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WALKING ON WATER:  
ALTERNATIVE PERSPECTIVES  
ON URBAN NETWORKS  

Abstract: This article examines the ontological and spatial character of the waterfront and its influence on perception and design, with particular focus on the process of reproduction of space (Lefebvre) through the generation of mental maps. The convergence of land and water holds in itself an inherent tension between the accessible and the unattainable: the unconscious can be projected on the unknowable underwater space; the unseen domain beyond the horizon can hold a promise of a better world. Another polarity is that of the familiar and the unknown/exotic, offering a new perspective, a reevaluation of the familiar through the process of ‘ostranenie’ (Shklovsky), ‘verfremdung’ (Brecht) or ‘estrangement’. 

The impact of these polarities reaches beyond the spectacle of urban life, the cinematic experience or the theatrum mundi: it enables the reevaluation of the preconceptions of beauty and utility, as exemplified by Futurist Manifesto (Marinetti). These polarities manifest themselves in the hierarchy and dynamics of a waterfront community: physical impermanence of water dwellings foregrounds the contingent nature of human relationships. The waterfront community inhabits superimposed yet separate networks of land and water. First, mental maps have to be generated for each of these separately, then they have to be reconciled in a coherent whole in a separate process. That mapping of the separate networks necessitates a physical transition, a spatial translation that also has linguistic consequences: a different semantic field is assigned to the vocabulary of the everyday, for the significance of the basic terms like ‘home’ or ‘street’ need a modified definition.

All the aforementioned processes and phenomena influence the ability to perceive, design and reproduce waterfront areas of cities.  

Keywords: Brecht, defamiliarisation, language of space, Lefebvre, port city, translation, transition, theatrum mundi, waterfront.
Introduction

Do you live on the Seine? On the Isis in Oxford, with its old name and contemporary, ominous connotations? Did you wade in the Jordan? Ford the Rubicon? Cross the Delaware? Do you live at Ocean Park? Do you keep your house boat on the Styx? These bodies of water not only hold great symbolic significance, but also offer a particular point of view. This essay will be focused the perception of water-fronts, and what impact such perception has on the mapping and reproduction of space, in reference to the categories of the familiar and the unattainable. Furthermore, the overlapping of the networks of paths and waterways will be analysed. Finally, the semantic field of the vocabulary particularly associated with both networks, and the linguistic and cognitive impact of the translation that necessarily occurs between them will be discussed.

The waterfront is an ontologically fluid space between land and water. Both hold economic value, can be navigated, and generate interest. It is from the perspective of land, however, that cities are mapped most often by those designing them. Christian Norberg-Schulz writes that ‘architectural space may be defined as a “influence” of existential space [Norberg-Schultz 1971: 37]. In effect, it is mostly the land part of the waterfront dichotomy that has substantial effects on the research and design of waterfront areas: it is more easily navigable and characterised by more permanence. This article will focus with the other part of the waterfront equation, sine qua non, and of equal importance, is the space covered by bodies of water. What is their role in the mapping, design and inhabitation of waterfronts?

1. The spatial triad

Physical space is translated into a mental map of a place, which is an amalgam of individual perceptions and secondary information from reproduced sources, and is hence never identical with that very physical space that forms its basis [Patricios 1973: 311-318]. It is a matter of debate to what degree that process is conditioned by culture, but it is considered certain that the profile of the observer influences the understanding and categorisation of perceived space, and finally its reproduction in design and, eventually, in physical space. With the concept of a circular process of manufacturing of space is conceptualised in the Lefebvrian triad [Lefebvre 1991: 33].
2. The cinematic theatre

First, there is that, which does exist: the *theatrum mundi*, in this case, the observation of the nautical life from the shore, and *vice versa*. There is the excitement of the public spectacle, of boats moving along the river. The movement of actors within that show has cinematic qualities, for dollying the camera is associated with film, as opposed to zooming or panning, which are the domain of the less story-oriented medium of television. In effect, the protagonists of the story are paraded in front of the observer, who remains seemingly, relativistically – stationary.

Since man cannot walk on the surface of water, it is the perennial *terra incognita*, the inaccessible domain. More even, walking on water is proof of divinity. The mental maps of spaces on the verge of land and water, therefore, constitute a distinct area for both the human experience and theoretical discourse. Water surface limits visibility of what lies beneath it. That introduces a degree of uncertainty about that, which could potentially lurk below: animals, plants, sunken treasures, wrecks, mermaids, smugglers, submarines or fantastic creatures. The very inaccessibility of these spaces is often a metaphor for the subconscious – a space inherently unknowable, yet exerting a tangible influence on reality. It is for this reason that the invisible bottom and boundaries of the bodies of water can induce thalassophobia: the uncontrollable and undisclosed contents of the unconscious are projected on the impenetrable space, as if it were a Rorschach inkblot pattern.

3. Mental maps

The observer of the waterfront spectacle cannot be considered objective; absolute objectivity of the observer has been proven unattainable in such distant fields as quantum physics [Heisenberg 1958] and anthropology [Kitchin 2006: 26]. There is an inevitable influence of the observer’s individual character and cultural background on perception, and this includes the view of the inhabited spaces. Norberg-Schulz notes that ‘the system of paths (…) expresses man’s possibilities of movement, the range of his world’ [Norberg-Schultz 1971: 26]. The data collected in that subjective observation in time, and movement through space, is compiled in apparently coherent mental maps. The sequence of experiences and images is made sense of by means of culturally developed tools: scenes and stories [Waters 2010: 29]. At the beginning of the 21st century, these still use the narrative, visual langue of film [Deleuze 1986: 64].

If reproduction of space does indeed follow the Lefebvrian triad, representation of water is an important clue production to how it is perceived and mediated. For how indeed is it rendered on city maps and urban development plans? It is usually empty: white or blue, without attributes, not unlike Musil’s *Man Without Qualities* [Musil 2016]. The modern mental space is inseparably linked with the online world. In some sense, if some-
thing is not accessible through Google, it does not in fact exist at all, yet it is for example impossible to navigate waters on Google or Apple Maps. Even though these spaces are adjacent to the well known streets, they seem inaccessible. To what extent then, that, which is not shown on a map does not exist? Is it a modern day case of *hic sunt leones*?

If, as stated before, linking perceived space to its representations is in itself a culturally conditioned mental process, it does not happen automatically. Not all cultures have developed maps, and the process of linking graphic representation to physical space does not always take place. For a map is no more than a representation of reality, which is geometrically accurate only within certain limitations; it contains a set of culturally conditioned pre-suppositions. However, citizens are generally able to recognise their own city by the shape of its publicly accessible spaces, for example by the negative space defined by the facades of buildings [Peterson 1980: 88-113]. Analogically, those who navigate waterways are likely to be able to recognise cities by the shape of waterways (Fig. 1).

Just like Giambattista Nolli’s plan of Rome was designed to outline not individual buildings but public spaces, there are maps focused particularly on bodies of water. Early nautical charts contain detailed shore outlines: bays, river mouths, peninsulas, promontories, estuaries, ports and harbours. These points on the shorelines are named, but the interior remains blank. Such are the early charts of Madeira, partly because its steep shores made travelling on land impractical. That meant that until the road network was developed, sailing was the customary mode of transportation. It is therefore, somewhat paradoxically, the vast space of the sea that contains information on such maps: the portolan lines, the scales, the names, the compass rose, the ships, the sea monsters, the currents, the winds and the accountable wind gods (Fig. 2).

The same can be said about the maps of lands that have, at least at first, been primarily navigated by rivers: the Amazon, the Congo, or the Nile. Osvald Spengler writes that:

Figure 1. (a) The shape of the Seine does not provide much information: is in difficult to identify as Paris; (b) The Arc de Triomphe – Champs-Élysées – Louvre axis is more easily identifiable; (c) The superposition of both networks, including the Île de la Cité, provides more information for recognition of the urban pattern

Source: Drawing by the author, 2018.
The Egyptian soul saw itself as moving down a narrow and inexorably-prescribed life-path to come at the end before the judges of the dead. (...) Hence the most characteristic constructions of Egyptian architecture are not ‘buildings’, but a path enclosed by mighty masonry [Spengler 1927: 188-189].

From its source in the mountains to the eschatology of the river mouth or the deceiving multiplicity of the delta, a river as an entity occupies a very different space than a city. A boat on the Tiber or the Thames, belongs symbolically as much to the City with its usually concentric character, as it does to the space of the river, elongated to the point of being virtually one-dimensional. Even the meanders in its middle are linear for a water vessel, for the point of reference is ‘upstream’ and ‘downstream’, not ‘north’, ‘west’, ‘east’ or ‘south’. That sense of belonging to the beginning as well as the ending is not only symbolic, but indeed physical: the very element surrounding and supporting a river vessel is ever moving, bringing material collected upstream, taking whatever falls into it further down to the sea.

That positioning is not very different in seaside cities and locally, it is still not much more than referential: up or down from the city. Whether towards the shore or away, it is still not the points on the compass that define movement, but the vicinity to the city centre, to the port. Historically, coasting was the main mode of navigating at sea, since losing sight of land was too dangerous without adequate navigation tools, and with a very limited capability of choosing direction in reference to the wind.

The marine context provides its particular example of the negative space principle. In the chapter about Alt Clud, Norman Davies writes about the change of perception of the Irish Sea, the Celtic Sea and the English Channel, which now seem to be not more than a periphery of the United Kingdom [Davies 2012: 77-196]. For, the Celtic people inhabiting these lands between the 5th and the 11th centuries were
seafarers, and these waters were not an ‘outside space’, for them but the very heart of their domain, surrounded by harbours and strongholds. That domain is invisible when attention is focused on land masses; it has to be focused on the sea to suddenly reveal a world of which the Isle of Man was the centre, while it seems a faraway island nowadays. It is further worth noting that the point of view centered on land has linguistic impact: the tip of the Cornish peninsula is called ‘Land’s End’, which seems accurate from faraway London, but it is in fact an essential halfway point on the route connecting the Celtic peoples of Brittany and Éire, or Ireland (Fig. 3a,b).

4. Overlapping networks

While the network of paths and waterways do not follow the same rules the connection of land and water influences the mapping of city geometry and structure. As stated before, a network is mapped when experienced in time and through movement...
In particular cases, waterfront promenades and towpaths may overlap with rivers and canals thus enabling the generation of a coherent mental map of both networks. Moreover, urban grids in the vicinity of bodies of water are often formed perpendicularly to their boundaries (Fig. 4).

But while in the Grachtengordel district of Amsterdam, the canals double the network of roads, in Venice, the waterways provide a more efficient means of transportation. Land and water paths are not always parallel to one another and are not equal alternatives. In their entirety, waterways are a separate system, coherent when viewed from a water vessel, but not forming a continuous whole with the land networks. It is difficult to piece together the puzzle of recognisable landmarks from the point of view of the water: they are separated and belong to a different order. For this reason, even though the two networks overlap in physical space, they are only linked by isolated points of reference in mental maps. The process of generating a coherent mental map needs to be performed separately for each network and yet another process needs to take place to reconcile the two, based on points of significance: bridges, spires, monuments, particular buildings (Photo 2).

![Figure 4. The pattern of urban grids of Berlin, following the geometry of the meanders of the river Spree and the Landwehrkanal](source)

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Photo 2. A view from the Millenium Bridge on The Thames in London. The importance of continuity of land networks materialised in the overlap with waterways

Photo by the author, 2018.
5. Estrangement

The particular relationship between land and water results in the dynamic of an ever unfulfilled potential. There is expectation and apprehension, two sides of the same. Perhaps the relationship between these is close to V. Shklovsky’s concept of ostranenie [Shklovsky 1973] or Brecht’s verfremdung [Brooker 1994: 209-224], ‘defamiliarisation’. A removed point of view enables reexamination of the known, and discoveries about own identity of the observer. The symbolism of water combines the estrangement of seeing known surroundings in a new light, and the downright exotic: unfamiliar perspective and new information. Thus interpreted, the waterfront enables reinterpretation of the known, like in Claude Monet’s Impression, Sunrise [Monet 1872]. Similarly, it was the water symbolic of the ‘maternal ditch, almost full of muddy water! Fair factory drain!’ that Marinetti used to challenge the concepts of classical aesthetics with a contradictory ‘ugly beauty’ in the Futurist Manifesto [Marinetti 1909]. This goes beyond the question of local character and the change of identity, beyond the signifier of the past used as a present moment, of the concept of authenticity.

6. Settlers and Nomads

There is a story of the fighter pilot Joseph František, who did not fear air combat, but even as he indifferently performed more and more extraordinary feats in the air, he became increasingly afraid of the earth. It was the earth that finally killed him, in an unsuccessful landing attempt. A similar attitude is developed sometimes in those travelling on water. Land can seem like a dangerous, unpredictable place, when going up the river on a barge, like in Joseph Conrad’s Heart of Darkness [Conrad 1998], or a raft in the jungle in Werner Herzog’s Aguirre the Wrath of God [Aguirre… 1972]: it is the shore that is an obscured and unknowable domain, a domain from which poisoned or fiery arrows may be shot, just like a crocodile might appear from below the surface of the Nile, or a shark fin on the Barrier Reef.

There is, therefore, a deeply rooted mistrust between the nomadic and the settled peoples, dating back to the Neolithic Revolution. The accumulation of material possessions constituted a significant difference between the early settlers and hunters-gatherers [Diamond 1987: 64-66]. That distinction continued with citizens and raftsmen, burghers and bargees, villagers and gypsies. The ability to accumulate resources and capital has shaped opposing attitudes towards material possessions. A hunter-gatherer encumbered with multitude of material possessions is considered poor, because as Gusinde notices about the Yaghan people, ‘the less they own, the more comfortable they can travel’ [Gusinde 1961: 86-87]. Naturally, the value system of settled peoples is based on opposite assumptions.

The removal of industry and commerce from the city centre, especially in the case of medieval ports that have often been placed higher up from a river mouth
(vide: Amsterdam, Hamburg, Gdańsk) has changed the contemporary function of the waterfront towards that of leisure, and its status has risen. One lives on the river bank if one can afford it. A step above, one is being able to afford a yacht. Therefore, there are those who are able to move to the water by their very (successful) involvement in society. But living on the river also enables the avoidance the constraints of living on land; there are those who live on the water precisely because they want to keep their relationship with society impermanent.

The first group might survey the city in a proprietary manner; the other—with increasing distrust. Both are unified in the unique perspective that living on water offers: a removed one. A home becomes mobile. It is the world that moves while the home remains stationary, the mobile centre of a personal universe. A vessel is its own frame of reference: every time a boat is moved, the connection with the outside world is reformulated, but the relationships between the objects within that domestic universe remain unchanged. It may be surprising to find that, after a long journey, that internal universe has travelled whole and unmodified, within the capsule of the hull.

A house on water then, when viewed from land, is the home of ‘the other’, the ‘outsider’, whether for better or for worse, like Thoreau on the Walden Pond, a man of individual will and character. ‘I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach, and not, when I came to die, discover that I had not lived,’ Thoreau writes [Thoreau 2008]. No doubt some level of romanticism is associated with that position, similar to that of the Sandy Cove Martello tower, the home of S. Dedalus: from that vantage point, the modern-day Ulysses has the opportunity to scrutinise the city, be it Dublin or New York, and the existential condition of its inhabitants (Photo 3).
7. The exotic, the surprising, the foreign

One of the cultural tropes connected with land and water is the Dutch saying ‘God created the earth, but the Dutch created the Netherlands’, Dwelling on the waterfronts is dwelling in an area that tangibly demonstrates opportunity as well as the power of human endeavour. For who is observed from land and who performs the observation from water? There is the millionaire on a yacht, there is the writer on a canal boat, smoking a pipe. They recall the search of Darwin’s *Beagle*, the sturdiness of Amundsen’s *Fram* and Columbus’ *Santa Maria*, the late culmination of the *Cutty Sark*, and the terror of the Viking *drakkar*. There is also Dariusz Bogucki’s ‘Gedania’, named after its home port and representing it in the farthest corners of the world. A captain on board his ship is ‘second only to God’. That is the stuff of legend, that is what men were expected to develop, a will unto themselves the Nietzschean ‘Wille zur Macht’, indispensable in maritime undertakings [Nietzsche 1968: 550].

It is not necessary for the faraway world ever to actually be experienced, it can be done vicariously: through the explorer, setting off to tropical, or arctic waters, through ‘these movements of men who are leaving and men who are returning, of those who still have the strength to will, the desire to travel or to enrich themselves,’ as Baudelaire put it [Baudelaire 1988: 65]. These are the tropes of the strange, of the unknown, of the eternal expectation and surprise. That is what brings tension and polarity to the landlocked, homogenous world.

8. Translations

In Istanbul, it is only on water, suspended between Europe and Asia, that respite from the vibrant urban life can be immediately attained: with a cup of strong, sweet tea, a breath of fresh air and the atypical silence, with one continent constantly diminishing while the other one is growing steadily, yet imperceptibly, larger. Those travellers who choose to escape the intensity of city life of Taksim or Kadıköy by land, face an arduous journey through a seemingly endless, complex labyrinth of crowded roads, finished and unfinished, that has to be navigated.

The visitor to Budapest is always either in Buda, or in Pest. The only alternative is to be in between, on the Danube or the Margaret Island. But what from land looks like limbo, the ‘neither-here-nor-there’, belongs in fact to that other order of the river. As stated before, when attempting to map one or the other, the observer needs to be able to navigate them, and a waterway and a street are generally not navigable with the same means. Even in an amphibious craft, mapping the other network requires a transition. A physical process of ‘coming on board’ or ‘disembariking’, needs to take place. It is, symbolically, a translation from one dimension to another, for the word ‘translation’ originally meant ‘to carry across’ [Reynolds 2011: 5]. That transition has a deep symbolic sense which is
manifested in language: ‘crossing the Styx’ or ‘burning bridges’ are deeply ingrained in the way significant events are being made sense of (Photos. 4-5).

A translation of the urban vocabulary of street, square and facade also needs to be applied. For a street is ‘that, which can be walked on or driven on’, while a river is ‘that, which can be navigated in a vessel, provided it is in good repair,’ or even ‘that, in which one can drown.’ A ‘bridge’ is either ‘that, which one drives over or that, which one navigates under’. From this there can be exceptions, like in the case of the Veluwemeer Aqueduct water bridge in the Netherlands, where road vehicles drive below sailing vessels, which is a semantically borderline case of a definition of bridge and tunnel.

Furthermore, a strictly linguistic process of translation takes place between the two worlds: the semantic field of some of the most basic terms is modified. ‘A home’ signifies something different on a boat that it does in a house: ‘a home’ on land is permanent and immobile. The characteristic of immobility is fundamental in several languages, where the term ‘real estate’ denotes it specifically: in German, it is immobilien; in French, immeuble; in Polish, nieruchomości. In Columbia, the term finca raíz is used, which in literal translation means something close to ‘estate roots’, which clearly implies a strong bond with the earth. The immobility taken for granted in a house, however, does not apply to a boat. Furthermore, it permeates social connections and community: the character of a ‘neighbour’ is considerably more contingent and temporary on water. Water itself is ‘that, which supports and rocks to sleep’ rather than ‘that, which flows from a tap’. Electricity is ‘that, what comes from the sun’, or ‘through a cable’ rather than ‘that, which is available from the electrical socket’. In a modern house, there is a large degree of separation between obtaining resources, their delivery, payment, and waste. On a boat, the process of using and replenishing resources is much more tangible.
As with literary translation, the polarity of foreignisation versus domestication [Venuti 1995: 29] or intimacy versus distance [Said 1994] is introduced. The characterisation of the everyday, inhabitable space is placed on an axis of familiar and strange. The interior of a boat is sparse in reference to a house, while in reference to a simple raft it could subjectively be defined as ‘comfortable’. There is the opposition of the exotic and the familiar, the tolerance for these varies for each individual person. To what degree a boat is ‘a permanent home’ or ‘a temporary shelter’ depends on that tolerance.

In essence, the ambiguity of being on the water generates tension, which has its linguistic effects, and a large area of language and culture is influenced by the unattainability of that, which is on or beyond water. The Portuguese term saudade has been defined as the nostalgia or melancholy specific to those, who gaze at the ocean. In some sense, its musical manifestation is fado, which is often about the absent. These emotional implications are immediately evoked in visual arts, like in the background, or in fact in the very centre, of Caspar David Friedrich’s paintings, e.g. Monk by the Sea [Friedrich 1809] or Edvard Munch’s Melancholy [Munch 1891], The Lonely Ones [Munch 1899], or Two Women on the Shore [Munch 1898]. The image of a person merely gazing at the sea is sufficient to imply longing and melancholy.

Even within the same language, words have a different semantic field depending on whether they relate to land or water. Already in the 19th century, Wilhelm von Humboldt suggested in On Language that language influences thought [Humboldt 1999]. More research has been conducted in the 20th century [Sapir, Mandelbaum 1949]. More recently, Lera Boroditsky investigates the influence of language on the perception of time [Boroditsky 1999], while S. C. Levinson writes about spatial language and cognition [Levinson, Wilkins 2006: 1-24]. It becomes more and more clear that both grammatical structure and syntax, as well as vocabulary, influence not only time and space perception, but also more advanced thought processes of problem solving.

If mental mapping is a result of the sustained act of perception, and if that influences space that can be then depicted and reproduced, the necessity of translation has far reaching consequences on the perception and design of waterfronts. Moreover, a power dynamic appears in both professional language and graphic representation of urban spaces, generated through processes that are usually connected to dry land. For the connections between land and water have a hierarchy. In Gdańsk the drawbridge linking the Main City with the Ołowianka Island opens and closes every half hour, giving equal time to water vessels and pedestrians. But the signage does not indicate that the bridge is closed periodically; instead, it informs pedestrians that it is only periodically made available to them. That implies that it is an exception from the bridge being used for the water traffic, that it has priority over the pedestrian traffic. This clearly denotes the power dynamic of such a connection. That power dynamic extends to other levels, for the very names recall events and their perpetrators.
Even the place-names on the old tram-routes with their sandy grooves of rail echo the unforgotten names of their founders – and the names of the dead captains who first landed here, from Alexander to Amr; founders of this anarchy of flesh and fever, of money-love and mysticism [Durrell 1961: 151].

That is how, in the words of Lawrence Durrell, a city remembers those who come from far away, who colonise and conquer, pillage and subdue. The language and the graphic representation hold the key to that power dynamic, and to the ability to imagine and create. Edward Said writes that ‘history is made by men and women, just as it can also be unmade and rewritten, always with various silences and elisions, always with shapes imposed and disfigurements tolerated [Said 1994: viii].

Conclusion

A waterfront is not a mere land structure on the verge of water, it is in fact a border space, that has implications both physical and symbolic. The symbolic plane holds the mystery and generates interest and ultimately is translated into the unique spatial, economic as well as architectural value of the waterfront. Glyn Maxwell writes in On Poetry that every human being derives atavistic pleasure from being in a landscape combining water and land, for such a space is likely to provide enough nutrition and hydration for survival [Maxwell 2016]. It is a challenge to see that space for what it is, not from a single point of view, but from both, or perhaps more; to extend the perception of negative and positive spaces, of potential connections and design. There are functions beyond the familiar promenades. This is as much an interdisciplinary field, as it is multidimensional. For there are different perspectives that ultimately lead to a new understanding, and after all, it is new understanding that offers new design possibilities.

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