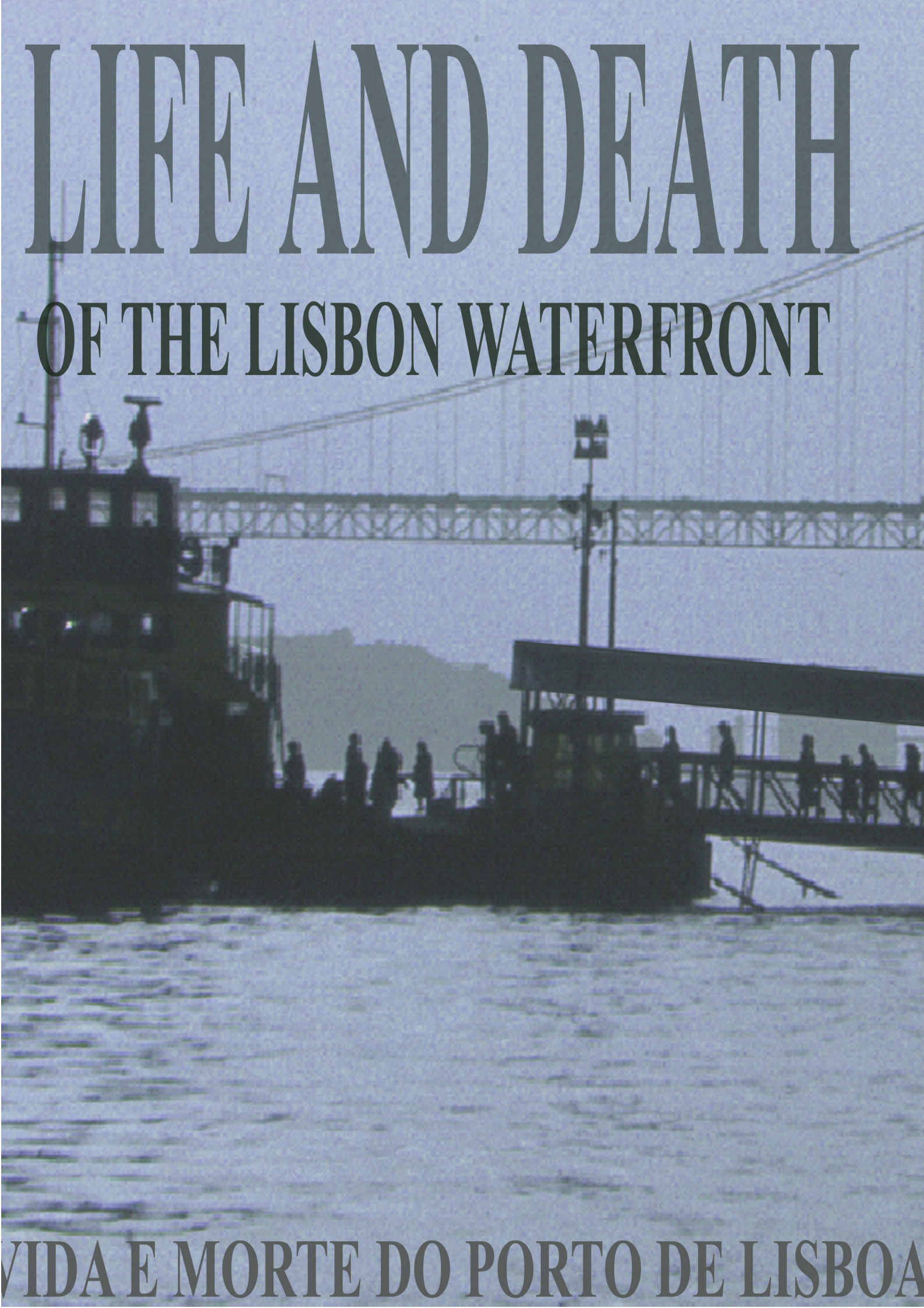


LIFE AND DEATH OF THE LISBON WATERFRONT



VIDA E MORTE DO PORTO DE LISBOA

Universidade Portucalense Infante D. Henrique

Ph.D. Dissertation

Dissertação de Doutoramento

LIFE AND DEATH OF THE LISBON WATERFRONT

VIDA E MORTE DO PORTO DE LISBOA

Pedro Carlos Bobone Ressano Garcia

Supervisor: José Deodoro Troufa Real

Second Supervisor: Hugo Hinsley

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Pedro Carlos Bobone Ressano Garcia

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Supervisor: José Deodoro Troufa Real

Second Supervisor: Hugo Hinsley

Abstract

The relations between the Industrial Port of Lisbon and the city center of Lisbon are the object of study of this work. The creation and transformation of the Port of Lisbon based on urban design, urban planning and architecture projects have divided Port and City that remain separated by a barrier built for the modern means of transportation. The work will focus on the opportunities that rethinking this relationship may offer for relating the city back to the river.

The research involves historic and geographic archival material, a study on current debates in Lisbon and two comparative case studies to raise alternative possibilities, together with a range of other smaller examples.

One of our purposes is to introduce a methodology to approach the existing situation between city and port. The examples we chose form a parallel to the object of study, include several conceptual proposals of urban design and architecture are outlined for specific sites of the Lisbon's port area to illustrate the potential of ideas explored. The work investigates the importance of public space for urban regeneration and explores the collaboration necessary to conceptually and institutionally lead to a successful transformation in a slow long-term process involving a vast range of participants.

Key words: urban waterfront / port activities / city-port relation / cut-off effect / public access / morphology

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Orientador: José Deodoro Troufa Real

Co-orientador: Hugo Hinsley

RESUMO

As relações entre o porto industrial e a cidade histórica adjacente são o objecto de estudo deste trabalho. A criação e transformação do porto industrial baseada em desenho urbano, planeamento urbanístico e projectos de arquitectura dividiu o Porto e a Cidade, hoje permanecem separados pela barreira criada pelos meios de transporte modernos. O trabalho centra-se sobre as oportunidades que o repensar desta relação pode oferecer no restabelecimento da ligação da cidade ao rio.

A pesquisa inclui material de arquivo histórico e geográfico, um estudo sobre o debate actual em Lisboa e dois casos de estudo comparados para delinear possíveis alternativas, em conjunto com outros exemplos de menor dimensão.

Um dos objectivos é apresentar uma metodologia para abordar a situação existente entre cidade e porto. Os exemplos escolhidos estabelecem um paralelo com o objecto de estudo incluindo algumas propostas conceptuais de desenho urbano e arquitectura esboçadas para lugares específicos da frente portuária, para ilustrar o potencial das ideias exploradas. O trabalho investiga a importância que o espaço público tem na regeneração urbana e explora os tipos de colaboração necessária ao nível conceptual e institucional que conduzam ao sucesso da transformação num processo a longo prazo que envolve um número alargado de participantes.

Palavras chave: aterro do porto industrial / actividade portuária / relação cidade-porto / efeito corte / espaço público / morfologia

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Pancho Guedes gave the first kick, and then contaminated me with his enthusiasm throughout the process. Whenever I felt frustrated, he expressed a deep interest and underlined how the work would be relevant. He is the great mentor. Hugo Hinsley gave me deadlines forced me to define and structure my work, and imposed systematic presentations offering me the opportunity to discuss my work with other PhD students and faculty. Without him this work would have been something else.

Most of the research was supported by the generosity of other architects colleagues and researchers that kindly offered unpublished work, and original material, that otherwise I could not access. I shall thank to Richard W. Berman of the University of Pennsylvania, Catherine De Lorenzo of University of New South Wales ,Sidney, Slobodan Dai Paich from the Artship, Karen Fiene at the Waterfront Centre, Tom Fisher at the University of Minneapolis, F. João Guimarães at the University of California, Berkeley, Miguel Correia with the Pozor plan, Luís Viana Batista from Parque Expo, Margarida Bobone from Gabinete de Estudos Olissiponenses, Nicola Kirham from Saint Martin School, Antoni Remesar from University of Barcelona. The work of translations was supported by Armanda Rodrigues who gave me a great support beyond her duty, continuously producing critical comments and been always available. Her contribution was rigorous and persistent which is fundamental in a work of this kind. Professors João Cabral, Mário Pedro Rodrigues, Carlos Dias Coelho, Rui Barreiros Duarte and Jorge Gaspar for reading and presenting critical comments. I Should mention those who gave tips and original material: Raul Hestnes Ferreira, Duarte Cabral de Melo, Gonçalo Ribeiro Teles, Manuel Vicente e Alcino Soutinho. To all I am so thankful.



1. Site plan of the city of Lisbon and the waterfront, in red the area of the industrial port.

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The object of study

The primary aim of this work is to evaluate models of possible integration of areas of the port in the city of Lisbon. The theme of waterfront development in an urban context is approached, with special interest at the spatial and cultural aspects of the transformation. However waterfronts urban development is a phenomenon with a vast spectrum of social, political, economic and urban implications that can be studied from the point of view of a variety of disciplines.

The intention of this study it is not to approach the 'waterfronts' theme in the larger sense but instead focus on one of its dimensions: the 'slice' where the historic city meets the port area. This study attempts to shed light on the particular case of Lisbon and approaches it from the architect's point of view, that is to say from the spatial and formal perspectives of future relations between city and port.

The intention of this research is not to produce a master plan, or to answer the main questions but to analyse solutions. The thesis has the intention of clarifying the relations between different players but more import it shows the great value that the port will have in the future of structuring the city in re establishing the relation with the river.

The work presents a revision of debates about city port relations, refers to the literature of the subject and establish a clear argument about why this relationship must be spatially and organisationally restated. We will not exclusively describe models of success in waterfront development, since each case is different but instead, review processes of transformation. Processes in which port and city have successfully develop means of negotiation to reach solutions and improve mutually.

The case studies presented have been carefully selected, not to copy them but to learn from them. The examples discussed are not explicit models with ready made solution, but ideas and concepts to be discussed as they reflect on how space on the waterfront can be revitalized, and how the city can benefit from them. Transformation is not a linear process, since it is influenced by various and unpredictable dynamics, which does

not allow the elaboration of absolute theories. The thesis intends to be a contribute, generating possible cross references for a deeper and extended debate.

The critical argument

The main argument of this work is the growing cultural influence and potential of waterfront redevelopments. Several authors, such as Meyer (1999), Boeri (2000), Breen and Rigby (1996), Remesar (2001) and Borruey (2001) refer to the importance of the cultural factor in the process of the urban waterfronts transformation. In general, the waterfronts in the urban context are constructed sites that transform the edge of the city, but in most cases the city had previous relations with the water. Those relations remain engraved in the urban fabric and are embedded in the city as memories. The research to support the main argument includes both the site of the port area (the industrial landfill) and the cultural imprints left by the port-city relations influence. In attempt to define culture – either in the broad and local sense or the industrial port legacy – the discussion touches a number of issues related to other waterfront developments. The port area of Lisbon stands on industrial landfill and has inherent physical space of a modern frontier between city and river. The culture of the port city is rooted in the site, and it is possible to define some of the characteristics of the cultural elements through the investigation of the historic and geographic background of the port area which is the object of the this study. The underlying argument of the present research is based on the premises listed below.

1. Port activity reconfigures the port and the industrial landfill next to city centres becomes available.
2. Future strategies should be produce by city and port together thus re-establishing the city to the water.
3. The cultural significance and the importance of public spaces at the waterfront in the process of transformation.
4. Projects that change the morphology are an effective instrument to link city and the artificial land of the port

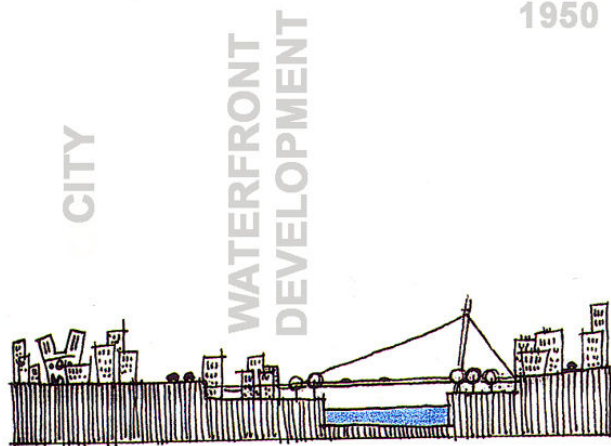
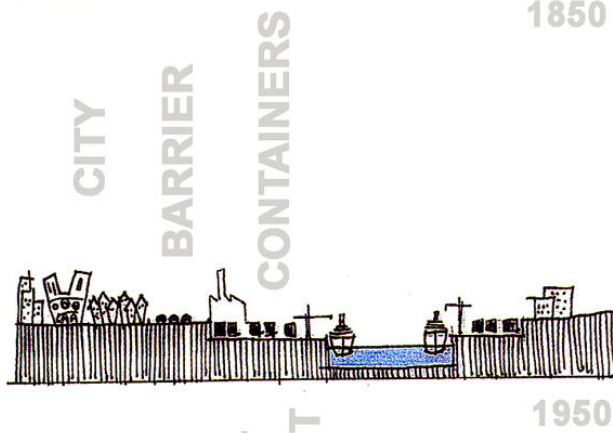
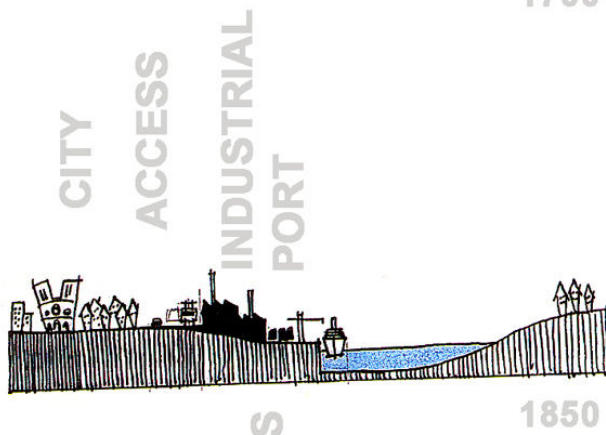
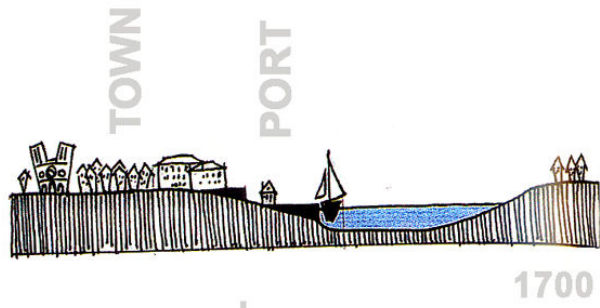
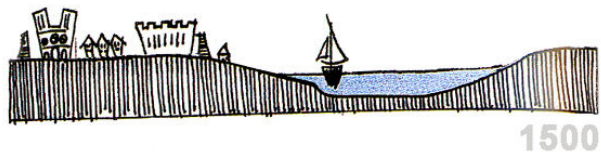
5. Discussion of new infrastructures are made upon specific projects rather than general urban planning, and include artists and scientists participation.

1. Port activity reconfigures the port and the industrial landfill next to city centres becomes available.

The problem existing between city and ports covers complex matters related to urban planning, urban design and architecture. There is a common tendency to separate them and address them independently, however the discussion necessarily includes three different scales. The analysis of the object of study includes the interconnection of these scales, and structures the discussion in a large, an intermediate and a detailed frame.

The non-implementation of the project for container terminals at *Trafaria* in the 1980s and 90s severely interrupted the growth of the port of Lisbon activity. This has consequences at the scale of strategic planning and deals with geographic issues that have several influences in the territory. The urban problems increase in a city operating a container terminal located at its central area, and the value of land raises the interest offered by the possibility for waterfront development.

At the present, the interdependence of architecture, urban scale design and planning is extremely important for most cities. It seems clear that planning is mainly political and abstract; urban scale design stimulates the collective imagery, and architecture is the individual expression that invents the soul of the city (Guedes, 2000), all scales are inevitably engaged with property development in spite of alone none could work as the only 'maker' of the city. Cities result from different wills and circumstances; nevertheless, the architects produce the drawing, i. e., the seeds that become the shape of things. In recent years, these disciplines have been separated as if they belonged to different realities. During the creation of the Industrial Port, the city and the port were legally separated. The dialogue between them has been quite reduced. They were independent from each other, and a special jurisdiction was regulated for the Port Authority. City and port grew differently, both spatially and culturally. The separation between city and port has produced urban ruptures, increasing a lack of dialogue between the several municipalities and the Port Authority, and a lack of knowledge of the port activity and impact at social and economic level.



2. Five periods of time at the waterfront, Wilson (2000).

2. Future strategies should be produced by city and port together thus re-establishing the city to the water.

In Lisbon one of the advantages of the Port Authority's autonomy is that it can orient and control the whole process of urban development from planning to urban scale design, and even to the scale of the project of architecture by means of commissioning a specific architect and then coordinating his or her project. In short, the APL can work simultaneously with all the scales of the project which is an advantage but previous plans did not relate the port area with the city next to it which was a disadvantage.

The plan at intervention units 2, 3 and 4 was oriented towards construction of great density. It proposed a 'standard' urban design for the waterfront, one that repeated previously applied solutions. It was based on a 'waterfront model' that succeeded in attracting developers and that benefited from short term financial investments. One of the central arguments of this work is that any future transformation at the waterfront should necessarily establish a partnership between Port Authority, Municipality and other agents involved from private and public sectors in order to generate a coherent strategy for the city.

The relations between city and port are in the centre of the contemporary debate. Based on more successful cases of waterfront renovation, one of the key arguments of this work is that a new plan should not be centered in the port area, but instead it should focus on the city and the reestablishment of the relation to the river. In fact waterfront redevelopment strategies have explored alternative ways of thinking. The industrial port is a relatively recent territory artificially created, and the city has an opportunity to reestablish a lost link with the river precisely through the port area (see plate 2), and the Municipality searches for the citizens' improvement of quality of life.

A new frame of thinking has emerged as can be seen in the case studies. Better solutions are coming from this theoretic shift and have consequences at the level of the 'decision maker's'. There is not a new model of town management or of city planning; but instead there are creative initiatives that are different in each of the analyzed case studies – each of them had specific characteristics and worked from their own pre-existing conditions.

3. The cultural significance and the importance of public spaces at the waterfront in the process of transformation.

In current discussions most authors, such as Berman (2001), Boeri (2000), Busquets (1999), de Lorenzo (2001), Gastil (2002), Gehl and Gemzoe (2000), Rodrigues (1999), Remesar (2001) and Soutinho(1999) defend the importance of public space, at the waterfront, as the central and structuring element for future developments. Another central argument is the cultural importance of these public spaces for three main reasons. Firstly, the city grew from the waterfront, the river allowed the birth of the settlement, therefore the site has a symbolic quality. Secondly, the port area has been the point of departure to the ocean routes that linked all the world beyond, as well as the gateway to enter and exit the city – ‘*porto e porta*’. For a long time it was the access of the local people to communities all over the globe, with an intensive cultural interchange that still takes place. Thirdly, it is the physical end of the land and beginning of the water: a line of frontier between two worlds – one we know, and the other we know little of, one we understand and control and the other that is beyond our control.

The main purpose of this research is to critically review the present situation of the port area of Lisbon; to explore the argument that renovation should be based on the importance of public space and collective memory; and, as a hypothesis, to test whether waterfront renovation is able to create public spaces that have an artistic quality and express the cultural significance of the site to the community. A second hypothesis is that to improve the relation between city and port, the cultural landscape that has always relate to the water should be used in a creative way to embrace the water.

To test such a hypothesis this research will investigate the creation of the site and the industrial landfill. The availability of that area it is an unique opportunity for cities to redefine their physical relation with the water. The observation of the community’s relation with the public spaces on the waterfront, the activities that take place there are important to give evidence. In that sense the recent success of new public spaces created at the Expo’98 site are also relevant. Another part of the argument is supported by a series of unrealized projects for the Lisbon port area as they provide alternative understandings of the evolution of the port area to its present condition. The historic and geographic background should support a possible theoretic frame.

4. Projects that change the morphology are an effective instrument to link city and the artificial land of the port

In the other two studied waterfront cities, San Francisco and Barcelona, the theoretical perspective, based on the cultural significance of the industrial landfill, supported and stimulated a different way of thinking about the waterfront. The general consensus about the importance of public spaces in waterfront urban redevelopments emphasizes the importance of shaping the void. But it is mainly after the Barcelona experience that the creation of public space worked as a structuring element in urban design projects; and a special attention has been given to the creation of a continuous set of public spaces which allowed for pedestrians to move freely. The reshape of the land is described by Sola Morales as the *cartographic culture of the territory* or the *culture of working the territory*. There are projects that understand the contemporary context in which the landfill is regarded as a ‘prosthesis’ added to the city – a site where the city/water frontier became overlapped with landfill. Such projects value the reconnection of the interrupted relationship between the city and the water and make use of new morphologies at the port land, to overpass the barrier existing in the form of railway lines and heavy traffic roads which created a kind of an urban ‘partition’ causing a ‘cut off effect’. In the cases of Barcelona and San Francisco we will analyze how the ‘cut off effect’ was removed and the consequences brought about by such a removal. For Lisbon transversal connections were planned, but they were never constructed. One of the central questions is: What kind of connections are to be constructed? Should they be visual, physical or symbolic? Should barriers be removed? Who should invest (the Municipality, real estate developers, central government) in new facilities to be build in the port area?

5. Discussion of new infrastructures are made upon specific projects rather than general urban planning, and include artists and scientists participation.

Public spaces are sites of common urban identity where symbolic and artistic components play a significant role. Several scholars, such as Brandão (2001), Gastil (2002), Gravata (1990), Fava (2002), de Lorenzo (2002) and Remesar (2000) claim the importance of integrating works of art and of the participation of artists in the design of

symbolic common spaces for the community. Concepts such as cultural landscape and artistic landscape related to art events open up a number of possibilities, considering that they include a deep understanding of the site as a constructed narrative.

Ports are a result of a crossroads between land and sea, where both rail and road meet the ships. The site is a result of these connections that create a specific *Genius loci*. If one looks to the industrial physical memories, the infrastructures of the port, including piers, cranes, docks, dry docks, quays, etc. we understand that these enormous infrastructures have shaped an image of the city. They were financed by public investors and managed by a public authority as a part of our public domain (Meyer, 2001). There are silent presences in the port area that characterize the atmosphere of the site. The POZOR proposed a rupture and a new concept for the area. We argue that future decisions will continue to fail if the procedure is repeated. The area requires a more holistic strategy to coordinate the existing conflicts between urban spaces and new projects, as well as to bring them up for a fruitful dialogue. The existing infrastructures can be reinterpreted and reuse in a process that include arts&sciences participation. The necessary future urban infrastructures, that are particularly complex at the waterfront should have been used as an important tool in the process of transformation, as it will be explored and illustrate in some of the smaller case studies.

Research Work Structure

This research is focuses on the port area of Lisbon, it has four chapters exclusively about Lisbon, and two following chapters on case studies in other cities. The first chapter introduces the contemporary debate regarding waterfront transformations, and explains what concepts and who are the different personalities that have been involved in the discussion. In the second chapter a possible frame to discuss is laid out, since that object necessarily relates to the geography of the whole estuary - the macro scale - and also to the city port relations and even to the smaller scale which consist of specific architectural elements. At a larger scale, APL is considering to build new container terminals. Therefore, there is also a reflection about the inevitable consequences in the existing port activity brought about by port mutations – e. g., hinterland connections become more efficient when supported by intermodal platforms. These issues are

included in some of the topics to be analyzed. At the urban scale, which includes the relation between the historic city and the industrial port, there is a description of the relations between the different administrative powers that independently ruled the port area and its surrounding areas for a century, how that contributed to develop a barrier of infrastructures for modern means of transportation. The Port Authority attempted to carry out a waterfront development plan for the port area, failed to be implemented.

The changes in the port activity have implications in specific sites of both port and city at the level of the smaller or third scale. There has been a tendency for the creation of urban environments on areas under the Port Authority jurisdiction. The expansion is transforming the image of the city and the industrial port as well. A large amount of the discussion is centered on the image of the city, but beyond the image there are new facilities and new programs to be created. Buildings that may transform the city-port relations and the relation to specific buildings and public spaces in the port area. The Port Authority prescribes the necessary public use of the land. This is going to influence future city port relations since we believe that cities rely on their public spaces to claim their identity. The current debate on waterfront urban development focuses the importance of how 'Cities Reclaim Their Edge'. In that sense, the third chapter discusses what was the 'edge' and how it was created become essential to the debate. During the 1900's transformation of the landscape new relations between city and port were created while ancient relations were interrupted. Among the previous urban relations to the water there are different historic moments as the city registered four major landfills that occurred throughout centuries. The information that had been organized before was not oriented by physical transformations and how they reflect upon the city.

This research compiles dispersed material deposited in Archives of the Municipality, ministries, Port Authority, museums, libraries and the Cabinet for Lisbon Studies (GEO). The organization of the material is flexible and includes drawings, projects, personal records, descriptions any relevant information, in order to create a specific 'database' about the object of study, and to allow us to understand some of the mysteries and complexities existing in the port/city relationship. The research material relates to formal and spatial implications and is referenced according to a Past-Present-Future structure.

This chapter dedicated to ‘the creation of the territory’ focuses on the industrial landfill and the transformation of the territory, includes chronological information about the construction of landfill and the importance of controlling the river front. Who built the industrial port? And why an efficient proposal got second prize. Docks and piers are artificial by nature. The first landfill was built for specific activities. The waterfront has been the stage of conflict of powers in which each power wants to accomplish its own projects. Landfill require significant investment and elaborate constructions and mainly result from the need to control the edge. They were executed under the decision of the political leader. The alternative to access and control the water edge was to construct piers that were less permanent or safe but easier to execute for those involved in the maritime activities. Small interventions were more subtle in the transformation of the edge but it is a gentle organic growth that reveals the community desire to work with the water. Arguments based in scientific data question the natural balance of the water flow and the unpredictable transformation of man’s intervention. This was in the center of the debate of the construction of the Industrial Port. For other reasons the industrial port of Lisbon was never completed. Why is it an incomplete project? And what are the implications to the port/city relationship?

The material available covers various disciplines that are assembled from the perspective of an architect. The most complete study was set together and published by the Architects Association in 1988 at the time of the competition designated *Ideias para a Renovação da Zona Ribeirinha de Lisboa* (Ideas for Waterfront Development of Lisbon). It was a successful initiative with a considerable number of participants. The publication presented an extensive chronological study in which are collected geographic and political information, together with projects and critical texts. At the time the publication became the point of departure for a new interpretation of the waterfront, and it remains an important reference for the debate. Another important reference book was published in 1992 by the Port Authority to celebrate the 100 years of the Port of Lisbon, it is written by an historian. This book puts together a large amount of information that is assembled from the historic point of view, including description of activities and political movements, about the Port of Lisbon and the creation of the Industrial Port. The author comments on the lack of information on economic and technologic components that highly influenced the port area. Such

historic research is not centred in the transformation of the city edge; historians situate events in the sequence of time and do not relate territory, in this case artificial territory, to the implications in the city. By contrast Loureiro's drawings, produced around 1910s, show the records of the various landfills of Lisbon waterfront.

The fourth chapter dedicated to 'waterfront development at the present in Lisbon' within the debate is difficult to grasp in the central port area because the Port Authority is in a process of postponing change, and the port area is waiting for a solution since the failure of Pozor. The new Docks (*Doca Sto Amaro*) proved to be very popular and changed the idea of conflict between city/port. It is a pilot project of small dimension considering the large surfaces of the port area. The Expo'98 waterfront development was a relatively successful experience because a leading organization was created for the purpose of the Expo event. But there has been some controversy regarding how decisions are made using the Expo model. They are carefully evaluated by João Cabral who raises some important questions. At the port area, new questions should discuss if the Expo model could be applied there? And what would that entail? It constitutes a very complete urban project of waterfront development that has given a significant contribution for future projects, but the analysis of the strength and weakness of the project are still being tested. Most important qualities and difficulties of the Expo'98 urban project are related with accessibility to the waterfront and the creation of generous public spaces. Expo is using a new traffic system that favours pedestrians over cars in the central area. When the urban waterfront development is to be considered at the historic centre of Lisbon, the social integration of new comers versus the existing communities is of main importance. Cultural challenges are included in any transformation process. The Expo area intervention managed to create a new centrality, and invested widely in new accessibilities to the site. Some argue the same model is not appropriate for the port area. Through a critical revision we should evaluate if the same strategy is to be used and why may not be right for the port area. The strip located next to the urban center presents an entirely different situation: it is already at the very central part of the city. These issues are to be discussed when comparing the Expo model and the situation at the port area.

The fifth chapter is centered on 'the ideas and unaccomplished projects' explores alternative visions about the subject by means of looking at information that has

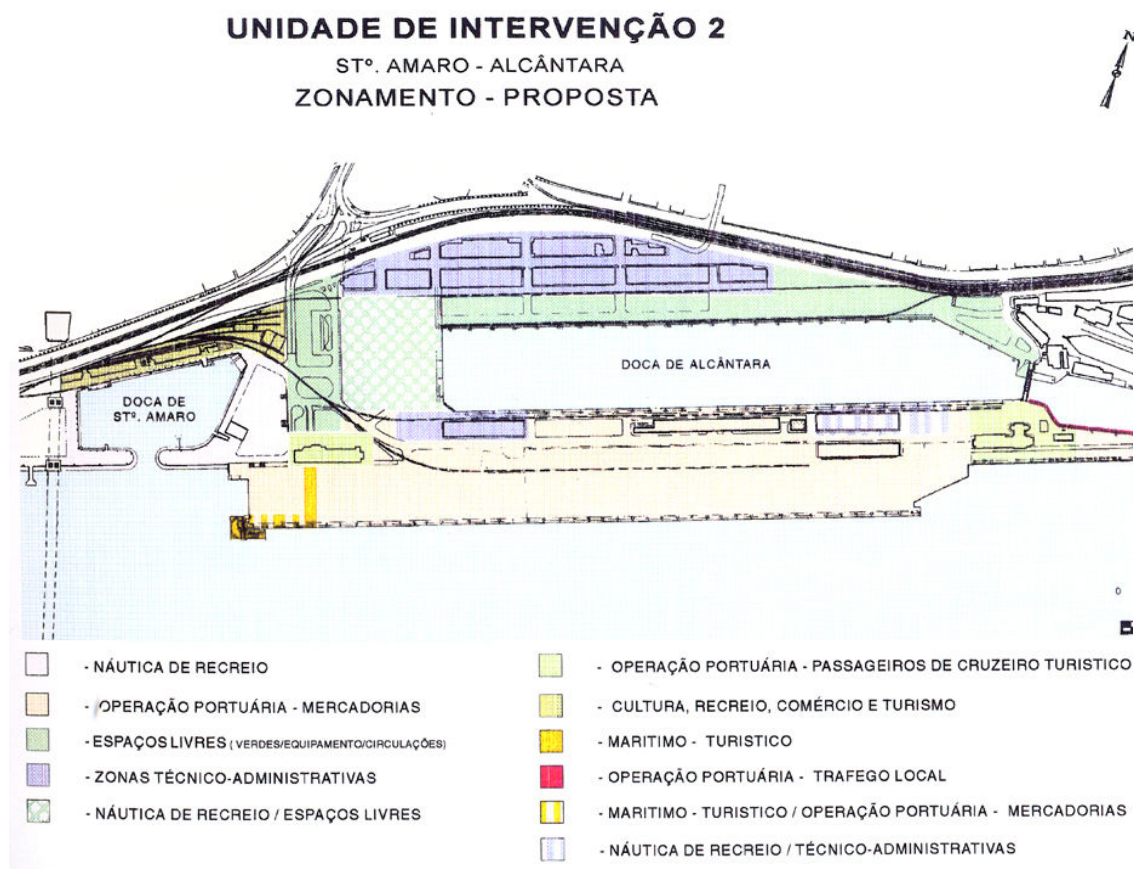
influenced the evolution of the port areas and might continue to influence the next changes. It is never possible to predict the future but there are current issues that have been discussed and that are more likely to be considered. Modern means of transportation and contemporary urban transit systems are expected to influence future solutions of mobility involving the port area. They are the physical expression of an ever present 'dream of modernity' that has been associated with the image of the city by the citizens. At the port area new objects with new forms are projected on the water and change the image of the city itself. That image has been reflected by three authors belonging to different generations. Their writings give voice to the common man describing their poetic perception of the port area in their/his relation with the river, the city and the waterfront. The magnetic presence of the water and the necessity to create more public spaces are among some of the factors that will influence future developments. The future is an evolution rarely a revolution, and its predictability may rely not just on the last plan but also on plans for the site which were never implemented and that express expectations and visions of previous generations. There are strategies behind the plans that influence the current shape of the port; they have been hidden under the shadow of generations waiting for the right time to reveal their visions and give form to a variety of new perspectives that will produce future solutions.

The problem presented by the object of study

In Lisbon's waterfront the industrial port area is under going major transformations. Some warehouses are torn down and the land is cleaned up, and some are readapted to new forms of occupancy, more related to urban activities, while the Port Authority develops the 'First strategic plan 1990-92' in which proposed 'Solution for the expansion of the port of Lisbon' in other locations of the estuary. The focus of this study is the transformation, through architecture and urban design, of the industrial port area at the centre of Lisbon. In 1994, the Port Authority of Lisbon (APL) submitted for public discussion a new plan for the industrial port - *Plano do Ordenamento do Porto de Lisboa* (Port of Lisbon waterfront plan), that became known as the Pozor plan. It was intended to reorganize the whole port area, defining new strategies for container terminals, maritime and tourist activities, and also to make adjustments for the future Expo'98 urban development which would be implemented mainly on land under the

management with broader participation of the urban actors. This is the main reason why, in the case of Lisbon, another Port Authority plan is likely to fail.

An alternative to the conflict between city and port should take a different perspective. New ideas and a number of future possibilities of architecture and landscape architecture are to be considered in the urban waterfront redevelopment. Each city has a different potential and should rely on it to find answers. Therefore a deeper knowledge of the port area should consider its birth, its development and its decline. Future solutions will come from the understanding of an evolutionary process of this space in constant mutation. Nevertheless one should as well bear in mind that all transformation (being a process) is subject to unforeseen circumstances and conditions, therefore some of its causes and effects are *'becoming and not yet actual'*.

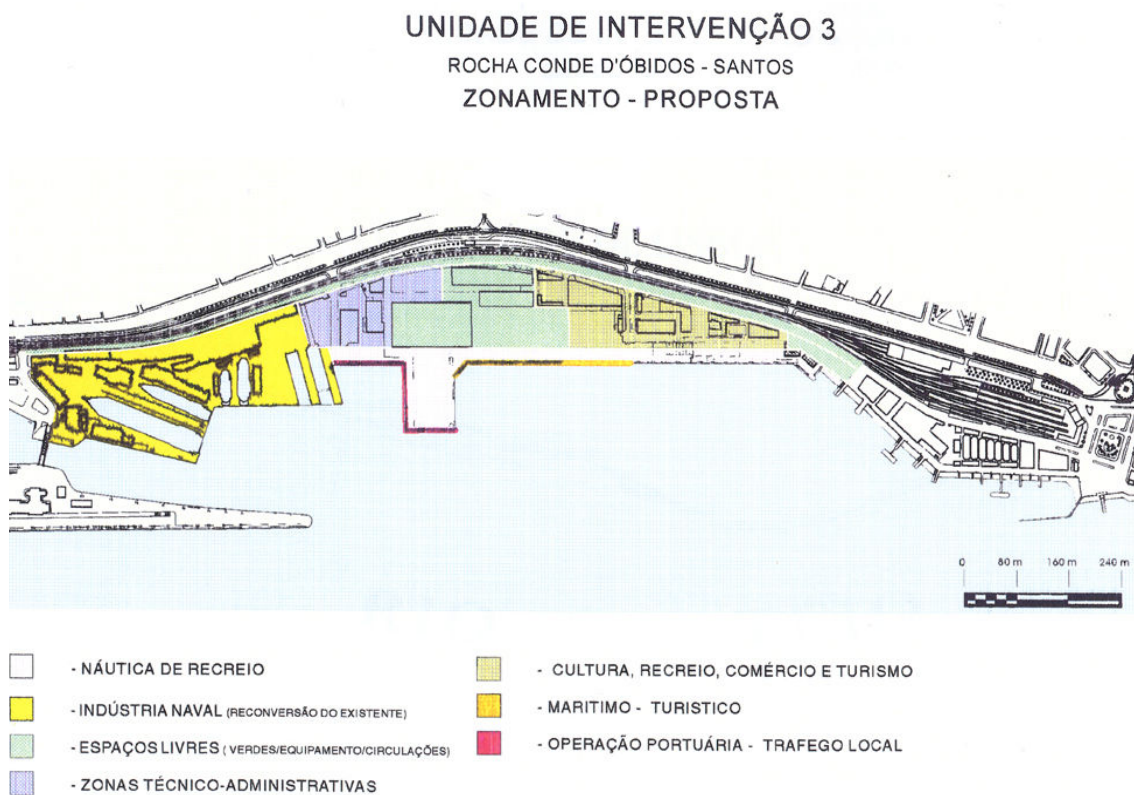


3. Master plan – Pozor commissioned by the APL in 1994 at Alcântara

Relations between the Port Authority and the Municipality of Lisbon

As I write container terminals are still in operation in the city centre, although their future is uncertain given the difficulties of the most necessary connections with the hinterland, and a new intersection by road and railway to get containers in and out of the port through the congested city next to it. The average of 2170 trucks per day are expected to cross the city, during the next year if the railway intersection is not built. Port Authority register an increasing use of railway (from 3 to 25%) which will mean 16 trains a day passing through the neighbourhood. To find the best solution for an efficient crossroads the Port Authority has set a competition for proposals on the new intersection (see plate 5 and 6), and the project that was awarded the first prize waits to be built. The project requires Alcântara underground river to be relocated in an extension of 500 meters.

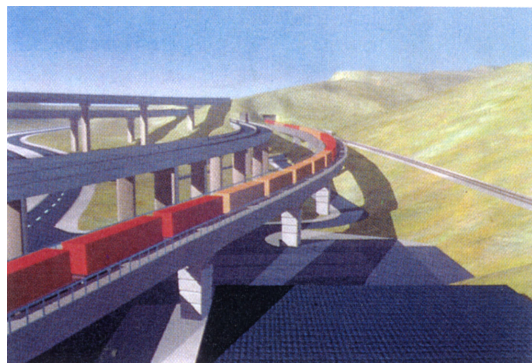
For the last ten years, there has been a discussion that involves APL and the Municipality revealing an atmosphere of misunderstandings concerning Lisbon port/city



4. Show the proposals at Santos area designated – intervention unit 3 and trains mixed with heavy urban traffic, that no one wants to cost. The situation is

future challenges. The Alcântara junction is an expensive project, as it involves trucks ambiguous both for the port and the city behind it, and it is a small indicator of a whole more complex situation, regarding the port activity. There are three possible main scenarios. City and port agree to construct this junction and maintain the container activity in the heart of the city, and also agree to build the new cruise terminal Jardim do Tabaco. Another scenario involves a national strategic decision to relocate the deep sea container terminal either in the south bank or other location in the estuary. The Port Authority would use facilities at Alcântara to expand the cruise terminal, Santos would also be used for tourism related activities. The last scenario is to privilege container terminal at Sines, end deep sea terminal at Lisbon and replace for waterfront urban development. Which would also mean, Alcântara and Santos shifting towards new uses. The third scenario would weaken the APL and the port activity, since container activity generates an increasing economic benefit and cruise traffic expands significantly as Lisbon becomes a primary destination. Containers and Cruises are significant source of income. Decision making has been confusing since decision should include national, regional and local between the Municipality of Lisbon, the Port Authority and the local Government.

One of the objectives of this study is to discuss the present industrial port activity, namely the existence of container terminals in the specifically designated port area because it is contrary to the evolution registered in other similar ports such as Barcelona or Marseille, in the Mediterranean but also San Francisco, Rotterdam and many others.



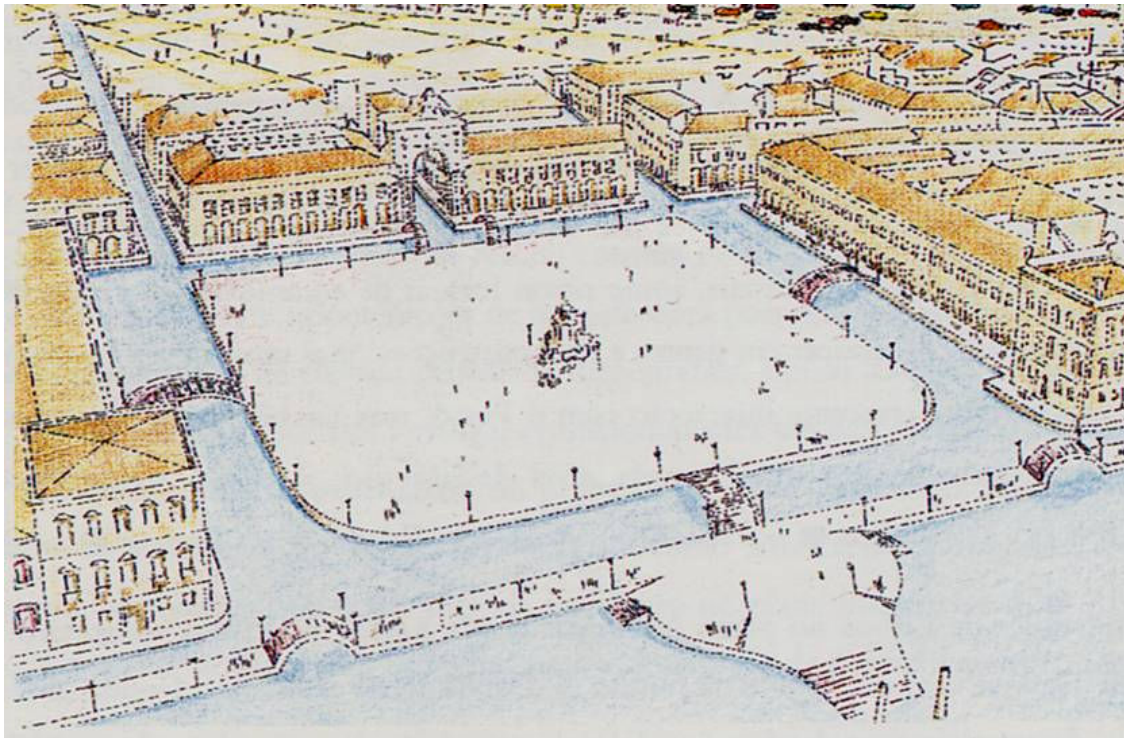
5 and 6 - New Alcântara Intersection include 1,7 km railway flyover to link port area to the multimodal platforms.

The end of container activity at Alcântara and Santos does not mean end of port activity in the area. The transformation of port areas in the urban context seems inevitable which for the case of Lisbon raises an important question: who should develop a new research project for the port area since the previous project failed? Like in several other European Port Cities, the land of the port area of Lisbon is under the jurisdiction of the APL, who is still its landlord, therefore they have a ‘natural’ right, however we register a growing number of transformation that were not carried out by the Port Authority alone. If the Port Authority should not conduct the new project, who should continue to lead the process? Another relevant question is: the problem of port area at the centre of Lisbon should be taken as a whole or should it be taken in pieces. Which model of urban design is more likely to fit the Lisbon situation? The area of the landfill was never thought of as urban expansion, but it deeply changed the urban scenery (see plate 7), thus it became part of it, and furthermore it achieved the transformation of the image cityscape from a prestigious residential area to an operational area that includes shipyards, port facilities, cranes, and modern buildings. How should the functional space of the port with its industrial atmosphere relate to the historic city next to it?

This research project will also collect and handle information of comparative urban cases that evolved in positive ways and that bear comparison with the Lisbon case. Examples that improved the city/port relationship constitute an alternative frame to look at, as they introduced concepts and ideas that are now tested. The confrontation of such data widens the discussion and will influence future solutions. The analysis of similar



7. View of the Santos Bay before landfill, *Museu da Cidade* Collection A. Wagner, 1808



8. View of the *Terreiro do Paço*, designed by Manuel Lacerda coordinated by Jorge Gaspar. In *Valis*, 1990

cases together with an investigation about the formation of the port area of Lisbon defines more clearly the realm of the present debate. The discussion about the port area necessarily involves different actors in a complex city/port relationship, and the problem can not be reduced to a discussion that is exclusively concerned with ports, or maritime traffic, or city planning, or urban design or with the industrial heritage legacy of the port area (see plate 8). The discussion involves all of these dimensions, it has multiple implications and one of the main tasks of this work is to understand better what interconnections there might be between each and all of them.

Predictability by comparison - case studies

In the sixth chapter two cases are presented, the selection was made from most similar situations that have a direct relation to specific characteristics defined as specially relevant for city of Lisbon waterfront. There are two urban cases that involve long periods of time and a large investment to carry out the transformation of their historical

port areas. They include urban operations similar to the ones that may occur in Lisbon. After defining what potential problems of the present planning policies exist at this particular site, case studies show which design model may be used in the urban development of the port area.

Besides the model of design the study analyzes also which forms of partnership between private and public sectors are set up in each of the following case studies: San Francisco and Barcelona. San Francisco due to the geographical similarity of the Bay with the Lisbon Estuary, and Barcelona due to cultural resemblances in the context of Iberian port cities.

- The waterfront development in Barcelona shows that plans based on zoning strategies cannot be used. Instead the Barcelona model evolves under a strategy based on specific site projects. The political atmosphere supported architects in designing changes for the city. Catalans managed to protect the port area land from major financial operations and they invested in the creation of considerable amount of public space meaningfully associated with social/cultural facilities.

- San Francisco waterfront renovation started much earlier, in the late 50s, and it is referred to as a successful transition carried out in a different manner. The geography, topography and the water profile of the Bay Area are very similar to the ones existing in Lisbon: the physical features influence the solution and the port of Oakland on the other side of the Bay has been growing while the port of S. Francisco decays. For both cities the area next to the industrial port is their historical centre, the place where urban life follows its course through generations since the birth of the old town. In this sense issues related with attracting locals and visitors to the site seem misplaced. Solutions to reinvent the central port area were discussed taking in account the type of infrastructures that were needed. The analysis takes in consideration three aspects that determine the success of the transformation.

In San Francisco and Barcelona the dialogue between Municipality and Port Authority promoted change. This started at a political level, and contributed greatly to alter and reorganize mechanisms of power and planning policies of town management. Another example that is proving to achieve high levels of success is the St Paul Waterfront

Corporation, a non-profitable organization established in 1996 by the Mayor. St Paul has a structure involving a large participation in the process of waterfront transformation which is worth discussing.

The existence of major physical barriers creating a 'cut off effect' between city and port was central to waterfront development. The port area was separated and segregated from the surrounding neighbourhood, and not removing the barriers would mean to cut short the last opportunity for the city to claim the river and create an urban relation with the water.

And finally there is a description of specific events that were important for the process of transformation in each city and vary from one case to the other but are relevant for the debate. This research includes the evolution of the landfill in San Francisco as well as the first plans for the waterfront based on concepts of Festival Market and International Congress Centres, and how public participation influenced the process. In Barcelona, special programs to finance the historic centre mixed with the promotion of pedestrian use of the areas have influenced the urban shift of a city that had followed a car culture model until the 1980's. Each city went through a very different process of change and faced specific constraints.

In both cases the city/port relationship was deeply transformed. They are both considered as reference cases in the contemporary debate on waterfront urban development which are closely related to the case of Lisbon port area.

Smaller Case studies – compare to conceive changes

There is the underlying principle in this research that architecture is the ultimate expression of individual and collective physical need and will; architecture is the art of the city. In the sixth chapter, which is the last one, a number of medium and small projects are reviewed. Smaller projects require less investment and can be implemented over short term periods of time; they have their own architectural interest (see plate 9). But why should we look at all these case studies? Can they be used as a basis of conceptual ideas meant for the port area of Lisbon? In smaller projects and architectural

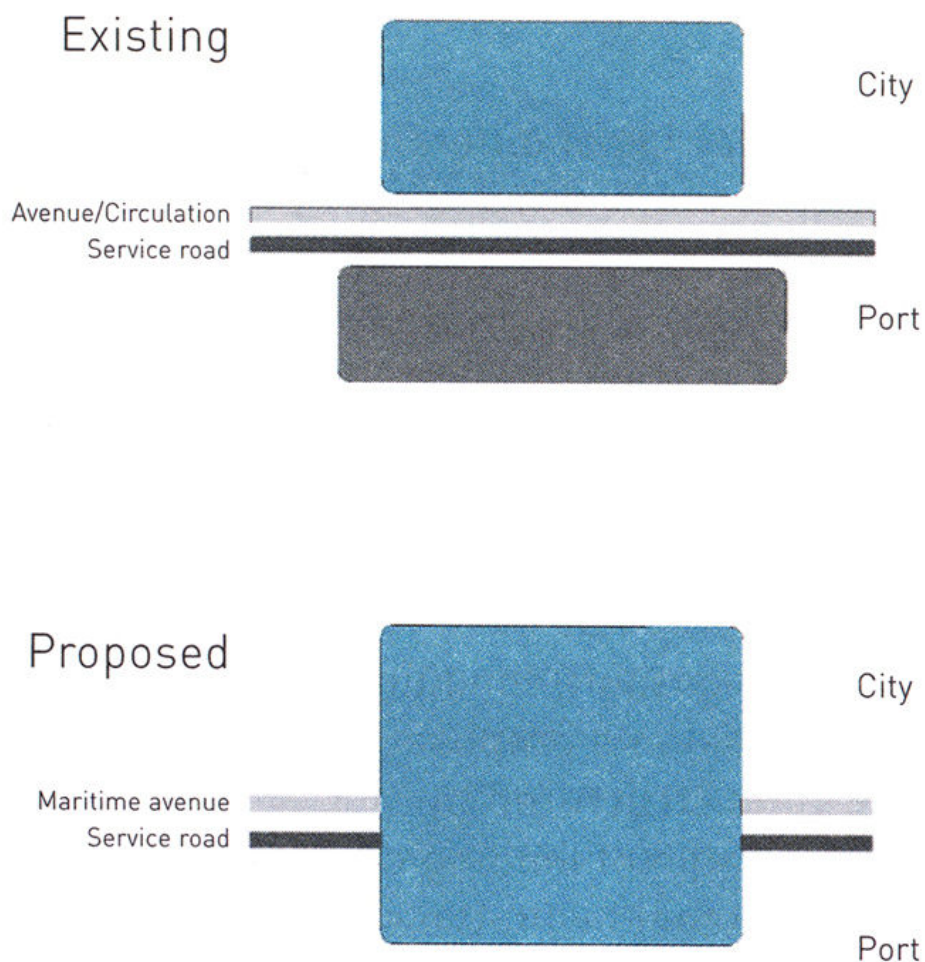
objects one can identify specific relations to the waterfront symbolic character, the historic value related to a common memory of Artistic Value/Industrial Legacy. Smaller interventions also involve urban design solutions, and some of the projects include decisions about urban scale that face similar challenges present at the port area. Each case contributes with special details that are relevant to be commented. Questions related to the philosophy of the projects in terms of art, history, social, or cultural concerns are discussed individually. All together they form a gallery of examples that illustrate the most interesting philosophical approaches regarding waterfront projects. None of them presents a complete or accurate philosophy but together they complement each other. It is understood that significant buildings that improve the city's image and their public life have been built along the waterfront in the last decades. Although previous generations also had particular concerns with the image of the city projected upon the riverfront. In fact some projects were selected to serve as short references that are a valuable contribution for the construction of the larger argument about what a contemporary project should include when facing a particular site at the port area.

In order to construct the argument several case studies are mentioned because they can be deemed as references and solutions that inform about the future urban redevelopment.

How can contemporary architecture express the quality of urban façade in an historical context? It is discussed how new projects may relate to ancient buildings and improve the present port area. The discussion is not centred on how it looks, if it is high or small, twisted or trendy. These are questions not to be included here. The discussion is mainly centred on the formal, spatial implications of new buildings and their contribution to the urban landscape, as well as on the importance of the public space in the former port area. That includes a variety of indicators of symbolic, artistic and cultural nature but also sustainable strategies between city and port.

The selection includes projects that were never built, others that are under construction, and utopias that will never get to be built. To separate them by categories of physical development or accordingly to their possible or impossible actual realization would reduce the discussion. The objective is to emphasize the ideas and concepts at the level of the architectural projects in order to formulate an hypothesis, to test whether projects

of architecture and landscape architecture implemented at the waterfront are capable of improving the relation between citizens and their river, of favoring the industrial legacy of the former industrial port, and of developing the strength of the cultural landscape and its potential. What new uses are in line for the port area? How can designers make use, in a creative way, of the landfill area if the community does not know how to deal with this transition? However some decision makers including members of the community with cultural, economic or political voice are already aware that this is an unique chance for Lisbon to recover a lost relationship with the river – moreover the only chance offered in a full century – and that it has an immense potential to improve the city of Lisbon. The recent experience of the Expo'98 gave the citizens a new understanding of contemporary architecture and brought some of the recent objects of architecture to an iconic level.



9. Drawing for the competition (Tenerife, 2003) reshapes the morphology of the land.

In the central port area, if the industrial activity moves elsewhere, it is the right moment for the city of Lisbon to make use of this opportunity to transform the port area and reclaim the edge with the water. We are in a creative cultural moment that knows heritage is not just legacy but what we create today. Critics are aware of problems related to the *tabula rasa* model implemented at the Expo site, and of the loss of references caused in a process of rupture with the port area's previous memories. Lisbon could profit from this knowledge, and could be free to explore the potential of the site as an evolutionary process. At the end some conclusions will be presented from the discussion. New solutions emerge from the methodology used in this thesis. Some of the selected case studies are inserted at particular sites of the port area, to suggest a new potential discussion and enrich the present debate.

Chapter 1 – Contemporary Debate

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Introducing who contributes for the debate

The debate on waterfront has developed strongly since the 1970s, presented in several magazines and books, discussed in international conferences, and participated by a variety of scholars coming from different fields. Research centres are registering and informing about the a variety of waterfront renovation. In Washington D.C. there is the Waterfront Centre, in Italy the Cities on Water or *citá d'acqua* is established in Venice, in France at Le Havre seats the organization Villes et Ports that publishes and organizes several international conferences. These are the larger organizations, but there are several local and smaller organizations involved in the debate that contribute significantly, such as the Waterfronts of Art Conferences organized by Polis Research Center, the Public Art Observatory whose studies are published by the University of Barcelona with Antoni Remesar as Editor. Some architects are involved with this organisations and have contributed enormously to the debate by means of project or criticism. To look at them in more detail we should start with the pioneer group.

The Waterfront Centre is a non-profitable organization founded by Ann Breen and Dick Rigby in 1981, in Washington D.C. They have published two important books: *Waterfronts: Cities Reclaim Their Edge*, 1994 and *The New Waterfront – a Worldwide Urban Success Story* in 1996. The organization of workshops and the provision of community consultants for waterfront projects is a major contribution that the Waterfront Centre has given to many waterfront development projects. Their last book compiles cases chosen from all around the world and classifies six major groups of waterfronts: the commercial, the cultural, educational and environmental, the historic, the recreational, the residential, and the working ones whose cruise ship terminals and ferry terminals are presented. The International Conferences bring together people with a wide range of interests and from various sectors. It is their aim to have community leaders, environmental associations, private developers, engineers, designers and even dock manufacturers participating in the events. The main interest of the presentations is to cover planning and design, economic development as well as cultural issues. The waterfront center has set an 'Urban Waterfront Manifesto' where it argued that 'waterfronts above all factors give each community a chance to express its

individuality'. But how can the community reflect through change their dreams and aspirations on the waterfront ? And why main trends common in the 80's and the 90's have failed to express the individuality of the community?

In order to offer an alternative to ready-made or standard solutions, in my understanding of the Waterfront Centre activities the most interesting one, which has a direct action upon the urban waterfront projects and their communities, is the Annual Award that usually takes place within the International Conference in which several projects are analysed by the jury. The president of the jury in 2001, the architect Karen Fiene, explains that most projects and concepts value cultural and environmental issues as the awards are distributed according to the following categories: Artistic, Cultural, Educational - Environmental Protection and Enhancement - Historic Preservation/Adaptive Reuse - Park/Walkway/Recreation. Fiene puts her emphasis on the strategic planning service provided by the organization that looks into the community's heritage along the waterfront and how it might be valued, the importance of public art, and offers interpretive opportunities.

The Waterfront Centre puts considerable emphasis not only upon the uniqueness of the community, expressed through cultural and recreational aspects, but also upon the new challenges of the environment. Urban waterfront development is seen as a once in a lifetime time opportunity for cities to deal with change by means of questioning their dreams and wishes.

Cities on Water started in 1989 and is also a non-profit association based in Venice, with the aim of promote and develop activities related to the water and the city. The organization also promote Rete 2001 a program of co-operation between ports and cities in Mediterranean European and Latin America, and which publishes the six-monthly review Portus. In the magazine were published many articles and papers about Lisbon. Among the authors there is Natércia Cabral, President of the Port Authority, Professor Jorge Gaspar, geographer, João Figueira de Sousa from the Department of Geography and Regional Planning, Antonio Nabais, historian. The magazine is directed by Joan Allemany and Rinio Bruttomesso who was the publisher of the second meeting in Venice attended by a number of experts and scholars from European countries but also the US to discuss the waterfront. Bruttomesso then published Waterfronts. A new

frontier for cities on water (1993), Cities on water transport (1995), Land – Water Intermodal Terminals (1998) Water and Industrial Heritage (1999). It is a very dynamic group of people that decided to found an organization to look after Mediterranean Ports and Latin American for Cultural proximity. These ports are very different geographically, they were constructed under different circumstances and range a wide set of political and economic conditions, but that can be organised as part of a complex whole for cultural reasons. Cities on Water have organized a number of international lectures starting in 1989 and some of the most well known regional and urban planning experts presented. Rete 2001 aims to involve administrators and representatives of organisations, decision makers meaning port authority leaders, politicians. Issues discussed can go from methodological policies to economics or historic interest, but always regarding City and Port.

The third main organisation is L'Association International des Villes et Ports (AIVP) and was created in 1988 by Antoine Rufenacht, currently the Mayor of Havre, France. The association engages an international network of public and private agents interested in the development of port cities. They provide and exchange information about how to invest and what should be done to achieve good results in waterfront development process. It is a major organizations that also present at the first world fair for waterfront urban development. It took place in London, Waterfront Expo 2003 and was oriented towards the creation of new marinas and luxury housing development. The AIVP demand a broader view besides the economic opportunities, and have been organizing several International Conferences and publishing the presentations, inviting mostly, port authorities members, municipalities representatives, urban and port agents and commercial businesses. Their last International Conference was in Lisbon with the title, Modernity and Identity. These qualities are to be known of main importance for any port city and the conference was successful attracting 700 participants from 140 port cities. Presentations explain how municipalities, urban developers, port authorities and their economic and institutional partners act upon the inevitable changes that maritime transportation is going through. Written communications at the Lisbon conference include mainly Spanish and Italian scholars and myself as the only Portuguese, AIVP claim that new answers are coming from often innovative solutions and it is that debate and exchange they want to promote. In order, 'to keep cultural specificity, value local

heritage, promote sustainable development and improve the quality of life of the locals are the indispensable ingredients to any waterfront future development.’

AIVP is collecting a large amount of information, including a network of references and contacts, it is not their aim to select, to develop a critical approach or to promote certain type of solutions.

Waterfronts of Art organize conferences and workshops regarding artistic and social issues in the urban development of waterfronts, that are seen as laboratories of experimentation and consequently offer new possibilities for special structures in port cities. Antoni Remesar and Malcolm Miles are two prominent university professors that organize a whole group of activities and publications. They are based in Barcelona and Plymouth respectively which brings to the International Conference both Mediterranean and Anglo-Saxon cultures. A number of scholars, researchers, artists from a variety of backgrounds get together to discuss and debate recent strategies for waterfront development in which the importance of public space is characterized by public art, problems of sustainability have influence in the urban design, and how the waterfront concept goes beyond the port/city interface. Most presentations present critical positions and carefully construct an argument that is diverse and yet similar in its essence. How the role of public art and urban design promote the city’s social identity and how artist act in front of public space. It was in these conferences that I met scholars as Catherine De Lorenzo and Richard Berman who kindly provide specific documentation about artistic influence in the process of waterfront urban development. Conferences include Port Authorities and Municipality representatives to present and discuss planning strategies and economic investment between private and public partnerships. Urban designers review the effects of their projects and scholars analyze the context in which waterfront becomes a product of historical and social conditions. The presence of historians of urban development, for instance, proved to be a keen contribution to know the historical progression of the waterfront. Historians produce a critical frame for each case and situate it within the progression of time, informing about the past, the discussion becomes more precise about the present and also about future creative processes of development. New answers are also found by looking into the past.

Most organizations underline the importance of the cultural importance and the role of local identity in the process of waterfront development but Waterfronts of Art is the one to promote crossing dialogues between, art and social science, urban design and history, symbolic economy and urban policy, architecture and public space in order to investigate cultural identity. I would argue that these meetings and consequent publications have given a significant contribution for the future debate on waterfront development. The 11th Conference of the IPHS – International Planning History Society under the title Planning Models and the Culture of Cities also had a section of presentations about waterfronts, and it was an opportunity to confront some of my ideas with other experts in the field. Mainly presented by academic and specialized researchers, the meeting brought together Oriol Bohigas the master mind of the Barcelona *Urbanismo* and Michael Hebbert who discusses the Barcelona model of the last twenty years.

There are some scholars who have been involved with waterfront, personalities, which were not mentioned yet. In alphabetic order, Claude Chaline, Han Meyer, João F. Sousa, Peter Hall, René Borruéy and Timothy Sieber. They have different interests and have contributed to the waterfront discussion from urban design perspective. Containing subtle differences there are some architects involved with projects for waterfronts who write about it from the designer perspective. Either as designers or as critics of waterfront projects their contribution is from the architect point of view. Alcino Soutinho, Elia Zenghelis, Joan Busquets and Stefano Boeri, are among the architects whose ideas and writings are relevant to this study. There are many others that I will refer to, when addressing specific subjects or particular cases.

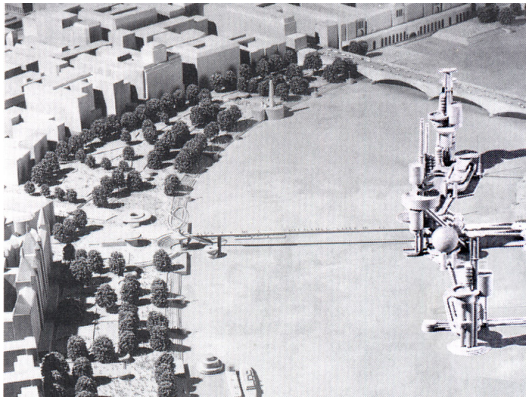
Han Meyer, who is a Professor of Urban Design at TU Delft, has written the most complete book on the subject. In 1999 the English version was called *City and Port, transformation of port cities, London, Barcelona, New York and Rotterdam*. Meyer's first chapter situates the industrial port and its impact in the city within a specific time frame: *The Nineteenth-Century Port City on Its Way to the Twenty-First Century* is the title and opens the book with *The Identity of the Port City: The Emergence of 'the Cultural Factor'*. Exquisitely organized and documented, the book extensively refers to the evolution of public space and how it can be recapture to the city. In each of the four cities specific cultural differences are referred and analyzed, because each port is a

particular case. The deepness of the document extensively analyses each city and the urban design from the historic, geographic and cultural point of view, and the development of the relation between cities and their ports. Another important book is by Raymond W. Gastil, called 'Beyond the Edge – New York's New Waterfront'. It is published with the Van Alen Institute New York a leading promoter of innovative urban design and particularly focused on the waterfront of New York. In his book Gastil critically reviews some waterfront projects (see plate 1) around the world and name it 'The World's New Culture of Waterfront Design'. To discuss the future possibilities offered specifically to New York waterfront, he merges projects being commissioned but that are not built yet, design ideas presented for The Van Alen Institute Design Competition and future projects, such as the Olympics in 2012 to illustrate a alternative framework. As described by Aaron Betsky, his vision is both 'grand and detailed (...) an exhilarating view of what New York could become'. The readers necessarily shifts their perception regarding the New York waterfront after reading it.

Chaline and Hall are both professors, the first in Paris the second at Berkeley, California in urban planning. Sousa is a geographer and Sieber is an anthropologist, they both know the Lisbon case and considering their background of research they have significant contributions for the debate. Borruey is focus on Marseille, like Busquets is mainly interested in Barcelona but they manage to look at something local and make it global. Soutinho was the consultant architect for the port authority of Lisbon from 1994 to 2003 and has publish papers and given lectures in various universities in Europe. Elia Zenghelis enter the discussion as master architect at the Forum&workshop of Marseille to discuss the future of the waterfront and published a book *Making the City by the Sea*, with Berlage Institute, Mies Van der Rohe Foundation, Barcelona and Marseille schools of Architecture, Italian Architect Stefano Boeri, has been involved with the transformation of the Port of Genoa, Naples, Mytilene, Salerno, Trieste and has written extensively about waterfront development in the Mediterranean context. All of them have quite different perceptions of the phenomena therefore they have various positions but experts from different backgrounds write about the same subject they somehow complement each other.

In short, the institutions and scholars referred above have produced some of the most influential ideas that contribute for the current debate, on urban waterfront development.

The first generation of urban waterfront renovation was mainly oriented towards a type of Festival Marketplace fad, that was in 1980'. During the 1990' it was the concept of *urban entertainment district*, (see plate 2) but the last generation is claiming major importance for the public spaces and their significance in the city (plate 3). That is addressed by individual scholars in different manners, and I separate them in two large sets of discussion. The symbolism attached to the waterfront and consequent cultural significance as the engine of transformation and the unique possibilities given to water cities by means of creative use of their port areas which are central for urban life. Industrial Ports Landfill happened in around the end of nineteenth century beginning of twentieth century there is now an opportunity for cities to intervene creatively in the landfill and reclaim the edge.



1. Richard Rogers partnership in exhibition:
“London as it could be”, 1986



2. Johor Coastal Development, Malaysia,
Model of accommodation islands, 1993



3. Xochimilco Ecological Park, Mexico City, Grupo de Diseño Urbano, 1993 View of the pumping system .

Creative uses of the port area

The perception from the waterside is unique and defines the image of the city. At the landfill new shapes may emerge to compose the image of the city. The discussion is centred in the new possibilities and exciting opportunities to which urban waterfront developments can offer their citizens. The transformation can hold a projection of the city and its image and, at the same time, be a reflection of the city itself. Being the landfill free for other possible uses what can be done? Italian architect Stefano Boeri, (2000, 71) who is involved with waterfront projects in Mediterranean cities, believes the meaning should remain in these places where architecture is still capable of,

generating real surprises, changes of scale, with resonance between different spaces distant from one another. What is at stake in all this is the safeguard of a global idea of the Mediterranean city, and not just a single problem of updating a given area.

In most cases, connecting city and port has particular problems of urban discontinuity and specific conditions, either geographic or topographic, from the natural settlement of the hills to the flat land of the port created over landfill. In many cases the geometry

traced at the port area does not have a continuous relation with the urban fabric and with the professional activities and social groups that may produce quite a

complex interconnection of urban and maritime areas, a network of cross-culture zones of tolerance, and whose *métissage* renders them apt to cater to an extraordinary diversity of activities which, contrary to what might be expected, form a compact, coherent and clearly defined environment. (Boeri, 2000, 69)

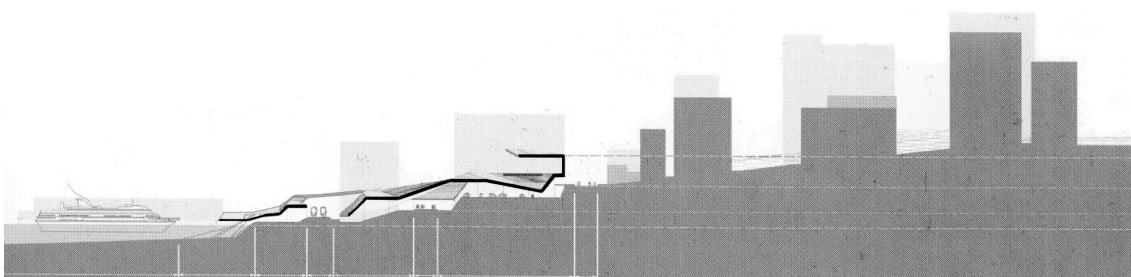
In search for the evolutionary identity of port cities and their relation with adjacent port areas most authors agree upon the influence of the cultural factor. However each author has a personal understanding of what can be defined as culture in view of the multiplicity of indicators that constitute culture or the expression of it. Urban environment is a result of many different aspects, including history, climate, topography, etc. At the harbour there is an additional 'element' that Boeri calls the 'extraordinary mobility', in terms of fluxes and types of occupancy throughout the creation of industrial ports. For southern European port cities harbour areas have been spaces in constant mutation, always changing and adapting to new configurations required by different technologies. Which is characterized by the 'unpredictable character' of the port area. Water cities face the land, the artificial landfill created between them and the water, just the land since the industrial port is gone, and there is an enormous vacant surface that once was the actual port, and that void has a life of its own that claims to be reinvented by its creator: the city lying next to it. As it is described by Borruéy (2001, 50), a French architect,

'the port area found itself at the cutting edge of the most direct experimentation with 'modern space'. Far more than the architecture of utilitarian buildings, the experience with which the port world confronts us is the history of the architecture of free space, of an inordinately large territory, affected first and foremost by such categories of movement as the fluidity and celerity of circulation. (...) But it remains at the same time a real territory, also marked by human emotional ties and their resistance to the *tabula rasa*; the traces of its own past are constantly visible, which at times endows it with almost urban qualities of density, interpenetration and memory.

If the void is more important than buildings, what kind of urban space is to be created for the waterfront? Although most scholars agree about the value of empty urban space, it is nevertheless a fragile position. The expression of the void is most likely to fail as the city used to register a number of activities related with the water. A deeper understanding of how the site was created is needed to elaborate another idea about the waterfront transformation (see plate 4,5). The emptiness in the city to gaze at nature has been argued by some scholars, thus the construction of a narrative that describes and reveals its uniqueness will provide valuable information that will work for future orientation of waterfront development. Once the historic and geographic background is incorporated and understood, a new theoretic view will take shape and then offer and stimulate a different way of thinking the waterfront (see plate 6)

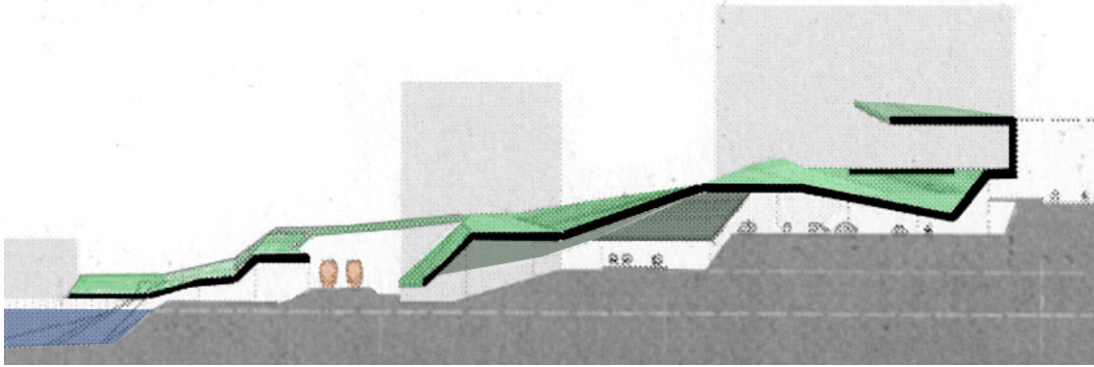


4. Photomontage of a bird's eye view of the Olympic Sculpture Park in Seattle (Weiss and Manfredi, 2001)



5. Section of the project is described as 'neither the ideal of the untouched site, awaiting the architect's free-standing monolith, nor its opposite, the privileged 'natural' or 'historical' site, to

which any architectural intervention must defer, are legitimate for contemporary work. Instead, it is necessary to work from a definition of landscape that incorporate infrastructures (rail lines, highway off-ramps, utility lines), history (geologic, political, cultural), and natural systems (water, vegetation, toxicity).’ (Gastil, 2002, 176-77)



6. Future landscape covers modern means of transportation and its necessary infrastructures.

Cultural heritage – engine of the city identity?

Why do port cities have such interest in their waterfronts? Particularly in Southern European countries the waterfront was the centre of the city, the core of urban life, although during the last century the creation of industrial facilities brought profound changes, and they gradually evolved to be the city backyard. Most waterfront development plans are elaborated from a contemporary perspective, without addressing the pre-industrial evolutionary process of the port, that is to say not understanding the whole context, creating rupture in the evolutionary process. Scholars such as Rodrigues (1999) Bruttomesso (2001), argue that deeper studies are required to comprehend the interventions that have a multidisciplinary nature and to understand the influence of several urban agents. Based on the idea of urban complexity at the waterfront Bruttomesso (2001, 42) explains that “complexity is a quality that distinguishes the more complete, articulate urban organisms. It is often the outcome of long processes involving successive historic phases and projects implemented in these phases; from this viewpoint, the complexity of the city is a product of intelligence and continuous work of construction, often over many centuries.” This work is still in progress and the profound changes of city-port relations brought about by waterfront urban development is an opportunity to value and reinterpret these phases. Previous projects left marks of various kinds that in some cases only remain small fragments. This is understood as the new starting point for the study and transformation of reality, Rodrigues (1999, 12) explains that “it is not possible to research and act without considering the dialectic

implications, the multiple and reciprocal relations and occurrences between the phenomena.” Nevertheless some aspects are common to different cases and have been extensively documented. Scholars and project designers have contributed with alternative ideas which widen the views of Port Authorities.

How cultural heritage can value the port area is seen differently among several entities, for instance, the Waterfront Centre, based in North America came out with a Manifesto in 1999, Urban Waterfront Manifesto Issued, that claim the unique cultural richness of each situation and the importance of artistic intervention to celebrate difference rather than repetition. Below are parts of the Manifesto.

Waterfront work is not just about economic development, is not simply a design question or only about environmental issues. Rather it is a fusion of these and related disciplines that should be sought. It is vital that communities distinguish between learning from good examples of waterfront planning and development elsewhere and blindly copying them. Waterfront concepts and projects should flow from the nature of each place and embody its essential spirit. Public art installations should be encouraged and the active participation of each city's arts community sought from the outset of waterfront planning, to ensure that artists' special way of seeing things is incorporated.

The Manifesto is signed by a number of personalities that come from a variety of activities; Municipalities, Waterfront Development Corporations, Port Authorities, Planners, Universities, Architects, Engineers, Town Managers, Urban and Economic Development Groups, Waterfront Coalition, Centre for Landscape Interpretation, Conservation Heritage Design, Water Resources Authority, Historic Preservation, City Parks Department, Department of Economic Development, Cultural Foundations, Coastal Plan & Programme, Concrete Flotation Systems Inc., Energy resources, Waterways Institute, River Action, Inc., Tourism Association, History & Landmarks Foundation, etc. Such is the interest on urban waterfront development and the diversity of issues raised for the city and their citizens. The fusion to incorporate all these civil components has been directly related to the architects activity. Architects hold the responsibility to coordinate specific components of various fields, technical, social, engineer, materials, landscape, and produce a holistic proposal. Further more, the

architect is in the centre of the debate between all these participation and promoting dialogue between particular fields when necessary and taking decisions. Besides the coordination and design, architects are able to read information embedded in the urban fabric that structures most of the urban elements. The urban fabric is like a narrative and reveal the complexity imprinted in the territory, as a written text that carries fragments of relevant moments. The relation between these fragments that last in the port area may be dysfunctional in new urban developments, but instead may be used as motifs of cultural significance and consequently reveal new urban forms. According to Meyer this is possible and desirable because,

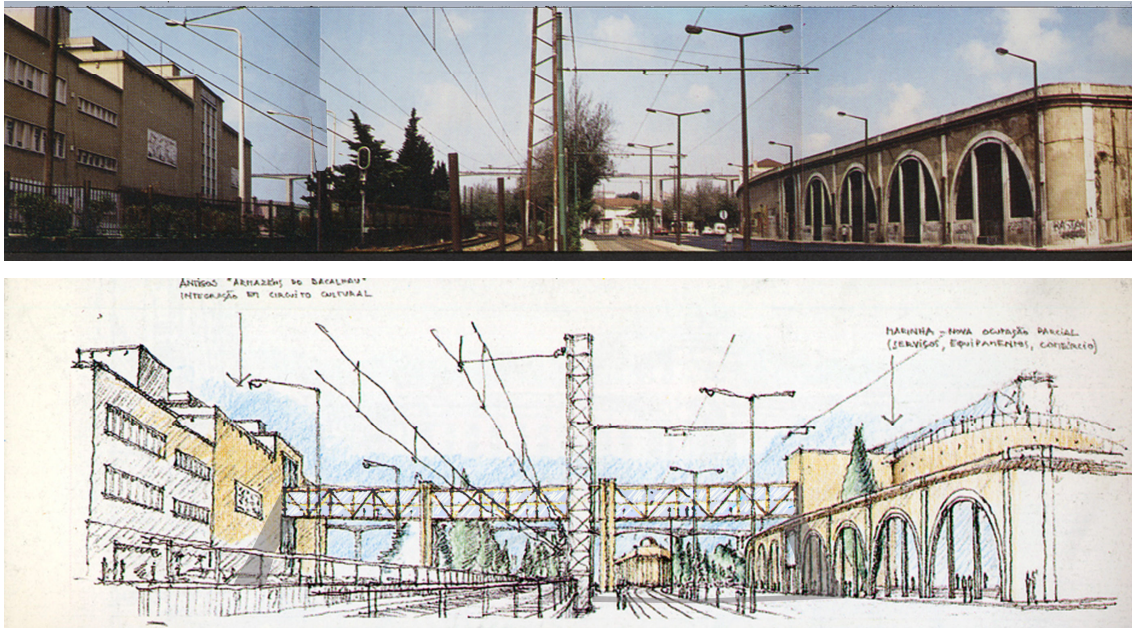
‘In each plan and design for old harbour areas exists a noticeable emphasis on the cultural significance that these areas are supposed to have, to which an exceptional power is ascribed and which is deemed to be of great importance to the further development of the city. In recent decades, urban planners everywhere have tried to separate the spatial design of urban areas from functionalist principles and to pay more attention to the cultural significance of the urban form. ‘Cultural identity’, ‘cultural value’, and ‘cultural quality’ are concepts that currently saturate the jargon of urban planning. Within a short time these concepts have become criteria that are taken for granted, even though they often lack clarity of definition and the objectives they represent may be obscure. Recent plans for urban planning conversions of obsolete harbour areas are some of the most spectacular exponents of the emergence of the ‘cultural factor’. (Meyer, 1999, 14)

The culture factor imprints an uniqueness in the cities, reminding us that there are no standard solutions concerning waterfront development. Besides each case is geographically different. The topography, the sea features, the landscape influence harbours and port cities. Design research projects are among the most important instruments for waterfront future transformation. By the end of the 1980s the competition for ideas to the regeneration of the Lisbon’s waterfront gave a significant contribution for the debate. The proposals challenged not just the relation of the city with the river but change our perception regarding present oportunities. Design research projects are discuss in the chapters dedicated to the case studies. Most of them are not implemented, but they influence the way of thinking about urban regeneration process

of the port area. Valis – Valorização de Lisboa, in 1990, a new program – coordinated by Jorge Gaspar, proposed ideas for specific sites at the waterfront. Valis is not specific to the waterfront of Lisbon, but presents suggestions to improve some areas of city (see plate 7) We will discuss cultural aspects of design research projects and analyse how can a specific design translate or express specific cultural inherent to industrial ports? Port areas have been deeply characterized by an industrial atmosphere, industrial port activities were usually not limited by the physical boundaries of industrial complexes. Next to them, new urban settlements were created or transformed to host a vast population that work in the industrial port. A Portuguese architect that write about this, Nuno Portas (1998, 4) describes that,

“During the long period of Modern History cities gradually replaced the old barriers formed by their fortified walls, custom-houses or shipyards, for the new webs of railways, highways, docks and warehouses, of bulk cargo and containers. The waterfronts with cities leaning over them were an increasing logistic boundary for both the economical operations and their communities. But due to the industrial-port environment, port cities have seen their waterfront neighbourhood deteriorate, and become an hazardous place.”

Such a statement introduces another level of complexity into the debate, as many urban waterfront developments have erased the previous industrial memories and blurred the boundaries between the city and the port activity. We can identify some of the ‘main trends’ regarding waterfront renovation: the city appropriation of public or common space; increase the population density in central urban areas; the installation of festival markets, commercial facilities associated to leisure and cultural activities. North-American models which were the first to be executed have been criticized for limiting these areas to recreational and commercial purposes. Ironically most European port cities have pursued the same goals in their redevelopment programs. In Southern Europe the port land is strategically central to the city, therefore there is no need to attract people or investors, because they are already there.



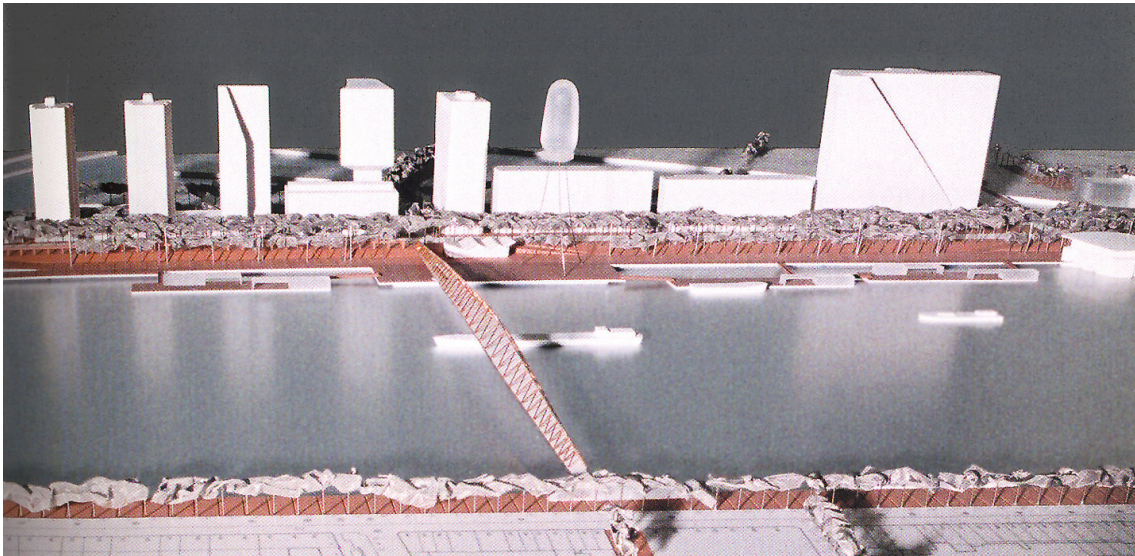
7. Valis program (1990) Above: Picture of the railway between city and port.
 Below: Sketch shows a bridge connecting Alcântara and the Port of Lisbon.

Urban culture is made of fragments that juxtaposed in a number of layers organized in time. Each generations contributes for the transformation of the territory express and influence the next. Urban design in the central areas of these cities reflects the complex dialogue established throughout the centuries. (see plate 8) From the juxtaposition of layers emerge the urban design, if waterfront projects search for a quest of identity in port cities, how does that related urban life and industrial activities? Is recovering industrial artefacts as urban fragments integrated in the process of transformation enough to preserve a part of local? French scholar Wilson (2000, 34) argues that is rather doubtful because most projects use images and ideas related with sea activities in a ‘joyful’ manner that does not match reality, is distorted and explains that this,

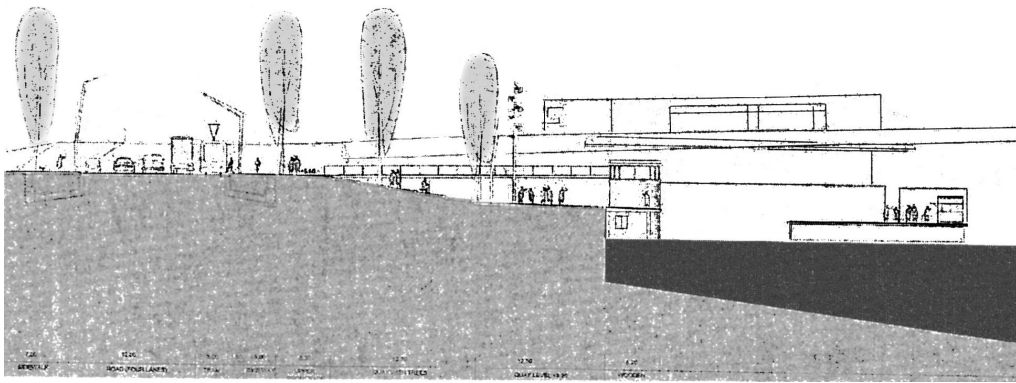
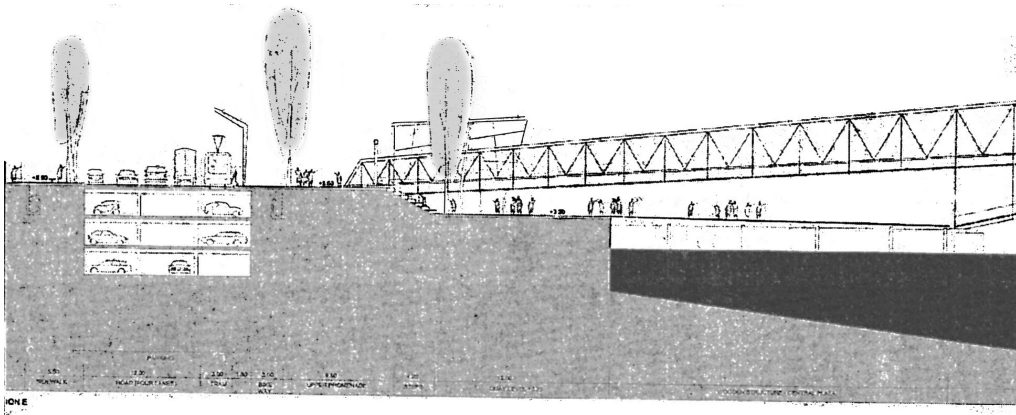
‘is shown in pretty miniature in a mirror that belies its real scale: dykes, docks, hangars and giant cranes. We must look elsewhere for authentic aspects that might serve in defining guidelines for urban design. Not in the traditional function of the port, nor even in its seafront location, but in the cultural history of the connections between infrastructure zone and city.’”

The importance of linking city and port is one of the major issues that are approached by several scholars. When one analysis the first models of transformation their main

purpose was ‘waterfront revitalization’, with emphasis placed on the waterfront, usually areas of landfill, and use them for urban expansion rather than on a link to the city. Today the emphasis tends to be on recovering the original city link with the water (see plate 9). Some projects claim to rebind the broken link between city and water through the port, which is quite different or the opposite of using the areas now available on the waterfront for the creation of a new urban development, thus reinventing an urban reality that blurs their previous lives. The cultural history and the industrial character influence urban life, and they may create the foundations for a new urban design, one that includes and integrates the existing complexity rather than excludes it. It is a process of ‘inclusion’ during which the landfill is taken as a one time opportunity offered to the city.



8. Model’s photograph of De Boompjes, historic central area of Rotterdam. design by the City of Barcelona team, Jordi Henrich, with Joan Forgas, Architect. ‘The central element of this initiative was to ask experts from a number of foreign cities to draw up new design for De Boompjes. Inspiration could be drawn and lessons learnt from strategies adopted elsewhere. The key selection criterion was that each city had to have successfully developed its own waterfront.’



9.The sections illustrate an urban promenade.

Section I – Object of Study

Chapter 2 – Lisbon’s port area

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Rethinking waterfront cities: issues Lisbon should consider

The current debate regarding the object of this study is a fragmented one, expressing the fragmentation of powers ruling over the territory. Some authors claim the viability of port activities in this area while others argue that port activities should mix with the city life, and some argue the port activities should give place to urban expansion. It is not a new discussion, but is becoming more present within the last years. The land at and around the port area has large empty surfaces that are a gift for the overcrowded historic city. The discussion engages a wide range of urban actors to whom the development of the waterfront seems appealing. It is an opportunity without precedents to update equipments or to create new ones necessary for the population, although new trends defend that empty areas must remain flexible to be transformed by future generations. These 'flexible areas' may serve as a stimulus for a dialogue between previous generations (through the traces they left) and present and futures ones that in this way would share the creation of the city.

In this chapter the presentation of extensive information regarding the object of study will define a possible frame to discuss the port area of Lisbon. After the definition of the central argument and the presentation of the hypothesis, specific information is assembled according to three different scales. The port area discussion necessarily relates simultaneously to the scale of the estuary (plate1), the scale of the historic city, and to specific buildings and public spaces. This analysis is focused on the Macro Scale, Urban Scale and Detailed Scale. The research structure includes a separated investigation of each of the three scales, and the discussion is oriented to specific issues concerning a particular scale. Most of the problems and of the potentialities regarding each scale are different in content and can be referred separately. However, some issues affect and influence the other scale, they overlap one another in various manners, therefore the separation is not rigid. The structure assembles what is relevant for the construction of the central argument and relates to the present debate about the port area. The structure of this particular research constitutes a frame that supports ideas and concepts to be discussed.

At a large scale, we observe that sea ports have changed, and will continue to evolve, containers require new connections to the hinterland, and intermodal platforms have forced sea ports to redefine their location. This has implications in the regional planning strategies. In Portugal, the Port of *Setúbal* is building the largest container terminal of the country, and *Sines* attracted a considerable amount of foreign investment for the construction of a new container terminal. Both ports are expanding while the port of Lisbon has clearly defined limits and no possibility of expansion after the failure to implement the expansion plans presented in the 1980s. The inexistence of intermodal platforms, which must be adjacent to the port area, and the impossibility to expand the terminals have consequences that are inevitable. All the major ports in Portugal have decreased their activities. The problem is quite complex since Portuguese Port Authorities have been operating individually waiting for a central body that is expected to coordinate all the Port Authorities, in the footsteps of the Spanish model. It is uncertain what the Port Authority of Lisbon will do because at the moment they are more interested in the urban development of the land under their jurisdiction than in dealing with port related activities. Although they may act as urban developers, they cannot sell the land under their jurisdiction since it is public property.

At the scale of the city in terms of urban design, we find cities claiming the port areas for their benefit. While industrial infrastructures turn into urban areas, new questions are raised.

The waterfront development plan for Lisbon (POZOR) was the early beginning of a post-industrial port transformation that never went through. In the POZOR there are already many guidelines about the future relations between city and port. In search for answers we will analyse two case studies of port cities: Barcelona and San Francisco. Both cities have transformed and expanded their ports and adapted them to major investments; and this happened because they managed to solve the conflict between administrative powers acting on the waterfront, and thus achieved a successful transition for their port areas. Each case is different as we will further discuss, but it is relevant to look into the differences of each solution in their differences and how they managed to improve the relationship between port and city. This way, confronting the Lisbon situation with successful examples one may acquire a new perspective in order to foresee possible solutions.

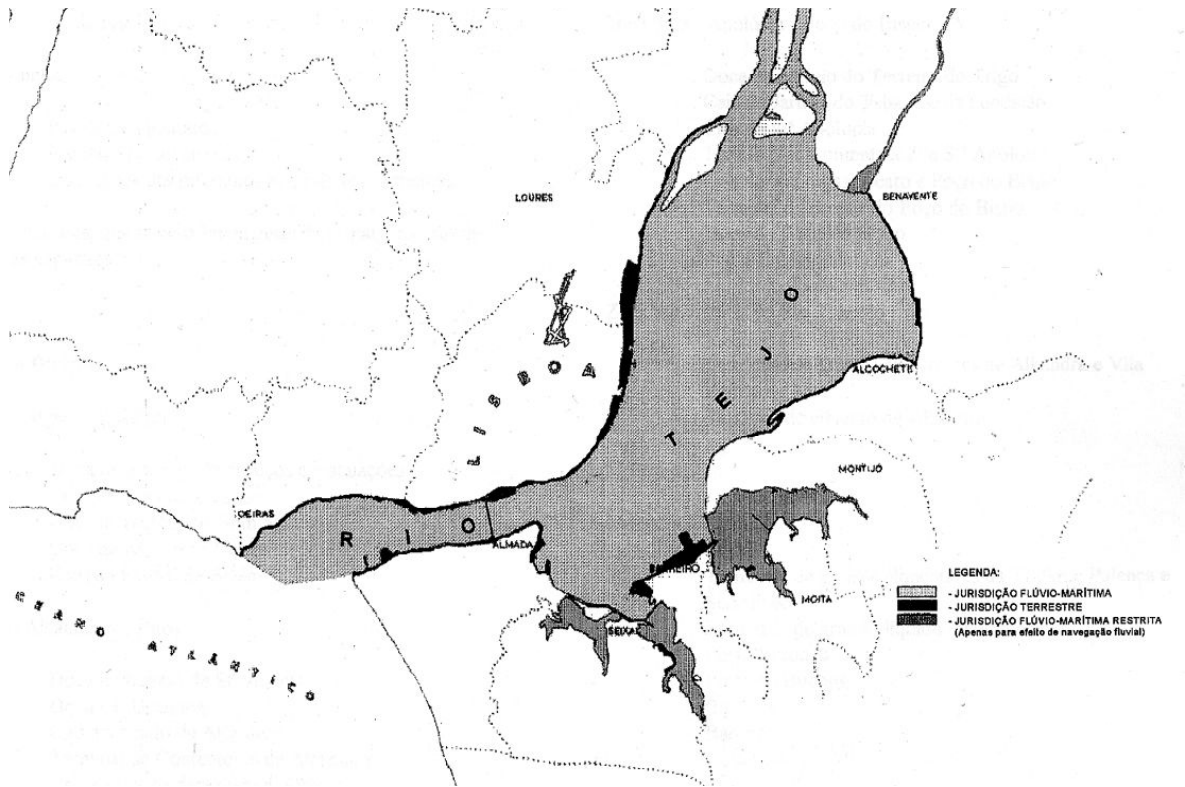
There was a problem common to several cities: they had to eliminate the urban 'cut effect', a barrier formed by a railway and/or a road built along the port area, which has developed enormously throughout the 20th century. Any future plan positioned on a contemporary perspective without understanding the context, that is to say the city/water frontier overlapped with landfill, is condemned to fail. The case of Boston, which is always mentioned in every reference studies about waterfronts, was solved through an open dialogue between the Port Authority and the Town Hall; the result of this was their new buildings bordering the water and reinvention of the city relation with the port area covering the old harbour. How this fruitful dialogue is established and who is involved in it varies from city to city.

At the detail scale, the smallest one, we should consider the user as an individual or as groups and their relation to the object of architecture and to public space. Lisbon topographical conditions allowed for city projects where landscape architecture merges with architecture and it becomes hard to separate the two. In other port cities, designers have proposed constructions that implied the manipulation of the topographic conditions to create surfaces with a new morphology. At the landfill there are now opportunities to reinvent a spatial grid influenced by the city. Waterfront projects have been offering a cultural and social reconnection with the river, thus reuniting the human element of the city with the natural one, the river itself. It is a rare opportunity for the city to reestablish a broken link. In the case of Lisbon, the area of study was the core of the city because its center was located along the waterfront until the 1900s. The examples further discussed will address issues of

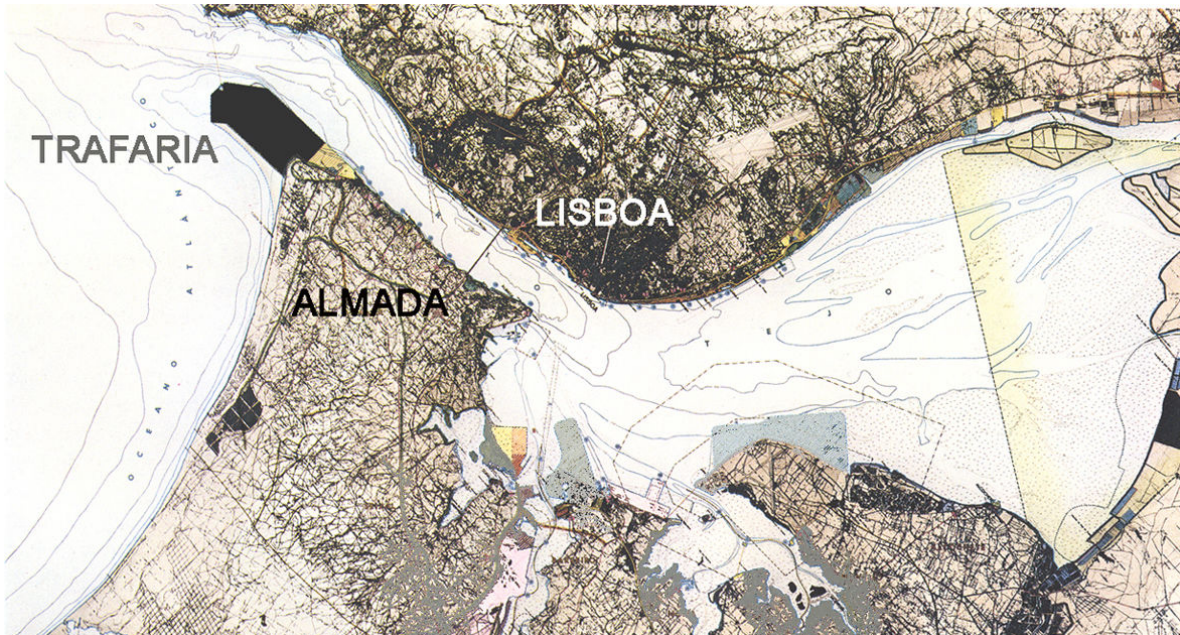
cultural identity, including urban design and history, social science and artistic interventions, architecture and public space.

Macro Scale

Does Lisbon need a container terminal?	60
Port mutations	61
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From transshipment to containerization	65



1. Linear port enclosing the city, the land under the jurisdiction of the Port Authority is shown in black



2. Port Authority Master plan (detail), titled Future of the Port of Lisbon; it includes the designed container terminal at Trafaria.

Does Lisbon need a container terminal?

Containers and the large cargo ships that carry them are becoming a global phenomenon that has consequences in the contemporary organization of industrial ports. The increasing containerisation and the constant need to lower costs to maintain competitiveness have changed ports throughout the world. During the 70s and 80s ports began to face the need for multimodal platforms. Those platforms require a specific geometry, larger surfaces, and proper accessibility; they should also be preferably located near the port area. The project to build the Trafaria Container Terminal (plate 2) was developed and presented by the Port Authority of Lisbon at the time, but it was put aside. The expansion to the south bank never happened, and consequently the port activity was kept in the same location, near the old town. Most cities have been dealing with the transformation of port areas because they became available, in opposition to what happened in Lisbon. This is the main reason why port cities throughout North America, Western Europe and Far East Asia began a spectacular transformation through which port areas were reinvented. Old harbour areas were thought to be ideal sites for the new urban developments. The urban waterfront became an international reference. And in many cases it was the last opportunity for port authorities to obtain profitable economic results, while the activity of the port was relocated elsewhere.

Some port operators believe that *Santos* and *Alcântara* Terminals will remain competitive for another ten years, but other experts argue that keeping them operational is to prolong an artificial situation that is no longer viable. In practice, the Port of Lisbon has lost its leading position in the Iberian Peninsula in the 1970s to become a port struggling with big difficulties. In 2003 it registered less traffic than the Port of La Coruña that is a secondary Spanish Port. The Port Authority of Lisbon (APL) has developed a couple of project-finance including residential, commercial and office buildings. These projects would generate revenues allowing the construction of infrastructures, namely better access ways.¹

Accessibility is one of the main struggles of the Port of Lisbon as the city behind it blocks the connection with trucks and trains. In 1996, in order to keep the port competitiveness, the Port Authority has invested in the *Alcântara/Santos* area, which was the first deepwater

¹ “*Intervenções na zona ribeirinha*” – projects for *Matinha/Cabo Ruivo* and *Pedrouços* areas are available at the Port Authority Project Department. Those projects have been widely publicized in the 1995 presentation of the Lisbon waterfront plan. The financial strategy has been briefly described on several newspapers.

container terminal in Portugal. Its restrictive road/railway accesses, however, strongly limit the expansion of its container shipping activity. The Port of Lisbon has an adequate railway hinterland connection at *Poço do Bispo* container terminal, but the *Alcântara* terminal faces an ambiguous future. *Alcântara* is a concession hold by the Liscont Co. who is facing difficulties to carry out their operations. After the 2003 summer strikes organized by the truck drivers in protest against the long hours they had to wait for loading and unloading, the concessionaire advocates the land reclamation of the *Alcântara* dock together with the construction of an adequate hinterland facility as a solution to the problem.

Container operators are efficiency-oriented when making their decisions, and they observe that industrial areas require special infrastructures in which operational mechanisms determine functional procedures. From the technical perspective, on a cargo terminal good solutions lead to good results. But the logistics of intermodal operations cannot skip a good concept-design to allow for a good organization. Besides there is also a socio-cultural component involved in the changes that are taking place in ports, one that can have an impact in the city life as well. Wilson (2000, 33) hints to the situation ‘Communities of dockside professionals lost their monopoly of maritime exchanges to the profit of world-wide operators not tied to any home port.’ Besides this new global order, in the case of Lisbon the local conflicts between the Port Authority and the surrounding municipalities accelerated the loss of competitiveness in the maritime industry.

Port Mutations

Since 1907 the Port of Lisbon Authority (APL) has administered a busy port that was the leading port of the Iberian Peninsula for some years. The harbour of Lisbon offers extraordinary natural conditions and is placed at a strategic geographic location in Europe. The creation of the Port Authority, like in other European cities, rose from the need to implement an autonomous body to administrate the new territory as well as the industrial activity. It was necessary and convenient to have an independent institution operating and controlling the port area, which meant autonomous administrative power to control the works, development and exploitation of the new port. The industrial port, which in the beginning displayed specific characteristics, had to be constantly adapted to new requirements (warehousing space, transportation, processing plants, new machines). In the

1980s the need for deep waters was a worldwide reality, a spectacular increase in the size and draught of ships has made many older ports unusable. In the study carried out by the Port Authority of Lisbon it has been proposed to build the new terminal at *Trafaria* (*Almada* municipality) on the left bank of the river (Cabral, 1997, 72), facing Lisbon, as a response to the need for deeper waters and to new demands imposed by container terminal traffic. The choice of this new location was highly criticized by the public opinion, but mostly by the *Almada* municipality, that revealed a conservative position and a lack of global comprehension of the actual problem in regard of maritime ports. After the failure to build the *Trafaria* container terminal (with approximately 500 hectares), the APL invested in *Alcantara* and *Santa Apolónia*, with an area of 12 hectares (plate 3) and 16 hectares respectively.

The Port Authority autonomy and arguments were not enough to convince the *Almada* municipality about the importance of upgrading and expanding the port facilities. If the creation of the industrial port was a national issue, the creation of a container terminal was not. Therefore the port of Lisbon lost an opportunity to develop and its competitiveness was seriously backfired. Consequently, inadequate areas were adapted to containerization affecting the city's life, in particular the relation between the landfill areas occupied by the port and the city that remain deprived of the Tagus. So, there is a story behind things to enhance the human element of a process that cannot be determined by productivity standards alone. Ramesar (2001, 17) note that

‘Many times we think of urbanism as being a completely free creative process. But urbanism, planning, urban design and public art are activities rooted in the memory, the territory and the Law. There are rights and duties about the land. There are geographic and social memories embedded in the territory. Persistence and pre-existences, that determine planning and urban design.’

While analysing the Lisbon municipality and the APL politics for the waterfront, after the failure to partially relocate the port to *Trafaria*, Craveiro (1997, 50) said that ‘Due to port strategy changes, and to the pressure of the resulting environmental impact on public opinion, the strictly physical expansion plan of the port for the south bank was put aside. Then it became necessary to look for an *integrated* plan adapted to our maritime trade needs and to the new transport technologies. These together with the new specialized exploitation dynamics of the port required less space to be used.’



3. Aerial photograph of the industrial port at *Santos/Alcântara* during the 1970s, before the *Alcântara* container terminal was built with a landfill to reach deeper waters

Hinterland Connections

Since containers transformed the port activity, and larger ships require deeper waters, the Lisbon Port Authority is struggling to keep high levels of activity without success. Containerisation requires deep water and an efficient connection with hinterland.

‘Thus the ratio between the length of a berth and the amount of back-up land needed for cargo has changed dramatically; while one or two-hectare terminals had to be replaced by facilities of 10-15 hectares and more.’ (Hall, 1993, 13).

The container system requires less physical space at the port, and simultaneously a good connection with railway lines and roads, the so-called hinterland. At the same time intermodal platforms are created to link different types of means of transport. APL faced an increasing problem with this interconnection. Confined between a highly congested city and



4. Project for the Iberian Network of High Speed Trains; the red lines indicate transportation routes.

the river, the port efficiency was deteriorating, and one possibility was to invest elsewhere. A new strategy is required, as Felicio (2003, 19), an expert in transportation engineering, explains: ‘From the paradigm based on *estate* we moved to the *flux* based paradigm. This means that in the traditional or classical society wealth was expressed in terms of owning estate in whatever form it could assume. In nowadays society wealth manifests itself in the ability to influence the mobility or traffic centers and to control the flux of goods, *money*, knowledge, etc.’

After the Iberian Meeting in 2003 where the future implementation of the railway lines of the TGV for passengers and merchandises was discussed, the Port of *Setúbal* and the Port *Sines* emerged as the national ports to beneficiate from the construction of the new railway lines (plate 4). This is due mainly to one reason: both ports have the possibility to develop because they can make use of large surfaces that are available next to the port area, and thus will be able to fulfil contemporary needs. They have the flexibility to expand while the Port of Lisbon is compressed between the river and the city. Both ports (*Setúbal* and *Sines*) are

investing in container terminals. *Setúbal* is carrying out projects financed by Portuguese funds, mainly the ones made available by the central government; by contrast, *Sines* also managed to engage foreign investors in its expansion. The Port of Singapore has invested in the creation of the Sines Container Terminal (SCT). The case of *Sines* is particularly interesting, since it was able to attract foreign investor to pay for the construction of the SCT and to equip it with advanced information technology, skilled and highly-trained manpower, state-of-the-art container-handling equipment, since all of this will give the new infrastructure a competitive edge. *Sines* emerges as the number one national port, as far as the volume of cargo handled is concerned, and because it is becoming also a transshipment hub – which could serve the hinterland of the Iberian Peninsula and of Continental Europe – it is successful in finding partnerships for major container terminal investments.

The port of Lisbon has a container terminal at Alcantâra, but it is currently struggling with a considerable lack of space to improve its operation conditions, and its berthing areas are not suitable for very large container vessels. The *Alcântara* terminal requires also a new road/rail intersection to be competitive. There is a proposal to extend the terminal wharf for 18 meters through land reclamation. International investors are not interested in the limited old port of Lisbon which once was, however, the largest Portuguese port. As it is explained by the president of APL, one third of the port's total revenues are coming from rented spaces, and the port of Lisbon 'has become increasingly dependant on funds granted by the European Union'(Cabral, 1997, 72) to carry out its investments in order to improve and readapt the port. We should note that the activity of the port does not vanish, it moves to other places, to new ports that offer better conditions for container terminals. Located 50 km south of Lisbon the Port of *Setúbal* will continue to expand, and the Port of Sines located at 120 km south of Lisbon is now the fast growing port in the country.

From Transshipment to Container Terminal

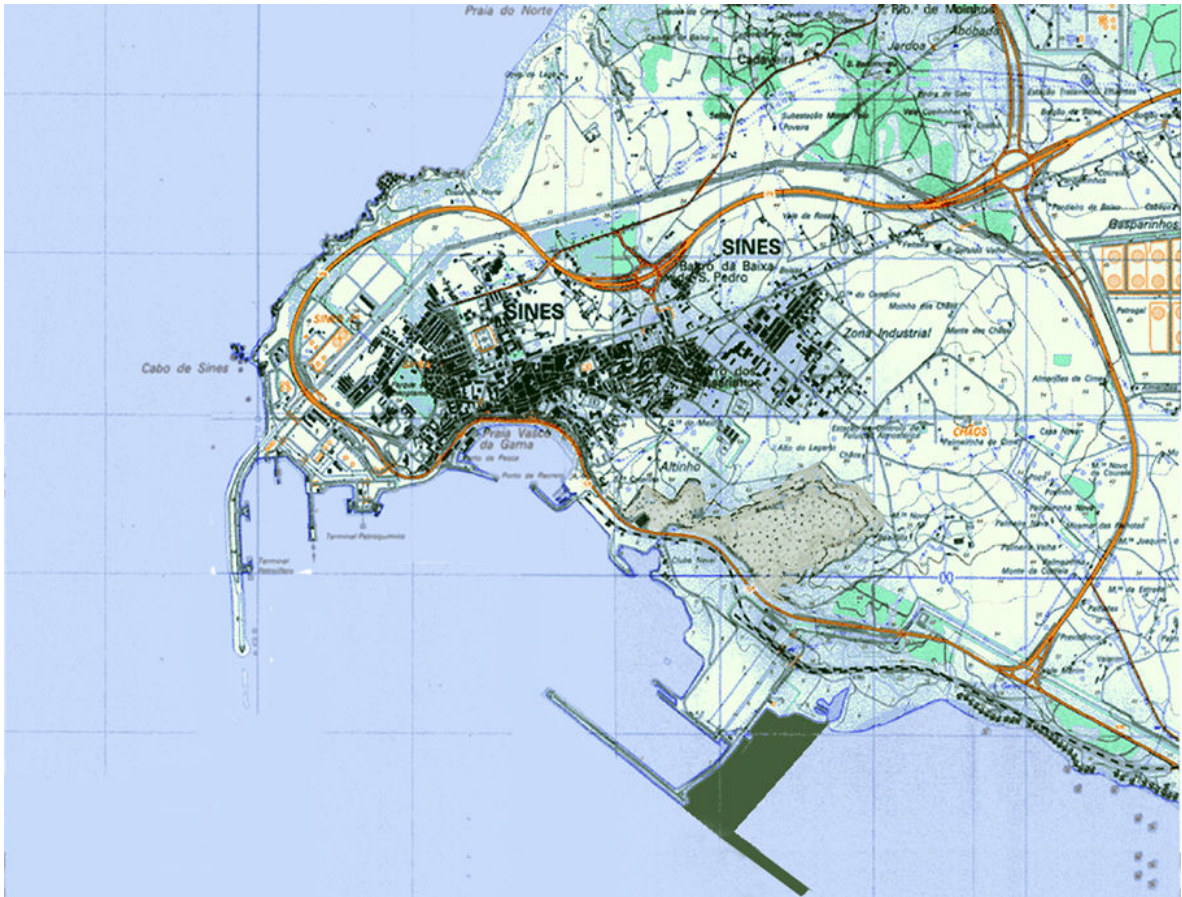
The exploitation of the port of *Sines* started in 1973. It has been described as the perfect place: 'It is well located geographically, with excellent sea features, which make this port one of the few in the world where dredging is not necessary. Thus *Sines* allowed the installation of an harbor that could be operated at low maintenance costs' (Viegas, 2002, 10). The oil crisis of the 70s and the 1974 Portuguese revolution slowed down the

development of the port. These events, as analysed by Lurdes Ferreira (2002), “had the same role in the failure of the *Sines* project launching as the lack of proper accessibility might have in cutting short new development in the area.. (...) Even so, the *Administração do Porto de Sines* (APS) still expects to reach, in 2010, higher profitability levels than the ones presently registered in Barcelona, Algeciras, Hamburg and even Antwerp.

The APS believes the future concession of terminal XXI to the Port of Singapore Authority will boost profitability. The APS emphasizes its expectation that the partnership with one of the leading world operators of cargo containers will attract Iberian hinterland operations and not just transshipping.’

The lack of limitations in the maritime accesses has exceptionally low time rates of ships entry/mooring and sailing/departure (plate5). The fact that there is no urban pressure and no relevant environmental limitations is crucial for the future growth and development of port facilities and inter-modal platforms. The Port Authority (APS, 2002) describes *Sines* as having good conditions for port expansion, and to gain vast landfill areas, with secured direct access to railway and road networks.”These advantages offered by the port of Sines have become extremely attractive for Singapore to invest widely in the construction of the Terminal XXI.

Initially established as a port for energetic resources, ‘the high annual rates of cargo shipment transformed the Port of *Sines* in the leading national port in terms of freight tonnage per year’ (APS, 2003). About 75% of the essential energy resources are conveyed through *Sines*, and this percentage is expected to rise with the installation of the Liquefied Natural Gas terminal which started to be operated in 2003. But compared to other major Portuguese ports *Sines* has never been considered a real competitor. Only recently the partnership with the Port of Singapore Authority (PSA) brought the necessary financial support that allowed for the creation of a container terminal. ‘In the allocation contract dated from 1999, signed with the Sines, Terminais de Contentores, SA., whose main shareholder is the PSA – Corporation Limited, it is established that this Corporation will be responsible for the construction of Infrastructures, Superstructures and Equipments in four periods, amounting to 227 million dollars’ (APS, 2003). The first period is due March 2003 when the first container terminal will be finished. Operating in the Far East, PSA understood the

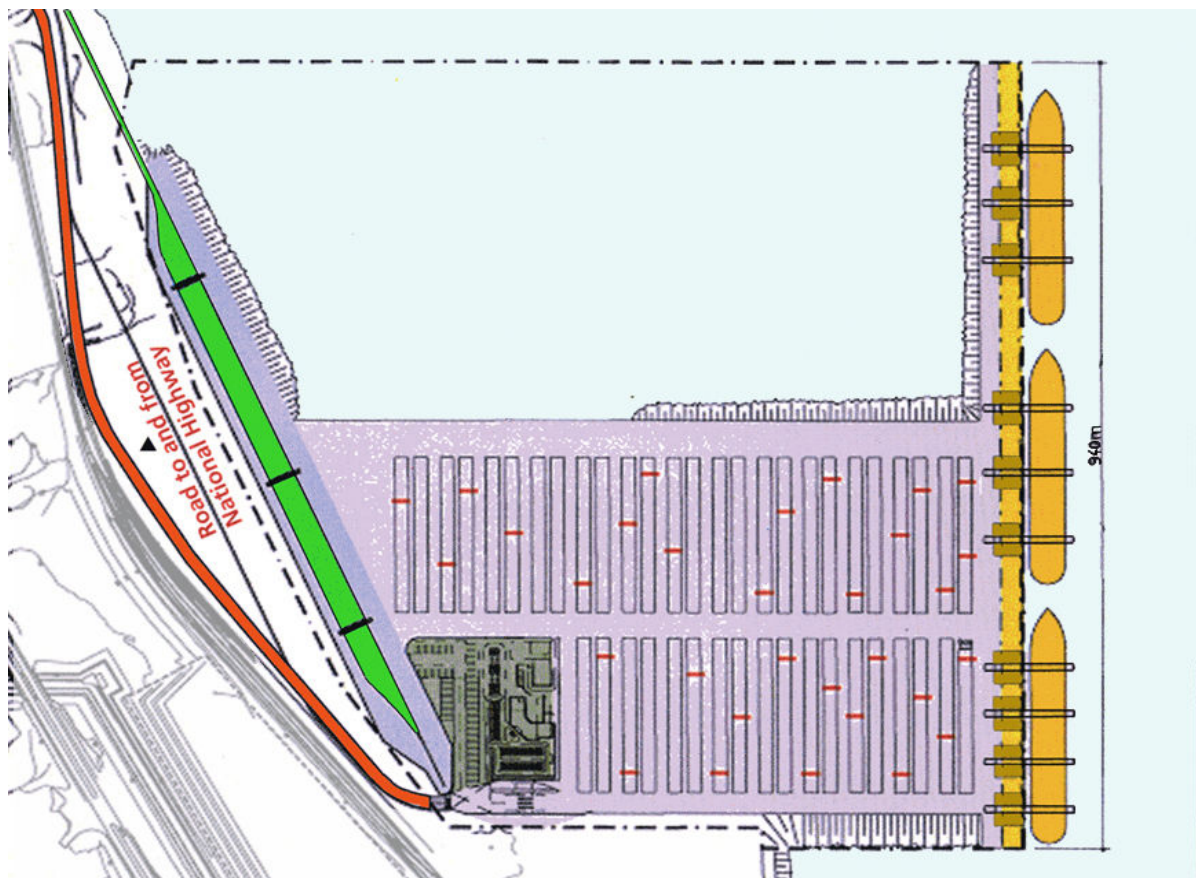


5. Town and port of Sines. Large areas are free and available for the future expansion of the port.

potential of Sines for transshipping. Large ships (6.000 to 8.000 TEU) come from Asia and transfer containers to smaller vessels (2.000 to 4.000 TEU) that sail to other European ports. Considering its strategic geographical location in Europe, *Sines* will be an important gate for this operation.

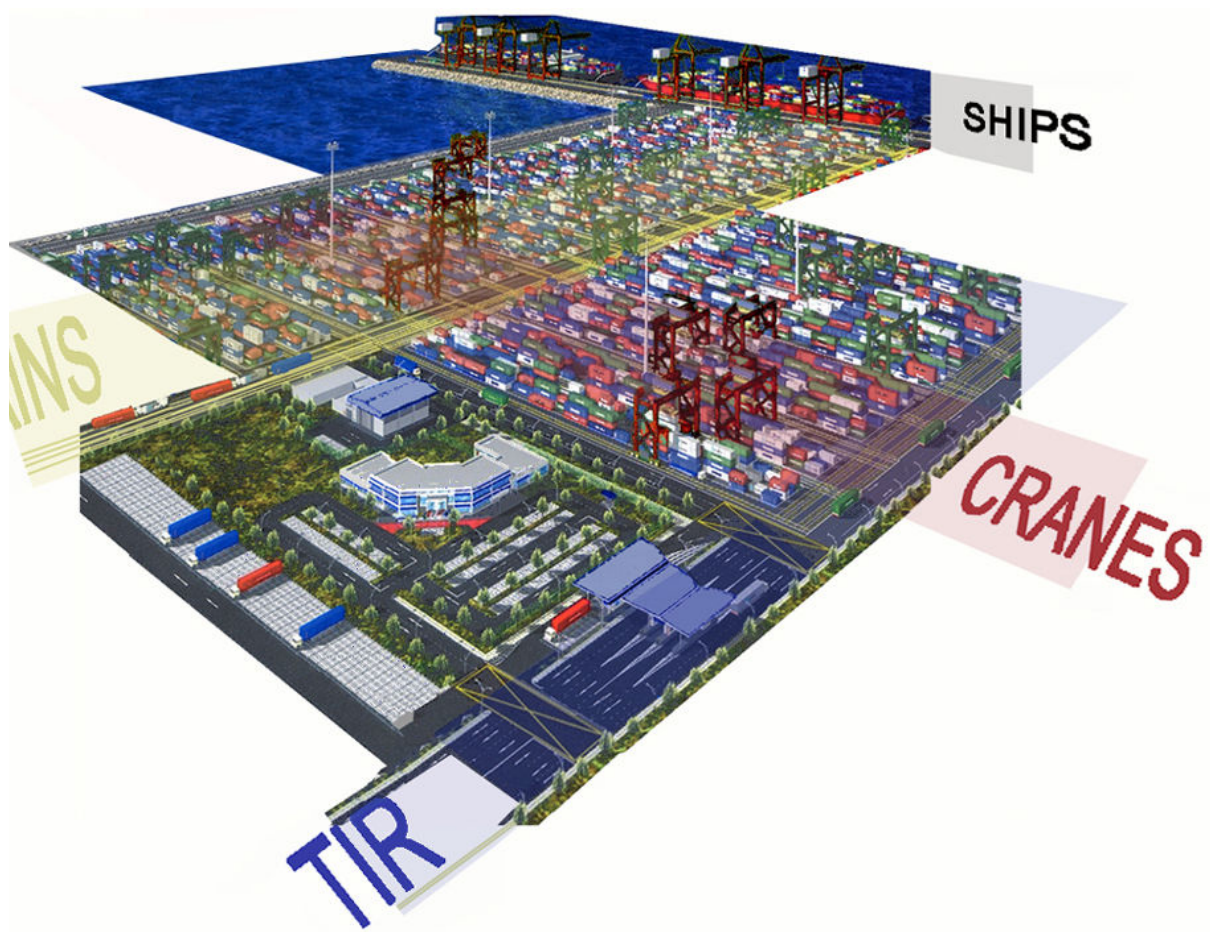
The scene is now set for *Sines* to become an inter-modal platform (plate 6) at the crossroads of the world major maritime trade lanes – the PSA acknowledged the importance of transshipment as a springboard to leap the hinterland traffic. The PSA realized also the potential for Iberian hinterland to rank Sines as the main port of the Iberian Peninsula for intercontinental operations, as well as to obtain part of the inter-European market which now amounts to about 70%-80% of the Portuguese ports global traffic. Finally, both port authorities agreed upon the need to work together to conciliate their views about the effect on the hinterland that would result from the investment on railway and road accessibility. Ruy Cravo (2003) advocates the use of two different railway networks: one for passenger

trains and another one for freight trains. Nevertheless he concedes that in certain areas of Portugal, such as in Alentejo, it can be suitable that a high speed railway running between *Sines* and *Évora* serves the two railroad transport segments, and then that line would connect with the Lisbon-Madrid one. Cravo, who is an expert in TGV railway lines, argues that ‘goods shipped from Portuguese ports must reach the center of Europe in 48 hours, because goods unloaded from ships in Rotterdam or in other ports of the North Sea take less than 24 hours to arrive in central Germany. So we must reach those destinations in the same delay of time, and that is why we need a high speed railroad’. The most important route would be to *Évora* and *Beja*, as well as the railway to Madrid via *Évora*, and to Lisbon via the railway line recently constructed under the bridge (*Ponte 25 de Abril*) over the Tagus river. PSA expects that the containers will be delivered by train in Lisbon in a couple of hours and within ten hours in Madrid. The competition between different Port Authorities has been present since their creation. In 2003 the central government created a new body that is expected to coordinate all Portuguese ports and define strategic investment plans.



6 a. Drawing shows the connection between motorway, railway line and the container Terminal XX

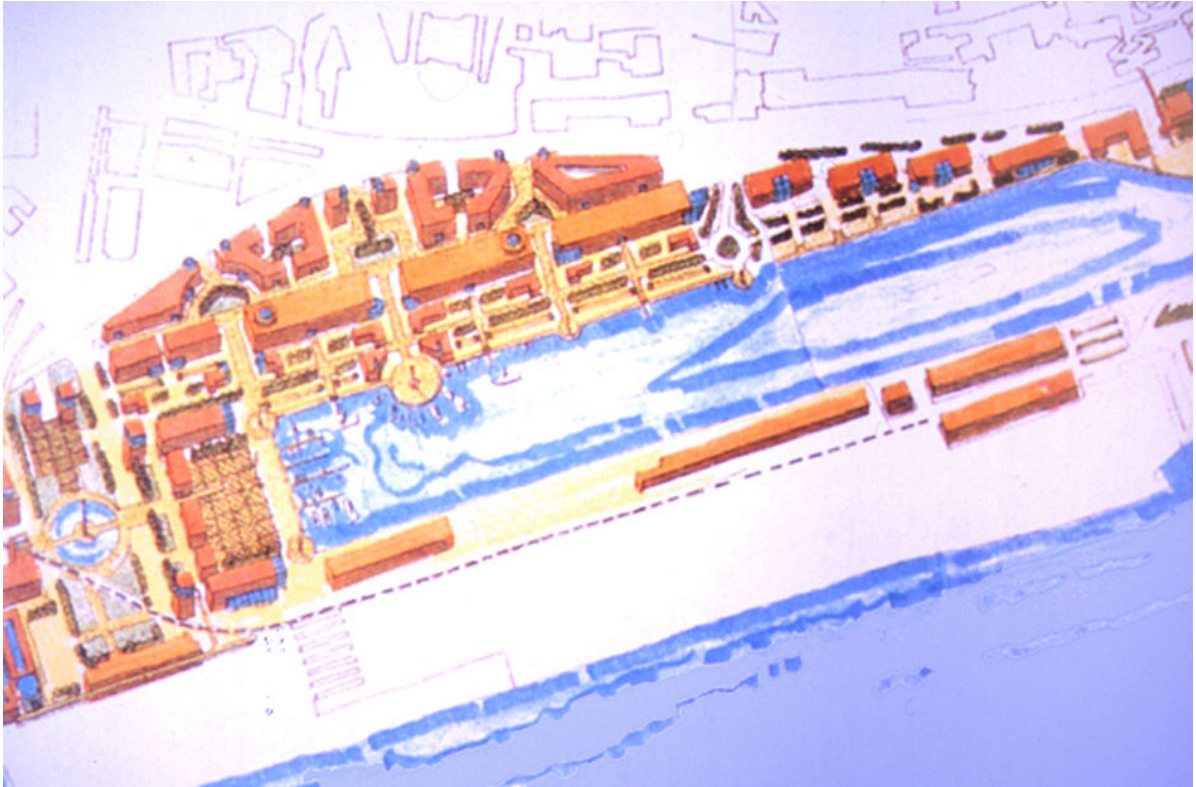
Port authorities have been autonomous entities since their creation, but might have their future autonomy limited under this new policy of governmental coordination. It is uncertain how much and how fast that may change the present situation, but the organization *Portos de Portugal* does not include the relations between city and port in its studies. The efficiency, the profitability and the growth of the port activity are in the centre of such studies, and there is not a cross reference to the implications of changes in the urban environment.



6 b. Three dimensional scheme of the intermodal platform at the container terminal , Pedro R. Garcia, 2003

Urban Scale

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7. Drawing of POZOR urban development between the railway line and the Alcântara Dock. The dashed line represents the connection between the Alcântara Container Terminal and the hinterland.

Pozor – Lisbon waterfront development plan

In 1994, the Port Authority of Lisbon (APL) submitted for public discussion a new plan for the industrial port – *Plano do Ordenamento do Porto de Lisboa* (Port of Lisbon waterfront plan), that became known as POZOR. It presented strategies to attract partners for financial investment and it proposed a major urban development for the port area with the creation of new buildings organized within a new urban design frame (plate 7). The plan proposed the construction of new buildings in 450 000 m² of the area *Stº Amaro- Alcântara*, and in 160 000 m² of the area called *Rocha Conde D’Óbidos – Santos*; additionally, the Multi Development Corporation International (MCDI) was supposed to build in a 82 000 m² area at *Cais do Sodré*. The plan indicates specific building areas, and classifies them in four groups: buildings that are to be kept without any transformation; the ones to be demolished; the buildings to be recovered (for new uses), and the ones to be renovated (maintaining their previous use). The plan also designates areas that would be subject to overall plans. Oddly enough, the presentation of a plan for public discussion was a breakthrough in Portuguese

urban planning tradition, considering that most of the country's urban plans usually attract criticism only when the construction is already underway. In the eyes of the citizens the plan represented an instrument to alter the city in a way that that would affect them physically and emotionally. And the Port Authority became aware of being faced with a delicate situation on its hands. The public response was the Anti-Pozor Committee². Being a rather important area for the city itself, the transformation of the port area could be jeopardized by the execution of POZOR. Some opinion makers rejected the plan, but did not present any alternative. The proposal (POZOR) has failed in gaining the acceptance of the public opinion, and at the time several personalities have also shown their disagreement through the media. The first question one is most likely to put is: Why was this first plan for the waterfront (carefully prepared by Portuguese and English architects) so heavily criticized?

There are a couple of critical aspects with the plan. Firstly, the plan only considered the area under the Port Authority jurisdiction and excluded the relation of the city with the port. It was oriented for short term urban development on the port area, and did not contain any ideas for the long term urban improvement of the port-city relation. It created a conflict between the community that needed new equipments and the institutions that wanted to expand their facilities. The port land was seen by them as an opportunity to improve their way of life of the former and the present condition of the latter. The needs of the neighborhoods that are located along the port area were not considered within the plan.

Secondly, the physical barrier between city and port was not taken in account. The railway line reinforces the frontier that separates city and port. Thirdly, the high density of new buildings to be built in the port area would shut the view of the river from the city. One of the arguments of this work is that the production of a new plan by the Port Authority alone would be unable to propose solutions that could become feasible. To test the hypothesis that a future plan (or plans) should instead launch the bases for a new frame of thinking it is important to reevaluate the problems of POZOR. In fact, the plan was thought in a small scale and only the port area has been considered; it did not address the city in a large scale. The non-implementation of the POZOR plan left a "blank" and a solution to the problem was postponed; thus the question remains: what to do along the waterfront? How should the transformation of the port area be addressed? Should the city discuss it and participate in the decisions that are to be taken? Should the Port Authority continue to lead the discussion? Or

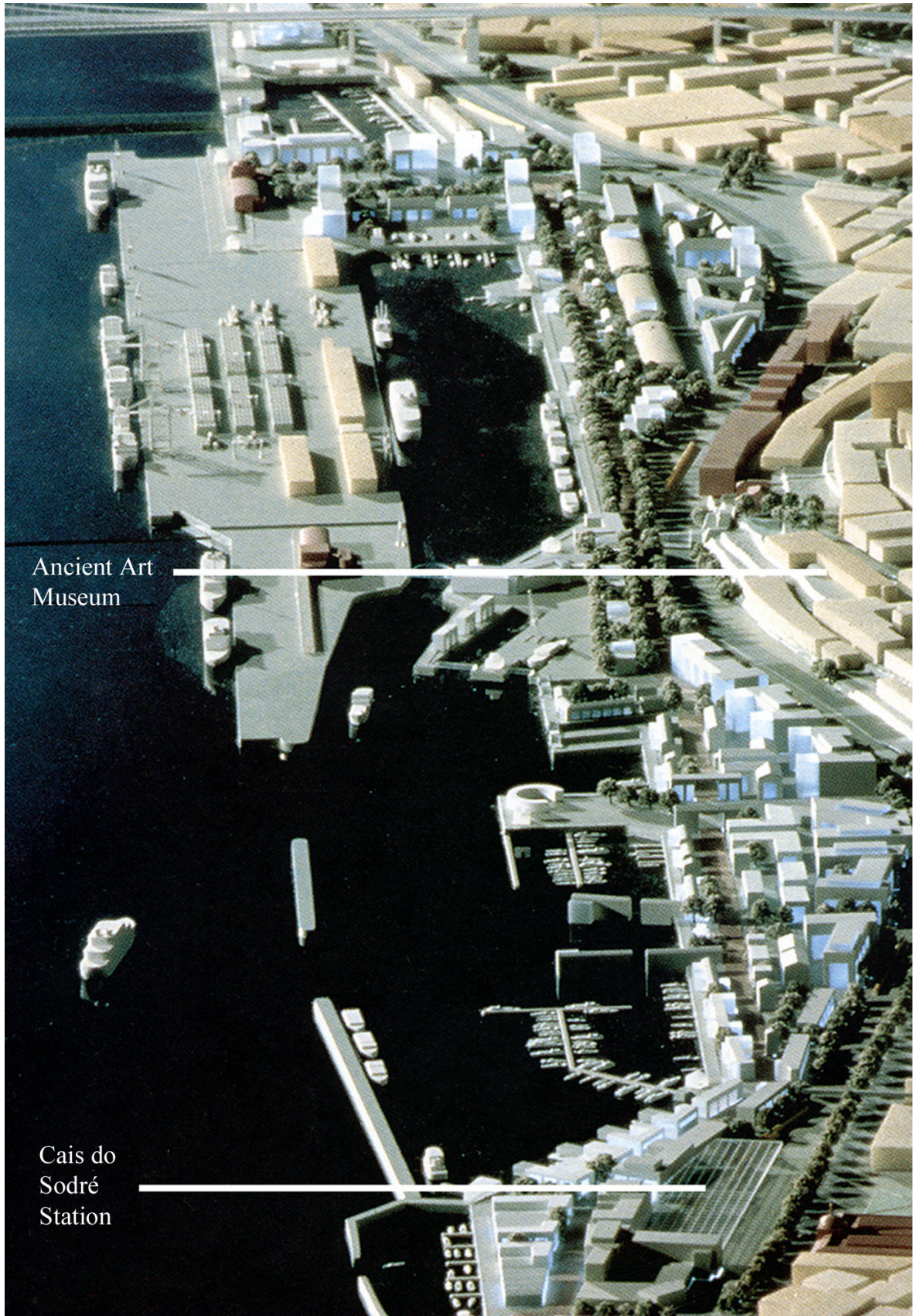
² Miguel Sousa Tavares headed the public campaign against the Project and wrote several articles about consequences of the implementation of pozor.

this should be an effort made by the community using institutional powers in order to carry out the found solutions to end the present “divorce” between city and port.

The Pozor – that was submitted by *Ministério do Mar* for the zoning and planning of Lisbon waterfront – includes the identification of spots where to build pedestrian passageways intended to be safe, animated and well equipped, a ‘living image’ of high quality of life for the people who will use them. Those walkways link the city to the river, allowing the crossing over the existing railway/road network. The walkways link the city to the river, but they are far from being the ideal solution. Nevertheless it has been considered to be the feasible one, since it is not possible to totally or partially lower down neither the railway line nor the roads – as many would prefer.

The railway line and the road are the main physical barriers preventing the city to relate with the river; they work as an invisible screen that keeps all the active urban life from “diving” into the river and “spreading” over the waterfront. It is clearly explained in POZOR that APL can not intervene for two reasons: they do not fall under the APL geographic area of jurisdiction, and the financial investments required would be so big that only a national wide investing operation could support the works. Actually, the railway line and the roads are administered by the Portuguese Railway Co. and the Municipality of the City of Lisbon. The situation is extremely complex once it involves a great deal of participants to change the current urban problem. All these independent powers have been working separately. Around the beginning of the 90s the Port Authority of Lisbon prepared a number of technical, economical and financial studies that allowed it to conclude that there were some areas in the port that could become available for other uses; consequently, it was understood that the land development would be a source of revenues instead of mainly exploring the port activity.

The land and buildings under the APL jurisdiction, however, are public domain, so they could not be sold which discouraged private investment. The solution found by APL was to rent their real estate properties. This set of things is analysed by Wilson (2001, 34) who says that ‘Lisbon, where port and city are closely imbricated, presents an unusual case: there the Port Authority has acted as the developer.’



8. Photograph of POZOR model corresponding to the city centre. It shows the conversion of one container terminal at *Santos* as well as the *Alcântara* Container Terminal.

The projects submitted in the first version of POZOR for constructing office buildings and luxury housing (plate 8) would contribute for the urban development to attract investments that were considered as an additional means to finance most necessary hinterland connections at *Alcântara* and the proposed *Trafaria* container terminal. The urban projects would have socio-cultural implications, such as ‘designing’ a new urban image of fancy buildings and trendy condominiums. APL reveals quite a contradictory position: on the one hand, it does not have the means to execute the urban development projects at the port area and thus improve the city-port relation; on the other hand they effectively acted on their own which is not enough in the context of the city-port relation because it involves a great deal of complexity.

Port Authorities are governmental institutions that were created to operate the activity of the ports. Back in the 1900s most European countries created special laws and regulations for port authorities, but they are being reviewed and questioned in view of the changes that are taking place in the maritime industry. For instance, in Italy a new law enforced in 1994 separated the programming and control of the port activity that remained under the Port Authorities from the direct operation of the port activities that are now in the hands of private concessionaire companies. (Bruttomesso, 1997, 122) In fact, the value of the land on the waterfronts attracts economic agents which act as real estate developers that “realized” the opportunity to gain huge profits. Lisbon is no exception to this. Since the disclosure of POZOR, the citizens opinion revealed a contemporary understanding of the city as an “organism” requiring a holistic critical thought. To work independently in a small area may cause a revolution, and Modernist architects have dreamed of it. The complexity of historic cities requires a more Post-Modern reflexion of the problems – one that would include a number of factors and would not discard the complexity of urban waterfronts. Today’s architects claim evolution, and not a revolution that is most likely to create additional ruptures and new problems.

In fact, manifesting his opposition against sudden ruptures Bruttomesso (1997, 123) says the equipment, such as wharves, cranes, and landfill evoke a time that has passed may be maintained in the present and also take part in the future of the ongoing evolutionary process. This heritage, now useless for the port, may generate great wealth for the city. Moreover users are expressing a desire to keep the traces of the industrial port in most waterfront urban developments.

A Vanishing Port

According to Craveiro (1997) the city wished to re-gain the river and preserve the port, integrating in its present day heritage some remembrances of the port activity. The ambiguity of the POZOR is probably expressed by the multiplicity of readings. Some discuss technical issues while others address the importance of public space, and some give more importance to questions related with accessibility. The document raised deep and controversial points of view. On one hand, the Port Authority claimed an evolution through which part of their land could be integrated in the city. On the other hand, new strategic areas were required for new intermodal platforms. These are located at the crossroads where several means of transport and distribution meet and are forced to use the existing urban network.

Under the title “City and port – always a difficult marriage”, a couple of sociologists give us a short narrative of the port of Lisbon evolution: “There is a period during which the city grew more apart of its waterfront than ever before. That period corresponds to the development brought about by industrialization which caused a considerable increase of the port activity” (Ferreira, 1999, 22). Frequently called the “new dynamics of the port activity”, the industrial activity actually deteriorates urban life. Port and city have to deal with a more efficient interconnection. “The main purpose is to designate areas to be linked to the hinterland, preventing the development of more industrial areas and numerous warehouses, and the proliferation of transportation companies that lack the basic accessibility and infra-structures. These industrial areas usually end up surrounded and strangled by urban areas, thus having a negative impact on traffic, the environment and on quality of life of both people and companies, with immediate consequences measurable in the low productivity indicators” (Soares, 2002, 1).

The intervention strategy now proposed by the Port Authority addresses key concepts such as “multi-use (of port areas), flexibility (solutions and temporary use of areas with residual value for the port), agreement (between the city and the port in the definition of objectives and solutions, and solving the problem of their common interfaces), and cooperation (between entities, in conflict management and on-going management) (Cabral, Natércia, 1997, 69).” The multidisciplinary strategy did not achieve positive results and the Port Authority has acted independently to bring gradual changes into its own future. The process

of transformation of industrial ports is a phenomenon occurring all over the world. European cities have dealt with the creation of industrial ports from the 1870s to the 90s and they have been facing their “death” since the 1970s.

The Post Pozor Experience

Before POZOR was submitted there were no signs of an intention to occupy this area with huge parking lots. In fact, the POZOR plan proposed to expand the existing parking places from 1150 to 6900 in the port area, but strangely enough although the plan was not implemented the parking lots have been spreading all over. The Port Authority rent its buildings to restaurants and night clubs accessible by car, and the transit moves around the rail/road barrier. People cannot walk to the port area so they must drive there. Making parking space available is a pragmatic solution to avoid conflicts with their tenants. The Port Authority is shifting away from its 1994 strategic plan as it could not reach an agreement with the other institutions involved, and did not get the public support. The understanding that the land of the port area is to remain of public domain is the leading strategy embedded in the new plans.

However Correia (1997, 121), Portuguese partner of the author of POZOR, argues that the plan has contributed to return “the river back to the people of Lisbon, and at the same time helped to ensure that questions of city planning and urbanism in general are discussed by a broad range of people, even if the debate has not always been conducted with the clear-sightedness and discernment which the city itself deserves.” POZOR final outcome at *Doca de Santo Amaro* was and still is cherished by the Lisbon residents who have chosen the riverside area as the city gathering lounge. It has always been the centre, the core of the city where most activities took place. However, since the creation of the industrial port the ‘barrier’, that still isolates the waterfront, has been installed.

The president of the Port Authority at the time summarized the philosophy of the strategy by comparing Lisbon with the waterfront model found in Québec. Natércia Cabral (1997, 75) explains that “In result of the ‘lobbying’ of the local population, the Canadian government designated a Consultative Committee to analyse the waterfront renovation. In his report the Committee, inverting the philosophy followed till then, stipulated that:

- the area should remain a public space;
- being a maritime port, its function should be pursued;
- the planning should respect the historical features and prominence should be given to the architectonic heritage;
- the visual-field should be preserved free from obstructions both towards the river and the city;
- the whole project should blend in with the natural landscape and the urban environment;
- the site economic profitability should stem from a series of factors, and those factors could no be limited only to commercial value or to tax revenues.”

Influence of the Administrative Powers

The profound changes in the transportation system brought new opportunities to gradually adapt the port area. Opinions expressed by different entities revealed contradictory views of the problem at the port area and about the new possibilities offered by improvement of the city-port relationship. Each one of the intervening parties, such as the municipalities of the cities around the estuary, private investors, governmental institutions, environmentalists, etc. claimed their own interest in the port. But it was the Port Authority who commissioned a new plan. The Port Authority has been conditioning and maintaining its territories away

from speculation and expectations of the real estate developers, as it was commented by the consultant architect Alcino Soutinho (1999, 99) who believes that “when the time comes for the Port Authority to cease their administration over the port area, the land will be sold to developers by municipalities in a difficult financial situation.” Soutinho refers the importance of the city connections to the water, of re-establishing the broken link (plate 9 and 10). One of the aspects to be taken in consideration in his view, was the necessity to increase the number of connections linking the city to the outskirts, which are the riverside itself, promoting walkways for people to cross the railway barrier. After years of involvement with the process, he accepted the incapacity to generate a global vision in order to coordinate the efforts of all the parts involved towards the same aim. APL acted by itself and did not consider the complexity of the whole process of urban regeneration. As Costa (2002, 35) points it out

“the Lisbon Port Authority, public transportation companies, regional coordination administration, and others, in order to generate compromises and to give to the plan an operative character, the Administration adopted (and still adopts) and isolated perspective, against the other urban actors, unacceptable in town planning and which conducts to the ineffectiveness of any proposal.”

The problems caused by the lack of coordination and dialogue between the entities were pushing the city to an artificial situation. Each entity worked separately, searching for immediate solutions without a holistic idea of the city-port interaction. There are no common goals and each of the urban agents involved is not engaged in cooperating. The lack of dialogue ruins any effort to improve the present situation. This is not exclusive



9. View of railway/road barrier at Santos area in its present form (causing the ‘cut off effect’)



10. Railway line at upper level – a possible alternative to eliminate 3km of the existing barrier.

of the Lisbon port area. Boeri describes Italy's harbor areas with similar conditions. He suggest that a new perspective, a broader vision including both city and port is required when dealing with the waterfront. In an attempt to see it as a whole and not in pieces Boeri (2000, 69) explains that waterfronts

“(…)are not simply an ultimate ramification of the city towards the sea, or a waterfront, but more an intermediate zone that maintains specific relationships with the different sceneries which they blend into: those of the sea and the city. The movement of passengers and cargo animates their wharves, which are huge open spaces given over to flow. In fact, it is this fluidity that determines their central position”.



9. (cont.)



10. (cont.)

In Lisbon the waterfront has been the very hub of the city, teeming with activity. The industrial port transformed it. But the city has a physical memory traceable in the urban fabric. From a direct and physical relation with the water the city has evolved to a contemplative, gaze perched on the hills. The port area plays an important role for the citizens, and yet the divorce between city and port has been increasing in the last years. In several interviews that have been made after the failure to implement POZOR at the central part of Lisbon, and as quoted by Castro (1997, 94)

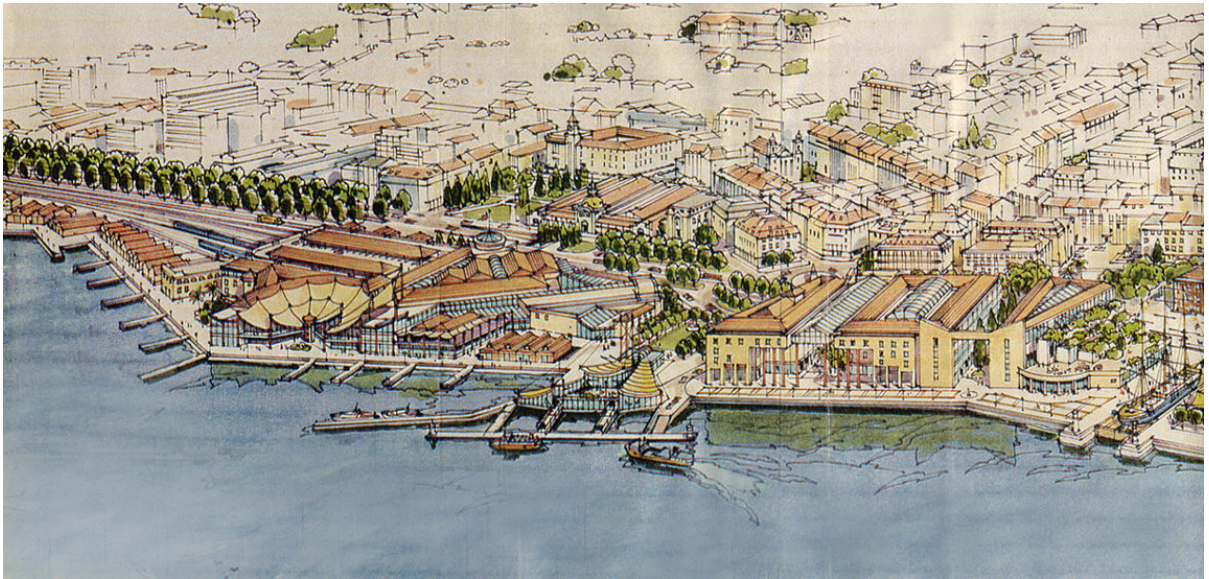
“the opinions expressed by 38% of the interviewed people defend that the waterfront must not be exclusively administered by only one entity, and the management of the area should be shared by the APL and the CML (Lisbon Municipality). About 24% of the inquired considers that all entities (CML, APL, central government, private entities, other public entities, etc.) may act in a coordinate way, in different occasions, in order to raise the opportunities offered by the area and to increase its profitability.”

These inquiries confirm that the common citizen perception of the POZOR is adequate, although he or she does not know the mechanisms of power and how they operate over the territory. A significant percentage pointed out the problems caused by the ‘exclusivity’. The inquire reveals the necessity of a strong coordination to promote behaviours of ‘inclusivity’.³ Cities can be compared to living organisms. One can analyse their behaviour but may never predict all of their next moves. Cities are coordinated by separate organs and they tend to work independently; on the waterfront each of these organs are acting in a isolated manner as if they didn’t belong to the same body. The lack of coordination between each organ leads to a waste of energy, in which a great deal of time and effort is spent in a relationship of misunderstanding. Unlike living organisms that constantly develop a self-healing behaviour, the city at the waterfront suffers and seems incapable to improve its present dysfunctional relationship. If each ‘organ’ worked together and played its specific role the entire city would benefit from it. At the present, the situation in Lisbon where the different institutions act only upon the ‘symptoms’ which deteriorates ‘health’ of the city as a whole. If the common citizen, who is the user of the urban space, could be compared to a cell, than each cell feels the negative effect of a suffering body. So is the situation of Lisbon waterfront, one in which city and port are involved in a painful relationship.

³ The Public Art Observatory organized an international conference in Lisbon, hold in 2002 under the title “Inclusivity, a Challenge For Public Art And Urban Design” where the subject of cross dialogue between urban agents under the influence of artistic events was extensively discussed.

Detail Scale

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11. Waterfront project for the area of Cais do Sodré, by Luis Gravata Filipe (1990)



12. This project proposes an urban continuity between the industrial port landfill and the pre-existing city borderline.

City Expansion

In 1988 the Architects' Association organized an open Competition for Ideas concerning the waterfront of Lisbon. In the end, one of the awards was given to Luis Gravata Filipe who proposed the renovation of the *Cais do Sodré* railway station and the extension of the urban environment with mixed uses involving offices, retail shops, restaurants, art galleries, etc.⁴ Afterwards Filipe was commissioned by the Port Authority a more detail study for the site between *Sta. Apolónia* and *Santos*. His proposal was exclusively aimed for the land under the Port Authority jurisdiction. It is interesting to note that most of the area selected to be the object of the project was actually the site where the industrial port had never been constructed (plate 11). The city-port relation was reinvented in Filipe's proposal through a new urban design, that would also modify the city interaction with the river precisely where it was never interrupted, since the site was not transformed by land reclamation.

The city of Lisbon has discussed the subject of the waterfront through decades and the aforesaid competition set a new frame of possibilities since there were no legal restraints and the purpose was to open up the discussion. The proposals challenged the existing situation and intuitively presented new possible scenarios for the Lisbon waterfront. Below is a detail of a project where *Cais do Sodré/Aterro da Boavista* was considered without barriers and under the control of the same institution. The project does not regard the division of the territory by several bodies that have administrative power over it, in this case the Municipality, the Port Authority and the Railway Company. Instead, it presented a proposal that took for granted the city as one entity, one body that searches for the improvement of its deteriorated relation to the water (plate 12).

The Image

Most authors that expressed their ideas about the POZOR did not dig in the complexity of the problems between city and port but remained focused on the visual aspect of the transformation. The city image reflected upon the water can be called the 'face of the city',

⁴ Gravata Filipe won Prémio Frente Ribeirinha de Santos/ sta Apolónia – Prémio Município de Lisboa.

and the discussion tended to get stuck in the visual impact of the transformation. The image of the city, however, is not a still pictures but it is more like an ever changing movie. The creation of the industrial port has brought an idea of Modernity to the waterfront along the medieval city. Some industrial buildings have been tore down, and other ones have been transformed due to technical requirements of the port activity. Hence, for decades it was difficult to grasp the constant mutations in volume and shapes of the port area. Even so the urban cultural identity became fused into the image of the industrial port. The theme of ‘the waterfront image and urban culture’ is addressed by Nadia Fava (2002, 87), a Catalan scholar who argues that

‘In the waterfront there are local, regional, and global processes involved and it is interesting to realize which of these factors most affect the construction of the city façade, considering that the image of the façade is something shown in order to “sell”, to improve the city in relation with other port cities. The façade is the identity of the city (local aspect) and what the city wants to show to other cities (global aspect).’

The seven hills of Lisbon construct an image that is deeply rooted in the citizens memory. The hills present a constructed environment that gently adapted to their topography thus establishing an intimate atmosphere with the natural features of the landscape (plate 13). At a completely different pace, the creation of the artificial territory of the industrial port represented a sudden rupture that changed the most influent physical limit of the city. The landfill and its industrial buildings and artifacts deeply transformed the image of the city (plate 14).

Beyond the image

Recently there are new voices in the debate on the waterfront that express opinions coming from various disciplines, such as the human sciences, anthropology, sociology and geography. This contribution is extremely positive and it leads to a broader view since the discussion concerning the waterfront is relevant to planners and architects. The debate also becomes more interesting with the use of cross-references and juxtaposition of analyses. Some scholars make use of their own mixed academic backgrounds and give significant contributions to develop critical thought. Remesar (2002, 14), for instance, argues that the waterfronts should be regarded in its metropolitan dimension:



13. Photograph taken in the 1850s from the south bank, showing the city before the construction of the industrial port.

14. Photograph from 1990 showing the industrial warehouses (built over landfill) which redefined the city image.



“A powerful fact: waterfront development is the logic for the renewal and regeneration of “inner cities” regarding cities in its metropolitan dimension. The territorial model of the industrial city breaks off an historical physical and symbolic balance between cities and water. Waterfront developments respond to the logic of the emerging informational mode of production and they try to re-construct the balance between city and water with a new physicality and operating from a completely new symbolic order.”

Water cities are claiming their fluvial or maritime edge through waterfront redevelopment projects, but the influence of the process of transformation expands inland in a transversal fashion (plate 15). Many industrial land plots adjacent to port areas register an increasing flow of investments from different sector. The ‘side effects’ of waterfront projects encourage a parallel process of transformation involving the nearby neighbourhoods, so this

increases the investor's interest in urban regeneration. The process of rehabilitation and restoration attracts a bigger volume of investments which generate more tax revenues that, in many cases, are enough to pay for the required infrastructures at the waterfront development. These infrastructures include facilities of the municipalities, port authorities, railway companies, traffic departments, etc. In the Portuguese case the lack of coordination and exchange of information between institutions has prevented the efficient organization of the processes where they can be managed. Rodrigues (1999, 12-13) explains that

“the urban planners have behaved as compliant servants of the prevailing political and economic power, and of the speculative and mercantile interests of the capitalist society (...).Cars are favored over pedestrians. Public spaces are either reduced or transformed into a “leisure” ground and a formal “embellishment” site, usually in absolute disagreement with an ecological perspective. Sewage is planned in technical terms in order to hide waste and to move pollution away from sight. The formal approach of projects, the mechanical systems of road networks, the different processes of water supply and draining and energy distribution, as well as the effluent



15. Composition shows the city separated by a water canal from the area of the Industrial port Pedro R. Garcia e Patrícia Martinez (2003)

treatment, all fall under a short term logic. This logic is intended to solve the symptoms of an unlinked framework that inherently creates problems.”

In Lisbon, the lack of dialogue and cooperation between the intervening bodies also leads to a malfunction of the whole city. There is no common objective, and each body struggles with its own difficulties and reads the potential transformation from an isolated perspective.

In general, few waterfront development projects address the potential of those areas today to face and to experience anew the wild, the natural element, materialized by the water which symbolically expresses the unknown still unpredictable, ‘unleashed’ in spite of all technological progress. The revitalization programming is designed to achieve specific goals and to follow a common ‘vision’, that express the cultural needs of the community. Sieber (1997, 138) approaches the waterfront revitalization from a cultural point of view:

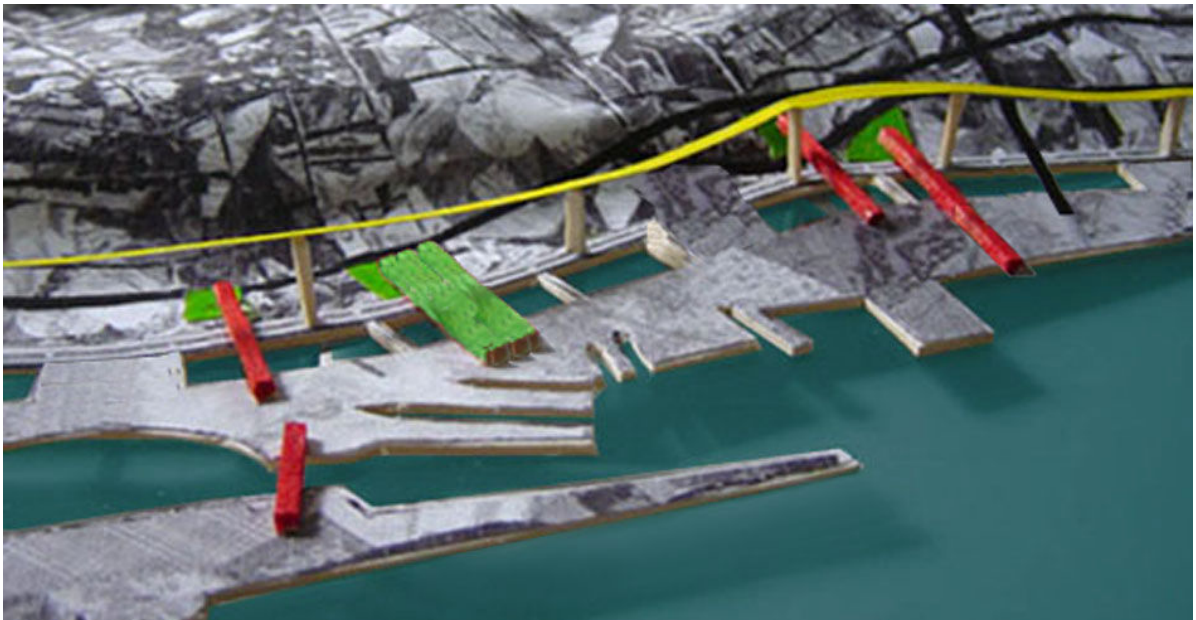
“The waterfront... connects people with three domains: unspoiled nature, an unchanging past, and spontaneous fun and enjoyment. These connections are achieved through three different complexes of redevelopment ideology and practice: (1) environmentalism, (2) history and heritage, and (3) tourism and public celebration, respectively.”

Although Sieber’s observations are accurate for North American cases. What characterizes the Southern European ports, however, is a succession of distinct urban sceneries that ‘betray’ a wide range of functions, and this will eventually promote a more complex discussion, but one that necessarily considers the aforesaid aspects mentioned by Sieber.

Analysing the economic basis of Postmodernism, Harvey (1990, 71) comments: “Speculative land and property development... were dominant forces in the development and construction industry that was a major branch of capital accumulation. Even when contained by planning regulations or oriented around public investments, corporate capital still had a great deal of power. And where corporate capital was in command... to continue that practice of building monuments that soared ever higher as symbols of corporate power.”

City and Port relations

Waterfront projects are often challenged with the flatness and the artificiality of the territory. Some projects expose the landfill adjacent to the city edge, by means of transversal canals. On the flat ground of the landfill, the lack of variation in the topography makes the traffic flow seem a real urban barrier. In order to overcome these barriers, some waterfront projects propose changes in the morphology to shape the landscape, therefore new levels will be offered to go across the barriers (plate 16). The topographic character of each site requires a particular solution in order to adjust to the urban pre-existing features. Any solution, however, is greatly dependent on the width of landfills. The architectural quality of port areas is another factor that influences the possible new relations between port and city. Along the port area each site has its own different problems, and solutions are expected to deal both with those particularities and simultaneously with the city as a whole. The permeability of urban port physical limits allows for the use of projects that may generate new relations between city and port.



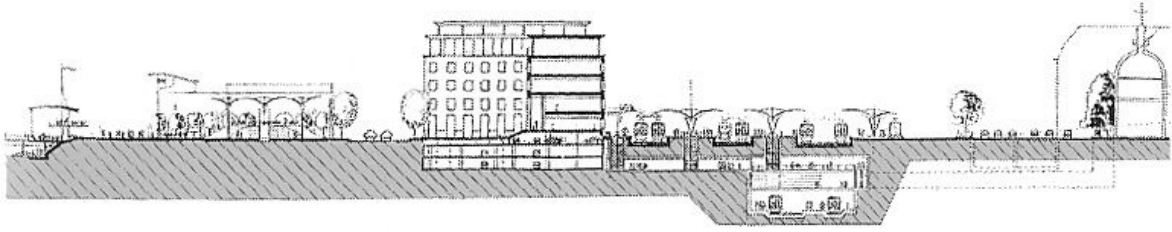
16. This model shows the role of each of the urban elements and sets them apart: the land of the port area is separated from the city; the streets are extending over the channel; elements in red are pedestrian links located at public spaces existing at the riverside before the industrial port was built; the yellow line represents the road/rail barrier located at a different level.

Each port has its own layout and features, and thus their process of transformation should be quite different from one another. In many cases, the hardest task is to intervene in the most ancient part of the city. The heart of urban areas has a high level of complexity and it carries important significance for the city. Meyer (1999, 30) who has written extensively on the subject, argues that for most cases,

authors emphasize the necessity of learning to deal with modernity and the public realm, but they focus on something else at the same time: namely, the inability of the public realm to function by the grace of the *savoir-vivre* of free citizens, [...]and the simultaneous need for space in which the public realm can exist among optimal conditions and which is recognized as ‘public space’ – space in which the exile and the foreigner may feel equal to others around them and in which no one really notices, or even cares, whether someone is an autochthonous resident or a chance passer-by.

The waterfront is not exclusively oriented by a mono-functional activity, since public space has always served as meeting place, marketplace and traffic space (Gehl, 2001, 12). Any future program for the Lisbon waterfront redevelopment could contain a large spectrum of possible functions mainly oriented for public use. This would be a way to ensure a solid basis for «breeding» and then maintain future port-city ties. Brutomesso (1997, p.122) values the importance of the existing accessibility and argues that “port exploitation of the urban waterfront and the river does not cause a disruption in the relation with the city: accessibility is guaranteed and there is a straight link between urban and port activities.” But in certain cases such a disruption exists and can not be ignored. An example of this are the areas where the POZOR was not implemented, which now display more obstacles for the citizens access to the river than in 1994/95. To cross the road/railway barrier became increasingly difficult, and the port operations are still carried out but they are ‘hidden’ behind fences. Most authors believe that accessibility is a key aspect if waterfronts are to gain a renewed urban quality. (see plate 17) The waterfronts also have the chance to redefine a future environment that may include a part of the ‘lost’ link taken away from them after the construction of industrial ports. And within this process of reinvention they seek to affirm themselves as ‘water cities’.

Cities rely on public spaces more than they do on buildings to claim their urban identity. The contemporary urban citizen, as in the precedent Modern period, is able of reinventing



17. Transversal section at the area of Cais do Sodré, shows three stations of public transportation – maritime, railway and underground. In 1994 the project for nearly 8 hectares was commissioned by a public/private partnership involving Municipality, Railway Company, Port Authority and one private investor – Invesfer. The project did not succeed to be implemented.

himself, of putting aside his background, of removing himself from a previous context and of moving into and along a new one. And in this human dynamics cities are an ideal crucible to forge new identities since they are themselves the main physical source of identity for their residents who use a common space to gather, to wonder, to share and exchange, and simply to stare at the landscape. In Lisbon the port area belongs to the public domain as regulated by law, and it is expected to be administered by the Port Authority in accordance with that law.⁵ Therefore future partnerships with private developers are unlikely to happen under the present regulation. The areas that surround the port are most likely to become the centre of investments in the city, as large surfaces from obsolete industrial facilities become available in the heart of the city. Developers and builders are inviting ‘star architects’ to raise the standards of the public discussion about the waterfront development, as it was pointed out at the *AIVP* conference in Lisbon:

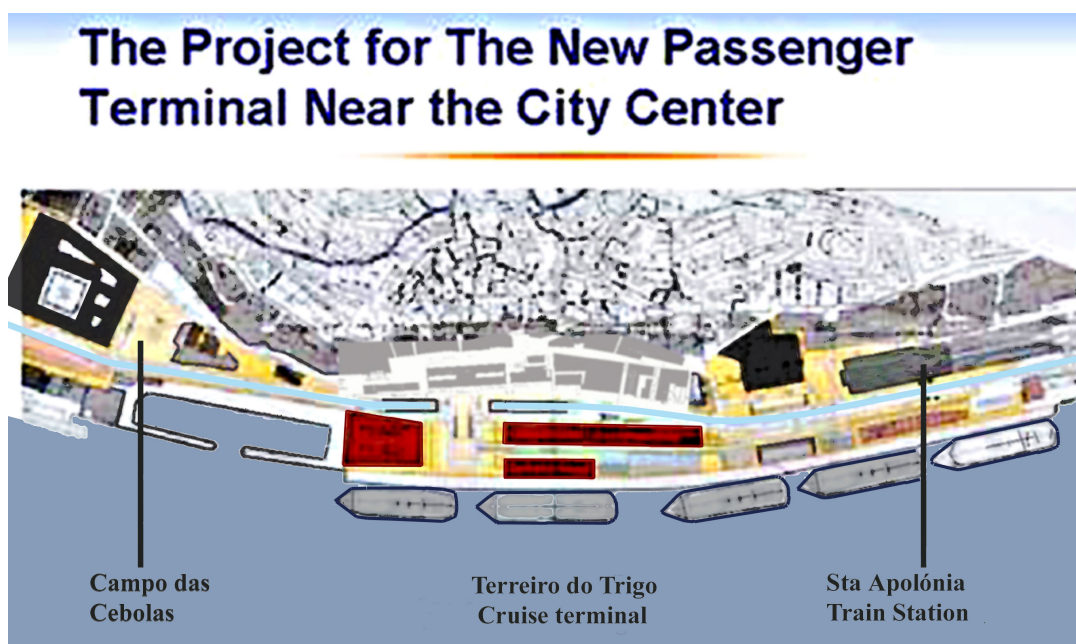
Enticed by the now classic practices of the redevelopment of the waterfronts, the neighbouring urban-port districts are the object of more and more marked attention from urban planners and politicians. The docks and maritime life have awakened the awareness of the inhabitants to the attractiveness of these districts, which only yesterday were the poorest quarters in the city. For the port city, being able to house them in this context of maritime life is a marvellous opportunity to reinforce its centrality.

In detail, the transformation around the port area will affect and influence the port city relation and both port and city can beneficiate from the increasing flow of investment.⁶

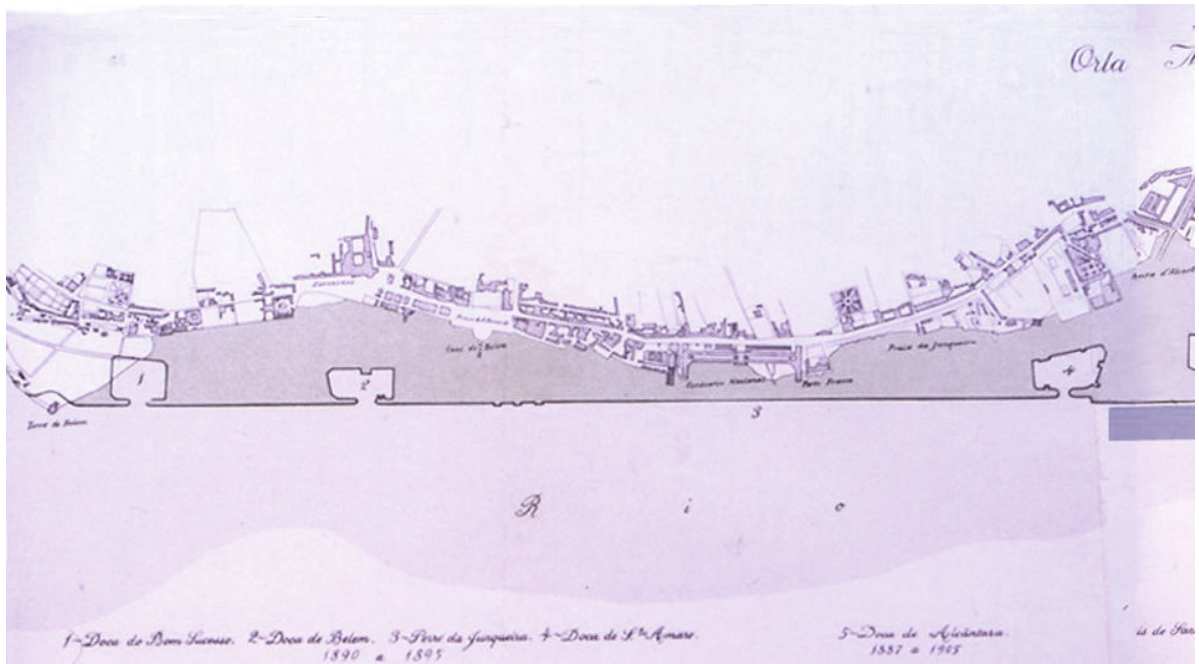
⁵ Artº 5º do Decreto-Lei nº 309/87, de 7 de Agosto,

⁶ Tom Fisher, argues that some cities have made enough profit to pay for the improvement of city and port relation just with the investments around the waterfront.

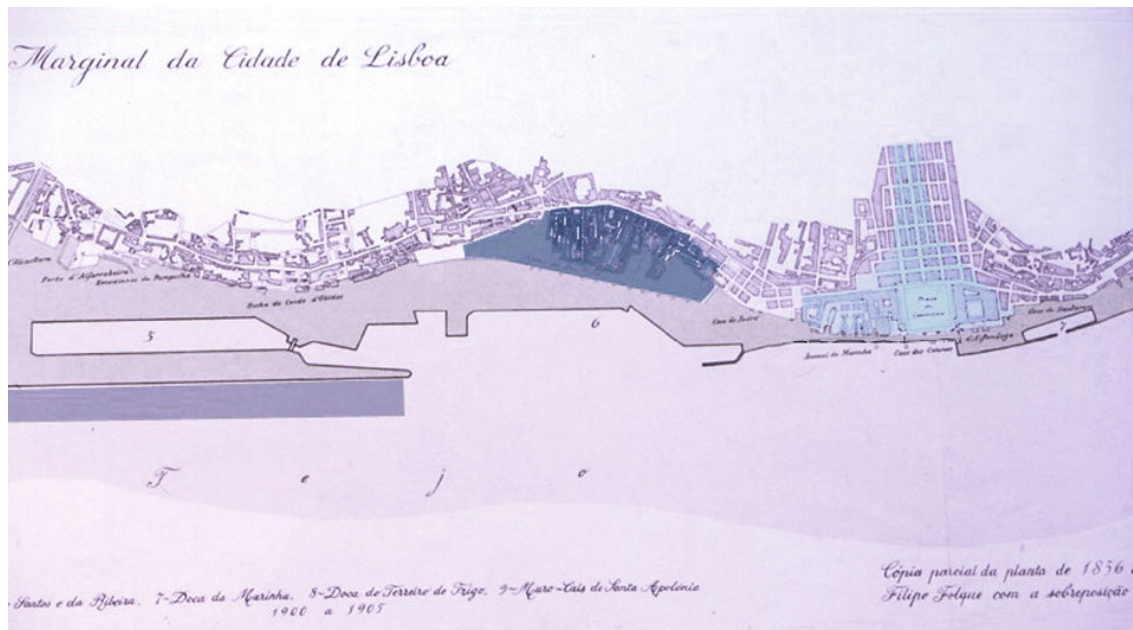
Major governmental facilities, including municipality and public utility services (EDP, GNR, CML) are placed along the port area next to universities and museums. The increasing volume of sea cruises and the necessity to build a new terminal will also influence the future possibilities in the port city relations context. The present discussion should include what type of urban installations can be built on the port area that qualify the public space and remain as public domain. Portuguese scholar Figueira de Sousa (2001) argues that ‘cruise terminals are privileged place for establishing port-city relations and in some cases they can also play a double role, as a port infrastructure and as an urban equipment.’ The author says that cruise terminals often ‘generate an important impact in the city and may, in some cases increase the development of urban projects of various dimensions in the surrounding areas.’ At the present Lisbon has three cruise terminals designated *Alcântara*, *Rocha Conde de Óbidos* and *Jardim do Tabaco*; *Rocha* is the busiest one and it is located next to large surfaces of the former industrial port. The new cruise terminal (see plate 18) is expected to be built at *Jardim do Tabaco* where the landfill is narrower. The choice of this location for such equipment is controversial. From a strictly functional point of view the city is at a high risk of pressure of traffic, as each cruise requires dozens of tourist buses, taxis, and large areas for parking which do not exist. From the programmatic perspective the last cruise terminals have included commercial and cultural areas to serve both city and port, therefore good public means of transport is also a requirement.



18. Map by Figueira de Sousa shows in red the cruise terminal next to *Alfama* and *Terreiro do Paço*.



1. Four different periods of landfill built over river Tagus at different periods of time



1. (cont.) Baixa – light blue, Boavista – dark blue, Industrial Port – light gray, and container terminal – dark gray

Chapter 3 – Estuary of river Tagus and the industrial port

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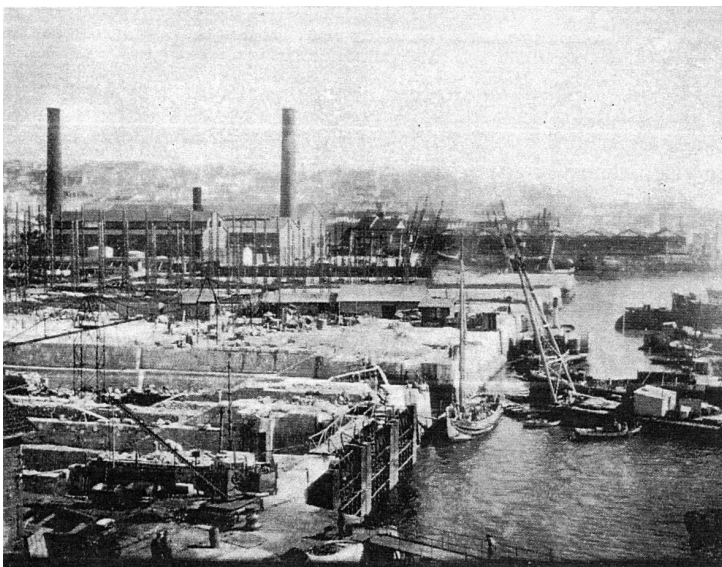
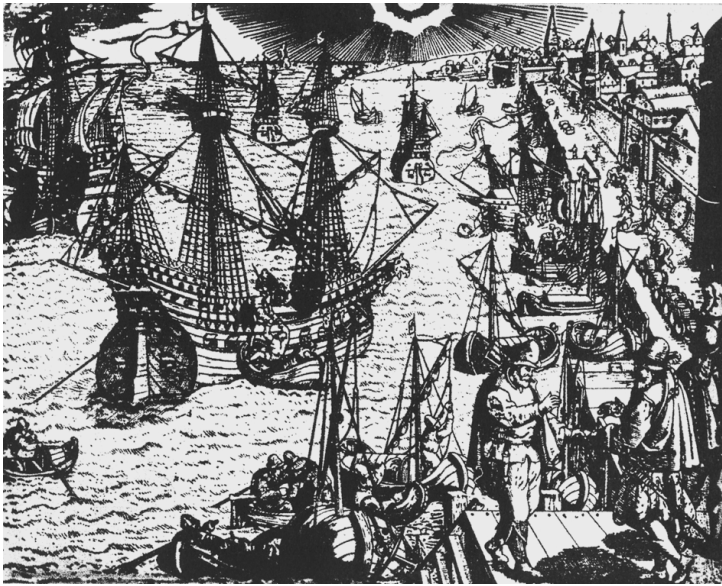
LANDFILL AND TERRITORY

Landfill is artificial by nature

Lisbon is related to its harbor geographically and historically. It has been a water city for centuries, one that grew from the crossroads between land and sea. By the late 1800s an industrial port was built over landfill at Lisbon waterfront. Transportation and warehousing have evolved along the times, and the port of Lisbon, like most ports, adopted the container system. Large rail and road infrastructures were constructed in the landfill, and their traffic gradually increased. The current barrier phenomena is called 'the cut off effect'. To fully understand the present situation it is necessary to retrace the evolutionary process that took place in the port area. In historic terms the development of the port was not a continuous and linear one: there were a number of plans, visionary and unfinished projects. Cities are a result of strategies, memories, individual visions, collective will and fragments of juxtaposed intentions. Any future transformation of Lisbon will play with the collective memory of passageways, to which historical heritage and even a mystical legacy are attached. And to which we could add at one's discretion the signs of a virtual and tamed marine experience (Chaline, 1997, 28).

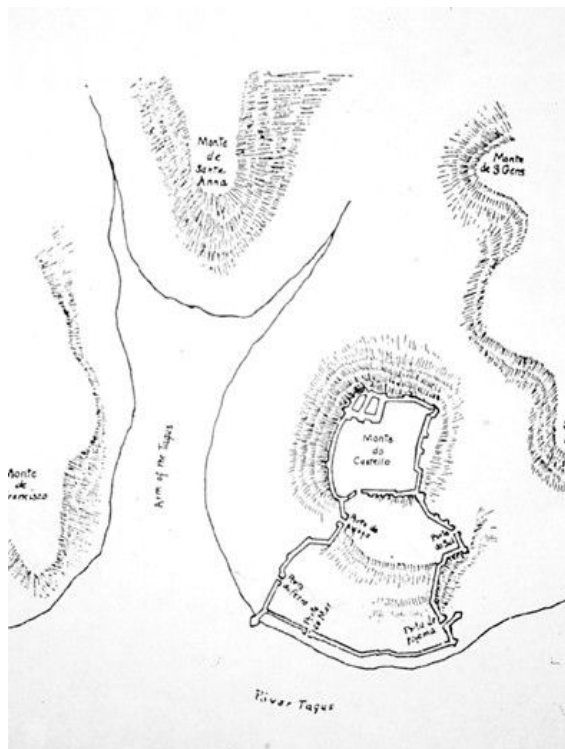
100 Anos do Porto de Lisboa (100 years of the Port of Lisbon) is a book published in 1992 by the Port Authority. The author, the historian António Nabais, writes a brief historical description of the port before the 1890s. Like most contemporary scholars Nabais believes that the creation of industrial port and its major landfill works are the most important moments in the port's history. As if industrialization had changed the entire life of the city. On the contrary, Victor Matias Ferreira and Alexandra Castro (1999) argue that port cities had a relationship with their waterfronts and the ports activity long before the major changes that occurred during the industrialization. For Lisbon this happened in the turn of the 1900s, but its port has been quite busy since the 15th century. There are descriptions mentioning projects for piers and docks, dragging, regulations and investments. Some projects were driven by specific functional requirements, including military defense and loading systems, other projects denoted a

will to create beautiful and monumental sites. They were all aimed at the transformation of the territory near the water edge.



1. Above: the Port of Lisbon in 1592 illustration by Hans Stadein

Below: two photographs taken during the construction of the industrial port 1900s



2. Lisbon¹ in the 1100s



3. Lisbon in the 1100s and 1750s master plan

Early Landfill

During King Manuel I reign, back in the 1500s, the first significant works on the waterfront were carried out: landfills, construction of buildings and new facilities transformed existing infrastructures into an efficient port where loading and unloading, warehousing, control of goods and so on could be easily and safely operated. Around 1502 a large dock was built by paving the beach next to the royal palace, and this provided an important large surface for public use – ‘*Para serventia, logro e proli comum da dita cidade*’ (Gois, 1567) that is to say for public use and to benefit all citizens. The port became very busy due to the Portuguese trading with regions all over

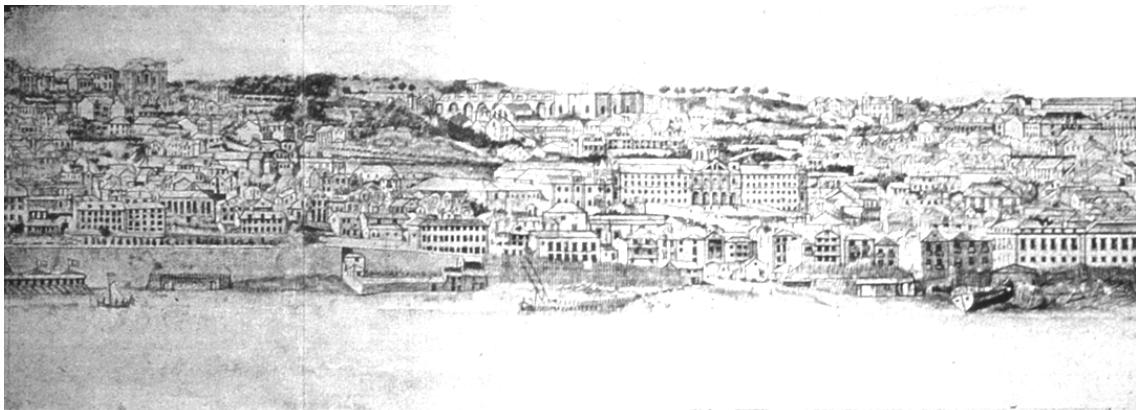
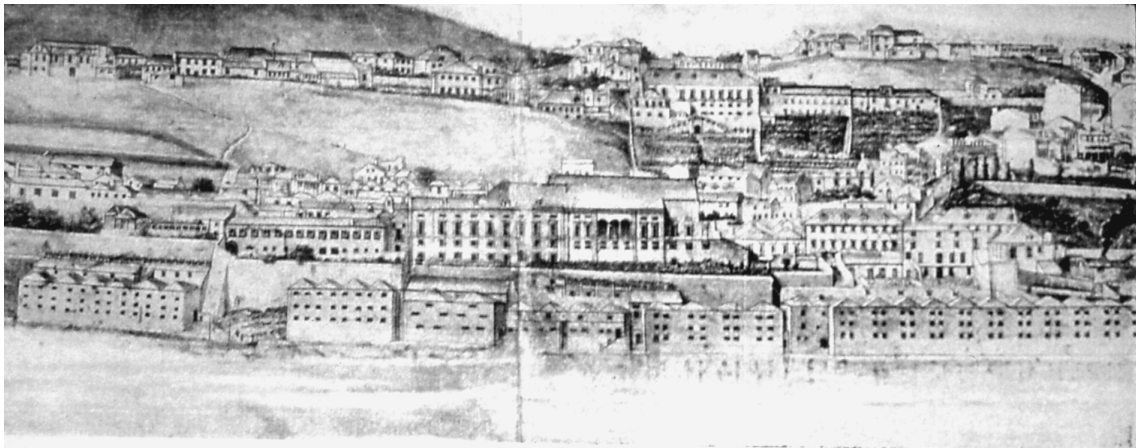
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‘The shoreline may have altered considerably with the tide, which at Lisbon normally varies between nine and twelve and a half feet. The arm of the Tagus has now been replaced by the central portion of the city’ (David, 2001),¹ which was rebuilt accordingly to the Enlightenment plan produced after the 1755 earthquake.

the world. Water became this immense freeway, a linking platform for spiritual and commercial interchange with the outside and distant worlds. There was no deep knowledge about foundations on wetlands or reinforced structures for buildings placed over landfill. The town expanded over the river with the construction of an artificial ground weakly supported, which was probably the main reason for it to collapse during the disaster in 1755. Several writers, including Voltaire, mention the earthquake and the subsequent destruction of the city. Meyer (1999, 117) says the city ‘was hit by an earthquake, followed by a 30-meter-high tidal wave that completely inundated the low-lying city center, wiping it from the face of the earth.’ Another author (Hendrick, 1956) describes that ‘an hour later the water of the Tagus river rose in three towering waves spilling over the city. The fires, that were inevitably triggered by the collapse of buildings, burnt for six days. At the end little was left of this city of 250 000 inhabitants which had boasted of being the richest in the west’. According to the descriptions the Lisbon’s holocaust lasted ten minutes. França (1994, 6) who extensively wrote about the event, most of the drawings produced at the time ‘throughout Europe, have no historical reliability’ although there are a couple of significant drawings – one before the event and the other after it - that represent in detail the city of Lisbon. Just before the earthquake a long drawing (20.5m) over 1224 *azulejos* represents the elevation of the city towards the river – ‘belongs to the Museu Nacional do Azulejo of Lisbon; it originally belonged to a palace of Lisbon, the ancient property of the Count of Tentugal, and can be dated between 1737 and 1740’.

In 1936 historians found the most detailed drawing ever made of Lisbon, in which the elevation of the city was represented.(Dornellas, 1930, 328-9) This drawing shown below is extremely detailed and shows elevations of each building. One can have a photographic vision of the city’s waterfront 12 years after the earthquake, since historians estimated the drawing dates between 1767-1769. It is a drawing composed of 10 pieces, but the 4 pieces representing the central area with the *Baixa* (downtown) and the castle are missing. The drawing is not dated and its author is unknown (see plate 4). It was probably signed on the missing sheets that would represent the Royal Square – the location where the new Enlightenment plan set up by Marquês do Pombal would be built. It seems that a large number of the city buildings was preserved except for the central area, although some of the descriptions contradict this after earthquake ‘portrait’. The most revealing about this drawing is that Lisbon’s waterfront does not show signs

of the disaster. All houses, monasteries and churches and the buildings at the lower level are standing, and the drawing shows their image reflected on the water.



Egreja de S.ta Isabel
 Mosteiro das Bernar-

 Aqueducto das Aguas Livres e Mãe d'Agua
 Mosteiro de N.ª S.ª dos

 Mosteiro de S.ta Brigida

 Convento de S. Bento



Noviciado da Cotovia ou Collegio dos Nobres
 Egreja e

 Torre dos sinos da Egreja Patriarcal

 Palacio da T. da Condessa do Rio

 Egreja dos Paulistas

 Egreja de S.ta Catharina

4. Sheets II, IV and V show from Rocha C. Óbidos through the Santos to Igreja de Santa Catarina.



5. *Planta topográfica da zona Marginal de Lisboa de S. José Ribamar até convento dos Grilos.*

The first complete plan for Lisbon's waterfront dates from 1727, and it was commissioned by King D. João V (see plate 5). Although the plan contains very little information, several buildings in it have legends, and the defined connection between land features, buildings and riverfront seems to be the main focus of the drawing. It is the first 'master plan', covering an area that extends beyond the city limits and specifically organizes the city relation with the river. Probably there was a will or a necessity to control and organize the existing buildings at the waterfront. The drawing remains an intriguing piece that is interpreted differently among scholars. Some historians speculate that an attempt to regulate the organization of the space between city and water was related with maritime activity. The only subject of this urban scale drawing is the waterfront; it reveals the importance of the riverfront and its centrality to the city life. Rossa (2002, 114) defends that the drawing was a register to formulate the bases for the project produced some years later by Mardel.

In fact, the construction of a pier built on a straight line of 90 meters into the river (Bebiano, 1730) and 'the construction of a stone pier as far as possible into the river' (Pereira, 1742) raised questions about who had the access or who had the power to

control the accessibility to the water. We do know, however, that public accessibility has been a right granted by law dating back to several centuries both in Portugal and



5. (cont.) Topography of Lisbon Waterfront from S. José Ribamar to Grilos' Monastery.

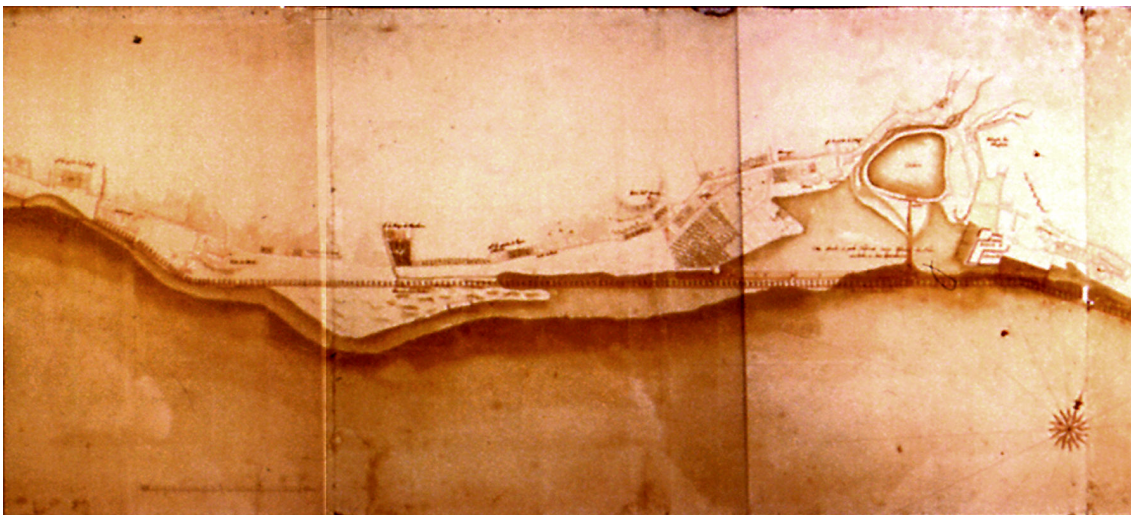
Spain (Trapero, 1994, 11).² This particular plan was lost for centuries, but remained a reference during the evolution of the port. It was found only in the 1980s. It is currently part of the Collection of the City of Lisbon Museum. A second master plan for the waterfront of Lisbon was designed by Carlos Mardel, an engineer who developed a remarkable plan considered to be outstanding for the European standards at the time (Santana and Sucena, 1994, 726). It presented a long promenade providing public access along the coast, and stretching from the main square to the Alcântara area. The second plan was elaborated in the 1750s and according to Loureiro (1907) just a couple of decades after the first one. Some of the ideas expressed in the first drawing are present and probably influenced the second project. Mardel's plan proposed a continuous strip of landfill along the waterfront, as well as a new avenue with buildings that would transform the image of the city. This plan was produced for King D. José, and it was named *Projecto do Cais Novo de Belém ao Cais de Santarém* the legend says *A- Streets, B- Canals, C- houses that may be built*. This plan was never put into practice

² Trapero argues that contemporary European guidelines for waterfronts follow the Spanish/Portuguese model. Both countries and Latin American countries have always recognized that river or sea waterfronts are for public use.

because of the 1755 earthquake, after which an important reconstruction effort was directed to the central part of the city.



6. M. Bellin (1756) View of the Alcantâra river and bridge, and the Santos harbour, the image is part of two hydrographic studies made for the port of Lisbon.



7. Mardel waterfront plan c 1750, the 12km promenade cuts straight through land and river.,

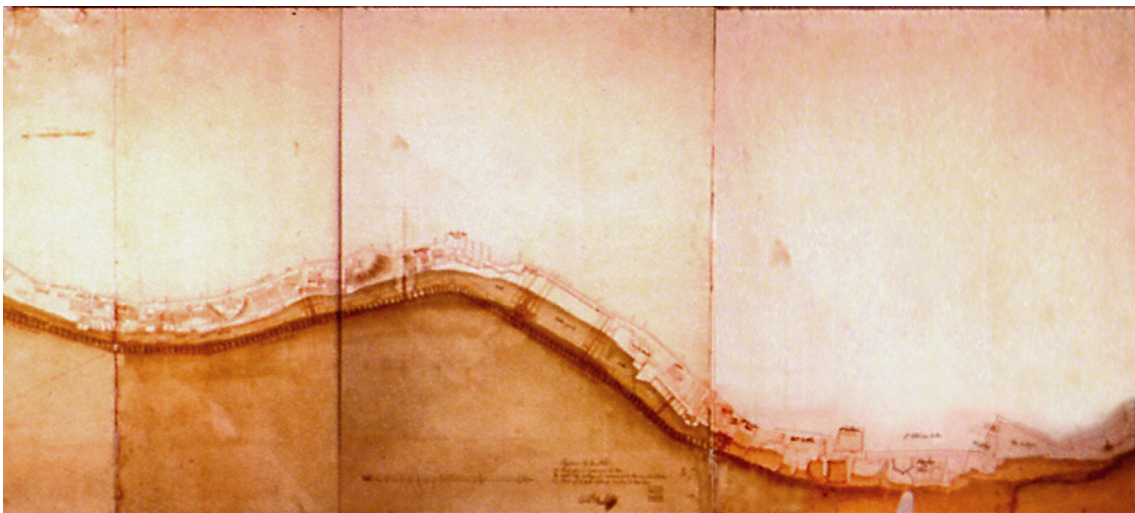
Conflict of Interests

Nevertheless Mardel's plan had an impact centuries later. Some of its ideas were recovered during the construction of the industrial port around 1900s (see plate 8). At the time there was a conflict between two institutional powers: the Navy and the Port Authority. The plan approved for the construction of the industrial port was never completed. Adolpho Loureiro (1902) – appointed by the government to direct the port construction – wrote a report where he argued that

‘the Navy facilities should move elsewhere. If the Avenues and railway lines could pass in front of the Navy facilities – the Arsenal and the Tour of War –



6. (cont.). This image is not rigorous about the visual aspect of the city but instead shows the natural and the artificial features of the waterfront of Lisbon before the earthquake.

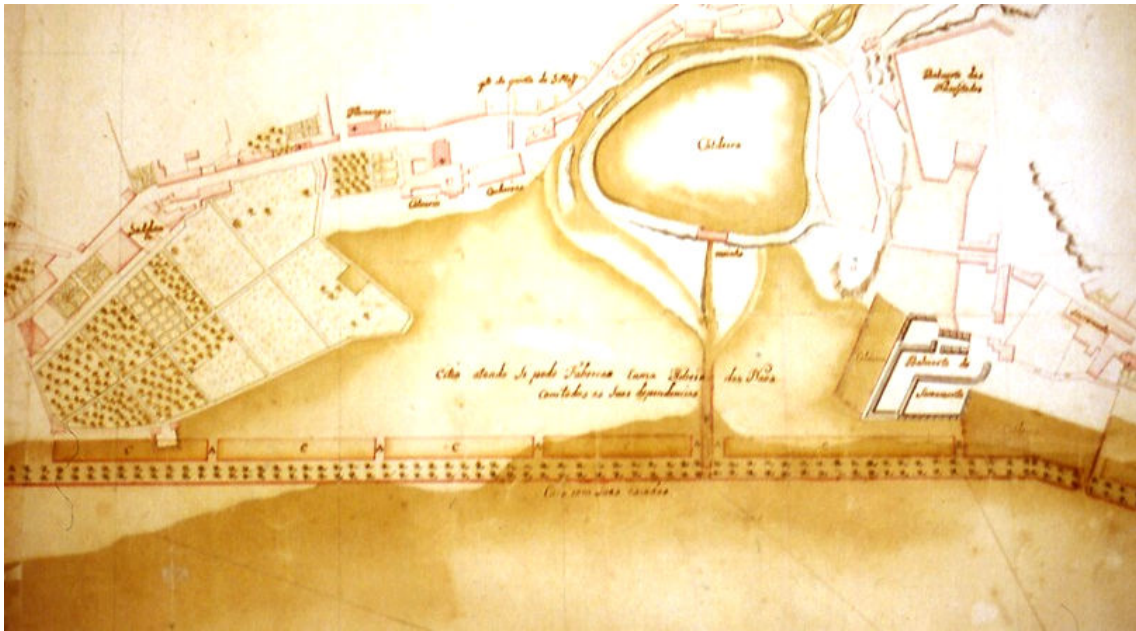


7. (cont.)

without blocking their access to the river, as proposed by *Hersent* (contractor), a great amount of money could be saved.’

Adolpho Loureiro argued that the Navy facilities should be relocated and moved from the central area of the city (a site of prestige next to the main square) to *Alcântara*, about 3 km west. To support his argument Loureiro published Mardel’s plan almost 150 years after it was designed by its author. Although he made subtle changes in the original drawing before publishing the altered copy, probably in an attempt to give historical legitimacy to his argument.³ (see plate 9)

³ Loureiro’s version of the Carlos Mardel Project became regularly published and referenced in publications. Fonseca Mendes 1951 in *Lisboa e os curiosos fastos do seu porto, Revista dos*



8. New Quay's explanation - *Explicação do Caes Novo entre 1733-1763* by Carlos Mardel (drawing measures: 2892x563mm). Detail of the *Alcântara* area with river junction. There was a major landfill at a beach area, and the construction of a canal to control the water flow of tides. The new buildings were placed along the riverside, behind a double line of trees.



9. The plan shows the expansion of the *Arsenal* (Navy facilities). The 'avenue' was moved inland in order to free a large surface to build the future naval infrastructures. Placing the facilities at this new site would remove them from the city and bring them nearer the sea. This

Arquitectos, 1988 June, published a research work about the chronology of the Port of Lisbon, Santana e Sucena in *Dicionário da História de Lisboa*; Porto de Lisboa; p.726

area of wetlands had particular problems with tides, but the harbor would offer shelter for boats and ships. Although the drawing Loureiro published reveals noticeable differences when compared to the original one, its authorship was still attributed to Carlos Mardel.

Organic Growth

Before the construction of the Industrial port in the 1890s, considerable land reclamation works were made at Boa Vista. This area went through a gradual growth towards the river, with the settlement of several warehouses and barns to support maritime activities. A plan dating from the late 18th century shows no record of any building (Carvalho, 1970-71). In 1823 two parallel piers and a bended quay were built (Ramos, 1988). Another plan dating from a later date shows private warehouses on the beach (Loureiro, 1907). But it is only in 1854 that Pezerat develops a complete project for the *Boa Vista* area, known as *Aterro da Boa Vista*. In 1964 the waterfront Avenue (*Av. 24 de Julho*) was completed. The most complete study about the area was produced within the context of a proposal commissioned by the Town Hall (Lamas and Mimoso, 1995). At the City of Lisbon Museum there is one painting, from the early 1800s, by Anne Wilson that shows an image of Santos cove before the creation of the Boa Vista landfill. The plate 8 shows the four plans as follows:

c.1807/26 – first landfill

c.1871 - waterfront boulevard

c.1911 - industrial port.

c.1785 – Santos cove

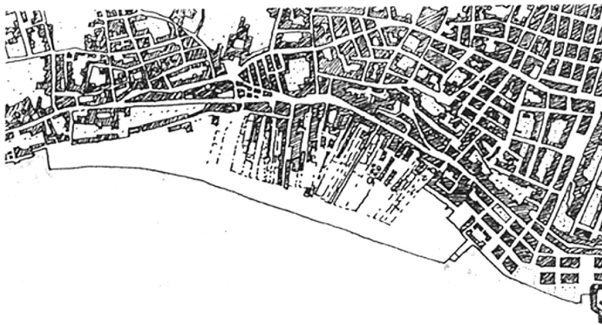
Historic evolution of the *Boavista* landfill.



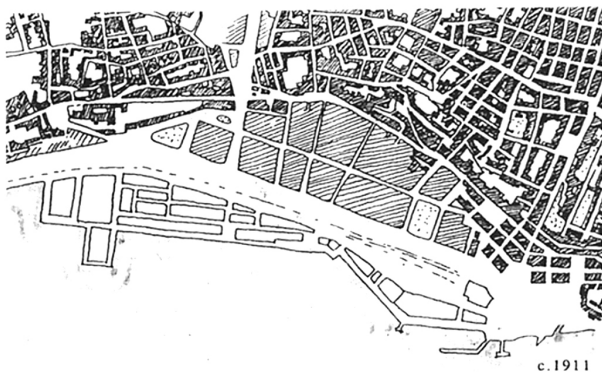
c.1785



c.1807/1826



c.1871



c.1911

Dynamic balance between water and land

One of the most complete books published about the port of Lisbon was written by Baldaque da Silva, a military engineer working for the Port Authority. In his *Estudo Histórico Hydrographico sobre a Barra e o Porto de Lisboa* (Historic Hydro Study) about the river and the Port of Lisbon, Baldaque presented a collection of ancient maps to suggest, among other things, that the city had always been intimately related with the water. Navigation and protection were of great importance. The book includes a map showing geometric connections between several elements along the Lisbon harbor. A forgotten drawing which provided a more complex understanding of the territory and indicated the specific location of exceptional buildings constructed between 1761-75 for protection, and improvement of navigation (Baldaque, 1893).

There was a project for a third tower placed on an artificial island and between the existing one at *Belém* and the old tower which guarded the entrance to the harbor. That third tower was never built. In this project, like in other projects, there was an attempt to propose improvements of various kinds. These included the creation of conditions for defense, shipping traffic, better navigability, control of tides and currents, protection for the Navy ships or their visual control, and all strategies involved the river. The attempt to control an existing natural condition and transform it, making it suitable for the purposes of the local community, was also considered in the project.

All landfill is artificial and therefore modifies the river and its natural system. Back in the 1890s, Baldaque had such concerns and wrote a critical study about the transformation the industrial port would induce.⁴ The study revealed a critical approach and questioned the physical separation of the historic city from the river. According to this author it should be taken in consideration that the new port could sever the relationship established throughout the centuries. The core of his argument was based on water currents. The thalweg line is defined through a survey of the riverbed⁵ containing details about the changes produced by the construction of the port. From 1885 to 1892 regular surveys were made (see plate 11).

⁴ For more detailed information see *Uma Objecção Técnica às Obras do Porto de Lisboa* (1888) by Baldaque da Silva, and in *Estudo Histórico Hydrographico sobre a Barra do Porto de Lisboa*, 1893, that also includes the Commission opinion from August 6th, 1887.

⁵ *Ibis*, Plate 1, *Perfil n° 1, 2 e 3*

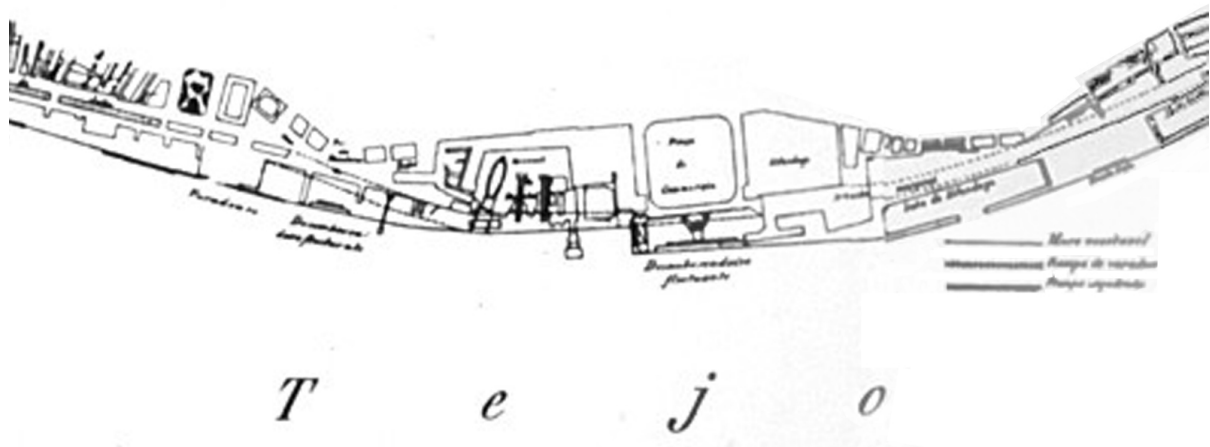


11. Sections of the river Tagus published by Baldaque da Silva (1888) using thalweg system.

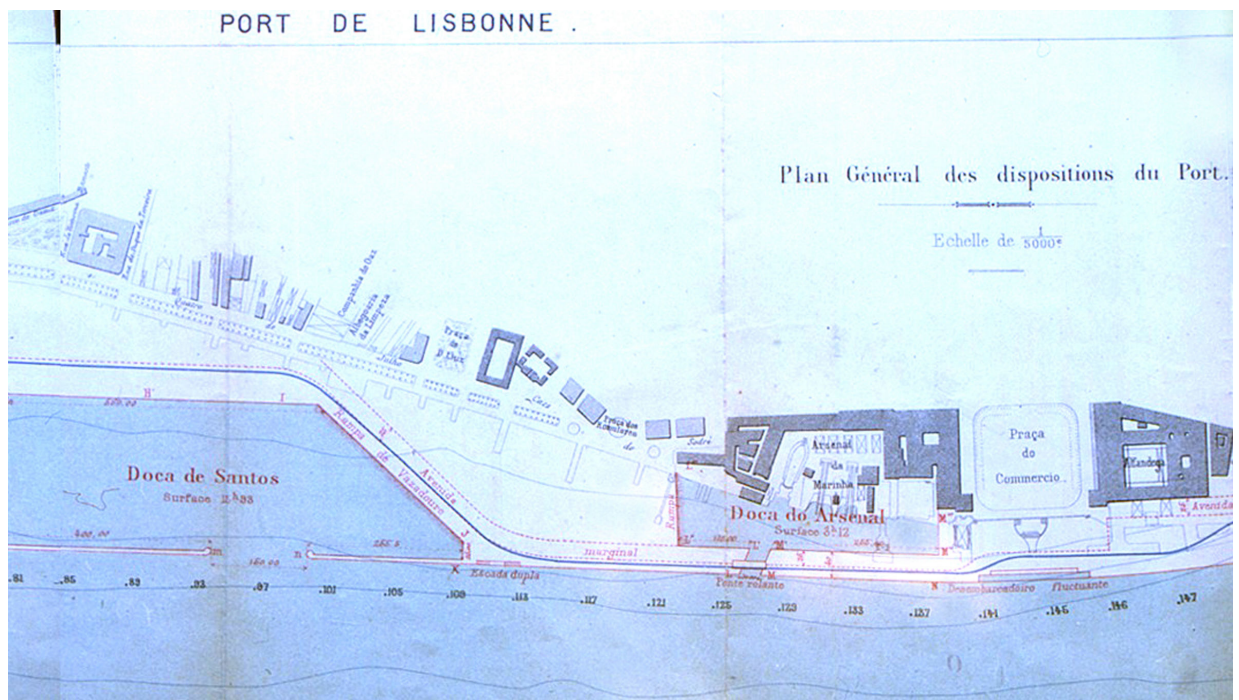
Those surveys were compared by Baldaque who used their details to support his argument, which he did by publishing the transversal sections showing the area along the river. There was an attempt to rigorously measure the volume of water of the river using the scientific means available at the time. Through this research Baldaque intended to show to which extent the river was being tightened and that, as a consequence, the natural balance would be put at risk. Two years before the publication of the ‘Historic Hydro Study’, Baldaque had presented, to the commission responsible for the construction of the port, an alternative to the project that had been approved. The legend says ‘according to the constructions already built’, which means that the 1891 map by Baldaque traces the port works that were completed, and proposes a new strategy for the central area of the city – such an option put aside the construction of the industrial port at *Santos*⁶. In spite of being based on scientific data and geographic analysis, this study remains an hypothetical theory that can not be totally verified due to the endless changes the river endures. Baldaque’s argument was nevertheless inspired by cultural issues. One of the characteristics of waterfront cities, “as Braunfels has pointed out, is that when we arrive by boat, we enter them not on their periphery but in their center.”(Kostof, 1999, 39) The separation of the city from the river would represent an irreversible change resulting in unpredictable transformations. Such moment was an inspiration for some and an irresponsible attitude for others.

Baldaque opposed the idea of a maritime neighborhood which was put forward by many individuals, such as Conte Clarence du Lucotte and Thomé de Gamond, during the period of time between the 1850s to the 1870s. Baldaque’s opinion was contrary to a new city placed over the river, and to the use of a strip of landfill in front of the city as presented in the majority of the other projects.

⁶ See *Estudo Histórico Hydrographico sobre a Barra do Porto de Lisboa*, Tomo I Baldaque (1895) presents “Alterações ao plano aprovado das obras de melhoramento do Porto de Lisboa, ponto 3 Supressão do ante-porto, doca de Santos, novo aterro da Boavista e caes do Codré, e doca do Arsenal”, p.97



12. (cont.) from the *Santos* area, through C. Sodré to the Royal Square, *Terreiro do Paço*.

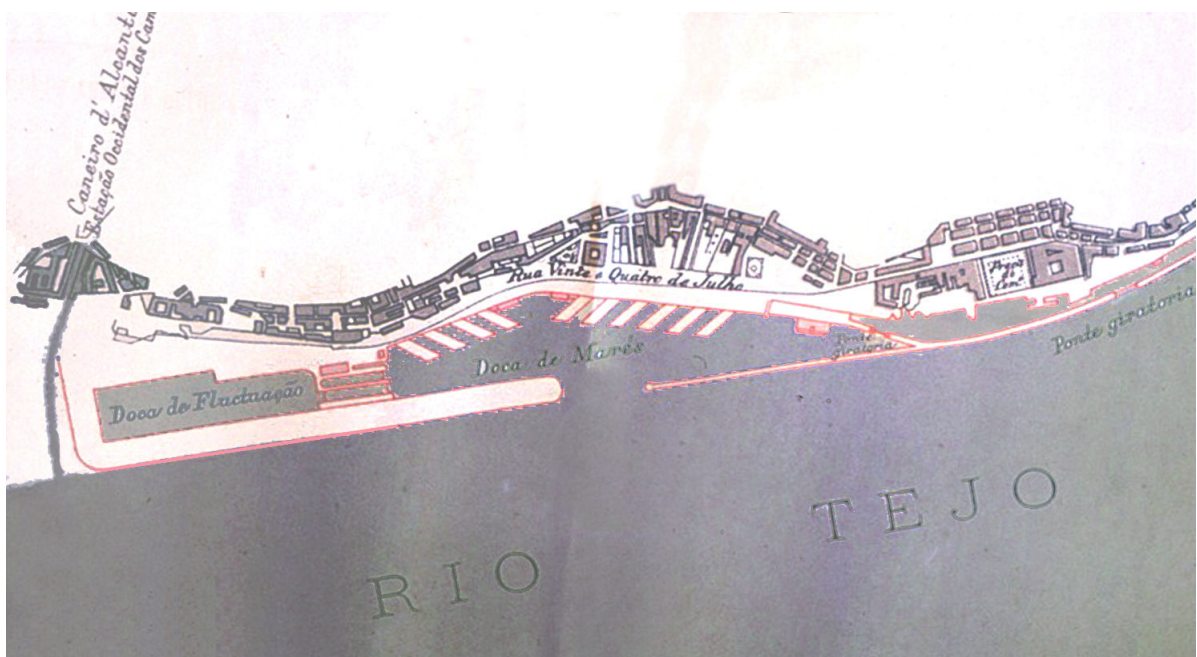


13. The same drawing is published by Ben-Saude, Joaquim, (1887) 'Lisbon Harbour Works', in *Engineering*, London.

At this particular moment Baldaque's concerns with ecologic and natural balance in a sort of an holistic approach were not well received by dominant opinion makers and the powers that be. His book raised questions, presented criticism based on research, and offered alternatives. Nevertheless, as said before, the General Plan for the Port of Lisbon was already under construction.

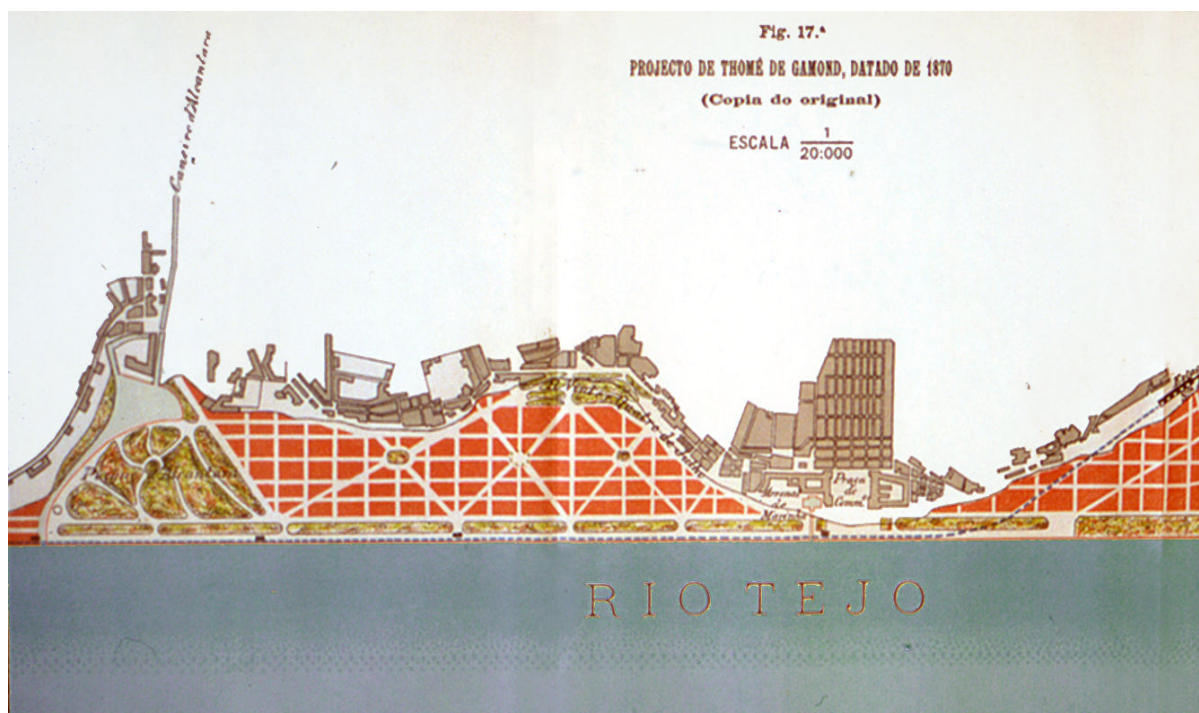
The dream of modernity

The first steamboat started to be operated in 1821 and originated a long list of projects submitted by dozens of personalities from 1823 to 1886. Adolpho Loureiro carefully compiled most of the proposals in his book “Os Portos Marítimos de Portugal Atlas III” (1907) which remains the most complete document on the subject. Here one can compare some very complete proposals for the so called improvement of the port that came to light. Conte Clarange du Lucotte in 1855 and 1873 and Thomé de Gamond in 1870 (see plate 15), among others, conceived the idea of a maritime neighbourhood – a new town constructed between the existing one and the river. These plans were personal visions, some produced by independent intellectuals influenced by the ‘industrial culture’ and the necessity to create a new port. Several port cities throughout Europe started to welcome large industrial infrastructures. Barcelona, for instance, created Barceloneta, a new neighbourhood constructed over landfill supported by the pier at Port Vell.



14. Reeves's project for the industrial port of Lisbon got the second prize, and refers rotating bridges. Drawing published by Adolfo Loureiro.

The boundary between land and water is an up-to-date subject for debate, it raises profound philosophical questions, with man conquering the land and reshaping its geography. The historical progression of the waterfront is of major importance to understand its future. Pierre Hersent, a French Engineer, was commissioned to design the General Plan for the Port Improvements in 1897. At that time there was a political vision to create an industrial port. But how could this be done? By building piers or creating landfill? The city did not have the “know how” or the financial capability to create the port. The discussion was about how, when and who could build it. An international competition for tenders was launched because the Government did not have the means to construct the port. Size and shape of the docks and piers were designed according to functional requirements. The city expected to pay expenses by selling new land conquered to the river. This was the main reason to choose Hersent’s project and refuse Reeve’s who proposed transversal piers (see plat 14) and very little landfill. Hersent’s company was paid accordingly to the amount of reclaimed land.



15. Thomé de Gamond (1870) project for the maritime neighborhood. At that period the city started expanding inland and not along the river.

The incomplete Industrial Port

The French Engineer *Pierre Hersent* won the International competition and was commissioned with the General Plan for the Port Improvements. *Hersent* was leading the construction of the port as well as the exploration of the port for the first five years.⁷ The construction of the port was a very expensive public work, and the government had no money to pay the contractor, therefore *Hersent* was paid with land conquered to the river.⁸ After years of discussions, major construction works started at the end of 1887. There were several intermediate drawings presented by *Hersent* before the final proposal was accepted. An agreement involving politicians, the commission created for the port, the investors and the contractor allowed the definition of a final plan that was approved and published, and therefore became public.⁹

The plan presented above, dating from 1887, reveals a continuous strip of reclaimed land along the city's waterfront, with a railway line (see plate 13), a strip like a belt around the city. This project was never fully constructed. The railway track that would pass in front of the whole city, including the Royal Square and the *Arsenal*, was never built. *Hersent's* project offered an efficient and modern port, but the city, for a variety of reasons, rejected parts of the plan, thus turning it into a less efficient project. The Navy claimed the direct access from their facilities and docks to the river. According to Loureiro's opinion the Navy's position contradicted the functional system of the port and squandered its potential. At the time Baldaque claimed that the tightening of the river was a risk, others claimed economic reasons in favor of their cause. The tension among the bodies involved is never dissolved due to the absence of a powerful supervision. Others argue that the fact that the industrial port was never completed, reflects the lack of dialogue between the institutions involved. The following projects to be implemented shaped a fragmented waterfront of an incomplete industrial port. As Claude Chaline (1997) argues, the collective mind plays a role, and the Royal Square could not be cut from the river. This is probably the reason why

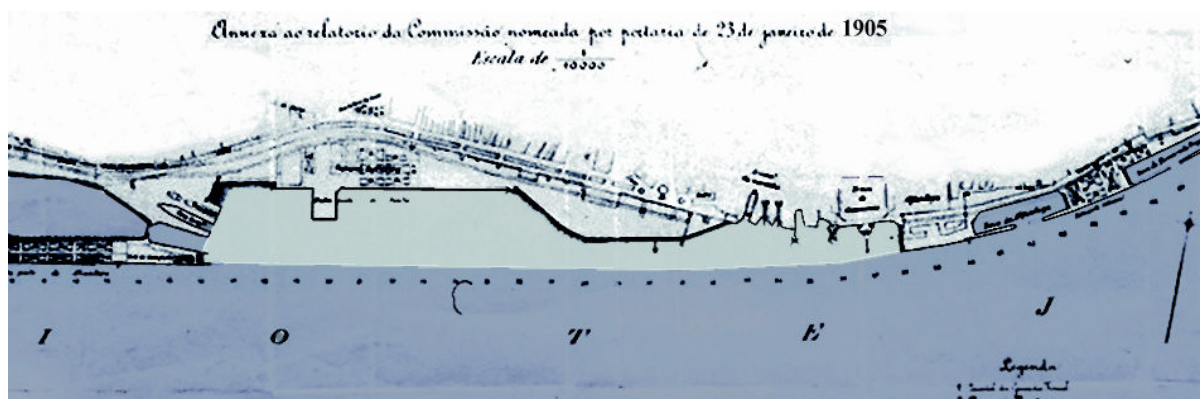
⁷ The newspaper *Correio da Noite* reports the conflict between the contractor *Hersent* and the Government. *Hersent* asked for the extension of the commercial exploration license for another five years period, but the government only extended it for three more years, Lisboa, 14/07/1902.

⁸ Decreto-Lei, a special law dated July, 16th, 1886, which authorizes the government to pay by property value of the landfill area.

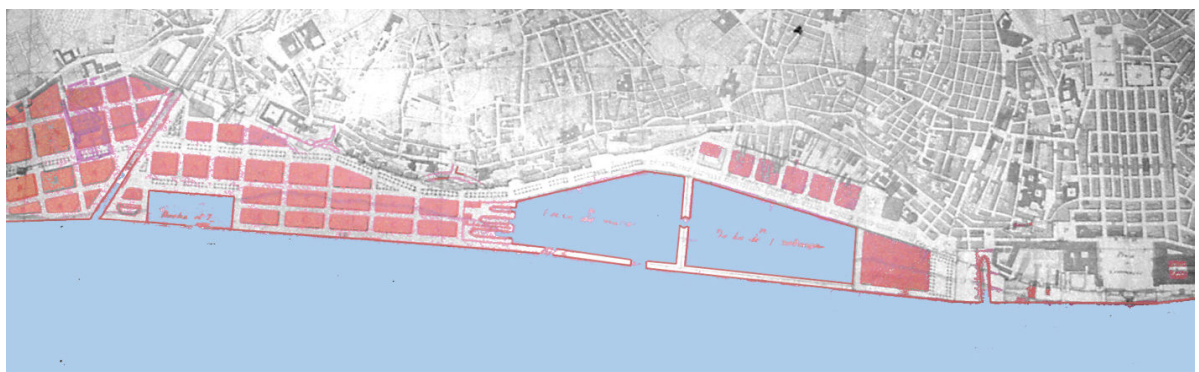
⁹ BENSUADE, Joaquim, Ver livro no Gabinete de Estudos Olissiponenses (ref. CT 25-G) plano aprovado publicado pelo próprio, Lisboa, 1887

there was some resistance (expressed through different means) against the port completion, while in the past there had been a great enthusiasm around the creation of a new industrial port that would welcome modernity.

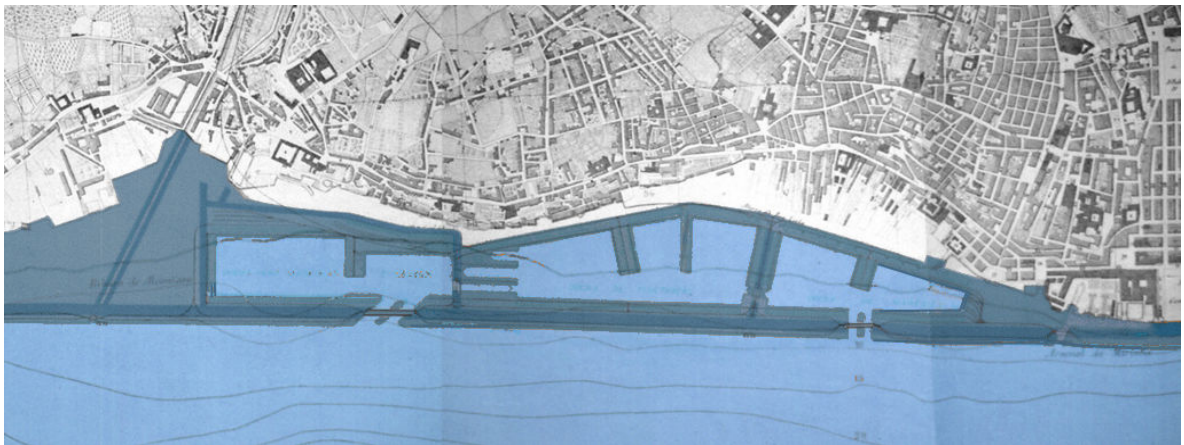
The incomplete port and consequent lack of railway line between *Sta Apolónia* and *C. Sodré* expressed the unsuccessful policy of the Port Authority (AGPL at the time). Contrary to the plan this area kept a physical connections between city and port. It was only during the 1940s, under the dictatorship (the prevailing regime in Portugal at the time), that an authoritarian decision put an end to the conflict between institutions. Then it was settled that a new road was to be built. This road disrupted the *Arsenal* connection to the river, and became the first O-ring of a circular route that would drive the city away from the river. Those were the glorious years of the automobile and the promise that it would solve the traffic problems of the city.



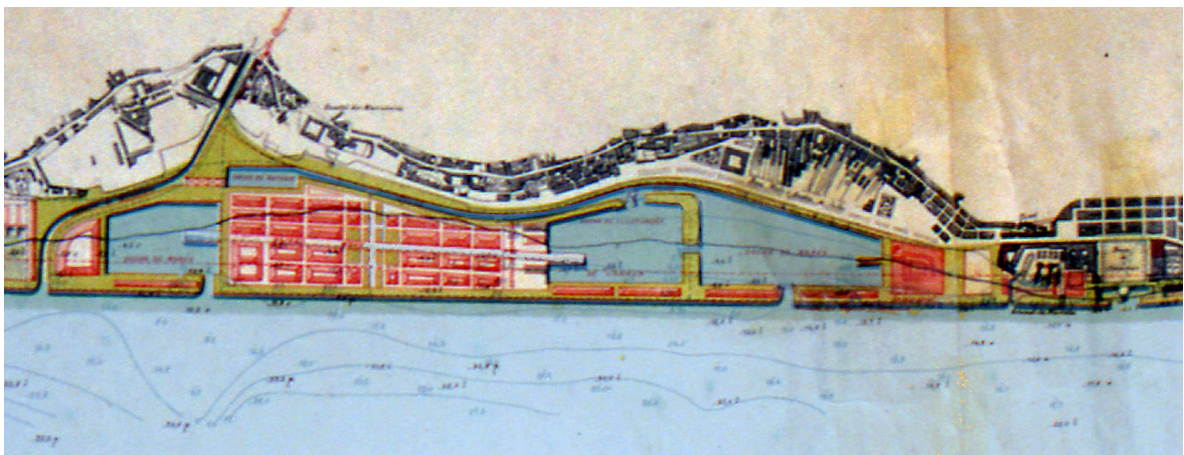
16. The port is under construction as published in 1905, but only partially built due to the conflicts.



17. The first commission (1871) presented a scheme that included urban expansion at aterro da Boavista, banned navy facilities, creation of new docks and an industrial neighbourhood.



18. Plan presented by the special commission created by the central government in March 16, 1883



19. Plan by Francisco Pereira da Silva 1884, proposes large areas for urban development of buildings related to the port activity.