Chapter 7 – Case studies of smaller dimension

Projects of urban-port regeneration

One hundred years ago the transformation of the riverfront due to the construction of industrial ports influenced new imaginative possibilities about the site. Nowadays another kind of transformation is occurring in the territory. Waterfront renovation as a global phenomena has been producing a great variety of solutions, which have a dreamy component. In this chapter an handful of selected projects are analyzed, in an attempt to extract some of the ideas that come across waterfront projects.

The selection of these particular projects (all for waterfronts) followed specific criteria which consider cultural context. In all the presented projects the fusion of a strong conceptual idea and its formal transcription is emphasized, all underline the human powerful imagination capable of transforming the territory. In spite of each of the chosen examples belongs to a different time and space, they all present clear and intense views that are challenging for the future of the city. All of these powerful proposals generate new ideas, influence future solutions and raise important issues for the present discussion about waterfront development. In this chapter we will approach some issues that may include the cultural context.

The fragmentary condition of waterfronts may be improved through the creation of relations between each of the existing or former elements, thus avoiding the *terrain vague* strategy that is quite popular among modernists. Harvey (1990, 66) argues that the postmodernism breaks with

> "the modernist idea that planning and development should focus on large-scale, metropolitan-wide, technologically rational and efficient urban *plans*, backed by absolutely no-frills architecture […]. Postmodernism cultivates, instead, a conception of the urban fabric as necessarily fragmented, a 'palimpsest' of past forms superimposed upon each other, and a 'collage' of current uses, many of which may be ephemeral. Since the metropolis is impossible to command except in bits and pieces, urban *design* (and note that postmodernists design rather than plan) simply aims to be sensitive to vernacular traditions, local histories, particular wants, needs, and fancies, thus generating specialized, even highly

customized architectural forms that may range from intimate, personalized spaces, through traditional monumentality, to the gaiety of spectacle."

The selected projects presented in this chapter are in the domains of urban design, architecture, landscape architecture, and even of the arts. Some urban design solutions make use of the industrial legacy or of the symbolic character of the waterfront, or emphasize its historic value. The Modernists' perception that one good plan or one strong concept would bring unity to the whole is inappropriate for the waterfront as shown by the first couple of projects presented in the chapter. The projects approach waterfronts as the core of the city, as 'entities' containing juxtaposed layers that reveal the fragmented character of the site and its complexity.

In his recent book *Beyond the Edge*, Gastil (2002) introduces the theme of waterfront with the analysis of the iconographic presence of the objects at the riverfront probably because architecture is a strong expression of individual and collective will and physical needs; architecture is one of the narrators of the city and bring art to the urban design. Being smaller, the mentioned projects require less investment and are implemented over short term periods of time, and in many cases 'Art and Science pioneer the waterfront' as they can be *used as a basis of conceptual ideas meant for waterfront redevelopment.* Gastil collects a series of examples of waterfront redevelopments that have taken place around the world to illustrate one of his statements that a new culture of waterfront design is emerging in several cities around the world. In the book the extensive references to other examples contributes to identify a set of projects 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. The same methodology is used in this chapter – all together the projects that are discussed form a gallery of examples that illustrate what we found to be the best philosophical approach regarding waterfront projects. None of them presents a complete or accurate philosophy but together they complement each other.

Some of the selected projects were never built, others are under construction, and some have been built some time ago. They all serve as short references that are a valuable contribution for the construction of the larger argument about what a contemporary project should include when dealing with the urban claim of the water. In order to

construct the argument of the urban expansion over industrial port landfill several case studies are mentioned because each of them deals with similar problems in different ways.

Some projects make use of the imprints on the landfill as testimonies of an industrial life that disappeared but left traces, something similar to a 'low relief' carved on the territory. Others develop current concepts to promote public space and value urban voids where people can meet, exchange or simply wonder to bring urban life back to that area. This concept produces buildings that 'flow' between city and water using the land of the industrial port. Several waterfront urban developments produced an architecture that explores the quality of urban façade. Others do not have a clearly defined façade as their aim is the creation of new morphologies on the landfill to integrate the existing barriers. The discussion is not centered on the appearance of buildings – these type of issues are not included in this work. The discussion is mainly centered on the cultural context and the formal, spatial and aesthetic implications of the building, and its contribution to the landscape, as well as on the importance of the public space. That includes a variety of indicators of artistic and cultural value but also sustainable strategies to implement a relation between city and port. Another couple of projects make use of the industrial legacy, the atmosphere of machinery, their cultural significance to trace memories of the modern period of which industrial ports are an important inherited asset. Another couple of projects use the strength of water – the primordial element in the birth of the city itself – to characterize the cultural landscape through some 'markers' (that a lot of times narrate the 'past lives of the city'). The cultural influence upon the new uses that are in line for the port area are a common challenge that all waterfront developments go through.

The selected projects of architecture and landscape show the possibilities that are offered when the urban life is extended over the industrial port and reach the water. In order to formulate an hypothesis, to test whether these projects implemented or to be implemented at the waterfront are capable of improving the relation between citizens and their river, of favouring not just a claim for the water but the centrality of this site in the city.

The projects presented ahead show that the presence of designers is of main importance to bring new ideas and give physical form in a creative way, but designers do not hold the exclusivity over the transformation process. It is the community that recovers a lost relationship with the river; it is the user that has the chance to contribute to new forms of urbanity. For most cities the waterfront development is usually a long term process in which a significant number of participants are engaged. The selected projects allow the discussion of previous solutions as we are in a creative cultural moment that knows heritage is not just legacy but what we create today.
Behind all the process of change, each example gives its contribution to a new physical, symbolical and visual dimension. Designers are aware of problems related to the *tabula rasa* model implemented at the Expo site, of the lost of references caused in a process of rupture with the port area previous memories. Most successful projects dealt with pre existing conditions and explore the potential of the site as an evolutionary process that produced new forms of occupancy.

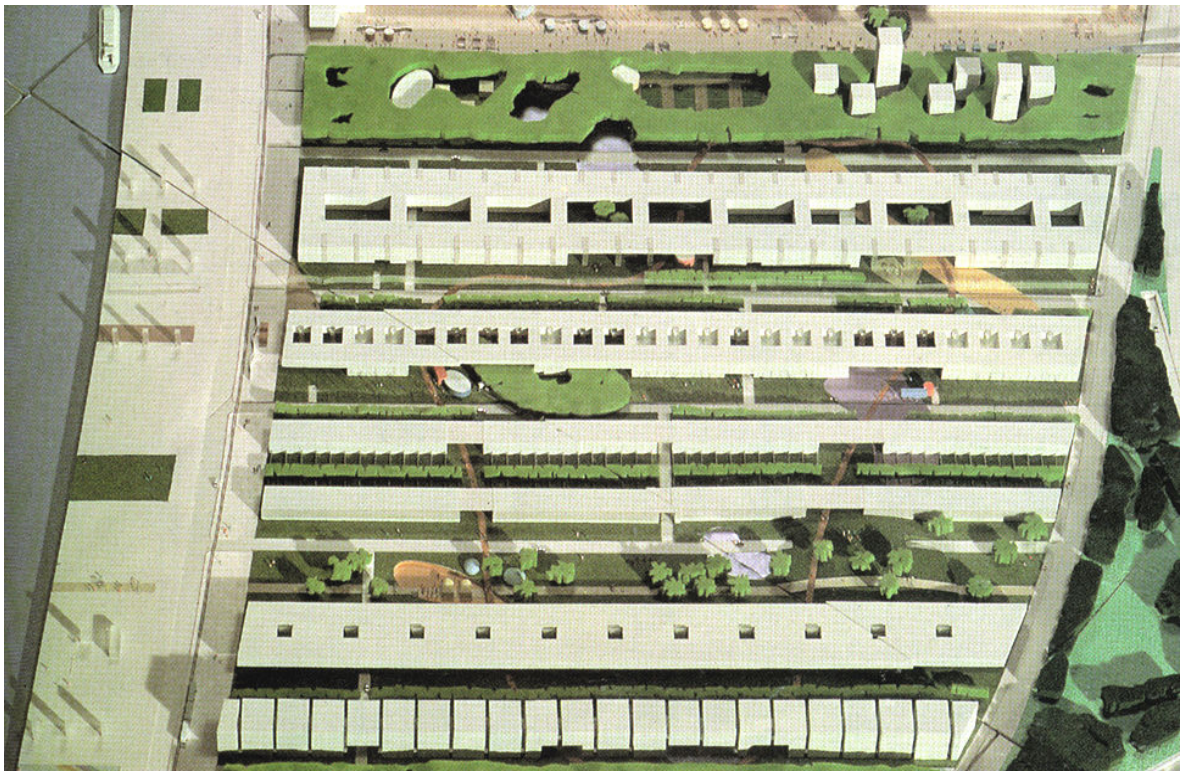
The first three urban design projects are designed by Toyo Ito (Antwerp), by Manuel Vicente (Expo'98) and the last one by Foreign Office Architects (Tenerife), respectively. The other couple of projects of buildings over the water are by Zaha Hadid (London) and by K. Melnikov (Paris). These projects were never built. Yet based upon the premise that any built project is usually limited and constrained by regulations, contractors, budget cuts, etc. In the realm of pure conceptual projects of architecture and urban design, ideas remain closer to the author's vision, and allow a more direct reading of the intentions. Nevertheless all of them address the problems and potentialities inherent in the water edge – accessibility, frontier role, public access, construction methods, urban memories, the expressive potential of architectural objects. In the second part for projects actually built are presented and discussed. Built projects have the quality of being already tested and can contribute significantly to the present discussion on the waterfront transformation.

Non-built projects

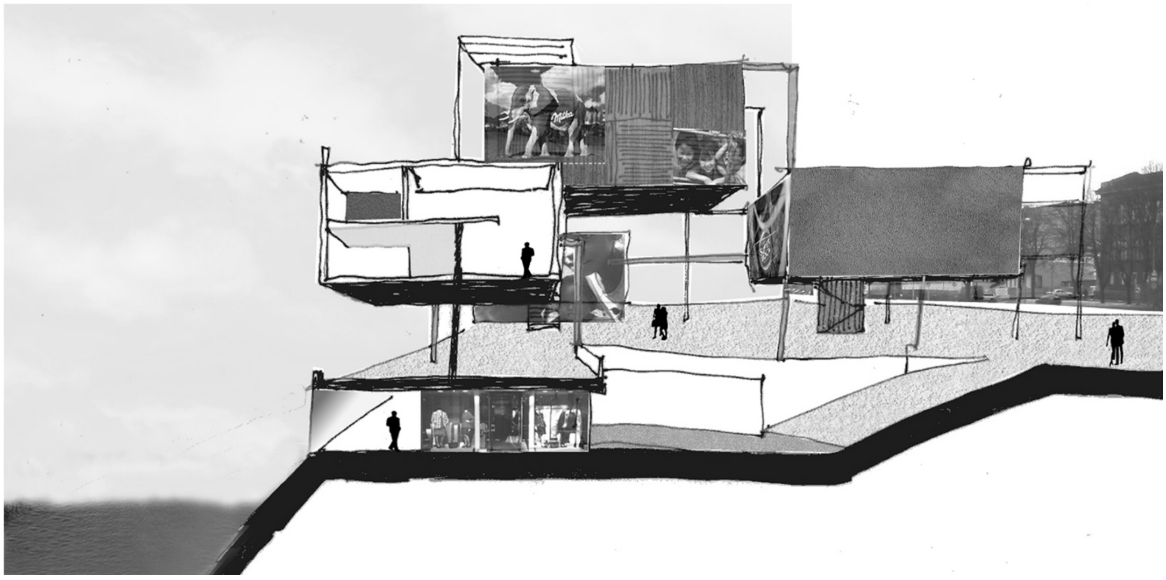
Toyo Ito – Competition for Antwerp

Toyo Ito plan for Antwerp from 1992 is a competition entry that did not win first prize. Some important concepts are exposed in this project, Ito proposed to dig the reclaimed ground level again down to the original depth (about 8 meters) and create a subsurface park, where the docks were similar to an archaeological excavation. Many of the structures appear to be floating in the air, because the ground level is ideal for the pedestrians (see plate 1 - section). Although the proposal submitted a program indicating a precise location for specific buildings, the author says that 'the overall concept of our plan can accommodate any type of architectural planning' which reveals great flexibility in use and possibilities for long term solutions. The proposed rows of buildings are transversal to the river, and have different geometries and size (see plate 2 - model). Each row explores spatial qualities according to the scale of the courtyard and the relation to the green area in a multiplicity of ground levels.

1. Transversal sections show the rehabilitation of the industrial infrastructures carved in the territory the ground floor is continuous and the buildings do not create physical barriers as the space remains permeable to pedestrian movement.



2. Photography of the model submitted for the competition entry. Walkways, curved geometries and green surface - the public space, is structural to the design proposal, the program is flexible.



3. Drawing representing Ito's design concept - privileges free access at the ground floor, creates a subsurface where the docks become archaeological excavation and are used to characterize the industrial landfill

Manuel Vicente – Competition for the Expo'98

One of discussions about waterfront development is centered on the landfill. The creation of the industrial port over landfill reshaped the city geographic limit. And now? Should the city conquer the new land? Or should we let the water come again into direct contact with the city?

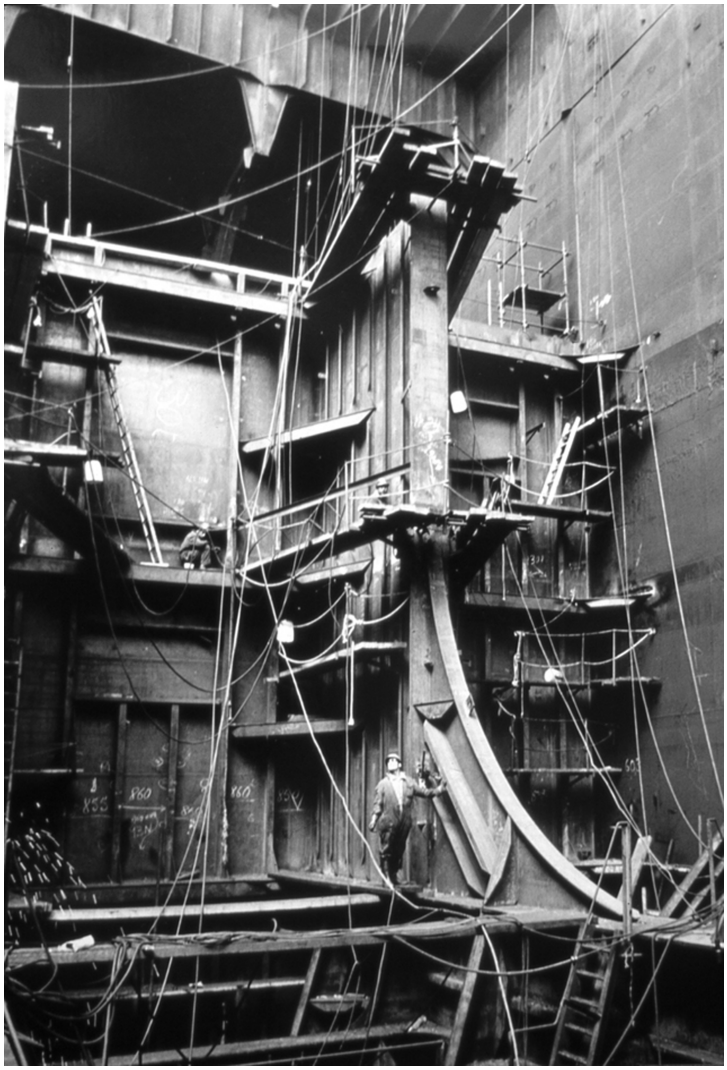
The proposal for the Expo'98 site presented by Manuel Vicente challenges a couple of issues related to waterfront development. Firstly, it raises questions about the shape of the territory. The site is a recently created land, the area of the landfill was never meant to be used for urban expansion. By moving the limit between land and water the project proposes to change the shape of the territory. It is an opportunity to reinvent a spatial, cultural and social reconnection with the river (see plate 8), and thus to reunite the constructed human element with the natural one. The plan contributes for the contemporary debate about the problem of the landfill artificiality, and challenges the *raison d'être* of this territory to find better solutions.

Secondly, former ships are recovered and used in some of the new buildings in this project. The shipping industry is constantly evolving, consequently ships that became obsolete are disassembled and thrown into a junkyard. The re-use of 'ready-made' structures and existing materials dates from long ago simply because it is rather convenient. Manuel Vicente's suggests to recycle parts of ships and use them at the world Expo site. The structure and materials of these objects carry an industrial quality, and the new inhabitable spaces explore the aesthetic of industrial machinery (see plate 7). This is a provocative proposal. Society faces a problem of over production, and to bring industrial waste to the realm of public discussion is a contemporary necessity because there is so much waste that can be reused (plate 6).

Thirdly, the project includes a critical review of the imposing presence of modern architecture and the rational urban design strategy. Vicente formulates consistent architectural ideas that are not associated to a of particular trend or intellectual movement,

4. Lisnave shipyard in the 1970s

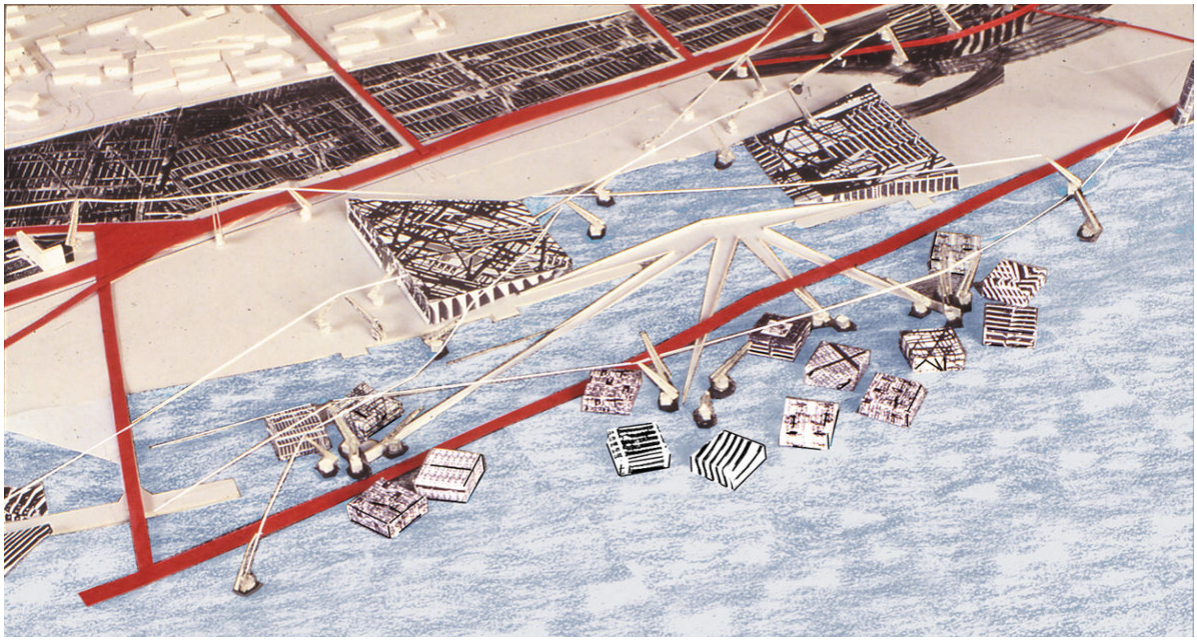
5. Assemblage of parts



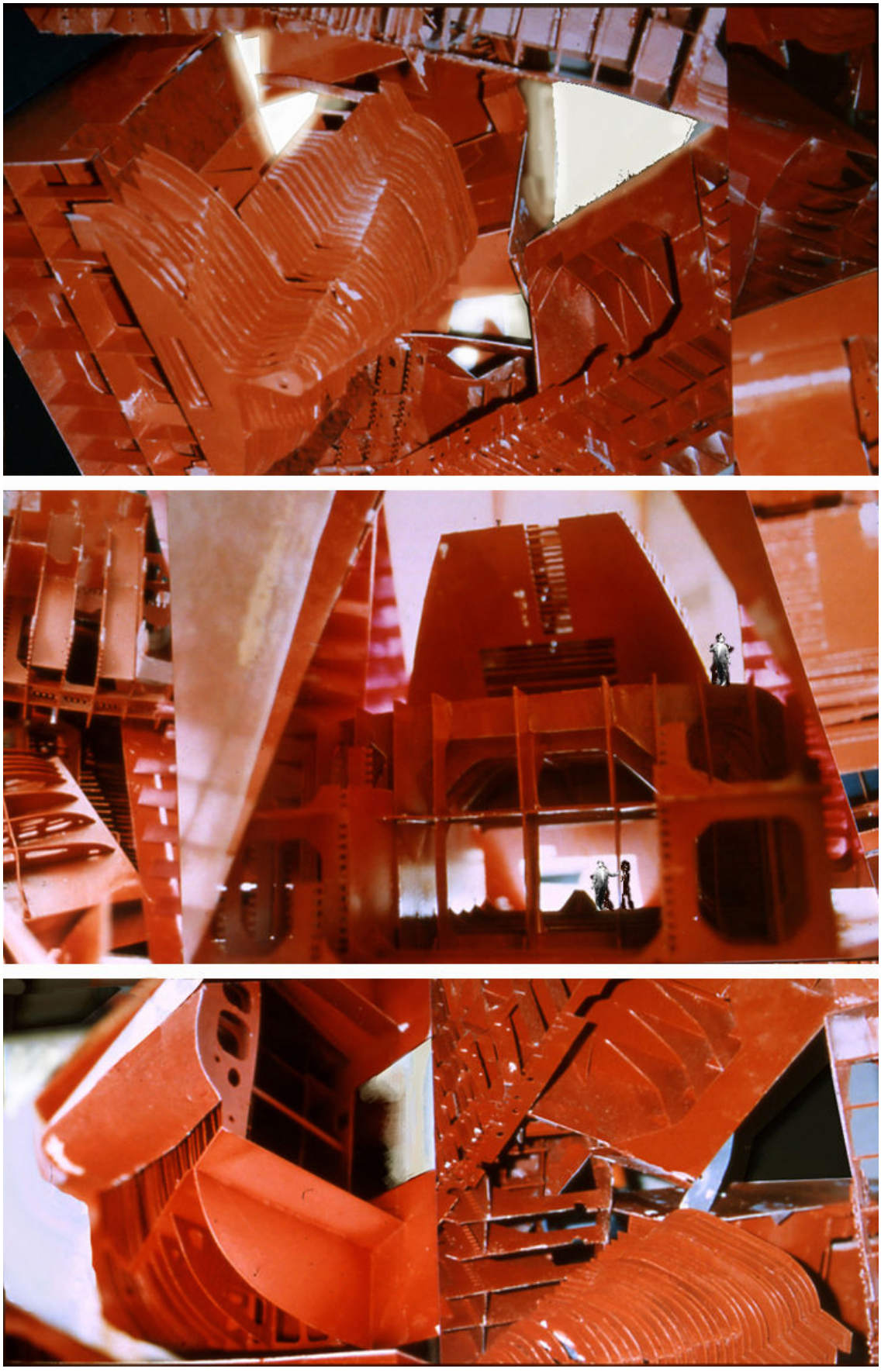
6. Boats under reparation are dismantled and put into pieces.

instead it emerges from a profound and original reflection about architecture. The proposal attempts to reinvent the human presence in the territory. A presence that is often diffuse and associated with conflicting ideas. Between chaos and order the territory shows the complexity of the landscape. – Is it a result of human needs, engineering infrastructures or financial mechanisms? There is a powerful philosophical statement in Vicente's design proposal that questions contemporary architecture and the importance of image that are influenced by consumerist culture. Upton (1998, 288) argues that 'the psychological meanings of consumerist images are affected by their contexts. To put it another way, consumerism works to the extend that is not rational, systematic, or transparent, that it does not make explicit promises of personal transformation, but to the extend that it offers fragmented, indirect, allusive, connections between hard goods and intangible desires.'

Vicente's project questions the meaning of urban design at the end of the 20th century and gently deals with the *Genius loci*, it reinvents a relationship between land and water, mixing the industrial and the urban atmosphere.



7. Manuel Vicente's large scale model of project submitted at Expo'98 international competition.



8. Above: three details of the study model using obsolete ships structures.

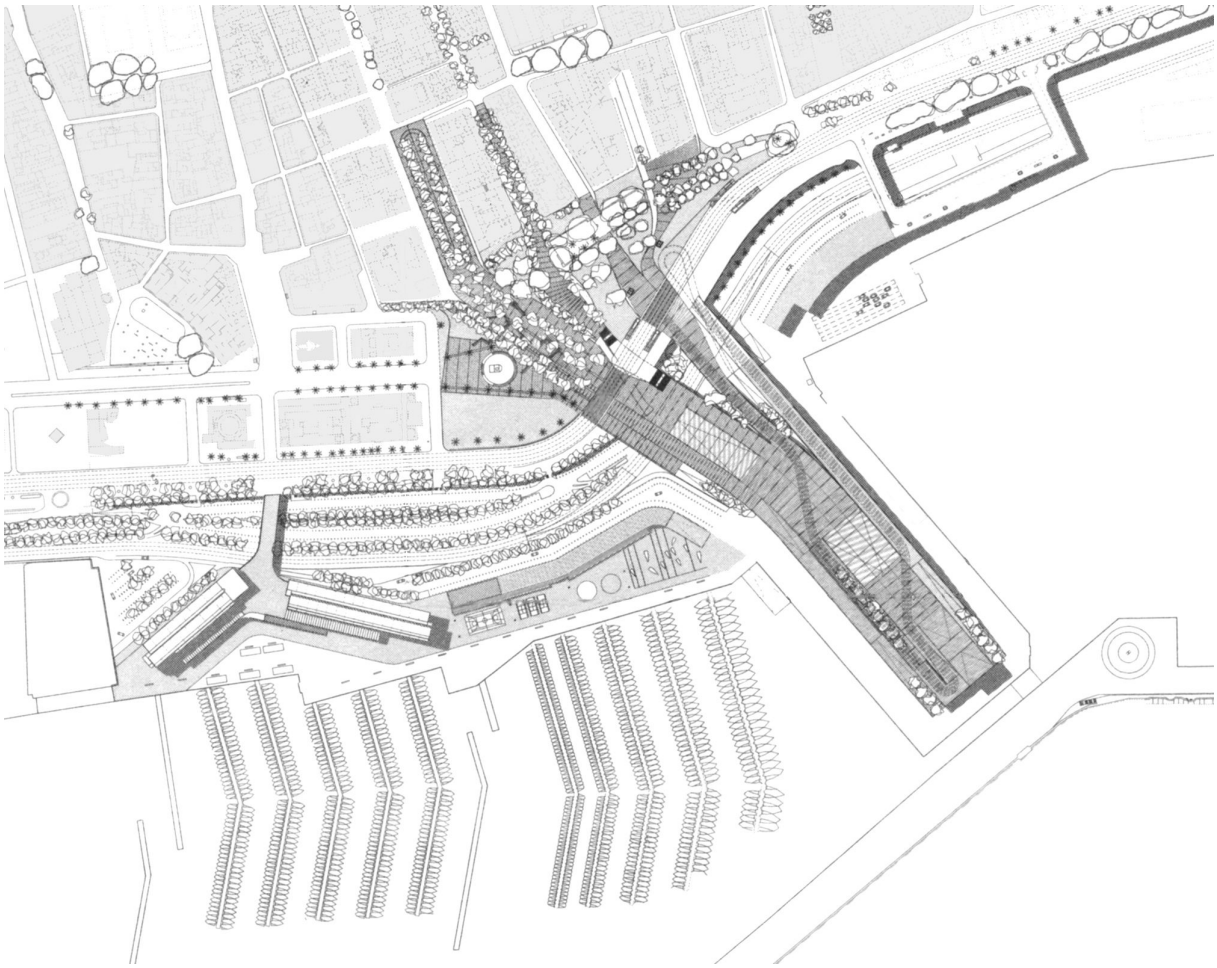
Foreign Office Architects – Cruise terminal competition for Tenerife

Alejandro Zaera-Polo and Farshid Moussavi run the Foreign Office Architects (FOA) that in several of their projects have given emphasis to the analysis of urban flows. Cars, trains, local pedestrians, tourists arriving on cruises, all merge in a scheme of an architectural program that is inscribe in a literal manner in the form of their design proposal. The project for Tenerife searches to solve the present problem between port and city relation (plates 9, 10). Instead of eliminating the barrier effect the project includes it as an extra flow and extends the city over the port area. 'This has been fundamentally based on the manipulation of topographic conditions and infrastructural systems, rather than making a proposal of urban design interventions (…) a tectonic and topographic system capable of lending coherence to the entire port frontage.' Urban barriers are particularly relevant when the topography is flat, to cross it the user must find another level, either a tunnel or a bridge. When the city has a dynamic topographic feature, flows tend to be three-dimensional and the urban barriers lose their impact. The city is settled on top of 'natural' topography while the port area is artificially created on top of landfill, flat landfill. The introduction of changes in the topography allow to include all the urban flows that cross at different levels, and extend an urban continuity for mainly two necessities:

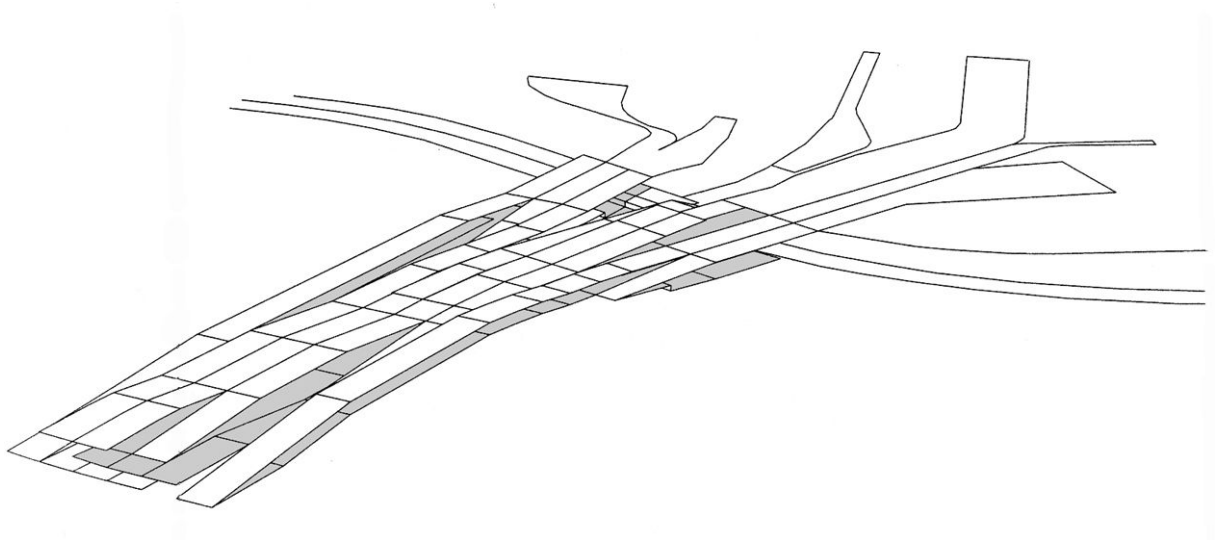
1. The need to connect the port precinct with the urban structure, which involved resolution of the differences in alignment between the city at the lowest level and the pier platforms.

2. the need to solve the conflict between pedestrian traffic and the roadway infrastructure that passes along the length of the port required the prolongation of the urban fabric onto the port precinct.

The topographic structures extends the city over the port area at the 'lower level of the urban façade' but is not affecting the 'city face' as many waterfront projects.



9. Plan view of the port area, the Quay with Cruise Terminal and the town of Santa Cruz

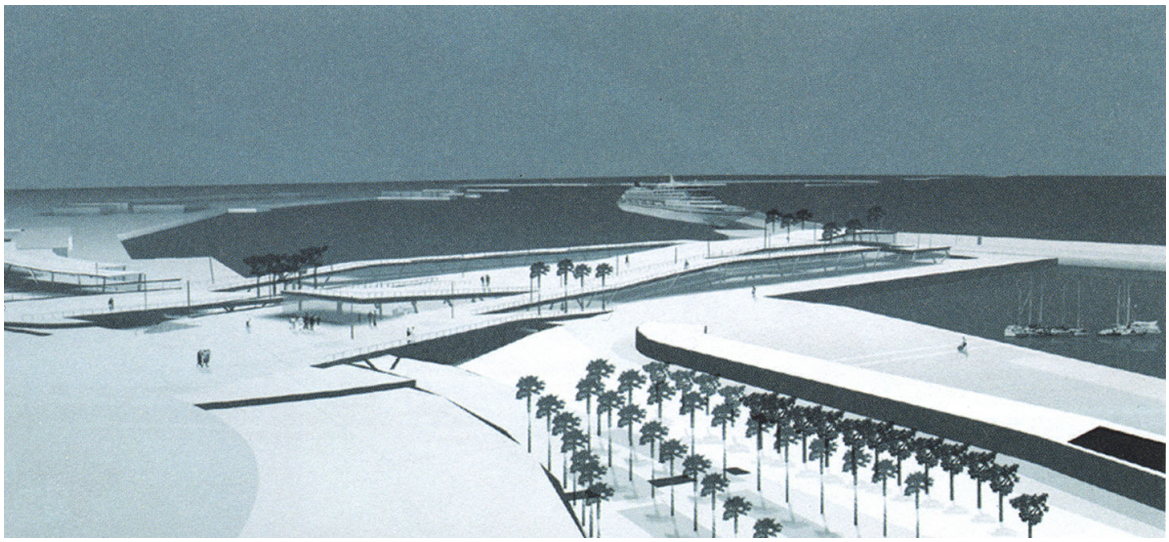


10. Axonometric scheme of the platforms from the Quay bridging across to the town

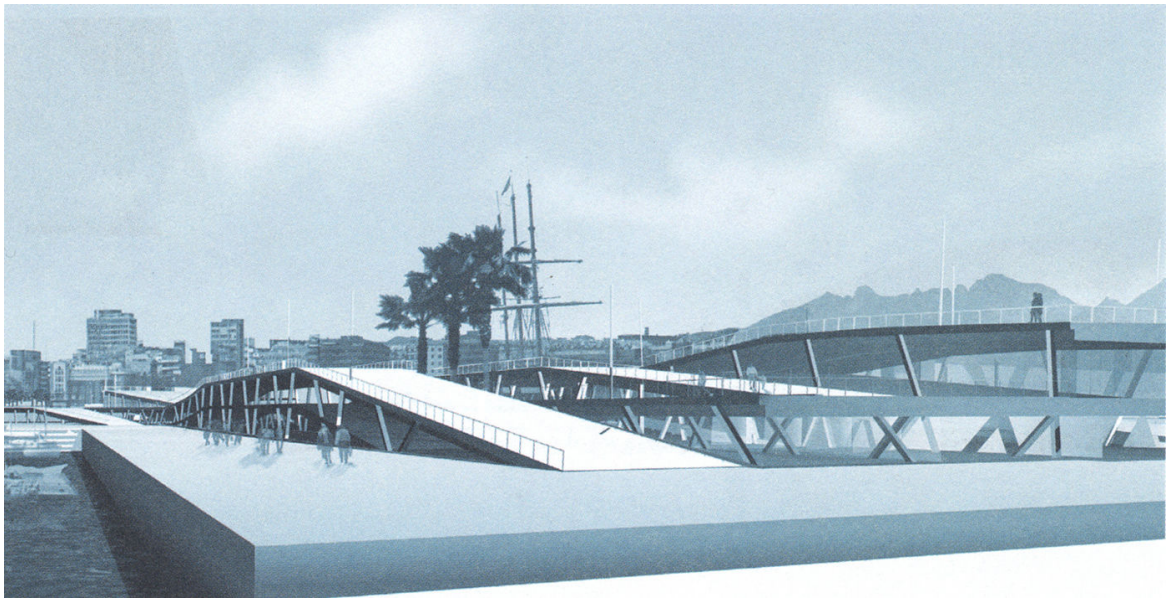
This competition project is from 2003 eight years after the submission of the winning scheme for Yokohama International Port Terminal (1995) was already built. About the Yokohama project, Gastil (2002, 78) describes it in this way 'it was not a matter of throwing out the design ideas and building a conventional structure. As Zaera-Polo puts it, Japan allows architects to evoke design throughout the construction process'. The main achievement of Yokohama project was to be constructed as the initial scheme was immaterial and challenged the common references of form including structural solution and systems of circulation. When the same team presented the proposal for Tenerife it is a more mature design that includes the previous experience and adapt the scheme to a more complex urban situation of urban frontier in which the city has a difficult access to the water. The strategy to design a continuous flow contrasts with a conventional constructive solution of pillars and slabs but as it is described by F.O.A., (2004, 126)

> 'Minimal variations in the structures will make multiple conditions possible. The sectional variations in the height of these bands allow for the ventilation and sentinel illumination of spaces situated below the structure, as well as permanent physical and visual connections between the new urban spaces and the programs set below the surface.'

The project bridging across to the waterfront merges architecture and landscape architecture as one and not as separate disciplines. The mixture of infrastructure, urban flows and topographic variations brings a new solution to the waterfront common 'cut effect' phenomena. At the waterfront there are not just a conflict of infrastructures but also a conflict of administrative power over the land. The conflict here is emphasized by the contrast between the natural topography and the artificial flat land of the port. F.O.A proposes to solve this divorce through architectural design with an inspiring solution where new forms emerge from contemporary challenges of city and port relations. Such building design has an urban design component, becoming difficult to separate them as it integrates urban infrastructures and urban flows reorganize them and elevate them to the importance of public space. (plate 11, 12) The integration of those flows in the form of the building is a sustainable approach in the sense that a large amount of energy and urban resources are coordinated and integrated. It is a process of design that includes flows of transport, energy, traffic, visitors, and integrates public services, cruise terminal, spaces for public events, a truly urban conquest of the port area.

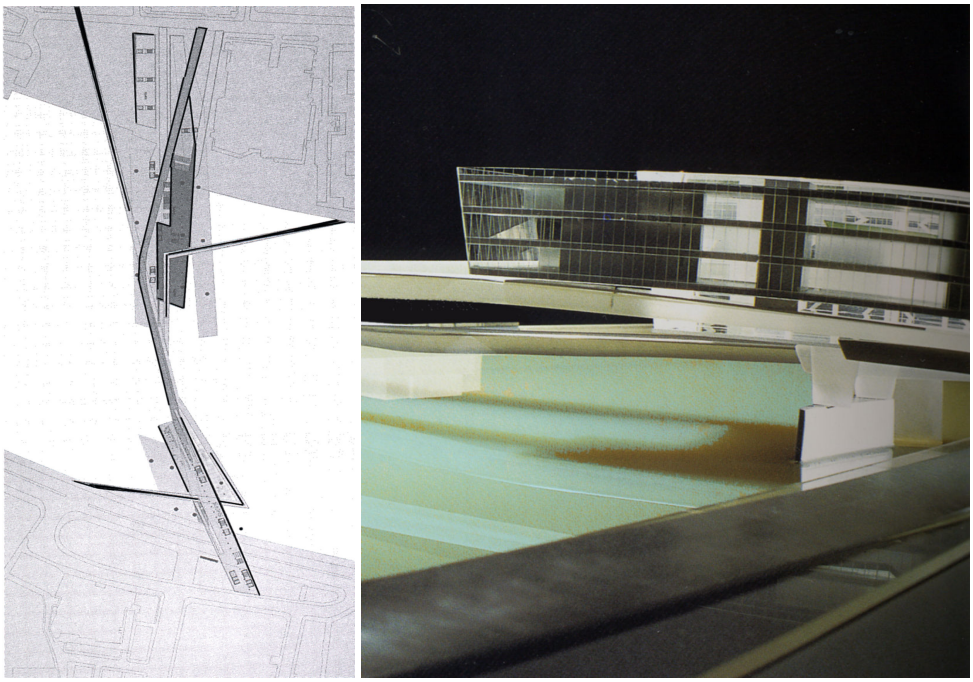


11. render image shows the interconnection between the port area and the city



12. render image with a view from the sea of the pier and the city in the back

Zaha Hadid – Habitable bridge over river Thames in London

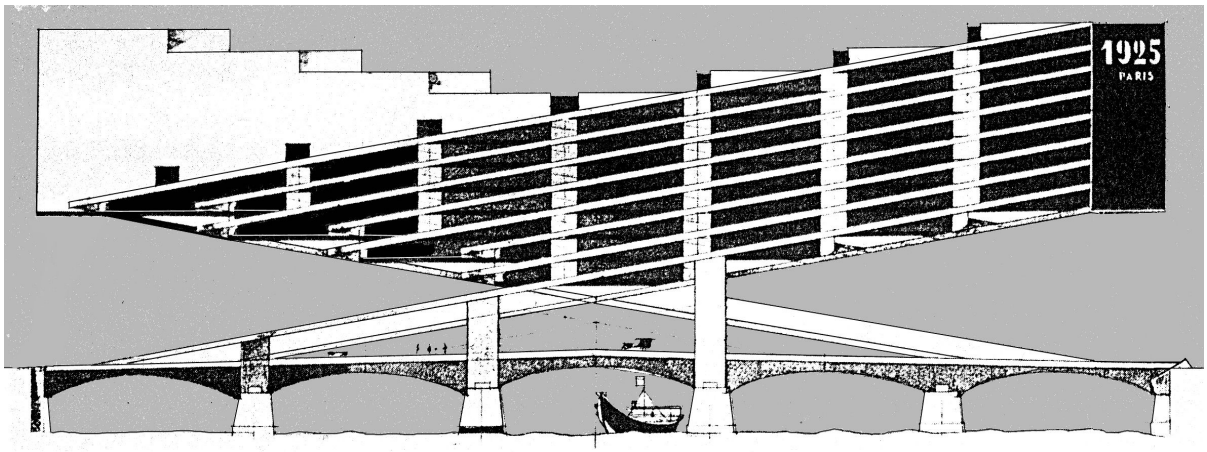


13. Plan and model photographs, based on Zaha Hadid's Habitable Bridge project

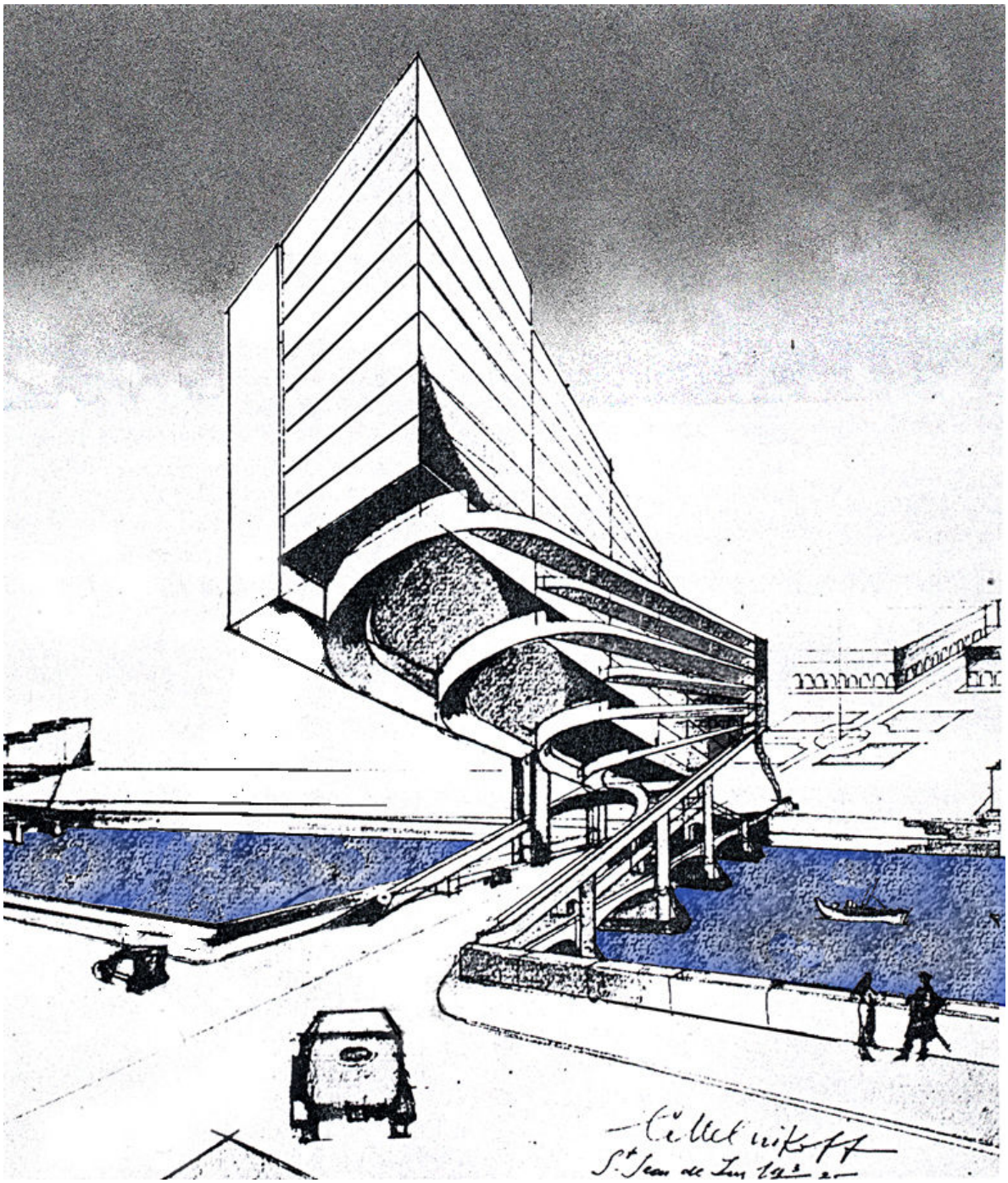
Zaha Hadid's bridge over the river Thames in London present a complex scheme that results from a set of several conditioning factors; the existing flows of people, vehicles, underground, and the visual orientation presented in the urban surrounding area. All this information is registered and compressed in a bundle, revealing all the complexity and fragmentation of the data. This process is straightforward, inclusive of urban signs organized without the support of a rational synthesis, but accepting the lack of a controlled judgment about the compiled information. The gathering of different urban data is translated into an abstract form of representation, joining accurate information in a purely geometrical way. Such geometric representations become physical entities assembled through a system that superimposes and creates several layers, including the urban complexity in which the waterfront is particularly rich. The project (plate 13) emerges from a process of combining fragments existing in the site - urban features, intuitive gestures, functional requirements and memories. The proposal is rooted in the landscape, and challenges the limit between water and land extending the buildings over the water. The connection between the fragments constructs a narrative, although a metaphorical one, of the site evolution throughout the times. The project explores the site richness, and organizes objects and geometric forms, revealing the site complexity in time and space, exploring the expressive potential of architecture based on the idea of the habitable bridge.

Melnikov – Garage project over river Seine in Paris

Melnikov came up with an original idea proposing that the garage should be constructed atop a bridge over the Seine (plate 14). It would offer a monumental image to the cityscape. In 1925 modernity had made its way into people's mind and the automobile became one of the icons of a promising future. Cars were admired and seen with a feeling of hope as the means to set people movements free. The project submitted by Melnikov included two alternatives: a minimal program and a maximal one. The patrons were left with the responsibility to choose between the two. The maximal program, shown here, consisted of two large volumes fixed at only one end to four piers soaring into the air from the middle of the river. The initial proposal did not have the extra structural elements: the Atlantids that were added by Melnikov in response to the strong criticism concerning the submitted structure. 'If they are ignored, as they should be, it can readily be seen that in this structure Melnikov was creating not merely a functional garage but a great sculptural monument to industrial France.' The futuristic proposition made use of cutting edge technology. The challenge of this provocative project goes beyond the theme of automobiles and garages, it mainly focus on the presence of exceptional architectural objects that characterize the cityscape. In this case Melnikov chose the river, with the water or natural element, to construct over it and emphasize the human presence in the territory.

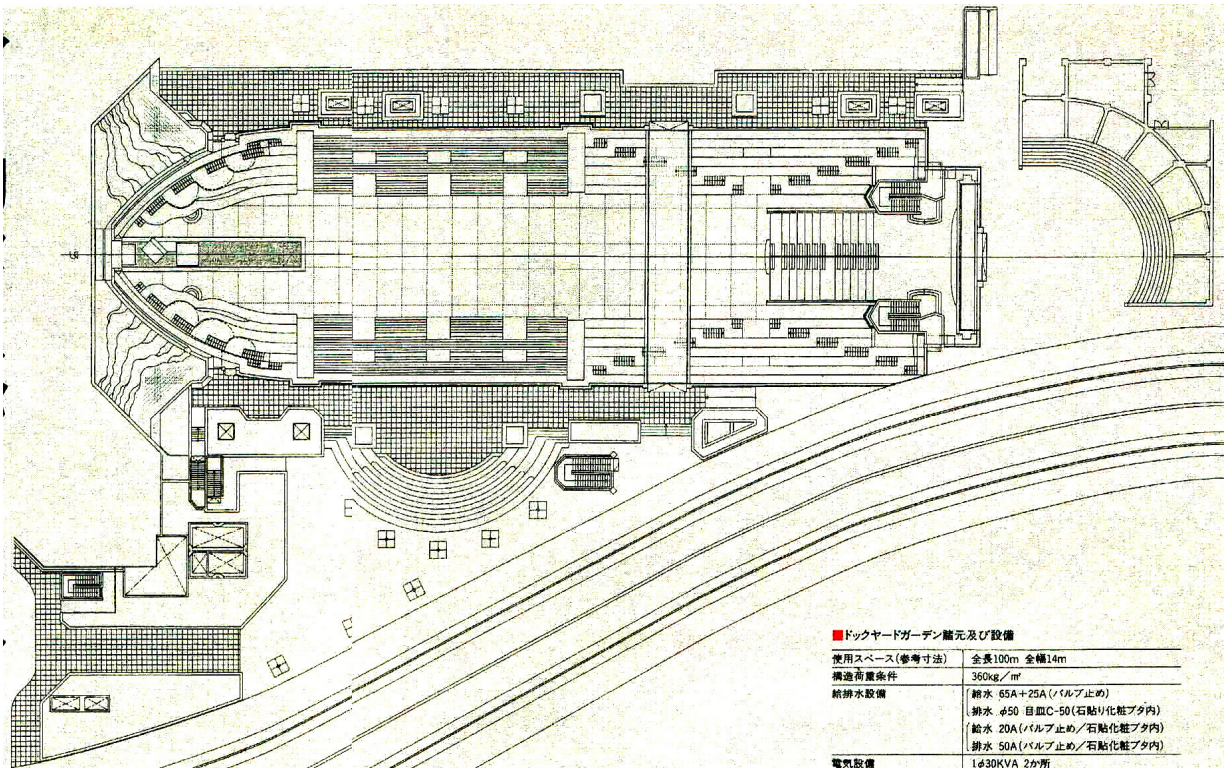


14 – a. Section of parking garage for 1000 vehicles, Constantin Melnikov (1925)



14 – b. Perspective drawing by Constantin Melnikov (1925) of the second variant of Parking Garage for 1000 vehicles.

Built projects

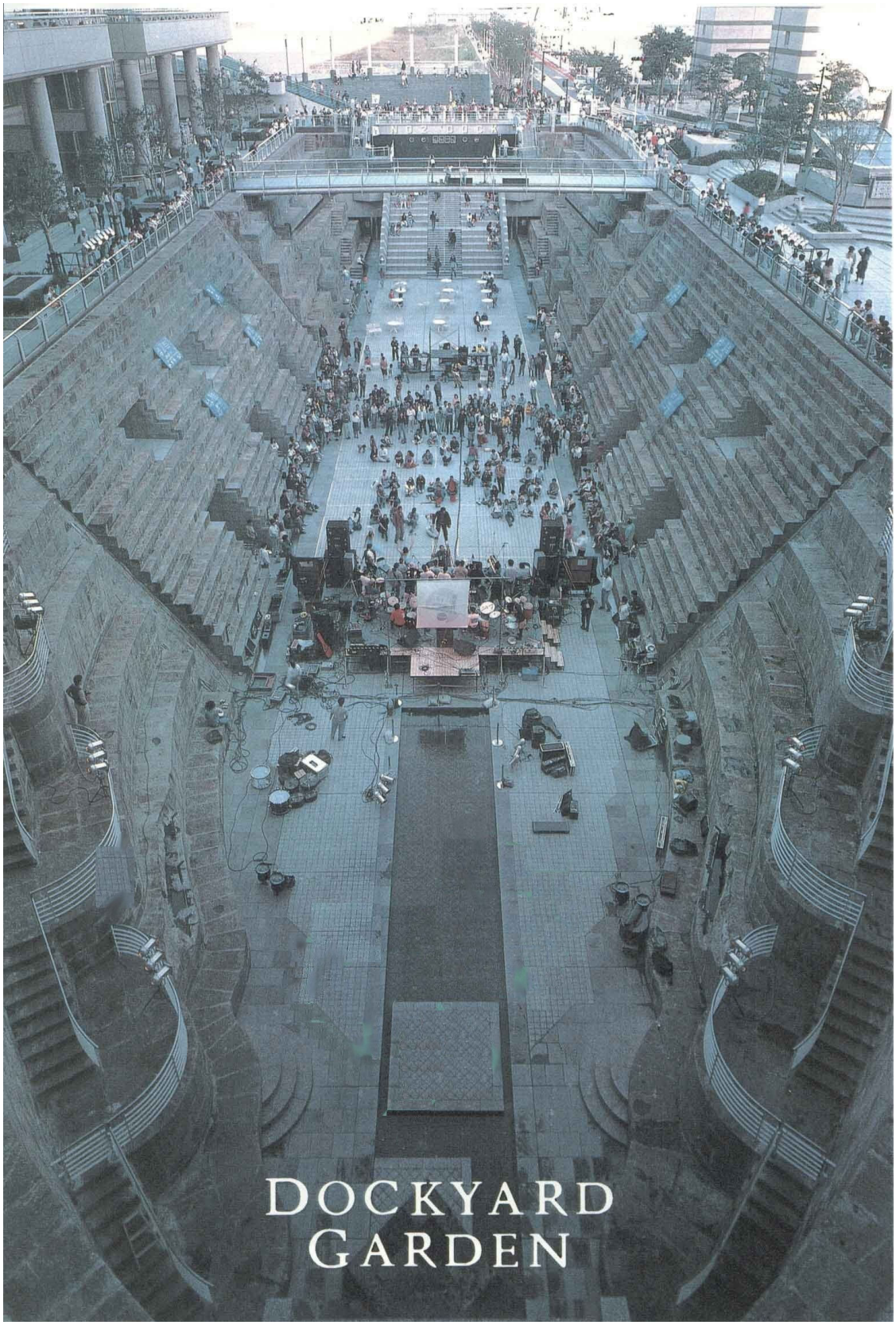


15. Plan view of Dry Dock #2 - *Dockyards Garden*.

Yokohama

Yokohama is an industrial city that grew quickly. It is an exception to the slow evolution of Japanese cities. This city has uncharacteristic working class buildings mixed with industrial zones. The port of Yokohama is the largest one in Japan and it serves Tokyo. The city of Yokohama is shifting from an industrial to a more competitive eclectic city. The major new waterfront development in Yokohama is Minato Mirai 21 (MM21). It consists of buildings for the 21st century financed by both private and public sector investors. Its transformation began in 1983. MM21 is built on former industrial sites, as well as new landfill. The port area was created by artificial land and recent transformations continue the process of conquering land to the sea. Minato Mirai includes, cultural and recreational facilities as well as commercial and residential because it is clearly a new centrality. The population for the whole area is expected to be 190,000 people working there and 10,000 living there. It is conceptually and physically a distinct site from the rest of the city. The conversion of the largest industrial port of Japan into an accessible area contributes to the worldwide debate among scholars about waterfront development.

The most relevant and prominent aspect of the Yokohama waterfront renovation is the preservation of dry docks that inevitably connect the visitor to the *genius loci,* that is to say to the soul of the site. The port built by the end of the 19th century has developed a powerful presence infusing an industrial atmosphere into the city in a way without precedents. Some authors captured this atmosphere, and speak about the physical marks it left in the city and are now obsolete saying that (Fowler & Boniface, 1993)'A preserved structure can be viewed as a sculptural object or a functional container. It can be approached and examined in detail or stepped back from and seen in a larger context. This physical artifact from earlier times may only hint at the rich history behind it.' Large ships required big docks and piers. Trains and ships met at these crossroads of industrial storage, transformation and transportation, reinventing the relationship of the city with waterways. Such areas were closed to the general public but influenced our way of understanding the relationship between the water and the city. Water is a structural and structuring condition for the city. Cities use water, and maintain a certain relationship with it.



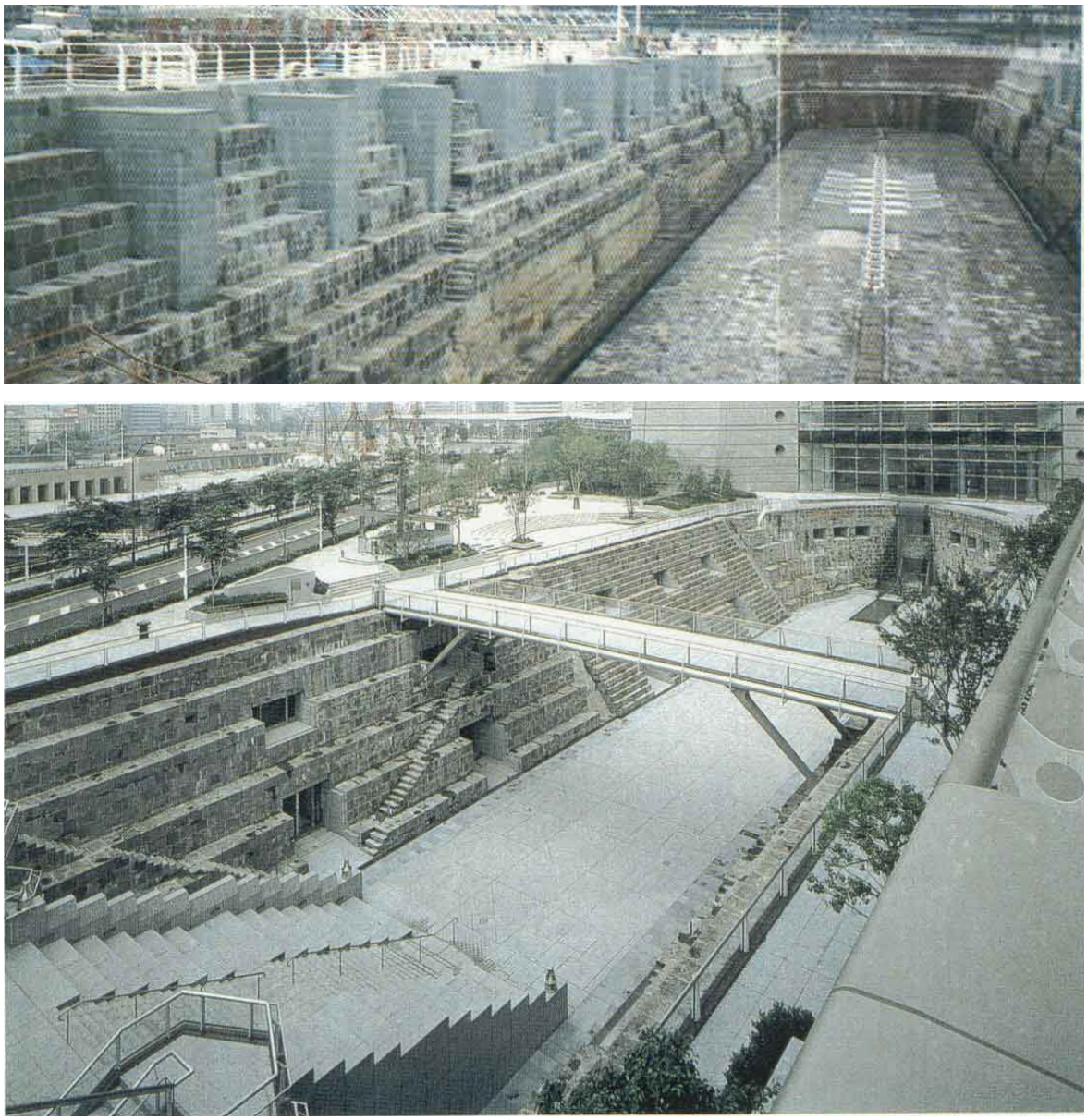
16. Photograph illustrates music rehearsal in the Dry Dock #2 - *Dockyards Garden*.

In most cities the original relationship between the port and the city broke down because of the industrialization started at the end of the 19th Century. Since then and throughout the 20th century city and port relation evolved, constructing a new reality. The continuity of this narrative becomes a theme for future interventions.

Dry Dock #2 (plate 15, 16) has been preserved and is described by Berman (2001, 69) as a site now 'devoid of water creating a dramatic space with its huge rough-hewn stones.' It stands as an open air museum that reports what the site used to be, informs about the scale of mechanisms required by ships and gives a strong sense of its uniqueness.

Functionally it provides one way to access a shopping center built beneath a tower, as well as serving as a gathering space for large events throughout the year. Equally important it also acts as a visual and historical counterpoint to the tower above. It provides a dramatic hint of the area's earlier life and gives the visitor an enriching sense of the culture and history that marked the place. Opposing the mainstream process of waterfront renovation stigmatized by an 'efficient *disneyfication*', the Japanese policy offers an alternative. As Berman (2001,65) puts it 'Preservation also corresponds to site art in how it can emotionally and intellectually stimulate people. At one level, a historically preserved site can add beauty to the environment. At another it can make people think about an area's past and their own connections with that history.' The mentioned case studies unveil a relationship between the community and its culture and landscape (plate 17).

The artificiality of the landfill, or the land created by man, is emphasized with the intervention which preserves a witness and simultaneously silently expresses the people's desire who long to be given the opportunity to get to the water edge. This transformation process reinvents the human presence in the territory because it is not just a place frozen in time but a progressive industrial element used today (plate 18) for a variety of cultural and commercial activities (such as 'ethnic music performances, basketball games, local bands shows, classical music concerts, school exhibitions, car shows, corporate business receptions, military music festivals and others').



17. Photographs taken before and after the intervention. Several windows, a transversal bridge, staircases, are some of the elements that were used to transform the original Dry Dock #2

18. Some of the events that take place at Dry Dock #2.

The preservation of Dry Dock #1 was different. Not as visually noticeable from the outside as Dock #2, it has an old sailing ship floating in it, the Nippon Maru which is permanently moored there. Dry Dock #1 and its ship integrate the Maritime Museum. The museum house is partially buried underground. The museum is signaled by the ship masts that stick out as a landmark for the site.

In the city of Kobe the most impressive site at the waterfront is a fragment of a pavement half destroyed by the last big earthquake that shook the area in 1995. The 'ruins' of a small part of that pavement have been preserved as one of the reminders that constitute the more extensive Earthquake Memorial. This represents a will against oblivion of a terrible event, since human beings tend to forget negative experiences, and probably also because the Japanese people are frequently at odds with earthquakes. The Memorial also keeps trace of the works carried out to rebuild the place since 1995. But the preserved part of the pavement has a more direct role: it condensates the might of the earthquake, transmitting to us the sense of impotence that the people caught in the middle of it surely felt. In this particular case, the sense of togetherness of old and new catapults the visitor's perception to experience a broader universe.

These interventions in the Japanese waterfront cities are an attempt to emphasize their character. Instead of a general global strategy, the focus here was to explore the qualities that already existed in each site making each of them different from one another. The philosophy is to preserve structures for public use, to developed their artistic potential whether by adapting and transforming them for new uses.

Kishamichi Promenade

In Japan too modern man is living in an age which in so many spheres of life has lost its center, yet whose inhabitants still bear within themselves a longing for tranquility. Contemplation is one of the *ways* to reach that half lost tranquility. In fact, 'the concept *way* stands at the very heart of the cultural and intellectual life of Japan.' It could be said that the Kishamich Promenade assumes the material form of a traditional Japanese *way*: becoming a path through which may practice the art of contemplation and experience serenity even amid the hasty urban life around them. The proximity of the

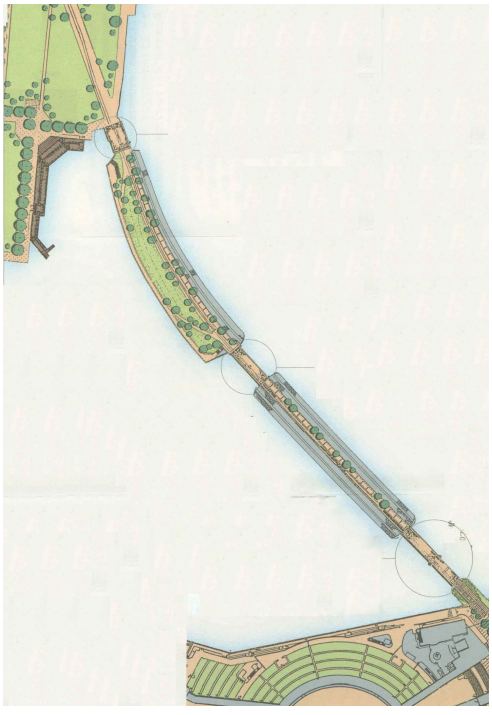
water that the Promenade seems to hold placidly apart, only fosters a contemplative frame of mind, one that is beautifully exemplified in the following *haiku*: *The long night;/The sound of the water/Tells what I think.*

In the end, the experience of craftsmanship, either through manual, mechanical means or state-of-the-art technology, has often followed a path deeply rooted in the fundamental human nature, for 'it is not conscious composition that makes a picture; far from it. The picture must come from within, from the heart.' Japanese art, be it painting, architecture or any other craft, is *frameless*, i. e., 'the picture is not limited by a frame, either in the physical or in the mental sense. It places a high premium on the active participation of the observer' – just like the Promenade might do to the meditative landscape observer that walks across it.

Kishamichi Promenade at Yokohama was an old railroad bridge originally built in the beginning of the last century to serve the port (plate 19). It was used for the transportation of goods and for freight trains to carry materials to and from warehouses and ships in the port area. In fact it was a merely functional facility. After the renovation process was concluded there is a promenade consisting of a wharf and two bridges linking the opposite banks. The new promenade for public use, flanked by water, offers a possibility to gaze at nature in a contemplative manner. Those walking through it may look back and read the well crafted historical heritage. The project carefully preserves the railway tracks that allow the visitor to keep trace of a narrative produced throughout the times. It is now a very different preserved site, as no longer needed for trains, and offers to pedestrians a new experience of urbanity. It became a 'path' for the contemplation of nature, one that proved to be very popular among local people and discretely connects past and present.

In Kishamichi Promenade old and new are harmoniously combined without sharp contrasts. It is much less impressive than the two dry docks, but much more in accordance with the

19. Kishamichi Promenade after restoration,
above: aerial view,
below: pictures at the present.



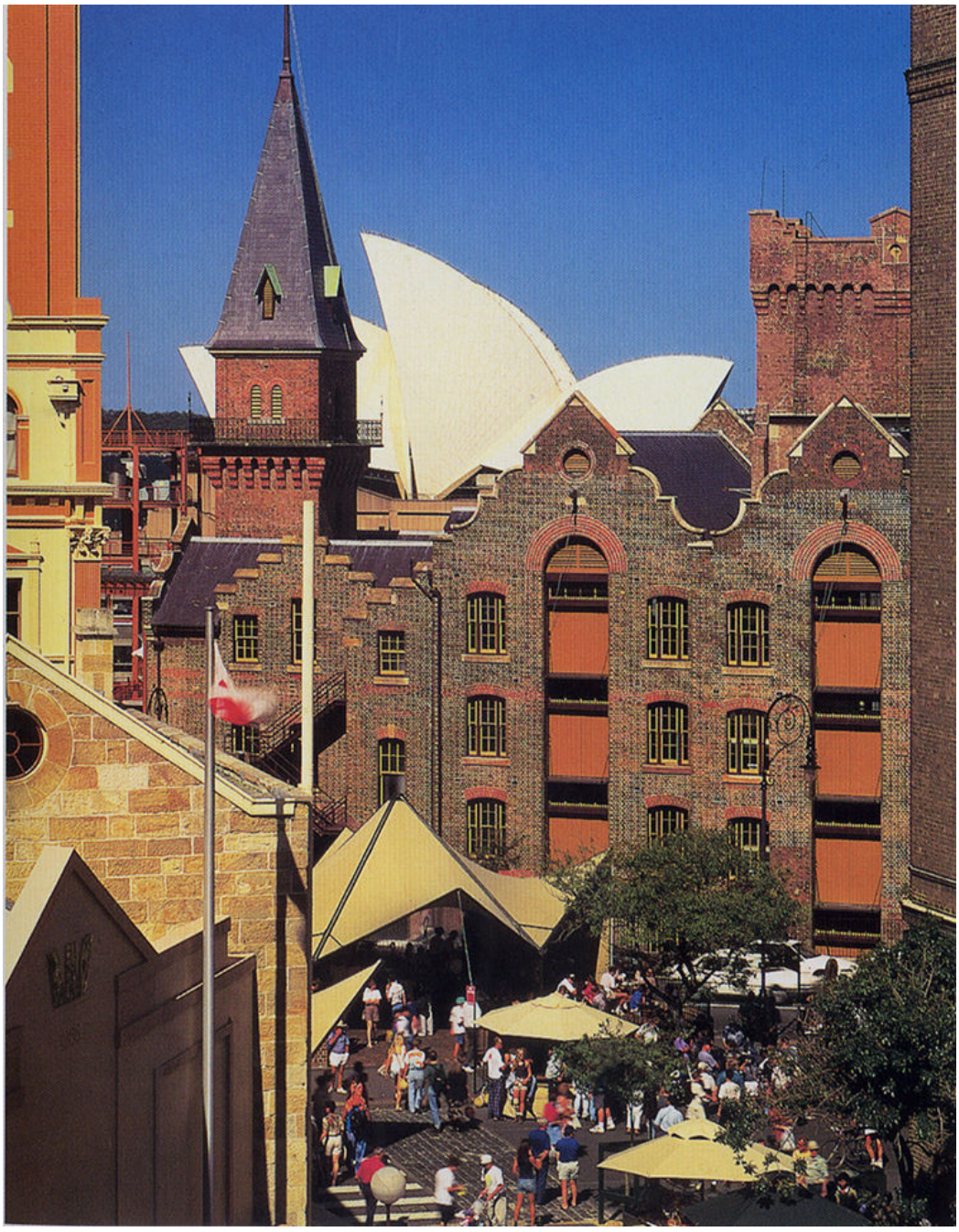
20. Landscape project of the bridge.

zen spirit that, in spite of the country's modernization, is still embedded in the Japanese contemporary culture, and this is probably what makes the promenade a favorite place among the local people who flock into it. Not only a structure was preserved, but also a whole location was spared to an unstable period of slow death. The site propitiates a feeling of solitude and quietness in relation to the other more imposing and busy elements of MM21 (plate 20). 'The wood walkway helps give it a more informal and less 'master planned' feel than much of the development.' According to Berman (2001, 69) the Japanese waterfront sites 'try to emphasize their uniqueness and capitalize on the qualities and physical forms that set them apart from other locations. The goals are often to attract visitors and businesses, as well as to satisfy local residents. Preserved structures, whether kept intact or adapted to new uses, have the potential to strengthen an area's unique identity.' The respect for the tastes and needs of local residents and the posture to value culture identity confer to the Japanese waterfront developments their uniqueness. An unusual realm where other countries may individually travel to.

Usually cities are represented by 'picture postcards', still images capturing precise moments of the cityscape. Photography provides us with extraordinary records of their evolution phases. From the historical point of view, those visual documents about the built heritage are of an unprecedented precision. Photography was a means to spread the interest in architecture and city landscape. Cities rely on the culture of images and their *ex-libris* to assert their identity. 'Curiously cities are not photographable...because to take a picture is to frame, to select by excluding, and the city is just the opposite. What is not inside the frame is the smell and the sound and the move of life.' (Brandão, 2001, 115) Cities are in permanent evolution, they are not standstill organisms, but they go through a continuous crescendo like in a motion picture. They undergo transformations which have an extraordinary capacity to surprise and provide unexpected experiences.

Industrial port architecture and its physical experience may lead one step forward, because it adds to our previous knowledge of the world. Japanese architectural heritage is acted upon following an 'evolving heritage' philosophy, and it is not seen as a frozen artifact in an open-air museum.

Sidney, Promenart Program



21. Sidney Opera House seen from the city

Sidney's 'Promenart' series was a programme started in October 1999 to which over twenty different artists were invited to present ideas and projects for the waterfront. This initiative appears within a worldwide debate on waterfronts and their unpredictable future. The proposed interventions in the Promenart series were expected to deal with the complexity of the transformation of Sidney's harbour. Given the cultural importance of the site, the challenge made to the artists was aimed to obtain a more holistic approach. 'The relation between nature and city demands a scientific-artistic relationship. Water is an indispensable artistic material and has a vital function in the balance of eco-systems. Health, art, culture, eco-technique and sustainability are therefore part of this developing perspective. 'Renewable energies, non-polluting means of transport, ecological buildings, leisure and amusement parks, pollution free places and land spots for agriculture are the basic elements for the innovation of new cities.'(Rodrigues, 1999, 15) Some of the Promenart proposals do not follow an urban design or financial investment logics, since the artists were free to use their creativity. So they could interpret the meaning of the site, and established links with the objects, memories and mechanisms placed along the waterfront.

Turpin e Crawford

Australian scholar Catherine De Lorenzo (2001, 75) describes one of the works, called *Tied to tide* (plate 22) as follows: 'Using white and vermilion crane-like forms that evidentially constitute the visual language of adjacent maritime industry, the work then shifts register to respond to the tides, waves and wakes of passing vessels, and to sea breezes and at times gale-force winds that carry the salt spray up the nostrils of the onlooker! From a distance *Tied* jauntily asserts its presence on the waterfront; close up, the never-still work invites a kind of stillness as we connect with the wind and water around us.'

Metal structures drift and lower in response to the tidal flows and winds. Responding to the forces of natural phenomena, the red ladders lift, drift and lower and symbolically subvert the common idea that man must always control nature through *machinery*. The movement of machines are controlled by man; in this case they are controlled by nature.

Victoria Lynn (2001, 43) describes *Tied to tide* as 'A floating, kinetic, tidal, wave-and-wind activated installation in Pyrmont Point Park, Sidney, is like an aquatic dance. […]In the context of large cranes that often feature on the Sydney skyline, the optical density of Pyrmont Bridge and the wooden ladders at the edge of the old worn pier, Turpin and Crawford have created a maverick, performing sculpture. The planks host a choreography of lost ladders that seem to be at odds with their new found freedom. […]It takes a special conceptual ability to visualize a work before this interdisciplinary process is undertaken.'

This work was not a one person production, such art work requires the engagement of an extended team of experts, and at the same time demands a great deal of energy and personal strength to lead the process and coordinate them all. Their idea was very clear and strong from the beginning, and it also fulfilled the program orientation, therefore it was capable of convincing client, consultants, and builder. The team included the artists themselves who engaged structural engineers, mechanical engineers, physicists, landscape architects, fluvial geomorphologists, developers, sub-contractors, biologists, hydraulic engineers, metallurgists, and sanitation and water treatment specialists in their work to accomplish its execution.

It was awarded the 2000 ARUP award for Art in the Built Environment (ARUP is the most prestigious world engineer firm). In the Judges' comments we can read that 'this extraordinarily innovative art work more than fulfilled the judging criteria. Its bold elegant forms resonate with industrial maritime setting at the same time as they respond to the energies of water and wind. *Tied to tide* is alive to the natural and historical forces in a way that speaks to the site without at the same time being enslaved to the context. The work is boldly imaginative, thoughtfully executed and subtlety transformative of the experience of the place. Rich in cultural memory, it also importantly provokes new thoughts and insights and as such becomes itself memorable.'

22. Artists Turpin/Crawford work *Tied to tide* is composed of eight units, each ten meters long, made of hardwood timber, stainless steel, fibreglass and aluminium.

Robin Backen

Archaeology of Bathing by Robin Backen is another piece of art work on the water edge (plate 23). It was commissioned by The Office of Sydney Harbour Manager (OSHM), which acted for three years as a kind of *agent provocateur* into new research on Sydney Harbour and was sympathetic to possible collaborations between artists and scientists. Sculpture Walk was to have comprised 20 commissioned permanent place-specific public art works in and around Sydney, and the Sydney Harbour Foreshore Authority developed 'Promenart' series and accomplished to install 10 of those works between 1999-2000. This specific work suggests two important and yet subtle questions: who accesses the waterfront and when?

Accessibility has been an important issue about which Boeri (2000), Busquets (1999), de Lorenzo (2001), Ferreira (1999), Gastil (2002) and Remesar (2001) have written extensively. Ferreira (1999,23) argues that 'it has always been a difficult marriage' between port and city, precisely during the industrial busy period when port cities developed inland and turned their back to the water. It is only when the harbor infrastructures become obsolete that 'a new and real proximity works again.' The role of art in the process of waterfront transition opens new possibilities because much of the art offers the viewer an alternative perception to the existing tar and cement scenery, not through rejection of the urban condition, but enhancing and rehabilitating the urban life experience. Through Backen's work the user is projected to another dimension, out of time, as the present metaphorically evokes a past that has never been, like a ruin that allows multiple readings of a place.

This kind of initiatives promotes a broader understanding of the waterfront transition, one that challenges the public use of those sites and originates a reflection about alternatives to their transformation process anchored in local culture and not in the financial investment culture. Sculpture by the Sea project, for example, uses the temporary installation of art works along a kilometer or so of rugged ocean coastline from the popular Bondi Beach and in so doing attracts record crowds of sightseers who enjoy the art as much as the scenic walk. The image projected on the waterfront acts as the "face" of the town for those coming from the sea. It's a sailor's vision of the

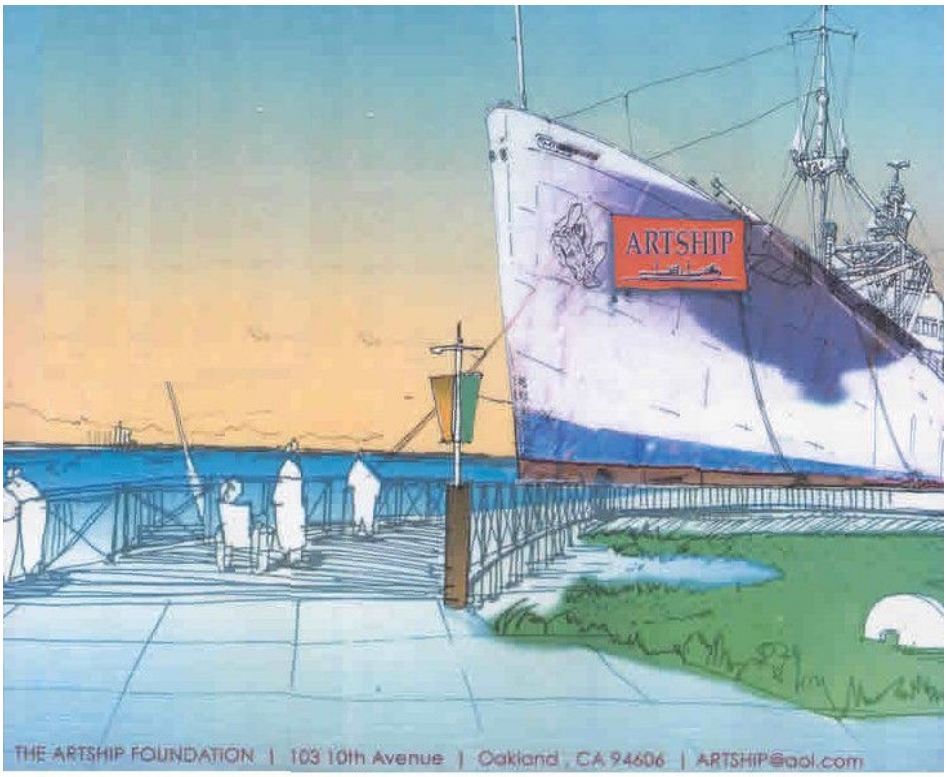
construction between the land and the water edge, and such constructions become a cultural reference to a wider public. They are pieces of civilization placed on nature.

Such artistic interventions contribute to make apparent that art can be provocative, amusing and intriguing. They play with the general perception that an increasingly mechanized society searches for a closer, simpler and perhaps more human contact with the water both for what it actually is and for all it symbolizes or evokes. The Promenart brought artists to the spotlight of the transformation process in an intimate and intuitive manner that allowed them to feel the ties with the site re-inventing its cultural marks instead of applying the general grand gesture that dominates various waterfront developments around the world.

As it is sharply announced by Sydney's City Hall brochures, these programs are 'an impulse to reconnect city and landscape, and to affirm non-functionalist art within and around the hub of economic rationalism, may seem quaintly yet the suggestion of nostalgia in some of the new public art, the invocation of *memory, history [and] identity*, that underpins so much of the work, has been effectively countered by a culture of dissent that makes us look and think afresh about the city and perhaps the world in which we live.'

Architecture is always dream and function, expression of utopia and instrument of convenience. Objects on the waterfront have the power to enhance artistic expression, and to communicate with people. Kandinsky dreamed of 'a great city built according to all the rules of architecture and then suddenly shaken by a force that defies all calculation.' The city is currently planned by many, processed through decisions of 'common sense', and thus becoming anonymous and monotonous. Public art brings the exception. Art in urban life should be free of any theoretical reflection. Artists, in which architects are included, are expected to add personal contributions and 'emphasise the fusion of the physical with the imaginative structures, as the human environment is the product of powerful and yet diffuse imaginations'.

23. Backen, *The Archaeology of Bathing*, Wooloomooloo Bay, Domain 2000



Source: P. Knego

24. Drawing and photograph of the Artship Foundation moored at 9th Ave

The Artship Foundation, a non-profit organization, was given a vessel built in 1939. She was formerly a cargo and passenger ship, that later became a maritime training vessel, and recently was transformed into a facility for artistic and educational ventures (plate 24).

The vessel, originally called the Del Orleans, was first launched as a merchant liner before being acquired by the Navy in 1941. Under the name U.S.S. Crescent City, she was used for the transport of troops during WWII. The Crescent City saw significant action in the Pacific War Theatre before being decommissioned in 1948. She was lent to the State of California in 1971, renamed the name Golden Bear, and acted as a maritime school vessel until 1995. Four years later, she became property of the Artship Foundation and is now serving as a cultural and educational centre at the East Bay.

The artists draw inspiration from the stories, design, structures and the mechanisms of the ship herself. The redevelopment plan for Oakland Estuary in its early stages involved the City, the Port and private partners. Port and developer representatives said it was unclear what role Artship, which is struggling to build its artistic and financial status, would have in the Specific Plan..

The Artship is a long-term project for the permanent mooring of the vessel, that will create an unique setting for innovative, community-oriented programs run by the Artship Foundation and other interested community groups. The Artship is an alternative solution within the wider waterfront renovation process that dominates the Port of Oakland. At the historic cargo barn known as the Ninth Avenue Terminal there are about 60 acres in the neighbourhood running up to Oak Street where the port is exploring a mixed-use project that would make the Ninth Avenue the Bay Area's ultimate waterfront neighbourhood. It will be equipped with a market inside a section of the old terminal, housing, recreation facilities and workplaces in a setting for historic preservation (Del Vecchio, 2002).

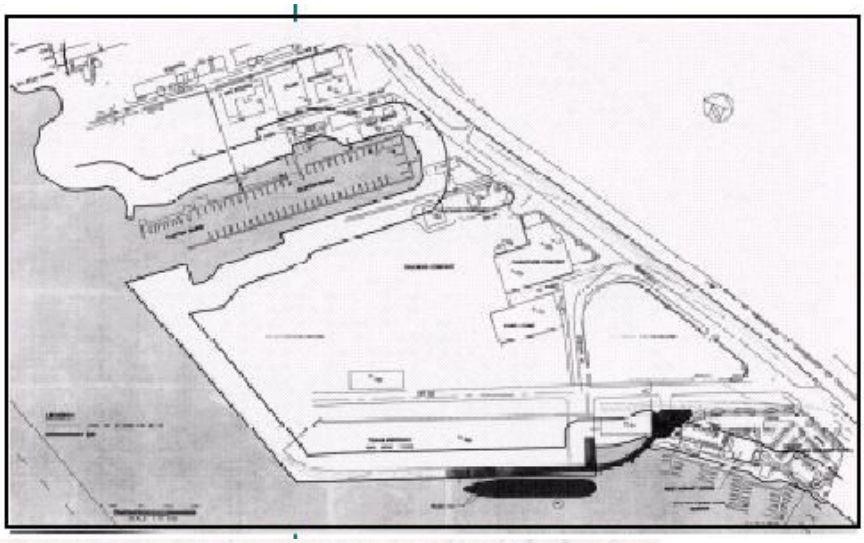
Artship's executive director, Slobodan Dan Paich, said the vessel's restoration and environmental review are progressing towards a bid for permits to allow the public to go aboard for classes, shows and other events. For Artship, Paich is interested in stories that deal with emotions like longing and separation. The immigrant experience, the experience of going to sea, the experience of being part of a city's industrial expansion

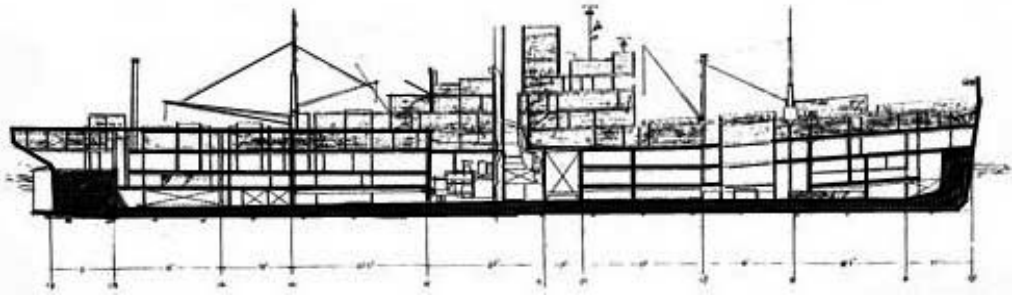
or decline are rich veins for artists and historians to explore through storytelling of events anchored in a particular moment and geography. Project will establish a new kind of community center with job training programs such as Ship Works (a maritime apprenticeship program), Galley Works (a culinary and hospitality training program), and venues for the performing and visual arts and for the memory of the maritime history, and free public waterfront access. It is already an art gallery and studio. It's used for children's shows, dancing, music, rehearsals, study, writing, filmmaking, etc. (Rockstroh, 2001)

The vessel, a product of the end of the machine era that produced the Golden Bear and the Ninth Avenue Terminal, is splendidly tough, yet curved like the nearly indestructible but concise maritime tool its designers meant it to be. Thanks to 18 000 hours of labour – 16 000 of them accounting for free voluntary work – the ship looks as good as it did when it was first launched from Maine more than 50 years ago as one may judge by old photographs.[1] The collective memory of the city is rediscovering the serene presence of artefacts that once characterized the urban life. As D'Agostino (2001, 43) said about the Arsenale in Venice, the port area in Oakland was 'the place where the fortune of the city was determined; it was the heart of the wide network of material and immaterial relationships of economic and political character. It was a large production site, the first modern factory, generating material culture. It was the place where decision making […] was evaluated, challenged and measured.

Gertrude Stein was from Oakland and defined her hometown using the expression "there is no there, there". Stein was not referring to the port area, which was mainly used by sailors and stevedores. The industrial port took over the waterfront with hangars, machines, warehouses, dust, and low income men ready to work on the ships. At the present the waterfront is undergoing an ambitious intervention that is expected to last 10 years. The plan will transform it into one of the Bay Area's prime venues for art, music and the performing arts. Its three giant cargo holds will become seven-story theatres. The Artship Foundation it is at the core of such transformation. Its old liner is evolving with a new role as a floating performing arts centre and a symbol of the new Oakland.

[1] Photographs shown at www.artship.org





25. Site plan and cross section of the Artship

From Vessel to building

To allow the disabled access to the ship, new devices were required. Artist Ben Trautman[2] combined integration of art and accessible design in his work for the creation of sculptures inhabiting an accessible pathway for the disabled. Another art installation is simple enough, but if we look through the floor steel grate we see a metal contraption that moves like outspreading fingers, as it is described by Del Vecchio (2002) 'Entry to the ramp triggers the sculpture's movement, its brass-rod fingers squeakily unfolding like a machine from the bowels of the ship – a machine whose utility is art, and the other way around. The piece is modelled after the locking mechanism for the ship's watertight doors.' Dan Paich, executive director of the Artship Foundation, is enthusiastic about the mechanical and architectural qualities of the ship. 'You need something that is as big as a cathedral to make the city come together'', says Paich. In Oakland you can't miss the giant ship tied to the Ninth Avenue pier, and that became part of the waterscape. The view of the bay from the top of the ship is outstanding.

The ship offers a new reading of the waterfront in which the strongest theme is the new use given to an existing obsolete mechanism, and transform its primary function converting a former war artefact into a social benefit. It is an emblematic achievement.

In 1995, the ship was chosen as the site of the future United States campus of the International Peace University (IPU). Currently based in Berlin, IPU is sponsored by a board of directors and advisors which includes thirteen Nobel Peace Prize laureates. The Artship Foundation was chosen from a wide field of non-profit organizations across the USA because of its similar philosophies to IPU's. The classes of IPU will take place in the refurbished Artship.

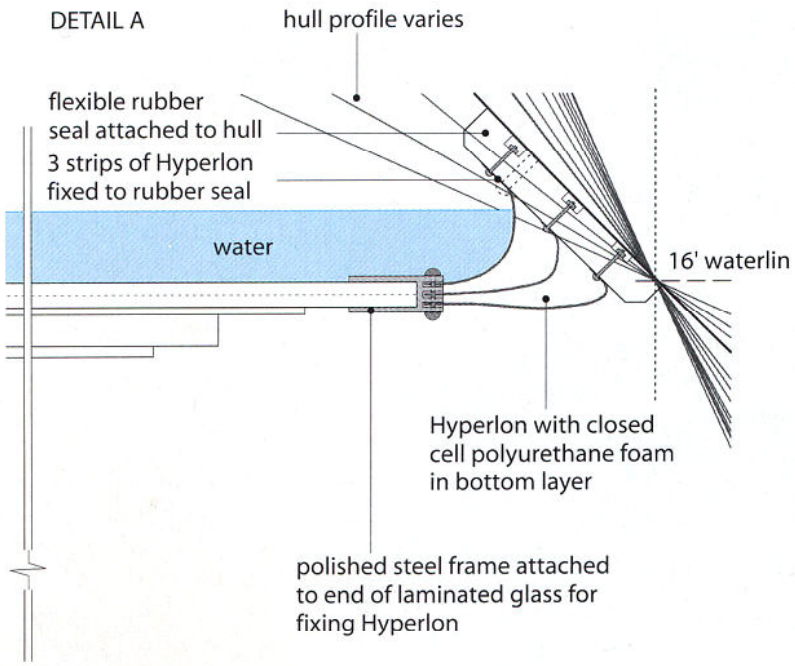
The ship stands in the centre of the 19 miles of Oakland waterfront currently undergoing renovation. Most of the waterfront used to be inaccessible to the general public, once it was mainly occupied by military bases. Nowadays the size of the Port of Oakland has doubled, since 520 acres of former naval property were added to its previous 665 acres.

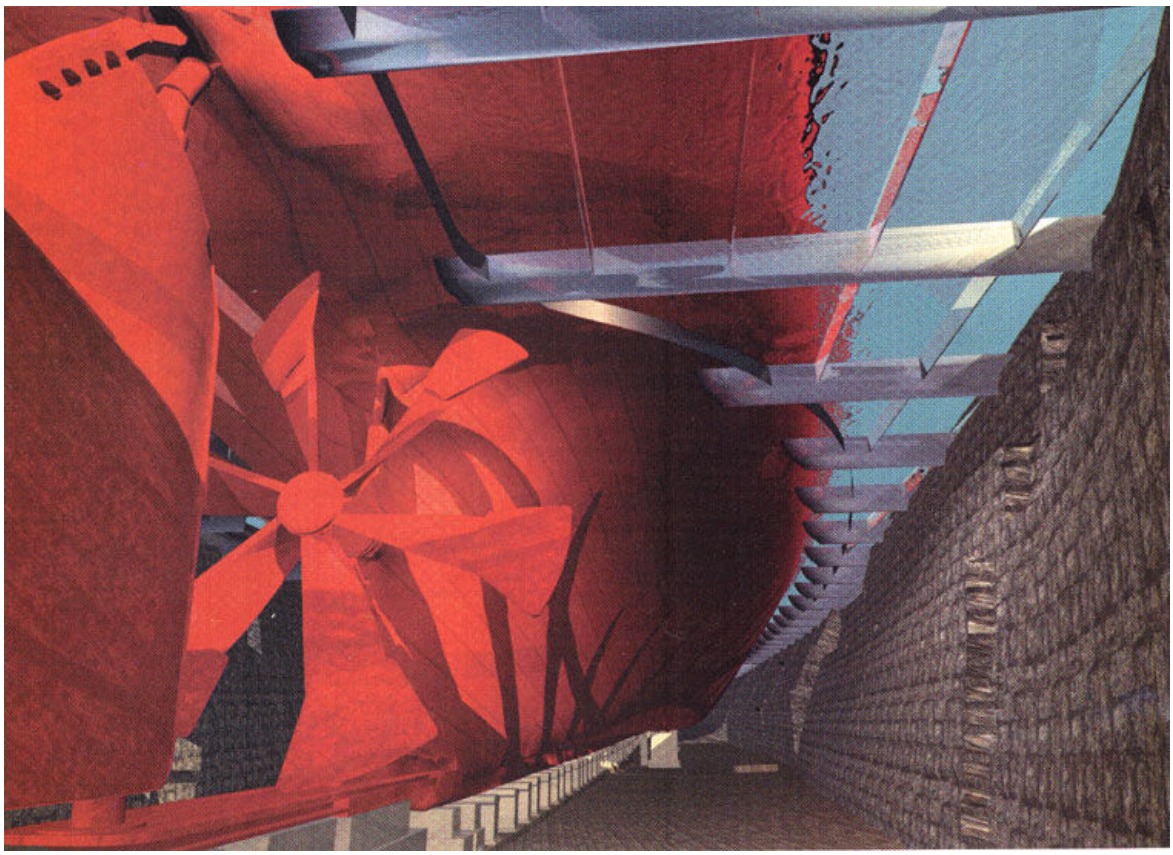
[2] A lead artist in residence at Artship, Oakland, 2001-2002 produced 'sculptures inhabiting accessible pathway', 'water crane', 'motion activated sculpture' and 'clamping mechanisms' the projects were made possible by a grant from - The Creative Work Fund.

Construction of new piers, container ports, parks, parking lots, railway lines and apartment buildings is underway. Simultaneously, Oakland's city government and local artists have been working to combine together what critics have called *offbeat arts*, *button-down government*. As it is explained by Rockstroh (2001) ‘The arts have been injected into recreation programs, parks and community centres, and downtown Oakland is an art gallery buff's dream. The Artship Foundation has been instrumental in getting local art into storefront windows throughout the city.’

Among other waterfront development strategies the Artship stands out as a project of reference. It provides a public space for artistic events at the water edge. Using an obsolete vessel, the Artship Foundation is the engine that reinvents the site’s urban life.

Bristol – SS Great Britain





26. Above: constructive detail, below:.Rendered image of the project to preserve ship and dry dock in Bristol: proposition to close off the hull underneath a sealed glass covered with water.

SS Great Britain, a passenger steamer built in 1843, will be preserved in one of the dry docks at Bristol harbor. She was the largest ship in the world at the time, 98 meter long and weighting 1 950 tones, and it will be carefully restored to her initial condition. Three questions were raised concerning the future of the dry dock.
What new functions are suitable in connection with the history of the area as the heart of the city of Bristol's maritime industry?
The dry dock is part of an architectural constructed set at the port area. How will each object evolve or adapt to the new functions?
How can a large ship be kept ashore for preservation purposes? Or is possible to preserve such a ship at the sea?
To find answers one must start looking at the site history and geography, since Bristol once represented the innovative maritime industry of Great Britain.

The preservation of the site to be transformed and used for other activities gives rise to many controversial opinions. At the root of the disagreements is the considerable importance of the port in the past, but the main reason for discussion concerns the future role of the port. For some the architecture could not be representative and fixed forever, as if the buildings had definitely achieved its status. Instead they had to be in conformity with the characteristics of the site, and the needs of the present and next generations. Bristol's dry dock is an object of industrial archaeology, and at the same time typifies the landscape and has its own architectural individuality. The dock is permanently wet, with ground water leaching through the stones and random rubble walls, since public use was never expected. On a dry dock it becomes possible to moor the ship. The proposed project will enable the rare experience of being under the ship's hull. The space between the dry dock and the ship situates the visitor in a position to have an unique perception – the water above his head, a huge mass of sharp iron abnormally out of water just next to him and the roughness of a strange oblique wall at his back.

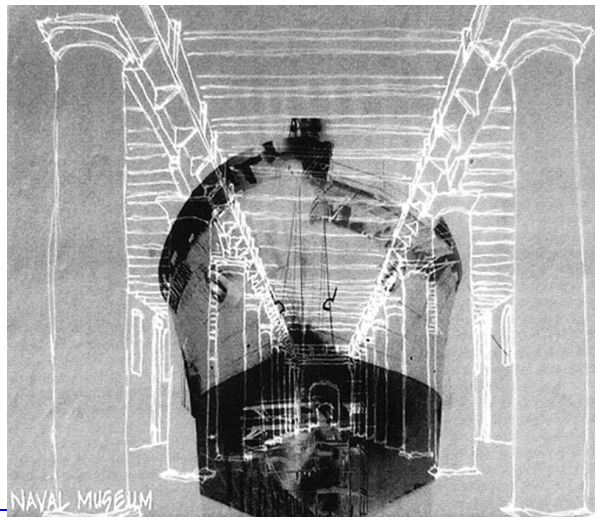
Traveling back through history, one can see that ports played three main roles linking land and sea, serving primarily as navigator, defender and controller. Navigator to transport people and goods by sea, reaching long distances. Defender of invasions from hostile groups. Controller of commercial activities and economic transactions. The main physical presence on the territory are Piers and Docks. They transform the

borderline between two worlds. Dry dock is a good mixture of both worlds; it is filled up with water or kept dry, depending on the circumstances. It works through an ingenious mechanism, using natural variations of tides and man rigorous understanding of them. The dry dock works with natural forces, and yet it has a precise control of those very same forces. It has a sustainable relationship with the water.

Many port cities throughout the world have kept large ancient ships on the waterfront. Visitors may experience being inside and look at them. Large ships are visible from the outside, their interior can be visited, but they are never seen from below. The alternative to create a visitor's centre around the world's first iron-hulled, screw-propeller driven and steam-powered liner, is clearly an attempt to inform about the machine and bring it to a new stage. Today many machines updated by contemporary technology have lost the quality that relates to human values, and we have lost the mechanical understanding of the machines we use. Machines represent the most emblematic element of the modern period when they embodied the ideal of control over nature.

Industrial archaeology is related with questions of identity which are generally dealt with considering the built heritage and 'by the evocation of bygone activities and maritime presence. Operations of this type aim at presenting industrial archaeology by refurbishing warehouses and installations, has been done at Bristol.' (Wilson, 2001, 34) The city waterfront renovation has been a very active and eclectic process. Promoting competitions for projects that unveil the potential of the waterfront, the meaning of the site and its qualities. The winning competition project for Bristol's waterfront concert hall, designed by German architect Stefan Behnisch, was part of the reinvention of the site. Blundell Jones (1998, 45) argued about this project that 'the kind of building was new to these shores and belonged to an architectural tradition from which much could be learned.' This project did not value an industrial archaeology perspective, but presented a building that pushes out the frontier of the territory, and its architectural language was new to the site.

27. Dry dock at Bristol before conversion



28. Marissa Mainiquiz (2001, 118) drawing of Naval Museum for the Arsenale.

Progressive Heritage

There is among some designers and planners an idea that waterfront opens up a variety of possibilities for urban renewal. 'They should remain places where architecture is still capable of generating real surprises, changes in scale, with resonance between different spaces distant from one another.' Boeri (2001, 71) argues that harbor areas are spaces in constant mutation, changing their shape to cater to diverse uses and transportation requirements. In Bristol's case, as happened in many other European port cities, one could not elude the necessity to think about what kind of alternatives could be developed to the American model based on Festival markets and commercial/leisure activities wide spread among waterfront cities. If European cities claim a strong historic presence at their port areas, then Bristol managed to re-establish the relation between the city and its port preserving features of both and entangling them. And this is being done without erasing the narrative of times readable in the footprints of the territory. Furthermore, the project does not exile the water to the background, but it calls the water to lively participate as a *natural* ceiling for the visitor's centre.

'Shipyard repair is too utilitarian. Conservators merely conserve. Any treasured artifact requires detailed analysis to attribute cultural and engineering significance to alterations and repairs so that debate about risk to the structure or public safety can be conducted within a climate, which fully endorses the cultural contest. The architect can mediate

between the structural engineer and the naval architect [. . .] the dynamic ship structure, exposed to the ceaseless battle with the ocean, has to be translated into a totally static artifact within the dry dock',says Julian Harrap (2002, 40), the architect who has pulled together a strategic plan of refurbishment, repair and transformation of both the ship and the dry dock. Harrap quotes Ananda Coomaraswamy, an Indian art historian: 'The shipbuilder builds not for aesthetic reasons, but in order [. . .] to sail on water; it is a matter of fact that the well-built ship will be beautiful, but it is not for the sake of making something beautiful that the shipbuilder goes to work.'

Retaining the ship in its current location in the dry dock, Harrap proposes to save one obsolete machine. Machines are constantly evolving replacing previous versions. The machinery when outdated is dismantled, and we face an important question about what can we do with them. To recycle them is a challenge. In this case, Harrap developed a high technology solution to close off the hull below a sealed glass waterline plate, by which the old dock 'instead of being a cool, dank space [. . .] will be transformed into a temperature, dry controlled space,' but in so doing, the essential authenticity of the dock walls will be retained.

Technology here is used to provide a new architectural experience narrates the site historical background not as place frozen in time, but as a progressive and evolutionary industrial heritage.

Conclusion

General Considerations

When we embarked on this research we came to realize that the upgrading of the port of Lisbon presented particularly complex problems, as the Port Authority had failed to relocate the container terminal away from the urban centre. They had developed a plan for this new terminal to be situated on the other side of the river, the south bank, at Trafaria, with logistic platforms providing efficient rail/road connections integrated into a global transportation system, but this project was never implemented. The facilities were not upgraded and the container terminal remained in close proximity to the historic centre of the city, compromising the future development of the port, being detrimental to the container operators and to the urban environment. Some important questions were formulated in the beginning of this work in order to investigate the complexity inherent to the object of study and to the problem it presents. We are now ready to present some conclusions about the port area of Lisbon.

The transformations made during the last twenty years in most port cities have reshaped cities and ports through the implementation of waterfront urban development plans. We have argued that the port activity reconfigures and relocates the port. We have shown that the activity of the Port of San Francisco in the Bay Area moved to the other side – the Port of Oakland. We have given evidence that port facilities of both metropolis Barcelona and San Francisco are continuously expanding unlike the Port of Lisbon. The Port of Lisbon postponed this transformation and therefore now have the privilege of benefiting from experiments occurring elsewhere and learning from their successes and failures.

It has been seen that although both city and port have been working together to pursue common goals, the prevailing administrative procedure, and the relation between these institutions have been such as to stop these projects. In the near future the Municipality of Lisbon and the Port Authority will hopefully have the opportunity to engage in the process of reinvention of the port area. They have different objectives – the port seeks to update and upgrade efficiency and the city seeks the improvement of urban life, but they can both win if they agree to engage in a long term process based on a real dialogue between representatives of the port, the city and the citizens. Waterfront plans have

been attracting the attention of public opinion, which in some cases has led to demonstrations actually preventing their implementation, that has happen in Lisbon in 1994. Public protest have been particularly common towards projects that exclude the citizens participation in a true democratic tradition. Which brings the debate to another level – the necessity to find new models of planning, urban design and architecture that will succeed in transforming the present divorce between port and city. In this way the port, once constructed solely as an efficient platform located on a geographically strategic point, now becomes available for urban activities.

We have shown that some of the previous plans and ideas have failed to be carried out in the area. Pozor failed, for two main reasons; there was a lack of understanding of the present challenges, and there was an incapacity to come to terms with the complexity of the relationship between the city and the port of Lisbon. In order to find an alternative model a methodology was developed based on a deeper analysis of the object of study and on comparative case studies. To define the contours of the discussion, this study has placed the present situation within the process of evolution that city and port have been engaged in. What we see at the present is the historical progression of the port, reshaped by generations of various structures and the space of the industrial landfill. Since the problem has been discussed during several generations, this study aims to present a possible framework where specific information is assembled and critically reviewed in order to identify separate questions. This allows a clearer definition of the content of the discussion.

The information assembled about the creation and the evolution of the port area has given a broader understanding that goes beyond the surface of the present reality. The analyses of what was there, and how it was designed and built have necessarily shifted our perception regarding the port area. It constitutes a body of knowledge to be included in future debate. As Monclús (2004, 24) has pointed out:

> ‘It is not a question of pointing towards positive, systematic and final knowledge. Neither history nor urbanism is susceptible to knowledge by means of laws and rules. It is a question, in both cases, of an assembly of knowledge that is built in a swaying of inferences arising from a mixture of data and

> experiences (…) as Roberto Segre proposes, the mutual visions as an irreplaceable heuristic instrument that enriches our perception, our capacity of analysis and of interpretation. They permit, for the same reason, to promote and to enrich the debate'.

Considering that the data will enrich the debate this study includes the analyses of some projects and visions for similar areas that were never built but give information of past discussions regarding the future that only existed in the drawings. Such information illustrates the debate that previous authors engaged in regarding their own future, which contains clues for our future. The analyses of present waterfront development plans were oriented towards the *Parque das Nações* since it is the present reference for new urban waterfront development at the port area. In summary, the creation of the territory of the industrial port (past) the Expo'98 waterfront development (present) and the comparative analyses of former projects and visions for the port area (future) have structured the chronology of the research.

As for the territory, the site has physical spaces created for functional or operational reasons that influence the area at various scales – macro, urban and detail. The separation into these three parts allowed a deeper analyses oriented specifically to each scale. Planning a new container terminal is an economical and technical decision to be taken at a national level, while the urban regeneration plans are produced by architects and planners to be discussed at a regional level involving the Municipality, the Port Authority and the Rail Company. The discussion regarding a specific building or a specific public space has been dealt with locally. Given the complexity of the object of study, the fragmentation of the whole and the identification of specific questions has given this research the opportunity to define more precise limits for separate discussion according to each scale and consequently to develop a clearer understanding of the questions. Since the present debate includes contributions from experts in different areas of study the separation into smaller fragments enabled the definition of independent 'sections of discussion'.

1. View of the Santos Terminal in its present layout.

2. The landfill transformed for alternative uses for urban and maritime related activities.

1. (cont.) former industrial warehouses are rented by the port authority to restaurants.

2. (cont.) the implementation of urban facilities at the port area

The conclusions presented ahead follow the same criteria, and the division in three scales, also organizes the information about the debates confronting different author's opinions. Besides the spatial organization of the site, it seemed crucial to understand the 'mutation' or the evolution in time of the port and its impact on the city. From the beginning we realize that there were multiple readings of the historical evolution of the site. Each author has emphasized specific events to support his own opinions. We have registered how the information was manipulated in attempts to construct specific arguments – one author even transforming ancient drawings to give his ideas more credibility. This however did not prevent the project of the industrial port from being aborted, which is a fact that seems to be acknowledged by most authors.

Conclusions According to the Order of the Structure

Starting with the analysis of the maritime transportation system that has been affected by major transformations and will continue to evolve one can conclude that the port area will continue to adapt while large surfaces will be free for new uses. If the creation of the industrial port was a national issue, the creation of a container terminal was not, and the Port Authority of Lisbon alone was not capable of constructing a new terminal. The necessity to invest elsewhere and update the port facilities was never put into effect and the activity involving container cargo, which only represented 16% in 2000 – a low percentage when compared to other ports in the Iberian Peninsula. Container activity continues to expand because it is the fastest growing sector for other ports, but slowly for Lisbon.

Container operators are efficiency-oriented when making their decisions, efficiency in the port of Lisbon has been deteriorating, confined as it is between a highly congested city and the river. Without capital to invest the port of Lisbon did not succeed in finding a partner, as they previously had with Hersent, which is what the APS, Port Authority of Sines has recently done by attracting a foreign investor – PSA, Port of Singapore Authority– to construct a container terminal of deep sea water, providing a type of

project finance similar to that negotiated with the French company – Hersent – which built the industrial port of Lisbon. Sines is now the fastest growing port in the country. There is no urban pressure, on the contrary there is flexibility to expand and no relevant environmental limitations all of which is crucial for the future growth and development of port facilities and inter-modal infrastructures and logistic platforms. According to Nunes da Silva the APS and PSA exploitation of the Terminal XXI will get a significant percentage of container traffic currently operated through Lisbon. The container terminal at Sines is expected to compete not only in serving the Metropolitan Area of Lisbon, but also a vast hinterland that reaches Spain. Ports either grow and live or they shrink and die, but the activity does not vanish it springs elsewhere, and Sines is taking advantage of Lisbon difficulties.

On the urban scale and in the context of the current discussion about the port area of Lisbon, one of the first questions formulated in this study analysed the failure in 1994 to implement the waterfront development plan (Pozor). Ten years later and armed with a more mature understanding of the subject both Municipality and Port Authority realize that the railway line and the road are the main physical barriers preventing the city from relating with the river; working as an obstacle that prevents urban life from entering the port area. The APL strategy that proclaims the need to integrate the port area into the city remains physically separate by the 'cut off effect'.

We have argued that re-establishing the city back to the water required mutual effort but the plan Pozor was commissioned independently by APL. We have shown how the Port Authority has been acting as a developer, effectively ruling the land in the public domain that can not be privatized, but they do not know how to handle the great complexity in the context of the city-port relation. On their own the presentation of the plan (Pozor) 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. The plan did not contain ideas for the long term urban improvement of the port-city relation – the needs of the neighborhoods that are located along the port area were not considered. The multidisciplinary strategy did not achieve positive results and the Port Authority has acted independently to bring about the gradual changes it has decided on for the future. We have argued that a future

plan (or plans) should instead launch the base for a new frame of thinking, joining city and port representatives with the population represented by associations and individuals. As it is pointed out by Rabinovitch and Leitman (1996, 53) 'Any plan should involve partnerships among private sector entrepreneurs, nongovernmental organizations, municipal agencies, utilities, neighborhood associations, community groups and individuals'. In the process of making the city in the Iberian cultural context, Monclús (2004, 22) argues that 'the cultural dimension of the city returns to be prominent, now taking into account that the "culture of cities" refers as much the preservation of a "cultural inheritance" as to the use of culture as a strategic resource in which has come to be called "cultural economy". The cultural dimension of each city, should be able to imprint specific qualities that reflect the uniqueness and the local traditions. In Lisbon, the triangle between municipality – port – citizens should be able to conceive an alternative to the standard ideas, embraced by narrow-minded investors and politicians who wish to play safe by copying solutions used globally.

Some authors have recently express their position, also based on public surveys, on how the city wishes to re-gain the river and preserve the port, integrating in its present day heritage some remembrances of the port activity Craveiro (1997, 50). Soutinho (1999, 99) refers to the importance of the city's connection to the water, re-establishing the broken link. The port area should remain a public space; and the whole project should blend in with the natural landscape and the urban environment.

Some of the projects analyzed in this study have presented the city as one entity, searching for the return of its traditional relationship with the water, trying to re-construct this balance with a new morphology. It is the lack of real dialogue and coordination between each entity that causes the waste of energy, time and the constant misunderstanding which characterizes the painful relationship between the city and the port. The lack of coordination and exchange of information between institutions has prevented the efficient organization of the process. As Rodrigues (1999, 12) puts it 'this logic is intended to solve the symptoms of an unlinked framework that inherently creates problems." The port area balances between "Speculative land and property development…continues that practice of building monuments that soared ever higher as

symbols of corporate power" (Harvey 1990, 71) and the context of maritime activity playing a central role.

When we look in detail at specific buildings placed next to the port area we find universities and museums that are willing to expand their facilities, several structures with potential for new urban activities and with great economic importance for the city. Cruise terminals are to be included they are simultaneously a port infrastructure and un urban facility. As the latest generation of these terminals incorporate commercial and cultural areas to serve both city and port. Cruise passengers are increasing at an unusual rate and they are becoming valuable to local economies. The flow of passengers has a significant impact as dozens of tourist buses are loaded in short periods of time. Some cities have been investing in good means of public transportation, as well as in direct pedestrian connections to the city. However, the present state of the relations between the city and port are so difficult that the project of the future cruise terminal is uncertain. The same applies to the European Maritime Agency – when the team wanted to construct their new building on the port area near the Ancient Art Museum they faced such obstruction that at last they decided to go to Cais do Sodré area, where there is no 'cut off effect' because the industrial port was never completed thus the railway line was never finished.

We made use of the historic research to have a deeper understanding of the site cultural significance and the importance of public spaces, the conflict opposing *AGPL* (Port Authority) and *Marinha* (Navy) ended up aborting the project in the area between *Cais do Sodré* and *Terreiro do Paço.* This small waterfront area remained the only gap in the barrier created by the industrial port. Hersent, who was paid according to the amount of reclaimed land needed to extend the landfill because the interruption of the project, had to be compensated with more profitable land surface to sell. We have suggested that the construction of the landfill was oriented towards efficiency and profitability, and reinvented a connection to the water by designing mechanical systems of transportation. It did finish with a careful construction of spaces conforming to the human scale, and also erased centuries of a rich series of buildings and open spaces along the river. The last record of the urban features becomes relevant for the present debate as urban life returns to the site. The Tramway line project by Louis de Lennen in 1862, was designed

just before the construction of the industrial landfill, and it remains the most accurate record of the city's relationship with the river, revealing rich details of urban spaces and a diversity of urban features constructed throughout generations. It could be seen as a lost heritage banned from the site. The scene presented in the drawings does not only evoke nostalgia but also provides a visual record of a lost reality, one that combined a quality and diversity of urban spaces that should be taken in consideration when redesigning future public spaces for the site.

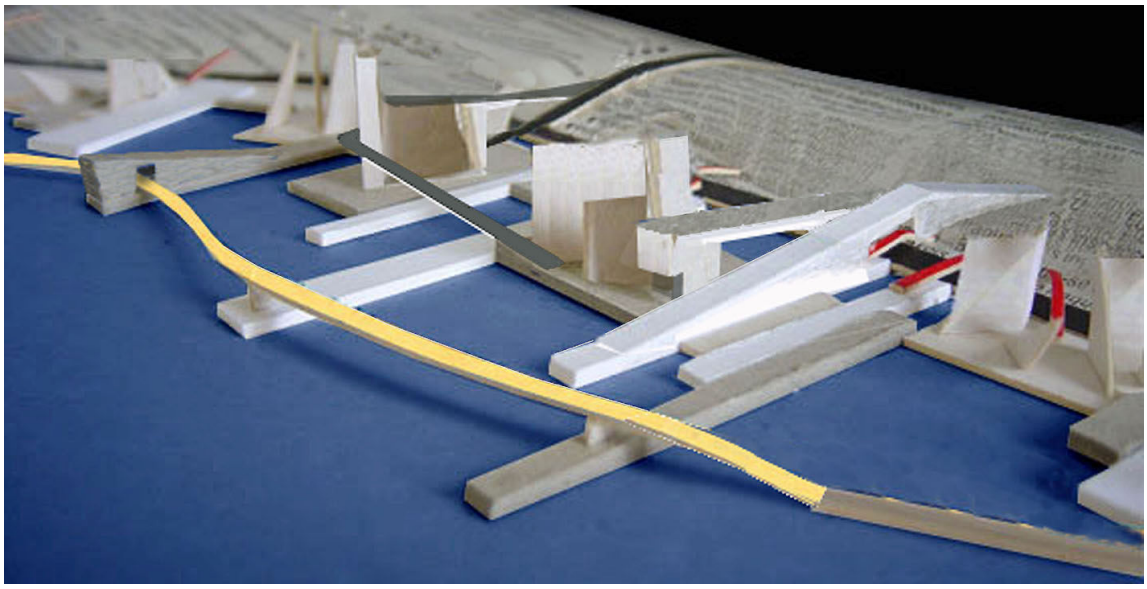
The design and the popularity of the waterfront public spaces at the Expo'98 are relevant to the discussion as they are the most similar event both in time and space. At the Expo'98 public spaces and green areas are carefully designed, and the organization received evidence from the public that a traffic free environment was more attractive to them. According to Jan Gehl (2000, 12) the city's new car-free space is used for a special form of social recreation, urban recreation, in which the opportunity to see, meet and interact with other people is a significant attraction.' And that the spatially complex solution is successful in exploiting the three dimensional quality of public space, in which 'urban barriers at the ground level' are integrated into urban life and new topographies blur the existing 'cut off effect' created by the flow of modern means of transportation.

We have argued that the Expo'98 model presents problems as a private corporation[1] (S.A.) with public participation – being driven by motives of profit meant compromising with specific demands and pressures from investors. As a result instead of the expected continuity of the city, an urban insularity imposed the third world model of a private condominium (Cabral de Mello, 2002, 63) benefiting the richer strata of the population and cutting them off from the surrounding lower class areas.' On the contrary, Brian Hoyle (1997, 50) argues that 'waterfront redevelopment has the effect of removing barriers between city and the sea'. To conclude that attracting the private sector should not mean opposition to invest widely in the removal of the existing barriers.

[1] The initial investment of Expo'98 was 561 millions euros, and total revenues when 95% of the land was sold in 2003, have registered revenues of 4800 millions.

At the present municipalities depend on tax payers, municipal authorities aim to obtain fast revenues from real estate taxes and developers from sales. Expo'98 has given evidence to local investors of the high value of prices per square meter in and around the area. They are aware that urban regeneration continues to attract large investments around the *Parque das Nações*. This does not apply only to Lisbon – some other cities involved in waterfront developments attract large investments, and consequently real estate taxes provide attractive income. We live in a period where it is not possible to have absolute control over the process of making the city, if that moment ever existed. However as Harvey (1990, 91-92) explains 'major cities compete with each other, mainly as financial, consumption, and entertainment centers. Imaging a city through the organization of spectacular urban spaces'. The solution for economic success is increasingly dependant on the creativity of the investors and less on the number of square meters.

As we have seen in other port cities the participation of the population in the process of city and port urban regeneration has resulted in improvements for all three. Although using different methods there is a common tendency for the port area to provide creative public spaces, related to memory, art, culture and historical context, 'downtown is related directly to the waterfront, and that represents the most ancient part of the town. […] The square facing the water was one of the favorite places for citizens to meet, to discuss and walk together'(Brutomesso, 1997, 121). The intervention of artists in the public space emerged as a key factor for the creative use of the urban habitat by the public, leading to possible functions and fictions to reproduce social life.



3. Three dimensional diagram representing new topographies and urban flows at the waterfront

We have analyzed and discussed projects on the waterfront that change the morphology of the territory in order to link city and water through the artificial land of the port. To discuss that possibility for the port area of Lisbo**n** we have researched the construction and the evolution of the industrial port. According to Baldaque the new landfill of the industrial port would sever the relationship established throughout the centuries between city and river, backing his argument with scientific data based on regular measurements of the river bottom revealing a disruptive ecologic and natural balance of the riverfront. At the time Baldaque's holistic approach was not well received by dominant decision makers, therefore the landfill was constructed with underground pipes to collect the rain waters to the river. The necessity to link the hill and the river has been present since the Mardel project which envisions, transversal canals from the natural topography of the hills through the artificial landfill to the river. Nowadays landscape architects believe that sustainable solutions should make use of the natural forces of nature rather than permanently try to control them, and therefore future intervention at the landfill of the port area should include transversal open-air canals. The previous studies have been commissioned either by the port or by the city and reflect their own visions or future interests. This research from an independent assessment will hopefully contribute to a wider discussion including different standpoints. The physical aspect of the territory, artificially constructed on landfill sets the basis for further discussions.

Concepts such as the *cartographic culture of the territory* or the *culture of working the territory* were developed at Barcelona by Sola Morales, and have influenced other scholars perception's. To trace the culture of the territory of Lisbon we discussed some projects that never came to be built. Together they construct a parallel narrative of the site. A quite different history, where only projects that were not successful and not implemented, are presented and discussed in order to investigate why each of them failed. The analyses of different projects for the site elaborated in different centuries reveal the ideas and influences that emerge in the discussion about the port area. Juvara's drawings, the 1727 plan commissioned by D. João V and Mardel's plan, ordered by Pombal, celebrated the idea of squares, large spaces for public activities at the waterfront. Belo's plan (1936) for the Marginal avenue was designated for a 'reception dock' for cruise passengers and the square, *Corpo Santo*, would be extended to the river through a green corridor perpendicular to the riverfront.

4. Aerial photograph of the Aterro da Boavista and Santos area with the juxtaposition (at the same scale) of the plan of Lisbon surveyed and drawn by J.N. Tinoco in 1650 prior to the 1755 earthquake when the medieval fabric vanished.

In 1988, the competition organized by the Architects for the waterfront of Lisbon, was set up to confront current ideas and discuss the future of the city as a whole and not

fragmented and separated by different landlords. The proposal awarded with the FLAD prize, has presented the city as one entity, one body that searches to re-establish its relationship with the water by making use of the land at the port area, and in our view this illustrates a possible direction for future projects.

Looking at the evolution of previous projects helps to evaluate the problems and the possibilities of the site. In doing so, designers may engage in this architecture and city planning spectrum, to 'attain a new freedom and develop new creative possibilities, such as those that have begun to be felt in the last decades in the fields of painting, sculpture, music, and poetry'. At present some architects like Elia Zenghelis argue that architects are expected to declare a very strong view and develop concepts that they could defend in projecting a future for the city. 'On the waterfront there is an 'opportunity to discuss architecture and the iconography of architecture as a kind of theoretical, symbolic aspect (…) of architecture not being contextual, but always generating context.' Design proposals form the base for establishing a dialogue between the Port Authority and city. Drawings usually presented as preliminary sketches have forced both entities to work together to reach converging visions and continue the *culture of working the territory*.

Within the contemporary debate on waterfront we have seen how some cities promoted workshops and public discussion on their waterfronts. At Le Havre where AIVP sets its headquarters, the public debate resulted in approximately fifty meetings with the opposing parties to change the project. In search of creative and artistic initiatives, the city of Santander (Spain), included 183 exhibits since 1990 and scholarships were granted for graduate students to develop research projects. At the waterfront of Dundee (Scotland) nine different strategies where analysed by the population, before they elected the winning plan to be developed with the approval of the government. In these processes that also includes the participation of the public, design proposals are the driving force for the public and private sectors to develop research groups and form the partnerships needed for each particular case.

We made use of the strategies of San Francisco and Barcelona waterfronts which both reinforce one of the main arguments of this study. Both emphasized specific projects rather than general urban planning - active city policy aimed to bring back the quality

of urban life, by providing dozens of projects for new public spaces, parks and squares, elevating public space to the level of an independent architectural field. On the waterfront open spaces are more stable and more important than buildings. There, the people have learned to enjoy the privileges of the waterfront as a public space and the cultural facilities are proving to be both economically feasible and popular. Michael Hebbert states that Oriol Bohigas's general proposition for Barcelona was 'that urbanism should be based on projects rather than plans' a theoretical proposition he started to develop when working for the Municipality of Barcelona in the early 1980s.

> 'First: urban planning should not only be a law to limit, a survey of the private investment, but an effective, immediate, achievable, proposition. That is to say, it was necessary to go from systematic future visions, but abstract, to precise propositions and sharp realizations. This implied a second criteria: these sharp realizations should be projects of the collective space. Not just urban space – squares, streets, gardens, etc. – but also of large infrastructures and social equipments. As a consequence, more then «urban spaces» we should talk about «public spaces». Public spaces that are, equipments as well as road structures, squares, gardens or monuments, they are places to meet, the scenery and the signs of the collective identity.' (Bohigas, 1996, 210)

At this time when the projects were commissioned, the one by Sola Morales was the first to transform the relations between city and port. This shift was not produced through the signature of protocols between institutions or the production of a new master plan, but instead through a new type of thinking, where design projects are analyzed and discussed individually. In his analysis Hebbert (2004, 95) argues that 'Barcelona's most precious contribution to urbanism is less the primacy of projects over plans than the dialogue between urbanism and contemporary architecture'. The administrative structures Bohigas found operating in the city were disorganized and inefficient, each was concerned with its own problems. In reordering the procedures of the existing administration, models were turned upside down – 'the general policy framework was left on the shelf.' (Hebbert, 2004, 94) In the new framework each department of the municipality was participating in the future projects together, making an effort to develop strong relationships between interest groups, because relationships are better than rules. In the new procedure architects and urban designers were asked to

bring forward proposals to be discussed. From these preliminary sketches various entities involved collaborated in a common project, so that together they could start the transformation. The relationship between city and port improved through the implementation of the chosen project, containing buildings and space for public use.

We have argued that cities rely on public spaces more than they do on buildings to claim their urban identity. Cities are the main physical source of identity for their residents who use common spaces to gather, to wonder, to share and exchange, and simply to stare at the landscape. The San Francisco waterfront renovation is giving us that evidence. It is a pioneer case study which has experienced a long process of many stages in which the final product is, in our opinion less important than the process itself. The first plans shifted from the highly profitable high rise solutions to making public use of the waterfront the priority. The city voted against the idea of building hotels on piers and also against the plans the Port Authority had submitted, choosing instead to create a centre for education of the Bay. Thus it evolved from a financial operation aimed at profitability and detrimental to urban quality, to a series of small scale projects that accepting the premise that waterfront renovation is neither necessarily spectacular nor dependant on projects presenting a surprising new urban image.

The land, piers and wharves were not accepted as immutable features but as part of an evolving territory supporting new needs for the city. Artificial land was built up for specific purposes in the same way that it is now being transformed for new uses. In San Francisco the city and port areas were represented in the same drawing, together establishing “points of major views at water level” pointing from and towards the city. Also in this drawing park and plaza areas are extended from the city to the area of the industrial port, and include pedestrian promenades. San Francisco has enhanced relations between city and port through events, art and recreation, brought the city back to the water and succeeded in removing the existing barriers. The freeway located between city and port was removed and at present the longitudinal movement along the edge is a smoke-free, noise-free with a lively collection of trams brought from other cities. Some of the buildings located at the port area have recapture their lost identity readapting to urban life, giving prominence to activities related to culture, sports, tourism, art, education shopping and markets. Public surveys to determine the

necessities of the population are an efficient tool to test new programs and formulate ideas.

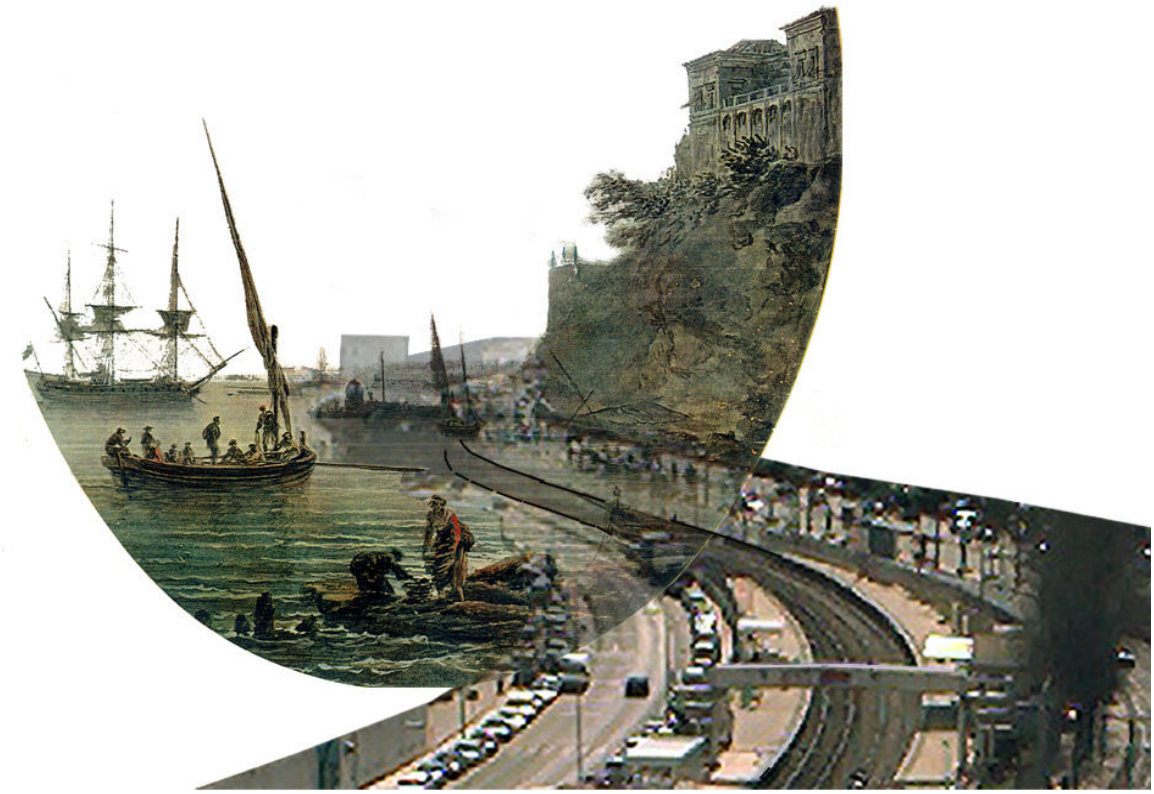
At Barcelona the relationship between city and port boosted the urban social and cultural environment and reinvented the past dignity of a degraded cityscape, during a unique political situation that empowered the architects, working in a true democratic tradition, to grasp the opportunity to build spaces for people to gather and showed the port as a central space with emphasis on visual openness. Local residents were not driven out from their neighborhoods while new groups came to live and work in the area, reducing gentrification. Public art programs and an active cooperation between architects and artists were created to improve a previously decadent area that now became more alive, more dynamic, with improved street life, attracting new residents and more commerce. Making pedestrian mobility and social interaction the priority, transformed streets and squares into traffic free zones for both residents and visitors, and provided transversal accessibility from the residential neighborhoods to the waterfront

We have argued the cultural significance of public spaces at the waterfront which at the present face the threat of privatization. In Barcelona, instead of attracting large investors whose commercial demands usually lead to decide against the use of the urban space for the benefit of the public, preferring instead the privatization of the public space, the municipality and port authority have considered the priorities of each body and only then invited developers to invest. They realize that the city and port transformation is not the concern of the investor but a collective responsibility. Through the creation of flexible regulations small investors found interest in renovating their own properties in the central areas, proving that several small investors generate more development that can be achieved by few investors with large sums of money.

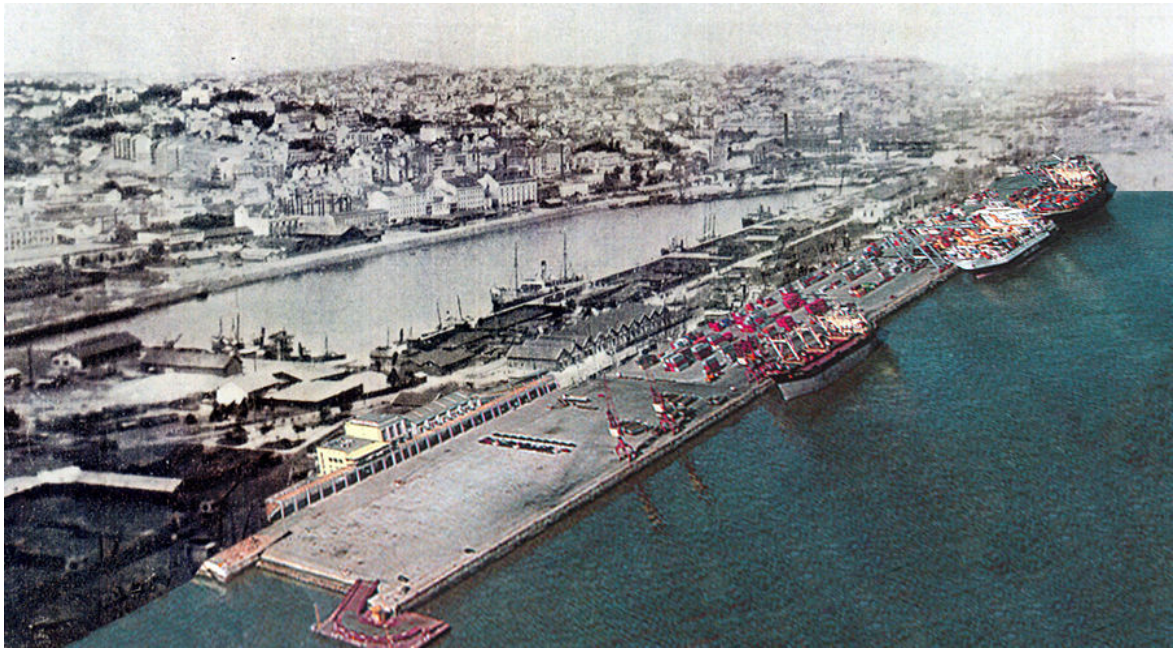
Several authors through their communications at International Conferences such as AIVP (Association International des Villes et Ports) and Waterfronts of Art, and through publications are examining the present day transformations occurring between the city and the port, claim that the key concept is imagination, therefore the analyses of imaginative projects becomes fundamental for future debate. The small case studies raise different ideas about the possible topics for debate. In all the presented projects the

fusion of a strong conceptual idea and its representation was emphasized, and all demonstrated how powerful imagination was capable of transforming the territory. The projects of architecture and landscape which have been selected are intended to show the possibilities offered when urban life is extended over the industrial port and reaches the water.

5 a. Alexandre Noel, 1789

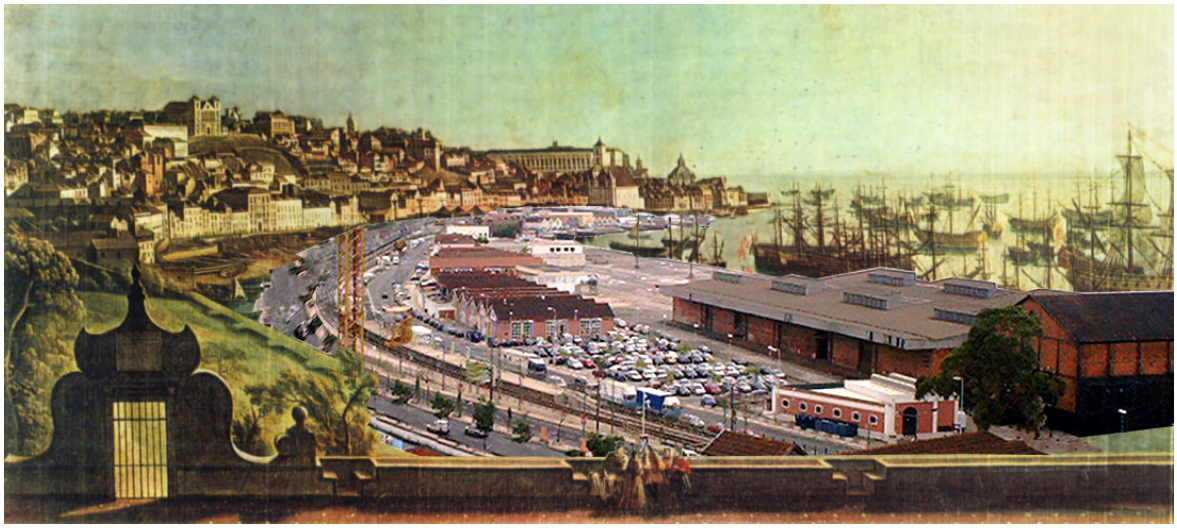


5 b. The composition shows a fragment of the painting representing the Rocha de Conde de Óbidos area, juxtaposed by a photograph of the of the modern means of transportation at present.



6. Composition with two aerial photographs of the Alcântara dock taken in the 1920s when the industrial port was concluded and in the 1990s with the addition of the container terminal.

7 a. View from Jardins do Palácio Marques de Abrantes, 1800s (unknown author)



7 b. Composition presents the juxtaposition of two images of the city of Lisbon. Both seen from the same site, the painting and the photograph are two hundred years apart.

Architecture is one of the narrators of the city, bringing art to urban design, and constituting a gallery of examples that illustrate what we found to demonstrate the philosophical approach regarding waterfront projects which best supports that argument. We have used these examples to formulate an hypothesis to test whether these projects implemented or to be implemented at the waterfront are capable of improving the relation between citizens and their river, of favoring not just a claim for the water but also the symbolic centrality of this site in the city. These projects allow for the discussion of previous solutions as we adopt the standpoint that awareness of our cultural heritage is not merely a legacy but what we create today. It has been argued that "the control of an historical vision of the city – in a certain way as 'frozen in time' – would complicate its perception as a changing and dynamic entity" (Monclús & Guàrdia, 2004, 22) Such a perception becomes stronger when there is no evidence of alternatives to specific problems.

One of the projects discussed, the Tenerife Cruise Terminal International competition brought forward the idea of organizing and taking advantage of conflicting urban flows. In their design proposal Foreign Office Architects, find that cities with dynamic topographic features tend to have three-dimensional flows and they have addressed the usual 'cut off effect' located between port and city. In their proposal the barrier would lose impact by creating new topographic features and by the manipulation of infrastructural systems, FOA thus emphasizing the importance of connecting the port area to the city behind it. The conflict between pedestrian traffic and the roadway was solved in a sustainable manner because their flows were integrated in the forms of the buildings. Consequently the building become a truly urban conquest of the port area and new forms of architecture emerge from the contemporary challenges of city and port relations. The concept of the a new landscape that covers modern means of transportation and its necessary infrastructures was also present at the Olympic Sculpture Park in Seatlle (Weiss and Manfredi, 2001) but FOA here, extended the concept to the form of the building.

The most relevant and prominent aspect of the Yokohama waterfront renovation is the preservation of dry docks and that should be considered in Lisbon. It connects the user

to the *genius loci,* that is to say to the soul of the site, opposing the mainstream process of waterfront renovation stigmatized by an 'efficient *disneyfication*'. As Berman (2001,65) puts it 'Preservation also corresponds to site art in how it can emotionally and intellectually stimulate people. At one level, a historically preserved site can add beauty to the environment. At another it can make people think about an area's past and their own connections with that history.' This happens successfully at the Kishamich Promenade where the user may indulge in the art of contemplation and experience serenity even amid the hasty urban life around them. It became a 'path' for the contemplation of nature, and discretely connects past and present. The dry docks are an industrial element that can be reused today for a variety of cultural and educational activities that add value to the citizens quality of life. Industrial architecture of the port is able to push one step forward, because it adds to our previous knowledge of the world. Japanese architectural heritage is acted upon by following an 'evolving heritage' philosophy, not seen as a frozen element in an open-air museum, but an icon that stimulates people's perception of the culture of the site.

It has been argued that projects for the new infrastructures are including the participation of artists and scientists and that artistic events and artists interventions play a significant role in the design of symbolic common spaces for each community. The art program *promenart* at Sydney had the initiative to invite artist to produce art work related to the balance of eco-systems at the waterfront. The event was useful in establishing whether scientific-artistic relationships are needed between nature and the city. The art work we have selected responds to the natural forces and symbolically subverts the common idea that man must always control nature through *machinery*. The movement of machines is controlled by man; in this case it is controlled by nature. *Tied to tide* and *Archeology of Bathing* are rich in cultural memory, and provoke new thoughts and insights becoming memorable themselves as the present metaphorically evokes a past that has never been.

They are pieces of civilization placed amongst nature. The event brought artists to the forefront of the transformation process in an intimate and intuitive manner that allowed them to feel the ties with the site and re-inventing its cultural marks. Their work has contributed to the public debate about the future of the relation between port and city at the Sidney harbor. Groups of artists, including architects, are expected to add personal

contributions and ‘emphasize the fusion of the physical with the imaginative structures, as the human environment is the product of powerful and yet diffuse imaginations’.

At present, we have lost the understanding of the mechanisms operating the machines and they are constantly evolving, replacing previous versions. «The machinery when outdated is dismantled, and we face an important question about what to do with it. Should we erase the narrative of times in which the port and maritime activity played a relevant role in the identity of port cities? Or can we use them to provide a new architectural experience, one that narrates the site historical background, not as place frozen in time, but as a progressive and evolutionary industrial heritage» (Garcia, 2001, 267), as presented at the Master’s Thesis where the re-use of one container crane at the Port of Oakland became the centre of the research (see plate 8). Through the various case studies we have given evidence that industrial heritage could evolve into new forms of use, primarily oriented for public use reshaping concepts of public space.

8. Model of the proposal to transform one container crane at the port of Oakland – Pedro R. Garcia Master's Thesis (1996)

One of the purposes of this study is to develop a methodology to discuss the problems existing between city and port as they are presented today. This thesis does not have the answer, but since the previous answers for the object of this study presented by means of urban design, architecture and planning policies have failed, we will try to formulate the question differently in order to find a possible way to achieve answers for the present situation. On one hand we did in depth research to establish the objects of this study through historic research and on the other hand we compare similar case studies of port-city transformation. However, the examples presented and discussed in this study should establish a parallel for the object of study (see plate 9, 10 and 11). According to the methodology adopted we merge some of the case studies to specific sites at the port area of Lisbon. The juxtaposition of other cases sharing similar features and resembling its city port relations, have the same value as a design project. They have the quality to shift our perception about a site (see plate 12 to 18). If one can shift one's perception by looking at a visual composition, then more people can be engaged in the process of transformation in which the city and port of Lisbon are involved. To quote Crosby's (1970, 10) analyses of this process,

> In the maturely grown city, with a vast accumulation of structures, however, the problem is quite different, and the economics, like everything else, are no longer simple. A vast number of complicating factors have arisen, owing to the human activity in the years since the building was built; a million individual decisions have affected the building, the site and the neighborhood. Values have risen or dropped, and above all, the community itself has become involved in decisions once left to the individual developer.

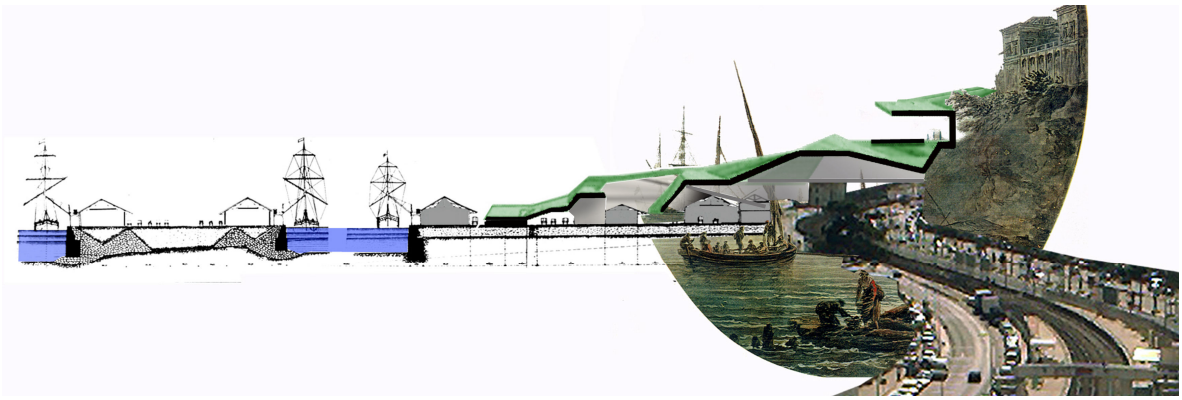
It is our understanding that the use of cross reference and referred shift of perception has been in some of the case studies presented the engine for a valuable process of transformation that had not been imagine before. According to this line of thought, the elaboration of competition of ideas, and the consequent public discussion of the proposals presented by architects are of main value for the community to imagine change beyond their initial perception of the situation. We have presented the analysis of the extension of Rua do Alecrim (see page 135 chapter 4), the 18th century solution to

eliminate the barrier created by the existing topography. The design of the street and square linked the lower level of the port to the town on the hill (see plate 19 – p. 290).

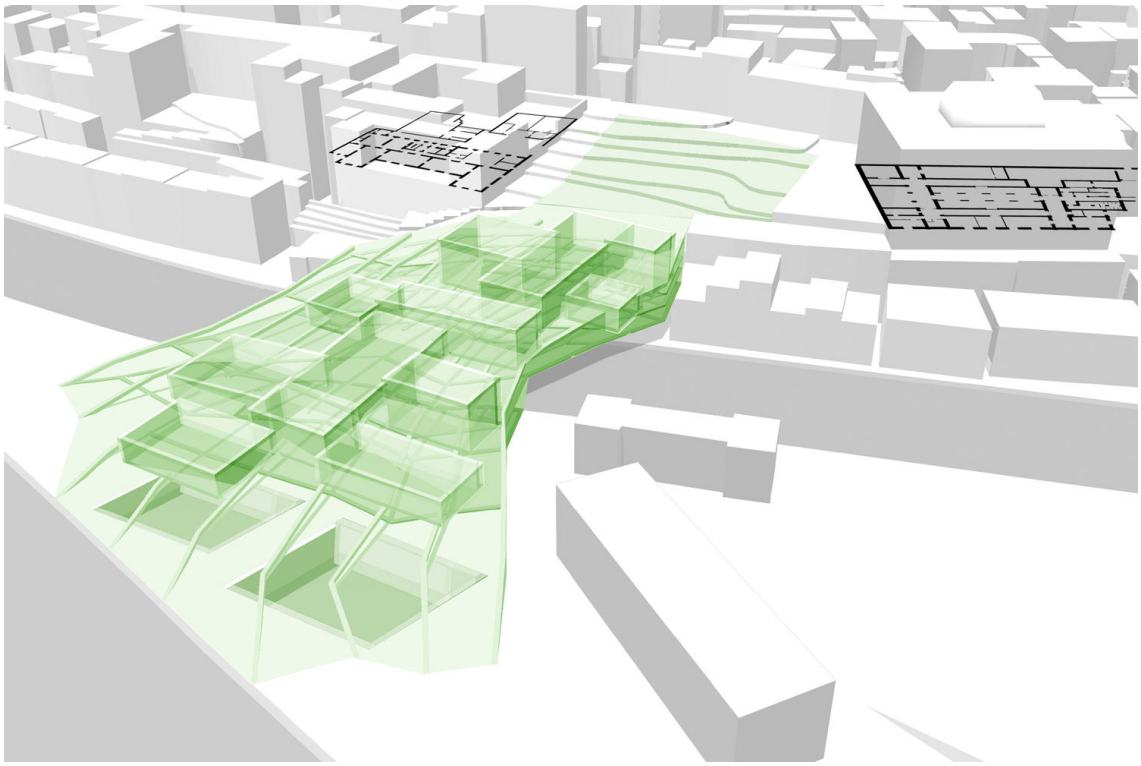
9. Aerial view of *Museu de Arte Antiga* facing *Jardim 9 de Abril* and the Port of Lisbon at *Rocha C. Óbidos*

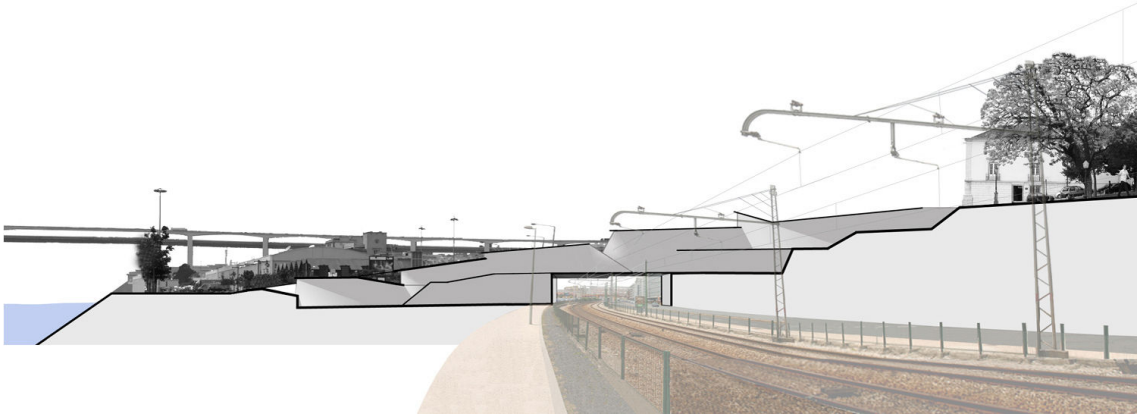
10. View of the *Santos* Quay at the area of *Jardim de Santos* and *Av. 24 de Julho*

11. Aerial view of Alcântara Container Terminal



12. Aerial photo with montage showing an extension of Jardim 9 de Abril over the Port of Lisbon
13. Scheme shows a composition with section of the industrial port and the extension of *Jardim 9 de Abril* borrowed from the project of the Olympic Sculpture Park at Seattle.





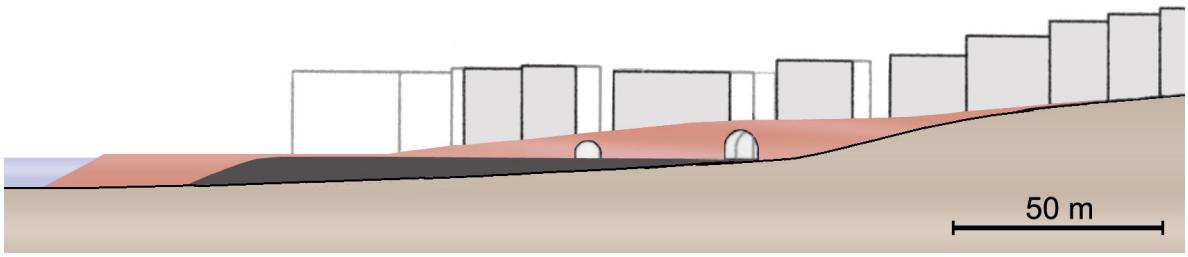
14. Perspective of virtual model of the neighborhood in the city and the port area. Black – plans of the Ancient Art Museum and the red Cross Headquarters; Green – volumetric concept that proposes the extension of the surface of the Jardim 9 de Abril to the level of the industrial port landfill.

15. Section: *collage* ilustrates the volumetric concept built over the existing road and railway line.

16. Above: View of *Santos* Quay with photomontage of Cruise Terminal project that FOA submitted for Tenerife Competition.

17. Page 287: Aerial view of the *Santos* Quay, the *Jardim de Santos* and *Av. 24 de Julho* juxtaposed with plan of the project for the Cruise Terminal.

18. Page 288: Aerial view of Alcântara Container Terminal juxtaposed with Manuel Vicente project for the Expo'98

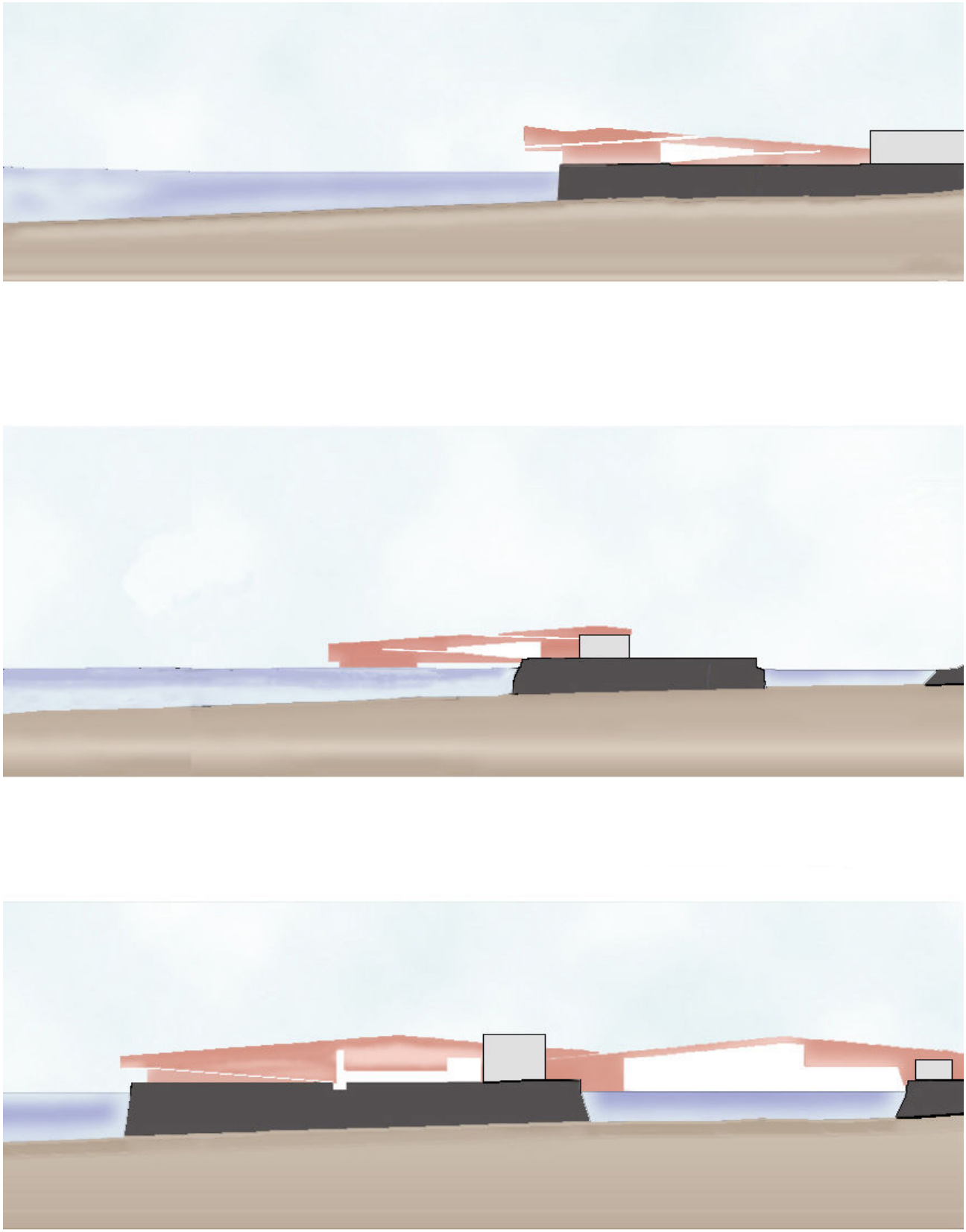


19. Transversal section along Rua do Alecrim according to the analyses presented in chapter 4 (p. 135) Legend of colors: Gray – initial shape of land / Dark gray –landfill / brick – flyover and Pombal's landfill extension / Light gray – existing buildings

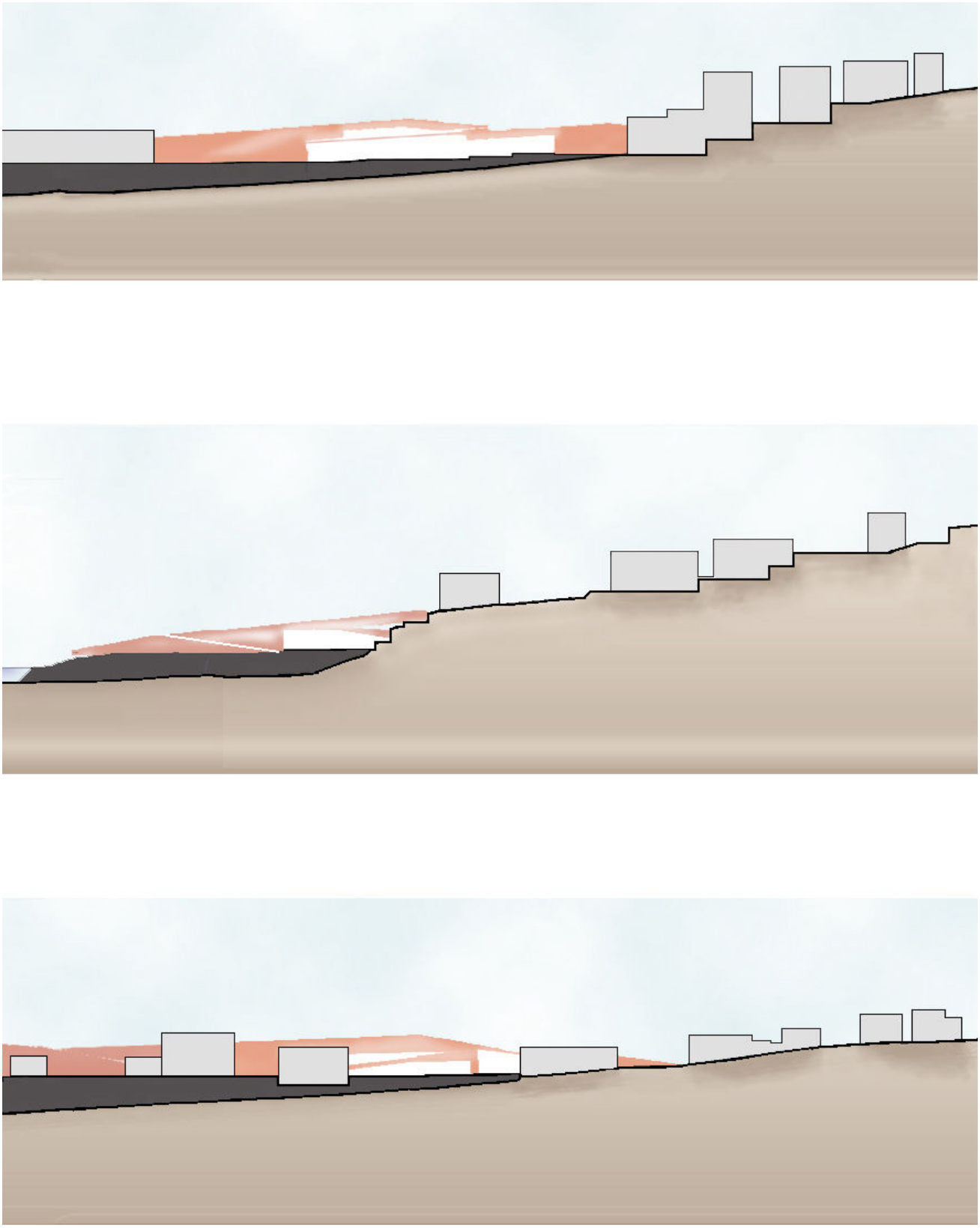
Complexity and Flexibility

The idea of complexity on the waterfront is shared by several authors who do not defend a new model but advocate a new way of addressing the city and port relations, seeing this approach becoming a new laboratory of urban quality and focusing the current discussions on the new opportunities for both citizens and port activities. Bruttomesso, (2001, 44) dealing with the environmental and urban features of the waterfront highlights some general concepts about the necessity to open up the waterfront to the public, the development of accessibility with limitations for private vehicles and the upgrading of waterborne transport, and improving of the quality of water. It is the relationship established between the city, the port and the citizens that determines the success of the process. Relationships are based on people who may have the ability of leadership. When they achieve high levels of mutual trust and cooperation the projects manage to re-establish the urban relationship, with the river that has been gradually eroded.

At present the laws relating to the land under APL jurisdiction do not encourage a diversity of small private investors or ventures by real estate developers. Several European cities have been changing regulations to overcome specific problems. In the Portuguese legal system and its various institutions there is an endemic inertia that offers a great deal of resistance to the necessary changes in the legal framework which may narrow new possibilities. The Expo'98 should be considered an exception, for it was mainly controlled and directed by the central governmen



20. Transversal sections, above – Santos next to Largo da Igreja de Santos, middle: Rocha C. Óbidos through jardim 9 de Abril, below: Alcântara through the Museu do Oriente.



20. (cont.) Legend of colors: Gray – initial shape of land / Dark gray – port landfill / brick – new topographies / Light gray – existing buildings

Some projects for the transformation of the Lisbon waterfront areas have been criticized for their fragmented urban policy, in the sense that connections between new areas and existing neighborhoods are not considered nor proposed, and because the urban 'show-case' nature of such projects dominates the waterfront development. (Crosby, 1970, 91)

> In the future city we will need monuments, places to visit, to look and wonder at, for this is the purpose of our hard won mobility. In the coming years of mass international transportation, when whole populations will move every year each summer, the pressure on the older, established monuments will be unbelievable.

APL took this idea into consideration when it decided to built the new (Vessel Control Traffic) VTC tower and chose architect Gonçalo Byrne to produce an 'exceptional building with a monumental presence' that has given a new prominent feature to the image of the city. Considering the importance of public spaces, from which the tower is excluded apparently for security reasons, APL has invested extensively in the reconfiguration of a strip of former port facilities into public spaces along the area of Junqueira. This process is commented by Busquets (1999, pp.97-98) who argues that on the waterfront,

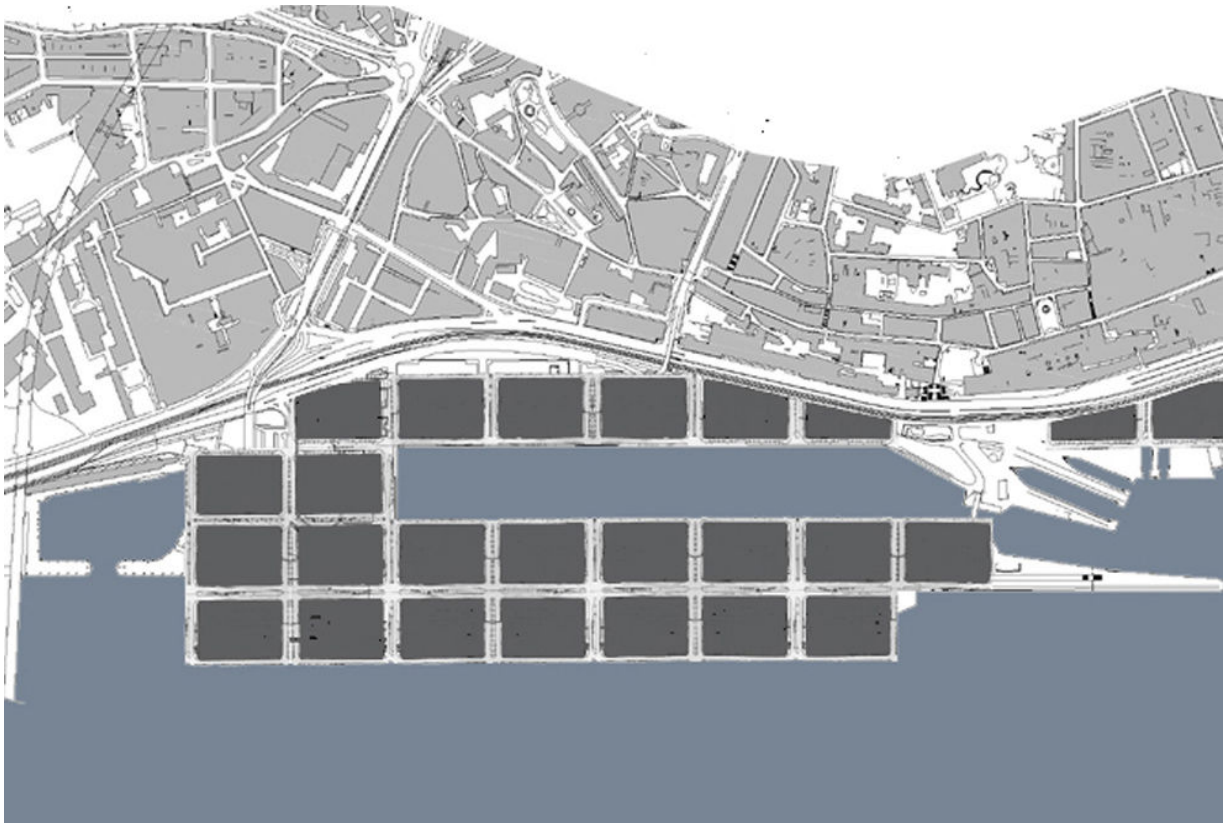
> "the public space should be seen in terms of the new cultural role being stimulated by contemporary use. Originally, the park was an aesthetic or moral facility introduced by hygienists as a counterbalance to the heavily industrialized city. Later, in the modern city, new dimensions were added to the open space: sports and other facilities. Now, once again, new demands are being made on open space: in addition to their traditional possibilities for use, the public is now asking for a new circuit and the introduction of art and culture. They want something that is very special to their city, but they also want space for leisure activities."

Most of the artists invited to participate in waterfront projects deal with the future role of the water and the fragile equilibrium of nature, helping to bring these issues into public discussions that, in turn, contributes for new options and better solutions. A considerable amount of public art of the city and a number of significant buildings are located along the waterfront. Therefore it makes sense to reflect upon Sophie Trelcat's (2000, p. 52) words "Growth is based on tension that opens directions and integrates a considerable degree of liberty for spatial and functional alternatives, yet keeps as close

as possible to the real needs of the city." One the arguments structuring this study is that the participation of the present generation should be in the construction of the city as part of a pattern of various generations, in a way that does not hold the solution to all problems but instead provides a number of suggestions to improve the present situation at the port area. That necessarily requires time, effort and research to bring flexible uses of maritime and urban activities without compromising the future of the port area after facing a process of transformation for the last couple of decades that will continue to change and evolve in unpredictable ways. As Boeri (2001, 407) puts it, 'Designing a port area means learning to deal with the issue of uncertainty and the unforeseeable nature of the future of an urban coastal area'

Final Considerations – How to Imagine Transformation

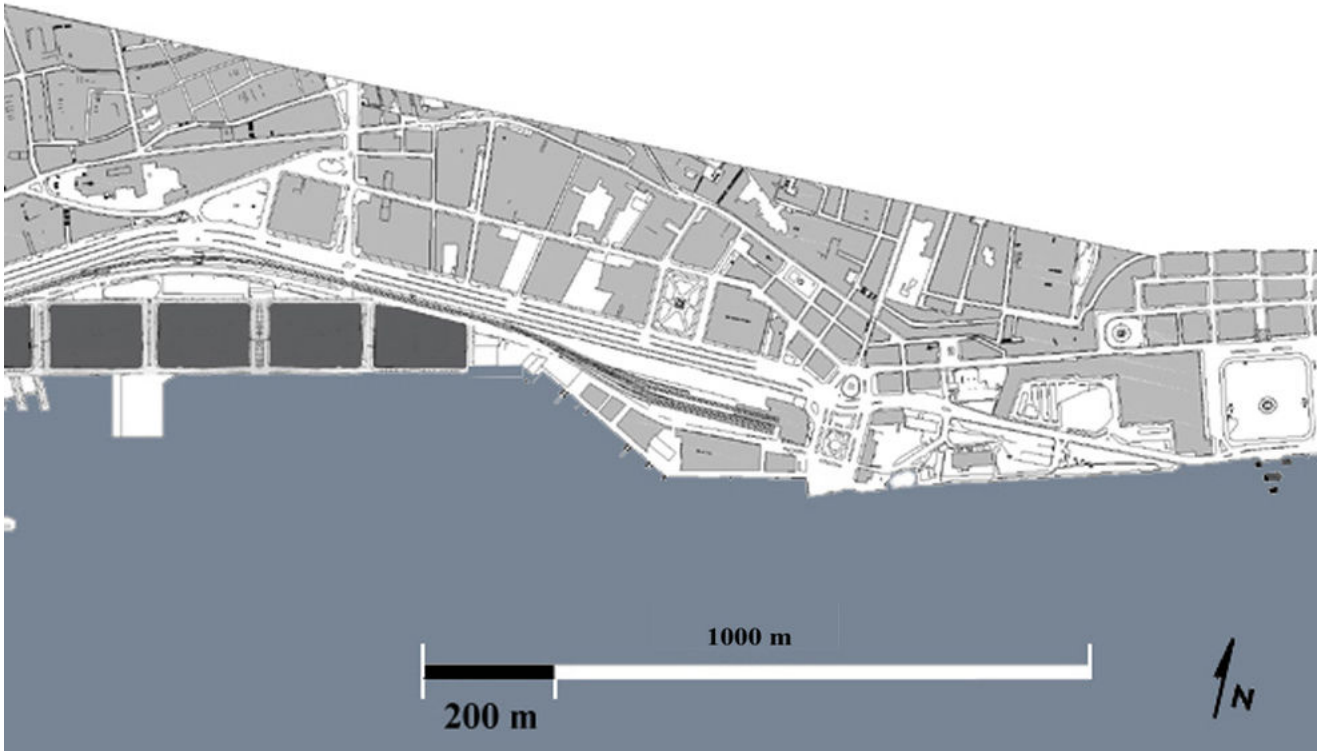
At present several authors remark on the increasing number of possibilities for cities to reinvent their waterfronts. While ports specialized their services and relocated their activities further away from congested urban centres, there was a shift towards recreational and tourism related activities, and the citizens evident enjoyment of the new public spaces at the waterfront have proved this move to be successful. The spaces newly available have a strong cultural significance and are highly valuable in enabling port cities to redefine their quality of urban life, leisure and maritime activity to create a new urban image at the port area. The cities of Barcelona, Rotterdam, Marseille, Genoa are setting up international competitions and requesting suggestions from other cities about what to do and how to do it. Other cities with a narrower vision have been developing plans in order to sell former port areas to the private sector and collect income. Developers, when not oriented, tend to privatize the public spaces around the new developments and adopt conceptual solutions, of architecture and urban design which result in private condominiums.



21. The image illustrates the relation of scale between the port area and the blocks typology
Some of the international competitions are developing partnerships between the public

and the private sector to redesign their waterfronts, with more or less public participation. In many cases the process of transformation, is requiring major investments to reshape large surfaces. This becomes particularly relevant because contemporary society has developed powerful means to transform and shape the territory, based on technological expertise and the 'over accumulation of capital', which requires a permanent economic growth. The public protests against the urban development on former port areas in places like Bilbau, Barcelona, Lisbon, Rio de Janeiro and San Francisco, reveal that when the surroundings of industrial ports become an area for developers to discuss in terms of prices per square meter, citizens manifest against these developments as they realize they will not increase the quality of their urban life.

At the beginning of this work we formulated questions regarding not just the process of waterfront transformation but also the uses the cities were putting to the port area to reestablish their relations with the water. We question who could best develop a new



21. (cont.) implemented at *Av. República*.

research project for the port area. Since the Port Authority is conditioned by maritime transportation efficiency and not by urban design concerns, who could lead the process, considering that the port should participate in it? The Port Authority should define their present needs and what future development should be undertaken in this or that location. By doing so APL defines which land should be designated either as a whole or in smaller sections, for transformation. Part of the argument of this study was centred on the difficulty of successfully implementing waterfront redevelopment plans next to historical urban areas because of the complicated and impoverished relationship between the administrative bodies. Two examples that bore out this thesis are the successful transformations, of *Port Vell* in Barcelona and the San Francisco industrial port, where new models were found based on city and port relations rather than upon waterfront development plans. To include the participation of the municipality, port authority and the population Barcelona invested in projects of architecture rather than planning policies, in San Francisco, the city and port representatives produced drawings together, in St. Paul the Mayor created a non-profit corporation to coordinate all the

process, to mention just a few. Three cities that found new models to imagine transformation from which both the port and the city of Lisbon should benefit from their previous experiments.

This study could not be reduced to a discussion exclusively concerned with ports, or maritime traffic, or city planning, or urban design or with the industrial heritage legacy of the port area. All of these are involved. Any transformation must come from a fruitful dialogue between Municipality and Port Authority, but they alone will not be able to overcome the existence of major physical barriers creating a 'cut off effect' between city and port. The examples of San Francisco and Barcelona are different in that respect, but both cities have been able to eliminate the physical barrier that created a 'cut off effect'. Both gave priority to transversal pedestrian traffic from the city to the port area by crossing over these large modern infrastructures that are vital for the urban flow of traffic.

In the case of Lisbon – the Municipality, the Railway Company, and the Port Authority are the most dominant actors. New programs to be implement at the industrial landfill should value both the urban life and the port activity. Cities envision improving the lives of their citizens and the ports search for efficiency and economic benefits. New activities emerging in this context will bring urban features towards the water and maritime activities; recreational, cultural, tourism, cruise terminals, etc towards the historic city. If the city's 'raison d'être' is the port, they have grown together and depend on each other. One of the challenges is to find the necessary new activities and programmes that have been waiting to find a place and give a positive contribution to the relation between urban life and port activity. To do this the Municipality and the Port Authority should find other partners to update port facilities like the cruise terminal or the European Maritime Agency, but should not shut down existing facilities prior to having a common agreement between them, as happened with *'doca pesca'* which was active and brought an added value for both city and port. The closure in 2003 was contrary to the strategies followed by Barcelona and San Francisco that have kept their facilities and expanded adapting to new necessities.

Applying the criteria established in this research work, we conclude by compiling the historic and geographic information about Lisbon. The research presents the area of the

industrial port as a landfill constructed over the water, a prosthesis along the city which is a new territory that changed the limits of both city and river, affecting the natural balance between land and water. We have made comparisons, between the port area of Lisbon and the other case studies mentioned to present 'mutual visions, transverse visions' as Monclús and Guàrdia have pointed out.

Significant results can be obtained by studying examples of port cities that have commissioned research projects from other cities. In Rotterdam, at the heart of the historic city - De Boompjes, while organizing the event European Capital of Culture, in 2001 the city asked experts from a number of foreign cities to draw up new design for De Boompjes. The organizers felt that inspiration could be drawn and lessons learnt from strategies adopted elsewhere. Designers from other cities contributed with a specific project for the historical central area of the city and proposed solutions to re-establish a relationship with the river. The city of Rotterdam provided them with rigorous historic and geographic information and asked the participants to developed their own visions. In the case of «Marseille – Making the City by the Sea» in 2001, the method used was also similar. Scholars gave an extensive historic and geographic background to foreign designers who were asked to present creative projects on the improvement of city and port relations. There the Port Authority, the Municipality and the population are working together as they need to expand their understanding of the subject. It is a process of public debate where 'borrowing' creative visions, produced by architectural drawings contribute to the discussion about the sites future urban design. Showing evidence that new design work can shift the common perception to one that conceives transformation not as a final product but more as a process of thinking.

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10. Photo. of the port area at Santos terminal and Av. 24 de Julho / Pedro R. Garcia.
11. Aerial photo. of the Alcântara container terminal/ Atlas de Lisboa.
12. Photomontage with the aerial photo. at Jardim 9 de Abril / Pedro R. Garcia.

13. Composition merges plate 5 and section of the industrial landfill and section of *Olympic Sculpture Park* / Pedro R. Garcia.
14. Drawing of 3D computer model of Rocha C. Óbidos area / Pedro R. Garcia e Rolanda Ramalho.
15. Drawing of transversal section of Rocha C. Óbidos area / Pedro R. Garcia e Filipe Lopes
16. Composition merges orthophoto and part of the plan of the project for Tenerife by FOA/ Pedro R. Garcia.
17. Composition with photograph and perspective view of the Tenerife Project by FOA/ Pedro R. Garcia.
18. Composition merges aerial photo. of Alcântara terminal and the Project by Arq. Manuel Vicente for the Expo'98 competition.
19. Transversal sections / Pedro R. Garcia e Filipe Lopes.
20. Transversal sections / Pedro R. Garcia.
21. Plan of the industrial port of Lisbon / Pedro R. Garcia e Gonçalo Saldanha.

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