

ORAN'S FORGOTTEN FORT: HISTORICAL, ARCHITECTURAL AND HERITAGE ISSUES

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1. Introduction

With the rapid urbanization of modern cities, preserving historical and architectural heritage has become a key challenge. This is especially true in expanding cities, where urban development often clashes with the need to protect the past. Heritage conservation is essential, not only for its cultural and symbolic value but also as a witness to past changes and social dynamics [1]. In a globalized world, cities strive to balance modernization with the need to preserve their history, identity, and cultural roots. This tension is particularly visible in historic cities, where old buildings, often altered by urban transformations, remain fragile witnesses of a bygone era.

Oran, a coastal city in Algeria, is a unique historical and cultural crossroads. It has been shaped by Arab, Spanish, Ottoman, and French influences and, as a port city, has been a place of confrontation and coexistence between these cultures.

Its architectural heritage reflects this diversity, from Spanish fortifications to Ottoman buildings, as well as the imprint of French colonization and modern structures. While rich, this diversity has posed challenges for heritage preservation, especially in the face of rapid urban transformations, threatening the integrity of some historical sites. San Fernando, a Spanish fort from the 18th century, is a precious testimony to the military architecture of the city of Oran.

Our research led to the discovery of this fortification, which had long been buried under buildings, thereby refuting a number of previous hypotheses, particularly those concerning its location and supposed disappearance. The discovery provides a unique opportunity to re-examine its strategic role in the complex defensive system of the city of Oran, to analyse the changes it has undergone over the centuries, and to consider strategies to ensure its preservation in today's urban context. The central theme of this research can be divided into two complementary directions.

- a. How was the fort found, and how does this discovery help to correct the errors of previous research into its location?
- b. How can its strategic role in the military system be reconstructed, and how can this understanding help us to face up to the contemporary challenges linked to its preservation, in the face of the changes to which the fort has been exposed and the needs of the local population?

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To answer these questions, the main objectives of this study are:

- a. To reposition the fort accurately within the urban landscape of Oran on the basis of historical and cartographic data.
- b. To retrace the history of the fort since it was built, and to highlight its strategic role in the city's defensive system during the Spanish occupation (1509-1792).
- c. To analyse the changes that the fort has undergone over the centuries, particularly under French colonization (1830-1962) and after Algerian independence, while exploring the contemporary challenges of preserving and developing it in the face of informal urbanization and the needs of local residents.

2. Rediscovering San Fernando: approaches and methods of investigation

This study is a continuation of our earlier work on the Spanish military architecture of the city of Oran [2]. The aim of this work was to identify all the elements that made up the city's defense system and to demonstrate that these elements were interconnected by various types of physical, functional and strategic relationships, forming a complex defensive system. San Fernando was fully in line with this systemic logic and occupied a prominent position within this defensive complex: it was the furthest structure away from the walled city, constituting an advanced vanguard facing the enemy lines and was therefore the most exposed to attack. Although the existence of this fort was documented in historical sources, its current location and state of preservation remained unknown until now.

This uncertainty had led to the widely accepted assumption that it had been completely destroyed over time. In our previous research, we ourselves were convinced that it had disappeared, in the absence of any tangible evidence to pinpoint its location [3]. Since then, other studies have been dedicated to the Spanish defensive system of Oran, viewed from different angles, and presented in the form of magister or doctoral theses, books or city guides. A reading of these works has shown that some of them have looked at Fort San Fernando mainly through the examination of historical, written and cartographic sources. In M.A. Khelifa's Magister thesis on the History of the Fortifications of Oran [4] the author presents, for the forts, a historical description accompanied by photographs of the structures that are still standing. However, with regard to San Fernando, the description is limited to a historical presentation. No recent illustrations are provided, and the fort's current existence is neither mentioned nor confirmed. Other works have come to a wrong conclusion. First, the guide to the historic monuments and natural sites of Oran, published by the Bel Horizon association [5]; a part of the guide concerns the presentation of the advanced forts that have survived, including San Fernando.

The fort is represented on page 44 by a photo of an ancient vestige located on the road below the ravine (Figure 1A). However, this identification is incorrect, as the image in question in no way corresponds to Fort San Fernando. The fort is actually at the top of the ravine, as shown on Spanish maps, where it is surrounded by glacis. This strategic position was chosen to optimize the defense of the site. The same error appears in S. Metair's book on the fortified city of Oran during the Spanish and French occupations [6]. The book is based on the author's doctoral thesis on the bastioned defensive system of Oran [7]. In the section of the book dedicated to the external defenses of San Felipe, on pages 113-114, there is the same photo of a roadside vestige with the title "Vestiges of San Fernando".

Lastly, we refer to the work of S. Niar, in which we find the same erroneous location of the fort. In his doctoral thesis, presented in 2023, on the defensive system of the city of Oran [8], a photo on page 110 shows the same vestige beside the road, with the following caption, “*los restos del fuerte San Fernando*”, the vestiges of Fort San Fernando (Figure 1B and C).



Figure 1. The same erroneous location of the fort in various works. A) The vestige is located at the bottom of the ravine while the fort is situated at the top of the ravine (source: Google maps 2024); B and C) false location of the vestige (source: Author, 2024).

Such a statement, formulated without a rigorous verification of sources and without a thorough analysis of the site, can affect the credibility of the research.

In a field as precise as the study of historic fortifications, the exactitude of information is essential. An error in location, repeated in several publications, risks confusing other researchers, altering the interpretation of the heritage and affecting future studies on the subject. Our investigation, therefore, both complements previous research and refutes erroneous conclusions about its location. The methodological approach was based on a combination of cartographic analysis, aerial observation and field exploration.

1. Studying and interpreting 18th-century topographical maps and plans was the first crucial step in determining the precise location of the fort. On Spanish maps, the scale is expressed in *toises*¹. According to the scale, the distance between San Fernando and the San Felipe castle, whose current location is known, is 125 *toises*, which corresponds to around 250m. This distance is corroborated by written sources, which place San Fernando fort 300 *varas*² from San Felipe castle, or approximately 250m [9]. By superposing the historical maps on a contemporary map, adjusting the scale and reporting the measurement found, we were able to delimit a specific area (Figure 2).
2. Analysis of an aerial photograph then confirmed these results, revealing an atypical structure in the urban fabric. In contrast to the regular layout of the surrounding streets, an arched street caught our attention. This irregular layout seemed to lead to a space with no continuity, suggesting a break in spatial organization. This unusual configuration could indicate an area of particular interest, perhaps linked to a defensive structure. By comparing this image with the Spanish map (Figure 3B), we found that this shape corresponds to that of the San Fernando fort, reinforcing the hypothesis of a precise location.



Figure 2. Aerial photo of Oran. A) The port and the old city (Oran intra-muros), San Felipe Castle and the study area; B) delimitation of specific study area, located 250 meters away from San Felipe castle (source: Google Earth 2025).

This aerial view enabled us to target an area of interest more precisely, with features compatible with the cartographic descriptions of the fort (Figure 3).

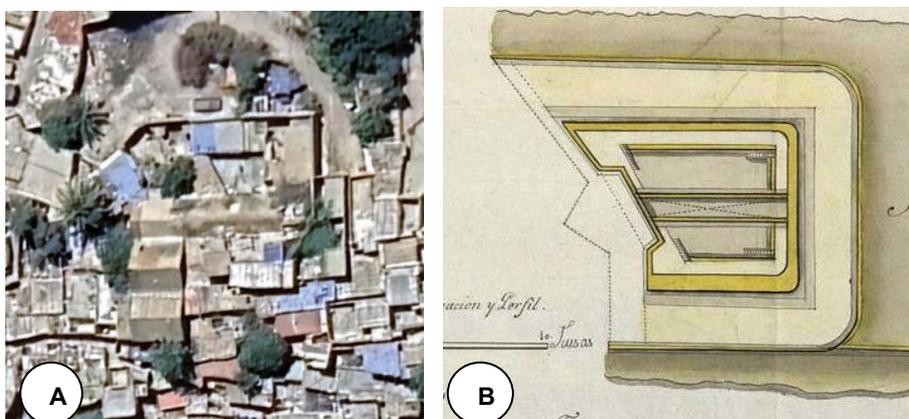


Figure 3. Similarity in appearance. A) Aerial photo (source: Google Earth 2025); B) plan of San Fernando, 1734 (source: Ministry of Culture, state archives, Spain³).

3. A site visit was organized to verify the hypothesis formulated on the basis of the cartographic analyses and aerial observations. As we approached the site, an im-

posing blind wall structure, massive and continuous, with a cylindrical shape, immediately caught our attention. It was like an elongated cylinder with a parabolic curve at the top (Figure 4). What we had identified from a distance, via the satellite view, was materializing before our eyes, confirming our hypothesis.

We first tried to reach the structure but were unable to do so because of the informal buildings surrounding it. After much interaction with neighbors unaware of the fort, we finally accessed a house courtyard.

From there, its curved shape made the structure immediately identifiable.

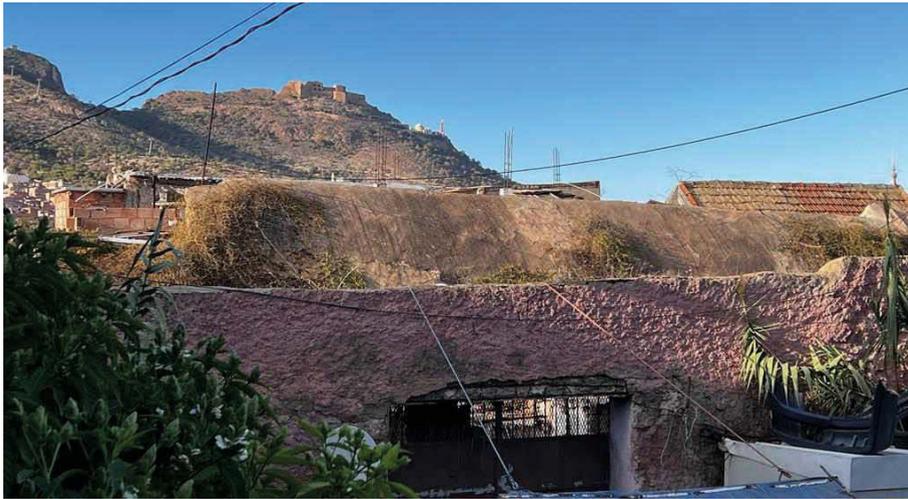


Figure 4. Massive, long, parabolic-shaped structure of the fort of San Fernando (source: Author, 2024).

Exploring the interior of the structure confirmed our hypothesis: we were definitely in the presence of San Fernando fort.

This identification was based on the striking similarity between the interior architecture, which revealed a vaulted structure, and a profile⁴ shown on a Spanish plan of the fort dating from 1734 (Figure 5).

Inside the vaulted space, we took measurements. The width is approximately 3m. We then compared this measurement with that shown on the 1734 plan, where the scale is given in *tuesas*. On this plan, the measured width is 1.5 *tuesas*, or approximately 3m. The thickness of the wall, 0.94m, could be measured through the window opening, showing how solid it is. For us, this was an additional verification detail (Figure 6). This archaeological discovery confirms the physical existence of the fort and provides tangible proof of its location.

Beyond these technical aspects, it was now essential to place this edifice in its historical context to help us better understand its role, its evolution over time and its strategic importance in the area.

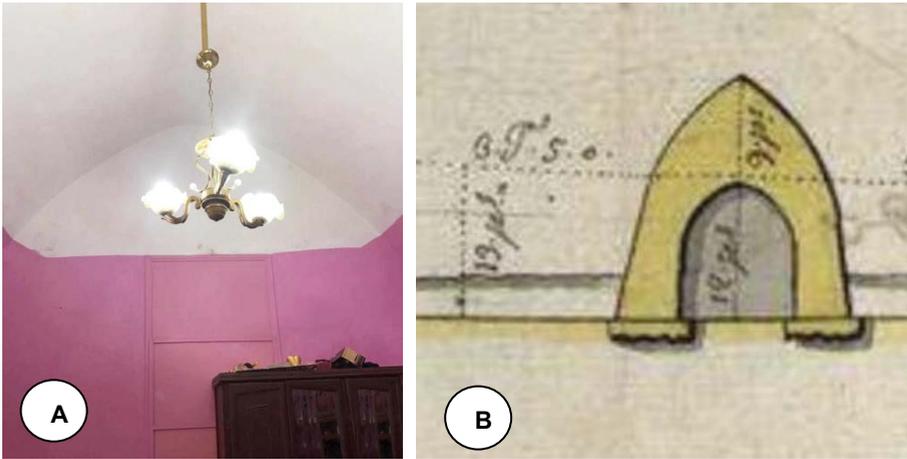


Figure 5. Similarity in appearance. A) Interior of the vault (source: Author 2025); B) profiles of the Fort of San Fernando in Oran, Oran 1734 (source: Ministry of Culture, state archives, Spain⁴).



Figure 6. Metric measurements revealing the thickness of the wall. A) The base of the doorway; B) window width (source: Author, 2024).

3. The evolution of Oran's fortifications during the Spanish occupation and the position of the fort in the defensive system

Oran, founded in 902 by Andalusian sailors, evolved under several dynasties, including the Fatimids, Umayyads, Almohads, and Marinids. At the beginning of the 16th century, the Spanish consolidated their presence in the Mediterranean with five North

African *presidios* (strongholds): Oran and Mers-El-Kébir in Algeria, Melilla, Alhucemas and Ceuta in Morocco [10] (Figure 7). Situated near a harbor, Oran is protected to the west by the foothills of a mountain. It was built on the left bank of a deep ravine, through which flowed the river that fed the town and its gardens. Originally, Oran was surrounded by high walls and dominated by a citadel. It was protected by two towers overlooking the sea⁵. Believing that the existing defences were insufficient, the Spanish strengthened the city walls and the towers already in place. They also added new *castillos* (castles), fortified castles around the first perimeter wall [11]. On the right bank of the ravine, they built “la Tour des Saints”, which later became Castillo San Felipe, situated at a distance from the walled city, to strengthen the defence and protect the spring that brought water to the city.

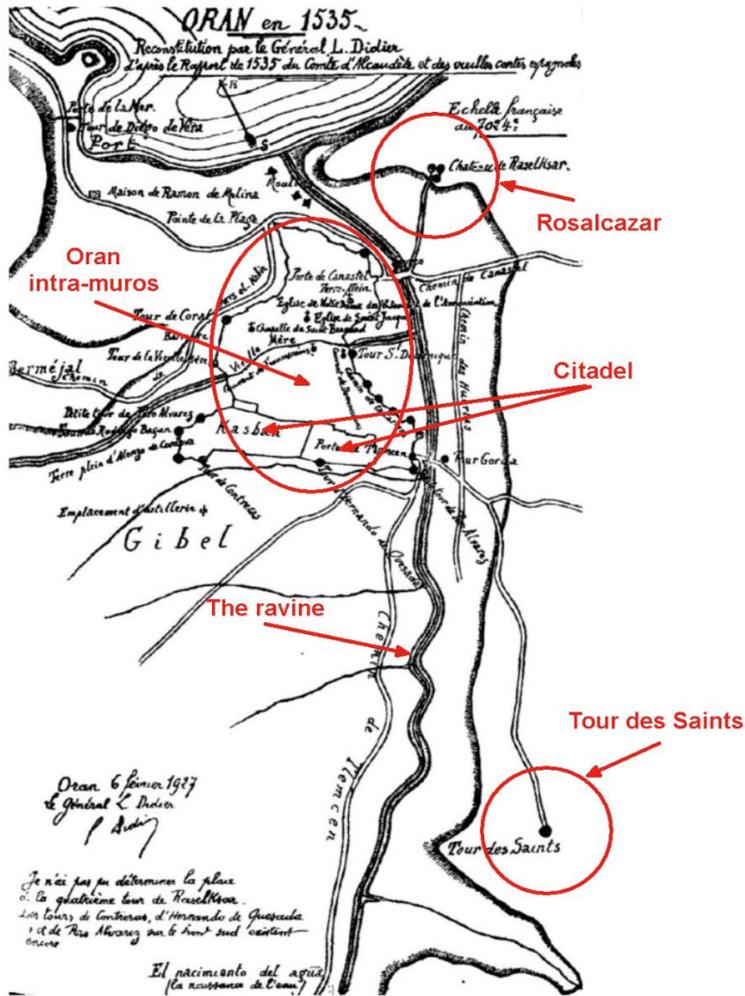


Figure 7. Oran in 1535, Général L. Didier [12].

Despite these reforms, the city had to contend with several sieges that put its resistance to the test. During these various sieges, the attackers were content to take *la Tour des Saints*, which was the most exposed, before retreating when opposing reinforcements arrived. In 1555, Hassan Pacha⁷ captured the Tower but withdrew the following year. During the siege of 1563 he captured it again before withdrawing once more in the presence of Spanish reinforcements [11]. In 1676, Arab-Turkish troops also took the tower before withdrawing. These repeated attacks highlighted the vulnerability of the Tour des Saints. In response, it was reformed, enlarged and renamed Castillo San Felipe.

Oran was first liberated in 1708 by Arab-Turkish troops. After a strict siege, the attackers isolated the town by using trenches to cut off communications with the castles, vegetable gardens and the port. To cut off the water supply at source, they tried to destroy San Felipe castle, which protected the source, by breaking into its courtyard through a tunnel dug under the ramparts. They then attacked the other castles and, finally, the walled city [13].

However, the recapture of the town by the Arab-Turkish troops was short-lived. In 1732, the Spanish retook Oran. Faced with the vulnerabilities revealed by previous sieges, they strengthened the city's defenses by extending the defensive lines and establishing connections between them.

San Fernando was part of this *dispersed fortification* system which was made up of several lines of defense. The first line surrounded the city. The second line comprised the large *castillos* or fortified castles: Santa Cruz, San Gregorio on the mountain and Rosalcazar, San Andres and San Felipe on the right bank of the ravine. The third line consisted of the forts detached from these castles, including San Fernando and San Carlos, which, although they were detached from San Felipe geographically, remained entirely dependent on it strategically. Finally, a fourth line of watchtowers and guard posts completed the ensemble.

Underground galleries and fortified walls linking the various elements completed the system, providing an effective defense against repeated attacks. A topographical plan of Oran⁸ clearly illustrates these lines of defense. The first line is that of the walled city (in white), followed by the castles (in yellow), and then the forts (in red) and finally, the towers and lookout posts, which make up the last line of defense (indicated by the green points) (Figure 8).

In this organization, which took the form of successive lines of defence, each defensive element had a precise role [14]. The line of advanced forts ensured the defense of the town while slowing down the approach of the enemy artillery.

The location of Fort San Fernando in this advanced line was strategically chosen, placing it in the firing zone between San Felipe Castle and the position occupied by the attackers. The fort thus acted as a barrier to enemy fire, protecting the castle and delaying the assault.

As soon as Oran was retaken in 1732, San Fernando was hurriedly built using materials that were not very durable and with an imperfect layout, and rebuilt in 1734, under the direction of Juan Ballester and José Vallejo⁹.

Their priority was to improve its solidity [15]. A plan drawn up that same year proposed a vast expansion project for the San Felipe castle and its two detached forts, San Carlos and San Fernando. It also illustrated the general state of this area, which was the most vulnerable due to its exposed position and proximity to the water source that supplied the town (Figure 9).

A commemorative plaque at the entrance to the fort informed people it was built in 1734 under the reign of Philip V, and was constructed by D. José Vallejo, military chevalier of Saint-Jacques [16].

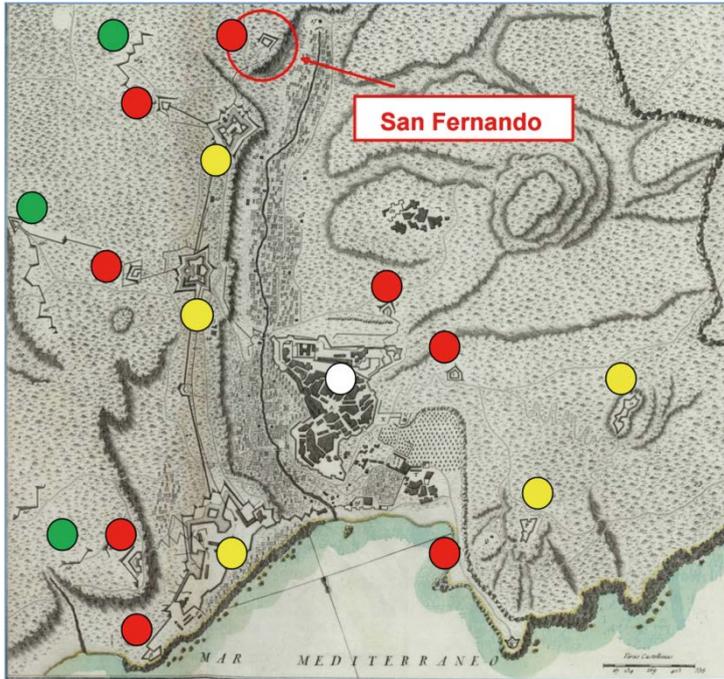


Figure 8. Lines of defence organised in succession in Oran (white=walled city; yellow=castles; red=forts; green=towers and lookout posts) (source: BNM, SC, M. II, B6)⁸.

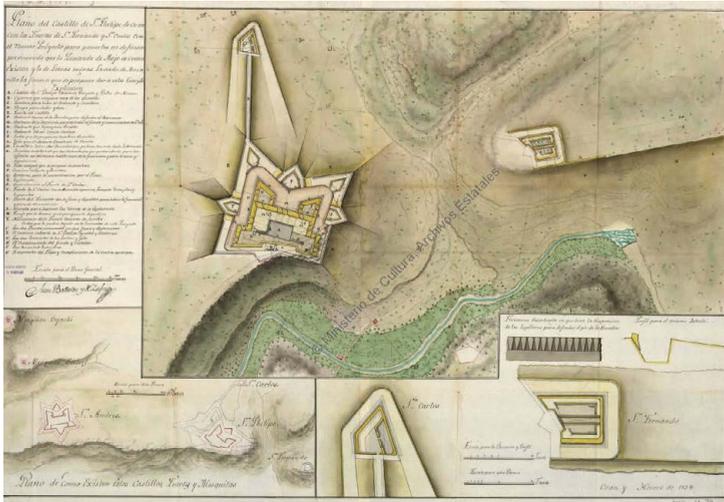


Figure 9. Plan of the Castle of San Felipe in Oran with the Forts of San Fernando and San Carlos, including the new project, 1734 (source: Ministry of Culture, state archives, Spain⁹).

The fort of San Fernando, a dependency of San Felipe castle¹⁰, is located approximately 250m from the latter, on the same side of the ravine on the right bank. The military report written in 1772 by the engineer Hontabat¹¹ tells us that it was armed with musketry, rampart rifles and a 15-inch pierrier, a type of small cannon (15-inch refers to a large-caliber model with a bore diameter of approximately 40 cm) and could accommodate up to 70 men [17]. The fort is almost square. It has a wide, deep moat, vast outer glacis and a solid vault designed to withstand bombs. The gate and drawbridge were protected by two small flanks, and the gorge of the fort was equipped with palisades. These improvements were made in response to the constraints of the terrain, using a large quantity of earth to stabilize its foundations. The right-hand side of the fort was steepened to provide better visibility and defend against attacks from the ravine [18]. The legend on the plan mentions the bomb-proof vault, reinforced to protect the garrison, the lined moat that surrounded the fort, an inner platform, embanked walls, palisades, firing embrasures and a drawbridge. The glacis of the deep ravine provided a smooth, inclined surface designed to give clear visibility and so expose approaching enemies (Figure 10).

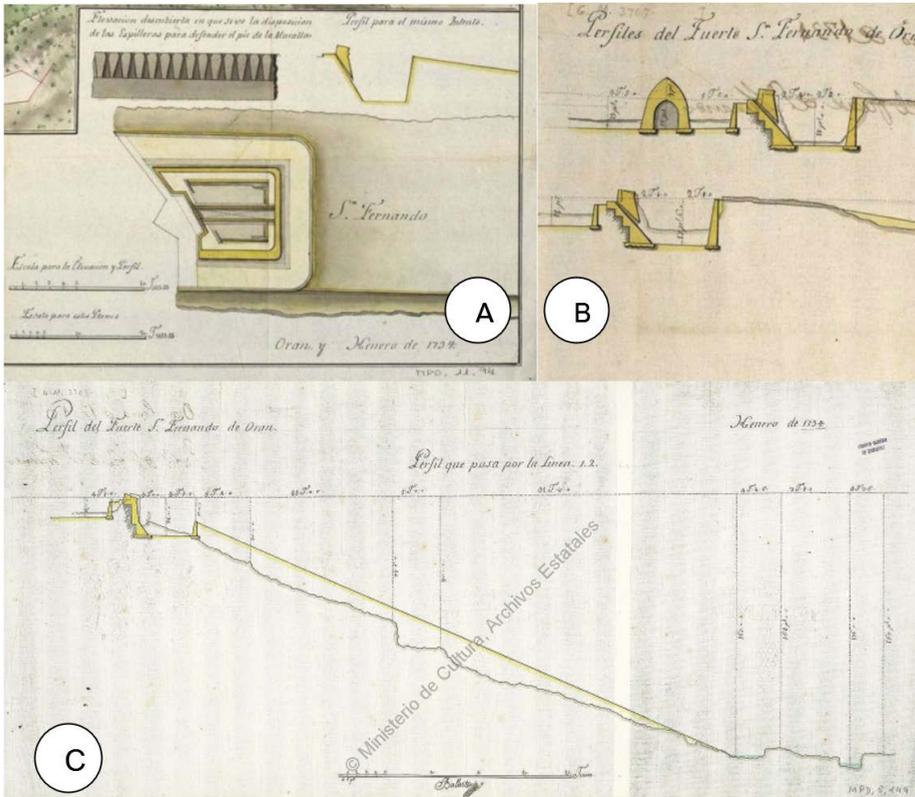


Figure 10. A) San Fernando plan, 1734 (source: Ministry of Culture: state archives - Spain³); B) cross-section of vault, embankment and moat, 1734 (source: Ministry of Culture: state archives, Spain⁴); C) cross-section of moat and glacis, 1734 (source: Ministry of Culture and sports: state archives, Spain¹²).

The San Fernando fort was connected to San Felipe castle by an underground gallery¹³. In 1775, the subterranean gallery circuit was extended. A plan drawn up by Masdeu y Troncoso¹⁴ that year shows the major expansion of these galleries. The plan describes in detail the tangle of old and new galleries.

The complex tangle under and around the fort shows the strategic importance of this small fort as the vanguard of the city's eastern fortifications. Along with *Torre del Nacimiento*¹⁵ - a tower built in 1746 to protect the natural spring that was the town's only source of water - it was a vulnerable point in any attack on the defensive system. Hence the importance of these galleries, which prevented the attacker from digging further tunnels that could destroy the fortress walls. The galleries also provided quick, undercover access to the San Felipe castle.

On the night of 8-9 October 1790, a powerful earthquake devastated the town, killing 700 people. Arab-Turkish troops laid siege to the town four days after the disaster. The final signing of a treaty between Spain and the Regency of Algiers put an end to almost three centuries of Spanish occupation. The year 1792 marked the liberation of the city. However, it was short-lived, as forty years later, Oran and Algeria fell under French domination, marking the start of a new colonial era that was to last 130 years.

4. Mutation of the San Fernando fort

4.1. Colonial period

The period of French colonization marked a turning point in the fort's history. Although the archives are limited, a plan from 1833 shows the area where the fort stands, surrounded by a rectangular shape, the same as that found at the site of Saint Philippe¹⁶. This plan highlights the military installations, suggesting that the fort was reused for military purposes to respond to the strategic needs of the time.

A testimonial from the present inhabitant¹⁷ of the fort, a native of the site confirms that the fort served as a powder magazine during the colonial period, a credible use given the strong resistance of the vault to explosions. After this military function, the fort moved into a new phase of occupation. Written sources are rare, with the exception of *Pestemaldjoglou* [19], which mentions that the fort was used as a residence. According to the present inhabitant, a family of Spanish origin later occupied the fort, changing its use by turning it into a farm. The family built a house with sloping roofs, which has survived to the present day, the entrance to which opens onto a first room, giving access to the fort. The moats, once used for defensive purposes, were also incorporated into this transformation by becoming part of the farmhouse, thus delimiting the entire property. These changes reflect the gradual adaptation of the fort to residential and agricultural uses. This evolution, which began during French colonization and continued with the arrival of an Algerian family, illustrates the many metamorphoses that the site has undergone.

4.2. Post-independence period

When Algeria became independent in 1962, the departure of the Europeans left many houses and properties vacant. The fort, which had been converted into a farm during French colonization, was also occupied. Initially, according to the testimony of the current resident, some Algerian families occupied the fort, sharing the various parts of the farm. The second generation, born on the property, grew up in this envi-

ronment. Sharing the outdoor areas of the old farm, they built informal houses against the walls of the fort and the moat, obstructing access and visibility. Today, the fort is only visible from the outside via its roof and a courtyard that marks the adjacent entrances. Over time, other families arrived and established themselves in the surrounding area. The glacis, which used to run down to the bottom of the ravine, is now entirely occupied informally. This evolution illustrates how the fort has been transformed over the decades to satisfy residential uses, while losing much of its original function and appearance (Figure 11A).

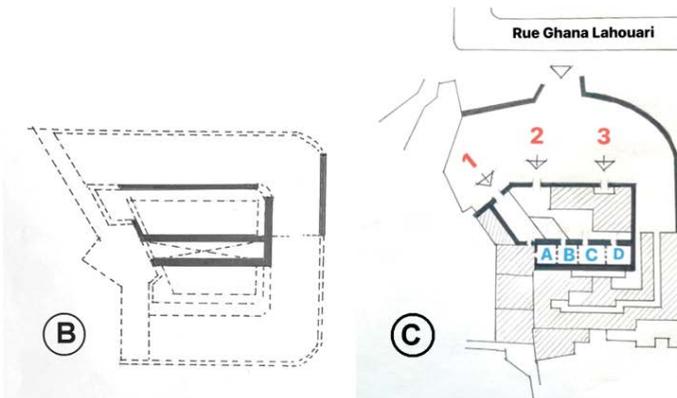


Figure 11. Transformation over the decades. A) The fort today: photo taken from the terrace of a building facing it (source: Author, 2025); B) original structure and permanent elements; C) different accesses and distribution of space within the redoubt (source: Author, 2025).

4.3. Residential occupation and current state of conservation of the fort

4.3.1. Residential occupation within the fort: platform and vaulted redoubt

Originally, the fort consisted of a central vaulted area, a “redoubt”¹⁸ surrounded by a platform. A raised curtain wall, accessed by steps, surrounded the fort and served for surveillance and defence, reinforced by an enclosure and moat (Figure 11B). Today, access to this complex is limited to a single entry point, located on the street «rue Ghe-na Lahouari», previously «rue Bayard» (Figure 11C). From the street, we enter the site, located on a lower level, via a gentle slope. We are in the space corresponding to the moat. Opposite, on the supposed enclosure wall, which is 50 cm thick and follows the line of the moat, are three access gates 1, 2 and 3 (Figure 11C). Gate 1 opens onto a courtyard corresponding to part of the old platform. Part of the façade of the redoubt can be seen from here. Access to the vaulted space is via the colonial house that adjoins it on one side. This is the first area of the redoubt, consisting of a beautiful, vaulted space (indicated in section A in Figure 11C) with a window overlooking the courtyard. The space is lit by a window piercing the wall, which appears to be original. This space is separated from the rest by a partition with a locked door - because behind it is a room occupied by another family - believed to be from the colonial era (Figure 12A).



Figure 12. Vaulted areas inside the redoubt. A) Area A: A vaulted residential interior with a locked door leading to another section occupied by a different family; B) area B: residential interior showing vault and locked door located on the other side of the partition wall; C) area B: the same space with a view of the door leading to a large area, the main room; D) area C: showing the main room with its high ceiling and double ribbed vaulting with access to the courtyard.”(source: Author, 2025).

Gate 2 also leads inside the platform which has been converted into a courtyard. From here, the rest of the front facade of the redoubt is visible; two families occupy this part of the fort, which consists of a two-bedroom dwelling for the first family, built on the platform, with a door and windows opening directly onto the courtyard. The remaining space of the redoubt, as well as a dwelling adjoining it, is occupied by the second family. Access to the vaulted redoubt can be gained from 3 points: from the building adjoining the redoubt, used as an entrance hall and kitchen; from here, the vaulted redoubt (B in Figure 11C) is entered through a doorway leading to a beautiful, vaulted area (Figure 12 B and 12C). From the courtyard there is access to a second, larger space (C in Figure 11C) consisting of a remarkable, elegant living area (Figure 12D) with intersecting barrel vaults and cross arches (Figure 13 A), creating an impressively high ceiling at their central cross point (Figure 12D); the doorway, which resembles the others, is however set in a frame that suggests it was much larger and may have been the fort's main entrance during the Spanish occupation (Figure 13B).



Figure 13. A) Architectural detail, cross arches; B) entrance to the main vaulted area (source: Author, 2025).

The two rooms we have just mentioned, separated by a partition wall, are connected by a door. Another access, located at the far end of this courtyard, leads to the last space in the vaulted interior (D in Figure 11C), which is currently used as a store-room. Each of these three areas has a window cut into the wall.

4.3.2. State of conservation of the vaulted redoubt

The vaulted redoubt, approximately 3 metres wide and over 20 metres long, is divided into several adjoining spaces. These are currently used as living rooms and are

home to two separate families. Designated in the Spanish plans as a bomb-proof vault, it is a military construction designed to withstand assaults. Its massive walls are almost a metre thick at window level and over a metre thick at the base, testifying to its exceptional solidity. There are three doors on the outside of the storeroom, all of which appear to be original, thus preserving the architectural features of the period. The space has four windows: three date from before independence, while the fourth was added afterwards by the occupying family. All the openings (4 doors and 4 windows) show the impressive thickness of the walls, highlighting both the strength and the defensive function of the vault. Gate 3 provides access to the dwelling of a family occupying another part of the platform. The dwelling, built directly on the platform, has openings (windows) that face exclusively onto the moat. The rear facade of the vaulted space has no openings. It is largely hidden by houses attached to its structure. However, the upper part of this facade remains clear and accessible from a terrace belonging to another family, who occupy a significant portion of the rear platform of the fort (Figure 14).



Figure 14. Terrace adjoining the upper part of the 'redoubt', accessible by a staircase. A) This photo shows a section of the terrace along with the upper part of the 'redoubt'; B) photo showing the upper part of the 'redoubt' along its entire length (source: Author, 2025).

4.3.3. Residential occupation of the moat and the glacis

At the bottom of the site, the rear side of the moat is occupied in its entirety (Figure 11C); it is accessed via a shared gateway and a distribution route serving the spontaneous dwellings built on the moat (Figure 15A). The wall is partially integrated into the structure of the informal houses, thus modifying its original role. Another notable aspect of the site's development is the emergence of a maze of unauthorized structures lining both sides of a winding path that descends through the ravine. These constructions encroach upon the fort's glacis, tracing its slope all the way to the road-side (Figure 15B).

5. Contemporary challenges and issues

The fort, located in the heart of a popular district, now faces major conservation challenges. The precarious buildings that are being built around the site are encroaching on it, threatening the integrity of the monument. What is more, the needs of the residents, who have gradually taken over the site, must be taken into account in any rehabilitation process. This raises the question of how to reconcile heritage preservation with current social and urban demands. Historical precedents, such as the cases of Santiago and San Pedro, recently “rediscovered” forts²⁰, illustrate how ethical relocation solutions can be put in place to move residents living illegally on heritage sites. These solutions make it possible to protect both people and heritage, despite the fact that these sites are currently abandoned due to the absence of long-term development projects.



Figure 15. A) The moat and the houses built against it; B) expansion and development of spontaneous housing on the ravine slope of the fort of San Fernando (source: Authors, 2024).

This approach could be applied to the fort in question, in order to preserve its character while meeting the needs of the inhabitants. The authenticity and integrity of the structure must also be taken into account. Once the fort has been freed of informal buildings, its state of conservation must be evaluated. Any transformations that the fort may have undergone, whether due to the passage of time or human intervention, must be respected in the restoration process, while preserving the essential historical elements. The history of the current occupants, whether squatters or informal residents, also needs to be considered. The changes made by these occupants tell a story of resilience and social adaptation, which could become part of the fort's collective memory. It is crucial that the project to rehabilitate the fort should not be limited to

architectural restoration. The fort must be integrated into its urban environment in a holistic way, with a social, historical and community approach. This would ensure its long-term success and avoid the mistakes of the past, when some sites were abandoned without any real plan to reintegrate them into the urban fabric.

The fort's location in a popular district is a major advantage for its social and urban integration. Unlike isolated forts¹⁸, this fort has the potential to play a central role in the local dynamic. It could be transformed into a cultural centre, a place of remembrance or a multifunctional public space. It would also be appropriate to create links with other historic military sites in the city. As a witness to Oran's military history, the fort also has a high historical value. It is one of the last physical remains of the third line of the city's defensive system. It would be judicious to envisage transversal enhancement projects, such as the creation of a historical itinerary linking this fort to the other forts in the city, with explanatory panels, guided tours or events. This would give the local community a better understanding of its past, while at the same time enhancing the history of the district. Finally, the integration of the fort into the dense neighborhood surrounding it raises urban planning issues. Thought needs to be given to the position of the fort in the local dynamic, ensuring that its development does not disturb the social balance of the neighborhood. The fort could thus become a cultural lighthouse, offering activities that are accessible to all and ensuring inclusive access for local residents. This would maintain a balance between heritage preservation and social development, while ensuring that the fort remains a living place, in harmony with its environment and community. The fort also holds educational potential, serving as a tool for sharing historical and cultural knowledge. This process of enhancement and preservation could strengthen the social and cultural cohesion of the local population, while creating a bridge between history, memory, modernity and education.

6. Conclusion

The rediscovery of Fort San Fernando in Oran goes far beyond a simple geographical and historical re-evaluation of a long-ignored site. It highlights the strategic importance of this fortification in the Spanish defensive system of the eighteenth century while underlining the transformations it underwent under French colonization and after Algeria's independence. This study completes and corrects the errors of previous research, particularly with regard to its location, and highlights the need to preserve this heritage in the face of contemporary challenges.

The fort, which bears witness to the Spanish occupation, provides a new understanding of the town's military history, enriching its visual and cultural identity.

The study of the fort and its surroundings was based on several complementary approaches: historical analysis, examination of period plans and comparison of old topographical maps with observations made in the field. This approach has enabled us to gain a better understanding of how the site was organized, to identify its various structures and to locate the vestiges that are still visible. By refining our knowledge of the site, it helps us to take better charge of its conservation and to put in place appropriate strategies to ensure its long-term preservation.

Notes

- ¹ The toesa is an old unit of length: 1 toesa = 1.949m.
- ² The vara is an old unit of length: 1 vara = 0,835m.
- ³ Plano del Castillo de San Felipe y de los Fuertes de San Carlos y San Fernando, in Oran, 1734, AGS (Archivo General de Simancas); MPD, XI-94.
- ⁴ Perfiles del fuerte de San Fernando de Oran (Henero de 1734), Ballester, Juan Oran 1734, AGS (Archivo General de Simancas); MPD, XII-62.
- ⁵ The 2 towers were Bordj el Ahmar and Bodj el Marsa. Bordj el Ahmar, overlooking the sea, still exists and is integrated into a large fortress called Rosalcazar. Bordj el Marsa was in a port, 7 km from Oran.
- ⁶ Histoire d'Oran: période de 1501 à 1550 by Général L. Didier, 1927.
- ⁷ Hassan Pacha, son of Barbarossa, was the Ottoman governor of Algiers in the 16th century. He defended the city against Charles V and fought the Spanish to expand Ottoman rule.
- ⁸ Plano topografico de la ciudad, plaza y presidio de Oran. Sus castillos, Fuertes, torres, etc. BNM (Biblioteca Nacional de Madrid), sec. *cartografia*, M.II/B.6.
- ⁹ Juan Ballester, a Spanish engineer, expanded several forts, including Santa Cruz castle and San Felipe, and designed others like San Carlos and San Pedro. Don Jose Vallejo was Governor of Oran from 1733 to 1738. He strengthened the city's defenses and wrote a report on the condition and value of the place of Oran and Mers-el-Kébir, translated and annotated by Pellecat in Bulletins de la Société de Géographie et d'Archéologie de la Province d'Oran, 1926.
- ¹⁰ The castles on the right bank of the ravine each had their own detached forts: San Miguel and Santa Teresa forts for Rosalcazar castle, San Luis for San Andres Castle, San Carlos and San Fernando for San Felipe Castle. The citadel also had detached forts: San Pedro and Santiago forts.
- ¹¹ Don Arnaldo Hontabat, a military engineer who left important traces of his activity in Oran around 1770.
- ¹² Perfil del fuerte de San Fernando de Orán (1734), AGS (Archivo General de Simancas); MPD, V-149.
- ¹³ A 1733 plan, by Antonio de Montaignu, outlines the expansion of San Felipe Castle and San Fernando fort. It mentions an underground gallery connecting the fort to the castle on one side and to the water source on the other.
- ¹⁴ Masdeu and Troncoso are military engineers who worked in Oran to improve the forts of San Carlos, San Fernando and San Miguel.
- ¹⁵ Torre del Nacimiento: the structure was built to strengthen security and protect the source of water that supplied the city, located at its base.
- ¹⁶ Plan d'Oran et de ses environs en 1833
<https://gallica.bnf.fr/ark:/12148/btv1b53063814b/f1.highres>
- ¹⁷ A septuagenarian who was born and grew up nearby and whose parents occupied the fort after independence.
- ¹⁸ Redoubt, "reducto" in Spanish, refers to a stronghold, a small fortification, a kind of isolated fort or bastion, depending strategically of a larger fortification.
- ¹⁹ Santiago and San Pedro are advanced forts of the citadel. They were both hidden by informal housing and were cleared of the buildings in the 2000s.
- ²⁰ They are now abandoned. No redevelopment projects have been proposed.

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Biographical notes

Radja Ferhat is an architect, teacher and Ph.D candidate. She holds a master's degree in preservation and enhancement of historical sites and monuments from the Polytechnical School of Architecture and Urbanism in Algiers, where she specialized in Spanish military architecture of the city of Oran. Her doctoral research focuses on this subject, combining expertise in heritage preservation and knowledge sharing.

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Summary

Oran, an Algerian city with a rich past, has a diverse architectural heritage, blending Andalusian, Ottoman, Spanish and French influences. Among its treasures is the defensive system designed by the Spanish during their occupation of the city between the 16th and 18th centuries, which bears witness to its rich military heritage. This study is based on a revisiting of Fort San Fernando, a Spanish military structure that has long been considered lost. Thanks to a rigorous research method combining the analysis of written and iconographic historical sources with field investigation, we have been able to locate the fort, thereby refuting preconceived ideas about its alleged disappearance, as well as unfounded claims about its location. The analysis enabled us to document the fort and reassess its strategic role in the Spanish military system. The study also examined how the fort has changed over the centuries, from the departure of the Spanish to the present day, and suggested ways in which it might be preserved and exploited in the long term.

Riassunto

Oran è una città algerina dotata di un ricco passato, con un patrimonio architettonico diversificato, che fonde influenze andaluse, ottomane, spagnole e francesi. Tra i suoi tesori c'è il sistema difensivo progettato dagli spagnoli durante la loro occupazione della città tra il XVI e il XVIII secolo, che testimonia il suo ricco patrimonio militare. Questo studio si basa su una rivisitazione del Forte San Fernando, una struttura militare spagnola che è stata a lungo considerata perduta. Grazie a un rigoroso metodo di ricerca che combina l'analisi di fonti storiche scritte e iconografiche con indagini sul campo, siamo stati in grado di localizzare il forte, confutando così idee preconconcette sulla sua presunta scomparsa, così come affermazioni infondate sulla sua posizione. Questa analisi ci ha permesso di documentare il forte e rivalutare il suo ruolo strategico nel sistema militare spagnolo. Lo studio ha anche esaminato come il forte è cambiato nel corso dei secoli, dalla partenza degli spagnoli fino ai giorni nostri, e ha suggerito modi in cui potrebbe essere preservato e sfruttato a lungo termine.