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# Providing Public Space Continuities in Post-Industrial Areas through Remodelling Land/Water Connections

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**Abstract.** This article examines the problem of urban transformation strategies applied in recent years which are based on the creation of new water areas and modification of existing ones. The research is an attempt to prove that modifications of plans of water areas and forms of their borders may play an important role in achieving the best quality public spaces in post-industrial territories. The basis for demonstrating the importance of modifying water borders, and introducing new forms of water-based structures in cities, are theoretical surveys, comparative studies and in-field analyses. It can be seen that post-industrial areas, which used to create voids in the urban fabric, can be perceived as unique but isolated places that should be integrated into the layout of cities. Thus, creating continuity of public spaces that will relate converted areas to their surroundings is a well-known objective of many transformation strategies. This research proves that an effective strategy toward achieving this goal can be based on the modification of relationships between land and water. Namely, the introduction of new water areas, designing new pieces of land that protrude into the water, softening the boundaries of water lines or the opposite, like structuring smaller water flows into well-defined canals, may significantly contribute to the quality of public spaces. As such, all of this fosters the development of sustainable cities and contributes significantly to the emergence of high-quality urban landscapes.

## 1. Introduction

Designing vibrant public spaces that attract people, letting them enjoy the urban landscape and inspiring them toward discovering unknown areas of the city is one of the central issues in urban transformation processes. Many scientists notice that the integration of waterfront areas with the structure of urban pedestrian paths is the first step toward a successful transformation of post-industrial territories. Important observations are made by Rinio Brutomesso who emphasizes that in this way the transformed sites may become an important element of the whole urban public space network which helps at the same time to break the state of their isolation [1]. The fact that making vibrant urban places can only be the result of creating smart connections was also underlined by John Gosling, who presented in 2005 the project for the former shipyard areas in Gdansk. Numerous researchers argue how important it is to link existing public spaces to waterside areas, referring to social benefits, and advantages of building a more comprehensive and creative city landscape [2] [3]. Water becomes recognized as a “boundless source of urban experience, as a means for unveiling the broader, environmental connections”, [4]. Recovering the presence of water in regions and urban spaces is a manifestation of an endeavour to leave the era that Bruno De Meulder depicts as “clean urbanism” [5].



Detailed examination of transformation processes that have been taking place in Europe for the last thirty years reveal that, in the majority of cases, lines of public spaces are designed as running along the edges of rivers or canals. Predominantly, they were developed on the basis of existing contours of water embankments, and usually took forms of water boulevards and squares. In the recent decade, however, new tendencies have appeared. The boundaries between land and water are often increasingly re-composed [6] [7] [8]. New lines of canals appear that cut into the land and new strips of land in forms of islands or piers protrude into the water. The reasons for undertaking such strategies are manifold. Often the goal of building new canals and additional water reservoirs is to expand the system of public water transport. Supporting and reconstructing ecological connections is another important motivation [9]. The question posted in this paper is whether re-composition of land-water connections contributes to the quality of public spaces developed in post-industrial territories.

## 2. Modifications of land-water boundaries on the post-industrial territories

One of the first and largest post-industrial urban regeneration projects in Europe began in 1997 in the HafenCity area in Hamburg. Architects and urban planners were challenged by frequent flooding caused by storm surges and high tides. In effect, public spaces were built on elevated sand terraces and gently sloped to the water softening the hard line of the original embankment. To provide close access to water, architects proposed an artificial floating island in form of a softly shaped boulevard located on the canal. This project was one of pioneering attempts to creatively enrich the original land-water interface.



Figure 1. Länsisatama - West Harbour, Helsinki: a) post-industrial territory; b) new outlines of water with a scheme of pedestrian routes. On the basis of Länsisatama Landscape architecture competition, 2012

Nowadays, this kind of strategy is perfectly visible in new Scandinavian, French and German transformations of post-industrial territories. For example, the post-industrial Länsisatama area in Helsinki has been used as an opportunity to introduce new water surfaces and new land areas 'Figure 1'. Analysis of this project shows that the water areas were extended up to the key nodes of the system of pedestrian routes. By modifying the canal system and creating new strips of land that enter into the bay area, it was possible to lead numerous public paths right along the water. Such interventions aimed to stimulate pedestrian circulations and were intended to be a conducive factor in creating links between a converted site and its surroundings. A similar strategy for modifying the outlines of bodies of water can be observed in the city of Helsingborg located by the Oresund Malmö in Sweden 'Figure 2'. According to a winning concept proposed by ADEPT Architects i Schönherr Landscape the former industrial site will be cut by a set of canals. In effect, a new urban structure *Canal City* will be developed with a dense network of public spaces that run along and across the water.

Delving into numerous post-industrial land conversion processes that took place in Europe in the recent decade reveal that the first re-compositions of boundaries between land and water took the forms of modest interventions. Nowadays, these kinds of modifications are increasingly frequent and extensive enough to significantly change the initial topography of the transformed areas. Vibrant public spaces developed on such territories become an important attractor that links newly-created pedestrian paths with the surrounding structures and the remote areas of the city.

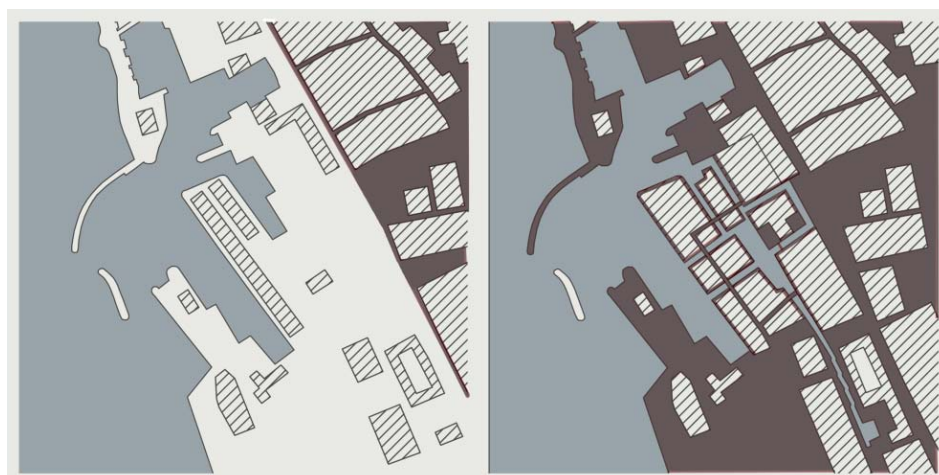


Figure 2. Helsingborg, Oresund Malmö, Sweden: a) post-industrial territory; b) new outlines of water with a scheme of pedestrian routes, The Creative City, ADEPT Architects & Schönherr Landscape

Transformation of the Bjørvika area in Oslo was perceived as an opportunity to connect the city centre with the fjord waters. It was proceeded as a part of an ambitious Fjord City plan approved by City Council in 2008. Extending the main city streets to the wharfs and creating a waterfront walking promenade was the first step toward generating the movement of people to the released area. But, to make the scenario of walking more attractive and inspiring the boundary between land and water has been modified. Building a new pier gave new creative ideas for developing the form of the Oslo Opera House. This building conceived as a continuation of public paths seems to be gently sliding towards the water and attracts visitors. As a result, the connections between the city centre and renewed areas are very strong – pedestrian paths effectively link the transformed areas of Filipstad, Tjuvholmen, Aker Brygge, Vippetangen, Bispevika, Sørenga and Grønlia.

The planning process for Nordhavnen in Copenhagen could be considered as one of the most spectacular investigations into the potential for remodelling the land-water interface 'Figure 3'. The process has accelerated since 2008, when an open ideas competition was launched. This post-industrial area, the last flank of the city exposed to the north and bravely protruding into the sea, became the object of the most adventurous experiments with water rearrangements [10]. The focus of the competition was to receive maximum benefit from the proximity of water. The structure of existing water canals and basins has been changed, and also new vast amounts of land have been reclaimed to the north of the peninsula. The canals that once inserted into the land from either side of the peninsula now cut entirely through it and split the land into a series of well-connected islands. Water gaps between islands, some of them narrow, others wide apart, offer a plethora of opportunities for floating house settlements, water boulevards, bridges, recreational areas and parks.

In the Finnish city of Espoo a competition was launched with the main objective to re-structure former industrial territories and link them with the distant city centre. The modification of boundaries between land and water was proposed in several awarded competition entries.



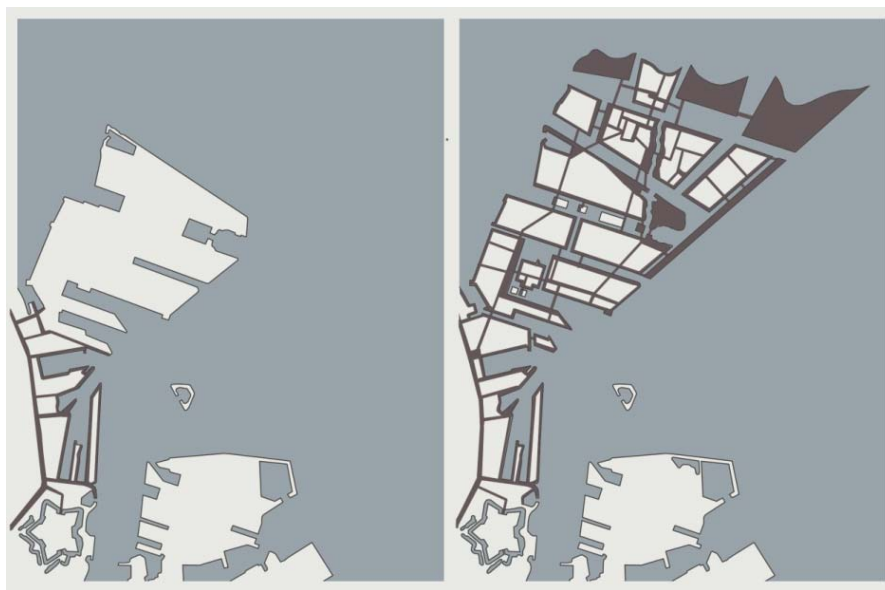


Figure 3. Nordhavn, Kopenhagen a) post-industrial territory; b) new outlines of water with a scheme of pedestrian routes, Urban Competition for Copenhagen's Nordhavn, 2009, COBE, Sleth, Rambøll

The concepts differed, but all of them pertained to the idea of generating movement of people through new and creative land-water connections 'Figure 4'. Like in many project proposals for other cities, here in Espoo water enclaves, new wharfs built into the water, jetties and different kinds of floating platforms become a magnet attracting a variety of everyday urban scenarios to the post-industrial areas.

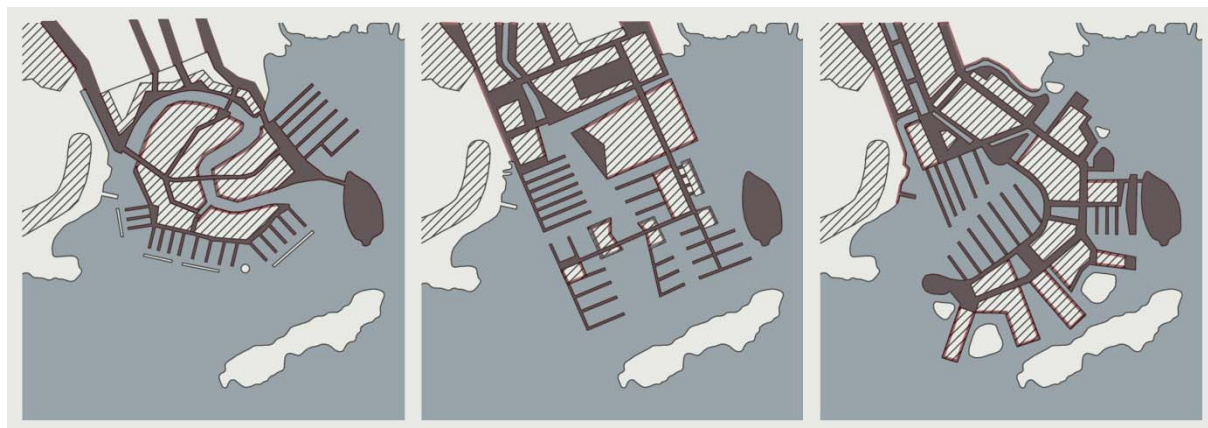


Figure 4. Marina City, Espoo, Finland. Studies of proposed land-water transformations in awarded projects. 2012: a) Canal Grande, Aaro Artto; b) Fin-Fin Situation, Trevor Harris c) Lights, Patrick Eriksson

Even on a smaller scale like Touching Water Kotka, the B4ARCHITECTS Group proposed a new boundary line between land and water. The project had been aimed at the transformation of a port and industrial zone. Architects and landscape designers worked on improving connectivity of public spaces and facilitating access to the water. The modified contours of the water with imaginative architectural and landscape solutions should work as a pedestrian movement generator. This inflow of people into newly-converted areas is one of the crucial factors in urban regeneration strategies.



### 3. Results and discussions

Waterfront urban renewal processes are complex operations that may be analysed from many different perspectives. But, in all cases inducing a high quality of public spaces into areas that had been isolated for many years appears as one of the main objectives [11-13]. Naturally, new networks of public spaces in post-industrial territories are composed as extensions of existing ones. For better linking of transformed areas new pedestrian paths are frequently directed toward and along the water. But, waterfront areas are usually nearly empty plots providing a plethora of opportunities for creative re-thinking of a city's future. In effect, urban transformation strategies applied in recent years include creative re-composition of water areas. Introducing new canals, marinas or even minor water elements into the land may enhance the quality of urban plans and help to achieve the expected effects. As research studies reveal, remodelling land/water boundaries becomes an important component of contemporary waterfront urban re-development projects.

Creative re-composition of land/water outlines, introducing new canals and extending urban circulation routes toward newly built wharfs, makes the journey through any city more appealing and inviting. Providing new pedestrian connections by water and over the water by means of different kinds of promenades, jetties and bridges – intensifies the structure of urban paths, offering alternative itineraries. Discussing the quality of life in cities, Jan Gehl emphasises that public space is attractive for users when it is diversified, continuous and integrates well the whole city structure [14]. The possibility of being close to water and experiencing water attracts people of different backgrounds and encourages them to visit new city areas. This is particularly important in the context of many urban transformation projects that are menaced by the copying of cliché solutions, focusing only on iconic cultural objects that tend to promote a city to attract tourists rather than residents [15]. Thus, vibrant and inviting public spaces contribute significantly to the quality of life, making cities healthier, socially inclusive and more sustainable.

### 4. Conclusions

In conclusion, it should be emphasized that in all analysed case studies, introducing new forms of land/water contours were crucial in constructing the networks of public spaces. Reshaping of land/water connections can significantly facilitate the process of stimulating public space continuities. By offering contact with water newly designed places can become socially open hubs for different kinds of urban activities. As such, they play an important role in generating the movement of people through a city, stimulating urban life in converted post-industrial areas and exerting a positive impact on their neighbourhoods.

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