



# Tentacular interfaces

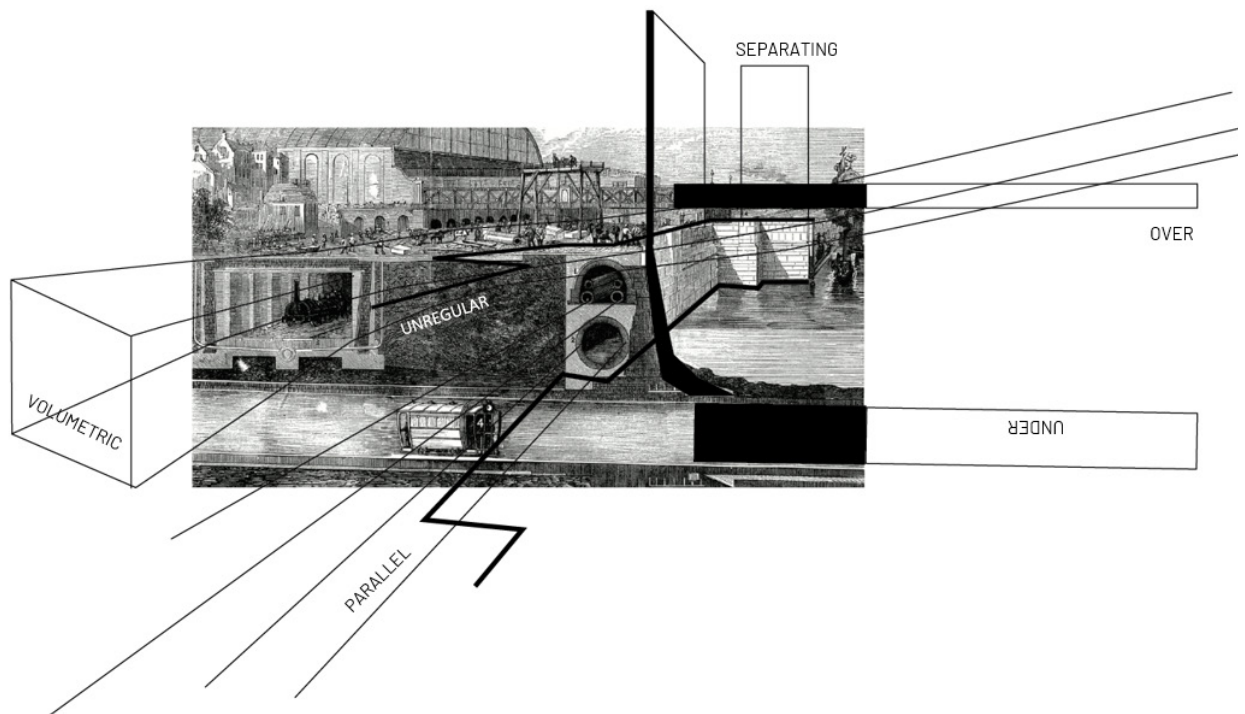
Uncovering latent of East London industrial waterfronts

Keywords: waterfronts, industrial landscape, 4th nature, re-transformation, territory, terrain vague, bodies of water, disembodiment

Research Plan  
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Heterogenous City:  
Architectural Design Crossovers  
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There is something hypnotizing about watching infrastructural landscapes. Specifically, working waterfronts in the cities have always fascinated me. Once the dense area of urban blocks is left behind, a new territory of giant machines, vessels and cranes begin. A realm of metal, overgrown by wild grass and surrounded by water. A space where multi-armed machines, formed specifically to do their job, extend their limbs to grab impossibly heavy pieces and turn them into scrap within a moment. Metal clashing, engines roaring, lights blinking. Next to that, long, tentacular piers extend far to the depths of the river, hosting even the biggest ships with the biggest loads. Cargo, coal, scrap, people, anything you want. Endless supply of the cities flows. Ready to go back. Repeat.

I have seen a photograph. People, sand, tides splashing. People move their blankets time and time again just a bit further from the tide. First, in the water come feet, then legs, corps, and limbs. Immersed. Floating. Drifting calmly in the center of the fast metropolis. Is that even possible? Did this happen? A beach, near the Tower of London, in a then-called, dead river?



## INTRODUCTION

It is hard to imagine that the two situations could take place close to one another, at the same time, in the same river. They bring back the notion of water being a nexus between the human body, natural habitat, and infrastructural systems. In the case of London, the river Thames was a foundation of industrial, economic, and societal development, as well as it became an irreplaceable symbol of the city. Throughout history connecting industry with water played a more significant role than connecting people with water. The Thames was not so much an ecosystem as it was an infrastructure. An infrastructure that was equally important for humans and machines to operate. A body of water used to its extent for the sake of fulfilling the industrial desires of other, human, "**bodies of water**" (Neimanis, 2009).

The Thames's industrial history, as well as the dynamic, tidal character, made up London's waterfronts unlike ones in other cities like Copenhagen or Paris, where the relation of the public with water is much closer. During the last two centuries, rapidly growing urban areas became a testing field of tensions between modern cities' desires and nature. The waterfronts became an engineered border between the two conflicted territories and bodies.

For many years extensive water consumption and increasing water pollution resulted in severe degradation of the water quality. At some point, after losing almost all of its biodiversity, the only remaining natural characteristic of the river were tidal flows. The smell and dirtiness of the water got to a point when in the 1950s the river was officially declared dead. This moment marked the beginning of the ecocentric approach towards the Thames. Waterfronts became the forefront of those changes. What used to be dirty and forgotten now became more desirable. Today, the Thames does not only serve as an infrastructure but is seen as an important natural actor within the city.

### Bodies of water

1. Large water reservoirs
2. This concept recognizes that our bodies are part of the water system and so the fundamental part of the natural environment and can not be separated from it or feel more privileged.



### Image

Google. (n.d.). "Grain elevator site". Retrieved 11, 2022

Recently, there is less sacrificing the river ecology for the sake of industrial profits. The current approach is to retransform the riverfronts into more inclusive spaces. However, an idealized view of the big-city waterfront is realized instead of embracing the particular existing qualities. Although such retransformed spaces become much more open to the public, they are often highly controlled, paved areas with designated spots to sit on and little biodiversity. Additionally, many of those spaces seem to be stripped of past identity and lack a real connection to water.

The western part of London's waterfronts is an example of such a commercialized approach. Therefore, the interest of this work lies in the East London waterfront. The East side is still considered to be an industrial waterline, although to smaller extent than in the past. Throughout the years, interesting engineered elements appeared along, over, or under the river. The industry treated the waterfront operationally, adding, subtracting, or exchanging elements almost like prosthetics, implants added to intensify the flows needed for inland operations. As a result, various structures, machines, and tentacular-shaped piers extend from land to the depths of the river, craving to control it.

With the decline of the industry, much has been already erased leaving the territory patched, partially abandoned, and neglected. This waterline territory changed to a landscape of wastelands, water treatment facilities, factories, warehouses, and forgotten structures. At the same time, multiple abandoned spaces in that region are slowly being overtaken by nature. This contradiction of controlled and uncontrolled phenomena creates qualities that are rarely seen in highly urbanized parts of London.

**Image**

Google. (n.d.). "Erith, London -2". Retrieved 11, 2022



The neglected, but still partially untreated by commercialized approach spaces of East London waterfronts have a chance to expose their potential. There is an opportunity to act for the preservation of the East London waterfront qualities. If those qualities become exposed, there is a bigger chance that the industrial character of the waterfronts can be embraced instead of being turned into other globalized, commercial entities.

Further, in between a rigid land ownership structure, there is an opportunity for a spatial intervention that could act like an **amalgam**, a filler between fragments. The intervention is supposed to act for the preservation of the industrial waterfront qualities. The identity added from such intervention could bring attention to the space, make its intrinsic qualities more recognizable and potentially protect it from being easily erased by new investments. With that being stated, the question arises:

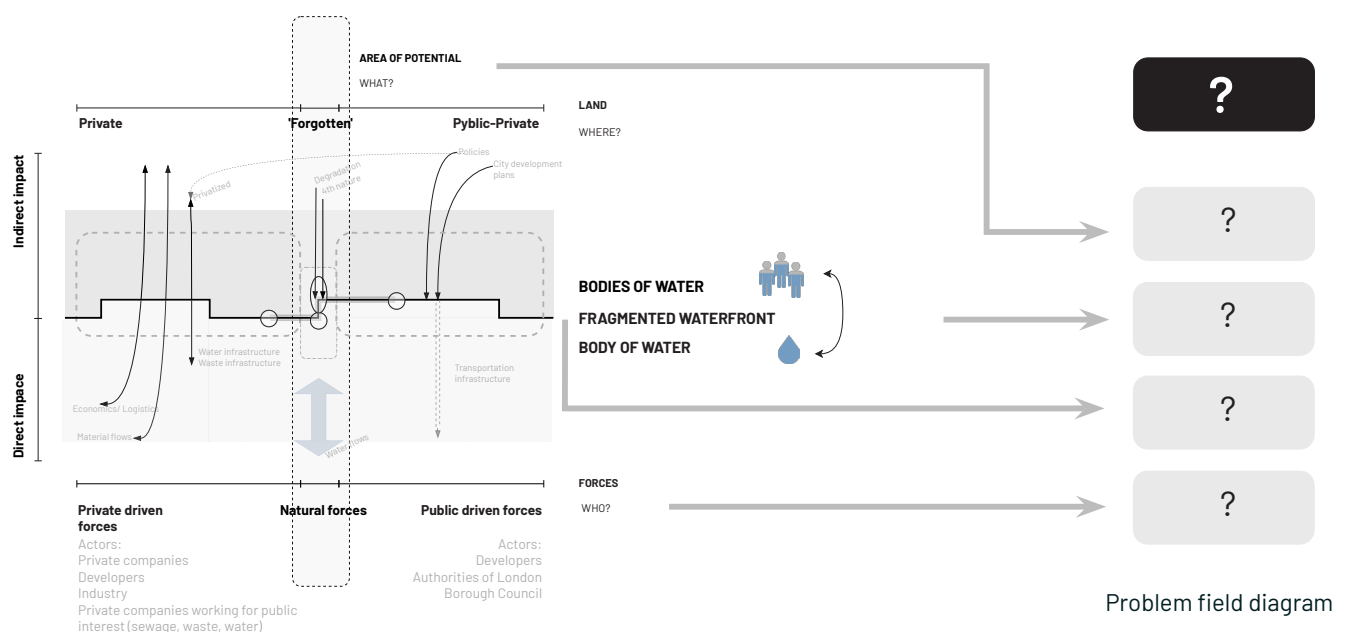
#### Amalgam

A combination of parts that create a complete whole.

**"Given the fragmented, industrial landscape of East London waterfronts, how can the value of post-industrial spaces and structures be uncovered, and how can a spatial intervention act towards their regeneration with preservation of the existing qualities?"**

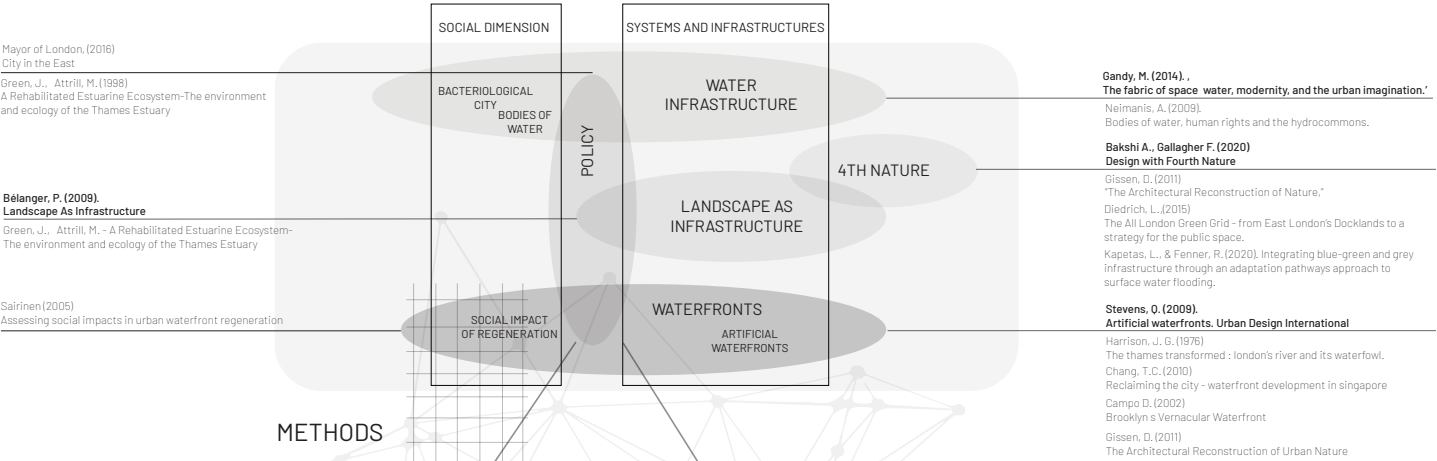
#### Research question

Answering this question will require at first understanding the systems related to the waterfront, mainly: **"which conditions and flows have formed the waterfronts as they are today?"** Within the history of changing flows **"how has the relationship between people and water changed and how can it be redefined?"** Further on the matter of those waterfronts needs to be identified, and understand **"what are the post-industrial components of the East London waterfronts?"** Finally, it needs to be answered **"how to uncover the places with high potential and which qualities define the potential for a particular intervention?"**



# Theoretical framework

## LARGE SCALE SYSTEMS



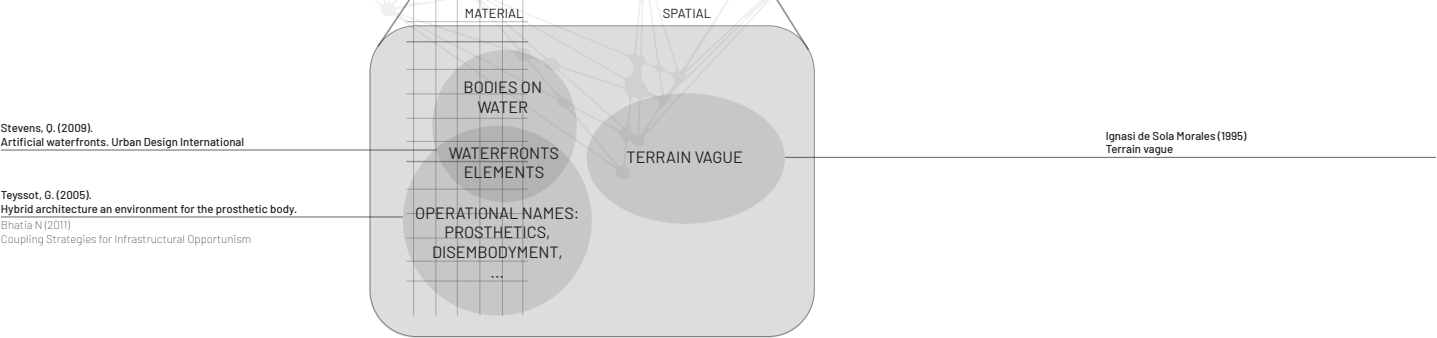
## METHODS

Sheppard, L. (2013). From site to territory

J. Corner (-) Taking measures across American landscape

Mathur A., Da Cunha D. (2009) Soak-Mumbai in an Estuary

## WATERFRONT SCALE



# THEORETICAL FRAMEWORK

**“Water lies at the intersection of landscape and infrastructure, crossing between visible and invisible domains of urban space. Water forms part of the material culture of modernity, ranging from the private spaces of the home to vast technological networks that have enabled the growth of cities, yet it is also powerfully inscribed in the realm of imagination.”**

**Matthew Gandy**

To analyse the conditions at the waterfronts I need to understand the link between the larger systems within the city that relate to water and societal changes. One of the main aspects that connects those concepts is the relationship between the city and water, involving topics like water supply and consumption, sewage, or hygiene. In my work, I will start from the position that defines water as a **common** (Neimanis, 2009), as both a necessity for humans to live, but also as means to fulfil their desires and growth. This growth results in complex water systems such as heating or sewage, which makes it easy to forget that human bodies are intrinsically related to water. The concept of **“bodies of water”** introduced by Astrida Neimanis reminds us of this relationship and that a more ecocentric approach is needed when managing water systems. Those systems are extensively explained by Matthew Gandy in *„Rethinking urban metabolism: water, space and the modern city”* (Gandy, 2004), where he uses the notion of a **bacteriological city** to describe the shifts in approach to hygiene and water infrastructure in modern cities. He also exposes the catalysing effect that water and sewage infrastructure had on the development of the cities. His findings and explanations of the correlations between water infrastructure, power, and social well-being are particularly significant.

Unlike Mathew Gandy, who focuses mostly on water infrastructure, Pierre Belanger tackles the topics of tensions between landscape and infrastructure in a more general sense. In his work, he focuses on the unrecognised land-transforming power of engineers. On one side he finds their work very intriguing, on the other, rather disappointing. I relate this to waterfront infrastructure, where highly engineered inventions, like flood barriers solve one specific problem at the same time resulting in multiple side effects. Despite the engineering fascination, Belanger created a concept of **landscape as infrastructure** (Bélanger, 2016). This concept will help in understanding the tensions between the natural landscape and working waterfronts. Additionally in his essay *‘Landscape as infrastructure’*,

## **Bodies of water**

1. Large water reservoirs  
2. This concept recognizes that our bodies are part of the water system and so the fundamental part of the natural environment and can not be separated from it or feel more privileged.

## **Bacteriological city**

Movement toward a distinctive constellation of space, society, and technology. Also referred as: “hydraulic city,” the “sanitary city,”

## **Landscape as infrastructure**

Intersection between technological systems and biophysical resources.

## **4th nature**

Originally by Ingo Kowarik's notion of four natures or nature of the fourth kind. “Nature that emerges spontaneously on urban sites such as vacant lots or industrial sites.”

– Ingo Kowarik

### Reconstructing nature

Representing relationships to nature through architecture. David Gissen specifically points that in many cities we can see efforts to reconstruct the urban atmosphere and ground to its pre-industrial cycles. Often politicised in a form of environmentalism. He claims that "These new insertions of topography and verdure and corrections to the atmosphere are situated against the existing spaces of the modern and contemporary city."

### Layered site

'The layered territory stratifies its environment into a series of individuated layers and systems. It enables an in-depth examination of the systems physical and natural at work within a site, but with little focus on the interconnection or potential overlaps of these systems.'

-Lola Sheppard

### Networked site

'Networked territories, in counterpoint to layered territories, conceive of context as the subject and product of multiple intersecting networks of human and natural ecologies. The networked territory understands sites as hubs or pieces within much larger territories the juncture of multiple forces political, economic, social and ecological whose source and destination are often far from.'

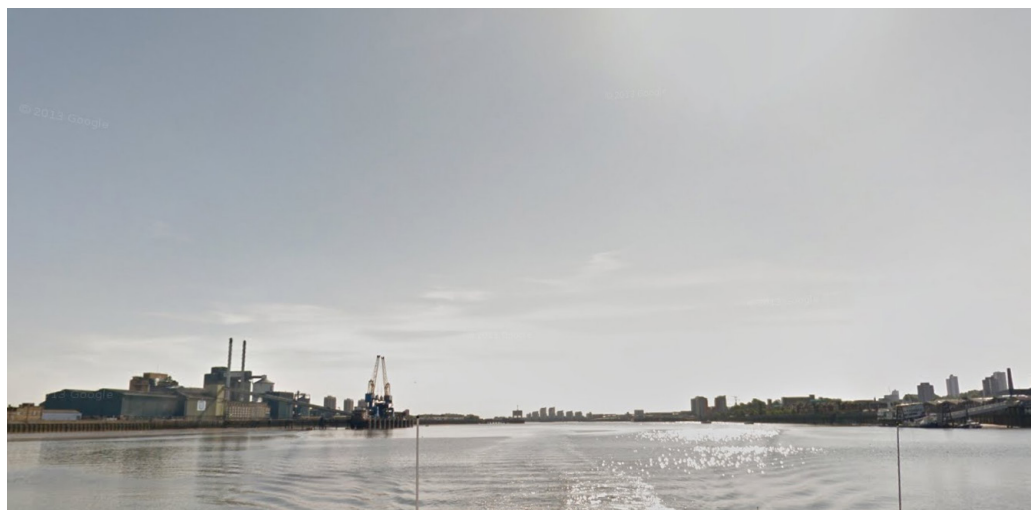
-Lola Sheppard

### Image

Google. (n.d.). "View from The Thames Barrier". Retrieved 11, 2022

he focuses on the intersections of landscape and industry. At the very center of that intersection is the notion of nature resilience. *Pierre Belanger, Gilles Clément* or *Anita Bakshi* observed that nature has impressive abilities to regrow on even very polluted lands. Recently this phenomenon was named **4<sup>th</sup> nature** (*Bakshi, 2020*). Given years of attempts to tame the river and reshape the waterfronts, the **4<sup>th</sup> nature** can be seen as an attempt of nature to reclaim the land lost to human activity. While this is already happening at East London waterfronts, there is an ongoing discussion between scholars, architects, and landscape designers about ways of reintroducing nature in the cities. In this research, the topic of **reconstructing nature** (*Gissen, 2011*), and the human role in reconstructing landscape will be important for finding a balanced strategy for intervention.

What combines the aforementioned concepts is the recognition that although East London waterfronts are a complex system within their territory, they are also a part of even more complex systems of flows that exceed their boundaries. They are influenced by multiple economic, transportation, legislative or environmental flows. As a methodological tool used to combine multiscale data, I will refer to concepts of **layered and networked territory** (*Sheppard, 2013*). The **layered territory** "stratifies its environment into a series of individual layers and systems, and looks at their overlaps". Unlike the layered territory, **networked territory** "understands the sites as hubs within much larger territories" (*Sheppard, 2013*). A second way of understanding the territory on multiple scales are drawings of *James Corner* (*Corner, 1996*). His work combines cartography, measurement, and a representation of specific site conditions. As *James Corner* and *Alex S. MacLean* searched for exceptions in the American landscape, I will search for spatial exceptions in East Thames waterfront territory.



The second scale is concerned with particular spaces at the waterfronts. It is the scale of elements, materials, and atmospheres. I want to look at the waterfront from a different perspective, in a more operational framework. As mentioned before, the carefully stylized, globalized waterfronts are not of interest in this work. Instead, the fascination lies with a machine-like legacy of working waterfront and its engineering. The piers, bridges, their particular tentacular shapes, functionality, and topological complexity are seen as quality. The categorization under general typological notions of piers or jetties seems not to be sufficient. In a similar framework **bodies of water** (Neimanis, 2009), the industrial objects at the waterfront are seen as "bodies on water" or "bodies in the water". Following that, I will describe the operational, man-made character of the waterfront using concepts of **hybrids**, **prosthetics**, **disembodied**, or **grafting** (Teyssot, 2005).

The dereliction of some of the waterfront structures is a remnants of the past. The presence of the structures together with the atmosphere of forgotten industrial space evokes a feeling of nostalgia or desolation. Those feelings are part of what *I. Sola Morales* gathered under the notion of **terrain vague** (Morales, 1995). Although those types of spaces are often associated with wasted opportunities, in my work they are perceived as quality. They are a result of industrial and ecological shifts and they are not yet touched by a commercialized approach to the globalized view of waterfronts. The research aims to uncover those particular spaces. The work that is significantly inspiring when it comes to spotting particularities are 'Fake Estates' by Gordon Matta-Clark. In that project, he acquired the pieces of land considered left-overs, a side effect of rigid city planning. Although he never finished the project, it could be speculated that just the sole act of acquiring those lands gave them importance. This work also aims to find particular spaces in a combination of post-industrial waterfront elements

### Hybrid

Of mixed character;  
composed of different  
elements,  
A thing made by combining  
two different elements

### Prosthetics

Relating to an artificial  
body part, such as an  
arm, foot, or tooth, that  
replaces a missing part.

### Disembodied

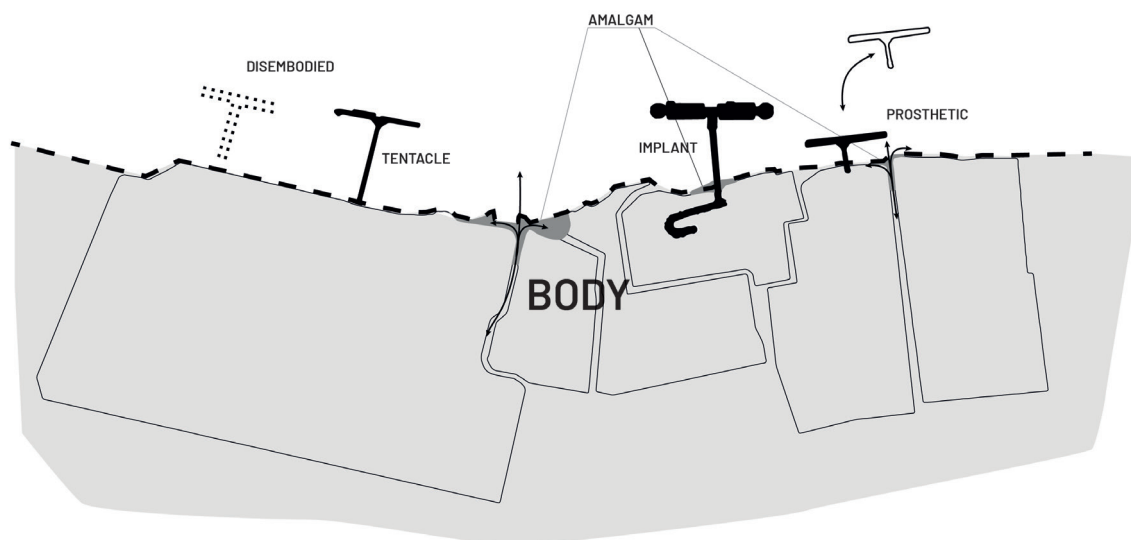
Seeming not to have  
a body or not to be  
connected to a body.

### Grafting

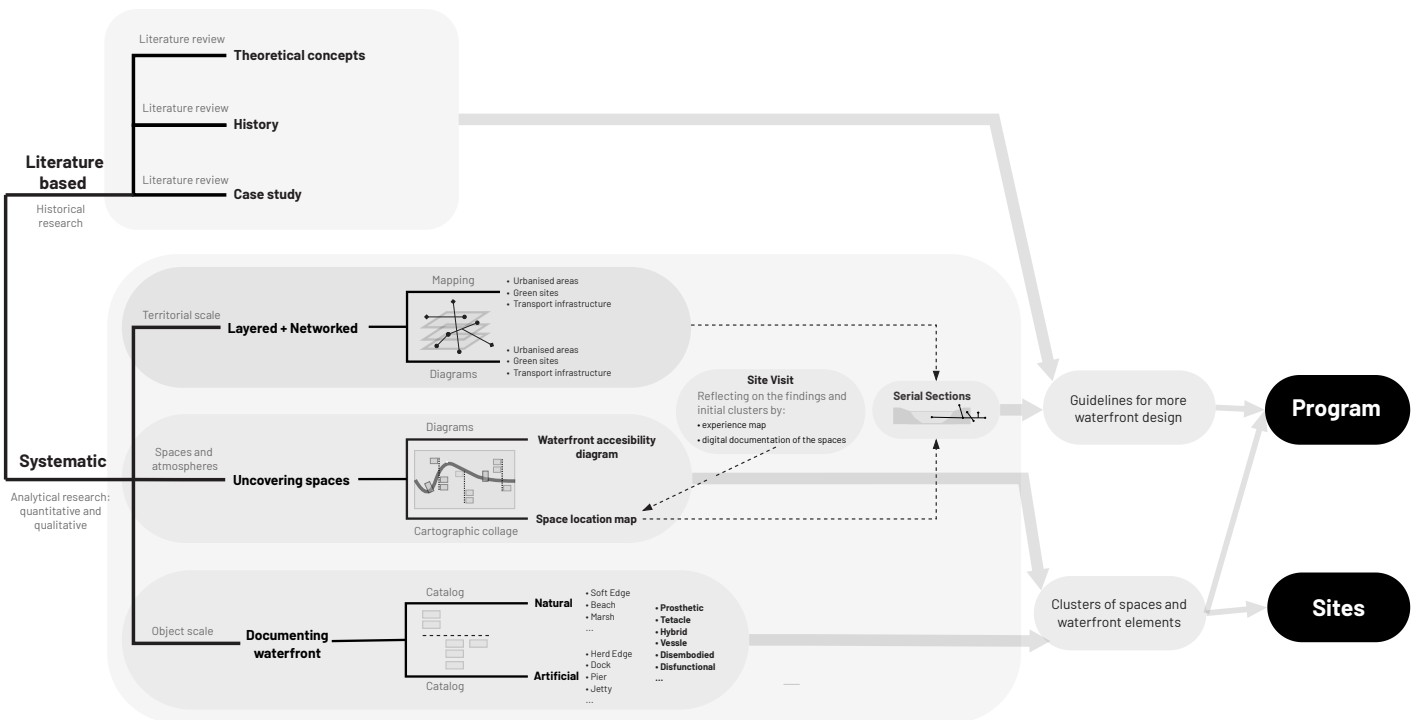
To join or add something  
new.  
(medicine) A piece of  
living tissue that is  
transplanted surgically.

### Terrain vague

The relationship between  
the absence of use, of  
activity, and the sense of  
freedom, of expectancy  
(...) Void, absence, yet also  
promise, the space of the  
possible, of expectation.



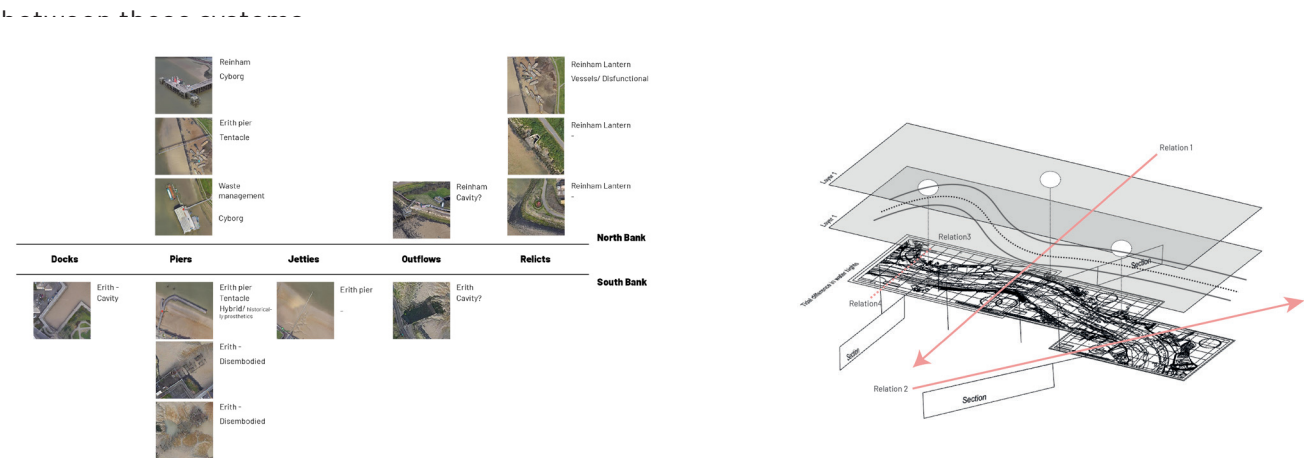
# Methodological framework



# METHODOLOGICAL FRAMEWORK

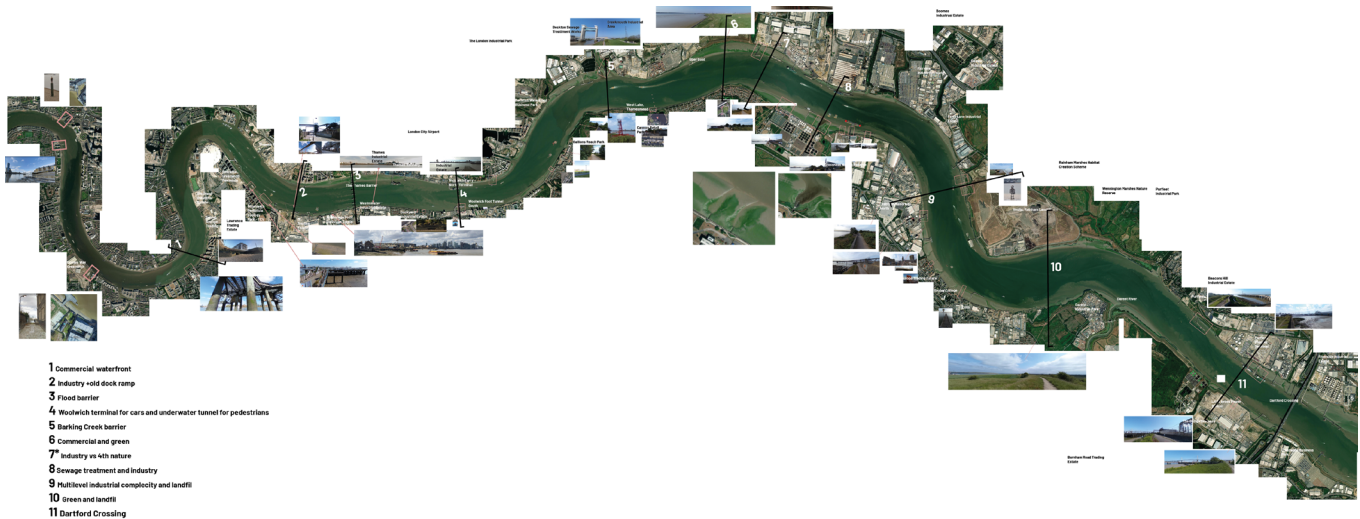
The methodological framework consists of two main parts. The first part is historical research, where I will combine historical notions with analyses backed up by case studies. It will be conducted as a literature review sourcing theoretical notions and notions directly relevant to London waterfronts. I will search by selected categories originating from the theoretical framework.

In the second part, I will approach the waterfronts more analytically, using qualitative methods. This part of the research will be scattered between the scales. First, referring to the concepts of layered and networked territory by Lola Sheppard, I will do selective mapping at a territorial scale focusing on the exceptional linkages between the land and water. First, I will gather basic information by layers concerning general topics relating to environment, infrastructure or urbanisation. Further, I will use diagrams to emphasize the networks of greater systems extending the territorial boundaries. I will then recombining the information gathered and I will try to reveal the interdependencies



**Left:** Preliminary idea for catalog  
**Right:** Diagramatic sketch for layered and networked approach

In parallel to selective mapping and diagrams, I will jump to a smaller scale involving object- and atmosphere-related methods. For the object scale, I will create a catalog of structures at the waterfronts. In addition to well-known typological categories such as piers, jetties, or docks, I will use a second set of classifiers. Those classifiers will be based on operational vocabulary, terms like prosthetics, disembodied structure, or tentacle acquired from the literature review. Using this terminology is meant as a thought-provoking exercise. Firstly, it reminds us that objects connect to some function on the land - the body. Additionally, I see that terminology as a useful design tool. For instance, when talking about something being prosthetic, there is an idea that a particular



**Image:**  
 Example of  
 cartographic collage.

For the atmosphere-related approach, I will attempt to map the spaces of potential. I will mark the space if it fulfills at least one of the three categories:

1. The space is close to the waterfront structure, preferably disembodied or dysfunctional.
2. The space is nearby a residential area,
3. The space has natural or industrial qualities

To introduce a human-scale approach in the mapping, I will document the spaces in something that I call a cartographic collage. This method will be a combination of territorial scale with a human-level perspective. The human level will help me understand the spatial qualities at the waterfront. After the mapping is finished, I will look for clusters of particular locations. I will see if there are spaces combined with “disembodied” or “dysfunctional” waterfront elements. Having knowledge from literature research, as well as information gathered in the “layered and networked” approach, I will see what sort of programmatic possibilities fit particular sites.

During the field trip, I will examine the clusters on site and photograph them. I will aim to draw an experience map through notes, sketches, and photos. This approach will help me to reveal other underlying connections between spaces and qualities that are impossible to grasp through mapping.

Additionally, to understand the changing relationship between people and

water, I aim to combine the findings from the literature with a series of sections. I will decide on where to take sections based on cartographic collage and the presence of specific edge conditions. I will use sections to reveal the differences in the width and depth of the river and show different time-related scenarios and tidal flows. Additionally, it is possible to expose the changing waterfronts and infrastructural complexity of riverfront infrastructure going under, above, or along the Thames. Being already informed by the influence of particular systems on waterfronts, I will diagrammatically include those systems in sections in which they are significant.

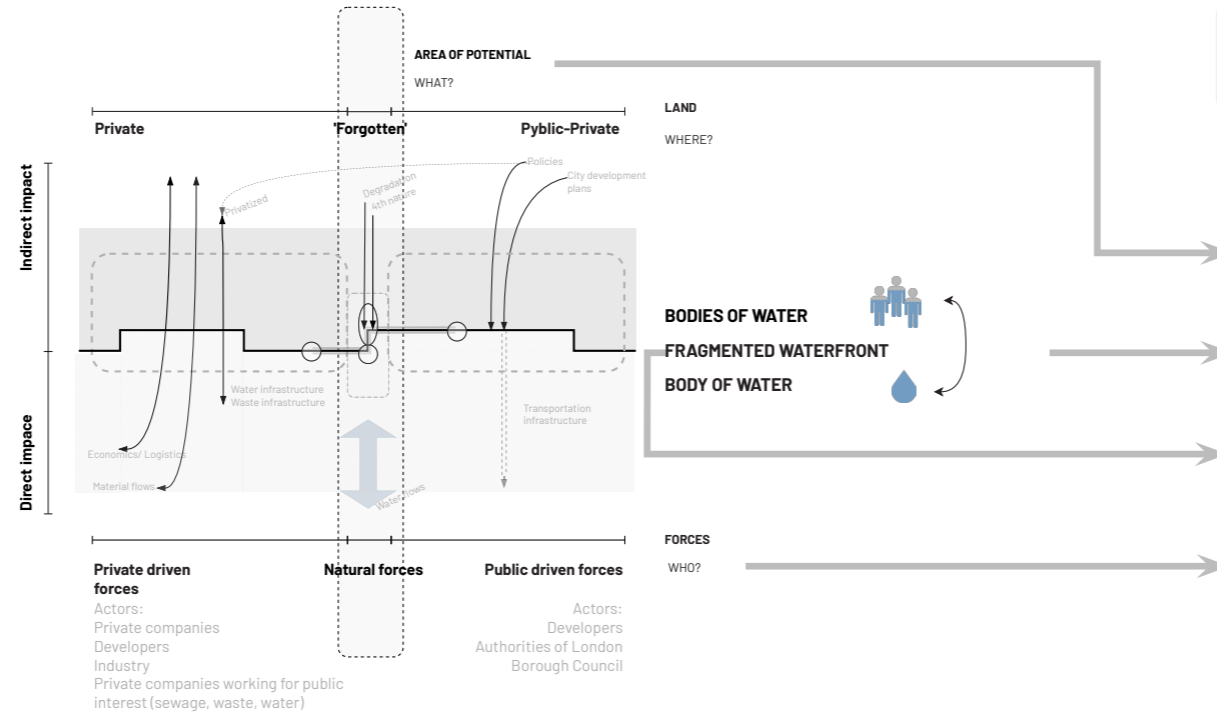
Drawing those sections will help me relate the literature findings to the dynamic situation on site. As a result, those drawings will give a more in-depth understanding of the interrelations. It will further influence the program for interventions.

The presented methodology will result in an in-depth analysis of systems shaping waterfronts and changing the relationship of bodies of water with the city. Additionally, it will expose the hidden qualities of the industrial waterfronts. Finally, the research will lead to selection of the project site site and parameters of the spatial program informed by site conditions and theoretical findings.

**Image:** Google. (n.d.).  
"Erith, London". Retrieved  
11, 2022



**Fascination** → **Problem field** → **Research question**



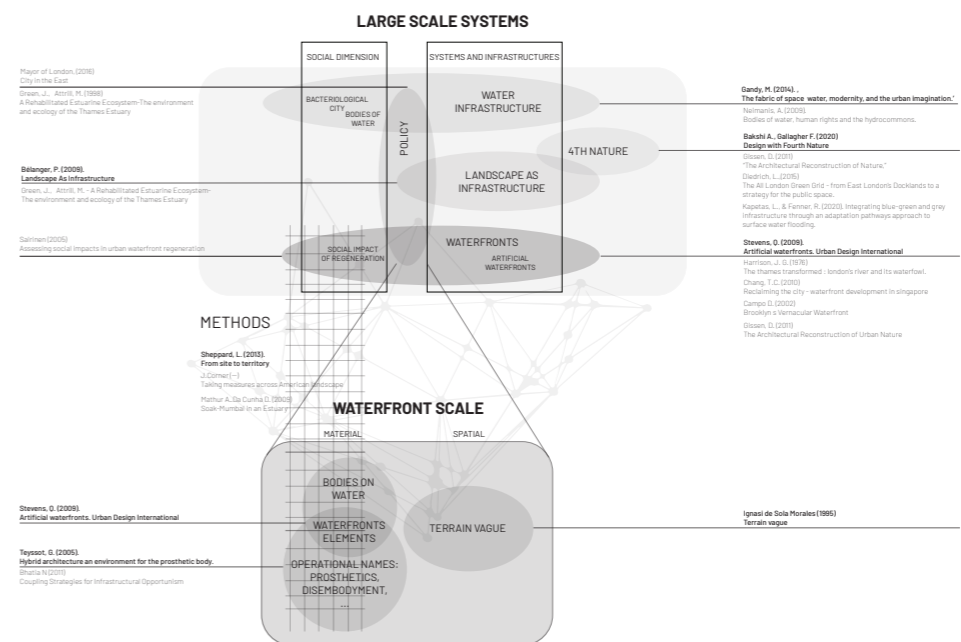
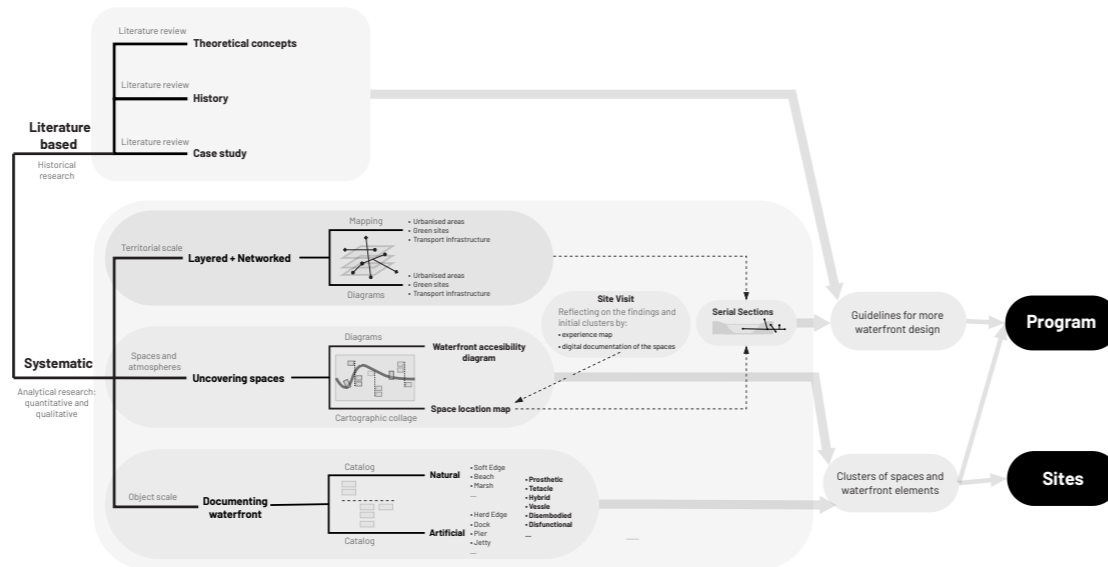
"Given the fragmented, industrial landscape of East London waterfronts how can the value of post-industrial spaces and structures be uncovered, and how can an intervention act towards their preservation?"

**Subquestions**

- How to uncover the places with high potential' and 'which qualities define the potential for a particular intervention?
- How has the relationship between people and water changed and how can it be redefined?
- What are the post-industrial components of the east London waterfronts?
- Which conditions and flows have formed the waterfronts as they are today?

**Theoretical framework**

**Methodological framework**



**P2**

**Design Phase**

## ARGUMENT FOR RELEVANCE

### **What can be learned if the research is done successfully?**

In this research, I take a cross-disciplinary approach to understand the industrial qualities of East London waterfronts and act for their preservation. I aim to systematically uncover and document the spaces and structures present on waterfronts. I will combine a systematic, multiscale approach with a more human-level, experiential understanding of space. This mixed approach could be an alternative way for uncovering the unique spaces of potential and the unrecognized post-industrial waterfront heritage. Additionally, I will give attention to both the objects and the spaces by documenting and mapping them. Further, the new operational vocabulary used as classifiers in the documentation provides a new way of looking at waterfront industrial structures, which might be helpful in the further design process. The further design with those revitalisation of some of the structures has a potential to become an example of circular regeneration of an urban environment.

The research will analyze the changing relationship between people and water and how it reveals in waterfront design. The findings of that analysis might be specifically beneficial for rethinking the current state of waterfront design in London. The aim is to discover the underlying problems and find possibilities for redefining the relationship between the bodies of water in the context of East London Waterfronts.

The East London waterfronts are the terrain that includes the remnants of industrial history yet with the new industry in place. The transition from industrial to post-industrial made the area still not touched by a commercialized approach. Being forgotten by the city the waterfronts did not become a uniform concrete edge but rather a softer one where nature started to rebuild. In times of environmental pressure, the example of the Thames's transition from a dead river to a more biodiverse river gives hope that changes are possible. Although the west waterfronts of the city are much more cared for, it is the east waterfronts that remind us of those changes. The combination of rebuilding nature, post-industrial structures, and a feeling of controlled and uncontrolled offer a form of escapism for the citizens. If all those qualities become noticed and cared for, they have the potential to become an asset to the city. An area fostering biodiversity and a different atmosphere that is not entirely related to monetized regime.

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