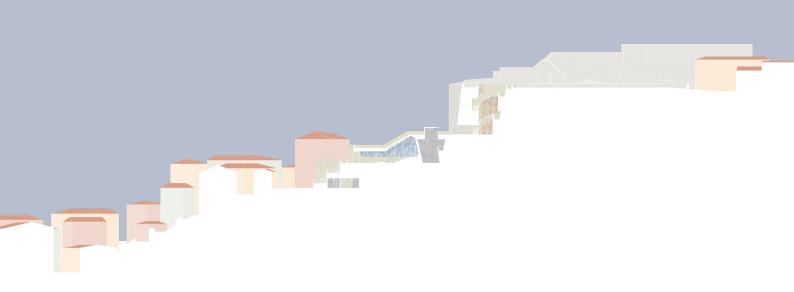
This project thesis aims to synthesize the traits of the Portuguese soul through the design of a public architecture, which simultaneously wants to be a new centre of attraction for Lisbon. For that reason the *Passeio de Alma Portuguesa*, located on the slopes of the castle hill, wants to celebrate and reinterpret what are the main characteristics of the Portuguese city and culture and how they can be players in the design of new spaces that could represent them. All the main elements from the cultural tradition, such as poetry, music and the atmosphere of the city itself, are joined together in order to represent a monument to the deep spirit of Lisbon, taking the shape of an architectural object, able to welcome the community to benefits from it.





Passeio de Alma Portuguesa

Project of a Monument in Lisbon

Claudia Crotti Francesco Csermely

> Supervisor Prof. Arch. Francesco Leoni Co-supervisors Arch. Manule Frediani, Arch. Andrea Ciro Lauria

Master's Degree Thesis

PASSEIO DE ALMA PORTUGUESA

Project of a Monument in Lisbon

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Lisboa com suas casas
De várias cores,
Lisboa com suas casas
De várias cores,
Lisboa com suas casas
De várias cores...
À força de diferente, isto é monótono.
Como à força de sentir, fico só a pensar.

Se, de noite, deitado mas desperto,
Na lucidez inútil de não poder dormir,
Quero imaginar qualquer coisa
E surge sempre outra (porque há sono,
E, porque há sono, um bocado de sonho),
Quero alongar a vista com que imagino
Por grandes palmares fantásticos.
Mas não vejo mais,
Contra uma espécie de lado de dentro de pálpebras,
Que Lisboa com suas casas
De várias cores.

Sorrio, porque, aqui, deitado, é outra coisa. À força de monótono, é diferente. E, à força de ser eu, durmo e esqueço que existo.

Fica só, sem mim, que esqueci porque durmo, Lisboa com suas casas De várias cores.

Fernando Pessoa

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1. ABSTRACT

This project thesis aims to synthesize the traits of the Portuguese soul through the design of a public architecture, which simultaneously wants to be a new centre of attraction for Lisbon. For that reason the *Passeio de Alma Portuguesa* (translated as the *Path of the Portuguese Soul*), located on the slopes of the castle hill, wants to celebrate and reinterpret what are the main characteristics of the Portuguese city and culture and how they can be players in the design of new spaces that could represent them. All the main elements from the cultural tradition, such as poetry, music and the atmosphere of the city itself, are joined together in order to represent a monument to the deep spirit of Lisbon, taking the shape of an architectural object, able to welcome the community to benefits from it.

The formal configuration of the project rises from the natural conformation of the area, taking as reference the existing system of terraces, that characterizes all the surrounding, as a tool to face the huge difference of level of the area. Climbing from the Costa do Castelo street, the volumes of the project grow progressively, hosting open and covered public spaces and facilities, reaching the Praça de Armas, where a new access to the archaeological area of the castle is set.

In particular, four main elements of the Portuguese culture finds their shape through a specific architectural space. They are the *ascension*, the *light*, the *fado*, the *saudade*, which are translated respectively into a a monumental staircase, a covered open square, a music bar, and a contemplation hall.

The purpose of the thesis is to find the best way to solve the dual challenge of the project: on one hand the translation of abstract concepts and emotions into real spaces, and on the other hand the design of a quality architecture that could be integral part of the city, respecting its materiality, its forms and the cultural statues of Lisbon.

2. INTRODUCTION

This report paper aims to explain the process of the development of the project, starting with taking into account the several steps of analysis of the city of Lisbon and later describing every details of the project. In order to clarify the method, this thesis is divided in several chapters.

The chapter Lisbon explains the general information about the city from a geographic and historical point of view. It is divided into several paragraphs in order to give a more clear definition of the topics. It starts with a little introduction about Portugal and then focuses on the morphology of the city, its climate and the green system. The last part explain the history of the urban expansion of Lisbon, from the beginning to the present days. Portuguese Culture digs in the origins and traditions, such as the relation between the Portuguese population and the spaces of the city and its atmosphere, the importance of the light in their life and cultural topics like the fado music and the theme of saudade. In this chapter, first there is a brief description of the way people live around the city, secondly an explanation of the reason that Lisbon is called "city of light". The third part is about fado, the traditional music from Portugal and the last part is related to the feeling of saudade. In order to give a more accurate analysis for the project, the chapter The Alfama District And The Castle Of São Jorge explains the area in which the project insists. The chapter Passeio De Alma Portuguesa and it presents the project in all its details and peculiarities, explaining also the strategies and the development of the architectural choices. Finally, the Conclusions investigate the answers of the main challenges of the project and the resolution of the issues we met during the design process.

The *Bibliography* taken into consideration is a collection of papers, books, articles and websites we consulted during the work, some of them in English, some in Portuguese and other in Italian, that helped us to better understand all the features of a foreign culture and land.

The choice to work in Portugal was driven from a personal experience of both of us. In the beginning of the last academic year (September 2020) we started our Erasmus exchange project within the Facultade de Arquitectura in Lisbon and we lived for almost a year there. For that reason we decided to work together on this project, motivated by the fascination we found in this

city and its people and culture.

From the very beginning our will was to work on an intervention that could interact with the historical nucleus of the city and its pre-existences. The first step was to choose the best project area, among those we selected from the free plots in Lisbon. We started taking into account the free plots around the city that would have permitted us the design of a public facility, and after several shrinkages, we selected those that were coherent with the criteria we thought were important, in particular: the relation with the historical and urban context, the privileged position, the view, the dimensions and the position respect the centre of the city. The area in Costa do Castelo responded positively to all the criteria, so we decided to develop the project there.

Since the starting phases of the design we were aware of our will to design an extrovert object that would have been part of the life of the citizens. The project area gave us the opportunity to choose between several options for our intervention, both under the formal and functional point of view. The way of procedure was suggested from the conformation of the plot. We saw the huge terraces of the castle walls and we decided that the project would have followed the climb toward the Praça das Armas through steps. Taking as a reference also the structure of the city of Lisbon we thought about creating a permeable ascending system made of stairs and open spaces, in which indoor spaces and services could have found their slot.



3. GEOGRAPHIC AND HISTORIC BACKGROUND

3.1 Portugal

Portugal is located in the European territory and it's the westernmost country of the continent. It lies along the Atlantic coast of the Iberian Peninsula and it shares a border with Spain in the east and north, while the ocean dominates the western and the southern edges. Including the territories of the island Madeira, belonging to the geographical territory of Africa, and the archipelago of the Açores, its surface is about 92.212 km² and it counts a population of over 10 millions of people, with a density of 113 people for square kilometre.

Till the end of the XX century Portugal was considered an Atlantic country rather than an European one, due to its geographic position and its political history. With the discovery of the New World, it could boast a centrality in the worldwide economy, but later, with the huge quantity of hardly manageable colonies, it met a period of marginality. The Carnation Revolution¹ in 1974 was a turning point in the history of Portugal, because it represented the starting of a moderate socialist regime still present nowadays in the political system. Although, this could not bring to a immediate change of the social situation, so Portugal remained one of the most backward country of the Europe. In the next years there was a tendency of a overpopulation, mostly in the coastline lands, so much that there was an alimentary maintenance crisis. For that reason emigrations routes started, mainly toward the American continent, both in the south, such as in Brazil, and in the north. As regards the African colonies, the settlement was hard because the adaptation to the environmental conditions was too difficult.

Thanks to the deep estuaries of the Douro and Tejo, the Portuguese shore could welcome the most important human settlements, respectively in the nucleus of Porto and Lisbon. In that way evident unbalances between the coast and the continental lands occurred, emphasizing also the separation with the Spanish border in the east, caused also from the cultural differences as the language and the poor conditions of the population living at the border. The modern development axis is constituted from the connection between the principal cities of the country, nowadays linked through an highway,

1. The Carnation Revolution (in Portuguese *Revolução dos Cravos*) refers to the bloodless military coup of 25 April 1974, which marked the end of the dictatorial regime known as Estado Novo, instituted by Antonio Salazar forty years before.

Fig.1: Satellite view of the western part of the European continent.



which are Braga, Porto, Coimbra and Lisbon. This last was the metropolitan and economical heart of the country, thanks also to a globalization and internationalization of the business happened at the beginning of the XXI century.

Another turning point was the entrance into the Economical European Community (EEC) in the 1986, together with the Spain. As a marginal state and considered a least developed country, Portugal could take advantage of the interventions to the community support that led to new productive models for the economy. The urbanization processes of the end of the XX century confirmed the existence of just two main urban agglomeration, Porto and Lisbon, living at the same time the development of smaller economical realities, based on centres of production and economical and product exchanges with the Spanish cities. An outstanding phenomenon is the situation in the south of the region, know as Algarve, a huge coastal area in which a real touristic district is set. It's capital is the city of Faro, which is served from an international airport too.

In the beginning of the 90s, Portugal started to base its economy mainly on the services and in 1999 was one of the twelve founder countries of the euro. The primary economical sector, which employs about 7,5% of workers, is based mainly on agriculture, in particular the wine-growing plantations in the region of Porto, the production of cork, thanks to the presence of large forests, and fishing; even if the GDP deriving from this sector is quite low, about 2,4%. The secondary sector occupies the 24,5% of workforce, with a GDP of 23,2%; it's based mainly on the presence of several big chemical and mechanical industries. Finally, the third sector is the most important for the Portuguese economy, and it counts the 68% of workers, with a GDP of 74,4%, and its based mainly on tourism, the international trade and exportations of products².

2. Data taken from the International Monetary Fund: "Report for Selected Countries and Subjects" in www.imf.org, visited on December 2021.

Fig.2: Political map of Portugal and Islands



3.2 Lisbon

"Over seven hills, which are as many points of observation whence the most magnificent panoramas may be enjoyed, the vast irregular and many coloured mass of houses that constitute Lisbon is scattered.

For the traveller who comes in from the sea, Lisbon, even from afar, rises like a fair vision in a dream, clear-cut against a bright blue sky which the sun gladdens with its gold. And the domes, the monuments, the old castles jut up above the mass of houses, like far-off heralds of this delightful seat, of this blessed region."³

- Fernando Pessoa⁴

This is the main description that one of the most important poets of Portugal gives to the city of Lisbon. It is possible to notice the attachment to the place he was born. From this words is suddenly evident the colourful density of the houses in the city that contrasts with the blue of the sky and the Tagus River, and the unique connotation given by the presence of an hillside territory. The city of Lisbon has an interesting and uncommon setting, regarding both the natural and the anthropic point of view.

3.2.1 The City of Water

"Logo a abrir, apareces-me pousada sobre o Tejo como uma cidade de navegar. Não me admiro: sempre que me sinto em alturas de abranger o mundo, no pico de um miradouro ou sentado numa nuvem, vejo-te em cidade-nave, barca com ruas e jardins por dentro, e até a brisa que corre me sabe a sal."⁵

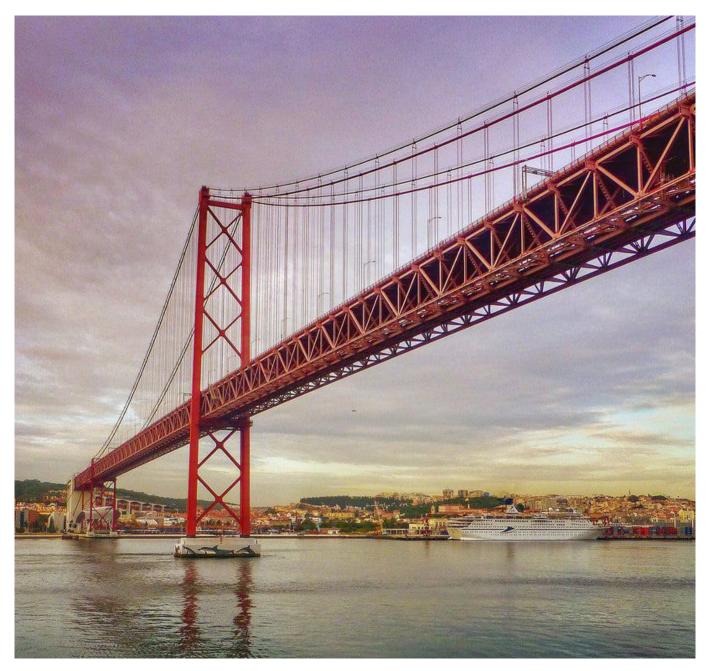
- Josè Cardoso Pires⁶

The city of Lisbon is located in the end of the Tagus river, as we previously mentioned, that in this point is really wide and deep, allowing all kind of ships to pass trough, and it is also very close to the Atlantic ocean. This condition allows to have a safe port in case of storms or strong winds from the East but also to have a direct connection with all the Atlantic countries, so European, American and African ones.

The presence of water influences the whole articulation of the city,

- 3. Pessoa F., What the tourist should see, ET SAGGI, 2016.
- 4. Fernando Pessoa (Lisbon, 13 June 1888 Lisbon, 30 November 1935) was a writer, poet and aphorist. He's considered one of the best poets of Portuguese language.
- 5. Pires J. C., *Lisboa, Livro* de Bordo (Crónicas), Feltrinelli Traveller, 1997.
- 6. José Cardoso Pires (São João do Peso, 2 October 1925 -Lisbon, 26 October 1998) was a Portuguese dramaturg and writer.

Fig.3: view of Lisbon from the Miradouro de Santa Luzia



from the way that people live to the buildings and also the food that is eaten. It is an element that can always be perceived in every part of Lisbon.

The extreme wideness of the river brought to the fact that the city is situated only in one side of the coast while on the other side, that is the region of Alentejo (Which means Além-Beyond Tejo-Tagus) is located the city of Almada and some of the main factories needed by the city. There are now a lot of connections between the two sides, both by ferries and the two bridges that connect these two regions of Portugal. These are situated in the opposite sides of the city, one in Belém, at west, and one in Parque das Nações, at east. The first one is Ponte 25 Abril and it was built by the same enterprise that built the bridge of San Francisco, the Golden Gate Bridge in 1962, during the dictatorship period in Portugal. Its name comes from the Carnation Revolution that happened on the April 25 1974. The other one is Ponte Vasco Da Gama, the second longest bridge in Europe and it measures 17.2 kilometres. It was built to alleviate the congestion on Lisbon's 25 de Abril Bridge, and eliminate the need for traffic between the country's northern and southern regions to pass through the capital city. The bridge was opened to traffic on 1998, just in time for Expo 98, the World's Fair that celebrated the 500th anniversary of the discovery by Vasco da Gama of the sea route from Europe to India.

"The tourist's wonder begins when the ship approaches the coast, and, after passing the lighthouse - that little guardian-tower at the mouth of the river built three centuries ago on the plan of Friar João Turriano -, the castled Tower of Belém appears, a magnificent specimen of sixteenth century military architecture, in the romantic-gothic-moorish style (v. here). As the ship moves forward, the river grows more narrow, soon to widen again, forming one of the largest natural harbours in the world with ample anchorage for the greatest of fleets. Then, on the left, the masses of houses cluster brightly over the hills. That is Lisbon."

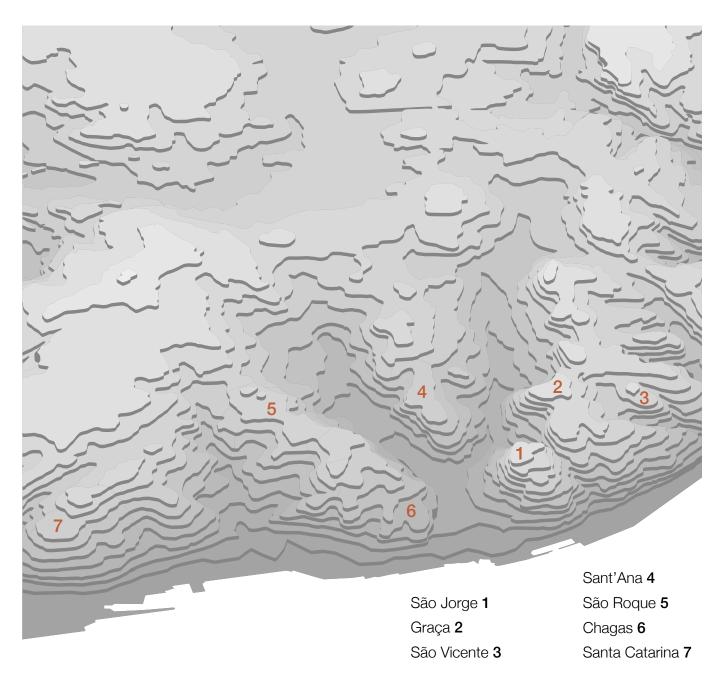
- Fernando Pessoa

3.2.2 The City of Seven Hills

Another really important factor in the natural conformation of the city is the orography of the area in which Lisbon insists. There are seven hills called Santa Catarina, São Roque, Chagas, Sant'Ana, São Jorge, Santo

7. Pessoa F., What the tourist should see, ET SAGGI, 2016.

Fig.4: View from the river Tagus



André and São Vicente. Each of them hosts a different neighbourhood which has a different texture and age. It also allows the presence of many Miradouros. A miraduro is an observation point placed in a high position that allows to admire and to control the surrounding, similar to the Italian belvedere. There are more than thirty of them in only the city of Lisbon and they offer some really beautiful points of view.

Santa Catarina hill is the easter one. The Miradouro de Santa Catarina is one of the most beautiful spots in the city to enjoy the sunset. From there is visible all the area of Santos, Alcântara and Ponte 25 do Abril.

The São Roque hill is in the area known as Bairro Alto. It is home to one of the most beautiful viewpoints of the city, Miradouro de São Pedro de Alcântara that watches toward the east part of the city, reaching Baixa and the castle hill.

Chagas hill is where are located the historical areas of Rossio and Chiado and it is right next to the Baixa area. It host the famous Convento do Carmo, an archaeological site that shows the ruin of a church destroyed during the earthquake of 1755.

Sant'Ana hill stands out for its Miradouro de Torel. Moreover, historically, it was also an important place after the Lisbon earthquake, and was the site that housed the various hospitals of the city.

São Jorge hill is where the castle of São Jorge is located and there is also a part of Alfama. It was on this hill that the town that came to give origin to the city and its first houses appeared. São Jorge Hill has the best views over the city and, in fact, in the Miradouro do Castelo it is possible to enjoy a wonderful panoramic view over the city of Lisbon, with the river Tejo and Ponte de 25 do Abril within sight.

Santo Andre hill, known also simply as Graça, corresponds to the region of Calçada de Santo André, Calçada da Graça and Largo da Graça and hosts the Miradouro da Senhora do Monte and the Miradouro da Graça. Here there are wonderful views of the town and excellent examples of buildings covered with tiles.

São Vicente hill stands out for its originality, being the central point of one of the most traditional Lisbon neighbourhoods of Alfama and the wonderful Miradouro de Santa Luzia.

All these hills are all really close one to each other, that surrounds a plane area called Baixa. In this way, it gets the asset of a theatre where the

Fig.5: Orography of Lisbon and location of the seven hills



centre of life is. These hills are really important in the conformation of the Capital and they are the first core of the urban expansion. Next to those, there is Monsanto that is the biggest forest park in Portugal and one of the biggest in Europe. This works as green lung for the city and it also protects it from the oceanic wind. Behind these heights, there is a hilly and mountain territory that goes on until the north side of Portugal. On the other side of the river instead, the landscape is mainly flat. Another important aspect from this point of view is the shape of the coast alongside the ocean and the river. In the first case, it is mainly a cliff coast with some wonderful beaches such as Praia da Ursa and Praia da Guincho. In the riverside, the coast is more easy and accessible. As a matter of fact, all the ports are in this side.

3.2.3 Metropolitan area of Lisbon, Grande Lisboa and Lisbon Municipality

The area under the influence of Lisbon has different administrative structures. Three are the main administrative regions.

The first one is the Metropolitan Area of Lisbon⁸, a large administrative region, composed from 18 different minucipalities⁹, that extends itself from the Atlantic Ocean on the west coast side, till the southern part of the Tagus, the Peninsula od Setúbal. They are: Almada, Amadora, Cascais, Lisbon, Loures, Mafra, Odivelas, Oeiras, Sintra, and Vila Franca de Xira, included in the District¹⁰ of Lisbon, and Alcochete, Almada, Barreiro, Moita, Montijo, Palmela, Seixal, Sesimbra and Setúbal belonging to the one of Setúbal. It is the largest urban area in the country and the 10th largest in the European Union, with a population in 2015 of 2,812,678, which represent about 27% of the Portugal population in an area of 3,015.24 km². It boasts the presence of a good infrastructure system that improves the connection between Lisbon and the surroundings in a way that people can easily move from one point to the other. This area joins together the Grande Lisboa region and Setúbal region. Both of these have a independent institutions but being under this superstructure helps in overcoming the differences and the possible conflicts.

The second administrative structure is Grande Lisboa, which insists in the area above Tagus river and it is a political division of portugal. The population in 2011 is 2,042,477 in an area of 1,381 km². It includes nine

- 8. In Portuguese: Área Metropolitana Lisboa: abbreviated as AML. The Metropolitan Areas are a kind of administrative divisions in Portugal. In 1991 the Metropolitan areas of Lisbon and Porto were created. In 2003 a law permitted the creation of others metropolitan areas, for those cities that could count at least 9 municipalities and 350.000 inhabitants (Algarve, Aveiro, Coimbra, Minho and Viseu), but in 2008 they were converted into inter municipal communities. Since the 2013 reform, there are just the Metropolitan Areas of Lisbon and Porto.
- 9. In Portuguese: Concelhos, the second level administrative subdivision of Portugal.
- 10. In Portuguese: *Distreitos*, the primary level administrative subdivision of Portugal.

Fig.6: map of the Metropolitan Area of Lisbon.



municipalities, they are: Amadora, Cascais, Lisbon, Loures, Mafra, Odivelas, Oeiras, Sintra and Vila Franca de Xira.

The last one is the Lisbon Municipality that includes only the city of Lisbon. The population is 544,851 in an area of 100.05 km². The city is the biggest Portuguese city but it's also relatively small in comparison with the other capital cities in Europe and in the world. It is divided into several civil parishes¹¹, from an administrative point of view, and into neighbourhoods (bairros)¹² from a cultural point of view. Some of them are: Alcântara, Alfama, Mouraria, Bairro Alto, Baixa, Beato, Belém, Chiado and Parque das Nações. Each of these areas has its own specific characteristics from an architectural, morphological and cultural point of view.

3.2.4 Neighbourhoods of Lisbon

The following is a traditional song from José Manuel Barreto that describes a walking through the main bairros of Lisbon:

"Sentindo-me fadista e reforçando a amarra Que prende no meu peito a sensibilidade Sobraçando contente uma velha guitarra De noite percorri os bairros da cidade

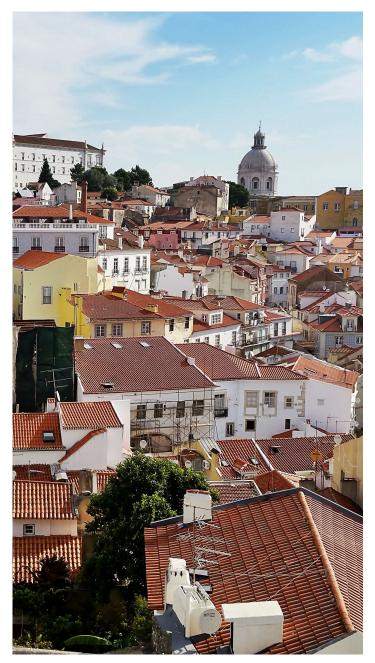
Em todos eu cantei uma trova de amor Em Alfama, Madragoa, em Alcântara e por Belém Subi a velha Graça, o bairro sonhador Aonde o fado vibra eternamente bem

Eu quis saber assim onde melhor cantava Unida a convulsão da minha nostalgia E ás quatro da manhã eu reparei que estava Junto de uma capela, ali na Mouraria

Senhora da Saúde, a santinha benquista Parece que escutou a trova que cantei Senti-me mais real, senti-me mais fadista Na velha Mouraria aonde o fado é leiⁿ¹³

- 11. In Portuguese: *freguesias*. In Lisbon there are 24 freguesias.
- 12. In Portuguese *bairros*. They are a kind of informal subdivision that usuall don't follow the boundaries of the freguesias.
- 13. Barreto J. M., Ronda dos Bairros (Fado Noquinhas), Fados, 2012.

Fig.7: Picture of Baixa





Alcântara attracts youth because of the number of pubs and discothèques. This is mainly due to its outer area of mostly commercial buildings, which acted as barriers to the noise-generating night-life. The area is known as *docas* (docks), since most of the clubs and bars are housed in converted dock warehouses.

Alfama is oldest district of Lisbon, it spreads down the southern slope from the Castle of São Jorge to the River Tagus. Its name is derived from the Arabic Al-hamma, means fountains or baths.

Mouraria or Moorish quarter, is one of the most traditional neighbourhoods of Lisbon, although most of its old buildings were demolished by the Estado Novo between the 1930s and the 1970s. It takes its name from the fact that after the reconquest of Lisbon, the Muslims who remained were confined to this part of the city.

Bairro Alto is an area of central Lisbon that functions as a residential, shopping and entertainment district; it is the centre of the Portuguese capital's night-life.

Baixa is an elegant district, constructed after the 1755 Lisbon earthquake. It is one of the first examples of earthquake-resistant construction. Architectural models were tested by having troops march around them to simulate an earthquake.

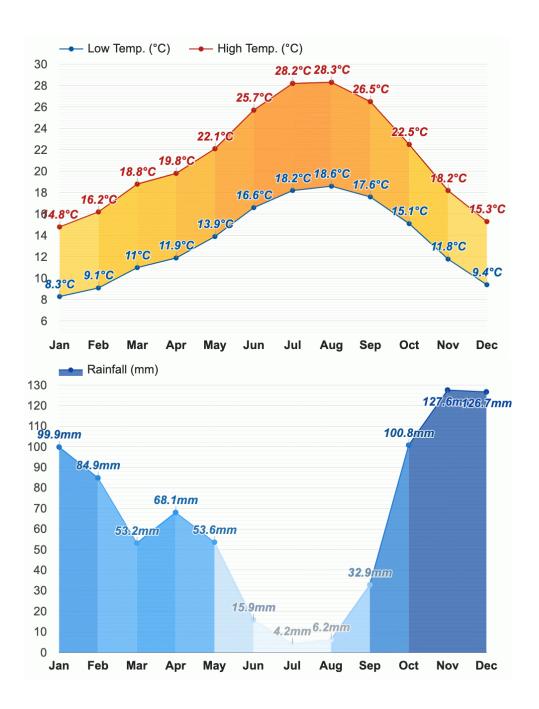
Beato hosts the manufacturing districts and the industrial facilities by the riverside docks with contemporary art galleries, iconic bars, and gourmet restaurants that simmer in the streets.

Belém is famous as a museum district, as the home of many of the most notable monuments of Lisbon and Portugal alike, such as the Belém Tower, the Jerónimos Monastery, the Padrão dos Descobrimentos, and Belém Palace.

Chiado is a neighbourhood in the historic centre. It is an important cultural and commercial district, known for its luxury shopping, historic landmarks, and its numerous theatres and museums. In 1988, the Chiado area was severely affected by a fire. It was restored by an extensive rehabilitation project by Pritzker-winning architect Álvaro Siza Vieira.

Parque das Nações is the newest district in Lisbon. It emerged from an urban renewal program to host the 1998 Expo. The area suffered massive changes giving Parque das Nações a futuristic look. It has become another commercial and higher-end residential area for the city.

From left to right
Fig.8: Picture of Alfama
Fig.9: Picture of Mouraria



3.3 Climate

Lisbon is located in the 38°43′00″ N parallel, therefore it is one of the southern capital cities in Europe. The climate classification of Lisbon in Csa, according to the Köppen classification 14, meaning that it belongs to a temperate climate (C), characterized from dry summers (s) and hot summers (a). The average annual temperature of Lisbon is 21,5° during the days and about 13° during the nights, and it's one of the European cities with the lowest annual temperature variation. The rainy season is from September till May, with a daily probability of the 15% that it will rain, while in the summer months the climate is really dry and it's really rare a rainy day. The average relative humidity also experiences considerable seasonal changes. Lisbon has very humid winters, averaging 78-80% humidity. The air in the summer is otherwise dry, 60 to 65%, and is particularly variable, often going below 40% during the day and 70% at night.

One of the characteristics of this area is also the presence of the wind that comes directly from the Atlantic Ocean. Its presence and velocity depend on the topography and other factors. Generally, the river front areas suffer more, but it's also strong on the top of the hills. This factor influences a lot the perceived temperature of the days, in particular when the sun goes down, refreshing the air. This range of temperature allows the absence of heating systems inside the buildings which, usually, don't have it. During the day in winter the temperature is usually warm enough to avoid it while during the night it can be cold just in January and February. During the summer, even though the sun is strong, the mitigating effect of the ocean and of the cold wind allows not to use air conditioning system.

These warm temperature, the almost constant presence of the sun and the almost constant wind, influence greatly the life of people in Lisbon and also the architecture and the urban dispositions. As a matter of fact, the building are all close to each other and in this way they avoid the wind to be too much strong. On the other hand, In Lisbon, life of people in mostly outdoor and so it's mostly uncommon to spend the day inside buildings both in winter and summer. Consequently the city has many open air spaces, many parks and walking path all around, to permit the community to enjoy all the urban spaces, through a great quality design.

14. The most widely used climate classification, published in 1884.

From top to bottom

Fig.10: Scheme of temperature of Lisbon

Fig.11: Scheme of precipitations in Lisbon



3.4 Green system and vegetation

Lisbon was the first capital of a southern European country to achieve the distinction of European Green Capital.

"Lisbon is going to be a leading city in greening Europe".

- EU Executive Vice President, Frans Timmermans, January 2020

Starting from a skeleton of nine green corridors connecting the city through its large parks, the city is also on track to complete the renovation of 30 city squares and plazas, making even more space (an extra 18%) for pedestrians, bikes and green connections, from 2008 to 2021.

Monsanto Forest Park is Lisbon's largest park, it is not alone. Other significant parks in Lisbon include Belavista, Tejo e Trancão, Quinta das Conchas, Eduardo VII and Vale da Ameixoeira, all now part of wider green corridors. In 2021, the Eastern Green Corridor will have a total of 150 hectares. This includes a vineyard park, Vale de Chelas Park, and 220 allotment gardens. All new parks are designed to allow for better management of excessive rainfall during stormy weather. The rainwater sensitive design retains water where possible, allowing it to infiltrate or retain it for long enough to combat flash floods, by allowing the sanitation system to cope with lower volumes.

There is a predominancy of species in Lisbon. The most interesting one is the *Jacaranda Mimosifoli* that totally changes the look of Lisbon thanks to its purple colour in May and June.

Species of trees	Presence (%)	Average height (m)
Celtis Australis	16,1	10-12
Tilia L.	15,9	20
Jacaranda mimosifoli	10,3	10-12
Platanus L.	8,6	20
Acer negundo L.	6,9	9-15





3.5 History of Lisbon

Lisbon is one of the oldest cities in western Europe. According to Luís Vaz de Camões (1524-1580), one of the most famous poets in the history of Portugal, the legend narrates that it was founded by Ulysses during his way home from Troy.

"As naus prestes estão...

Vês outro, que do Tejo a terra pisa

Depois de ter tão longo mar arado,

Onde os muros perpétuos edifica,

E o templo a Palas, que em memória fica?...

Ulisses é o que faz a santa casa À Deusa que lhe dá língua facunda; Que se lá na Ásia Tróia insigne abrasa, Cá na Europa Lisboa ingente funda."^{15,16}

- Luís Vaz de Camões

This poem is part of the "Os Lusíadas". It is an epic poem that glorifies the Portuguese people, following the example of the "Eneide" from Publio Virgilio Marone (70 BC -19 BC). Luís's poem narrates the history of Portugal since the beginning of times to his age. The real history of the city of Lisbon, however, is the following

3.5.1 Fenix and roman period (800 BC - 476 AC)

The region in which Lisbon insists was controlled by the Celts who were an indigenous polulation of the Iberian peninsula. Lisbon was then founded by the Phoenicians around 800–600 BC. They established a trading post called Ulissipo, which was then conquered by the Greeks and Carthaginians. It is possible to see the stratification of these settlements in Sao Jorge Hill. Here it was discovered some items the Phoenicians used and also some remains of walls. In 205 BC, the Romans won the Second Punic War against the Carthaginians and occupied the city, calling it Olissipo. Ancient Lisbon was integrated into the Roman province of Lusitania. The

15. De Camões L. V., Os Lusíadas, Instituto Camões, 2000.

16. Translation:
The ships about to be...
Do you see another one, that the earth treads on the Tagus
After having so long plowed sea,
Where the perpetual walls build,
And the temple to Pallas, which is in memory?...
Ulysses is what makes the holy

house To the Goddess who gives her a faucet tonque;

That if there in Asia, Troy blazing, Here in Europe, Lisbon is huge.

From top to bottom
Fig.13: Tiles artwork of "The birth
of Lisbon: the legend of Ulysses
and the queen of Ophiusa"

Fig.14: Traditional azulejos workart representing the old city of Lisbon



are more roman remains in Lisbon and around Portugal. On the castle hill there are the remains of an old theatre which is facing the Tagus river. In the near city of Evora there is also a temple consacrated to Diana. It is known then that the initial settlement of the city was the hill where now the castle is located. It is also the highest between the seven hills and the closest to the river, but when the Roman Empire collapsed, it was invaded by the Germanic tribes of teh Visigoths and was controlled by the Kingdom of the Suebi until 585.

3.5.2. Morish period (711 - 1147)

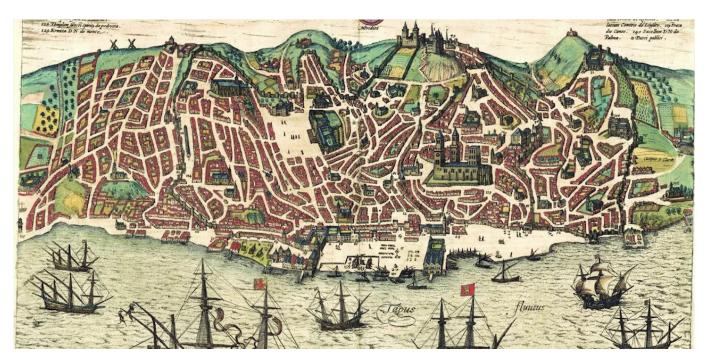
In 711, the Morish invaded the Iberian Peninsula, conquering Lisbon in 714 and they renamed the city al-Usbuma. It was under the control of the Emirate of Córdoba which evolved later into the Caliphate of Córdoba. Despite attempts to seize it by the Normans in 844 and by Alfonso VI in 1093, Lisbon remained a Muslim possession. The Morish domination left an important footprint in the urban texture of the city. The whole neibourghood of Alfama (the name comes from the Arabic al-ḥamma) kept the Arabic urban configuration. As a matter of fact, the streets of Alfama are a labyrint and the buildings are all really close to each other. Anoher really important infuence they left is the art of the ceramic which would be later developed into the art of azulejos.

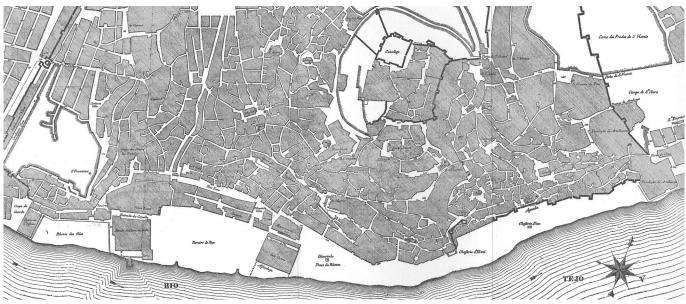
3.5.3 Lisbon's reconquest (1147 - 1494)

In 1147, after a four-month siege, Christian crusaders under the command of Afonso I captured the city and Christian rule returned. In 1256, Afonso III moved his capital from Coimbra to Lisbon, taking advantage of the city's excellent port and its strategic central position. Since this year, It will be the official capital of Portugal in all the following centuries and it is nowadays the second oldest capital in Europe, after Atens.

As a result of this political change, the whole city was reshaped in a Christian city. All mosques were reconverted in churches or demolished, the moorish living in Lisbon were sent to a new neiboughood that took the name of "Mouraria". Since this moment, the city started the expansions even outside the city walls, colonising the other hills that were previously

Fig.15: The siege of Lisbon, Alfredo Roque Gameiro, 1917.





mentioned. It started first with convents and monasteries and then the rest.

3.5.4. Citade Manuelina e Filipina (1495 - 1705)

In the end of XV century the city of Lisbon starts to change drastically. The royal residence is moved from the medieval castle to a modern palace in Terreira do Paço which was described as "Bellissimo palazzo con quattro torri" by A. Sansovino. Lisbon gets to the acknowledgement of "metropolitan city in Europe" scale with "80 thousand inhabitants, 432 streets, 89 alleys and 62 stations" scale with "80 thousand inhabitants, 432 streets, 89 alleys and 62 stations".

Bairro Alto marks the transition from the 16th to the 17th century in Lisbon's urban life, and the acquisition of an urban and architectural awareness that took place throughout the 16th century, based on and largely thanks to the Spanish occupation that brought the capital Portuguese the influence of Castilian civilization at the time when it developed the great architecture of the "Siglo d'Oro". After 1640, the movement continued in the acquired spirit, until the early 1800s, when there was a cultural divide in the country. The streets of Lisbon maintained their medieval definition, with one or another innovation: Rua Nova do Almada, opened in 1665 to give way to the west of the already lively neighbourhood of Santa Catarina (Chiado).

3.5.5 Citade Joanina (1706 - 1755)

D. João V ascended to the throne in 1706 and early he dedicated to his capital, counting on the gold wealth that entered the country in the end of the 1700s, coming from Brazil, and with the peace guaranteed in Utrecht, in 1713, that the he freed him from Austrian politics and opened the way to France. He also wanted to polarize the artistic and cultural influences received by his reign.

King D. João V made an effort to make Lisbon a universal metropolis, on a par with the other main European capitals. To match the other European sovereigns, D. João V tried to promote several works to affirm the power of the city, but mainly the power of the Portuguese crown. Many of the works carried out by King João V disappeared with the earthquake, but there are others that can still be seen today, resulting from his quest to transform

17. Oliveira M., 1550

18. C. R. De Oliveira, Sumario das cosas de Lisboa, 1555.

From top to bottom Fig.16: Lisbon in 1592 Fig.17: Lisbon in 1650



Lisbon into a universal superpower. The new buildings in Lisbon were mainly in baroque style and it was celebrated for its opulence.

3.5.6. Apocalypse in Lisbon (1755)

A new era began in Lisbon on 1 November 1755, All Saints Day, when a devastating earthquake, one of the most powerful in recorded history, destroyed two thirds of the city. The first shock struck at 9:40 a.m., followed by another tremor at 10:00 a.m., and a third at noon. Many persons rushed to those squares beside the River Tagus with enough space to escape the collapsing structures of the city, but were drowned by a 7-metre high tsunami that flooded the river's mouth about half an hour later. After the earthquake, the tsunami, and subsequent fires, Lisbon lay in ruins. The large Royal Turret, the Casa das Índias, the Carmo Convent (Convento da Ordem do Carmo), the Court of the Inquisition, and the Hospital de Todosos-Santos were destroyed. Thousands of buildings collapsed, including many churches, monasteries, nunneries, and palaces. Of the 20,000 less solidly built houses of the lower classes, 17,000 were destroyed. Many buildings occupied by the rich in the Bairro Alto neighbourhood survived, as well as some buildings made of solid stone in a few other areas. Major fires raged in the city for six days and there was rampant looting. Of the city's 180,000 inhabitants, between 30,000 and 60,000 died, while many others lost their entire property. The Marquis of Pombal, who was inspired by the new political, economic, and scientific theories of the Enlightenment and had such influence over the king that he was de facto ruler of Portugal, seized the opportunity presented by the catastrophe to implement in Portugal some of the liberal reforms that had been tried successfully in other western European countries.

In 1756, the French philosopher and voice of the enlightenment, Voltaire, published a poem entitled "Poème sur le désastre de Lisbonne" ("Poem on the Lisbon Disaster") which expressed the shock and disillusionment of European intellectuals after the Lisbon earthquake.

3.5.7. Citade Pombalina (1755 - 1870)

When the fires were still raging in Lisbon after the earthquake of 1755,

Fig. 18: Photo of 19th-century illustration by North Wind Picture Archives, On a single apocalyptic day in 1755, Lisbon, Portugal, was hit with an earthquake, a tsunami, and destructive fires



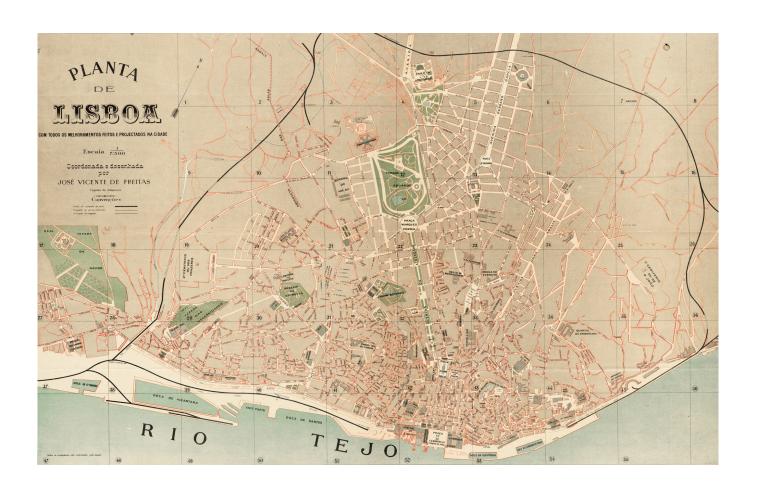
the King asked what should be done to alleviate che plight of the people. The succinct answer he got from his Prime Minister, Pombal - as tradition has it - was; "Bury the dead, look after the living and shut the doors". This was indeed the most pressing task before definite plans for the reconstruction of the destroyed City could be worked out. Numerous schemes were aired. These were the proposals:

- 1) The exact reconstruction of the buildings from their own debris.
- 2) The reconstruction of the buildings to the original height and widening of the streets.
- 3) The complete demolition of the destroyed districts; levelling up the valley, using the debris for this purpose and making the steep slopes of the surrounding hills flatter; laying out of a new street pattern; and rebuilding of the houses with fewer floors.
- 4) The reduction of the buildings to two stories and widening of the streets.
- 5) The abandonment of Lisbon and total reconstruction further west, with Belem (the starting point for the Discoveries) as the centre, permitting the former landlords to erect houses without any official supervision.

These were presented by General Manuel da Maia, Chief Engineer. Manuel da Maia proposed later a "new plan, with street designed with freedom" and in each street, the same symmetry for the doors, window and heights". There it was substantiated the concept of a "regular Baixa" and found the name of the architect who would be in charge of It. The plan approved in 1758 has been partially executed.

This situation gave opportunity to the rise of a vernacular architectural style, the Pombalino style - from the name of the Marques of Pombal. Also new techniques in construction were developed: the system so called Gatola (cage, wooden framework), against seismic movement, prefabrication of building elements against the lack of time and other improvements on housing condition. This rebuilt area presents a deep contrast with the adjoining Castle Hill, partially attenuated in a small area of transition, around the cathedral, along the main street up to the Castle, as a result of replacement of the existing close-knit urban structure by wider streets and new buildings.

Fig. 19: Dos Santos E., Pombaline Baixa rebuilding plan after the 1755 earthquake.



3.5.8. The first urban improvement plan (1870)

A project of improvements in sanitation, circulation, and urban layout became more articulated and had better technical support. The construction of the Avenida da Liberdade – foretelling the expansion of the city – was presented as a landmark in the urban transformation of the capital. In spite of this modest beginning, one of the city councillors integrated it in a larger programme of modernisation, aimed at improving the accessibilities and sanitation, at increasing the capacity of attraction, and the rehabilitation of the capital:

19. Câmara Municipal de Lisboa, 1879:372.

"The works of our Avenida da Liberdade will shortly start and pursue the movement of the material transformation of the city, with the opening and extension of several thoroughfares, and the making of improvements – such as sanitary and others – which the city reclaims and the progress demands.

We are, therefore, in one of those solemn moments of transition [...]. Tomorrow [...] the capital is destined to represent, in the general movement of the country, mainly in relation with rapid transit [the railways], the important role assigned to its role as the first city of the kingdom, its greatness and traditions, its quality as seat of government, administration and commerce, namely its important geographical position.

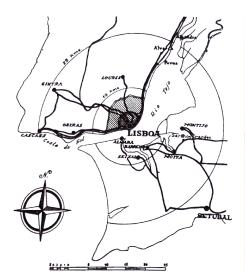
Lisbon has to be the forehead of all our railways lines, the emporium where they converge, the heart where national life reflows to them, and must be the circulation of multiple arteries ramified by all the places in the country." ¹⁹

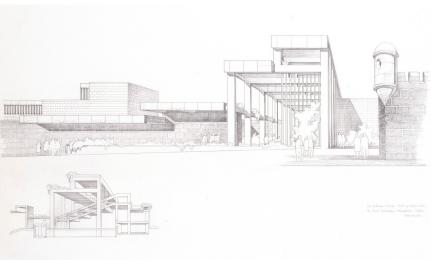
At the time the opening of Avenida da Liberdade, it was the most emblematic part of the project of modernisation, also including the suburban railway connections.

3.5.9. Citade Imperialista (1870 - 1932)

During this period, which was marked by a wave of patriotic exaltation, the discourses aimed at spreading a national-imperialist ideology multiplied, particularly in the metropolitan capital. It was the 'age of nationalism' and Portugal embarked on a number of commemorative and celebratory

Fig.20: Lisbon in 1890







actions to construct a coherent, homogenizing narrative about Portuguese national identity. The new imperial mythology was key to this construction. It can be observed in the re-telling of Lisbon's history, with the celebration of iconic monuments and spaces linked with the age of discoveries, the construction of new buildings, the erection of statues, the naming of streets and neighbourhoods, the organization of exhibitions and other symbolic moments of socialization.

The first monumental actions took place with the aim of reconfiguring Lisbon as an 'imperial city'. The Jerónimos Monastery, strongly associated with the fifteenth-century voyages of overseas expansion, and the Belém area where it is located, became key symbolic markers in the memorial landscape of Lisbon and focal points for many commemorative activities related to empire.

3.5.10. Estato Novo (1926 - 1974)

The Estado Novo was the corporatist regime installed in Portugal in 1933. It evolved from the Ditadura Nacional formed after the coup d'état of 28 May 1926 against the First Republic. The Estado Novo was developed by António de Oliveira Salazar, who was President of the Council of Ministers from 1932 until illness forced him out of office in 1968.

The urbanization plan started in 1938 and it was defined by Duarte Pacheco, mayor, who called on the urban planner E. de Gröer, as a consultant. Another city began to be born there. As an organizing project, corrected and improved during the 1940s - a new stage after the Pombaline and the double stage of Avenida and Avenidas Novas, which had been going on for sixty or about forty years. At the base of the new process was the legal option for the Chamber to assume the initiative and the exclusive right to urbanize the municipality's area - and for that, acquisitions and expropriations of land began soon, which, until 1951, gave the municipality the possession of 35% of the surface. In 1940, Lisbon had 694 thousand inhabitants and it was estimated that, in 1970, it would exceed one million, which would finally occupy the area decreed in 1895, and again in 1903. Such was the layout of Lisbon in the 1940s, which the new municipality was going to start to take over in its entirety, with its master plan. The main point of the "De Gröer plan", are

From top left to bottom
Fig.21: De Groer plan
Fig.22: Calouste Gulbenkian
museum drawing
Fig.23: Main entrance of the
Calouste Gulbenkian museum



marked by a series of radials intertwined in the great city streets.

Another really important intervention is The Calouste Gulbenkian Portuguese institution dedicated to the promotion of the arts, philanthropy, science, and education. One of the wealthiest charitable foundations in the world, the Gulbenkian Foundation was founded on 18 July 1956. This leads to the construction of a museum between 1960 and 1970 which has inside beautiful gardens at the doors of the city centre, in the area of São Sebastião. The museum, considered one of the most important examples of brutalist architecture in Portugal, was designed as a showcase for the collection, which was relatively unique for an art museum at a time when most museums were housed in buildings originally built for other purposes. The landscape and the museum building interact, with views into woods and wetlands punctuating the artwork on display, while woodland paths offer views of the dramatic building, the edges of which include terraces and water features that blur the border between built and natural environment.

3.5.11. Republica Portuguesa and modern days (1974 - present)

On 25 April 1974, the Carnation Revolution in Lisbon, a military coup organized by left-wing Portuguese military officers overthrew the Estado Novo regime. The Carnation Revolution got its name from the fact that almost no shots were fired and there were people offering carnations to the soldiers when the population took to the streets to celebrate the end of the dictatorship, with other demonstrators following suit and carnations placed in the muzzles of guns and on the soldiers' uniforms. After the revolution, the República Portuguesa is born.

Since then, the city started to grow economically and under the social point of view. It was interested in a important demographic expansion, so also the city started to grow and become well-equipped. The railway network, from 1988 till 2004, almost doubles itself, reaching 35,6 kilometres and 44 stations, often designed by famous architects.

Lisbon in these years starts to host several international cultural events. In 1994 Lisbon becomes the European Capital of Culture. For that occasion the Cultural Centre of Bélem by Vittorio Gregotti and Manuel Salgado was built, to hosts meeting spaces, exhibitions, performances and other events.

Fig.24: The Carnation Revolution. Soldiers hanging weapons with carnation flowers inside









A very important event for the urban history of the city is the Expo '98 which leads to the construction of a whole new neighbourhood in the eastern part of the city, known as Oriente area. In here it is possible to find many new infrastructures, spaces for culture, residential buildings and leisure areas. Numerous and well known architects, let's say the best of Portugal for sure, gave their contribution for the realization of this new big area, which include the big Parque das Naçoes and the realization of the Ponte Vasco da Gama, the longest in Europe. One of the most visited buildings of the Expo area is the Oceanário by Peter Chermayeff LLC. The Pavilhão Atlântico by R. Cruz and SOM hosted several important events as the MTV Europe Music Awards in 2005 and the Eurovision Song Contest in 2018, and other sports event as tennis and volley international tournaments. Carrilho da Graça designed the Pavilhão do Conhecimento dos Mares, a modern interactive science museum and Gonçalo Byrne a self- restaurant. Among them, some architecture masterpiece stand out, such as the Portuguese Pavilion by Álvaro Siza Vieira, of which interiors are curated by Eduardo Souto de Moura and the Oriente train station by Santiago Calatrava.

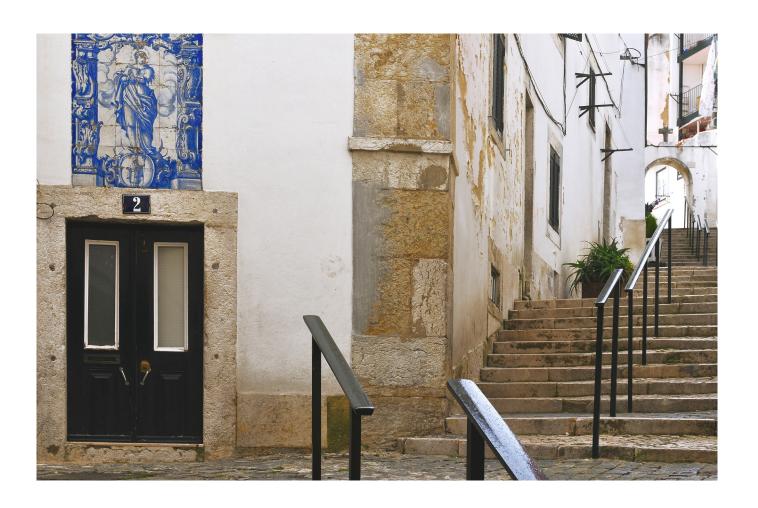
Other important urban interventions are made in the Belém area, with the renovation of the river walk, adding more green leisure areas and cultural buildings, such as the great Museum of Art, Architecture and Tecnologies MAAT by AL A studio.

Also the in the Alcântara district there are some important projects of renovation. The most important is the LX Factory, a complex of old factory buildings rehabilitated to host informal cultural events, exhibition spaces and shopping stores.

From top left to bottom right Fig. 25: Centro Cultural de Belém,

Vittorio Gregotti and Manuel Salgado, 1988 Fig.26: Portuguese National Pavilion, Álvaro Siza Vieira, 1998 Fig.27: Oriente train station, Santiago Calatrava, 1993

Fig.28: MAAT, AL_A Studio, 2016



4. THE PORTUGUESE CULTURE

4.1. The Relation Between The Man And The City

Lisbon offers a different setting for life than other cities in Europe. The lifestyle usually focused in living on the outside of the buildings, due to good weather and the presence of many beautiful areas such as parks, miradouros, squares and landscapes. Lisbon's people are very active and is very common to see the streets, the riverside the beaches fully crowded in every season of the year. As a matter of fact, this is a very intriguing characteristic of the place. There is a lot of attention in doing exercise or going for a walk in the fresh air and the city itself is fully equipped for these kind of activities, especially in the coastline areas, like in the huge parks of Belém and Parque das Naçoes. The river walk is also served by a pedestrian/cycling road that connects Lisbon to Cascais (about 30 km long toward west) which goes on uninterruptedly and its a very interesting occasion for the Portuguese people and families, particularly on the weekend.

But the most relevant relation is that one with the centre of the city. The urban connotation of Lisbon make enjoyable for people to prefer walking rather than taking the public transports, when it's possible, and so they get used to know very well the city in its every little space. It's also thanks to the density and compactness of the streets and the buildings that walking around is so inspiring. In a sunny day, you can enjoy the Tagus river walk and then climbing the hills of Lisbon, through paths of infinite steps, while the light reflects on the beautiful colours of the houses. A very important activity is to stop at the miradouros around the city, better at sunrise or sunset time, in order to experience beautiful views of roofs and the river with amazing colours which turn from yellow to pink and transform Lisbon in a fairytale which last for this short time. And, after the sunset, the walk can continue discovering the city enlightened by the artificial illumination, stopping in a café or in a bar to take a cerveja²⁰ and then coming back home for dinner, maybe in a good company with a bacalhau à brás²¹ and a copo do vinho tinto²². Numerous activities are proposed for the community also at night, specially in the warmer months, when it's possible to enjoy the open

- 20. Beer in Portuguese.
- 21. A traditional Portuguese meal, made of codfish and potatoes.
- 22. Glass of red wine in Portuguese. It's different from vinho branco or vinho verde, which respectively mean white wine and green wine, a speciality in the country.

Fig.29: A typical pedestrian street in Alfama, the historic district of the city









spaces of the city. Numerous cultural events take place in the Monsanto Park Amphitheatre, like concerts of exhibitions. Also in the Cultural Centre of Belém there is a nice open patio in which often projections or other kind of events are proposed. There is no shortage of music clubs and dance halls, as well as cinemas and theatres. You can have a walk to reach the centres of the night life, like Bairro Alto for instance, where the streets are so full of people, specially during the weekend nights, that you struggle walking through them. People there used to stay till late night, drinking, singing and staying outside the restaurants and bars together. But if you prefer you can also have a romantic and more intimate night, reaching Principe Real or the Graça district, both perfect places to enjoy a good dinner and then have a walk around the quieter streets of the city.

This particular approach to the community life in the city is probably connected also to the feeling of the people living in Lisbon. Let's start saying that the Portuguese people have a strong sense of civility in general, they are kind, cheerful and always helpful with the others. The community is also really open, socially speaking, to different ethnic groups and other minorities. Secondary, the city is visibly clean compared to other port cities in Europe, not only regarding the absence of rubbish or other waste around the streets, but also considering the conditions of the river-walk, the parks and the public services, as the transportation. Lisbon is for sure a city that seams to be clean, and the Portuguese people seam to be very respectful of their urban spaces. This doesn't mean that Lisbon is a perfect city; actually there are a lot of abandoned placed, buildings in ruins or in a bad state ad some areas that are not so safe, but people try to transform those problems into opportunities to let express the community. Let's take as an example the numerous graffiti paintings around the city centre. It's a phenomenon that in the last years is spreading a lot, but it's not vandalism, we are talking about real artists that enrich the city with unique works. There area lot of them, used as a real re qualification tool, and often they celebrate some kind of trait of the Portuguese culture. All the imperfections of this city are actually the real soul of Lisbon, and the people who live there permit the control of the balance between the dignity of the city and what in other realities could become dangerous: the freedom of expression. For that reason, Lisbon is considered one of the Capital European city of the street art.

From top left to bottom right

Fig.30: The Racoon, Bardalo, Belém, 2015. A mix between a murales and a sculpture made of trash material

Fig.31: Poseidon Facing the Tagus River, PichiAvo, Santa Apolónia, 2018

Fig.32: Lisa, Tami Hopf , Alfama, 2016

Fig.33: Fernando José Salgueiro Maia, FraLiss, Campo Pequeno, 2014. It represents one of the protagonists of the Carnation Revolution.





4.2. Lisbon, The City Of Light

One of the many names of the city of Lisbon is "Citade da Luz" (city of light). There are several reasons that contribute to the illumination of the city both during day and night.

4.2.1. The Sun

"que se fosse Deus parava o sol sobre Lisboa" 23

The first main factor is the sun. Lisbon is in a geographical and climatic location that very often clears the clouds from the city's sky. It is important to remember that the city of Lisbon is one of the souther cities in Europe (it is located in the 38°43′00″ N parallel) and this grants the longer lasting presence of the sun in the winter months and a little bit shorter in summer than the other european cities. The rays are stronger on the skin and warmer in every season.

The presence of the oceanic wind makes sure that clouds move really fast across the sky. Due to this, usually storms and bad weather last just for a short time and after these, the sky is clear again. The Portuguese capital has, on average, 2,786 hours of sunshine per year, almost the double time in relation to London and more than a thousand hours more than Paris or Berlin. Moreover, the city is mainly orientated to south, allowing the sun to illuminate, avoiding the obstacle of the hills. In addition to the climate, the city's light is enhanced by the hills which help to concentrate the sun: "they are not large elevations, but they have an effect similar to what they do photographers with those kinds of mirrors they use to remove shadows from artists' faces"24. As a matter of fact, the hills that surround the city center (Baixa) build a sort of an amphitheater facing the Tagus River, which also reflects the sun. Another contribution to the natural illumination is due to the architecture of the city. It is impossible to find tall buildings in the city centre that are able to block the light. All of them, also for a sysmic reason, have four or five floors top. Tallest building are located a little far from the centre and do not create any harm because they are in the norther side and do not ever cast shadows. There are also many open areas, which also help the light to access the city more freely.

23. Antunes A. L., Quarto Livro de Crónicas, Dom Quixote, 2011 Translation: If it were God, the sun would stop over Lisbon.

24. Ana Eiró, professor of Physics at the Faculty of Sciences of the University of Lisbon, Interview in Observador, 2015.

From top to bottom
Fig.34: View of Lisbon during the day, from the Tagus River
Fig.35: View of Lisbon during the night, from Miradouro do Senhora do Monte





4.2.2. The calcada portuguesa

"Walking along the cobbles of Lisbon is a reading that has a what to do with our heritage as children of the ocean. Waves of open sea are portrayed in your pavements, and anchors, and sirens. You can read names of navigators and dates of geographic engraved on the basalt of the huge square beaten by the sun. (...) Wandering ships, legendary, or galleons cross the cobbled streets in the Portuguese style". ²⁵

Another important contribution to the illumination of the city are the materials that are used for its construction. One of the most important is the use of the flooring along the streets. It is called *calçada* and it can be found all over the city. This pavement is the result stones of regular or irregular shape in white and black limestone, which can be used to form decorative patterns or mosaics by the contrast between the stones of different colours. The most common rock used to contrast the white limestone until the beginning of the 20th century was basalt. Basalt has practically ceased to be used because it is more difficult to work with, which is why it was switched with volcanic rock. This type of flooring, due to its glossiness, enhance the effect of the sun in the streets, provoking the reflection of the light on the ground and making the city even enlighten.

From 2021, The *calçada portuguesa* is considered as Portuguese Intangible Cultural Heritage. There are several important examples of the use of this technique. The most fascinating are those present in the large square. Praça Dom Pedro IV boasts a very impressive use of the calçada, that refers its geometric pattern to the traditional Brazilian floorings. Praça dos Restauradores has a magnificent paving too, characterized from a dense and complex geometric pattern. Other interesting examples are in Largo do Chiado, Praça do Municipio and Praça Luis de Camoes.

This feature of the Portuguese city is present in every part of the country, from the small villages near the ocean, till the big cities. Beautiful examples can be found in Porto too. This is used not only for functional purpose, but really as an artwork, representing figurative motifs. Many examples of this use are findable walking around the city, let's think about the drawings of ships, flowers and people silhouettes. One of the best is the artwork celebrating Amália Rodrigues²⁶ in Alfama.

25. Pires J. C., Lisboa, *Livro* de *Bordo* (*Crónicas*), Feltrinelli Traveller, 1997

26. Amália da Piedade Rebordão Rodrigues (Lisbon, 23 July 1920 - Lisbon, 6 October 1999) was Portuguese singer and actress. She's considered the leading figure of the fado music, the Portuguese traditional music genre.

Fig.36: Calçada in Praça Dom Pedro IV Fig.37: Artwork in Alfama representing Amália Rodriques



64

Fig.1

4.2.3. Azulejos

As a mural overlay, ceramics constitutes a strong mark and reflects the culture of the peoples that occupied the Mediterranean basin. Indeed, it was through the powerful influence exerted by the civilisations of Islamic origins that this ornamental profession spread throughout Europe from the 15th Century onwards, establishing itself especially in the more southerly regions. It attained great importance in ornamental compositions of peninsular architecture, particularly in Portugal where its continued application has been carried out for well over five centuries. It is thanks to the plasticity of the clay that it becomes possible to construct the essential substantive part of ceramic objects.

The azulejo has not been a mere decorative element composed of the clay slab of conventional quadrangular shape, glazed, and painted on its surface. Much more than that, it has always been considered capable of withstanding the epochs and periods it has traversed without ever losing the characteristics of its opportunity. It was always used in the construction of Portuguese architecture both on the Continent and on the Islands or in Brazil.

Throughout the long and permanent evolution the use of azulejo has allowed for, it has been possible to adapt it in such a manner as to allow for the interpretation of the aesthetic demands of multiple periods. It allowed to stand out for itself to the point even of gradually acquiring a statute of nationality. It is for this reason that it continues to construct perchance one of the most expressive and characterising manifestations within the scope of Portuguese ornamental arts and crafts. It contains within its material modesty all the richness of imagination and the fantasy of those who so knowingly respected and imposed it throughout the times. Indeed the azulejo has mostly been understood as an element possessing exceptional conditions for guaranteeing the animation of surfaces with the "added value" of particular capacities that enable it to reflect the light it receives.

Apart from this reflective effect, the glazed surface provides a mirroring that constantly suggests new forms in sparkling permanent mutation (subtle, indirect and mysterious), at the same time that it allows for the rhythmic structure and decorative elements to appear as superimposed

Fig. 38: Examples of azulejos. In the first line the traditional geometric ones, in the second line the figurative (baroque and renaissance period) and in the last line, the modern and contemporary ones.



Fig.2



66 Fig.3

images. This phenomenon that greatly depends on the play of light and on chance ensures mysterious unforeseen situations in constant mutation in a permanent show that at the end of the day constitutes an intrinsic trait of architecture exemplars coated with azulejos.

27. Biblioteca de la industria ceramica : materiales de construccion, Fuengirola : Daly, 1997.

"By the internal and external recourse to azulejo tiles it was thus possible, in Portugal, to include light as a material of architecture itself." ²⁷

Because it is eminently architectonic and conceived to be seen within integrated sets, it is not easy to isolate the azulejo from the surfaces upon which it was destined to belong and cannot be properly appreciated separately.

Both the versatility and the monumental scale sometimes achieved by an azulejo panel owes much more to its capacity to adapt to the characteristics of every building. In general it has mostly been employed as a surface coating for walls, both in interior spaces as well as outdoors, however many times too, ceramics have proven to be an excellent means (indeed ideal) for ensuring the enhancement of elegant details of buildings.

They constitute an important reality because this was the means by which it was possible to grant the great majority of contemporary artists (especially those who are not ceramists) access to the use of azulejo tiles and ceramic props. As a result, we are now witnessing a surprising aesthetic and technical evolution that has been taking place over the past decades.

Jorge Barradas, Maria Keil, Querubim Lapa, Julio de Resende and Ferreira da Silva are those who have helped to awaken the interest of the younger generations. Completely renewed, having managed to overcome the most critical years, azulejo kept up-to-date and managed to find the adequate response to the requirements of those artists who have chosen to resort to it. The large-scale works that have been commissioned from responsible artists by the Lisbon Underground and other important public places.

Fig.39: Os Pastoires, Maria Keil, 1955 Fig.40: Painel de azulejos, Querubim Lapa, Avenida 24 de Julho, 1994



Fig.4



68 Fig.5

4.3. Fado

Fado is the most famous Portuguese musical genre. It is traditionally associated with the streets, cafés and *tascas*²⁸. The thematic are usually the expression of deep melancholic feelings or celebration of old times.

A fadista²⁹ sings about the often harsh realities of everyday life, but it can be declined both with a sense of resignation and with a sense of hope. The song is usually performed by only one singer, either a female or a male, with the accompaniment of one or two portuguese guitars (typical instrument with 12-string), one or two classi guitars, and perhaps also a contrabass.

In order to better understand these concepts, the following song is from the song *Com que voz* by Amalia Rodriguez. This is a perfect example of a fado lyrics.

"Com que voz chorarei meu triste fado Que em tão dura paixão me sepultou Que mor não seja a dor que me deixou o tempo Que me deixou o tempo de meu bem desenganado De meu bem desenganado Mas chorar não se estima neste estado Aonde suspirar nunca aproveitou Triste quero viver, pois se mudou em tristeza Pois se mudou em tristeza a alegria do passado A alegria do passado De tanto mal, a causa é amor puro Devido a quem de mim tenho ausente Por quem a vida e bens dele aventuro Por quem a vida e bens dele aventuro Com que voz chorarei meu triste fado Que em tão dura paixão me sepultou Que mor não seja a dor que me deixou o tempo Que me deixou o tempo de meu bem desenganado De meu bem desenganado, desenganado". 30

28. A tasca is a traditional small portuguese restaurant where is possible to hear fado while eating.

29. Fado singer.

30. Translation:

With what voice will I cry my sad fate/That in such hard passion* entombed me?/May the pain of my disabused love be no more than the time left to me./ But to cry does not esteem itself in this state/ Whence sighing never proves useful/ Sad I want to live, for the joy of the past/ Changed into sadness/ [In this way I pass through life discontent/ To the sound in this prison of the hard shackle/ That pities the foot that suffers and feels it]*/ Of such evil the cause is pure love/ Owed to whom from me is absent/ For whom life and her properties I venture.

Fig.41: Famous murales representing the culture of Fado in Alfama

Fig.42: Fadistas performing inside a tasca



4.3.1. The history of fado

The origin of fado can be dated back to the beginning of XIX century. It was born in a spontaneous way in a popular context, It usually took place indoors or outdoors, in gardens, bullfights, streets and alley, cafés and brothels. It was mainly narrating about thematic of the period sometimes also narratives. As a matter of fact, initially dado is deeply related with the social context ruled by marginality and transgression, and it was usually sang in locations visited by prostitutes and sailors. At that time, a fado singer guy was generally someone with a rough voice with a flick knife who spoke only using slang. In fact, in the beginning fado was appreciated only by society's most marginal spheres and it would usually make the higher classes deeply disgusted.

In the following years, fado evolves more and more, so that in the 1850's there where the first shows inside theatres and then it gradually became popular between all the spheres of society. In the beginning of the XX century it was popular and even present in many publication and periodicals. It started to be a reason for attraction for foreigners. In the meantime it also was officially present in most of the theatres with performances by fado singers at Revistas musical scenes.

Due to the military coup and the establishment of the dictatorship in 1926, the new laws about censorship and limitation of freedom had a really strong impact of the song lyrics. Consequently to this, there were many changes and the whole fado was deeply wounded. Yet there is an interesting addition which is the *Grande Noite do Fado* which took place in the 1953 for the first time and then kept going on for every year. During this night there is a competition between the *fadistas* and it is held in Lisbon.

As soon as sounds cinema started to be in Portugal, fado music took its place inside and was usually the soundtrack or even the theme of Portuguese films . One of the most famous films from the cinematography of 1940's is "Fado, História d'uma Cantadeira" where Amália Rodrigues is starring as main character. The whole film is about the story of this girl who becomes famous for her amazing voice.

Once the dictatorship is over thanks to the carnation revolution, fado is badly considered by the population, the contest of the Grande Noite do fado is suspended for two years and the radio broadcasts are really rare.

Fig.43: *O Fado*, José Malhoa, 1910



It got back to be accepted just a few years later when the new government became stable and in 1976 it was popular again. As a matter of fact In fact, Carlos do Carmo, one of the most famous fado singers in Portugal and in the world released a new album called "Um Homem na Cidade" and contributed to the relevance of this genre.

"[...] Eu sou o homem da cidade Que manhã cedo acorda e canta E, por amar a liberdade Com a cidade se levanta Vou pela estrada deslumbrada Da lua cheia de Lisboa Até que a lua apaixonada Cresce na vela da canoa Sou a gaivota que derrota Tudo o mau tempo no mar alto Eu sou o homem que transporta A maré povo em sobressalto E quando agarro a madrugada Colho a manhã como uma flor À beira mágoa desfolhada [...]". 31

- Carlos do Carmo

There is also an important internationalisation of fado happening in the second half of the XX century. The most influenced country is Brazil. It welcomed this style but it got into some mutations in order to have a happier meaning and a more dynamic sound. There is some influence even in Italy, such as "Segunda feira" by Battiato F. and "Amalia" by Mengoni M.

Nowadays, fado still exists and it is still sung in many bars, restaurants and *tascas* around the different cities in Portugal. The most important city for this genre in Lisbon where there are dozens of places that everyday host a little concert during dinnertime.

4.3.2 Structure and themes of songs

Fado songs have a simple structure in order to emphasise the

31. Translation:

I am the man of the city/ that morning wakes early and sings/ and, for loving freedom,/with the city rises./ I am going along the roads dazzled/ By the full moon of Lisbon/ Until the moon infatuated/ Evolves into the sail of a boat./ I am a seagull defeated/ By all the bad weather at sea./ I am the man who carries/ The tide of startled people./ And when I grab the dawn,/ I reap the morning like a flower/ On the verge hurt leafless,

Fig.44: Poster of Um Homem na Cidade by Carlos do Carmo



Fig.6

singer's voice and the lyrics of the song itself. It is supposed to be sang with an evocative inclination in order to make the *fadista*, the musicians and the audience all part of the same rhythm.

The lines can be regrouped in quatrains, five-verse stanzas, sixverse stanzas, decasyllables and alexandrine verses.

The themes are related to love, luck, individual fate, and the city's traditions or events. It also has a high sensibility to social injustice. "The passion of life lurks in its belly. it is a joyous lament. That is what makes the skin tingle even if you cannot understand the words" They can be summarised in these few lines:

"Love, jealousy Ash and light Pain and sin All this exists All this is sad All this is the fado".³³

4.3.3. The most beautiful voice, Amália Rodrigues

Amália Rodrigues was born in 1920 in Lisbon. She started singing around 1935. Amália became a famous singer in Portugal in the early 40's. Thanks to this, she starred in different Portuguese films that enhanced her qualities such as "Capas Negras" and her best known movie, "Fado" in 1947. She quickly gained popularity in Spain and Brazil and also, since the 1970, Rodrigues had a particular success in Italy. She recorded an album of Italian traditional songs, "A Una Terra Che Amo" in 1973, and made Italian versions of many her songs.

She died in 1999 at the age of 79. There were three official days of mourning after her death and she was buried in the National Pantheon next to the other Portuguese notables such as Vasco da Gama and Luís de Camões.

She will be always considered as the Queen of Saudade. She said that "I don't sing fado, it's the fado that sings me", she thought that fado was fate (from the latin word fatum). From this derives the idea that this music genre is connected with fatalism, melancholia and saudade.

- 32. Hatton B. The Portuguese, Clube do Autor, 2012.
- 33. *Tudo isso é fado*, Amália Rodrigues.

Fig.45: Amália Rodrigues while performing in Amsterdam in 1969



4.4. Saudade, a Portuguese emotion

Teixeira de Pascoaes wrote in 1920: "There's one sentiment that sums up the Portuguese. It is saudade."

Saudade is a Portuguese word revealing that all human need to baptise things and feelings that seem to flee far away, incomprehensible and elusive.

Already the etymology of this word-concept itself bears the mystery of its origin and the vagueness of its meaning: the Latin "solitas, solitatis" ("solitude", "isolation") would be the basis of the archaic term *soydade*. The evolution of the diphthong "oi" into "au" is anomalous and difficult to explain, perhaps due, emblematically, to the influence of the same Arabic diphthong in words indicating "deep sadness".

No other known language appears to have a term capable of translating the concept transmitted by "Saudade", a word that conveys a meaning that is both physical and spiritual. A word that gives voice more to an atmosphere than to a feeling, to a characteristic sensation of the human being of every time and space, but which only the Lusitanian culture has been able to translate into linguistic expression.

Saudade

"Eu amo tudo o que foi Tudo o que já não é A dor que já me não dói A antiga e errônea fé O ontem que a dor deixou, O que deixou alegria Só porque foi, e voou E hoje é já outro dia."³⁴

- Fernando Pessoa

Saudade is "nostalgia for the future" (Antonio Tabucchi), the regret of lost time but also the anguish of the time to come. It is the desire for something that has been lost forever, but also the desire for something that is yet to come and that, perhaps, will never come.

34. Pessoa, *F. Poesias Inéditas* (1919-1930). Lisboa: Ática. 1956. Translation:

I love all that has been/ all that is no longer/the pain that no longer hurts me/ the ancient and erroneous faith/ the yesterday that left pain/ the one that left joy just because it was/ flew and today is already another day.

Fig.46: The Fighting Temeraire, J. M. W. Turner, 1839



78 Fig.7

Deve Chamar Tristeza

"Deve chamar-se tristeza Isto que não sei que seja Que me inquieta sem surpresa Saudade que não deseja.

Sim, tristeza - mas aquela Que nasce de conhecer Que ao longe está uma estrela E ao perto está não a ter.

Seja o que for, é o que tenho. Tudo mais é tudo só. E eu deixo ir o pó que apanho De entre as mãos ricas de pó. "³⁵

- Fernando Pessoa

The saudade is the completely metaphysical space of timelessness, of that inaccessible dimension suspended between past and future. It is the absence, sweet and melancholy, of what one never had, of what one hopes, craves, runs away. It is the sadness of the impending change, of tomorrow that overwhelms today and that comes slowly, full of promises and mirages. It is the sadness of those who hope that one day will be able to feel happy. Saudade cannot be explained, it can only be proved.

"Ah, não há saudades mais dolorosas do que as das coisas que nunca foram!" ³⁶

- Fernando Pessoa

Brazilian musician Gilberto Gil sings in "Toda Saudade" that saudade is the presence of absence. This feeling can be for people or places or anything else that can be remembered. Also this feeling itself. This feeling is not totally negative, it has some kind of pleasure inside, some kind of hope for the future or sweetness from the past.

35. Pessoa, F. Poesias Inéditas (1919-1930). Lisboa: Ática. 1956 Translation:

It should be called sadness/ This I don't know what it is/ That worries me without surprise/ nostalgia that does not want./ Yes sadness - but that/ that arises from knowledge/ that there is a star far away/ and near is not having it../ Be that as it may, it is what I have./Everything else is just everything./ And I let go of the dust I take/ from hands full of dust.

36. Pessoa, F., Livro do Desassossego, Editora Global (Brasil), 2015.

Translation:

Ah, there is no more painful saudade than for the things that never were!

Fig.47: Melancholy, Mauro De Carli, 2021



Fig.8

Toda Saudade

"Toda saudade é a presença Da ausência de alguém De algum lugar De algo enfim Súbito o não Toma forma de sim Como se a escuridão Se pusesse a luzir Da própria ausência de luz O clarão se produz O sol na solidão

Toda saudade é um capuz Transparente Que veda E ao mesmo tempo Traz a visão Do que não se pode ver Porque se deixou pra trás Mas que se guardou no coração."³⁷

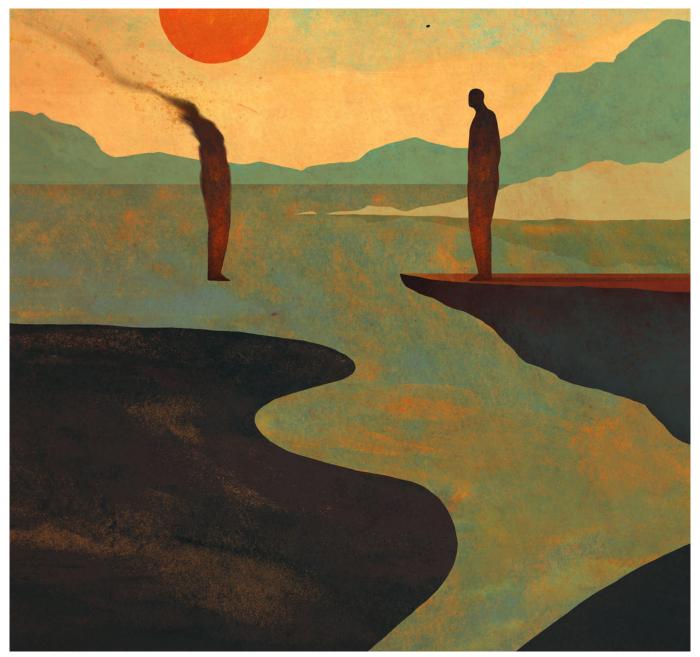
- Gilberto Gil

There are three roots in Portuguese genealogy that contribute elements of saudade: the Celtic lyrical dreamer prone to poetic expression and religious sentiment; Faustian anxiety from the German bloodline; and Arab fatalism. It also contains the features Atlantic, Mediterranean and intercontinental influences that are embedded in the national psyche. At its shallowest, saudade conveys a sense of loss. But even then, its expression of pain and sorrow also carries hope for a better to-morrow. It embraces desire as well as memory. Saudade casts back the Age of Discovery, back to the restless tension between those who departed and those left behind. In that fashion, it also evinces the microcosmic, close-knit nature of Portuguese society, the retreat into the interdependent safe havens of kinship and friendship within neighbourhood communities known as Bairrismo.

37. Gilberto Gil., *Toda Saudade*, O Eterno Deus Mu Dança, 1989 Translation:

Each saudade is the presence/ of the absence of someone/ of a place/ of something / finally A sudden no/ that turns into yes/ As if the darkness could light up./ Of the same absence of light/ The light is produced/ The sun in solitude./ Each saudade is a transparent capsule/ Which seals and at the same time carries the vision/ Of what cannot be seen/ That one has left behind/ But which is kept in one's heart.

Fig.48: Clamdigger, Hopper, 1935 Edward



82 Fig.9

Ultimately, saudade is a static sentiment, not one that empowers. The writer António José Saraiva said it is like "a state of dissatisfaction". Still, the Portuguese cherish and nourish it. Almeida Garrett, the nineteenth-century writer, claimed that saudade is "perhaps the sweetest, most expressive and most delicate" word in the language. António Nobre, a poet from the same century, wrote that saudade is "Such a sad word/And it feels good to hear it."

Chega De Saudade

"Vai minha tristeza E diz a ela Que sem ela não pode ser Diz-lhe numa prece que ela regresse Porque eu não posso mais sofrer Chega de saudade A realidade é que sem ela não há paz Não há beleza, é só tristeza e melancolia Que não sai de mim, não sai de mim, não sai Mas se ela voltar, se ela voltar Que coisa linda, que coisa louca Pois há menos peixinhos a nadar no mar Do que os beijinhos que eu darei na sua boca Dentro dos meus braços Os abraços hão de ser milhões de abraços Apertado assim, colado assim, calado assim Abraços e beijinhos e carinhos sem ter fim Que é pra acabar com esse negócio de viver longe de mim Não quero mais esse negócio de você viver assim Vamos deixar desse negócio de você viver sem mim"1

38. Gilberto J.., Chega De Saudade, Chega de saudade, 1959.

Translation:

Go, my sadness/ and tell her/ that without her it can't be/ Tell her in a prayer to come back/ because I can't suffer anymore/ Enough of saudade/ The reality is that without her there's no peace/ there's no beauty

It's only sadness and melancholy/ That won't leave me, won't leave me, won't leave/ But if she comes back, if she comes back/ What a beautiful thing, what a crazy thing/ For there are less fish swimming in the sea/ Than the kisses I'll give you in your mouth/

Inside my arms,/ the hugs shall be millions of hugs/ Tight like this, united like this, silent like this/ Infinite hugs and kisses and caresses/ To end this "living-without-me" business/ Don't want this "far-away" business/ Let's end this "living-away-from-me" business.

- Joao Gilberto

Fig.49: Saudade n.1, Owen Gent, 2020



4.5. Ascension and Miradouros

The city of Lisbon has an orographic conformation that is really variable and allows differences of height all around the city. On the top of these there is always a panoramic square where people can see the landscape. These places are called *miradouros*. There are several in the city and also outside of it. The whole Portugal is full of such places. It is relevant that these areas are always well known by the people due to the high importance they have for them. In this kind of areas the observant has a panoramic view on one side of the city. The experience totally changes due to the position of the sun, both during the time of the day and the month of the year. For example in winter the sunset is behind the bridge so it is possible to see it from the miradouros of Castelo, Graça and Senhora do Monte. In the meanwhile, during summer it sets more to the right so it is necessary either to go to Santa Caterina or even to the Western point of the coast in order to have a perfect view on it. In some other miradouros such as Santa Lucia it possible to admire the sun rise.

There is always something happening in this places. Some of them are night-life areas, some other just for romantic moments, some more for being alone. They are all used and lived by the inhabitants and the tourists.

This multitude of places in heigh position lead to the presence of many stairs and ramps and slopes. As a matter of fact, on of the name of the city is "Lisbon the city of stairs". The whole city works with them, except for the area of Baixa and for the riverside. Some of the streets are also equipped with some elevatores due the extreme inclination of the street. For example the çalcada da Gloria, a street that connects Praça de Restauradores to the Miradouro de São Pedro de Alcântara, has a steeply sloping of 17° all along the connection. This street as many others, they have a tram that is called elevator which takes the name from the street it is in. (In this case, elevator da Gloria).

In some other cases the connections are made with escalators. there are two interesting examples of this. The first one is the connection between Baixa and Chiado. Here the connection is in the underground and it is connected also to the metro station. In the second case, there is a connection between Praça Martin Moniz and the side of the castle. Here the escalator is in open air and allows to skip 30 meters of stairs.

39. Translation: Observation point. 40. Trams that link two different point of a slope.

Fig.50: View from Miradouro de Castelo



5. THE ALFAMA DISTRICT AND THE CASTLE OF SÃO GEORGE

5.1. Alfama

As it was previously mentioned, the castle hill is the oldest inhabited area in Lisbon. It is dated back to the Phoenician period and since that moment it will always be the starting settlement for all the following populations. It is located between the flat area of Baixa and the Alfama. This hill is the highest and the closest to the Tagus and it is the most relevant strategic position in the area. As a matter of fact all the fortifications of the city had this point as the starting area for the city walls, starting from the Romans to the Portuguese kingdom.

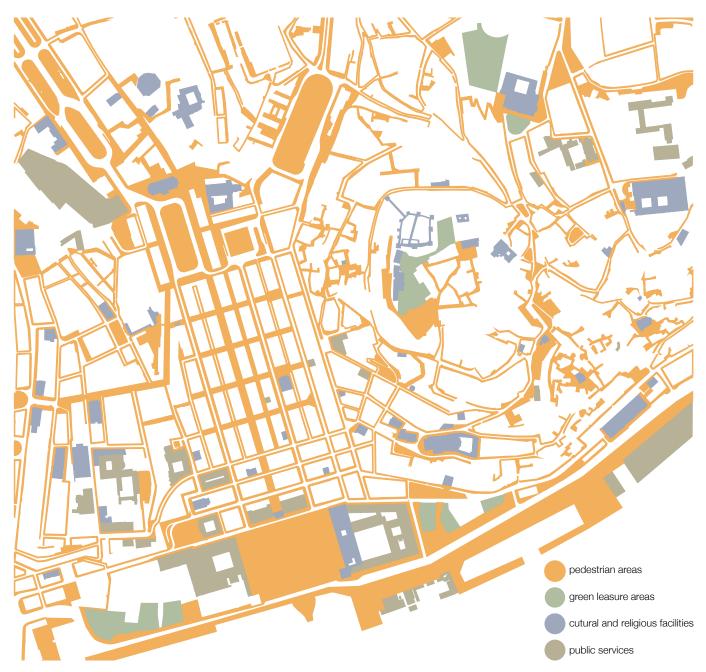
5.1.1. Urban texture: Baixa vs Alfama

This area of the city is very dense and intricate. It was not hardly affected by the several earthquakes that hit Lisbon, so it kept its structure as middle age urban texture.

The streets are usually very thin, around three or four meters wide and also they are tortuous. This vernacular urbanisation has several reasons. Firstly in order to have protection from the wind. The streets are always changing directions so that even if the wind is strong the streets are covered by the buildings. Another reason is that they were inside the city walls so, in order to have more protection, it was important to stay within those and this lead to a densification of the city centre. Furthermore, also the morphology of the area with a lot of slopes and steep areas was a reason for having hairpin bends in order to go up or down. Another factor is that this was the typical structure of a Moorish city, who as previously mentioned, dominated the area for about five centuries.

As it is possible to see in the figure background of Lisbon, there is a strong difference between the urban textures of Baixa and Alfama. The first area is dominated by regularity, in fact is composed from an orthogonal grid of streets, that frames the rectangular plots in where the buildings are placed. The second one is characterized from a heterogeneous disposition

Fig.51: Figure background of the city of Lisbon



of the buildings, that follows the irregular pattern of the streets, which are very narrow and follow a zigzag path.

5.1.2. Community spaces and pedestrian areas

The riverside of Lisbon hosts mostly administrative services for the citizens and transport facilities that connect the city with the opposite coast of Tagus River. While in the middle of the city are placed several monuments and museums.

The area of Alfama, due to its narrow streets and spaces, hosts mainly small and old characteristic residential buildings, with sometimes the presence of cultural facilities, such as small museums of religious buildings. A big part of the area is pedestrian, mainly because it's characterized from the presence of a huge quantity of stairs of every dimensions, from the tight paths till larger systems in which the stairs intersect, where often we can also find small squares.

A big area of Alfama is occupied from the São Jorge archaeological site, located at the top of the hill, in the higher point of the city centre, overlooking all the western side of Lisbon.

5.2. The castle

5.2.1. The evolution

The citadel, a group of old buildings polarized by the massive structure of the Castle, presents, during its long life, a small dynamic evolution, principally after the 15th century, since when significant evidence is available (the origin is about 200 AD).

During the beginning of the 16th century, the urban structure of Lisbon has been deeply changed. This change was not only physical, but also symbolic, marked by the installation of the royal palace immediately on the shore. The King, Manuel I, in the era of discoveries, after the arrival to India, left the medieval Castle and came down to the river. After this transference of the Corte to the new palace, the old one, the Paco da Alçacova (palace of the citadel), kept its former prerogatives as a royal palace, during the following 70 years, but since no longer effectively used its decay increased

Fig.52: Analysis of pedestrian and public areas









quickly. In 1569 it has been rebuilt in order to receive again the royal family. During the Spanish Captivity, it has been occupied essentially by troops, and barracks and prison were built, and it will remain as a prison until the earthquake of 1755, when its destruction left us nothing but few remaining evidence. The Alçacova became again the old Castle and the houses within the walls, and the splendour that the Paço had given to it since the Moorish time.

In the 19th century consequently to the occupation the troops, they started the construction of barracks again; the ancient citadel lost its former shape, and it was more like a group of working-class houses than a Castle. Only in 1910 it was recognised as a national monument, despite that nothing has been done towards its physical rehabilitation. Finally, in 1935 demolition work started on all the modern additions. However, recently (1981-1982) the construction of a modern restaurant, inside its structure, has been a motive for a great deal of controversy. During the last four centuries it kept its urban structure, with the same blocks, squares, and streets, and also always respected by new constructions. Two aspects are relevant for the analysis of its evolution: the destruction of the buildings involving closely the Castelejo, giving it back to the actual limits and a progressive lower density, which can be positive for a rehabilitation programme.

5.2.2. The areas

The castle area can be divided into six different regions. The first one is Praça de Armas, it is nowadays the official entrance to the historical site. It is a large square defined by the presence of walls that divide the castle from the city in the south, west and east sides. It also provides the entrance to the archaeological area in the north side.

The following area was previously occupied by the royal palace of Alcàçova which as previously mentioned, it was the royal residence of the king and his family. Now there are just ruins. The path next to this area can be called Panoramic walk. It is basically a way that follows the castle walls and grants an amazing view of the city of Lisbon. It has several benches and other elements such as cannons. This path should lead to another area that is named circulation area. Nowadays it is forbidden to visitors and it only serves the purpose of maintenance of the castle. The castle is of

From top left to bottom right

Fig.53: Drawing of the castle in the middle age

Fig.54: Picture of the castle before 1935

Fig.55: Picture of the castle in the end of the dictatorship

Fig.56: Picture of the castle in the present time



course the most important archaeological area of the site. It is totally open to the public and it also hosts a dark room where it is possible to see the whole city of Lisbon through a mirror positioned inside of a tower. The last area is the Praça Nova. Many remains were found in the underground of this space, consequently it was commissioned a project that could make a musealisation of these. The project was designed by Carrilho de Graça. It shows off the different populations that were living the hill along the different centuries. The first area has some Phoenician remains and it can only be seen from above, the second one is dated back to the Roman period and it contains some mosaics and some wall remains. The last area is instead the volumetric reconstruction of a Moorish house in order to recreate the spaces that once were.

5.2.3. The accesses

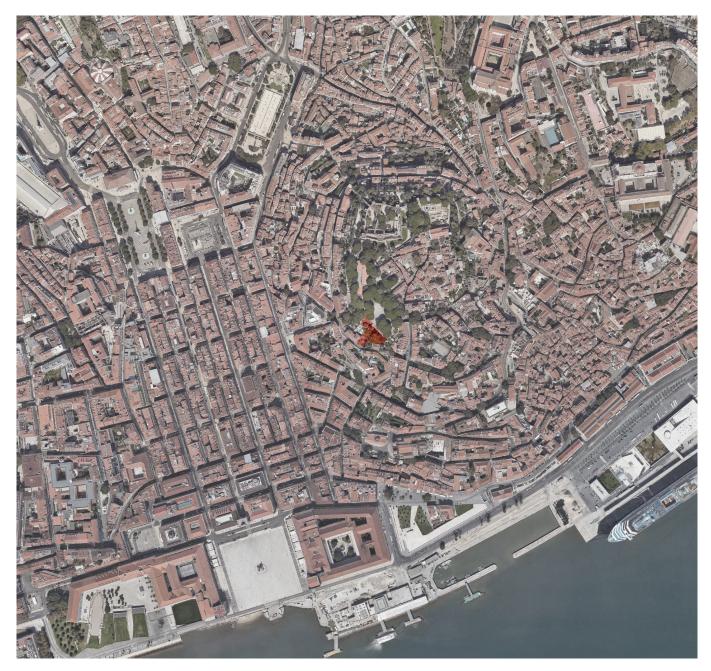
The citadel has several accesses which go all around the area. The main one is in Praça de Armas, where there is also the ticket office. The other accesses are not open to the public even due to logistic problems related to the tickets. The main problem from this point of view is that the entrance is very hard to reach from the city centre and the other surroundings because visitors are forced to get inside the whole castle quarter and cross it until the end.

5.2.4. Tourism

The castle of Sao Jorge is one of the most important monuments in Lisbon and the most popular in the city. It attracts mostly tourists and it is actually a must for them. The visit of the castle is suggested in many city guides both for the archaeological site and the breathtaking view from the panoramic walk.

Thanks to the data from the ticketing system of the archaeological area, it allowed us to perceive that per day that area was visited by an average of 2672 people/day (a minimum of 1288 and a maximum of 4219), which results in an average number of visitors/hour of 254 people.

From top to bottom
Fig.57: Areas of the castle
Fig.58: Axonometry of the castle



6. PASSEIO DE ALMA PORTUGUESA

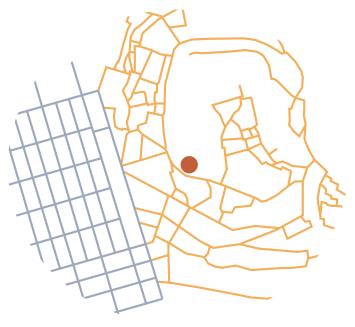
6.1. The project area

Consequently, to all the analysis that has been done in the previous chapters, it was decided to choose a location in the city that could reflect the enormous amount of history and spirit of the city. This research lead us to look for a place that should be in the area of the castle (the first one to be urbanised) and that would be able to guarantee a unique view on the city, a really special spot in which it would be possible to taste all those elements that are fundamental for Lisbon's people, such as light, the ocean, the sunset, the bridge, the city and to experience this in a spot, in somewhere you can just be in your intimate alone or with someone. In here it would also be important to have a high exposition to sun light and a least some protection from the wind.

Due to all these considerations, it was decided to locate the project site on the slopes of the castle, an area that was urbanised since the Roman age. It was never part of the castle, but it was inside the city walls. For some time it was an empty area due to the high slope it insist on. Then something was built but it never appears in the maps, so it keeps being a vacant area that yet is in the very heart of the city. It saw for ages all the events that took place in the city and yet it is empty, and this very intersection between the old and the new city of the Baixa, it is an urban wound that is calling to be healed. The height of it allows a magical view on the city, the bridge, the ocean, the colours and, during sunset, this place is capable to evoke intense emotions inside a person. A feeling that can move people inside, that can make them feel like they are part of the city and get lost in their thoughts, just like the city gets lost in its little ruas³⁹. It is exposed to south-west, so it takes a huge quantity of light during the day and to see the sunset on the ocean and on the city. So, it allows the better express the Portuguese architecture and intense use of light as a building material.

So, as it is possible to see in the image on the left, the chosen area is the one in red and it correspond to the place it was been looking for in all its aspects, and to be more specific it is in 10, Costa do Castelo, 1100-179 Lisbon.

Fig.59: Satellite photo of Lisbon, 2022











6.1.1. Peculiarities of the area

As it was previously mentioned, the project area is full of peculiarities that make it unique. Starting from the conformation of the streets that can be seen in the first image in the other page, it is possible to notice that the project insists in an area that is between two totally different urban textures, the one on the left is the Baixa, the newest part of the city centre that was rebuilt after the earthquake. It has a fully regular matrix of perpendicular roads that create a perfect and continuous grid. The other part is the one of the castle and of the Alfama, which has a totally different conformation that is related back to the middle age settlement. It is mainly chaotic with narrow streets and long series of stair in order to overcome the high slopes of the area. This contraposition of these two totally different patters is an interesting element of the area.

Another important element in the area is the large presence of azulejos⁴⁰ in the façades of the buildings as it is possible to notice in the second map. This is a distinctive characteristic of the neighbourhood and, as it was previously mentioned, it enhances a lot the effect of light in the area and gives the city a more colourful face.

There is also a negative point in the area, it is full of urban wounds as it is possible to see in the third image and there are 17 only in the area near the castle. This is due to the difficult slopes of the terrain that make the design of the building really problematic and hard. Even though these sites are in high visibility areas, there is still no will to proceed in the construction.

The last two pictures are describing the present situation of the project site. The first one is taken from the street and shows how this place is almost abandoned, if not for the security barriers to avoid people to go inside. It is possible to notice the terracing that keep the terrain around the castle walls on the same level. The second view is from the Praça de Armas of the castle that is right above the area. It shows that the upper area is just abandoned, and the spontaneous vegetation grew for quite some time now, marking the fact that there was no sign of building for a long time. Also it is possible to appreciate the amazing view on the city from here, it is possible to admire the city, the river, the bridge, the ocean and it probably is one of the best miraduros in Lisbon, together with the one of Graça⁴¹ and of Nossa Senhora do Monte⁴².

- 42. Painted ceramic tiles
- 43. Miraduro of the hill of Graça
- 44. Miraduro of the hill of Graça

From top left to bottom right

Fig.60: Street texture of Baixa and Alfama

Fig.61: Buildings with azulejos in the facade

Fig.62: Urban wounds in the area Fig.63: Picture from 10, Costa do Castelo

Fig.64: Picture from Praça de Armas



6.2. Strategy

Before thinking about the project, it is essential to explain one of the function of the project that are necessary to its existence. As a matter of fact, this project also wants to be useful for the city and allow some easier connections between the city centre and the castle.

Considering the Urban satellite scheme (first on the left page), it is evident the short distance with the main attraction points in the centre of Lisbon and the really close connection with the main squares such as Praça do Comercio, Restauradores and Martin Moniz. Many other important monuments are marked on the map and it makes it evident that this is and important position and it is almost central towards the most alive and touristic area of the city.

Now it is important to consider that the access to the castle, the most visited monument in the whole city, is extremely uncomfortable for those who are in the left side of the Castle hill. They are forced to reach the other side of the hill and then go back inside the castle neighbourhood in order to access to the Praça de Armas. In order to avoid this long path, our project aims to create a short cut, also filling an urban wound, so that the path would be faster and more immersive in the Portuguese culture. As it is possible to notice in the second image, this area is easily connected to the city centre through pedestrian streets and metro stations.

Taking in consideration the importance of the context in the project, we also thought about the influence that it has in the scheme of the construction itself. As we previously said in the last pages, the fact that the project insists in the intersection of the two urban textures is an extremely important issue that has to be controlled. So we started analysing the regular structure of the Baixa with only right angle turns and parallel streets. The mess of the Alfama is, as we said, totally the opposite. Consequently, we proposed a hybrid structure that is able to mix both the straight angles and the chaotic structure in order to make it belong not totally to just one of them but to the union of both.

This new conformation of the pattern is definitely an important starting point for the structure of the project which start to get its own definition from the outside urban context.

From top left to bottom right

Fig.65: Urban satellite scheme

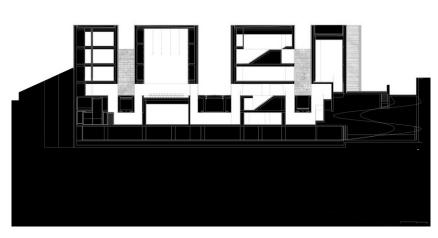
Fig.66: Urban link scheme

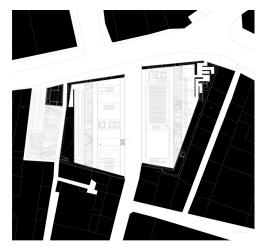
Fig.67: Baixa path pattern

Fig.68: Alfama path pattern

Fig.69: Project path pattern







6.3. Case studies

6.3.1. Museum, Sines Centre for the Arts

Architect: Aires Mateus Location: Sines, Portugal Year of realisation: 2005 Surface Area: 1950 m² Built Area: 8065 m²

"The building is situated at the start of the main street linking the town to the sea and marking the traditional entrance to the historic nucleus. The Centre subsumes diverse activities capable of generating an exceptional building: exhibition rooms, a library, cinema-cum-theatre and a documentation centre. The wide-raging program calls for the whole plot to be occupied, enveloping the street below mean ground level and adapting its exterior volumetry to the monumental scale of the castle walls. The four modules are set out on the upper floors in parallel bands intercalated with patios. The decks were hung from a bridge-like structure supported on the perimetral walls alone. This system allows a spatial configuration on the basement level that is adapted to the dimensions of the common areas; at street level it guarantees an unbroken view right across the inside of the building, including the activity of the Centre in the daily life of the town."

Aires Mateus

An essential characteristic that catch the attention of the visitor is the monolithic facade made out of stone that is also continuous in the external pavimentation of the street. This continuity of material makes the building to look like it came out from the street alone. It also has a great consideration of the buildings nearby, taking the same voids and same heights of the surroundings. This relation with the city is the strength of such a strong facade that is totally shaped like any part of the town. Moreover, this monolithic structure is really heavy on the outside but it also allows the interior spaces to be in total contraposition with huge spaces without any structure element. 6.3.1 Sines Center for the Arts

From top left to bottom right

Fig. 70: Picture of Sines Center for the arts from outside

Fig.71: Building section
Fig.72: Building plan





6.3.2. Museum, Galician Center of Contemporary Art

Architect: Álvaro Siza Vieira

Location: Santiago de Compostela, Spain

Year of realisation: 1993

Surface Area: - m² Built Area: - m²

Its declared horizontality and respect for the surrounding buildings and the urban structure are configured in the most remarkable gestures of this project. The solid and austere volumes form the boundaries of the area to the streets, with subtractions that make it accessible. The center has several permanent and temporary exhibition rooms, auditorium, library, cafeteria and administrative rooms.

Granite is used blending to the surroundings, with the material "aging" along with the building, resembling the neighboring buildings, that are also built of the same material. Inside, Siza concentrated on three main materials: granite, marble, and wood, with a sobriety that allows a clear reading of the volumes. The sculptural details of the terrace and the presence of the light in the interior conform transform each ambiance when moving between the rooms. According to the architect, the building is configured as a longitudinal structure oriented in the north-south direction, composed of two heights and volumes with three L-shaped plans that interpenetrate at the south end, to give rise to a triangular intermediate courtyard. The average height of the volumes coincides with the neighboring buildings, a convent, and a church. The volume fulfills a mediating role between the various scales of the surrounding buildings.

This architecture is expressing a strong Portuguese way to do architecture. The single material volumes, massive walls without openings and entrances as a void in the monolithic structure. And as it is possible to notice, the material is stone that always has this beige colourisation. This colour can be seen in many architectures made from the Portuguese architect.

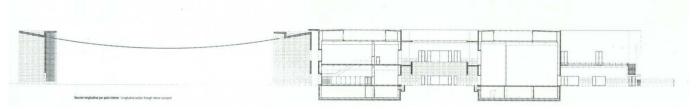
From top to bottom

Fig.73: Picture of Galician centre from outside

Fig.74: Picture of the entrance







6.3.3. Pavillon, Expo'98 Portuguese National Pavilion

Architect: Álvaro Siza Vieira Location: Lisbon, Portugal Year of realisation: 1998

Surface Area: - m² Built Area: - m²

At the Expo '98 Portuguese National Pavilion, structure and architectural form work in graceful harmony. Situated at the mouth of the Tagus River in Lisbon, Portugal, the heart of the design is an enormous and impossibly thin concrete canopy, draped effortlessly between two mighty porticoes and framing a commanding view of the water. The simple, gestural move is both weightless and mighty, a bold architectural solution to the common problem of the covered public plaza. Under the graceful touch of Álvaro Siza Vieira, physics and physical form theatrically engage one another, and simplicity and clarity elevate the pavilion to the height of modern sophistication. Siza created a space that was visually striking and highly effective at meeting the festival's programmatic needs and site-specific requirements.

The trademark canopy is a tremendous feat of technology, engineering, and modern design. It is formed by the catenary arc of steel cables draped between the porticoes which were subsequently infilled with pre-stressed concrete. In addition to giving the canopy an elegant, clean texture, the painted concrete weighs the roof down to prevent strong drafts from moving or lifting it from below. The porticoes, while playing an important structural role, are articulate architectural elements in their own right. Each has nine massive columns, arranged in a beautifully rhythmic but provocatively asymmetrical manner. Deep cuts between the columns create dramatic contrasts of shadow and light, highlighting the clean lines of the columnar profiles. A façade treatment of colorful ceramic tiles in the deep recesses, glazed in the national colors of green and red, adds a playful touch to the otherwise austere and monumental structures.

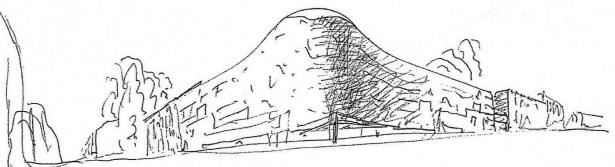
From top to bottom

Fig. 75: Picture of the pavilion from the long side

Fig. 76: Picture of the pavilion from the short side

Fig.77: Building section





6.3.4. Social Housing, Bonjour Tristesse

Architect: Álvaro Siza Vieira Location: Berlin, Germany Year of realisation: 1987

Surface Area: - m² Built Area: - m²

Bonjour Tristesse is a social housing project designed by Portuguese Architect Álvaro Siza Vieira. Located in Berlin, the project was Siza's first built work outside of his native country. Siza's design offers a meaningful precedent in urban densification, demonstrating a delicate balance between contextual awareness, creative freedom, and progressive vision.

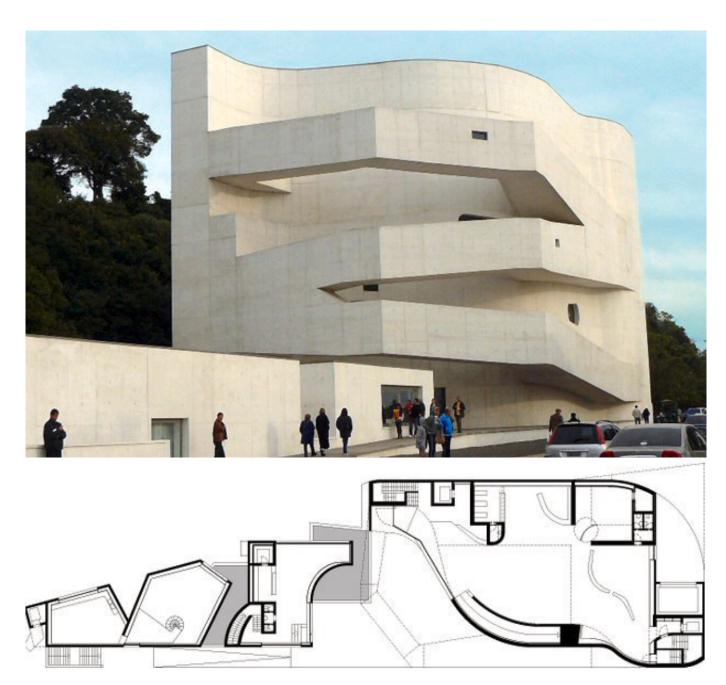
Bonjour Tristesse was one of the many projects designed for the International Building Exhibition Berlin of 1987. Siza's housing project is situated in the Kreuzberg district, at the corner of a 19th century block. As the original corner building was destroyed in the war, a large void was left between the buildings on each side. Following the war, a series of singlestory retail stores was constructed, however this solution did not match the heights of the surrounding buildings and did not provide any residences which were badly needed. In 1980 the retail stores were demolished in order to make way for the new Bonjour Tristesse. The seven-story structure strongly exhibits the contextual nature of Siza's work, which is well-known for its sensitivity to surroundings. The most prominent characteristic of the design is its continuous, curving façade that joins the adjacent buildings and effectively completes the corner of the block. This sculptural gesture is echoed at the rear of the building as well by a small concave curve. Another feature of its morphology is the subtle rising of the roofline towards the corner. The grey exterior is penetrated by a dense and regular grid of windows, reflecting the typical order and rhythm of surrounding buildings.

In context, the Bonjour Tristesse social housing project appears visually intriguing and contradictory. While the rigid window pattern is meant to blend in with its surroundings, the curvilinear form is intended to be a reference to German Expressionism, and thus contrasts with its surroundings. It is this juxtaposition that provides the structure with an extremely unique appearance.

From top to bottom

Fig. 78: Picture of Bonjour tristesse from outside

Fig.79: Sketch from Siza



6.3.5. Exhibition building, Fundação Iberê Camargo

Architect: Álvaro Siza Vieira Location: Porto Alegre, Brazil Year of realisation: 1987

Surface Area: - m² Built Area: - m²

The principal volume is carved out against the cliff vegetation, occupying its concave space, and results from the superposition of four floors with an irregular form, including a ground floor at the platform level. This volume is delimited by a straight and almost orthogonal wall on the south and west, and by an undulating wall on the north and east.

This undulating wall, which rises the entire height of the building, delimits the access atrium, which is surrounded by the exhibition halls (an equal sequence, on the three floors above, of three rooms of varying dimensions) and by the reception, coatroom, and bookstore on the ground floor. Permanent and temporary exhibition spaces are not differentiated, opting for a flexibility appropriate to the actual functioning of museums (the collection of the museum itself makes temporary exhibitions of different themes).

The halls of all the floors can be opened onto the space of the atrium, or closed by moveable four-meter high panels, allowing natural light from the atrium and between this height and the ceiling. The rooms of the last floor receive natural and artificial light from skylights made up of double-paned glass, accessible for cleaning and maintenance.

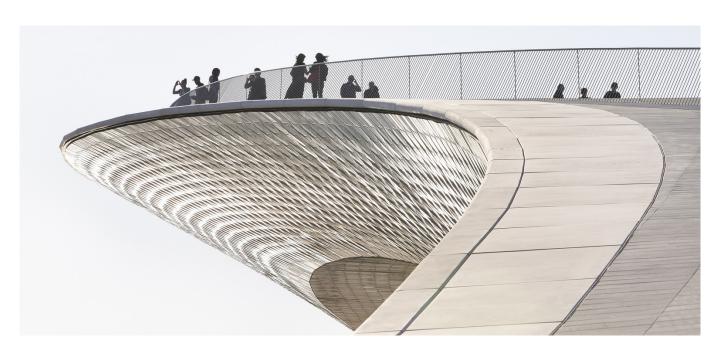
The atrium receives light by a skylight located on the terrace and by exterior openings on the undulating wall.

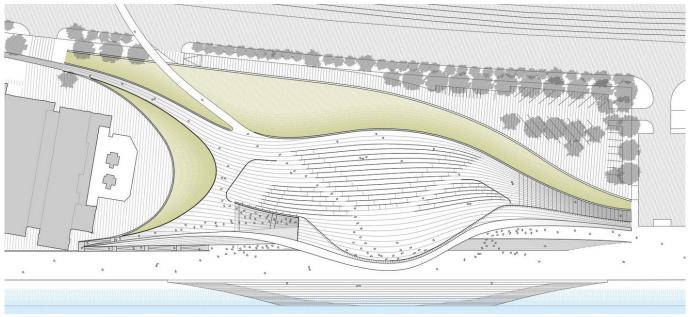
The vertical accesses (two elevators and two sets of stairs) are situated at each extreme end of the sequence of the exhibition halls. Also included is a system of ramps, with slopes of between eight and nine per cent, which develop partially in the internal atrium and partially in the external spaces, creating closed galleries, surrounding the volume of the building, ocasionally opened by small spots onto the beautiful landscape and by skylights.

46. Amanda Levete about the project

From top to bottom

Fig.80: Picture of Fundação Iberê Camargo from outside





6.3.6. Museum, MAAT, Museum of Art, Architecture and Technology

47. Amanda Levete about the project

Architect: AL_A

Location: Lisbon, Portugal Year of realisation: 2016 Surface Area: - m²

Built Area: 7400 m²

"MAAT is a museum located on the riverside of the Tagus in Belém. It is proposing a new relationship with the river and the city. The new building is the centrepiece of EDP Foundation's masterplan for an art campus that includes the repurposed Central Tejo power station. Blending structure into landscape, the museum is designed to allow visitors to walk over, under and through the building that sits beneath a gently expressed arch – one of the oldest forms in western architecture. The roof becomes an outdoor room, a physical and conceptual reconnection of the river to the city's heart – where visitors can turn away from the river and enjoy the vista of the cityscape, and at night, watch a film with Lisbon as a backdrop. Below, the exhibition spaces are designed as flowing interconnected places for experiences and interactions at the intersection of the three disciplines of art, architecture and technology."44 These spaces complement the galleries of the converted Central Tejo building. It makes it a perfect project for connection between the city and the riverside with the presence of a bridge in the back of the building that allows to cross the railway easily and create a shortcut between the two areas of the city that in the present moment are definetly separeted from one another.

This project also recall the tradition of craft and ceramics, it has three-dimensional crackle glazed tiles articulate the façade and produce a complex surface that gives mutable readings of water, light and shadow. The overhanging roof that creates welcome shade is used to bounce sunlight off the water and into the building. It makes a really interesting use of the traditional tiles and they are applied almost as a skin to the building. It then looks like a reptile which is standing in the sunlight.

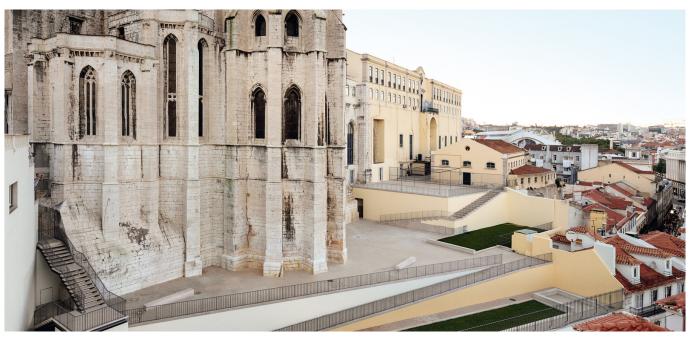
This building can also be considered as a miraduro itself due to the possibility to go on the top of the roof and stay there to admire the amazing lanscape of the ocean and of the city in a beautiful environment.

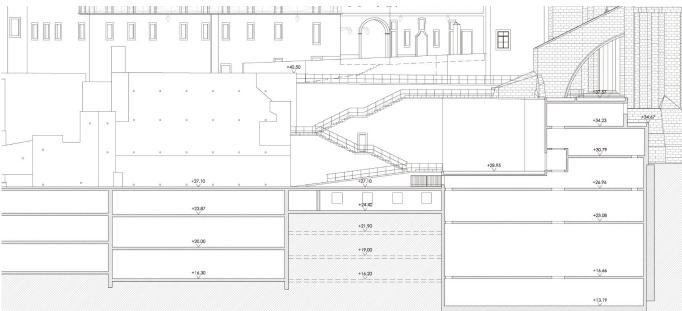
From top to bottom

Fig.82: Picture of MAAT from outside

Outside

Fig.83: Building plan





6.3.7. Connection between Chiado and Terraços do Carmo

Architect: Álvaro Siza Vieira⁴⁵ Location: Lisbon, Portugal Year of realisation: 2008

Surface Area: - m² Built Area: - m²

In August 1988 a fire destroyed eighteen buildings in the historic Chiado quarter, and since then the area's recovery has been carried out in different phases. Aside from the reconstruction of the demolished volumes, the project takes the opportunity to remodel the whole urban context. The intervention includes, therefore, the pedestrian paths between the lower part of the Chiado and the ruins of the Carmo Convent, which had been lost in the fire but had existed before and was worth recovering due to its strategic location.

The topographic complexity of the area, with a drop of over twenty meters, called for a meticulous operation able to revitalize the residual spaces and create a continuous itinerary. Through a passage from Garrett street one reaches the interior courtyard block, where a ramp and zigzagging stairs ascend towards the base of the Carmo Convent. Around the monument, a series of intertwined platforms create rest areas and lookouts towards the downtown area of the city. All this is achieved using the same type of calcareous stone and imitating the colour of the rendering, to minimize the presence of the intervention across from the historic centre.

In order to make the area more accessible, a walkway known as 'the Carmo terrace' now connects the redevelopment, joining an ancient convent with the street below. this latest architectural instalment creates new public plazas, bringing the area into contact with the church's surroundings, and providing sweeping views over Rossio and the rest of Lisbon from the raised platform. to ensure that the renovation did not visually disturb the area's history, a survey of traditional paving methods informed the street surfaces, as well as pavements and patios.

This project is an amazing example of how a connection project is done in Lisbon and how Siza can make such a huge intervention to be immediately part of the city as it seems to be there for a lot more years.

48. Alvaro Siza Vieira (1933) is unanimously considered one of the leading exponents of modern Portuguese architecture and one of the most important architects on the international scene of recent decades.

From top to bottom

Fig.84: Picture of the stairs from

outside Fig.85: Section





6.3.8. Metro stations

Architect: Various

Location: Lisbon, Portugal Year of realisation: Various

Surface Area: - m² Built Area: - m²

The metro stations in Lisbon can be considered a masterpiece of interior design and are of the city. All of them have a peculiar drawing made out of a particular use of ceramic tiles and colours that makes them totally unique between one another.

Architect Francisco Keil do Amaral (1910-1975) and his wife, artist Maria Keil⁴⁵(1914-2012) were responsible for the first eleven stations to open on the Lisbon metro such as the classic Parque Station. Later as more stations were added to the network, individual artists or teams of artists were chosen to decorate a particular station. Often, the art would reference the location and history of the area the station served.

For example the metro station of Olaias was designed by Tomás Taveira and the installation art was created by Pedro Cabrita Reis, Graca Pereira Coutinho, Pedro Calapez and Rui Sanchez. Once inside the vast underground space occupied by the station, however, mutedness goes out of the window. Or at least it would do if there were any normal windows. but there aren't, just a couple of stained glass ones at the platform ends. The huge, multi-level concourse is instead decorated with an abundance of glass panels, of many different colours. They are lit from behind so that they glow, bathing passengers in different coloured light. Most are on the ceiling, but there are also weird fish-shaped lamps hanging down into the concourse, and a lift shaft, all of them faced with coloured glass panels and illuminated from within. As you move through the concourse, the kaleidoscope turns, colours and patterns shift around you, and the whole experience borders on the unreal. You're Alice in a transport wonderland, the ultimate polychromatic riposte to the muted colours and raw concrete finishes of most modern metro stations.

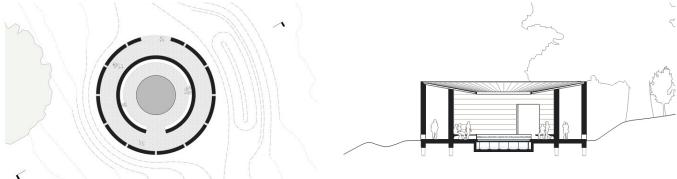
49. Maria Keil was a Portuguese visual artist. She was born in Silves and died in Lisbon. She produced a vast and diversified work that includes painting, drawing and illustration, azulejo, graphic and furniture design, tapestry and scenography. Particularly noteworthy is her intense activity as an illustrator, as well as the crucial role she played in the renovation of contemporary tiles in Portugal.

From top to bottom

Fig.86: Picture of interiors of Olaias metro station

Fig.87: Picture of interiors of Avenida metro station





6.3.9. Monument, Writ in Water

Architect: Studio Octopi

Location: Runnymede District, United Kingdom

Year of realisation: 2018 Surface Area: 187 m² Built Area: 187 m²

Writ in Water, is a major architectural artwork by Mark Wallinger⁴⁶, in collaboration with Studio Octopi, for the National Trust at Runnymede, Surrey. The artwork celebrates the enduring legacy and ongoing significance of Magna Carta. Over 800 years ago, Runnymede witnessed the feudal barons forcing King John to seal Magna Carta - a founding moment in shaping the basis of common law across the world.

Set in the heart of this ancient landscape, Writ in Water reflects upon the founding principles of democracy, and through a meeting of water, sky, and light, provides visitors with a space for reflection and contemplation. The 15.4m diameter circular building emerges from the hillside at the base of Cooper's Hill. Responding to this feature of the landscape, Writ in Water takes its name from the inscription on John Keats' gravestone, which reads, "Here lies one whose name was writ in water". Built in cubits, the most ancient unit of measure, the walls are constructed of rammed stone from the site itself, with a dark stained softwood roof and crushed gravel floor. An exterior doorway leads to a simple circular labyrinth, in which the visitor can choose to turn left or right to reach an inner doorway that opens out into a central chamber. Here the sky looms through a wide oculus above a pool of water, as reflective as a still font. The shot blasted stainless steel sides of the pool are inscribed on the inner side, the water reflecting the reversed and inverted lettering of Magna Carta Clause 39 as the visitor moves round the pool to reveal its words.

The project works it its simplicity, the attention of the visitor is instantly directed to the water mirror and the writing that is surrounding it. Also the use of light is really powerful both for the internal illumination and for the possibility to look at the sky and the water in order to make this connection between these two elements. The materials are also poor, it is just row earth that comes from the same area the building is built in.

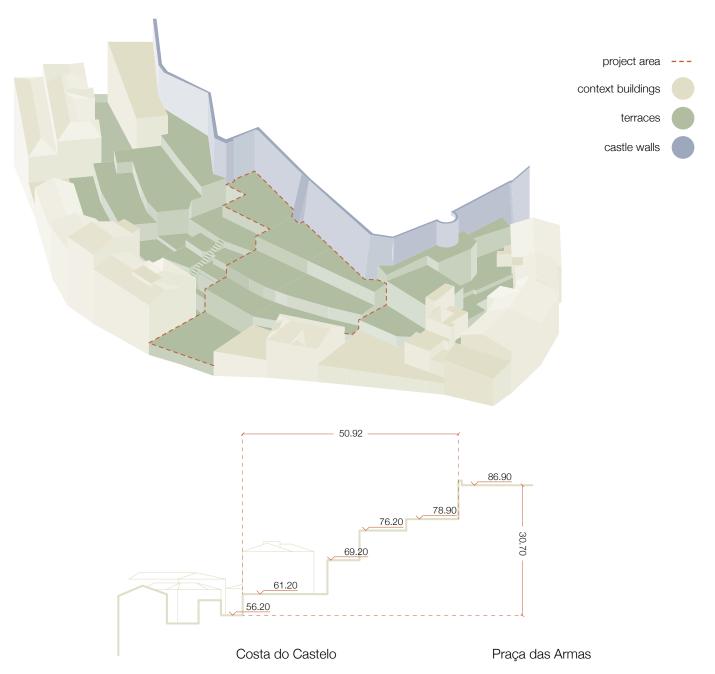
50. Mark Wallinger (born 25 May 1959) is a British artist. Having previously been nominated for the Turner Prize in 1995, he won in 2007 for his installation State Britain.

From top to bottom

Fig.88: Picture of interiors of Writ

in water

Fig.89: Plan of the building Fig.90: Section of the building



6.4. Concept

The plot is connoted by a strong difference of high from the street level, Costa do Castelo, to the Praça de Armas. All the existing buildings of the surrounding face the street and host terraces, leisure private areas and gardens in the back. As it is possible to see in the axonometry on the left, the urban front is continuous all along the street but it is only insisting on the street line, while in the back of the building it is mainly left as gardens or abandoned space where it is easily spotted a wild vegetation growing.

The buildings in the areas are mainly buildings from the 20th century without a particular architectural qualities. Mainly they are residential except for the building in front of the project site that is owned by a circus company called Chapitô and an academy for clowns and circus actors. In here there are some interesting elements such as a circus tent and some very intricate spaces that develops on different levels, some underground, some in the buildings and some in the open air.

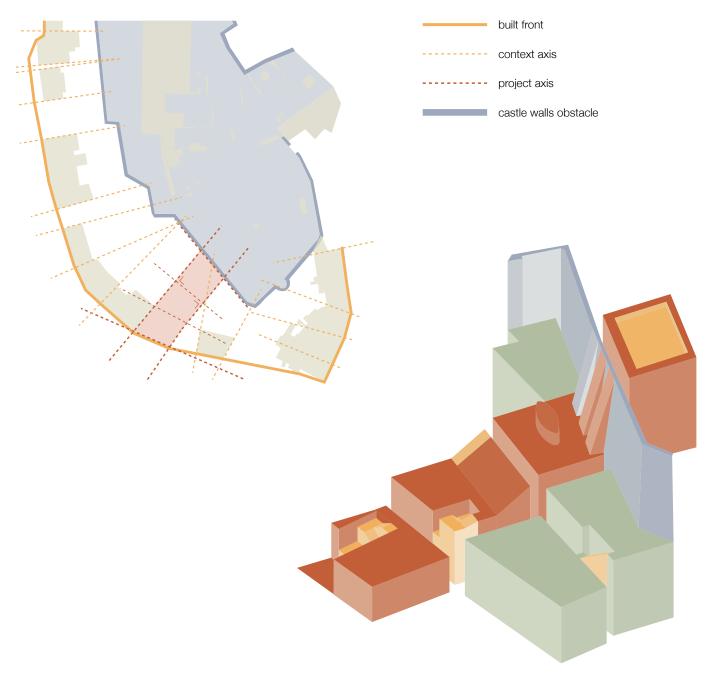
There are many gardens and they are of totally different nature. Some of them are very curated and detailed with some flower beds an also gazebos. Some of them also have swimming pools and fountains which also have an incredible view on the city. In the other hand, some are just there, abandoned and inaccessible or also they are cementified as terraces but with no apparent use. It is then possible to affirm that this area is not really regulated by a strong idea. It can be considered as "still to be developed".

The plot of the project is one of these totally abandoned areas on every level of the slope. It is also important to underline that there is a huge difference of height between the street level and the castle level which can be seen in the drawing on the left. The distance is 30.70 meters for a lenght of 50.92 meters from the street to the beginning of the castle. And the actual configuration is composed by four different terraces (The first one is 5 meters from the street, the second one is 8 meters from the first, the third one si 7 meters from the second, the fourth one is 2.7 from the third and the castle is 8 meters from the last one) that does not follow the space offered by the urban wound but they also spread on the sides as it is possible to notice in the axonometry. This interesting configuration of the area gave us the idea of how to develop the project in this place.

From top to bottom

Fig.91: Axonometry of the state of fact

Fig.92: Section of the project area



The main challenge of the project area is to face the difference of level from the Costa do Castelo till the Praça de Armas. Through the setting of new axis, deriving from the existing structures, such as buildings and castle walls, and the reference of the surrounding terraces, the project follows the natural grew of the high, with the joint of new volumes into the terrain, reaching the major obstacle, which is the castle wall. Thanks to the possible axis present in the area we got to the conclusion that the monument should insist in the straight line that connect the street to the castle. The areas that were connected to the terraces we are using are not going to be left alone. We decided to reuse them by making park areas that are necessary to provide some space where people can rest in the nature. They also work as buffer areas that can divide the monument to the residential buildings in order to have an area of respect towards them.

Consequently all these considerations, our design start by taking in consideration the terraced shape of the are, so we decided to make more levels which can follow this kind of shape. Therefore we got to the definition of three different volumes outside the castle walls and one inside and they will all also serve the purpose of connection that was specified in the strategy chapter.

The volumetric composition of the new intervention follows in a simple way the reconstruction of the existing terraces, adapting them to the functional necessities of the project. Every volume corresponds to a selected specific topic of the Portuguese culture, sometimes in a symbolic way, sometimes in a more functional way, and offers for any of them both a indoor space and a open terrace, that refer themselves to the concept of "miradouros". The aim is to create a continuous public space in which everything is linked through a system made of stairs, that permits the connection from the Costa do Castelo street till the Praça de Armas.

The values of Lisbon in general we selected are the following:

- 1. Light, which is one of the most important materials in the Portuguese architecture and life
- 2. Fado, the autochthonous music of Portugal and symbol of culture.
- 3. Saudade, the most Portuguese feeling that can exist and symbol of soul.
- 4. Ascension, that goes across all these values like it wants to create a climax from the exterior to the interior of the Portuguese soul and it culminates with the most historic place in the city, the castle.

From top left to bottom right

Fig.93: Scheme of the axis in the project area

Fig.94: Volumetric axonometry of the project



6.5. Passeio de Alma Portuguesa

The name of the Project is "Passeio de Alma Portuguesa", that can be translated in English as "Walk of the Portuguese Soul".

This is the project of a monument that celebrates the Portuguese and Lisbon in their most relevant characteristics from a physical, cultural, spiritual and historical point of view. Our aim is to translate all these qualities into architecture and in doing so, to allow the visitor to take this walk inside the spirit of Portugal.

Zooming in a little bit into the project, as it is possible to see in the section, the project follows the slope of the hill. All the constructions in the same section are just leaning on the same level of inclination or maybe a little less. It is infact an important peculiarity of the city that also the buildings cannot be tall in the city centre due to both seismic problems and obscuration of the possible view behind. Each building then has only one colour in the façade and this can be any possible colour. For example the one just next to our plot is coloured in pink,. This is an aspect that gives the city it's brightness.

Now we focus on the masterplan. It is clear the direct connection between the street and the castle. The access is directly on the street Costa da Castelo that is going all around the historical site. The ending point of the project is then the Praça de Armas that is the official entrance to the archaeological area. Thanks to this, we are not reprogramming the visiting path inside but we are only providing a new possible access that can give a climax to the visitor.

Another important characteristic of this area is that it can be easily seen from the whole city. The buildings in front of it are small, about 3 meters of height, so they allow a beautiful view but also the opposite so we really had to think about the consequences of an urban intervention in this area and a way not to impact with the castle background. This also lead us to a series of consideration about the height, the materials and the presence of green areas. All the elements are thought to be in total harmony between one another and in way that does not impact to the context.

One point from this point of view was to continue the urban front by connecting the corners of the two buildings on the side in the same way all

From top to bottom
Fig.95: Urban section
masterplan



the others are doing. But in doing so, we decided to create a breakthrough to better mark the entrance and also to allow the presence of a little square where people can stop and gather.

6.5.1. Project of a Monument in Lisbon

Once the visitors are in Costa da Castelo, they can see on the street some triangles, some arrows, in the calcada that are all pointing to a complex. If they follow these, they are immediately welcomed by a square in stone and a staircase that will bring them up. They can easily chose between exploring the square or to go up and discover a new path leading to the castle. There is a succession of four staircases which are interspersed by totally different settings. The first one is the room of Light, The second one is a square and the room of Fado, The third one is a square, a park and the room of Saudade, The fourth one is a square, a terrace on the room of Fado, two parks and the access to the castle. In the end of all of the staircases the visitors are finally on the Praça de Armas of the Castelo de Sao Jorge. As it was already mentioned, the staircases ha a regular shape but they are disposed following different axis due to the conformation of the plot and of the context. The first one takes reference from the street, the second one and the third one they correspond to the line of connection between the street and the castle, the fourth one instead is totally related to the walls of the castle.

As regards the green areas, they are collocated at the same height of the squares so to create a continuity and to make them easily accessible. These parks are located where previously there were abandoned terraces. We decided to rehabilitate them so to create a new buffer zone and to provide also places where visitors can rest. The path are related to the axis of the project so that they all are part of the same design. Moreover it is important to consider that in Lisbon, the green areas are needed to be increased in the city centre as it was mentioned in the chapter 3.4.

The materials of the outside can be summarised in just few elements. For as it concerns the built area, there is a prevalence of block of stones both in the pavimentations and on the walls. There are though some elements of a different material. Each time there is an access to one of the room or there is a balcony on it, this opening is covered in azulejos. They are marking the





access to the area with through their source of reflection and in this way the visitor can understand that something important is happening inside.

Another peculiarity is the roof of the room of Saudade, the square in which the elliptic shape is. This solid is covered by an articulated design of tiles that will shine in the sunlight. It calls for attention because it hides in the inside the most peculiar space of the project. Another interesting part is the stepped staircase that it is possible to see in the section on the left. The point is to create windows that are hidden between the raises of the steps.

It is also necessary to point out the structure of the walls that are dividing the Saudade from Fado. These two rooms lean on the same height, the share the same wall and they are close to each other. There is of course a reason to this. Fado music often has the topic of Saudade in its lyrics and Saudade has been expressed in amazing ways through music. This is the reason they are so close to one another, like they are the same thing but with little differences.

It is also interesting to notice that in each room there is a different use of tiles, with a totally different use of pattern and position. Starting from the Light, where there are classical azulejos, to the last staircase where we designed a pattern inspired by Maria Keil. In this pattern we also added the flower of carnation in order to symbolise the important revolution and so the importance in history of Lisbon and of Portugal.

As regards the elevation, due to the highly visible position and due to the important and essential background, it was decided to have a façade which would not call for attention. We thought about using the colour of stone that was also used by Aires Mateus in the Sines Centre for Art. The elevation appears as a clean and articulated volume that keeps going back in terraces. There are though some elements that are essential. First it will be strong in illumination and in doing this it will be easily visible. Second, the elliptic shape will shine in sunlight as a light post at the slope of the castle and third we also decided to make two replicas of the keep that is sustaining the walls. This element is unique, it is never repeated elsewhere. Our decision to replicate it is in order to make clear that this intervention is also affecting the castle in some way. Also it is important to clarify that our intervention does not aim to replicate or use the same materials of the walls, but it wants to show the closeness between the old castle and the new monument for the city.

From top to bottom
Fig.97: Longitudinal section and elevation.



6.5.2. Room Of Light

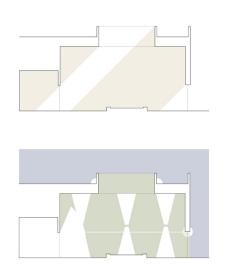
The room of light is where the visitor is firstly welcomed. It already starts in the street with a composition made with calçada portuguesa. It is made of little white triangles in a sea of black stones and they are all pointing the entrance. They also reflect the sunlight to the exterior walls and in this way they are starting the theme of light with one of the most present light materials in the city. The project starts as soon as the visitors walk on the stone pavimentation. They are in front of three areas, the first is a little garden on the left which provides also a hidden access to a maintenace room, the second area are the stairs that allow them to start the climbing of the monument. These are still made out of the same kind of stone, and also the handrail is made out of the same material. The third possibility is a covered square where the real purpose of this floor is. There are no door, it is completely open to the street thanks to an opening in the perimetral wall.

Once you pass the theshold, that is also corresponding to the dimension of the wall above, you are brought inside a space of light during both day and night. In the middle of the room there is a small garden with a tree, surrounded by a bench made out of stone that allows people to take a rest, to gather and to start their introspection. This element also is important in order to slightly block the view of what is behind it and to generate a little curiosity in the those who are passing by. Those who decided to go over the three are able to look at what is happening in the end of the room. There is another room that is separated with a wall of transparent glass. In here there is a whole reconstruction of the orography of Lisbon where in each point of interest of the city there is a lamp hanging from the roof of the room. These lamps have the purpose to make the visitor understand the amount of places that brings the city to life and doing so, light became a metaphor of the life of the city.

Moreover there is a room on the left of the glass wall that is exhibiting all those characteristics of what light is in Lisbon through a collection of pictures of the city where this idea is evident.

We also designed a way to go to the other levels of the monument that is an escalator that can be found on the right area of the plan. It will allow the access to all those people who find difficult to use the stairs and it will allow them to access the whole complex with no possible problems.

Fig.98: Plan of the room of light







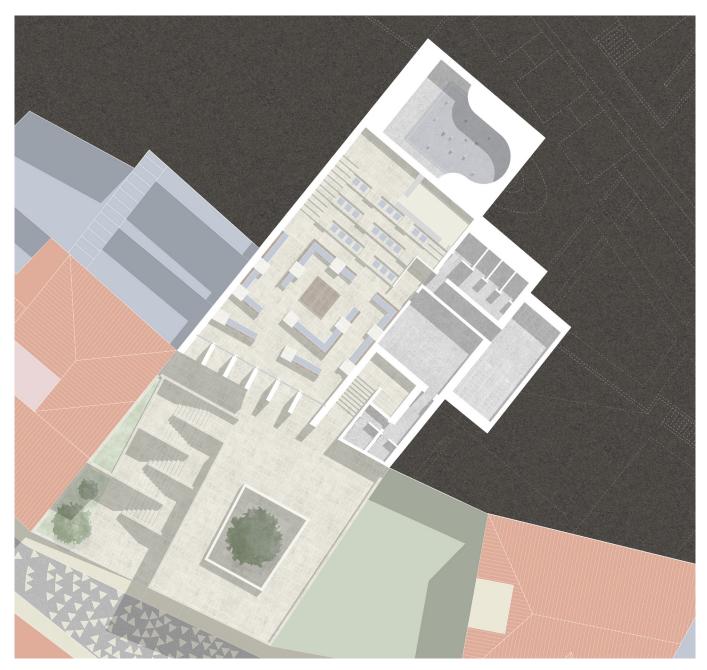
In the illumination schemes in the page in front, there is a consideration about how the light works inside the space. During the day the opening of the roof is crucial and it gives a zenith illumination that gives more the idea of a natural light from the sun. This light is also reflected by the lower part of the walls that is made out of azulejos. These have the purpose to reflect light and to give a stronger effect to the whole idea of the room. These tiles are inspired to the painting of the classic patterns that can be found in the city and they recall the classic appearance of the interiors of the buildings. Thanks to the glossiness of these elements, the light is reflected in a smooth way so to give a pleasant effect of global illumination inside the room. During the night the effect is the opposite. The room explodes of light and it can be easily seen from the surroundings and from above thanks to the hole in the roof. In doing so, it becomes a sort of light post in the slope of the castle. The light is provided by the exposition that was previously mentioned. This exposition can also be developed as a useful tool for the visitors to understand which place they visited and those they did not.

This room takes its reference from the entrance of the Galician Center of Contemporary Art.

There are also some details that are to be mentioned. We decided to split the wall in two thanks to a steel profile that starts in the outside where there is the opening of the wall towards the street and it continuous until the wall of glass where it becomes the frame of the panels. This division is important to give a hierarchy to two levels of the room. The lower is hosting the azulejos and the opening so it showing lightness while the upper part is massive and warm in order to give the idea of a safe and warm space where people can be protected by the world and can avoid to suffer the wind that is whipping the city.

The staircase the other essential element of this area. We decided to make it possible that those who start going up can see what is happening on the other flight of stairs and percieve a continous flow of people going up or down.

From top left to bottom right
Fig.99: Illumination schemes of
natural and artificial light
Fig.100: Axonometry of the
orography and lamps
Fig.101: View of the interiors
Fig.102: Transversal section of the
room of light



6.5.3. Room Of Fado

The second level of the monument represent the cultural side of Lisbon, the Fado. As we already explained in the previous chapters, it is the most important musical tradition of Portugal.

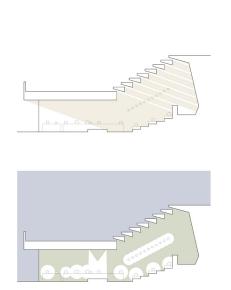
The access to this level is provided by the staircase coming from the light area. Once the visitors arrive, they are welcomed in a square of stone can also host some tables in case of events. In here there are three options, first is to stay in the square and enjoy the view, second to take the second staircase that leads the visitor to the next level of the building and third to access the Room of Fado. The entrance is marked by a series of rectangular pillars, that take inspiration by the famous Portuguese pavillon made by the Portuguese architect Álvaro Siza Vieira for the Expo 1998 in Lisbon, just were the first staircase ends. From here it is possible to enjoy the view of the people going up (or down) to look inside this space. We can consider two different areas inside, the first one is the one that welcomes the customer that is characterised by a multitude of wooden benches that are coronate by blocks of stone that can be used as tables. In the middle of this area there is a squared wooden stage where the fadistas⁴⁸ can go and enchant the visitors with their music. In this moments it is important that there is total silence. It is a non written rule that says "Silêncio, que agui canta-se o fado"⁴⁹. This stage is able to host up to six people that is the maximum number of musician for a fado song. All the other people are around this stage and can enjoy the music in a way that can capture their attention. The other area is characterised by a stepped staircase where there will be pillows to mark the seats and the same stone cubes separating the different people. This will give more the impression of a Roman or Greek theatre. On the side there is a stair with normal steps that leads to the highest area of the room where the bar station is. Bartenders will be able to see what is happening inside the space and thanks to the inclined wall furnished with shelves full of bottles, they are able to satisfy all kind of customers.

This room takes its reference from the Expo'98 Portuguese National Pavilion.

On the side of the stepped staircase there is the serving area which is composed by the toilets, a kitchen that is a necessary condition for a good Fado space and an access provided by the escalators that a coming

51. Fado musicians52. Translation: Silence, here Fado is sang.

Fig. 103: Plan of the room of Fado







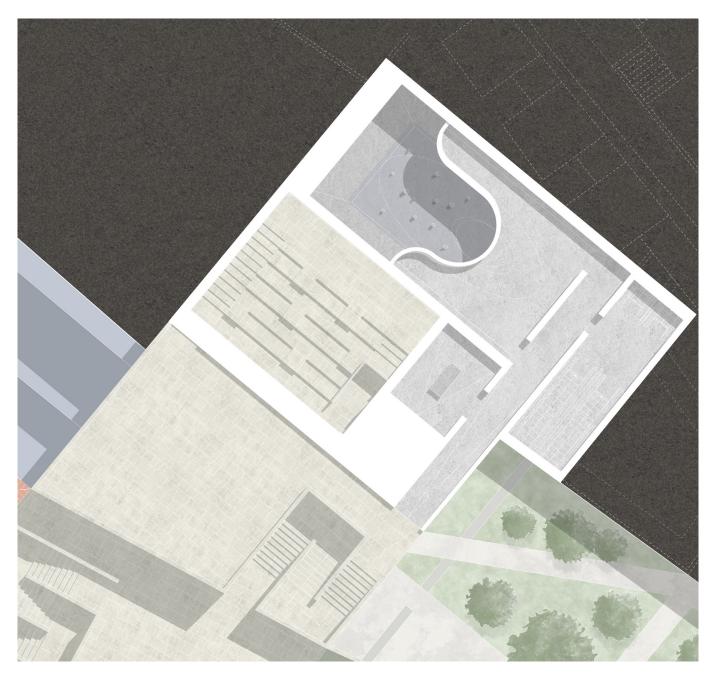
from the space of light and are also leading to the other next level of the monument.

The section of this space is peculiar as it was possible to notice in the general explanation before. In the first area the roof is clean and flat, while in the second part there is a stepped staircase that is also reflected by the one in the inside. Through this staircase, the lights is able to get inside and to illuminate the bar with amazing stripes of light during sunset and to give to the inside a colour with tendency to red and pink. And this effect can also be seen in vertical stripes due to the presence of the rectangular pillars in the entrance. As regards the artificial time illumination, we decided to put a series of spherical lamps on the stone cubes that will make the illumination of the area smooth but still pleasant. The stage has a totally different treatment. Above it there is a little depression in the roof in which there are some lamps and led stripes that will only focus the area of the singers. Over the stepped staircase there is a grid of lamps that can give a strong illumination using low intensities of light. Moreover, on the sides of the room there are two azulejos composition in the tones of blue that are inspired to the modern use of tiles and that will have the purpose that was also discussed in the lower level, to make the room more illuminated and smoother.

From top left to bottom right

Fig. 104: Illumination schemes of natural and artificial light Fig. 105: Axonometry the use of the stage

Fig. 106: View of the interiors Fig. 107: Transversal section of the room of Fado



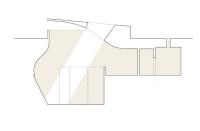
6.5.4 Room Of Saudade

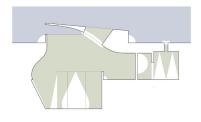
At last, welcome to the space of Saudade, the space dedicated to the soul, the area where to get lost and lose the conception of time and space while being drowning in memories. Once the visitors have left on their back the Light and have been bewitched by the songs of fado, they are welcomed in another open air square and again, they have three possibilities. The first is to turn right and access the first garden where to take some rest, the second is to turn left and keep going up and the third is to go inside a tunnel that is right in front of them. This space is illuminated by a small amount of light in order to force the visitors to start losing the conception of where they are. There is a first space located in the half of the tunnel where they can enter and read all those things that the other people decided to write about the topic of saudade, and also some permanent writings belonging to the most famous poets of Portugal such as Pessoa, Pascoaes or Saramago. We imagine this room as a workshop of feelings where everyone can express its own feeling of saudade to the other souls.

Subsequently to this, people follow the remaining part of the tunnel and, together with those who got there with the escalators, turn left to a new totally different space. The space looks like the inside of an organ in two levels, like a cave where all the walls are different. The first view someone has is a frame from two inclined walls where people can lean and meditate, this heavy curved handrail that goes along a hole that still cannot be seen. The roof has a shape that is almost impossible to understand, more resembling to a living thing than to something made out of a man. As soon as the people take a few steps ahead, they start to understand where that sound of running water was coming from. A water fountain from a crack in the curved wall from where the water runs free, like a stream of tears from a place that cannot contain such sadness. This room takes its reference from the Bonjour Tristesse from Àlvaro Siza Vieira

The materials of the space have been thought as row and spoil, it will be mainly made out of massive concrete in order to keep this feeling of nudity of the soul, so that the people can just open up their hearts in this place. The main sound in here will be silence, accompanied by the feeble sound of the water. This environment should be able to create a mood for meditation and introspection in the visitors that is necessary to fully appreciate the meaning

Fig.108: Plan of the room of Saudade











of this space. There is an interesting illumination inside this space. There are two sources of natural light, the first one is the parapet on the top of the room that is facing north east, and direct light will never come inside from here. The second source is an elliptic hole in the roof, in that peculiar shape, that looks almost as the eye of a monster. This elliptic hole casts light in the area of the water and of the waterfall in a way that invites the visitors to come close and understand where this light is coming and what is being illuminated. This can be both provided by sunlight and moonlight and is generating two different moods inside. There is also a study of artificial light that is never direct to the spectators but to the things they are supposed to see. Also in this case, the walls are made out of azulejos. Here they are a representation of the rain, the tail of a comet, like a small light in the darkness of the universe, constellated by some red and orange tiles that represent the beauty in some memories, those details that are able to make a smile. Because saudade is not only suffering, but also remembering the good and happy moments. Moreover, there is an art installation in the middle of the pool. It is called "Endeless Nostalghia" by Namsal Siedlecki and Trevis Maponos, that is representing eleven arms outstretched. They are calling for help and trying to reach those who are looking at them but it is impossible to take these hands due to the fact that they are too far from the observer. This is a metaphor of saudade, and it explains the idea of the impossibility to reach those precious moments even though they look so close in the mind. This concept is repeated also in the terrace above where people can see what's happening inside but they cannot act in any way because they are too far.

Pessoa. 53. Fernando Maritima. Translation: Ah. the whole dock is a nostalgia of stone!/And when the ship by the dock starts to put out to sea/ And one is suddenly aware of the space which opens/ Between the quay and the ship,/ There comes to me, I do not know why, a new anguish,/ A fog of sad feelings/ Which shines in the sun of my swarded anxieties

"Ah, todo o cais é uma saudade de pedra! E quando o navio larga do cais E se repara de repente que se abriu um espaço Entre o cais e o navio Vem-me, não sei porquê, uma angústia recente, Uma névoa de sentimentos de tristeza Que brilha ao sol das minhas angústias relvadas Como a primeira janela onde a madrugada bate, E me envolve como uma recordação duma outra pessoa Que fosse misteriosamente minha." Álvaro de Campos

From top left to bottom right Fig.109: Illumination schemes of natural and artificial light Fig. 110: Axonometry of the artwork

Fig.111: View of the interiors Fig.112: Transversal section of the room of Saudade



6.6. Project Conclusions

This project is a path, a walk, a Passeio, that aims to bring a bigger comprehension of Lisbon. It tries to concentrate in itself all those beautiful qualities that this city can express. The mixture of feelings that can be felt in a place like this. The joyful light and the melancholic darkness. The view of the horizon and of the infinite and the almost claustrophobic spaces. The colours of the city and the ones of nature. The slopes and the squares. The open air life with the sounds of the city and the one in bars listening to the soft spirit of the songs. The chaotic and happy life and the calm spaces where to be alone. All these contradictions of a city that make it worthy to be living in. That are worthy to be celebrated.

The architecture aims to express the city, it is expressing its spirit, it wants to scream it quietly, like a whisper that everyone can hear. It wants to testify the sufferings and the successes of the city.

We worked hard to understand how to translate emotions and feeling into a row material world, it was not easy to understand what Saudade could be in the real world and how to express the beauty of it. We tried to figure it out how to do it just by using all those typical Portuguese materials, such as Light, Azulejos, Stone, Water, Concrete, grass and threes. It would have been impossible to do so without using such pure and simple instruments.

Another relevant thing was the study of what architecture is in Portugal, how it is made and what are the ideas behind it. Such things were essential to our design, the ideas of Siza, of Byrne, Of Aires Mateus. They perfectly described what a Portuguese architecture should be, and we wanted to listen to them.

Moreover, we have to give tribute also to the life we lived in Lisbon and in Portugal. In one year we managed to sink ourselves inside the spirit of Lisbon and to live everything personally, to understand the importance of certain aspect and what it is not relevant in this peculiar lifestyle the people of Lisbon have. It is essential to them, as it became to us, to gather together in a Miraduouro, to speak to people, to smile while you look to the infinite horizon and to think about the infinite possible futures ahead. And to feel lost in such a huge view, to think about the experieces that are gone forever and to those that were not experienced.

To feel what this beautiful Saudade is.

Fig.113: Axonometryofthe Passeio De Alma Portuguesa

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