# **Historical-Military Route** of Funchal City Centre

This route, divided in two parts, starts off with ten themes that allow an introduction to the trajectory that the visitor can find in the back of this leaflet. Along the 17 stops, we present several landmarks from Funchal's History, Architecture and Culture. Alongside the illustrations, the maps and the photography, we have enriched your experience with a glossary that will make your journey more complete. Accept the challenge and discover six fascinating centuries in this Historical-Military Route.



/iew of the harbour and city of Funchal taken of the bay, watercolor drawing by Thomas Hearne, 1772, Museum "A Cidade do Acúcar", Funcha



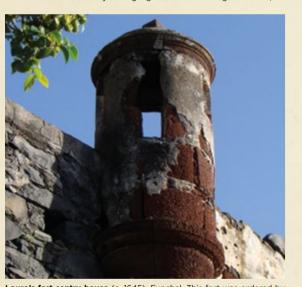
#### MAP OF FUNCHAL (XVIII CENTURY)

1. S. Lourenco fortress 2 · S. João Baptista do Pico fortres Sontiago fortress 4 · S. Pedro fort 5 · S. Filipe do Pelourinho for · Santo António de Alfândega for Old city doors



ional Maritime Museum (Londo

titution of the City's Wall and its fortresses in the end of the XVIII century over the current plant of the city of Funchal (2013). The location of 13



Louro's fort sentry-house (c. 1645), Funchal. This fort was ordered by ne merchant and owner Diogo Fernandes Branco, the father (1583-



The Peak Castle, from the Bay of Funchal (c.1812), watercolor lithograph by William Westall (1781-1850) and by John Pye (the engraver).



Lady in net in front of Pico fortress, in Funchal (1850). Oil painting over canvas by Eduard Hildebrandt (1818-1868), private

The defence and fortification of Madeira were revised in the late years later

merchant nobleman. As it was recorded the now demolished São Pedro New Fort, was erected on the beach in Funchal where Almirante fort to be erected in conjunction with the ones in Machico, Santa Cruz from the ones built during the previous century, although a new trianbattery whose side facing land was equipped with a collar turret, simin S. João Batista in Porto Moniz (built later in 1758).

With the construction works of Funchal's port and the engineers

In late XVIII, a new study concerning the island's defences took place. The forts of Gorgulho and Praia Formosa date from that time. The difficulties emerging from those years with the French Revolution and the Napoleonic wars did not allow any special construction work.

# Funchal, a fortified city

In less than 100 years of human occupation, it became a cosmopolitan centre, with several German, Italian and Flemish colonies, and a nearly compulsory passageway, given the prevailing winds, for the fleets sailing the South Atlantic that replenished here. In a way, it had also become an international business centre and, given the specifications of the sugarcane culture, a first experience in the international capitalism of the Modern Age. And so, on August 21st of 1508, it was the first city to be constituted by the Portuguese Crown in the wide domains of the Portuguese

Its establishment as a city by the King D. Manuel I, however, foresaw the administrative and religious reorganization of the new territories, for which the Order of Christ was responsible until then, to integrate them in the Crown. The supremacy of the Portuguese ships, in that era, also didn't assume the immediate necessity of special defensive tactics, and said necessity was only felt by the Funchal City Hall in the following decades upon the construction of defences against external threats. The changes in the North Atlantic board in the first half of the XVI century led to the construction of a first fortress in Funchal, on October 3rd of 1566 that would however be easily conquered by a French Huguenot force resulting in a 15 day pillage of the city. Met with the disaster, in the following decades consecutive defensive constructions arose, always associated to the reform of the urban network. According to the new international theoretical assumptions, between the late XVI century and the early XVII century, walls were raised alongside the main water stream and the front sea, inlaid by fortresses, enclosing the city. With the evolution of the threats, the defensive scheme was expanded in the early XVII century and in the transition between the XVIII and the XIX centuries, becoming obsolete by the late XIX century, a

period in which most of the walls were demolished. With the I and II World Wars arose coastal lines of defence and anti-aircraft defences, in line with the new international criteria, the latter inside the military units' service areas, but available for touring in agreement and coordination of Madeira's Military Museum





Drilling (military training in Madeira, lithograph from A History of Madeira With a Series of Twenty-Seven Coloured Engravings, ed. Rudolph Acke

#### The 1572 Fortification Regiment

In 1572, the King D. Sebastião sent a new fortification regiment, in which the city was wrapped in a sea-front along the streams of João Gomes (16) and São João (5) by rampart alignments, which would enclose on the hills of Pena and São João through small fortified positions. The City's central fortress was enlarged with the plan made by Mateus Fernandes for the upper nucleus of the Pena hill, but the final dimensions represented only a third of the initial projection. The final plan stayed with two twin pentagonal bulwarks (9) facing north, and a quadrangular one (11) protecting the western area, retaining the water spring which is the 1541 Johannine feature (8).

To serve as support to the main fortress, a small fortified bastion would be built, occupying the outlets of Santa Luzia and João Gomes water streams and constituting the future fort or fortress of S. Filipe in Pelourinho square (14), through the century-long unification process of both structures (13) The city area considered by D. Sebastião was a bit larger than the one considered by D. Manuel, that is, the oriental limitation of the city went from the Santa Luzia stream to the João Gomes one. However, the primitive Santa Maria do Calhau neighbourhood stayed outside the city limits, not being considered a part of the city and, therefore, only getting its fortified section years later (18)

In the summer of 1582, Filipe II sent forth from the Canary Islands the Count of Lançarote, D. Agostinho de Herrera y Rojas, in the face of the threats from D. Antonio's parish priest of Crato, whose fleets were stationed in the neighbouring Archipelago of the Azores. The Count's first concern was the safety of the island. He stated that the old fortress was a good residential palace (7), but was unfortunately surrounded by closer edifices and therefore rendered useless as a defensive bulwark. The new one, after the fort of São Filipe in Pelourinho square (14), was found in worse circumstance, having a poor location and being ill constructed.

The fortified regiment constructed 10 years prior was thus completely ineffective before the military confrontations of the opposing forces of Felipe II and D. António, parish priest of Crato, being both supported by thousands of French and English men. Funchal's defences were minimal considering the envisaged threats

#### The Expansion of the 1572 Regiment

The rampart expansion of Funchal's sea-front was done by Tristão Vaz da Veiga, when, in 1585, he took hold of the captaincy of Funchal, determining the fortified wall's extension upstream Some of this section is partially here to this day, opposing what is today the entrance of the hotel built on the ancient S. Tiago or Santa Maria Maior arsenal (18). The construction works confined with the reefs underneath the old Santiago Menor's Church, today the matrix of Santa Maria Maior or Socorro church, justifying a new construction there. S. Tiago's Fortress (19) must have been envisaged by Mateus Fernandes, but could have been redesigned after by Jerónimo Jorge, as he was sent from Lisbon to Madeira in 1595 after working on the constructions of S. Julião da Barra and Bugio's Fort.

Since the union of the two crowns, the western wall was being discussed as well as the additional construction of a fortress in Pico dos Frias (4), taller than the entire city and with control over the future S. Lourenco Fortress (7), having a project designed in 1582 or 1583 by Mateus Fernandes, still during the time of the Lançarote count. In late 1601, the situation led the governor Cristóvão Falcão de Sousa to send Funchal's Sergeant-Major, Roque Borges de Sousa, with a plan for the new fortification, presumably the old one designed by Mateus Fernandes, since Jerónimo Jorge was, at the time, working in the constructions of S. Julião da Barra in Lisbon. The fortress was soon built, the wooden structure alone, being already equipped in early 1602. During this century, the stone and lime were applied.

During the XVII century and with the crowning of D. João IV, the Alfândega military battery (12) would be built with a triangular bastion towards the sea, raised over the city's curtain. The Ilhéus Fortress (2), in the middle of Funchal's port, was designed as well in 1654 with direction from the royal master-builder Bartolomeu João. A network of modern fortresses, that is, fortifications with bastions, was thus consolidating with the characteristic placement of artillery on the terraces. The centre of command and the residence of the governor was the S. Lourenço Fortress (7) and the one located in Pico, that functioned as a citadel, which means, a resort and refuge in case of invasion of the lower part of the city.

# The XVIII Century Defences

XVII century, but the conclusion of the revisions did not reach the population. The Engineer Captain António Rodrigues Ribeiro and the engineer Manuel Gomes Ferreira moved to Madeira, but their only known construction was the Varadouros Gate dated from 1689 (13) Later, in 1705, Manuel Gomes Ferreira would refer to a data collection of most of the island's coast. The gathered information is not known Several infrastructural requests must have been made afterwards. This statement finds justification in the 1699 project for a fortress in Ponta Gorda designed by the engineer Francisco Pimentel, fortification of the "Aula de Matemática e Fotificação" from Naus's water stream, nearby the place where Gorgulho's fort would be built nearly 100

The first great campaign of fortification constructions took place in the XVIII century, during the government of Duarte Sodré Pereira, a Reis field can be found today. Carlos I (17). the governor, asked said and Ribeira Brava, asking the builder to equip the fortifications with an artillery system. The established military structures did not deviate gular fortification model was defined, consisting of a single artillery ilar to the ones found in São Bento in Ribeira Brava (dated from 1708)

Tossi Columbina and, afterwards, Francisco de Alincourt, the occasional renovations of São Tiago (19) and São Lourenço (7) started, and the construction S. José da Pontinha Fort (3) took place. The cylindrical lookouts in the island are attributed to this period, however, this structure was already present on the mainland's constructions during the previous century. The quadrangular shape of the Ilhéus fortress is attributed to Francisco de Alincourt's renovation works in 1770, substituting the circular shape one designed in 1654 by Bartolomeu João.

# The XIX Century Modifications

itary engineers was dispatched to Funchal. Led by Reinaldo Oudinot, a brigadier with French ancestry, and having the lieutenant Paulo Dias de Almeida in its ranks, the team profoundly altered the defence paradigm of the city, expanding it beyond the immediate response to an exterior attack. This military team was sent to essentially fix the damage caused by the 1803 alluvium, but soon expanded their radius of action by revamping Madeira's topographic chart and commanding the defence of the city, not only against climatic hazards and related incidents, but also militarily speaking.

The events which occupied the early years of the following century, including the British occupation of Funchal, the previously mentioned alluvium and the Court's retreat to Brazil in 1807, which led to a new British occupation, profoundly altered the previously made studies and caused the emergence of new resolutions. The first endeavour of Oudinot's team was the general planimetric survey of the island, similar to the one made in Funchal, which was considered the best cartographic piece produced in Madeira at the time. The surveys were then extended to the island's main

During 1805, in April, the brigadier Oudinot and the lieutenant Paulo Dias de Almeida executed the plans for the new Fontes artillery battery (6), introducing a new way of understanding and interpreting defences and military architecture in the island. The idea was not the construction of terrain-adapted fortifications, but the establishment of great terraces able to host new cannons, larger than previous ones and therefore, requiring a larger area to manoeuvre. The new battery would receive most of the garrison of S. Lourenço Fortress (7), which had been converted in the later years of the previous century in a palace, having been forbidden to use of cannons on site. It was this new concept that was followed during the British occupation (1808-1814) and applied to S. Tiago's Fortress (19), and the new artillery battery that soon would be constructed there (20).

With the Liberal Wars and confronted by the hypothesis of an invasion from the absolutist forces, the South-Coast's fort network was reworked to face any possible landing or approach by enemies. This hypothesis was not confirmed and the small fortifications were almost all abandoned during that century.

# and Military Architecture

Funchal was a fortified city, surrounded by walls and fortresses

# Defense, Fortification

The defence constructions of a city were seen differently throughout the years, exacerbated, in Funchal, according to the different governors and the City's Council. In an early stage, unlike North Africa, where the Islamized population never accepted the Portuguese presence, forcing an immediate construction of defensive structures, however, this did not occur in Funchal. In the XV century some defensive structures were built, such as the Captain's Tower in Santo Amaro, Funchal or the Esmeraldo tower, and in Lombada of Ponta do Sol, but mainly to obtain prestige

In the second stage there were two main aspects to the defensive constructions: the ones against internal threats, such as alluviums, that in Funchal were a responsibility of the city hall, that led to the construction of the streams' walls (1 and 15); and the external threats, such as pirates and corsairs who were involved in the early days of the settlement, which led to the fortification for which the governor was responsible. The tug of war between the City Hall and the governor traversed Madeira's history, be cause the funds originated from the same place, being charged by the City Hall. Furthermore, the main responsible entity was the same: the royal master builder that answered to both entities, obtaining at some point a detention order commanded by the City Council.

The term military architecture encompasses other assumptions, including theoretical ones, with cross fires, the artilleries reach, the highness and thickness of the walls, the articulation amongst themselves, the construction of new pentagonal bastions with Italian influence, etc., with a more complex fortification construction philosophy. In the early XV century firearms started to be introduced in Portugal, which combined with the new mechanical traction crossbows, for example, immediately altered the assumptions of the defensive constructions. The use of heavy fire weaponry (the artillery), compelled the reinforcement of the ancient walls with sapatas (see glossary) (8), gaining a certain inclination to absorb the impact of the gunshots and progressively led to the disappearance of the donjon, targets were easily recognized at a distance and were easily overturned, by adapting the constructions to the terrain they were built in.

#### **Transitional military** architecture

The first fortification built in Madeira, requested by Funchal's City Hall in 1523 and 1528, and determined in 1529, was only raised between 1540 and 1541 (8), when the council's bricklayer Estêvão Gomes completed the work. It was also a transitional fortification close to the late medieval seigniorial constructions, maintaining the Manueline style gargoyles and the lintel windows, finished off with merlons and furnished with a wide heraldic representation.

The so called Bastion of Funchal, very distant from the modern bastion, almost forcefully pentagonal, involved the construction of a several story semi-oval tower, built on the beach's rocky outcrops, displaying the emblems and royal Johannine armorial bearings. The ground floor, almost at sea level, exhibits a late-Gothic vault with a Cross of Christ that would have been endowed with canhoneiras (see glossary), although only one rested on the floor immediately above, where a matacão (see glossary) also exists. A matacão being another medieval fortification element and a present element in the transitional fortification. The use of interior artillery batteries, firing at times nearly at sea level, such as in ships, marked during decades the military maritime transitional Portuguese architecture. The most famous example is the Tower of S. Vicente, coupled with Belém's, in 1514, usually known as the Tower of Belém, which is nearly a true "nau" (Portuguese ship) made in stone anchored on the shore of Tejo river.

Funchal's military set articulated with a wall, extended ove João Dinis' "altinho das fontes", which is positioned near a cistern turret, that probably possessed a small upper terrace for light artillery pieces, initially endowed with a water spout, that flanked the wall along the beach and protected the ships' water supplier and the population which worked on that same beach. The whole set encompassed the Captain's houses, complying with the seigniorial spirit, although well-endowed with cannons that the King had sent from Lisbon in 1528.

Funchal's fortress and the general military defensive organ sation, impaired by the absence of Funchal's Captain who joined Lisbon's Court, proved to be totally incapable upon a French corsair attack in October 1566, forcing a rethinking and rebuilding process of said organisation

## The French corsair attack of 1566

Since 1520s the Paris Court had been claiming some of the new Portuguese territories overseas and consequently in 1555 the French attempted to settle in the Guanabara bay in Brazil, where later on the city of Rio de Janeiro would be founded. Additionally, they founded the French Antarctic, from which they were later evicted in 1560. With France being divided by religious wars, members from both sides searched for new territories to settle and simultaneously, due to the difficulty in affir-

mation by the central power, a vast Corsican war began. In early October 1566, a French fleet of 8 galleons from La Rochelle, anchored in the archipelago, under the command of Beltrão de Montluc, son of France's Marshal, where upon they started to plunder Porto Santo. A warning went out to the villages of Machico and Santa Cruz, so the beaches were barricaded and an alarm was sent to Funchal. Facing the capital's defenses, the fleet kept the course set for Funchal, entering the bay on the 3rd of said month. The senior officials of the city had rushed to the fortress (8), but with the approach of the ships, the acting governor Francisco Gonçalves da Câmara, uncle of the Captain Donee, opposed to opening fire on them in hopes that they would back away. The French went on to disembark in Praia Formosa and headed to the city by land.

The French forces divided themselves into two banners, with a total of 500 to 800 men, according to the sources, that subdivided while entering the city trough S. Paulo Brigade, in Rua da Carreira, where a small force from the fortress, with light artillery tried to detain them unsuccessfully. Some friars of São Francisco also rushed in, bearing crosses, but were killed instantaneously by the invaders.

The fortress was then attacked through the city's side where it didn't possess any protection and, unable to move the heavy cannons pointed at sea, didn't resist the attack. This led to the death of 300 men. Funchal then suffered heavy plundering of about 15 days to which nearly nothing and nobody escaped. A rescue fleet was immediately organized in Lisbon but lacked trained people. These people were recruited from the streets and prisons, leading to more pillaging and plundering on the city which was already devastated, and left in a state comparable to the first attack

# **Bastion architecture**

From that point on the attention of Lisbon's court turned t the Atlantic Islands and, in its rescue fleet, a highly qualified military architect was sent to the island, the royal master builder Mateus Fernandes (III), connected to the Batalha monastery architects family. A couple months later two Italian military technicians arrived, Pompeu Arditi and Tomás Benedito, both from Pézaro, to aid Fernandes. Given that they had previously worked together in North Africa, they stayed for one month in Funchal and then headed to the Azores. In a short period of time they would receive a preliminary fortification regiment and more watchmen, etc

It is thought that Mateus Fernandes constructed a plan of Funchal city with the collaboration of the Italians, if not prior to that since in the preliminary regiment there is a response to drawn projects that had been sent to Lisbon, in which he had imagined a vast fortified bastion for the Pena hills, descending until the beach of Funchal, taking over the current Old Town area or Santa Maria Maior district. The project had the quota of several nucleuses of the fortress and, similar to the City's, we can find the indication of the place where the French entered and the block required by the Companhia de Jesus to settle its college. The plant is signed by MFE.

The fortress assumed the construction of an important for tified complex over the Pena hilltop, with 4 pentagonal bas tions, 2 in the north and 2 in the laterals, plus 2 squared one on the south which could, in case of danger, receive almost the entire population of the city (16), working as a citadel. The complex descended over the Santa Maria district, with another bastion nucleus, with a pentagonal bastion and two latera half bastions over the beach, partially surrounded by a moat that utilises water from the João Gomes stream, a project with such dimension and ambition that would only meet its match in Portugal throughout the following century.

The megalomaniac project wasn't accepted in Lisbon, op

unchal from the West. Funchal von Western. Water coloured lithograph from Views of the Madeira Island, with descriptions of the scenery, James Yate nson from Johan Fredrik Eckersberg (1822-1870), pub. Arnz & Co, Dusseldorf, with dedication to the Queen Josephine of Norway and Sweden and with ngual text in German and English

The Honourable East India Company's ship Dunira, passing Funcha Bay, Island of Madeira, oil painting by Thomas Bu





# The Great Wars Structures

With the alluvium of the 9th of October 1803, a team of mil-

#### The mid-XIX century witnessed the emergence of military engineers, being the Portuguese government led by individuals with that academic background during decades. The same was registered, in a smaller scale, in Madeira. Their main activity, however, was the public works. Military constructions were only made in Funchal in the dawn of the First World War. The works were somewhat improvised with the construction of the new artillery batteries on the coast of the old Quinta Vigia and in Cancela, both equipped with last-century military devices. The new structure had little to no effect in opposing the German bombardments of the city in 1916 and 1917.

The works demanded by the First World War, as well as those which followed them in 1940 with the burst of the Second World War, do not fit the military architecture concept approached dur ing this document, but rather the modern military defence paradigm. Said paradigm comprehends the erection of structures, more or less perennial, almost always buried without particula exterior visibility. Funchal was bombed twice on the 3rd of December 1916 and on the 12th of December 1917, having the artillery batteries of Quinta Vigia and São Gonçalo opposed the enemies without any practical results. From the previously mentioned constructions, only the buried area of the first mentioned battery survived, having said structure been incorporated on the Casino Park Hotel compound

In the beginning of the Second World War, new batteries were erected. With a more perennial construction, subsists the coastal one from Pico da Cruz, built with German materials and having executed fire exercises with its artillery until the 80's. The anti-aerial battery built on Pico do Buxo in S. Martinho, was built with English materials, as well as the support barracks, subject to later modifications to its structures. The Palheiro Ferreiro battery, constructed on private property, was, however, dismantled.

The late XX century knew a special interest for military architecture in Madeira due to its innovative characteristics. Those were object of an exhibition on Portugal's Day, held in Funchal in 1981, and one year later rehashed in Porto and Vila Viçosa, in the mainland. In this sequence of events and considering the autonomous state granted to the Region, many of those edifications, void of military interest, transitioned to the now Autonomous Region of Madeira.

#### GLOSSARY

ALCAIDE - the Lord and governor of a castle. Charged with the defence of the castle and its respective jurisdiction. Said urisdiction included the police services, which were in cities like Funchal a competence of the municipality.

**BASTION** - a characteristic element of a fortified bulwark. It has an irregular pentagonal plant, highlighted on the prominent angles of two adjacent curtains or on other vulnerable points. The artillery was condensed on the terrace. The per

lerv cannons were set. CANHONEIRA - the space in-between merlons for the col-

tional maritime fortification, the canhonheira started to appear on the curtain's body, nearly at sea leve

utilized in Madeira can be divided in: hard, grey coloured; soft and diverse tonalities, from being almost black to being red (Cabo Girão).

**CHART** - drawing representing a maritime geographic region. metimes containing an indication of its coasts, routes, constructions and scale. It can be regarded as a synonym of a map, though said designation was more frequently utilized o describe representations of continental regions. The terms plant or plan, also possible synonyms of this concept, are used or constructions or restricted and smaller areas like streets,

**GUARD HOUSE -** group of constructions destined to protect

BUNKER - decked terrace, generally domed and located within the walls and flanks of the bulwarks, for the colloca-

tion of artillery. CAVALEIRO - elevated construction with commandment

tion, destined to protect the residential area and to serve militarily as the last stronghold.

**CISTERN** - shielded well within a fortified construction,

sometimes monumentally built, used to gather and salvage water, a vital resource for the fortresses' garrisons. **CURTAIN -** section of the wall between two bastions. In a forti

Villiam Henry Cornwall (1799-1855 who was on the island as a member Queen Adelaide of England's crew. Na

**CUBELO** - salient round turret of a rampart, conferring latera

support to said structure. It is also known as "cubo' **CUNHAL** - angle formed by two walls, generally built with

paired stonework for construction and safety reasons. TERRACE - slight slope going from the parapet of the covert

path to the exterior field. It can be referred to as an open area where cannons are set. This tem often describes the fortresses' batteries.

FECHOS - mechanism system for the ignition of a light firearm Several types of these mechanisms are known as the fuse (centuries XV to XVIII), the wheel (from the same period as the previous one), the silex (centuries XVI to XIX) and the fulminant

**FLANK** - defense of the curtains and pits of a fortified bastion It can also refer to the defense of a medieval fortification. In this case the considered elements are the turrets.

**NECK** - imaginary line drawn from the edges of the square to the flanks of a bastion. The neck connects the bastions to the square.

GRID - wooden curtain reinforced with iron (it can also be an iron construction) with pointy edges. The contraption slides through vertical slots in the fortified door of the guard house, with its mass balanced by weights or by a drawbridge.

SENTRY-HOUSE - small covered structure nestled on the angles of the curtains and bastions. They usually have cylindrical or prismatic shape and were used for shelter and for the defense of the watchtowers. The first known sentry-houses where wooden, and covered with shingles, being covered later with stonework and brickwork.

MANTA - Also known as mantelete, it is a wooden device designed to cover cannons. It consisted of bulkheads which rotate ed on a transversal axis set on a parapet, facilitating, therefore, the use of the cannons when needed.

MATACÃO - open orifice on the terraces of a tower, through here the projectiles were fired towards that same tower's base or with the goal of ricocheting in the nearby slopes.

**ROYAL WORK-MEISTER -** engineer responsible for the ons on the other constructions under the responsibility of the Crown. Wall Panel - section of the wall between two turrets or

PIECE (OF ARTILLERY) - generic designation of canns, based on their construction as a one piece structure and not the frequently-used iron bars construction similar to the process behind the trons (a catapult-like

device) DRAWBRIDGE - wooden board placed near the entrance of a fortress, utilized to cross the pits.

VARADOURO GATE - it was the main gate of the city and celebrated with pomp after the final constructions of the section of the front-sea wall. Due to its major importance, it possessed a chapel. The chapel was dedicated to Nossa Senhora do Monte dos Varadouros. It was demolished in 1911 and rebuilt in 2011, redressed with the old coat of arms and its correspondent inscription, as found

in the Quinta da Cruzes Museum. SQUARE - the most extensive part of a fortified bastion. rrounds the population and is external to the citadel. The concept could also be applied to describe a maritime fortress

**REDOUBT** - small fortification work, generally of quad rangular shape and part of a broader defensive scheme.

SAPATA - inferior reinforcement of the transition turrets from the medieval fortification to the fortified bastion destined to keep the assault engines and the assaulters

recruitment and the maintenance of the ordinance com-

TRANSITION (FORTIFICATION OF) - medieval fortificaround shape (sometimes angular) and usually had can-

glossary) VIGIAS. ancient military system which underwent reformathe ordinance companies and the city halls.

fication bastion it should always be slightly tilted.

fect fortification tends to be an articulate mix of both ele-

BATTERY - a platform, sometimes decked, where the artil-

ocation of artillery. In the process of the Portuguese transi-

**STONEWORK** - paired stone for construction. Stoneworks

illages or cities.

the entrance of a fortress

over the others. CITADEL - specific construction within a fortification bas-

ing instead for a more traditional scheme, with the superio nucleus of Pena reduced to 1/3 for the future S. Lourenço fortress (7 and 9) articulated with walls (5, 16 and 13) in the waterfront and in the João Gomes and São João streams, that constituted the **fortification regiment** that was sent in 1572.



y Joaquim Augusto de Sousa (1853-1905), 1885. Library and Archi

away while making digging and approach works difficult. **SERGEANT-MAJOR** - superior officer charged with the

tion that gradually presented the fortified bastion elements. The transition bastion, built with sapatas, has a honheiras in bunkers on the wall, below the Cordão (see

tions on the second half of the XVI century. It was based on

#### Santa Catarina Viewpoint

It was in this spot where, between 1420 and 1425, João Gonçalves Zarco and his family lived. Later in 1484, the widw-captain Lady Constança Rodrigues instituted in the Santa Catarina Chapel a mercearia (religious practice) for 5 recolhidas (women who live in a convent without making the vows to become a nun) and an old hermit. The building we can find today is a product of a late XVII century reformation process.

From this viewpoint the main fortification of the city can be seen or at least the place where it once stood. Upstream, we can find the old S. Lazaro Fort and Fontes battery (6), being that the last one is completely gone, the fortresses-palace of S. Lourenço and S. Tiago (19). Towards north are the walls of the S. João stream and the fortress of Pico (4). At the centre of the port's pier is the old Ilheús fortress (2) and the remains of the São José Fort (3), broken down with the initial construction of the pier on Pontinha in the XIX Century.



View from the wall of the São João stream and the old São Lázaro t. Lithograph by Luís Le Breton, 1850 (c.)

#### The Ilhéus Fortress

The request for the construction of a fortress on this islet dates from 1553, though the first works were demanded between 1634 and 1636, without any practical results. In 1682, the governor Bartolomeu Vasconcelos da Cunha reiterated the previous request having in 1654 worded in a stone plaque over the construction's main gate that he erected it.

The works dragged on through the next few decades, due to the lack of accessibility to the place. In 1682, a request to build a chapel there was made, and the said building was constructed the following year. Continuous requests were made to reform the structure. A new shape was asked to facilitate the tying of the boats that were coming to the city's port. The terrace and the number of cannons augmented progressively. The islet became the port's registry facility. The binding project of the two islet dates from 1771. The project from the Sergeant-Major Francisco de Alincourt took almost one hundred years to implement.



Fortress of N<sup>a</sup> S<sup>a</sup> da Conceição do Ilhéu. Photography by Francisco

#### Image: Constant and Constant da Pontinha Fort

The construction of this fort is an homage to King José and dates from the construction of the first haul of Funchal's pier. The construction intended to defend Pontinha (the pier). The main works started in the beginning of the year 1757 with the unification of the islet with the firm rock of Penha de França, both being finished around 1762. The fortification had two floors with canhonheiras essentially pointed to west, in order to defend the little cove formed by Pontinha pier. With its peing partially de molished to serve as material for the construction of the new pier.



Elevation, profile and plant of São José da Pontinha, sketch by Paulo

### The São João do Pico Fortress

The 1572 Regiment had already determined the construction of a "estância" in Pico dos Frias, as a closing to the wall over the water stream, which was known then as Ribeira Grande. The priorities were, however, the fortresses in downtown Funchal. The first plant was made by Mateus Fernandes and sent to the Court of Castile in 1582. The works took 20 years to initiate. In early 1602, the Jesuits were scared about that possibility because they had bought said territory from the Santa Clara nuns and the surrounding headwater. They tried o hinder the construction of the fortress

The fortress's construction started soon after this attempt. An agreement was reached between the three parties, ending all disputes. The Jesuits even built a small farm in the hill's base. This is the only fortified bastion in Madeira almost perfectly quadrangular and is considered, due to its amazing bastions, a true masterpiece of the Portuguese military engineering.



in the Island of Madeira Dec. 24th 1808 Historical-military Archive

#### The walls of Major Reis **Gomes Street**

The sections of the old wall that still currently stand are 3,4m tall and 1,2m wide. They can be found in Major Reis Gomes' Street, being that the street was previously known as the 5th July Street. The construction of these walls started in 1600 and, between 1617 and 1618, all the walls in the city were being either constructed or reformed. In 1621 the city was completely walled. During the XIX Century, with the reform of the city's defense, the ramparts lost their military interest and with the rise of the municipality's power over the city's accesses, the walls and its outbuildings were disputed by several entities having only survived the aforementioned wall section in Major Reis Gomes street.



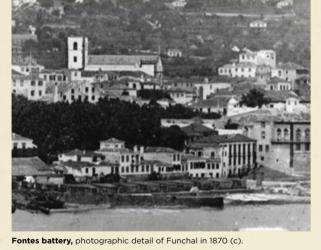
Section of the wall of the city in Major Reis Gomes Street, project by Ma-

#### The Santa Catarina and São Lázaro Batteries

In front of the reefs of Santa Catarina and at the mouth of São João water stream there was a small battery, just like the one on the opposite side near the small chapel dedicated to São Lázaro. Santa Catarina's battery was polygonal and São Lázaro's one was round. With the alluvium of 1803 these structures were severely affected and, even being elements actively represented in the city's military cartography, they were only punctually equipped.

Since the late XVII century the construction rehabilitation works made in the São Lourenço fortress (7) led to the transfer of the military forces and cannons which were stationed there. The construction of an additional floor in the palace's front-sea façade precluded its use as a fortress by preventing the gunners from shooting from the bastions of the old Passeio Públio (9 and 10), the current Arriaga Avenue

With the alluvium of 1803 and the obliteration of the bomber of São Lazaro, the opportunity for planning the construction of a contemporary fortress arose. The plan of Fontes battery dates from 1805. Its construction works began immediately after, and inkage to the Nossa Senhora da Conceição islet (2), in the in 1817 enlargement plans were already being presented. The late XIX century, the fort lost most of its interest, ending up extension of the pier in Pontinha and the later construction of the Avenida do Mar led to its physical disappearance, being the structure represented in photographic and cartographic records.

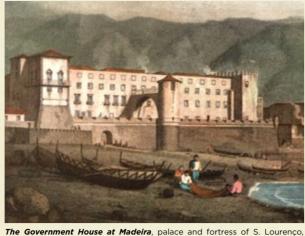


#### The São Lourenço Fortress and Palace

The reform of the initial fortress in Funchal (c.1572) maintained the Johannine bastion and cistern-turret of 1540 (8), adapting the structure to the plan sent from Funchal to the Pena hills, but reducing its original dimensions to a third of the planned size. The city had two pentagonal bastions (9), afterwards a central one (10) was added to cover the city's gate and in the west a quadrangular bastion (11) was erected.

The palace-fortress of São Lourenço is one of the examples of the better preserved and planned Portuguese fortifications of the XVI and XVII centuries. In its outline, it has a low front-sea battery, with a small advanced turret, which was initially a cistern-cubelo, and two lateral ones, a mid-XVI century inspired one in the east and one in the west, a 1572 inspired one, rectangular in shape which today serves as the residence of the official representative of the Portuguese Republic (11).

It is regarded in different ways by different groups: its front-sea façade is regarded by the general public and foreign visitors, as a showroom, a balcony, a place for public relations; to the city it is an austere and aggressive element, a fortress with a hidden guarded door. Its symbolic and emblematic view ended up being widely accepted by the city, being an active present element of the urban city life, not only by its historical relevance but as a building that endured and reached our days.



81-1850), 1805 (c.) waterc lour lithograph by J Byrne and edition by T. Cadell & W. Davies, London, 11 June 1813.

#### The Johannine Bastion and the João Dinis Fountains

The Johannine bastion facing the Mar and Zarco's avenues was the first fortification in Funchal, planned and executed between 1540 and 1541 by the mason-meister Estevão Gomes. In its conclusion year an alcaide was nominated to that bastion. Its first phase had a semi-oval turret rooted in its sapatas, facing east, where the royal weapons where set. The upper-floor functioned as an observation and guard station.



Fontes Street and the João Dinis Fountains, photograph from 1900 (c.)

#### The Mateus Fernandes **Bastions**

The twin semi-pentagonal bastions facing Funchal's fortress were built aligned with the panned guidelines of Mateus Fernandes for the fortress in Pena hills.

The 1572 Regiment determined the equipment of said bastions with mantas (covers), wooden protection for the cannons set in bunkers and destined to flank this type of bastion. Right below the tiled sentry-houses harmonized with the shape of the bastions. In the XVII century, the western bastion had a tall tiled cylindrical tower. Later, it was partially demolished, leaving the first floor know as "casa do fresco" with a doored entrance to the interior garden of the residence for the official representative of the Portuguese Republic.



Castanheiro Bastion, Jerónimo Jorge, 1600 to 1612, Reduced in 1911 for the of Avenida Arriaga, the coat-of-arms was reinstated in late

#### The Castanheiro Bastion

In late XVI century and early XVII century, the new royal meister works Jerónimo Jorge and his son Bartolomeu João built the entral-north bastion, cavaleiro over the fortress, that is, elevated and protecting its eastern door. This door was finished around 1612 and was decorated afterwards with an image of the Saint dated from 1639, to whom this fortress was dedicated to. In the period between the end of the XVIII century and beginning of the ollowing one, there was a chestnut tree in the fortress's terrace. That was the reasoning behind the fortified bastion nomenclature. Against the Kingdom's norm, the bastion had in its northern

cunhal (see glossary) a stone-of-arms made of regional stonework and with the coat-of-arms of the Castile Kingdom. The coatof-arms was removed after 1640, being placed under the same base the Portuguese coat-of-arms built with hard stonework from Porto Santo, but it retained the Crown of Castile and the collar of Tosão de Ouro. The exceptional patrimonial relevance of this bastion led to the installation of the Military Museum of Madeira in said construction.



Royals arms of the Castanheiro Bastion, 1610 (c.) and 1640 (c.). The Portuguese arms used by the Braganca, in stonework from Porto Santo, are set over the ones from Castile, retaining the Tosão de Ouro collar and the Castile imperial crown, which was never used in Portugal.



#### The Governor's Bastion

The 1572 Regiment determined the construction of a bastion to be able to shut down the southwest fortress built over Funchal's beach. The suggested construction was a quadrangular bastion, similar to the one planned for the Pena hills fortress. In the mid and late XVIII century, the palace grew and the last construction works seem to date from 1790. The neoclassical inspired block with a long balcony had its front-sea façade iniformed during the subsequent decades. This uniformisation sacrificed the upper floor of the civilian module, during the XIX century, giving origin to a noble floor of reception in the palace.



Governor's Bastion, Mateus Fernandes, c. 1575 (c.) and António Villa Vicên-cio (c. 1720-1796), 1790 (c.).

#### Alfândega Redoubt

With the ascension to the throne by the Bragança family, it needed to design measures to ensure the safety of the Royal Treasure. With this situation in mind, a construction of a fortification was ordered to protect Funchal's Customs. The order was given on the 11th August 1644, which determined the construction of a redoubt in the patio of the Customs, from which the beach could be seen, having in mind the distance between the fortifications so the construction could be equidistant from oned fortifications are S. Lourenço's (7) and S. Felipe's (14).



Reduto que Guarda a Alfândega na Ilha da Madeira, detailed copy of the neu João, 1654, for the heirs of Mr. Paul Alexander Zino

#### Varadouros Gate

Varadouros Gate, the old city entrance, was built in 1649 to enclose the city, which was the finishing touch to the surrounding walls. The structure became less relevant from mid-XIX century onwards with the nearby locations of the S. Lourenço Fortress (7) becoming the new city entrance.

During the second half of the XVII century, the front-sea walls between the S.Filipe (in Pelourinho square) (14) and S. António (near the Customs) (14) fortresses were being finished with hardship. With the implementation of the Republic and the arising issues between the new and the old republican groups, the Gate was

demolished between April and May in 1911, ending up being re-

constructed in September 2004, almost 100 years later.

**ROUTE MAP** 





Varadouros Gate, photograph in 1909 (c.). Erected in 1689 in the ruling mes of the governor Lourenço de Almada the structure was dem 911 and rebuilt in September 2004

### WALLS OF JOÃO GOMES STEAM

The 1572 Regiment determined the construction of a wall across the João Gomes water stream and the construction of a front-sea estância (see glossary). The structure would assume, nowever, the sturdiness and the defensive schemes of the 1570's. The early works refer to the taking of houses for the construction of a fortress on the 20th February 1574, near the Nossa Senhora do Calhau bridge. The works were ongoing in 1581. The "new castle" was ready and artillery equipped in 1581.

The fortress was a small rectangular square, occupying the mouths of the 2 water streams, with an open battery over the sea front of the city and inside there was some small housing in Pelourinho square. It had some small houses for a garrison ascending to 15-20 men and was able to hold 8 artillery pieces. In the late XVI century, it was the centre of distribution of the city's patrol round and of its vigias system (see glossary). Its military interest was lost in the following centuries. This did not preven its reconstruction after the 1803 alluvium, but the garrison at that point was constituted by "veterans". It was in really bad shape by the late XIX century, according to the photographic registers of oday. The grounds at the front of the fortress's terrace and its

buildings were publicly auctioned. On 20 February 2010, Funchal was affected by a terrible alluvi-Im. The reconstruction works exposed the old structure of S.Filpe Fort, and some parts of the walls were rebuilt in Mar Avenue on October 2014.

# The São Filipe do largo do **Pelourinho Fortress**

Considered as an alluvium defence mechanism, the walls of the water streams were always a responsibility of the military engineers until mid-XIX century. Similarly it happened after the 9th of October 1803 alluvium where a team led by the Brigadier Reinaldo Oudinot formed a work office that was considered an example in topographic and hydrographic design, projection and execution of public works. In an essential work, scales were redefined, constructive principles for roads and hydraulic works were established mainly for irrigation levadas; construction yards were organised, etc. The bases for the current water stream's walls were those planned by said team, where the primitive sapatas (see glossary) can be easily recognised as well as the multiple water pipelines which cross the urban tissue and are there canalised.



João Gomes water stream's wall near Campo da Barca, project by the Brigadier Rinaldo Oudinot, 1805-1806.

## Walls of Pena Hill

The rampart sections in Pena hills along the water stream side and over Campo da Barca seem to be the oldest and most complete of their kind to endure.

The wall spreads through Silvestre Quintino de Freitas street and "climbs" Pena having had a terrace, whose space is now occupied by a residence, which unfortunately fronts in its northern façade a bombardier whose canhonheira (see glossary) flanks the walls of this transition fortification (the construction was never a fortified bastion). In its northern side, circling the hill, is the northern wall section arguably the most complete wall section in Funchal, in spite of the opening of a tunnel in its upper section. In Visconde Anadia street, almost in front of the previously mentioned bombardier, there was another one, an exterior support, one which was afterwards demolished and transformed into a military deposit in 1990 to facilitate the enlargement of the street it was located on

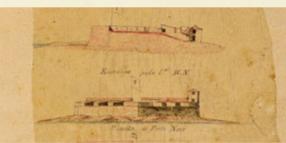


Section of the old Funchal wall in Pena hills, project by Mateus Fernande 1575 to 1595 (c.)

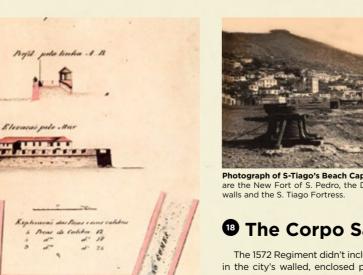
### **O**S. Pedro new Fort

In late XVII century a few fortifiers who graduated from the continental new schools were sent to Madeira. Because of this the Island's defence was substantially augmented, as a series of forts were built from Machico to Porto Moniz. Amongst those, was the new S. Pedro Fort in Funchal.

In the late XVIII century this new fort was equipped with a technological artifice, a furnace of burning cannonballs which set fire to the sails, cordage and woods from the ships. In spite of being one of the most modern forts in Funchal, the fortification lost its military interest having been demolished in 1898. This demolition allowed the enlargement of "campo das Pipas", afterwards renamed Académica square (Praça Académica) and also campo "das loucas" "dos Chalons" and of S. Tiago, due to the military exercises there frequently occurring. Other names were also used. Campo de D. Carlos, after the implementation of the Republic in 1910 called Almirante Reis, being the first name used to name the neighbouring street.



Profile and elevation of the new S. Pedro fort, sketch by Paulo Dias de da (atr.) 1817 (c.) Engineering Services Directio



THE REAL PROPERTY IN Bear de Calibre B Planta de Forte de & Filips Projecte da neva Fran de S Filip

Profile, Elevation and plant of S. Filipe Fort and its expansion proposa National Library of Portugal.



#### S. Tiago Fortress

The construction of this new fortress began after the construction of the walled section along the Santa Maria district, around 1611, and in 1614 the construction works were in an advanced stage. The date was engraved in the primitive door, in its entrance. The mid-XVII century fortress had a plan with 2 bastions facing north, which corresponded to the tallest battery, and the other two over-the-sea medium-sized twin batteries in communication with the low battery, semicircular with two flights of stairs starting from the old chapel, near the cistern. These elements have endured the passage of time. In the mid-XVIII century, in 1756, the engineer charged with the construction works of the city's pier arrived in Funchal. The engineer probably proposed its reform. The works dragged into the next few decades. The governor ordered the engravement of the date 1767 in its door. The tall battery was enlarged, just as the medium one, which unified the two previously mentioned, by eliminating the eastern flight of stairs. The new medium terrace was supported by the wall of the passage which linked the new western quadrangular bastion. The bastion shared with the S. Pedro fort (17) the line of fire. The set of cylindrical sentry-houses are a result of this wave of constructions. Said structures were set having as a base truncated cone-shaped brackets, present in the fortress as of today.



Profile, elevation and plan of Santhiago Fortress, sketch by Paulo Dias de

# **2** S. Tiago pier

In 1823, an enlargement of Funchal's pier was contemplated. One of the expansion ideas involved the area of S. Tiago. This idea was influenced by the defense and military architecture principles which led to the construction of the Fontes battery (6). The brigadier Francisco António Raposo was ordered by a letter dated from 13 September 1824 to Madeira, to study the place in loco. The works from the new city pier began shortly after in the area in front of the fortress, which ended up being canceled due to the destruction of the structure by the sea. An important amount of the designated money for the work was wasted in the breaking and carving of stone.

In 1827 it was proposed a new alteration of the city pier. These cartographic elements of the recently promoted Major Paulo Dias de Almeida endured to the present. They proposed the enlargement of the lower battery to support the works of the potentia new pier, but these ideas never formulated into something tangible. Paulo Dias de Almeida was even appointed by the liberal government as the commander of that fortress (S.Tiago's) but with the absolutist invasion of the following year he was deported to Mozambique, dying shortly after.

The works and the liberal government had at the time the support of the trading Madeiran colony rooted in London. According to the writings of Isabella de França in her memoirs of her stay in the island between 1853 and 1854, her husband José Henrique de França, born in London, was stationed at the time in this fortress, during the time the quarters and locals were under the instruction of Funchal's militias.



strellos photo, 1950 (c.).

city could be carried out.

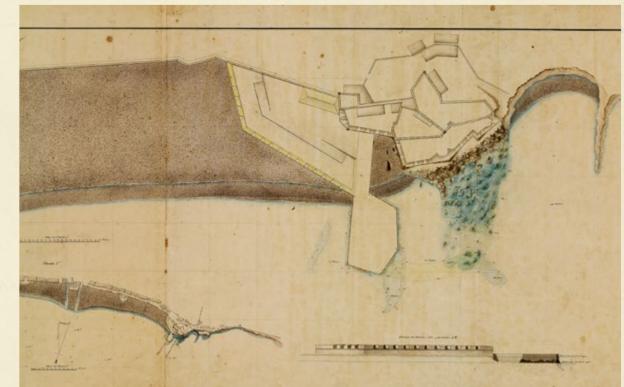


are the New Fort of S. Pedro, the Door from Nora's water stream, the city

#### The Corpo Santo rampart

The 1572 Regiment didn't include the Santa Maria popular district in the city's walled, enclosed perimeter, due to it not being considered a part of the city and excluding, therefore, the oldest parish Santa Maria do Calhau, a part of said district. The situation was amended with the arrival of Tristão Vaz da Veiga in 1585. The city's front-sea walled perimeter was enlarged to include the aforementioned church parish.

The walled section extended from Corpo Santo to S. Tiago and functioned as a support for the district's houses. The section facing the sea remained as a divider between the city and the Blandy arsenal. With the relocation of the arsenal to Zona Franca in the eastern part of the island and with the construction of a tourist complex in the area, the wall was restored and decorated with British iron cannons from the late XVIII century, which was found in the arsenal area's rumble



Detail of the Funchal bay plan which is represented by the projects for the Pontinha pier and one for downtown Santhiago and a new battery, Paulo



and the S. Tiago Fortress.

2 Santa Maria Maior or Socorro Square

The viewpoint in this square offers an interesting view over the S. Tiago fortress (19), Funchal's port and some of the military constructions mentioned in this document. The first request for the construction of a fortified bastion (circa 1523) near the S. Tiago church, now known as the Santa Maria Maior one, was contemporary to the construction of said church. As a response to said request, King João III asked for quotes for the construction of the bastions in Santa Catarina (1 and 6) and in Corpo Santo (19). According to this document, Funchal City Hall had complained about the lack of funds for the constructions which were, according to them, essential for the city's defense. The King ordered the Captain, the provider, and some capable masons in order to determine the cost of said constructions. The King also wanted to know the most strategic location for them so that the best defense possible for the

The request was resent to Lisbon in 1528 after the attack of a Bascain ship which stole to ships in Funchal port. The order was soon emitted in 8th June 1529. The suggestions for the location were made by the Captain of Funchal which logically opted for the fortification of their own houses (7 and 8), set over João Dinis fountains. The works initiated only in 1540 in a medievalist way, disregarding the city's defenses at the time.