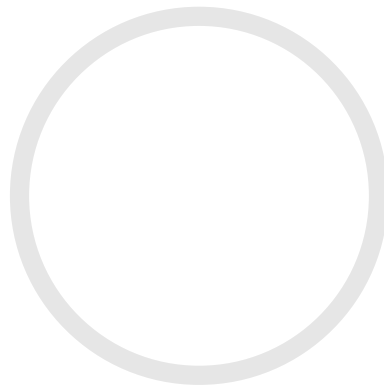


Understanding territory through sea conditions

Shifting border conditions along the coastline between human & water



Carmen Wientjes
Studio Borders & Territories
Tutors Filip Geerts & Oscar Rommens

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Abstract

For me, the interest in water in relation to the territory came organic. I have always been quiet fascinated by the sea, an enormous body of water that endlessly moves its way through our environments and city-scapes, and how we as humans interact with it. Within the territory of investigation, namely the Marmara region, the Sea of Marmara has become my main study of interest. The urgency of looking further into this phenomena got confirmed through the marine mucilage event of april 2021, where the surface waters were covered in a white algae bloom. This triggered further curiosity and let me to do further research into the territory and the border condition between human and sea. Three themes regarding the human understanding and relation of the sea are brought forward. Each theme is linked to an understanding of Territory, Border condition, and Oligopticon. These themes serve as inspiration for a possible design response to the territory. It will form a lense through which the Sea of Marmara can de dissected into its conditional factors. A toolbox for an architectural response. How can the relation between human and sea be understood or redefined? How can architecture be a medium to translate these factors?

To first adress the agency for this research question, the changing ecologies in relation to water conditions and urbanisation are briefly discussed in the first chapter. In the second chapter the border condition between human and water through the coastline are introduced, as described by Jennifer Bloomer. In the third chapter the Oligopticon by Bruno Latour is introduced as another way the human reation to the sea can be read, this is linked to supporting images of field research on a research vessel studying the Sea of Marmara.

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Introduction

In this essay three themes are addressed regarding water in relation to human and land. In the first chapter a general introduction is given into urbanization processes and its effects on surrounding water conditions and is linked to an understanding of Territory. In the second chapter the Border condition between land and water is discussed as rather a zone, an edge zone instead of a harsh line. The third chapter is dedicated to notions of reading the ocean, where the Oligopticon is introduced. Each chapter is closed with a contextual example. These three themes are the themes guiding me to an architectural response. In this essay they are discussed in a separate manner. These themes serve as inspiration for a possible design response to the territory. It will form a lense through which the Sea of Marmara can be dissected into its conditional factors. A toolbox for an architectural response. How can the relation between human and sea be understood or redefined? How can architecture be a medium to translate these factors?

1. Territory: Human relation to water ecosystems

In this paragraph a small glimpse is given on the human positioning towards ecosystems. In Corboz discription of the land in relation, which he wrote in 1983, he mentions the land not as a given commodity, but a result from various processes. On the one hand there are spontaneous transformations that bear witness to terrestrial morphology. Systems we do not seem to have a direct influence on. On the other hand there is human activity that turns the land into a other cycles of remodeled space. Both influencing eachother into new cycles of being. Once enough time would have passed, and enough generations will have passed, the idea of 'nature' would not be distinctive from before that human interaction would have acted in it. Here, 'Nature' then is formed out of human activity and natural processes that together work into new ways of everchanging. Through a more in-depth perspective into ecologies with the help of, amongst other things, environmental sciences since the end of the 20th century, we have gained a better understanding of the impact of urbanization and industrialization on ecosystems (Forman, 1986). As Belanger states 'We can no longer isolate ourselves from the consequences of the process of urbanisation'. In his 'Landscape as Infrastructure' he gives the example of the areas around the Great Lakes in North America that in the 70's were the industrial centres of North America. Nowadays they mark one of the most contaminated areas in the region and are left behind with a landscape of industry, pollutants and decay (Kirkwood 2001). Another example he mentions is the Love Canal between the upper and lower Niagara Rivers, built by William T. Love. This canal could first, amongst other functions, be used as a swimming basin by the population that lived around it. At the start of World War I its usage became a weapon dump, and it simultaneously became a chemical dump in 1942. After the area was closed of and recognised as former dumpsite, it became the location for a small neighbourhood during the baby-boom period. High rates of illnesses and birth defects were registered in the second half of the 20th century.

In the case of the Marmara region, through the change and evolution of the waterfront and industrialisation of the area, the changing relationship between the sea and the human becomes apparent. Throughout the last centuries the environmental water conditions of the Marmara sea and Istanbul strait have become unliveable for the human body to be in or close to. We move our way along the water and over it for means of transportation, but no longer in it. So it goes for most of the biodiversity in the sea. To illustrate the changing relationship between human and water, The phenomena of the seabath is used as an example. The water front of Istanbul at the end of the 19th century and beginning of the 20th century once contained public seabaths on multiple locations along the Bosphorus, Golden Horn, but also along the coastline of the Marmara Sea. In the diagrammatic illustration on the rightside of the last page most of them are shown along the Bosphorus. The concept of the seabaths was borrowed from the french 'Bains de Mer': wooden construc-



Marine mucilage covering the surface waters and coastline of the Marmara Sea (2021)



Salacak Public Seabath (1875)

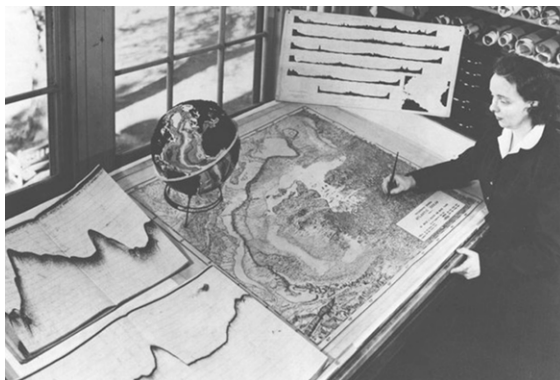
tions that framed a part of the sea connected to the shore through a pier (see image on the rightside of the last page). The wooden construction prevented bystanders from looking through it for privacy reasons. The sea baths were of a time when the Bosphorus had no environmental or bacteriological problems and were considered therapeutic and an essential part of public health. The location and usage of these structures was an indicator of the socio-environmental conditions of that part of the city or coast and also was an indicator of real estate market prices (Sert, E. 2020). The seabaths later became the places where one could find the famous *plages*, and some coastlines got fully detached from the public through the construction of roads induring the industrialization in the 20th century to transport cargo products from harbours over the land.

In a way, the water, or better to say, the ocean is the place where we can read the consequences of what happens on the land. Through our waters we can read our societal and environmental values. In his book 'Dark ecology' Morton states: 'The oceans, the unconscious of the built space.' In 'Cities in Evolution' Geddes already mentioned, 'Sustainability requires a fundamental change in worldview resulting in a change in self-perception that reintegrates humanity into natural process as a conscious participant and integral part of nature. Such changes can be facilitated by transdisciplinary education of the whole person. Profound societal change emerges from the bottom up through direct participation of citizens in their local communities and the ecological context of their regions.'

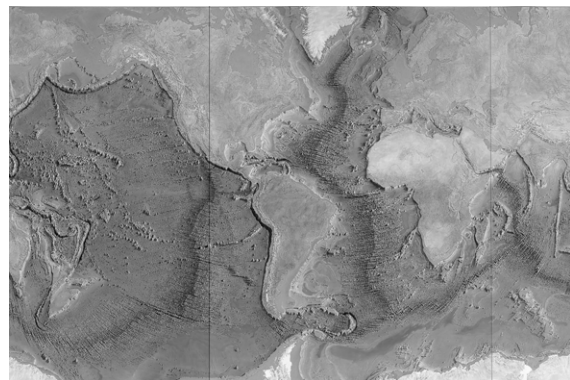
2. Border condition: non-linearity between sea & land

Looking at the border condition between land and sea, as In 'Border conditions Marginal Urban areas' J. Bloomer, architect and author, addresses the border condition between land and sea, not as a harsh line but as a continuous zone. In contrast to Kevin Lynch in 'Image of the city', who understands the 5 achetypal elements of where the city is made out of as very linear phenomena, such as the edge, the node, the landmark, Bloomer describes territories not as edges or harsh cuts, but as interrelational edge zones. she gives the example of the beach, where it becomes clear that the edge of land and sea is neither any of those things, but both. The seas edge as an imaginary and generative phenomena, that is made out of a interrelatonal zone of life endings and beginnings.

'The edge of the sea – that skittering, rolling, splashing, salty, translucent blue-green foaming non-thing – is impoverished in representation: a line on the map, graphically indistinguishable from any other lines drawn on maps.' (2010) Through new understandings of the non-linearity of the border between land and sea, new insights can be given to us about our oceans. In the past, discoveries about the border-condition between land and sea have led to new technologies and sciences. From the first mappings of the ocean and its sea life to the



Marie Tharp in Lamont Hall (1961)



Painted by Berann, H. (1977) World Ocean Floor Panorama, by Bruce Heezen and Marie Tharp

first time the ocean floor was mapped, our behavior towards the phenomena changes with the perception we have of it. When we look back at the first time the world ocean floor was mapped by American scientist and oceanic cartographer Marie Tharp and her colleague Bruce Heezen from the Lamont-Doherty Earth Observatory this becomes apparent. The duo created the first map of the ocean bed floor through interpretation of rhythms of the earth's surface, and in that way they discovered a rift valley along the Mid-Atlantic. This map later confirmed theories of continental drift and led to the base of new research areas.

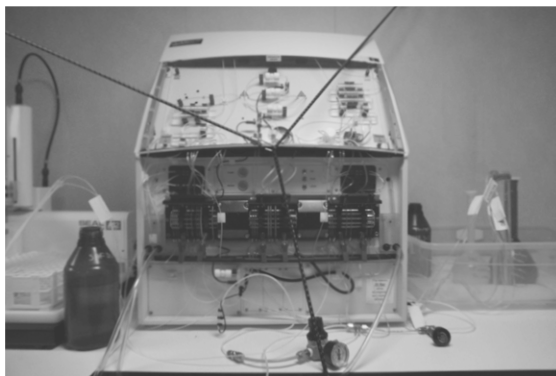
3. The Oligopticon: Reading the sea

'Paris Invisible' by Latour describes the city of Paris through different oligoptica, supported by photographs. His oligopticon is opposing the panopticon (panoptes: 'all seeing') by Jeremy Bentham, dating back to the 18th century. Water, electricity, different sciences, all have their own oligopticon: control rooms or spaces where one can understand macro phenomena through a gaze into the micro. One can only see little at that moment, but through seeing that specific selection of a system one can make more sense of the bigger whole. In *Plan 21* of Paris Invisible, the 21st of 53 stories, he discusses the oligopticon of the lab, with the example of astrology. The Astrophysics Institute is a place where data is obtained of the galaxy, the place where they hold the instruments to point at the sky and measure phenomena. These measurements then get translated to different factors that then determine the weather forecast or share with us data about the local polluted air, that then get published in the newspaper. For the astrophysics institute to know where to point their instruments at, not to wonder without direction, the astronomer would have had to ask Simbad for the list of specific galaxies to point their telescope at, to not gaze at the sky without direction'. Different specializations, a network of oligoptica, that form an image of what we, as regular citizens, see in front of us is constructed, but a network that can tell us more about what we see than what we could ever see without. 'The sky – galaxies, pulsars, dwarf stars, stars, planets () There's no way, we now realize, that we can grasp the structure of the universe by looking up at the grey and polluted skies of Paris. On the contrary, we have to focus on channels through which the entire sky moves in the form of a dual series of adjustments () These days we see clearly only if we look at the phosphorescent light of some computer screen.'

The Sea of Marmara, a sea with a highly industrialized waterfront, is dealing with many pollutants since the industrialisation and urbanisation of Istanbul and the surrounding region. The sea conditions are in general being monitored and studied by the a governmental research institute on a frequent basis. Through different

Images

Field research measuring sea conditions of the Marmara Sea on a research vessel (October 2022)



Measuring different values of sea water samples. In collaboration with TUBITAK research Institute Wientjes, C. (November 2022)



Galaxy 230 colony counter, used for bacteria/coliform. In collaboration with TUBITAK research Institute Wientjes, C. (November 2022)

apparatus different values of the sea are measured and then used for research and communication. Oceanographers, biologists and other fields work together from their main institute near Gebze (in between Istanbul and Izmit bay) and conduct their field research through frequent sampling by boat around the Sea of Marmara, Istanbul strait and Dardanelles strait. They study the Black Sea, Aegean sea and the Sea of Marmara, as they directly impact each other. The bottom currents of the Sea of Marmara come directly from the Aegean sea, and the top currents directly from the Black sea, the Marmara sea behaving like a lake in-between both. Through the research the institute conducts multiple analysis for government and enterprises.

Three themes regarding the human understanding and relation of the sea are brought forward within this essay in relation to Territory, Border condition, and Oligopticon. Architecturally these serve as tools to come to an architectural manifestation within the Marmara sea region to respond to the conditions:

The changing milieu or increasing pressure of the Marmara waters and the human socio-environmental relation to it, the reading of the water through places of research (the lab), and the dissecting of the coastline through its multiplicity.

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Field work

Field research of the sea of Marmara through the help of TUBITAK research institute, Istanbul Turkey

Images

- 0 Front Page logo
Wientjes,C. (2022)
- 1 Mucilage, or “sea snot,” covers the shoreline in Istanbul, Turkey, June 6, 2021. (AFP PHOTO)
<https://www.dailysabah.com/turkey/sea-snot-spreads-to-black-sea-amid-fight-in-turkeys-marmara/news>
- 2 Public seabaths
Salacak Public Sea Baths, 1875, by Kargopulo. Burçak Evren, 16, 2000.
- 3 Marie Tharp in Lamont Hall
Marie Tharp in Lamont Hall (1961). Credit to: Lamont-Doherty Earth Observatory and the estate of Marie Tharp
- 4 World Ocean Floor map
Painted by Berann, H. (1977) by Bruce Heezen and Marie Tharp
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Retrieved from: Marie Tharp: The lady who showed us the ocean floors Gary W. North.
8 June 2010.
- 5 Photo
Wientjes,C. (2022). Part of field research in Istanbul, in collaboration with TUBITAK research Institute
[Photograph/Image]
- 6 Photo
Wientjes,C. (2022). Part of field research in Istanbul, in collaboration with TUBITAK research Institute
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