

Ancient History: Walls of Constantinople

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The art of fortification has existed ever since man first came to realize the value of natural obstacles to his common defense, and evolved as he sought to invoke his own methods to fully exploit that advantage. The building of barriers rapidly evolved from the simple mud parapets and mountaintop abodes of the Neolithic Age to the construction of linear and point stone obstacles of the Bronze Age, best represented by the Hittite capital of Hattusas. The Greco-Roman world was the proving ground for medieval fortifications. When Emperor Constantine I moved the capital of the Roman empire from Rome to the sleepy port town of Byzantium in AD 324, the opportunity to make full use of the state of the art in the construction of fortifications was at hand. The results of what followed shaped the course of world history.

Located on a horn-shaped peninsula astride the Bosphorus and the Sea of Marmara, the renamed imperial capital of Constantinople dominated the narrow waterway that divides Europe from Asia. The complexities of that geography provided both advantages and challenges to the site's defense. A steep and rugged shoreline and the Sea of Marmara's swift currents protected the southern coast. To the north the Golden Horn, an inlet that bordered the peninsula, was a natural anchorage and harbor. The ancient Lycus River ran diagonally northwest to southeast across the peninsula, forming a narrow valley that sectioned the city into two distinct areas—a chain of six hills running along the Golden Horn to the north, and a single, larger hill to the south. A coherent urban defense had to address those considerations. For the most part, the many leaders and builders of the city succeeded in mastering the terrain. The ruins that still enclose what is now the Turkish capital of Istanbul are the remnants of centuries of evolution. Awe inspiring even in decay, they are a testament to the glory of Greco-Roman military art.

The despair of its enemies, the walls of Constantinople were the most famous of the medieval world, singular not only in scale, but in their construction and design, which integrated man-made defenses with natural obstacles. Their principal composition was mortared rubble, faced with blocks of fitted limestone and reinforced by courses of layered red brick. To enhance the integrity of the overall network, the towers and walls were built independently of one another. The entire city was enclosed in a defensive circuit of 14 miles of walls, reinforced by more than 400 towers and bastions, and several strong points and fortresses. The strongest construction faced west, against an approach by land. There, along a four-mile stretch of rolling land, stand the legendary Theodosian Walls, their depths blending together, the merlons overlapping like teeth in the mouth of an Olympian shark. There an enemy had to attack a linear obstacle of four belts, each ascending above the other, with a depth of some 200 feet.

The main line of defense was the Inner Wall, 40 feet in height and 15 feet thick, with a battlemented parapet five feet high that was accessed by stone ramps. Along its course at 175-foot intervals run 96 massive towers, each once capable of mounting the heaviest military engines of the day. A second, Outer Wall, approximately 30 feet high, is joined to this main wall by an elevated 60-foot terrace. The Outer Wall is also equipped with 96 bastions, each offset from the towers of the Inner Wall to avoid masking their fires. Subterranean passages run from many of those points back toward the city—avenues that presumably provided the defending troops with secure movement to and from a threatened area. From the Outer Wall extended another 60-foot terrace, ending in a 6-foot high parapet. This bordered a great moat, some 60 feet wide and 15 to 30 feet deep, supplied by an aqueduct system. To compensate for the rolling terrain, the moat was sectioned by a number of dams, which enabled it to retain an even distribution of water along its length. The five public gates that traversed the moat by way of drawbridges were set narrowly into the walls and were flanked by towers and bastions. Any assault made on the outer gates would be attacking into the strength of the defense. The belts were constructed at a tiered elevation, starting at 30 feet for the Inner Wall and descending to the moat. This, and the distance between strong points, ensured that an attacker, once within the network, was in range from all immediate points in the defense. The Land Walls were anchored at both extremities by

two great fortresses. Along the Sea of Marmara, the Castle of the Seven Towers secured the southern approach, while in the north, along the Golden Horn, the salient that was the quarter of the Blachernae Palace, residence of the later Byzantine emperors, was gradually transformed into one massive fortress. To those two fortified points were adjoined the Sea Walls, similar in construction to the Outer Wall, of which little remains today.

The Golden Horn posed a certain challenge for the Byzantine engineers, since the five miles of sea walls in that area were comparatively weak and the calm waters there could provide a safe anchorage to an enemy fleet. Emperor Leo III provided the tactical solution in the form of the famous barrier chain. Made of giant wooden links that were joined by immense nails and heavy iron shackles, the chain could be deployed in an emergency by means of a ship hauling it across the Golden Horn from the Kentenarion Tower in the south to the Castle of Galata on the north bank. Securely anchored on both ends, with its length guarded by Byzantine warships at anchor in the harbor, the great chain was a formidable obstacle and a vital element of the city's defenses.

While the Land Walls glorify the name of Theodosius I (408-450), the reigning Roman emperor at the time their construction began, it is to one of history's dim figures, Anthemius, to whom they owe their genesis. Anthemius, as prefect of the East, was the head of state for six years during the minority of Theodosius and it was he who conceived and carried out a massive and defining expansion of the city defenses. His vision would provide a durable framework for a citadel that the new capital would need to become to weather the challenges that lay ahead. The cornerstone of those new fortifications was a massive land wall, represented by the Inner Wall, built in 413. The Theodosian system was completed in 447 with the addition of an outer wall and moat—a response to a near calamity, when a devastating earthquake seriously damaged the walls and toppled 57 towers at the very moment that Attila and his Hunnic armies were bearing down on Constantinople. Over the centuries many emperors improved the city fortifications. Their names can be seen to this day engraved on the stone—roughly 30 of them covering more than a millennium, clearly illustrating the importance of these defenses to the empire. While Attila drew away from Constantinople to pursue easier prey, later invaders were not so easily discouraged. Persians, Avars, Sacracens, Bulgarians, Russians and others tried to take the citadel in their turn. Far from serving as a deterrent, Constantinople's formidable reputation seemed to attract enemies. As the capital of a mighty empire, and at the crossroads of two continents, Constantinople represented to the early medieval world what Rome and Athens had meant to classical times. The 'Queen of Cities,' she was a magnet for pilgrim, trader, and conqueror alike. None were wanting. The citadel turned back besieging armies 17 times in the course of a millennium. With each succeeding onslaught, Constantinople became ever more the final stronghold of Greek civilization. Behind her bulwark in the east, Christian Europe also took shelter.

Undoubtedly, Constantinople's finest hour came when it turned back a series of determined Arab attacks during the initial period of Islamic expansion. In 632, the Muslim armies burst forth from the desert confines of the Hejaz and into the Levant. Benefiting from a power vacuum in the region, the Arabs made stunning advances. Both the Byzantine and Sassanid Persian empires, nearly prostrate from 25 years of mutual warfare (fighting that cost the Greeks alone some 200,000 men, an enormous drain of manpower in that age) were unable to hold back the tide. In a little more than a decade the Byzantines were driven from Syria, Palestine, Mesopotamia, and Egypt. The Persians fared worse. Arab armies invaded the Persian highlands and destroyed the Sassanid kingdom. By 661, the standard of the Prophet Mohammed reached from Tripoli to India.

On two occasions, from 674 to 677, and again in 717-18, Arab armies besieged Constantinople by land and sea. Superior military organization, the leadership of Leo III (the Isaurian) and the timely intervention of one of history's most decisive weapons, a medieval form of napalm dubbed 'Greek fire,' enabled the Byzantines to weather the storm. The cost to both sides was high. Byzantium lost most of her territory south of the Taurus Mountains and much of the remainder of the empire lay devastated. The Arabs lost untold thousands of men through futile attacks against Constantinople's defenses, as well as a series of disastrous defeats on land and sea. Many more perished of disease and cold in dire encampments before the Land Walls. Of the 200,000 Muslims who laid siege to Constantinople in 717, only 30,000 crossed back into Syria the following year.

The impact of Constantinople's successful defense at that time cannot be overstated. Not only did it save the Byzantine Empire from the same fate as Sassanid Persia, but spared a fractured and chaotic Europe from Muslim

invasion for another eight centuries. One can only wonder of the consequences for Europe and Christendom had Muslims armies marched unchecked into Thrace in the late 7th or early 8th centuries. What is certain is that the Muslim tide, broken at its shortest approach, was channeled to Europe via another, much longer axis-North Africa. Crossing the Strait of Gibraltar, a Muslim army of 50,000 traversed Spain, crossed the Pyrenees and penetrated into the French heartland before finally being overcome by Charles Martel at Tours in 732. With its expansion stemmed, the Muslim world turned its energies to internal disputes that splintered the caliphate, providing medieval Europe a much-needed period of growth and consolidation. In the end, the same spirit of ingenuity that created Constantinople's fortifications would prove their undoing. The weaknesses of the defenses must have been obvious, since a series of attackers, beginning with the Avars, had tried to exploit them. Interestingly, the salient problems lay along the strongest point-the Land Walls. At a point just south of the Blachernae quarter, a section called the Mesoteichion, the walls dip sharply into the Lycus Valley, exposing that area to enfilading fire from higher ground on the enemy side. Apparently, the trace of the walls owed itself more to the need to accommodate a growing population than a regard for the natural lines of terrain. Another problem, far more perplexing, was the region of the Blachernae Palace, a neglected salient in the original Land Walls. The fortifications there, while often improved, were never equal to those elsewhere in that area. Finally, the construction of the Sea Walls as a single-wall circuit reflected a reliance on natural obstacles and a navy. As long as the Byzantine fleet commanded the narrows of the Hellespont and the Bosphorus, an attack from that quarter was not to be feared. That situation changed dramatically, however, after 1071, the year that the Seljuks of Rum inflicted a decisive defeat upon the Greeks at Manzikert. As the empire passed into decline, the Byzantine emperors could no longer maintain an effective navy, and gradually had to rely on the protection of friendly maritime powers. As the Byzantine navy withered, Constantinople lay exposed to an assault from the sea.

The challenge was not long in coming. The first Crusades were a marriage of convenience for a Christendom divided between the rival Eastern (Orthodox) and Western (Catholic) churches. During the Fourth Crusade that enmity erupted into open warfare when the Latins sought to exploit one of Byzantium's many dynastic squabbles. While en route to Palestine, the leaders of the crusade, cash-strapped and never opposed to a little profiteering, took up an offer by Alexius, the son of the deposed and imprisoned Emperor Isaac II, to restore their throne. In exchange for overthrowing the usurper, Alexius promised 200,000 marks, generous trade concessions and troops for the coming campaign. The deal was struck and on July 17, 1203, the Crusaders attacked Constantinople by land and sea. That night, the usurper Alexius III, fled and the next day Isaac was crowned with his son as co-emperor Alexius IV. Their restoration would be short lived. In January 1204, resentful Byzantine nobles toppled the puppet rulers and brought Alexius III's son-in-law, Alexius Ducas Mourtzouphlos, to the throne as Alexius V. With no hope of securing Byzantine cooperation for the campaign to the Holy Land from the defiant new emperor and seeing little chance of success without it, the Crusaders determined once more to take Constantinople. The Latins, with a decisive naval advantage thanks to the financial support and powerful fleet put at their disposal by Venice, decided to make a major effort at the Sea Walls. To provide an assault platform, they erected siege towers on their ships from which long spars were rigged as a kind of suspended bridge. As a ship approached the wall or tower to be attacked, the bridge was lowered and the knights would shimmy across. The task of leading such an assault must have been daunting. A knight, grasping for balance moving down a narrow platform high above a ship rolling at anchor, then lifting himself over the parapet, all while evading the arrows, cuts and thrusts of the defenders, was at the mercy of his circumstances. When their first attempt failed, the Latins launched a second assault with two ships tied together. That provided a more stable platform and the possibility of assaulting a tower at two points. A witness, Robert de Clari, described how the attackers gained a foothold: 'The Venetian who entered first in the tower was on one of these suspended bridges with two knights, and from there, with the aid of his hands and feet, he was able to penetrate the level where the bridge provided access. There he was cut down; it was there that Andr d'Urboise penetrated in the same way when the ship, tossed by the current, touched the tower a second time.'

Once the Crusaders had made the critical penetration of the defenses, another witness, Henri de Villehardouin, described how they exploited their success: 'When the knights see this, who are in the transports, they land, raise their ladders against the wall, and scale to the top of the wall by main force, and so take four of the towers. And all begin to leap out of the ships and transports and galleys, helter-skelter, each as best he can; and they break in some

three of the gates and enter in; and they draw the horses out of the transports; and the knights mount and ride straight to the quarters of the Emperor Mourtzouphlos.'

Most historians point to the Latin conquest of Constantinople on April 13, 1204 as the practical end of the Byzantine Empire, which disintegrated into a number of feudal fiefdoms and kingdoms under the elected Latin Emperor Baldwin I until his defeat and capture by Tsar Kaloyan's Bulgarian army near Adrianople on April 14, 1205, and his subsequent execution by his captors. Although the Greeks, who had established a rival kingdom across the Bosphorus in Nicea, returned to reclaim their capital in 1261, they would find it plundered and most of their territory lost forever. The Fourth Crusade, which never came near to the Holy Land, had shattered the citadel of Christendom in the east.

Although treachery and resourcefulness could overcome the strongest of medieval fortifications, it was the cannon that would render them obsolete. The Hundred Years' War witnessed the emergence of this weapon as the decisive instrument of war on land. The Ottoman Turks, who emerged in the late 14th century as the next great challenge to Byzantium, were in the forefront of this early technology. In 1451, 19-year-old Mehmet II ascended the Turkish throne with a burning desire to succeed where his father, Murad II, had failed 29 years before-to capture Constantinople and make it the capital of his empire. By that time the Ottoman Empire had absorbed most of Byzantium's territory and engulfed its capital as it expanded outward from Asia Minor into the Balkans. In his quest, Mehmet would not be limited to traditional methods of siegecraft, for the sultan's armies had by that time acquired a large number of cannon. Combining that technology with superior energy and vision, Mehmet would go further than others in exploring tactical solutions to the formidable obstacle that Constantinople's defenses still presented.

Reports circulating around the courts of Europe in the winter of 1452-53 spoke of unprecedented Turkish preparations for an assault upon the city. In fact, the Turkish army that appeared before Constantinople on April 6, 1453, was singular in only one respect. With 80,000 soldiers-including 15,000 of the Sultan's elite Janissary corps-Serbian miners, various siege engines, and a fleet of some 300 to 400 ships, it was a formidable force, though hardly anything the city had not seen many times before. It was artillery, however, that made this a potent threat, especially a new generation of massive siege artillery developed by a Hungarian cannon founder named Urban.

Abandoning the meager pay and resources of the Byzantines, Urban found an eager sponsor in Mehmet, who set him to work casting large-caliber cannon to breach the city walls. The Hungarian went about his work with equal enthusiasm, promising the sultan that 'the stone discharged from my cannon would reduce to dust not only those walls, but even the walls of Babylon.' The resultant cannon was titanic, requiring 60 oxen and 200 soldiers to haul it across Thrace from the foundry at Adrianople. Twenty-seven feet long, 2 1/2 feet in bore, the great weapon could hurl a 1,200-pound ball over a mile. When it was tested, a Turkish chronicler wrote that a warning was sent out to the Ottoman camp so that pregnant women would not abort at the shock. Its explosions, he said, 'made the city walls shake, and the ground inside.' The cannon's size, however, was also its liability. Crewed by 500, it took 2 hours to load and could only fire eight rounds per day. Fortunately for the Turks, Mehmet had many more practical and more proven pieces-2 large cannons and 18 batteries of 130 smaller caliber weapons.

Against traditional siege engines and complemented by adequate land and sea forces, the walls of Constantinople had proven impregnable for centuries, but times had changed. Destitute and depopulated, the city had never recovered from its sack by the Latins in 1204. In spite of Emperor Constantine XI's efforts to rally volunteers, few answered the call. To make matters worse, the defenders' resolve was undermined by deep divisions caused by the emperor's decision to reunify the Orthodox with the Catholic Church in a desperate attempt to give the Pope incentive to aid him against the Turks. The empire was at the end of its resources, its defenses left primarily to Italian mercenaries. Greeks commanded only two of the nine sectors of the defense. Gunpowder was in short supply and the walls had fallen into disrepair; the overseers had embezzled the funds for their maintenance. The fleet, long the critical arm of the Empire, now consisted of just three Venetian galleasses and 20 galleys.

The 4,973 Greek soldiers and volunteers, and the 2,000 foreigners who had come to assist them, had to defend 14 miles of fortifications. With 500 men detailed to defend the Sea Walls, that would have left only one man every four feet at the Outer Land Walls alone. With many of the garrison manning the engines, towers, bastions and other points,

the distribution of soldiers along the walls was undoubtedly much thinner. The demands on each man grew precipitously as the battle progressed and as casualties, sickness, and desertion reduced their numbers, and substantial breaches appeared in the walls. That such a scant force managed to defend one of the largest cities of the medieval world for seven weeks was a remarkable testament to both the fortifications and the men who defended them.

For weeks Turkish guns relentlessly battered the Land Walls, in the words of witness Nicol Barbaro, 'firing their cannon again and again, with so many other guns and arrows without number...that the air seemed to split apart.' The high masonry walls made an easy target for long-range enemy guns, and at the same time could not long withstand the recoil of the Byzantine cannons mounted upon them. Although Urban's monster cannon exploded on its fourth round, killing its builder and many of the crew, the Turks discovered a more effective technique for employing their artillery. Following the advice of a Hungarian envoy, Turkish gunners concentrated their fire against points on the wall in a triangular pattern—two shots, one each to the base of the a 30-foot section, then a toppling shot to the top center. In that way, the Turks gradually breached sections of the Outer Walls, exposing the Inner Wall, which too began to crumble. The defenders fought off Turkish attempts to assault the inner defenses by day, and crept forward each night to fill in the widening holes with rubble and palisades.

If the ultimate outcome of the siege of Constantinople was ever in doubt, Mehmet's solving the problem of the barrier chain made it inevitable. Unable to force a passage through the chain and past the Christian warships, the sultan resolved to bypass it by hauling his ships overland, behind Galata and into the Golden Horn. To his engineers, who had hauled Urban's cannon across Thrace, that posed little problem. Using greased windlasses and buffalo teams, the first ships made the trip on the night of April 22. The next morning the defenders awoke to find a squadron of Turkish vessels in the Horn and themselves with another five miles of sea walls to defend. Before the Greeks and their allies could effectively counter this new threat, Mehmet had the Horn sealed to the west, in front of his ships, by building a floating bridge of giant oil casks and planks. The Christian ships were now bottled up in the Horn between two arms of the Moslem fleet. The final blow came on May 29, 1453. The Turks attacked three hours before dawn, concentrating their effort on the Mesoteichion and the western half of the Sea Walls along the Horn. After seven weeks of heroic resistance, the defenders had reached the limits of endurance. In any case, their numbers were no longer sufficient to defend the Land Walls, sections of which were reduced to rubble. A large breach was opened in the walls in the Lycus Valley and the Turks pressed the attack. Barbaro described the final moments: 'One hour before daybreak the Sultan had his great cannon fired, and the shot landed in the repairs which we had made and knocked them down to the ground. Nothing could be seen for the smoke made by the cannon, and the Turks, under the cover of the smoke, and about 300 of them got inside the barbicans.' While the defenders beat back that attack, the next succeeded in penetrating the Inner Wall. As Turkish soldiers appeared in the garrison's rear, the defense swiftly collapsed. Word spread that the defenses had been breached and panic ensued. Those who did not take flight were overwhelmed at their posts. Constantine went to a hero's death, struck down in the final melee near the great breach. A few managed to escape aboard the Christian ships; most of the rest, including 90 percent of the populace, were sold into slavery. After nearly 1,000 years, the Eastern Roman Empire ceased to exist.

Constantinople was reborn as Istanbul, and as the capital of the Ottoman Empire, its fortunes were reversed. Many of its splendors, old and new, still beckon, though the broken, overgrown remnants of its ancient defenses attract little interest. It is pertinent today, as historians look upon the tragic history of the Balkans, to recognize the consequences for the West and the implications for the world had it not been for Constantinople's role as the citadel at the gate of Europe, which for critical centuries held the East at bay through the long night of the Dark Ages.

This article was written by U.S. Army Lt. Col. Comer Plummer III, a Middle East Foreign Area officer with degrees in history and international relations, writes from Springfield, Va. For further reading, he highly recommends Byron Tsangadas' *The Fortifications and Defense of Constantinople*, noting: 'For a scholarly examination of the defenses of the city, it is unsurpassed. It also contains an excellent account of the defense of Constantinople in the Seventh and Eight Centuries.'

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