Urban Waterfront: Subject of International Concern

Angeliki Anagnostou
TU Delft, Delft, the Netherlands

Urban waterfronts are recognized as important formation elements of the social and urban identity of the city and as elements of their economic development. They constitute also a significant part of the city’s physiognomy. Approaching the port-cities by a historic and urbanistic perspective from the period of their initial development until approximately the end of the 18th century briefly, the reasons why the relationship between city and sea started to weaken are presented. There are records from the beginning of the 19th century that show the gradual severance of the city from its water element, followed by the intensification in the 20th century. The consequences of the Industrial Revolution on one hand and the World Wars on the other constituted the means of recognition for the need to be a simultaneous action not only for the layout of the space but also for its social and human contents, with a goal of improving the human environment (Benevolo, 1990). Under these circumstances, the value of the waterfront was recognized, as far as the urban identity of the city is concerned. Furthermore, waterfronts were identified as an important factor for economic, social, and environmental overhaul of the cities. In this context of recognition, the rebuilding of the relationship between city and sea is attempted through focused interventions in urban waterfronts. In the end, the general goals and the tendencies of the waterfronts’ redevelopments are presented. Moreover, the tactics of interventions as well as the effects of the initial transformations on waterfront cities are introduced.

Keywords: urban waterfront, port-cities, history, city and sea, redevelopments, trends, tactics

Introduction

The meaning of the waterfront appears to be self-explanatory, but its clear definition is not easy. The waterfront constitutes a distinctive and delicate system which consists of three elements: the sea, the land, and the air. The natural processes configure and transform the waterfront frequently, constituting the waterside a zone which alters dynamically in time. Thus, a clear definition of what is waterfront is difficult (Giampouras, 2009).

What is important though, it is not the clear definition of the waterfront, but its peculiarities, the characteristics of this place and their interpretation. It is already recognized that the waterfront constitutes a unique spatial unity of the urban fabric with an intense dynamic. Specifically, its great importance is identified as formation element of the social and urban identity of the city and as well as factor of economic development.

Besides, the water element was always highly connected with the existence and the formation of the cities. It is not just a simple part of the city towards the sea, but an intermediate zone with special connections. The water comprises a fundamental attractant for all the cultures and all classes of humans. It is the favorite place of people regarding either religious rituals or recreational events (Breen & Rigby, 1996).

Angeliki Anagnostou, urban designer at HOSPERS NL BV, graduated architect engineer at Technical University of Crete, master’s degree in Urbanism of TU Delft, Delft, the Netherlands.
So, the waterfront can be characterized as a “multidimensional monument” and a space of contact between the compact urban fabric and the water. It is considered symbolically and functionally the most significant public place for the city. In the context of the environmental protection and sustainability, it is a noteworthy zone of sensitive ecosystem. Clearly, the development and improvement of the coast zone is a way for improving the urban landscape and the image of the city (Samarinis, 2006; Mitoula & Oikonomou, 2003).

Taking into consideration all the above points of views, it is concluded that the waterfront can be converted into the scene, where the most important pieces of the urban fabric of the city can be put. It constitutes therefore expression of our culture and offers developing possibilities for new parts in the city, improving so the everyday life.

**The Urban Waterfront: Element of the City’s Physiognomy**

The urban and suburban landscapes of every area constitute a strong and irreplaceable identity element for the city, redounding its form and the quality of the urban landscape. In the case of waterfront cities, the natural element of the city, which contributes to the multiformity and the assurance of significant virtues and concerns the human scale of the urban formations and the alteration of images and impressions, is water. The alongshore space comprises by itself a special type of space with its own physiognomy and particularity. It is a space which combines two different spaces: the aquatic and the space of the land (Gospodini & Beriatos, 2006, pp. 134-135; Iliadis, Kiriakidis, & Sioutopoulou, 2011).

More specifically, the physiognomy and the identity of the coastal areas are determined by various factors. Initially, by their location—adjacency with the water—by their historical and cultural past—in most cases former industrial facilities—and by the organization of events and activities—e.g., fishing, trade, etc. In reality, a series of monuments, cultural activities, customs, and traditions which are the extension of the seaside character of the waterfront cities play an important role in the configuration of their physiognomy (Mitoula & Oikonomou, 2003, p. 14).

Although they are many cities developed close to the water and they may have many common characteristics, every single waterfront city has its own special history and myth. This fact transfuses them an outstanding identity, their own unique physiognomy.

**Historic & Urbanistic Approach of Port Cities**

Coastal areas with a notable physiognomy constitute the port-cities. Since their initial development, the ports, as trading spaces, co-existed with unities of housing, trading, and artisanal activities. The expansion of the ports and their coexistence with other productive sectors, such as artisanship and services, started to develop gradually organized commercial establishments. Storage and processing units and many administrative centers in combination with residential neighborhoods composed dynamic wealth centers, building so the first port-cities (Alexiadi & Praktikaki, 2012, p. 19).

During the development of the first port-cities, the evolution of the city and the port was almost parallel and the influence of the port in the urban planning and the architecture of the city was noteworthy. The road axes were designed based on the curvature of the port; the buildings were placed along the sea bow, providing visual escapes from the inner part of the city towards the harbor and the sea. The openings of the buildings were oriented towards the sea and the spatial activities were allocated heading to the sea horizon. In this way,
the waterfront became the means of expression of the official image of the cities (Alexiadi & Praktikaki, 2012, pp. 21-22).

In the Byzantine era and the Middle Ages, the development of the port-cities continued with vacillations between heyday and corrosion, paying mainly attention to the Italian cities and generally the Mediterranean. The Italian cities were developed dynamically, relying on their position close to the water. Their interdependence with the aquatic element contributed to their form and demonstrated their uniqueness. More specifically, the medieval Italian port-cities devised a new structure of residential development, relevant to the classical archetype of “chessboard”, adapted freely in the curve of the coastal zone and the relief of the land. In this case, it is clear the influence of the water element in the urban planning and the creation of the city (Benevolo, 2009).

The financial prosperity and the domination of the port-cities resulted in the creation of new port installations and the grow of the population, contributing to the expansion of the city, followed by the expansion of the port. In this context, new residential neighborhoods were organized, combined with commercial and other land uses. They complement the urban fabric into a wholistic expansion out of the protective walls of the city in the same direction with the harbor. The new added elements were organized based on the sea. However, in some cases, the improvement of the infrastructure led to the gradual growth of the city inwardly, far away from the water (Alexiadi & Praktikaki, 2012).

During the 16th century, a period of rearrangement of the urban and spatial formation was observed, demanding the design and the modernization of the harbors. The urban transformations realized, referred mainly to utilization of the vanishing points. Expressly, the new roads in combination with the ancient networks allowed the visual connection of remote places with each other and with the sea. The elongated axes of the new roads were extended to the sea, giving the opportunity for both visual and spatial connection between the inner city and the water. The organization and the image of the port were under great attention, expecting the free side of the city towards the sea to be projected as a monumental view of the whole city on the water (Benevolo, 2009, p. 205).

In the end of the 17th and the beginning of the 18th century, the gradual weakening of the strong relationship between city and harbor had already started. The first phase of industrialization in the European context with the new technological updates and the consumption goods required bigger shipyards and facilities, causing the cutting off between the urban fabric and the water. This situation was observed mainly in Northern and Western Europe, while in the Southern part of Mediterranean, the port-cities remained almost unaffected by the heavy outgrowths (Alexiadi & Praktikaki, 2012).

During the second phase of industrialization, after the 18th century, the “opening” of the city towards the sea and the creation of new harbor infrastructures emerged as a necessity for the adjustment of port-cities to the acute competition of the industrial period. This resulted in the better connection between the city and the industry (Samarinis, 2006, p. 15). During that period, the industries became denser initially along the aquatic streets, altering the infrastructures, the position, and the size of the harbors (Benevolo, 2009, p. 256). As the steam engine was one of the main technological evolutions, the chance for shipbuilding of bigger and faster ships was given. Thus, the new harbors demanded new installations and deeper waters; they were expanded and updated, so as to be able to satisfy the new needs of the era (Dimitriadis, 1995; Psixaris & Fotis, 2011).
Reasons Why the Connection Between City and Sea Was Lost

As described above, the new technological evolution of the 18th century resulted in many changes in the port-cities. These changes had on the one hand positive effects for the harbor, but on the other caused the onset of the lost relationship between city and sea. A loss became even more intense from the 19th century onwards.

In the beginning of the 19th century, the population boost as a result of the demographic growth and the migration from the rural areas to the industrial urban centers caused intense urbanization. This led to extreme urban sprawl and expansion without an organized plan towards the hinterland, away from the city center and the sea. Therefore, many waterfront cities started to be more introverted, to behave like upcountry cities, and to be detached from their waterfronts (Bakalakos, 2011; Gospodini & Beriatos, 2006).

At the same time, the new technological evolutions contributed to the modernization and the expansion of the harbors and the readjustment and the expansion of the transportation network. The modern technological data in the field of transportation and the combined transports resulted in the continuous competition among the harbors. Specifically, the pursuit of the most efficient harbor led some harbors to be gradually abandoned and others to be developed from scratch, offering the most productive combination of services. The abandonment of those harbors, mainly due to competition, is the starting point for the estrangement of the city from its water element (Dimitriadis, 1995; Alexiadi & Praktikaki, 2012; Psixaris & Fotis, 2011).

Moving towards the middle of the 19th century, the advance of the engine steam led to the development of the railway. Its establishment as a new means of transport created the need for modern quays’ construction outside the traditional area of the harbor, while simultaneously made the harbors to be functionally independent. This functional independence can be translated into spatial separation, since either gates, walls, or fences were constructed, or customs segmentation was forced. The high borders surrounded the new harbors with main aim to control, isolated the harbor from the city and respectively the city from the water. In this way, the healthy connection of city and harbor stopped to exist, and competitive relationships formed between them. The rivalry between them was mainly spatial, as the space was limited in comparison to the rising expansionary needs of both (Bogiatzaki, 2004; Alexiadi & Praktikaki, 2012).

In the context of the modern transportation infrastructure, apart from the railway network, the thoroughfares were other important elements introduced in the cities. They developed correspondingly barriers in the urban fabric of the cities, making the relation between city and sea from difficult to impossible. Indicatively, many waterfront roads converted into the main arterial roads, routing a significant amount of traffic parallel to the coastal zone of the city. The intense traffic problem from the moving cars and the parked ones along the waterfront reinforced the lost relation between the city and the sea (Samarinis, 2006).

By the end of the 19th century, the general use of the railway and the without control social and demographic changes of the century, altered the image of the city and contributed to the appearance of new types of harbors. During that period, the railway harbors, the outports, the harbors of special products, and the freeports were developed. The requirements of the new harbor models for facilities and space resulted in their development in new positions, away from the historic centers of the cities. Consequently, abandoned spaces of former industrial establishments appeared in many city centers. They were big unexploited land stocks, which constituted obstacles both in the visual and spatial connection between city and sea (Dimitriadis, 1995; Alexiadi & Praktikaki, 2012).
Jumping to the post-war period, the shift of the economy of the developed countries towards services compelled the de-industrialization. Most cities were led to economic and social crisis and they remained passive, decadent, without identity for a long period. The empty buildings and the dead harbor areas along the waterfront revealed this difficult period for the cities. The urban gaps, many of which were in central parts of the waterfronts of port-cities, were huge and evolved into an urban problem (Alexiadi & Praktikaki, 2012, p. 46).

The same period, the Touristic Industry and the new city-model, the resort-cities had an impact on the intensive commercial utilization of the waterfront. The construction of a great amount of buildings, which accommodated malls, recreational spaces, and other uses and the bestowal of public land, important for the city, to entrepreneurs, affected negatively the relationship between city and sea, the image of the city and the daily life in it. The multistory buildings mainly along the coastal zone cut off the visual contact with the water (Dimitriadis, 1995; Perisinaki, 2009).

Summing up, since the beginning of the 19th century, the city started to be cut progressively from its waterfront, while its estrangement from the water element till the 20th century became considerable. The continuous competition among the port-cities, the evolution of the technology and the establishment of its achievements, the intense urbanity in combination with the dispersed development of the city to the mainland and in the end the de-industrialization led to the visual and the actual segregation of the city and the sea, creating big gaps, no-spaces in the urban fabric of the city.

Renegotiation of the Lost Relationship Between City and Sea. Retrieval of the Urban Space in the Waterfront

Reaching the 20th century, after two world wars, the dissolved economy, the bombarded cities, and the consequences of the Industrial Revolution became perceptible in the cities. These new conditions constituted means of recognition for the need of a simultaneous action concerning both the layout of the space and its social and humanistic contents, having as an objective the improvement of the human environment (Benevolo, 1990, p. 354).

Under these conditions, the value of the waterfront was recognized regarding the constitution of the urban identity of the city and its importance as a factor of the economic, social, and environmental reconstruction. In this context, the renegotiation of the lost relation between city and sea started to be attempted via focused interventions in urban waterfronts. Although the modern waterfront was considered distorted due to the above-mentioned conditions, it continued to consist a unique characteristic of the urban physiognomy and a plain, where the identity of the city is firstly recognized. In many cases, it was severed by the urban fabric of the city or in the best option it was hardly integrated in its everyday life. Nonetheless, waterfront as a place keeps its attraction to people (Chastaoglou, 2004).

Having as an objective the maintenance of this attraction and its strengthening, the last decades, an international concern for the port-cities, their transformations and the possibilities that they can bring upon the city is relevant. The redefinition of the lost relationship between city and sea emerged as a necessity and a research tool for the modern cities, which provided the water element, in whose form—sea, lake, river (Samarinis, 2006; Chastaoglou, 2004).

However, the renewal of the image and the physiognomy of the waterfront-cities must confront challenges, which derive from their urban past, their current situation, and their contentious physiognomy. In this sense, the
design in the borderline between city and sea owes to contributing to the confrontation of these challenges and the realization of the idea that the urban waterfront must be seen as an alive part of the urban fabric and as its continuation. Thus, through the preparation of specialized studies, waterfront can be transformed into a significant part of the daily city life and at the same time to contribute to the obviation of the isolation of the city from its water element.

Moving towards this direction, the urban redevelopments constituted a noteworthy example of specialized studies. The main objective of the urban redevelopments was the retrieval of the urban space and the redefinition of its role on the postindustrial city of the 21st century. These interventions have already occurred in Europe in the beginning of the 1980’s, mainly in the developed countries and they extended in less economically developed countries during 1990’s (Gospodini & Beriatos, 2006). Focusing more on the waterfront cities, from the beginning of the 20th century till today, the relation between city and sea becomes an object of broader design approaches, concentrating mainly on abandoned port establishments.

The old port zones and their obsolete establishments constituted the ideal places for the new landscapes of the modern urban culture of the consumption and free time (Zagara & Bestas, 2009, p. 26). The upgrade of the spatial quality, the strengthening of the historic and architectural heritage, and the preservation of the character of the area were achieved, by reusing the abandoned warehouses and the quays. Besides, these areas were located close to the commercial center of the city and they allocated organized transport connections. This fact makes them especially attractive for the development of new commercial and business centers and public spaces for leisure and activities (Zagara & Bestas, 2009).

Coming to an end, it is believed that the modern image of the city, considering the international commands, seems to be based critically on the waterfront. And generally, it becomes more accepted that the success, concerning the quality of life, is entailed in public spaces (Erkök, 2009).

**Objectives-Trends & Tactics of the Waterfront’s Redevelopments in the Port Cities**

In the framework of the globalization, many cities redefine their development’s strategies having as an objective the strengthening of their own physiognomy and the increase of their competitiveness. Having as a goal the redefinition of their image, the handling of their operational and environmental degradations, and the management of marginalized parts, the cities came up with a variety of methodologies, mechanisms, and objectives-trends. Concerning the interventions on the waterfront and especially those on the ex-port establishments, the main worry was how it would be possible a non-urban area to be transformed into urban in the big scale and how a totally closed part of the city, foreign to the apperception of the citizens to be an open space mainly for the public (Samarinis, 2006, pp. 22-23).

Although, in the most cases of waterfronts’ redevelopments, there are common requirements and objectives; these are different regarding the geographical location, the relief, the scale, the historical characteristics, the social demands, and of course contextually the designer of the project. However, despite the differences, almost all the interventions put as a main objective the relationship between the city and its water, attempting initially the reincorporation and the connection of the waterfront with the urban fabric.

Towards this direction, there are some common design principles that define the current trends which dominate largely in the redevelopments of port cities. Briefly, these trends include: (1) the expansion of the urban fabric of the city towards the sea and the handling of the border that divides them; (2) the utilization of the waterfront in such a way, so as a network of public spaces to be created, offering the coastal zone in the
inhabitants; (3) the assignment of mixed uses that correspond to each other. Every public space should have the appropriate land uses, to be liveable during the whole day; (4) the openness of waterfront towards people. This can be achieved via consecutive phases of appropriation of the zones in the borderline between city and sea, if there is a division between the port functions and those of recreation; (5) the development of accessibility in the waterfront, not only physical accessibility along and towards the coastal zone but also the free optical relation between the dense urban fabric of the city and the water; (6) the traffic regularization. In the most cases, the waterfront constitutes the main esplanade of the city. Through the infrastructure adjustments, it is assured a well-organized network of pedestrian areas and bicycle paths and the smooth traffic of the cars away from the intervention area; (7) the creation of new poles of attraction through the architectural form of the buildings. The appropriate choice of the type of buildings, as well as their innovative design offer chances for investments in the recreational and cultural sector of the city; (8) the signalization of the peculiarity of the waterfront. The designers want to highlight the unusual nature of this urban zone. So, they choose point of views of high importance, which will contribute both to the delight of the urban landscape and the use of specific elements which assure the past of the landscape; and (9) the quality assurance of the water in the coastal zone. The high quality of the water has positive results both in the economy and the environment (Marshall, 2001).

Apart from the modern trends, there are also some tactics, which concern the projects of redevelopments without forgetting the individual peculiarities of each waterfront. The dominant tactic is the redevelopments of recreational type. Basic elements of this type are the open outdoor recreational areas and the large green spaces. Specifically, in the cases of waterfront, plazas, gardens, parks, pedestrian paths, bicycle paths, playgrounds, sport centers, cafes, docks, and marinas form the landscape of the waterfront. These places are characterized by age mixture, offering a liveable public space for relaxation, recreation, and every kind of outdoor activity (Antoniadou & Aggelidis, 2003, p. 39).

The above tactic is usually combined not only with redevelopments of cultural, educational, and environmental type, but also with those of commercial type. Dominant elements of the cultural tactic are spaces, such as museums, aquariums, theater and cinema halls, exhibition and concert areas, ecological and technological parks and libraries. These spaces give the possibility for cultural and educational functions, being attractive for people at large and for specific target groups, such as schools, tourists, etc. The tactic of commercial character, on the other hand, refers more to the citizens of the city and the tourists, with an emphasis on the latter. Noteworthy components of this type are spaces of commercial activity, such as stores, bars, restaurants, outdoor markets, gyms, hotels, etc. (Antoniadou & Aggelidis, 2003).

Moreover, there is the tactic of residential development, which confronts some difficulties. The difficulties concern mainly the ownership of the waterfront areas, which belong mostly to the public sector. In the end, in the historical type tactic, the interest attends mostly to the preservation, modernization, and the prominence of preservable buildings. Warehouses, buildings, or blocks of buildings of the industrial past are reconstructed to accommodate new functions, considering always the new needs and the modern aesthetics (Antoniadou & Aggelidis, 2003).

Concluding, it is noticeable that the separation of the tactics presents some weaknesses. On the one hand, the criterion of separation is the functionality and on the other the methodology of the intervention (e.g., salience of the historical heritage). However, apart from the above-mentioned division based on the dominant land uses, another way of categorization was attempted. According to Juan Busquets (1997), an important parameter for separation is also the geographical location, in which the waterfronts belong to. So, according to
him, there are three main categories: the Asiatic model, in which the redevelopment of existing spaces is not as important as the creation of new ones; the Northern American model, which develops tensions towards the fragmentation, meaning the reformation of small parts of a big area. Significant element of this model is the development of such kind of images of the city, so as to attract a big mass of tourists; the last model is the European, which includes dialog among the alternative choices of redevelopments without though the development per parts/areas missing. In this case, the preservation and salience of the unique atmosphere of the ex-industrial past time of the port play a significant role (Busquets, 1997).

**Results of the Redevelopments: Questionable Points**

By the end, it is ascertained that the development and the redevelopment of the waterfront constitute a typical example, which assures the ability of cities to be adapted to the changes and the new technological data. It is proved that cities can take advantage of every chance that appears and create new areas or reform the existing ones, presenting a new image for themselves.

As it has already been realized, the interventions in the urban waterfronts are not a simple process. The relation between the built environment and the water element, a relationship with unclear borders, requires a complex approach and investment in time, money, research, and mainly complete design (Papacharidimou, 2012, p. 77). These requirements are important, as the waterfront redevelopment influences the image of the city, the historical and cultural heritage, the economy, the social structure, and the surrounding areas of the coastal zone. This specific effect in all these sections has either positive or negative results, depending on every case on the design approach. Founded on the already applied redevelopment practices in the international context, it arises that the interventions in the borderline between city and sea awake some concerns. The successful examples from the international experience prove that the renaissance of the waterfronts is owed to the wholistic design, the interventions to the adjacent areas and not in the individual glamorous architectural buildings.

Moreover, every intervention causes deteriorations in the physical environment. What is important though is that this deterioration respects the ecosystems, the composition, and the relief of the ground, and other natural characteristics of the territory. Having in mind the international examples of redevelopments, in most cases the studies are conducted considering mainly the capitalization of the surplus value of land and the profit. Consequently, greater emphasis is given on the economic and not the environmental aspect of the design. The fact that many waterfront redevelopments were conducted due to the acceptance of some cities to organize big events, such as the Olympic Games, World Expo etc., intensifies this direction of the design. Commonly, this kind of events demands big establishments with a glamorous and spectacular way, which does not go hand in hand with the principles of sustainable design (Papacharidimou, 2012).

Except for the worries that the profit-oriented role of the urban redevelopments in waterfronts creates, the choices and the handling of the responsible designers are many times problematic. Predominantly, the designer focused more on the construction of buildings, without paying attention to their connection with the landscape or the locality. In the last decades, it is observed more often an alarming addictive to the repetition of standard forms of the internationally successful models. As a result, the unique characteristics of each region are ignored, and the local physiognomy is almost forgotten. However, there are also other cases, where the designers having as a main objective the preservation of the clear character of the intervention area, make the area to be introverted. The plan is focusing inward, resulting in the discontinuity of the urban structure of the city.
Coming to an end, when the profit is not as a goal in itself, but the means for realization and the continuous function of the area of redevelopment, this is legitimate and up to a degree essential. It is the urban design which should find the balance between the satisfaction of the social needs and interests and the service of the necessary economic greatest benefits. By this way, there are more possibilities spaces to be created, which can secure the demands and the needs of the inhabitants for commercial activities, leisure, tourism, education, and culture. This should be fulfilled without weighing the natural environmental down or specific social target groups to be subsidized. The waterfront, as every other single public space ought to be places, which everyone can visit and use.

References


Busquets, J. (1997). The big cities discover from scratch the waterfronts. *Vol. for the proclamation of the internation architectural competition for the waterfront of Thessaloniki.* Thessaloniki: OPPETH.


Perisinaki, V. (2009). *The evolution of the waterfront of Heraklion according to the city.* Athens: DPM.

