eben-Emael. Heavy weapons displayed include an M41 Walker Bulldog, relic of Korea and Vietnam - not WW II.

The entrance to Bloc I, (50.796519, 5.674344) — the well-defended personnel entrance — bears plaques listing the deceased defenders of the fort. If the fort is not open for tours, the entranceway may be blocked; however, much can still be viewed. The cannon and machine guns still visible on the pockmarked façade protected the fort

3 Major Leland Lambe is buried in the Henri-Chapelle American Cemetery, Homburg, Belgium.



from an attack from the direction of the village. To the right, the similarly shell-pocked Bloc VI (50.795488, 5.674902) guarded approaches to the main entrance, as did Bloc II, (50.798784, 5.676382) located farther to the left. Blocks II and VI each held two 60-mm antitank guns and machine guns. Remnants of the concrete lined tank ditch are visible amidst the underbrush north of Bloc II.

Inside the entrance, a long, ascending stairway provides access to the fort's 5 kilometers of interior galleries. The fort tour visits various rooms, including the kitchen, hospital, and barracks. Seventy-five mannequins have been placed to demonstrate life in a 1940 underground Belgian fortification as well as the actions of the attacking Germans. Rooms have been outfitted with authentic artifacts, and sound effects have been added to heighten the experience. The damage wrought by German explosives remains mostly unchanged. The twisted blast door that the Germans destroyed to gain entry still hangs in place. Some corridors are blocked by wreckage from the charges dropped down the airshafts. Gun mechanisms for the operation of retractable turrets are visible.



Figure 9. 120 degree turret on roof of Fort Eben-Emael. © French Battlefields



Figure 10. Fort Eben-Emael Bloc VI. © French Battlefields

The roof of the fort can be accessed via a path to the left of Bloc I. The fort's armaments remain mostly intact, and the deadly effect of the German shaped charges is still visible on the armored cupola. The rotating turret (50.796915, 5.680610) containing the twin 120-mm guns remains in its down position, but the two shielded gun openings are visible. They were prime targets because their range covered all of Maastricht to a distance of 15 kilometers.

The northern approaches to the fort are not recommended because ditches and drainage canals block much of the way; however, the southern approach gives another impression of the fort's defenses. The western side and a portion of the roof are now heavily forested. Keep outside the fences and be mind-



Figure 11. Bloc 'Eben 1' with its cupola standing guard over the Albert Canal. © French Battlefields

ful of the steep drops into the ditches that surround the landward sides of the fort. Avoid damage to any crops that might be in the fields. Before the path diverges from the fort, a good view of the defensive guns is possible. Bloc V (50.794471, 5.6794799) is difficult to see because of the growth of new vegetation; however, Bloc IV (50.795325, 5.682320) protrudes into the ditch. Its two 60-mm antitank guns and machine guns provided defensive fire along the ditch and against the approaches to Bloc V.

The path leads away from the fort and approaches 'Eben 1,' (50.793197, 5.686466) a separate casemate which guarded the southeast approach from outside the fort. It was surrounded by tetrahedrons and barbed wire entanglements. Ap-

proach this site very carefully because the cliff edges are not protected and can be extremely dangerous. The casemate sits upon the cliff, above the point where the Albert and Lanaye channels split. Views are possible along the Albert Canal and across the flat countryside to the east, where the backwaters of the Maas create numerous lakes, islands, and channels. The sheer limestone cliffs of the tranchée are visible.

Far to the north and outside the boundaries of the fort, Casemate Kanne along Tiendenburg (street) and above the Albert-Channel formed a part of the Belgian defense-lines protecting the Kanne Bridge. The white obelisk atop commemorates the battle of 1940. (50.80906, 5.66866)

Nearby Sites

At 22:30 hours on 18 August 1941, 62 aircraft took off on a mission to bomb Cologne. Of those

aircraft seven were Whitley Mark Vs from 10 Squadron, RAF. Before achieving its target, RAF Z6672 was “coned” by two searchlights and attacked by a night fighter killing the tail gunner Sergeant Samuel Norcross. The port engine was hit, and the wireless cabin set on fire. The pilot, Squadron Leader Morris Michael Kane, altered course for Aachen, the only reachable target. After dropping its bombs the Whitley was attacked by Oberleutnant Heinrich Griese⁴ flying a Bf110 from the German Nachtjagdgeschwader (Nightfighter Group) 1/NJG1. Again, the Whitley was afire, elevator and rudder controls destroyed, and navigator and bomber/gunner were dead. Squadron Leader Kane and the wireless operator, Sergeant H LeQ Mourant, bailed out near Eben-Emael, but were quickly captured. The plane crashed in a farm field. The two men remained PoWs for the remainder of the war.⁵

A brick wall surmounted by the RAF Roundel identifies the **crash site** and bears a metal plaque naming the flight crew. A second plaque expresses the local populace’s gratitude and respect for the men’s sacrifice for their liberation. (50.807135, 5.667483)

World War II Memory Museum Berneau

Rue de Maastricht 29,

B-4607 Berneau

Tel: 00 32 (0) 479 / 829 812

Web: <https://www.wwii-memory-museum.com/pattonsurplus>

Open every third Sunday of each month from March through November from 10:00 to 12:00 and 13:30 to 17:30. Fee. (50.743035, 5.700031)

WW II Memory Museum is dedicated to the history of the Second World War through the uniforms and equipment used by the two warring camps. Visitors can get back into this period of history through 11 dioramas containing a total of 70 fully equipped and realistic models. Each diorama recounts a specific event of war including Operation Market Garden.

Memorials to the East

The area east near the Belgian – Netherlands border again became militarily active in 1944 as the advancing Allied armies approached Netherlands. Many of the towns and villages in the area display war memorials from the First or Second World Wars bearing the names of soldiers or local citizens killed. Other memorials remember the sacrifices of the area’s liberators.

Town of Mesch holds memorial to **US 30th Infantry Division (Old Hickory)**. Troops of Company A under command of Captain John E Kent of the 117th Regiment, 30th American Division (Old Hickory) crossed the Dutch – Belgian border from Berneau at this memorial stone on 12 September 1944 around 10:00. The objective was to capture a beneficial operating position which could help them close the Maastricht - Aachen highway the following day. The inscription on the stone: ‘Here in Mesch, community of Eijsden, the liberation of Holland by the allies began ... This made them the first allies who set foot on Dutch soil.’ Some argument has arisen regarding the last line, because patrols by the 125th Squadron, 113th Cavalry Group ‘Red Horse’ crossed the Albert canal northwest of Veldwezelt (Belgium) on the 9th of September to explore the situation around Maastricht from the nearby strategic heights of Calberg and Dousberg. (50.762712, 5.731015)

Almost on the Belgian – Netherlands border south of Mesch, the simplest of memorials remembers the sacrifice of American soldiers liberating Belgian. A white wooden cross stands bearing the plasticized

4 Oberleutnant Heinrich Griese was shot down and killed on 20 October 1944 near Landau, Bavaria. The Whitney of Squadron Leader Kane was one of his 14 air victories.

5 Sergeants Crich and Norcross were buried on 20 August with military honors on the military cemetery of Kanne. On 24 September 1974 their remains were transferred to Herverlee War Cemetery. Sergeant Manison was buried at the communal cemetery of Lanaye (Ternaaien).

image of **Private First Class Leonard J Hoffman**, 1st Battalion, 117th Regiment, 30th Infantry Division, killed here on 12 Sept 12 1944.⁶ The cross is sited on unpaved farm road separating twin orchards 80 meters north of Voerenstraat located with a sign indicating “Voerengraaf.” (50.757522, 5.730341)

A simple upright stone bearing divisional insignia honors **Roy L. Booher**, Company K, 119 Infantry Regiment, 30th Infantry Division who was killed near this spot on 12 September 1944. He was the first American soldier killed during the liberation of the Netherlands. An engraved metal plaque to the left describes events. While moving forward that evening, K Company encountered a group of retreating German soldiers. During a brief firefight, Staff Sergeant Roy Booher was killed, nine days before his 24th birthday.⁷ The stone is slightly buried back amongst the trees on the north side of Hoogcruts a few meters west of intersection with Kutersteenweg. (50.774959, 5.825626)

Other Sites of Interest:

Netherlands American Cemetery (17 km to the east)

AM Begraafplaats 1

6269 NA, Margraten, Netherlands

Tel: +31 (0) 43 45 81 208

Web: <https://www.abmc.gov/Netherlands>

Open daily from 9:00 to 17:00, except December 25 and January 1. When the cemetery is open to the public, a staff member is on duty in the visitor building to answer questions and escort relatives to grave and memorial sites. (50.821111, 5.803611)



Figure 12. Chapel and graves plot in Netherlands American Cemetery at Margraten. © French Battlefields

The site, covering 65.5 acres, is dominated by its tall Memorial Tower. The entrance leads directly to the Court of Honor where Tablets of the Missing record 1,722 names of those whose remains were never recovered. The names of those whose remains have been since located are identified by a rosette. The burial area is divided into 16 plots in sweeping long curves and holds 8,288 military dead with their graves marked by a Latin Cross or Star of David.

Since 1945 the local citizens have honored the American dead with an ‘Adopt a Grave’ Program in which local families care for the grave site of an assigned fallen. They bring flowers on Memorial Day or the service member’s birthday, research the life of the individual and, in years past, have hosted visiting relatives. The sponsoring foundation has created a program known as ‘The Faces of Margraten’ which collects photographs of the fallen for display during Dutch Memorial Day commemorations.

Fort de Loncin

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Tel: +32 (0) 4 246 44 25

Email: contact@fortdeloncin.be

The fort and museum are open 1 April to 31 October closed Mondays and 1 November to 31 March Thursdays through Sundays from 14:00 to 18:00. No admission fee. Audio guides are available to tell the

⁶ Private First Class Leonard J Hoffman, aged 22, from Reading, Pennsylvania and the youngest of ten siblings, is buried in Henri-Chapelle American Cemetery, Belgium.

⁷ Staff Sergeant Roy L Booher, born in Burkesville, Kentucky, enlisted along with his twin brother in 1940. He is buried in Henri-Chapelle American Cemetery, Belgium.



Figure 13. Fort Loncin entrance; note construction date above the entrance. © French Battlefields



Figure 14. Fort Loncin destroyed Cupol and central mastif. © French Battlefields

story of the fort in four languages; guided tours are possible on Sunday afternoons. (50.673803, 5.493495)

The forts protecting Liège were captured or destroyed in the early days of the First World War. During the interwar years a second ring of forts was constructed at a greater distance from the city. Some of them can be visited. Of special interest is **Fort de Loncin**, northwest of Liège on the rue de Loncin near highway N3. This First World War fortification was hit by a shell from an Austrian super heavy mortar in August 1914, resulting in an internal explosion and its complete ruin. The fort shows the enormous destruction wrought on seemingly impregnable thicknesses of concrete and armored steel. Two hundred and fifty soldiers' bodies are still entombed in the ruins. A small, adjacent museum presents the construction of the fort and the operation of the fort's retractable guns.