

# Transient Liquidities along the New Silk Road II GRADUATION STUDIO



2022 – 2023







# Transient Liquidities along the New Silk Road II GRADUATION STUDIO



## TUTORS

Marc Schoonderbeek

Stefano Milani

Filip Geerts

Oscar Rommens

### DARDANELLES STRAIT –

### SEA OF

### MARMARA – BOSPHORUS STRAIT

The studio focuses on the area of the Sea of Marmara, the Dardanelles, and the Bosphorus Strait, a site characterized by many overlapping and contradictory traits defined by its geolocation and by a vast mix of cultures.

The initial collective research crystallized in a series of mega maps that evaluate the context and realities of the architectural projects that ought to be developed in. Within the discovered boundaries and limitations, with adequate knowledge of the current worldwide political developments, ecological considerations, migratory movement, geological events, and spatial dynamics, appropriate sites were selected and visited.

During the study trip, the student collective took a tour around the whole

area of the Sea of Marmara, discovering the reality of the patchwork. Certain qualities of the area could be easily identified from the starting point of the city of Istanbul such as the scale of infrastructural developments, the congestion, and the strategic position of the city in relationship to the two straits. The journey southwards towards Çanakkale reaffirmed and sometimes redefined the findings from the collective research. The selection of sites and the programs outlined in the work presented in the booklet establishes the initial problematics that students were concerned with and showcase the early developments of the graduation projects



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# **COLLECTIVE RESEARCH**





# **71 SECTIONS ALONG THE ISTANBUL CANAL**

## **INFRASTRUCTURE + CONGESTION MEGA MAP**

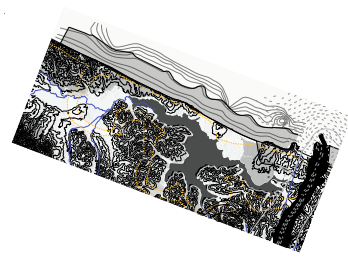
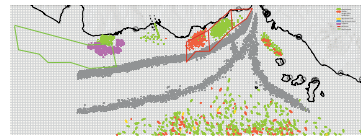
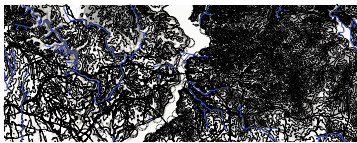
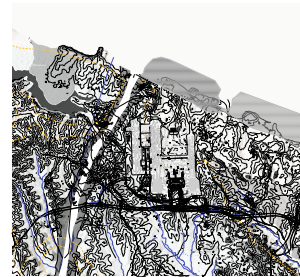
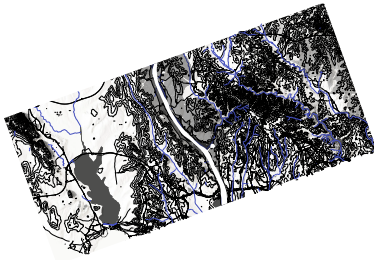
Luis Druschke  
Matilda Hoffmann  
Miltiadis Christodoulakos  
Pieter Tilman  
Taha El Barazi  
Dongyan Chen

## 71 SECTIONS ALONG THE ISTANBUL CANAL

The map “71 sections along the Istanbul Canal” investigates a hypothetical project that is to be implemented in the area. By dissecting its hypothetical connotations as well as the projected land transformations it will engender. Consequently, infrastructural elements and their inherent territorial transformations shall be represented by the relationship that unifies them, and this is the core principle in the production of the map. We moved from the fragmentation of crucial infrastructural knots and their subsequent effects

on the territory to the rather physical amendments potentially caused by the realization of the Canal Istanbul. We identified the medium of the section as a critical tool to investigate the conversation of infrastructure with the ground. Depicting the amount of displaced soil bluntly renders the tremendous territorial disruptions. Hence, the canal’s negotiation with the ground becomes not only a crucial aspect in our reasoning for the impactful intervention but is reflected graphically in its centrality in the map. To further scrutinize the canal’s relation to existing infrastructure and territorial conditions we gathered, interpreted

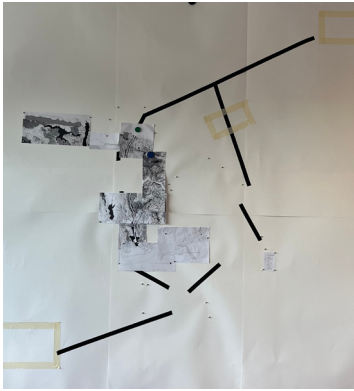
and represented data in relation to the loss of sweet water lakes, and the amount of disrupted systems. The loss of sweet water is here specifically addressed as the lakes are the main drinking water supply of Istanbul. Layering this information allows us to draw new relationships among these different indicators and to emphasize our critical observations. As an abstraction of this hypothetical future condition, we choose to represent the eventual canal as a series of 71 transversal sections running through the new ‘borders’ of the canal, shaping both the new urban, geographic, and territorial condition between the two seas. This enables a sharper and



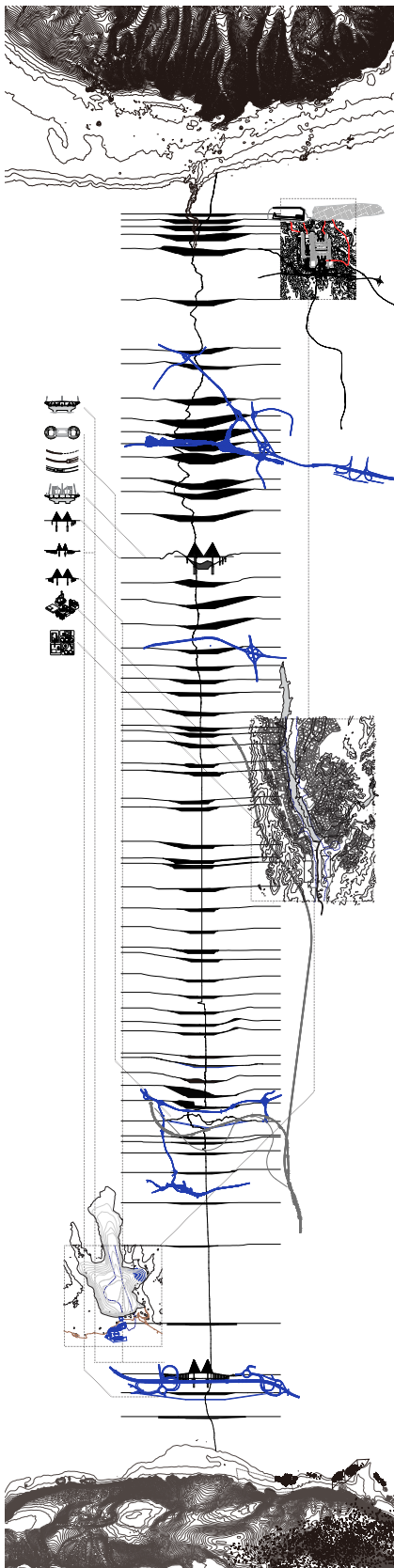
Process: Fragments of the Straits  
and the Istanbul Canal

more direct correlation between the proposed water body and the different systems at play that intersect with the object at specific instances. As such, specific sections shape and relate to specific infrastructural networks, making clear their interconnect- edness and, more importantly, their effect on the Territory. The map describes the Istanbul Canal through three different representational techniques: plan (topography, water bodies, infrastructural systems), sections (excavated soil) and graph (notational design of the infra- structural system). On the upper half of the map the impact of the sections on the territory is dis- torting and warped to highlight

the territorial impact the canal imposes and to define the canal as a central organizing line in the map. In contrast the bottom half of the map is represented as a graph with a notational system, which takes measure of the same impact depicted in the top half.

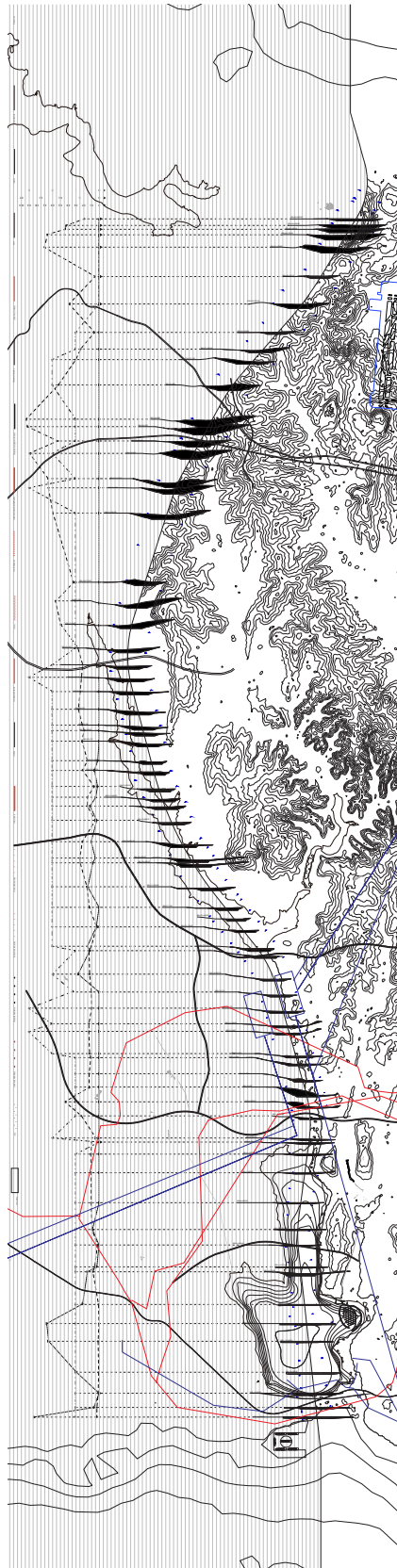


Process: Fragments of the Straits and the Istanbul Canal



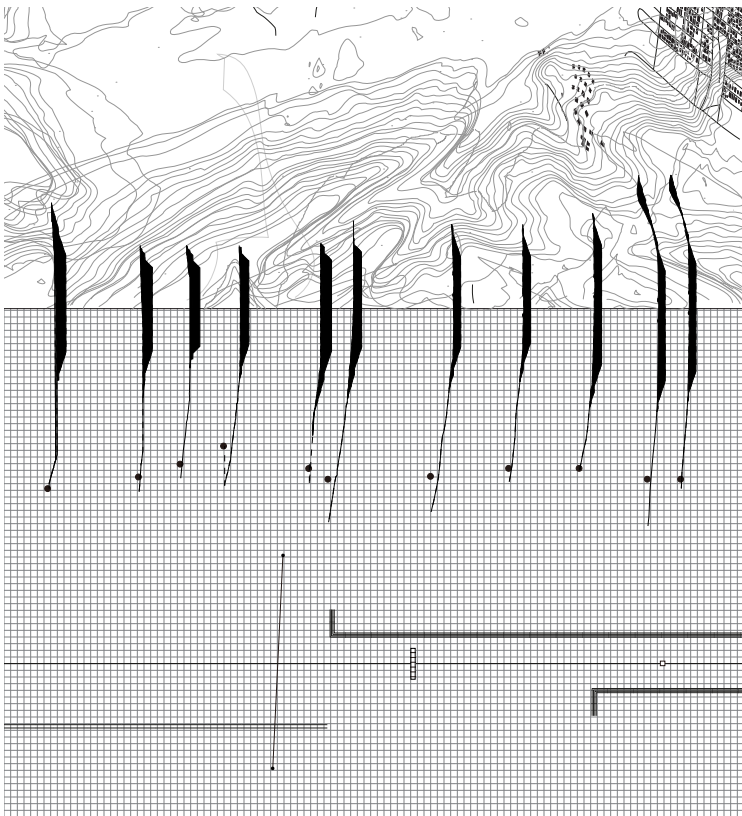
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phase mapping, created on  
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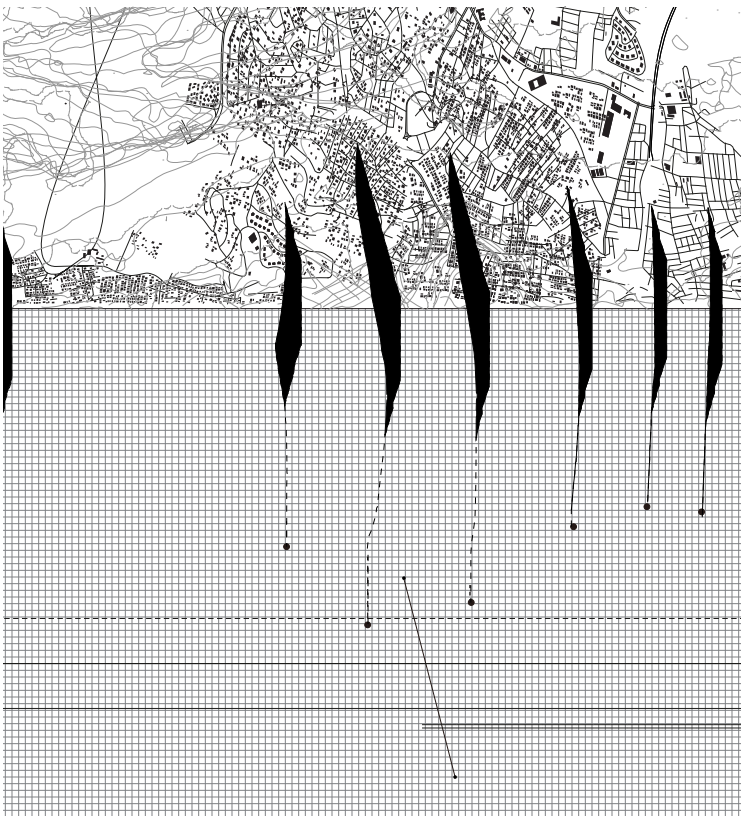
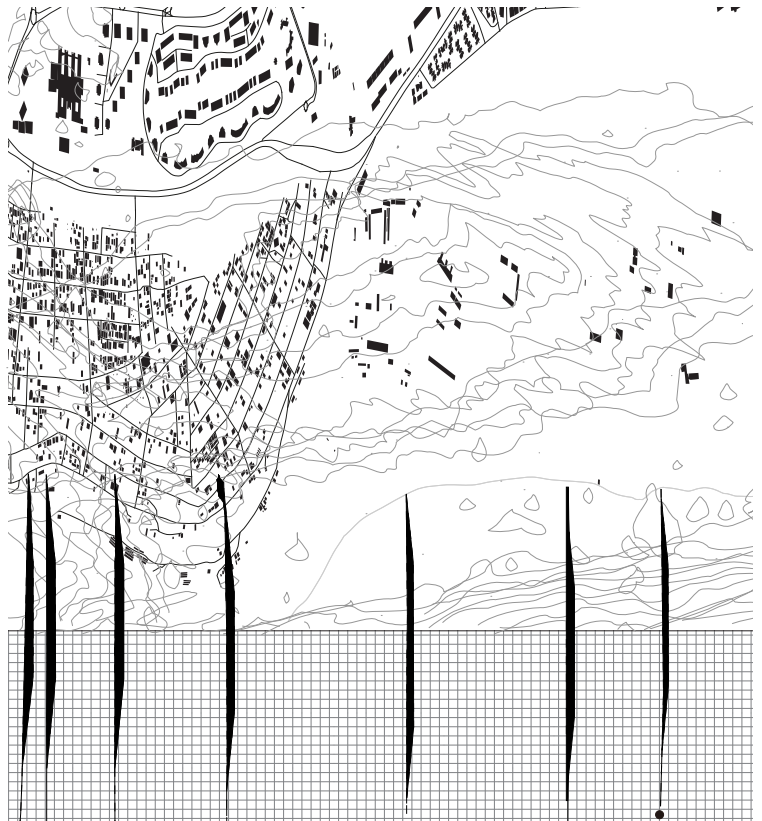
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Zoom in: Infrastructure +  
Congestion Map

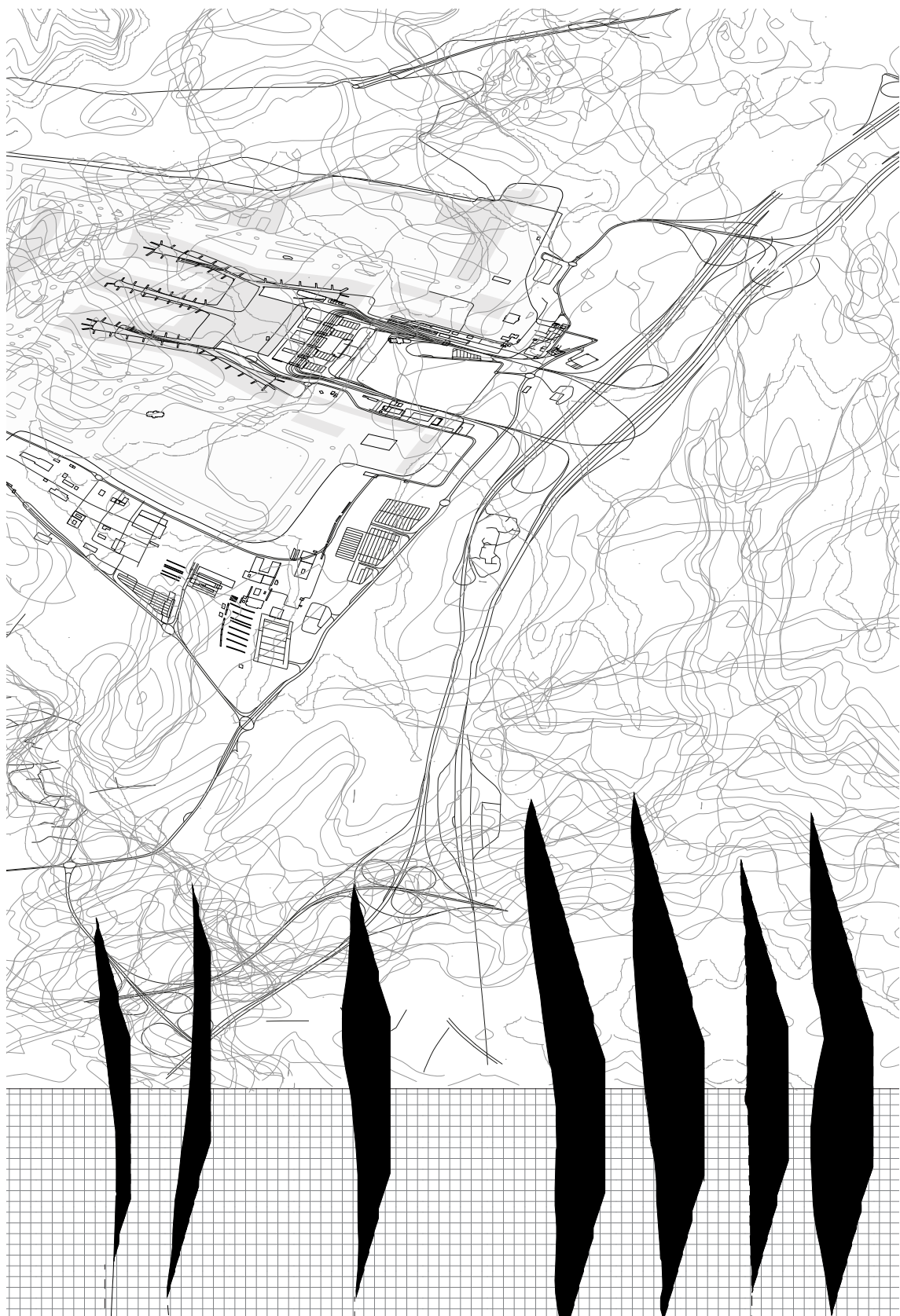


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Zoom in: Infrastructure +  
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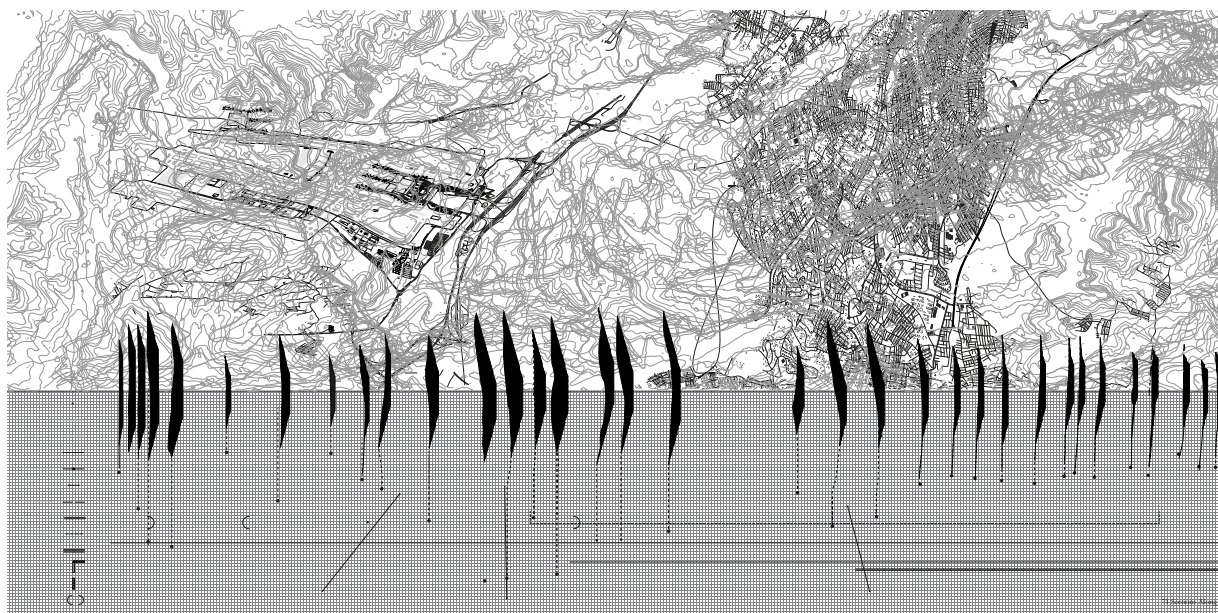


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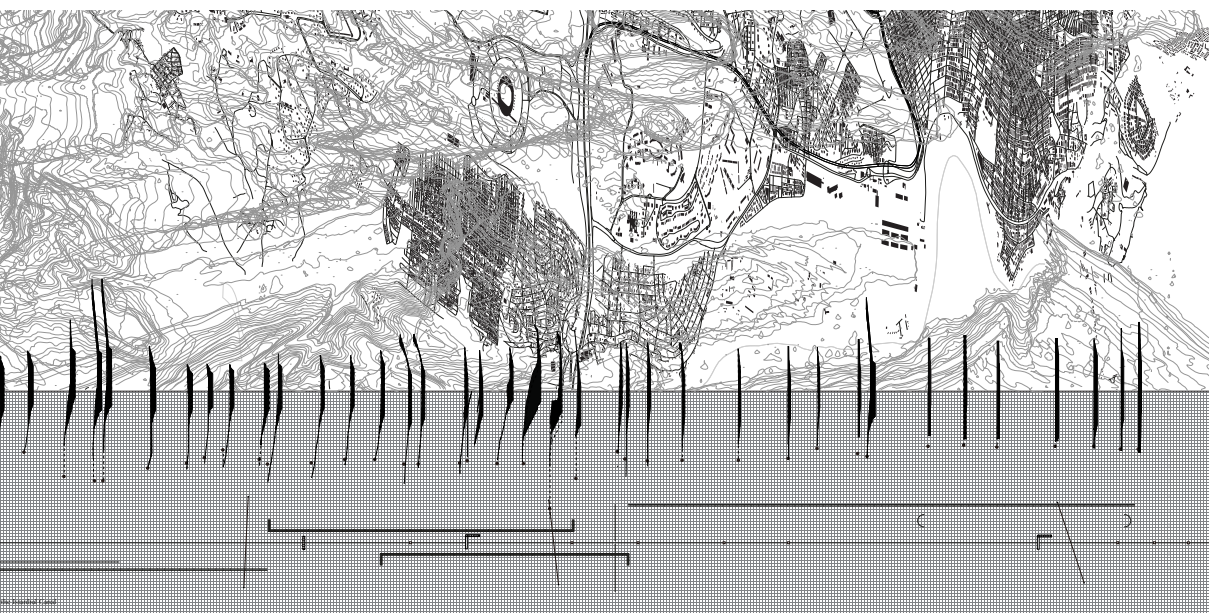


To conclude, the distorted geographical situation of the infrastructural elements with in the territory and the divergence in the data originating from measuring this distortion are conveyed in the map. Interpreting the graph, it stands out that the effects vary along the course of the canal. As an outcome we see the extent of impact recognized from the construction on the map, this leads to the debate if the proposed project incorporating their impacts is realistic after all.





Infrastructure + Congestion Map (3600mm x 900mm)





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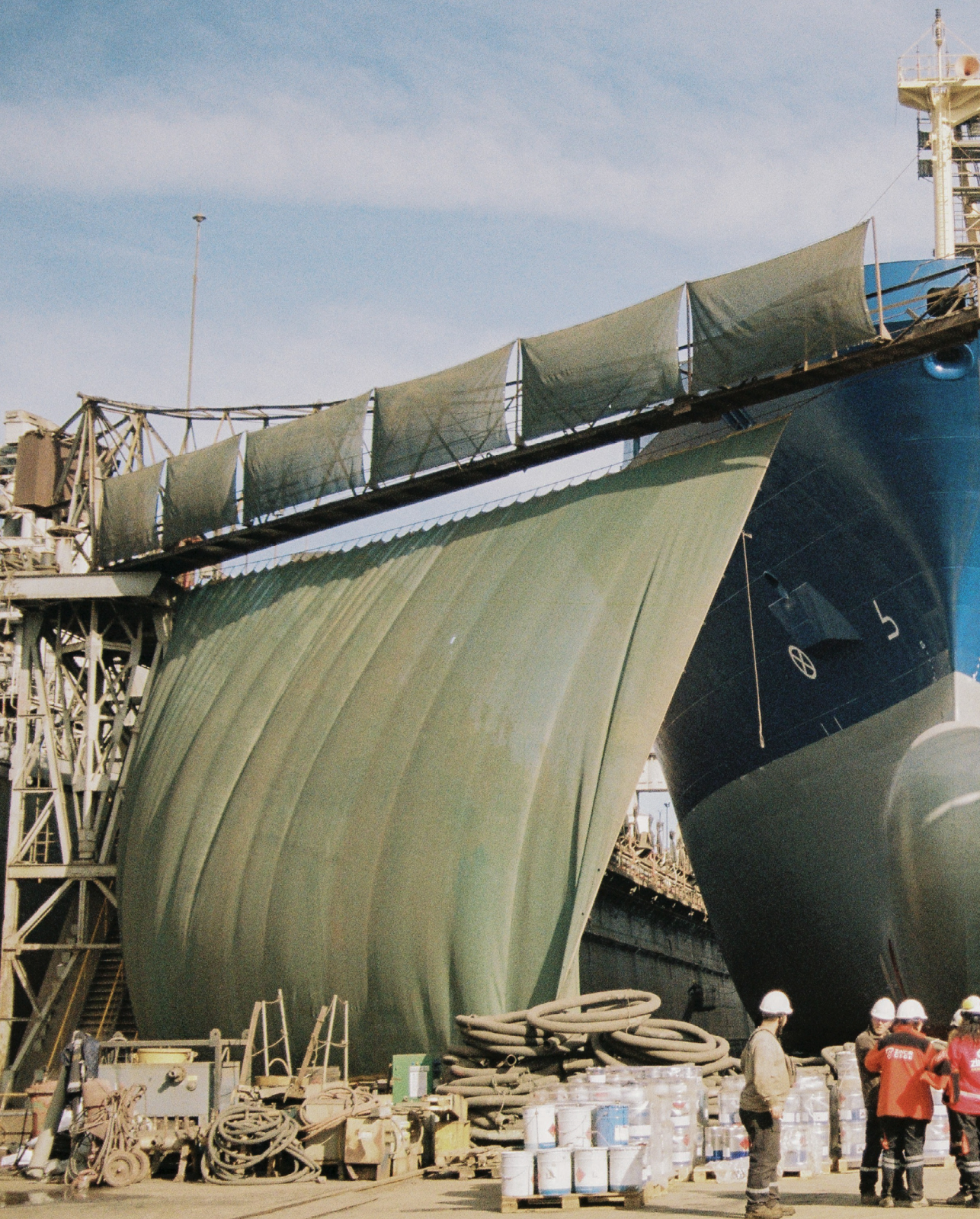
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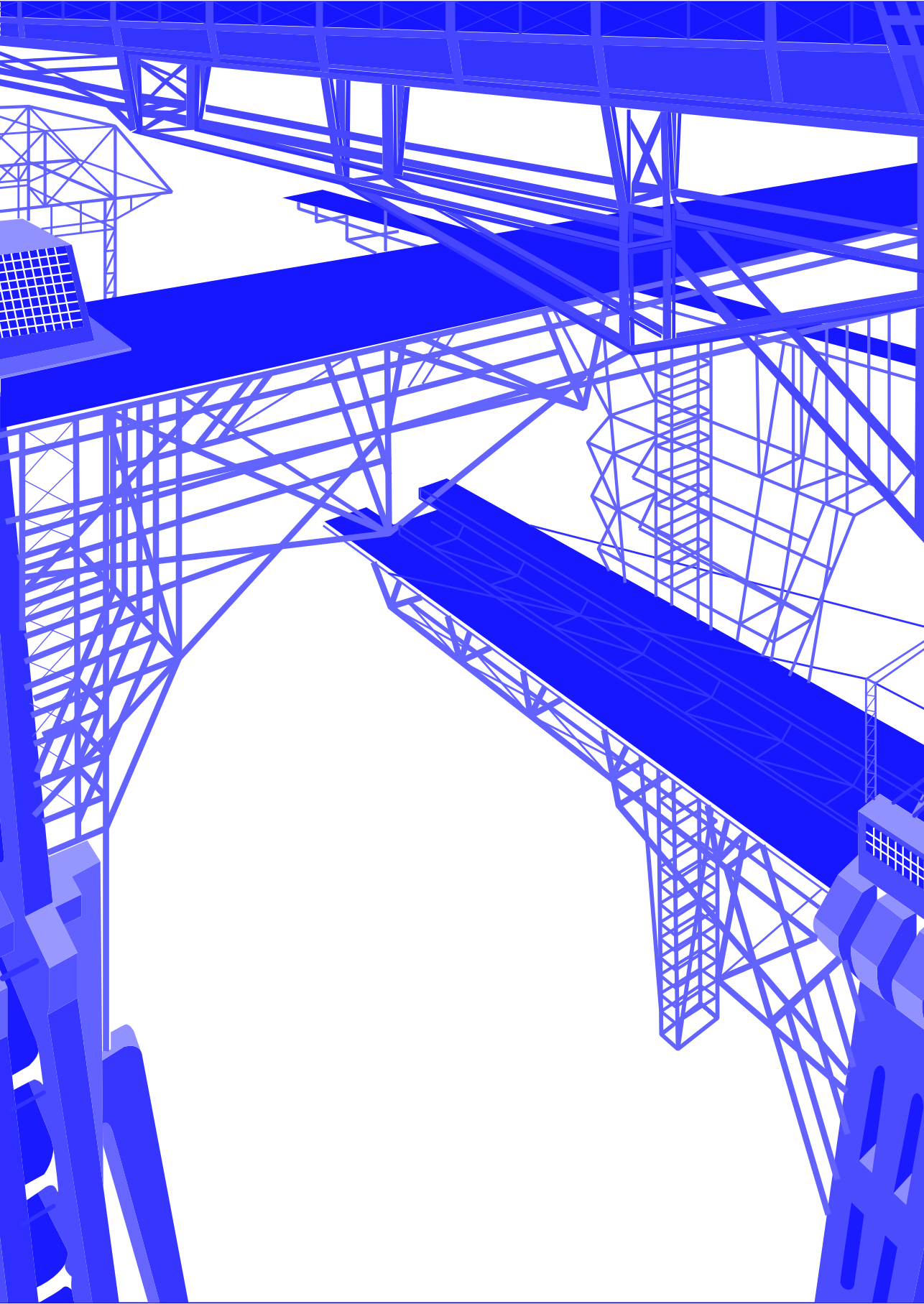






# INDIVIDUAL WORKS





**SHIPYARD SPECTACLES**  
A THEATRE FOR MARMARA

Miltiadis Filippou Christodoulakos





## **PALIMPSESTUOUS DRAWING CONSTRUCTION**

UNDERSTANDING THE  
NOTION OF PALIMPSEST IN  
RELATION TO THE LAND BY  
CATALOGUING DRAWING  
TECHNIQUES.

## INTRODUCTION

1. Palimpsest, Cambridge Dictionary. Available at: <https://dictionary.cambridge.org/dictionary/english/palimpsest> (Accessed: November 28, 2022).

The word ‘Palimpsest’ originates from the ancient Greek word παλίμψηστος, which is a combination of the words πάλιν + ψάω. Πάλιν means ‘again’ and Ψάω respectively translates to scrape, to erase or to disintegrate. The formal etymology of the word palimpsests refers to something that has changed over time and demonstrates evidence of that change, layers that build on each other. From a technical perspective the word describes a very old text or document in which writing has been removed, covered or replaced by new one.<sup>1</sup> A palimpsest is fundamentally formed through two successive acts: writing and erasing. It preserves the traces of the previous writing act, revealing the temporal relationship of the various superposed layers.

In mapping theory, the term palimpsest refers to either an act or a representation. The former one being a methodology that contains a series of different techniques and the latter one a method of multilayered meanings that build on the previous layers, depicting a constant relation of past and present version of the drawing.

2. Cavalieri, Chiara & Lanza, Elena. (2020). Territories in Time: Mapping Palimpsest Horizons. Urban Planning. 5. 94. 10.17645/up.v5i2.3385.

In the early 1980s, André Corboz, a Swiss historian of architecture and urbanism subtly describes the beginning of a new paradigm for understanding cities and territories. He defined the land as being the result of gradual and long-term processes comprising various transformations: a new sight attentive to the temporal relation of spaces, conscious of the lengthy history of locations, interested in that tactile ensemble of signals, traces, and voids.<sup>2</sup> To describe this complexity, the author proposes the metaphor of territory as palimpsest. In doing so Corboz aims to refer to the historical depth of the constitution of territory and its importance for this paper lies in its capacity to portray various cartographic techniques for the depiction of land.

The paper will be developed in two stages. To begin with, the term palimpsest will be understood through André Corboz's essay 'The land as Palimpsest'. The essay of the historian is going to be used as a foundation of understanding the term "palimpsest" in relation to the territory. Then the notion of palimpsests will be analyzed in relation to mapping theory and specifically through the construction of maps and drawings. The result will be a comprehensive catalogue of all the various techniques and processes that can be used for a palimpsestuous act or for the creation of a palimpsestuous representation.

## THE LAND AS A PALIMPSEST

The land has a multitude of different definitions, those definitions vary according to the discipline they are associated with. The definition can be constructed from the point of view of a geographer, the ethnographer, the cultural historian, the political administrator and so on. Other than this well-established disciplines that rely on cartography and map production, there are also significant approximations of everyday speech, where the word 'land' can allegorically represent the unity of the nation, it can refer to an expanse of cultivable territory, or it can refer to landscape areas set aside for recreation.

3. Corboz, A. (1983). The Land as Palimpsest. *Dio- genes*, 31(121), 12–34. <https://doi.org/10.1177/03921921830311210org/10.1177/03921921830311210>

4. Ibid.

5. Ibid.

6. Ibid.

7. Ibid.

8. Ibid.

In 'The land as Palimpsest' André Corboz begins to introduce the land as a process and argues that "the land is not a given commodity; it results from various processes".<sup>3</sup> Corboz separates these processes in two, "on the one hand there is spontaneous transformation: the advance or retreat of forests and the ice cover, the extension of swamp land or its drying up"<sup>4</sup>, these are characterized as the natural processes that impose an effect on land. "On the other hand, there is also human activity: irrigation, construction of roads .... turn land into an unceasingly remodelled space"<sup>5</sup> which is termed as anthropogenic processes. The author introduces the notion of palimpsest in relation to the land to hint a close relation to human nature since the land itself is an outcome of civilizations. "The inhabitants of a land tirelessly erase and rewrite the ancient scrawls of the soil".<sup>6</sup> However, "it is not enough simply to declare that the land is a result of a series of more or less coordinated processes".<sup>7</sup> As soon as a group of individuals inhabit the land (whether lightly, by gathering, or heavily, through extraction mining), they establish a kind of developmental or planned relationship with it, and the reciprocal impacts of this coexistence can be detected. "In other words, the land becomes the object of construction. It is a type of artefact. From then on it becomes a product as well".<sup>8</sup> The land or territory can be described as a process or a product of human activity. As a result, palimpsestuous territorial construction stems from palimpsestuous societal development.

The territory, so densely imbued with traces and prior interpretations, appears to be a palimpsest. To establish new projects and more rationally use of specific areas, it is frequently required to irreversibly alter their substance/ substrata of existing built environment. However, the land cannot be discarded or replaced similarly to a consumer product. Due to the unicity of each 'land' in connection to cultural, spiritual, economic value there is a constant need to 'recycle' its surface. This process of recycling takes place by scraping clean the old text that mankind wrote, and with utmost care make the irreplaceable and valuable surface of the soil available again. This process demands strenuous efforts and a continuous repetition and reiteration caused by the rapidly changing nature of today's consumerist demands. In doing so we must use the appropriate techniques and procedures, otherwise we often identify regions that develop holes as a result of excessively harsh treatment and inappropriate activity, similar to a parchment that has been wiped too frequently. To protect the quality and temporal relations of the land we need to document it accordingly and map it with appropriate drawing techniques. Understand the intricate web of relationships between past events, present desires and future ambitions. In proceeding without the proper documentation, we ought to damage the parchment irreversibly.

## LAND AND MAPPING

9. Ibid.

10. Ibid.

11. Trompe-l'œil is an artistic term for the highly realistic optical illusion of three-dimensional space and objects on a two-dimensional surface. Is most often associated with painting, tricks the viewer into perceiving painted objects or spaces as real. Forced perspective is a related illusion in architecture.

The essential concept of a map is the simultaneous vision of a land, which is difficult to perceive in space, time, scale at a single glance. Essentially it is a reduction of the real in its dimensions and components that keeps the original relationships of the elements included. Theoretically, map and land can be interchanged at any time, but it is clear that this is a dangerous illusion because such convertibility does not take into consideration the fact that the identity of the two objects is only postulated. Furthermore, it does not take into account the fact of scale or rate of reduction, which has less to do with the size of the map and more to do with the very essence of the phenomenon which it denotes and whose real dimensions remain determinant. Because the land contains far more than the map wishes to depict, and the latter remains despite everything, an abstraction. It lacks the most distinguishing features of the land: its width, thickness, and constant change. In the end the map ends up having a contradictory position since it seeks to be exhaustive while still having to be selective. "A map is a filter".<sup>9</sup> It ignores seasons, conflicts that undermine any civilization, and disregards the myths and experiences, even communal ones, that connect a civilization to the physical environment of their activity. Even if a cartography tries to represent such qualities using statistical mapping, it conveys it with even more abstractions, since it is qualitatively unequipped.

For one to be able to represent the land he must first understand it and its past. However, such a representation does not involve tracing but creating. "A map is drawn first to know and then to act".<sup>10</sup> Like the land, a map can be a process and a product and because it has a form and a meaning, there is the risk of it being misinterpreted as a subject. It tends to replace itself for reality since it was created as a model with the attraction of a microcosm, an incredibly pliable simplification. It is open to any design that it anticipates and whose correctness it appears to demonstrate. "This sort of trompe l'œil"<sup>11</sup> not only

visualizes the actual territory to which it refers, it can incarnate things which are not".<sup>12</sup> It can display a non-existent land just as effectively as a genuine one, which unveils that it is better to be prudent. It is continuously in danger of distorting what it tries to clarify.

Maps, however, did not only try to portray only the existing and accurate depictions of the land. During the 19th century there was a movement not just to interpret the territory, but also to alter it. A new form of map emerged: the planner's map, which aim was to predict changes by prescribing them. "It is the generation by models of a real without origin or reality: a hyperreal. The territory no longer precedes the map, nor survives it. Henceforth, it is the map that precedes the territory".<sup>13</sup> This type of map proved vital for understanding complex development patterns on a wide scale, but it also acquired the allure of a working drawing. It has a similitude for a limit by purposefully separating itself from reality, which will legitimize its vanity. Maps that aim to trace the existing and ones who aspire to plan the future can be viewed as demiurgic devices, as they restore the gods' vertical perspective as well as their ubiquity. The landscape, on the other hand, can only be in one location at a time, horizontally, just as individuals can only observe the world consecutively.

12. Corboz, A. (1983). The Land as Palimpsest. *Dio- genes*, 31(121), 12–34. <https://doi.org/10.1177/03921921830311210org/10.1177/03921921830311210>

13. Jean Baudrillard, *Select- ed Writings*, ed. Mark Poster (Stanford; Stanford Universi- ty Press, 1988), pp.166-184.

## **PALIMPSESTUOUS DRAWING ACTS**

The characteristics of palimpsest are evident in drawing theory, the development of a drawing is constant processes of erasing, redrawing, adding information to reach an outcome where the processes can be repeated. Drawings use a palimpsestuous construction to successfully depict territory in the frame of Corboz's notion of land. The various layers of depiction are clearly drawn and assembled in a way that shows their temporal relationship. The aim of such drawing lies in the representation of different interrelated elements that develop through the process of drawing and redrawing. In this process they often reveal the traces from previous versions that could be related or not to the current version. This may be evident in the final drawing in the sense that the entire construct is a depiction of a process rather than a final image, or it may be unavoidable due to the technique utilized in the drawing process itself. Understanding the various techniques and their effect on the drawing is crucial to successfully achieve the desired result and purpose of the drawing.

The act of drawing a palimpsest consists of multiple techniques: drawing, erasing, scraping, re-drawing/tracing, and shifting. The act of drawing is the first and foremost the most vital one since is the begging of creation. Once the act of creation reached the limit of the surface used, comes erasing, its main purpose being the reuse of the material that the drawing was inscribed on. Scraping on the other hand even though similar to erasing is a much more violent act that not only erases previous layers but also affect the paper and its texture quality. The fourth operation in the palimpsestuous drawing process is re-drawing. The act of re-drawing builds upon the original one, even though in many cases it would lead in a result that differs a lot, it still retains attributes of the previous drawing. As a result, redrawing is a palimpsest-like evolutionary process. The final technique used for the construction of such a drawing is shifting. This is a transitional act for clearly displaying the various layers or for the purpose of making the new addition





14. Carrol, L.(1890). *Eight or Nine Wise Words about Letter-Writing*, (Forgotten Books,) pp.20.

15. The reading of the lines of a newspaper directly across the page, instead of down the columns.

16. She would turn the page sideways and continue writing at right angles rather than using another piece of expensive paper.

17. Fisk, H. (2018) *Army Corps of Engineers Mississippi River Meander Belt 1944*, *Atlas of Places*. Available at: <https://www.atlasofplaces.com/cartography/mississippi-river-meander-belt/> (Accessed: November 28, 2022).

to the drawing visible. One of the most common practices in antiquity was the 90-degree rotation of the paper. The act is also known as cross-writing (fig. 1) which Lewis Carroll<sup>14</sup> later suggested that it leads to the act of cross-reading<sup>15</sup>. The act of cross-reading would in turn give birth to a series of ludicrous ideas that would come out of the misinterpretation/replacement of words in the space of the paper. In practice if the first text was written horizontally, the next writer would proceed adding information vertically in order to avoid overlapping and make the latest content visible. Jane Austen<sup>16</sup> an English novelist in the 18th century was known for applying this act. As a result, the successive layers of a palimpsest will never be completely original but will involve certain determinative activities from the beginning. The process of shifting and re-drawing often works collaboratively in order to achieve the desired result.

As previously mentioned palimpsestuous constructed drawing is one that depicts the various layers of one element on the same canvas with their temporal relations. Relating back to the land as described by Corboz, this construction is evident in maps or other spatial representations that present spatio-temporal relations of layers. The portrayal of a palimpsest must identify distinct layers and the links between the levels, to successfully visualize different layers on the same canvas different representation methods are utilized; such as overlaying, superimposing or juxtaposing.

Overlaying various layers is the most common method in a palimpsestuous creation. These overlays can be projected in different ways, on one hand they can be represented into distinct planes that are displayed on top of each other, or on the other hand displayed in one plane to indicate the relationship between different layers. A series of mappings done by the Army Corps of Engineers (fig.2) illustrating the Mississippi River Meander Belt in 1944 is a beautiful example of an overlay technique that portrays this depositional environment in one plane. These characteristics are easily identified and may be mapped based on the distinct patterns formed on the surface of the land.<sup>17</sup> In this case 15 sheets were produced, documenting and mapping the



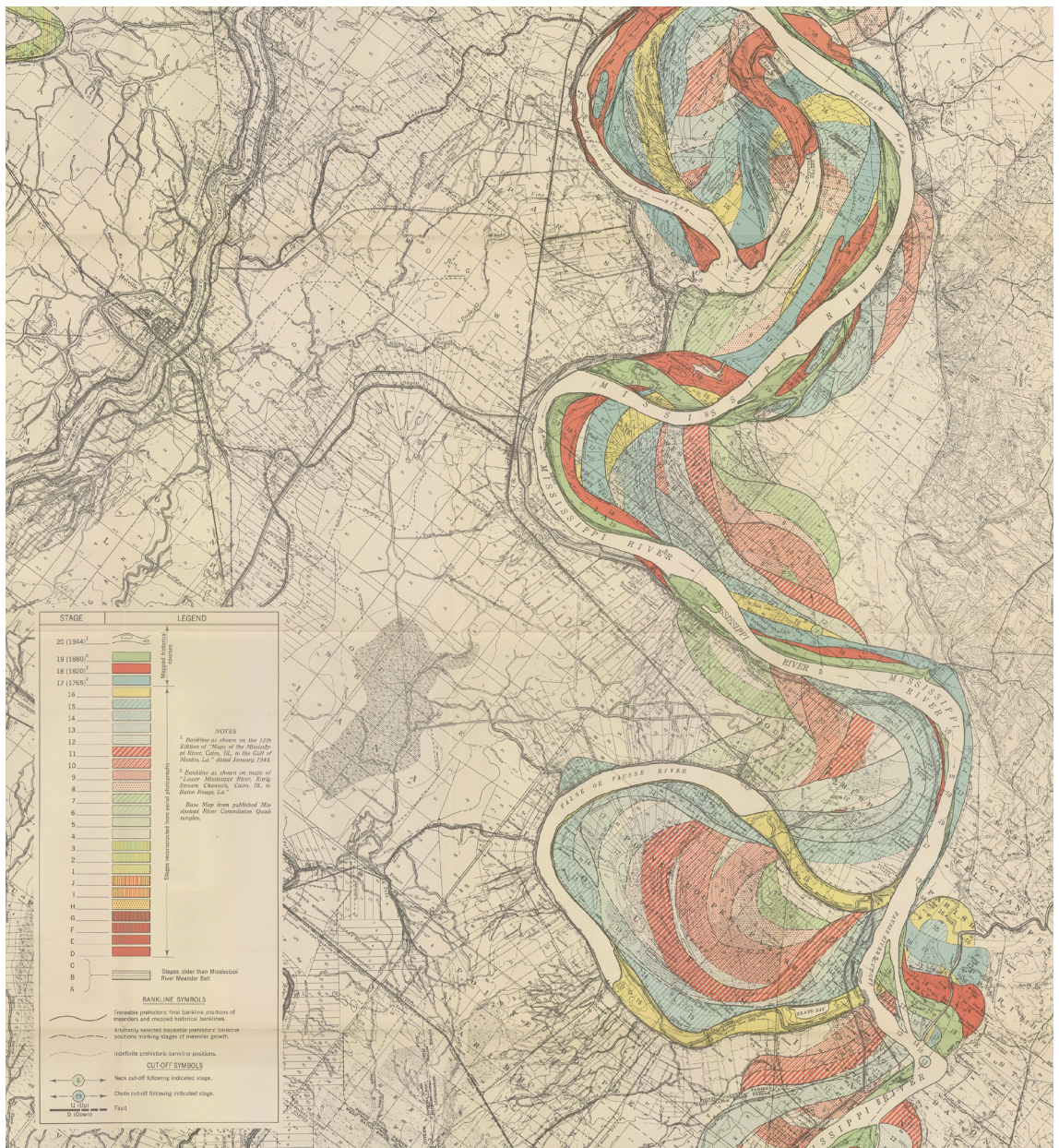


Figure 2. Mississippi River Meander Map by Army Corps of Engineers from 1944



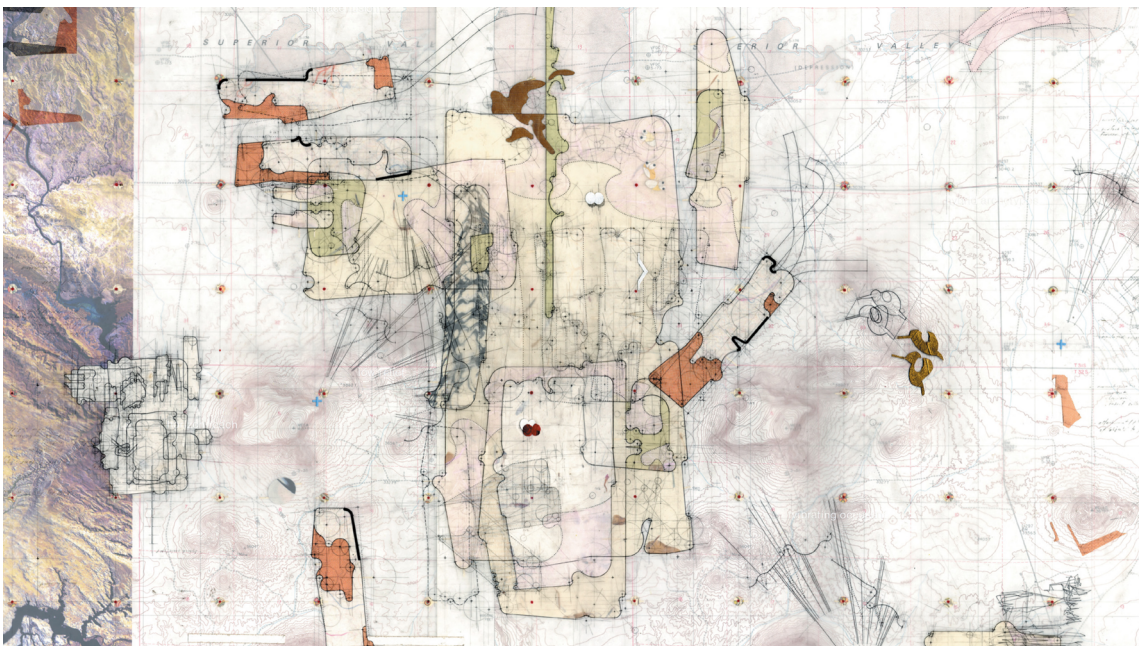
18. Corboz, A. (1983). The Land as Palimpsest. *Dio- genes*, 31(121), 12–34. <https://doi.org/10.1177/03921921830311210>  
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chronological order of the meandering river in Mississippi. The cartographical drawing technique of overlay utilized to represent this depositional environment, unveils the temporal relation of the various stages of the meander by superpositioning the more current feature over the older ones.

Superimposing and juxtaposing are further representation techniques used for the construction of a palimpsestuous drawing. André Corboz in his essay “The Land as Palimpsest” describes the characteristics of land as superpositions and juxtapositions of different elements such as infrastructure or architecture.

“Heavy interventionist policies have created a multi-tiered land, not only because of the material superposition of these networks, but also by the differentiated systems of relation which they have instituted. Such a juxtaposition determining two unconnected realities and the scarcity of superhighway exits and rest areas emphasize it all the more.”<sup>18</sup>

Figure 3. Perry Kulper’s ‘Fast twitch, site plan’



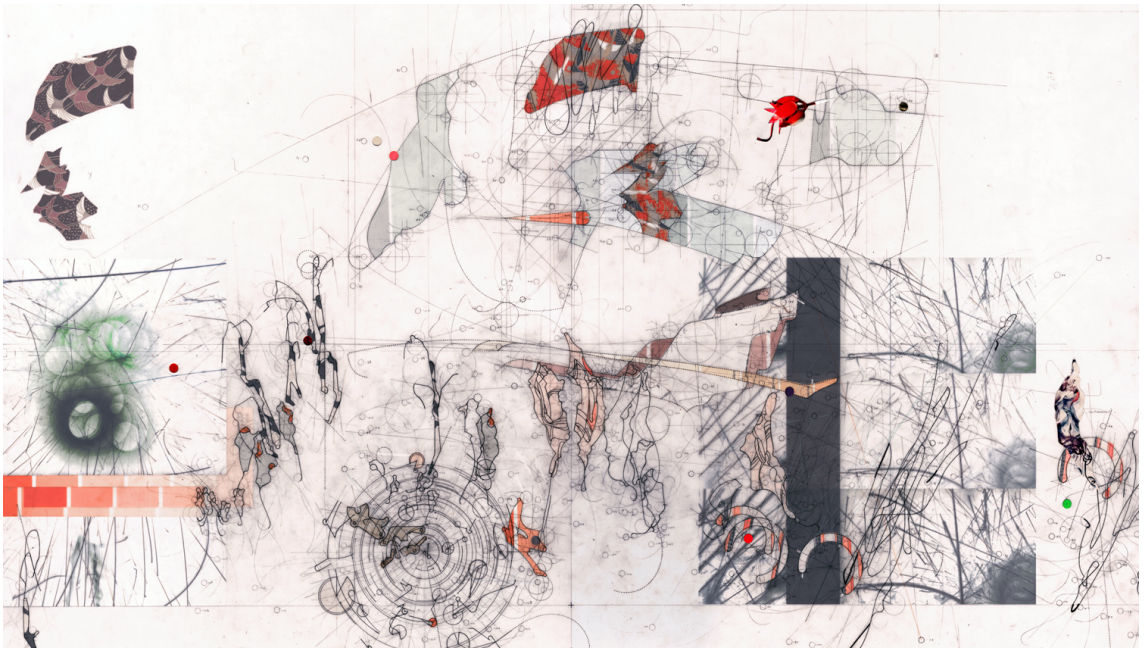
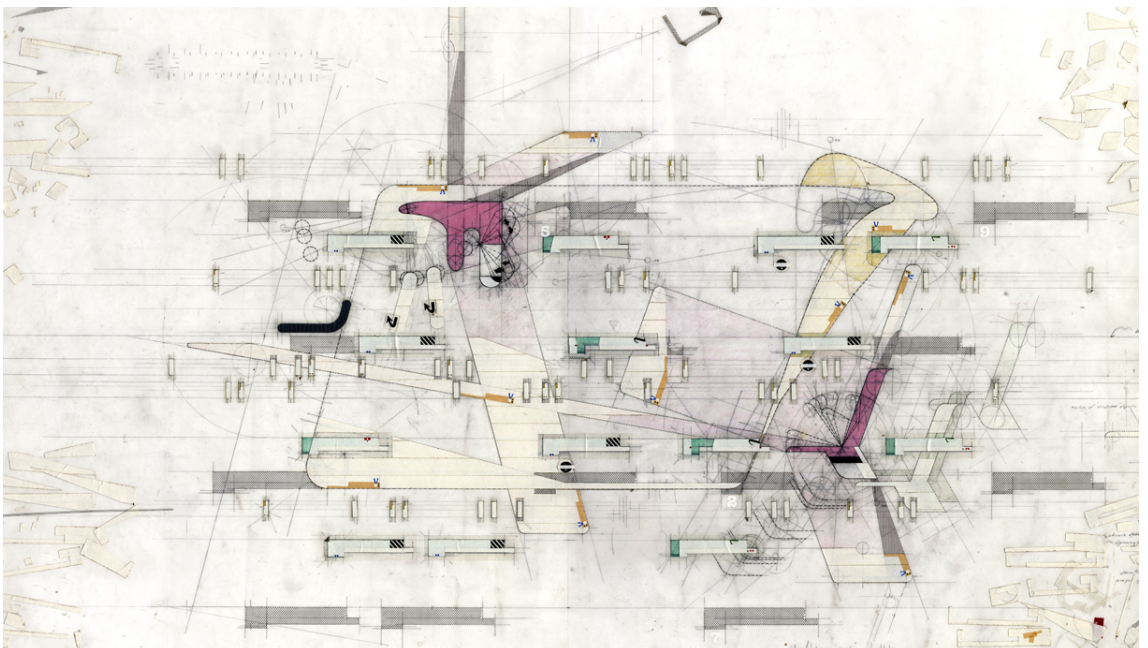


Figure 4. Perry Kulper, Muse drawing machines / archival surface, proto-formal drawing

Figure 5. Perry Kulper, Bleached Out: De-Commissioning Domesticity: relational drawing v.01 From the project Bleached Out: De-commissioning Domesticity [2003]



Based on this we understand that land representations are primarily created in the same manner in order to conserve these qualities in the drawing. As juxtaposition is the act of putting two or more elements next to each other in order to compare/contrast, superimposition places or overlays elements on top of each other having a transparent effect so that both features be still evident. The mappings of Perry Kulper portray palimpsestuous juxtapositions or superimpositions (fig.3). Furthermore, particularly with superimposition is the act of shifting (fig.4), since the increased transparency and number of layers may potentially result into an accidental incoherence. As a result, alternative shifting techniques, such as the use of color, lineweights, or forms, should be carefully selected in order to make the drawing's message obvious. The essential feature of a palimpsestuous juxtaposition or superimposition is that it introduces temporal relationships between the different elements of the drawing.

Apart from the act of drawing a palimpsest, there are also drawings that have a palimpsestuous construction. The aforementioned technique/s are utilized for the construction of such drawings where the elements of the drawings depict their temporal relations in the final result. However, just using these techniques does not always lead into a palimpsestuous construct. More often in a palimpsestuous drawing we identify methods like collage and *décollage*, since they previous acts that then evolve to the final drawing.

In the act of collage, pieces, cuts, or sketches are superposed or overlaid on top of one other revealing the temporal sequence of its operations. For the act of collaging one piece is glued to the paper first, and then the following cut out must be appropriately placed according to the first one. At this moment, the individual initiates the operation of shifting, and the second piece is applied in accordance with the positioning of the first piece. Repeating these actions creates a palimpsest in terms of both the act and its final structure.

*Décollage* is another drawing method that is both a palimpsestuous act and result. A *décollage* drawing begins by layering various parts, layers, and



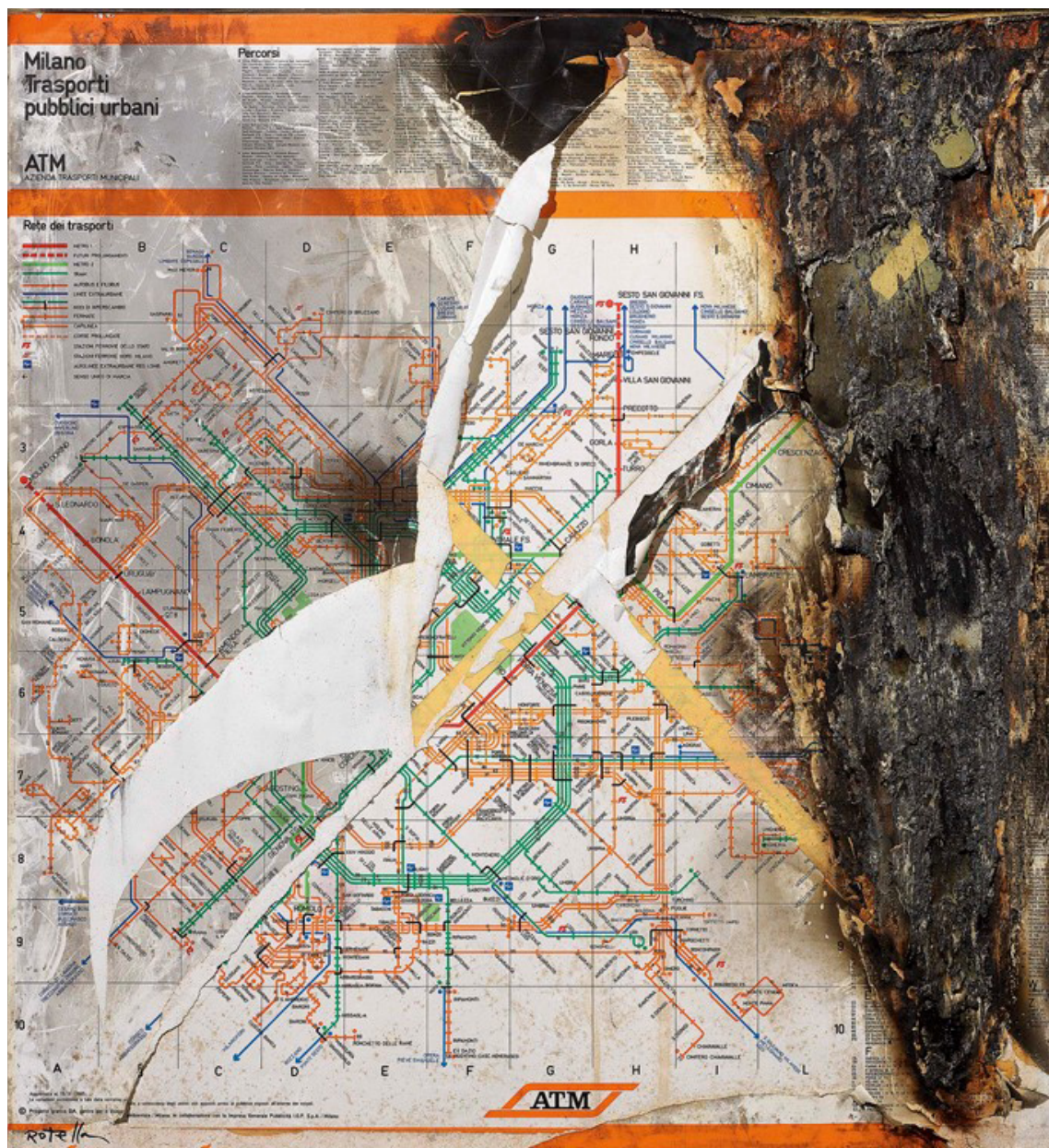


Figure 6. Décollage, Mimmo Rotella (Catan-  
zar 1918 - Milano 2006)

canvases on top of one other, and then begins to separate some of the pieces by tearing or cutting them off (fig.6). As a result, the final drawings disclose the time links of many layers as well as the acts that formed itself. For the method of *décollage* to take place, first the process of collage needs to take place, which is a palimpsest as an act, and then, due to the second action of detaching, a palimpsestuous depiction is unavoidable in such drawing. Furthermore, the act of separating what has previously been done necessitates a thorough process of selecting what will be displayed from the preceding and how. As a result, this conduct is neither spontaneous nor accidental. It is at this stage that the drawing begins to depict its palimpsestuous deed, and how it does so is determined by the detaching process. As a result, *décollage* is a vital drawing technique for understanding the processes, as well as how the drawing develops a relationship among its various elements.



## CONCLUSION

Palimpsests emphasizes the physical and metaphorical significance of using the existing.<sup>19</sup> Just as certain codices maintain the remnants of prior manuscripts, territories exhibit the remains and scars of anthropogenic activity, superposed in strata and intricately interwoven by the reuse of materials or foundations.<sup>20</sup> Palimpsestuous characteristics could be seen in drawings in its construction or the act itself. Drawings with palimpsestuous constructions are typically employed to express multidimensional features of the represented object. The most important aspect is that the layers are represented by their temporal relationships. Thus, not all drawings that portray a multilayer structure can be termed palimpsestuous, since the notion refers to the succession of these layers. The catalogue of all the different palimpsestuous features/techniques was created in order to have a specific set of tools when dealing with construction of drawings/maps that emphasize the temporal relations between multi layers. The land, which is made up of a layered-up information system stretching back to prehistoric times, is continually rewritten, and erased by its people. Thus, the act of mapping must be done very carefully when involved in the spatio-temporal relationship of a certain location. As Corboz mentioned the map is an abstraction of the land, a glimpse of information in comparison to the overall picture, “A map is a filter”<sup>21</sup>. In conclusion, in the act of drawing a palimpsestuous map, one has to consider what does the outcome wants to portray and look like and from there decide on the appropriate techniques to be used.

19. Galiano, L.F. (2019) Palimpsests , *Arquitectura Viva*. *Arquitectura Viva*. Available at: <https://arquitecturaviva.com/articles/palimpsests> (Accessed: November 28, 2022).

20. Ibid.

21. Corboz, A. (1983). The Land as Palimpsest. *Dio- genes*, 31(121), 12–34. <https://doi/10.1177/03921921830311210org/10.1177/03921921830311210>

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Harvard GSD, n.d. Sebastien Marot, “Palimpsestuous Ithaca: A Relative Manifesto for Sub-Urbanism”. [video] Available at: <[https://www.youtube.com/watch?v=dIQNr-DKgtA&ab\\_channel=HarvardGSD](https://www.youtube.com/watch?v=dIQNr-DKgtA&ab_channel=HarvardGSD)> [Accessed 26 September 2022].

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## **PROJECT ANALYSIS**

## SHIPBREAKING

Shipbreaking is a heavy and hazardous industry that exposes both workers and the environment to a great number of risks. Around a thousand ocean going commercial vessels reach the end of their service life each year. Up until 1970 ships were mainly dismantled in the EU and US , however due to social and environmental laws becoming stricter, the industry shifted to areas where legal frame are weaker.

More than 70% of obsolete ships end up in South Asia, where they are dismantled under rudimentary conditions on the beaches of Alang in India, Chittagong in Bangladesh and Gadani in Pakistan, a practice known as ‘Beaching’. The human and environmental costs of beaching are devastating. In the past decade Turkey has entered this industry trying to get advantage of its geopolitical location. Currently the main Turkish ship breaking yard is

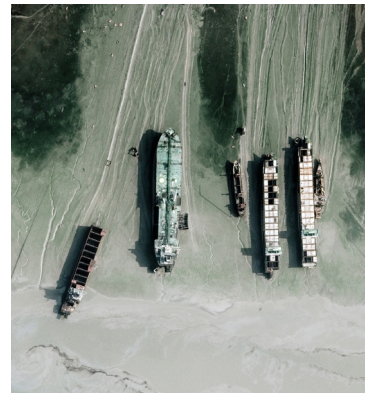
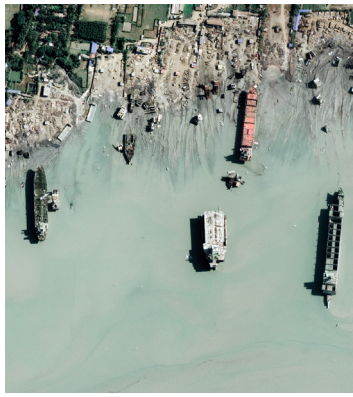
located in the Aegean Sea where they use a similar method called ‘landing’ where again all operations happen in the beach.

Turkey is acting now as a middle man between the impoverished conditions of South Asia and the certified clean facilities of EU. Ship owners have started dismantling their ships in Turkey where they are not causing such a harmful impact on the environment and on the workers and at the same time where they earn more money in comparison to EU facilities. In the map the focus is in the beneficial owners country of the vessel and where they are sending their ships to be broken down.

Ship-breaking yard in Bangladesh where vessels are beached



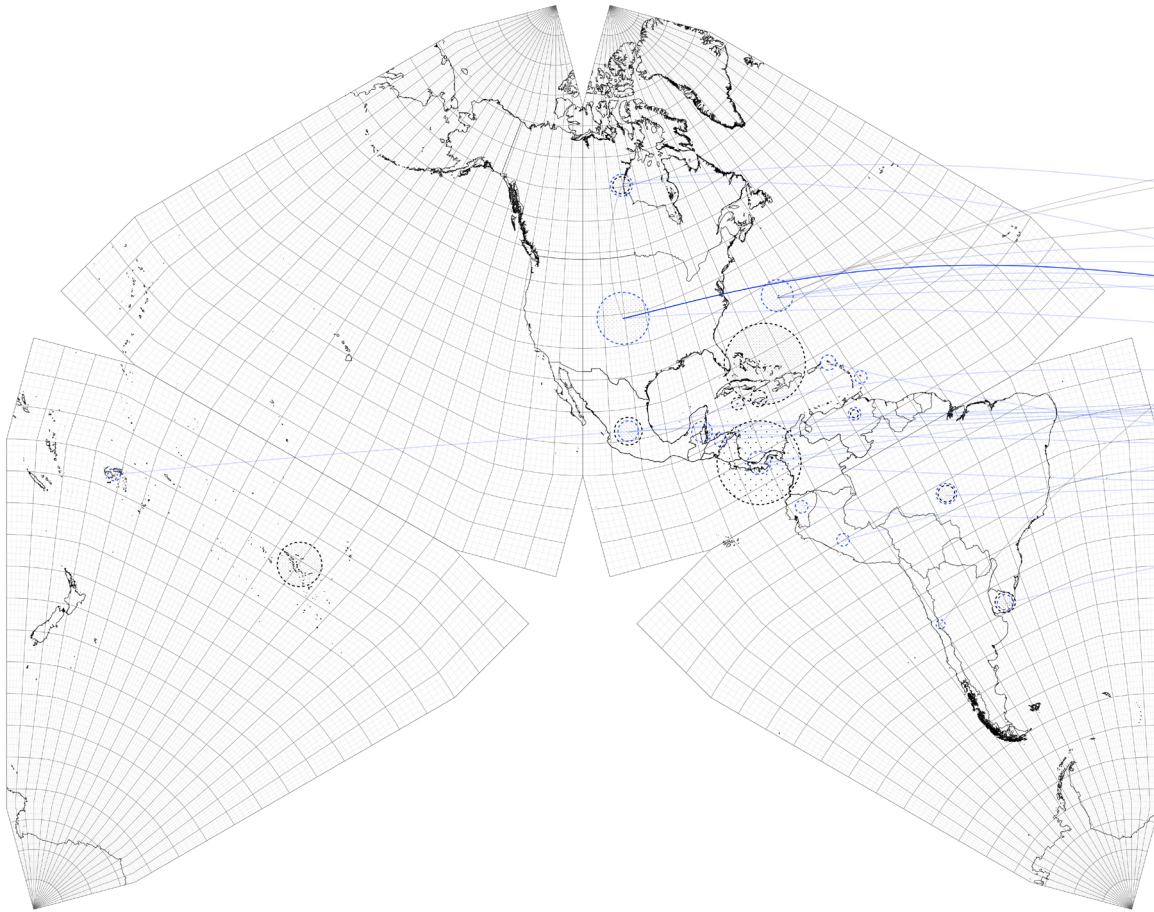




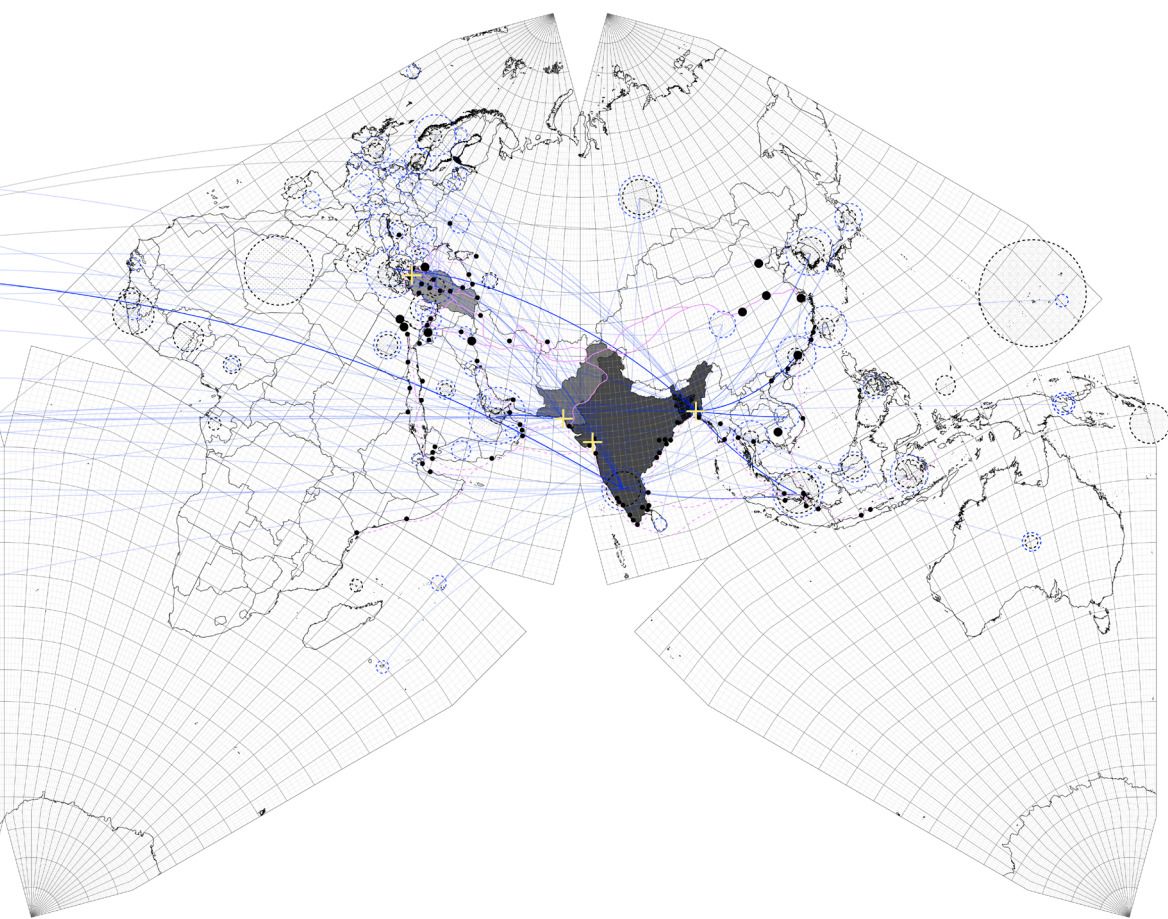
Ship-breaking beaches in South Asia.



Ship being dismantled in Chittagong beach in Bangladesh.



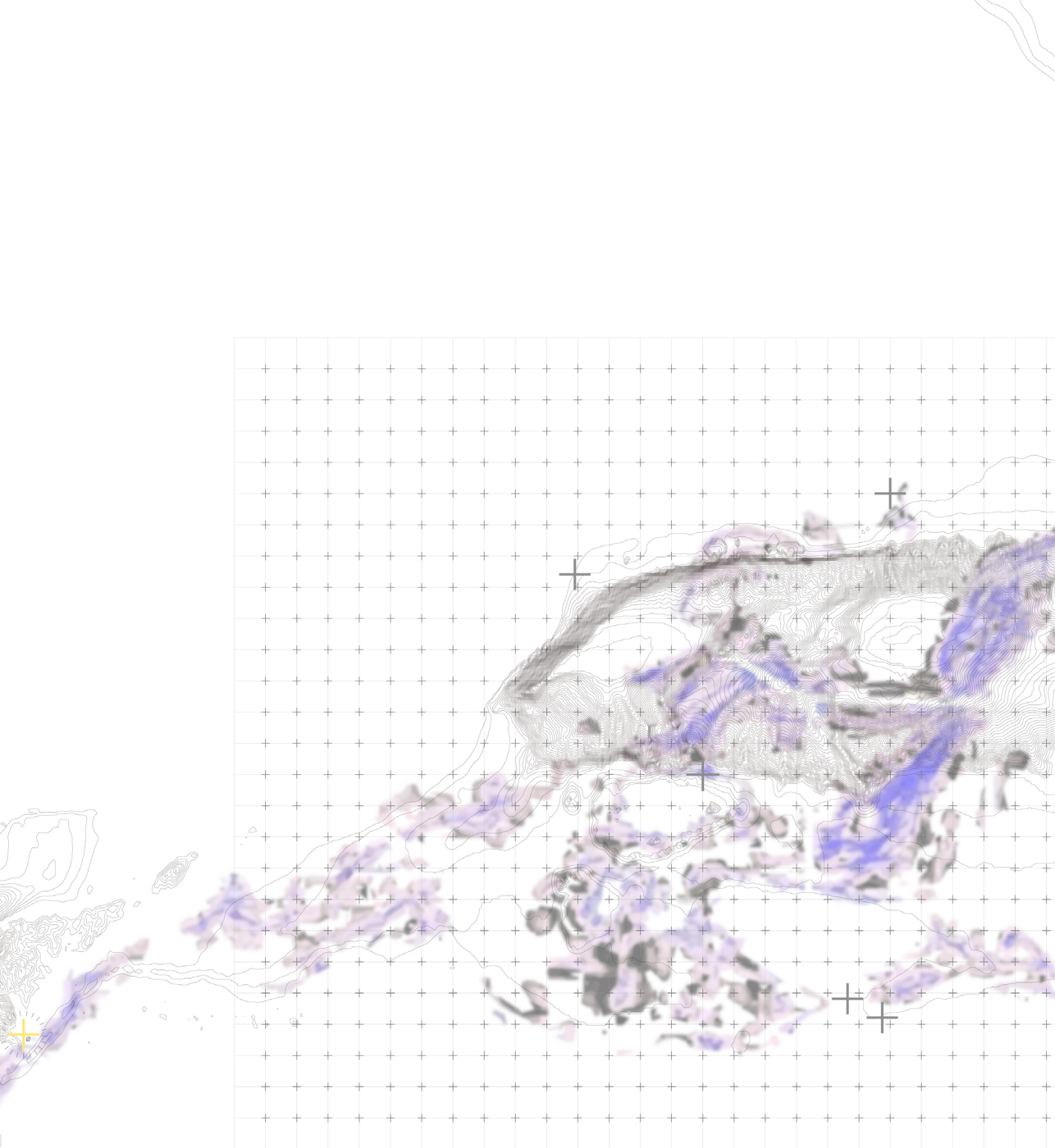


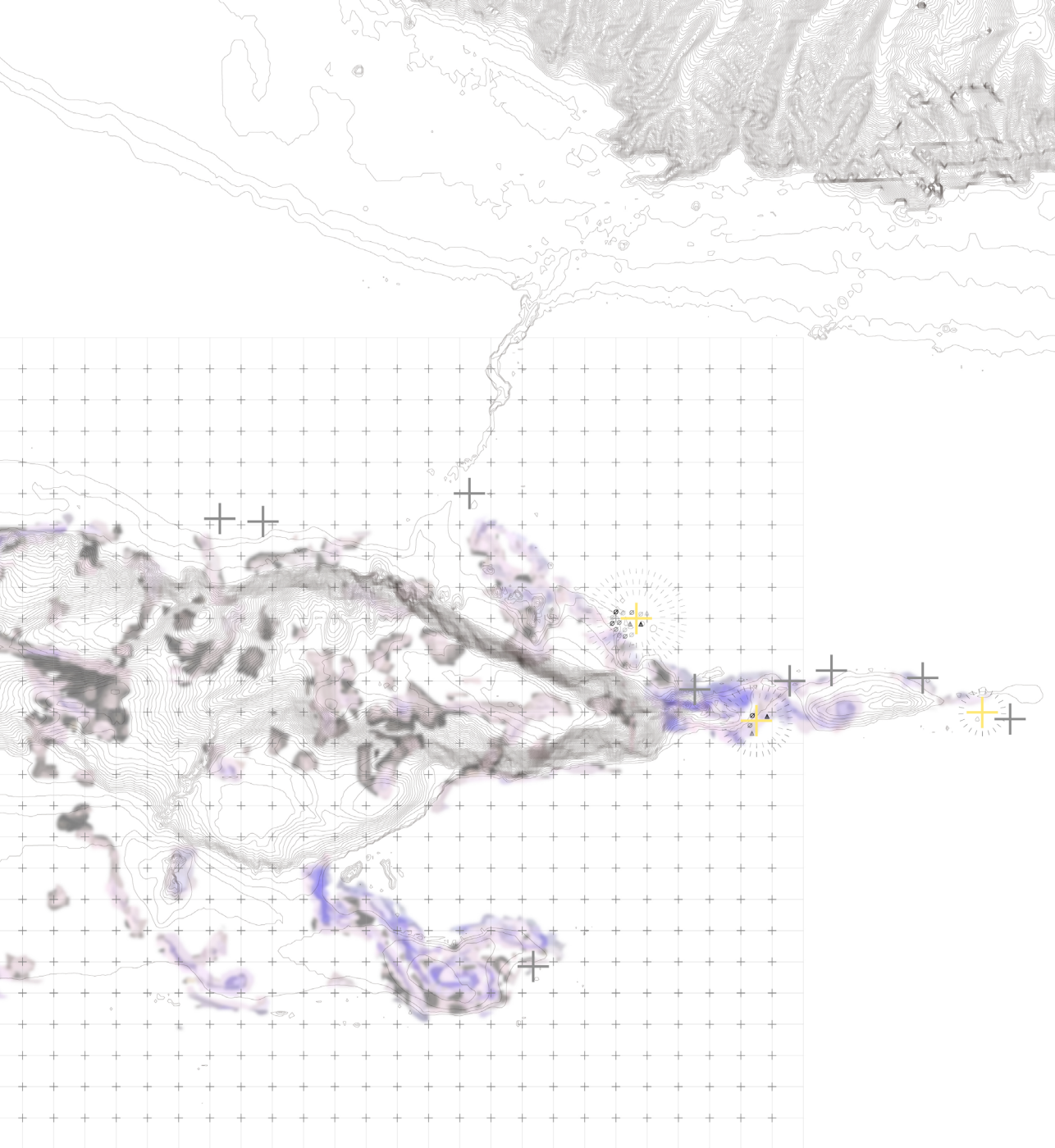


Maritime World Wide Ship-breaking Practices. 841 x 594 mm

190g/ satin coated paper


+ Shipbreaking Yards  
   Registered Flags  
   Beneficial Owners  
 — Ships Route for Dismantling  
 — Ancient Silk

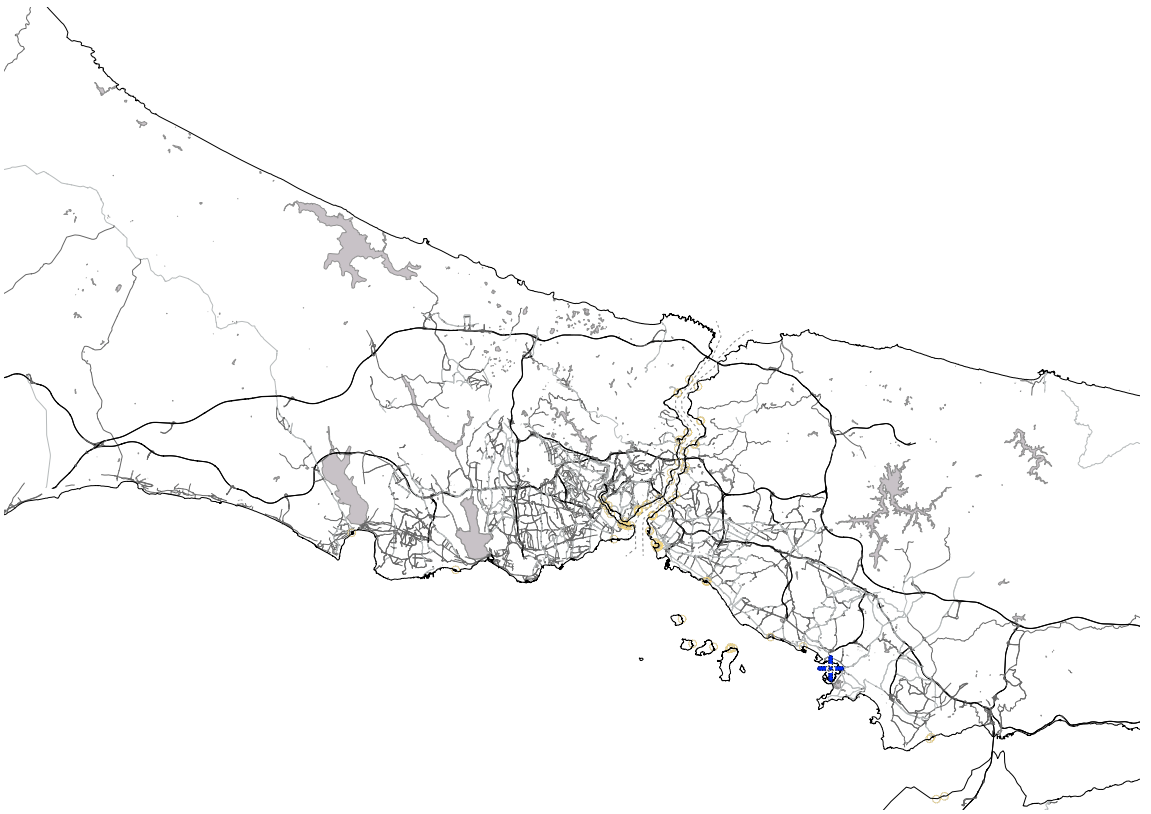




Maritime Shipbreaking Practices in the Marmara Sea, Turkey. 594 x 420 mm

190g/ satin coated paper

+ Shipyard 
 + Industrial Location 
  Amount of Shipyards 
  Dry Dock Capacity 
  Floating Dock Capacity 
  Marmara Mucilage 05/21-06/21



Tuzla and Port Locations nearby Istanbul in Marmara Sea, Turkey. 420 x 297 mm

190g/ satin coated paper



Tuzla Shipyard



Ports

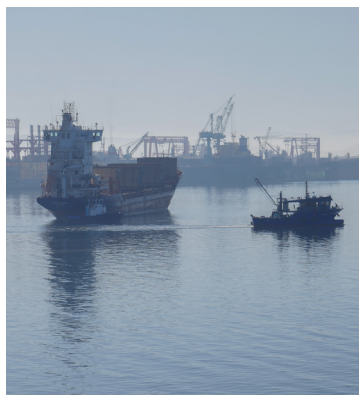
## TUZLA SHIPYARD

Looking to understand more about the practices of the industry in relation to Turkey I started investigating the infrastructural network of the country. The majority of shipyards are located in the Marmara sea with few exceptions existing in the Aegean and Black sea. Currently there are numerous shipyards and industries related to shipping across the coastline. The shipyards there are emphasized mainly on building, repairing and maintaining ships rather than dismantling.

Based on the current research findings I was able to focus my problematization. My main focus was to understand the importance of shipyards in Turkey but also analyze them as an architectural typology.

Because of the Bosphorus Strait and limited passage, a very common phenomenon is ship congestion. Vessels anchor at waiting zones patiently waiting for their turn to pass and enter the black sea. This process can take from days to weeks depending on traffic. A very common practice for vessels is to arrange repairs and maintenance operations in the region while they are waiting in the line to pass the strait. It is because of this trend that many shipyards exist close by in the area of Tuzla.





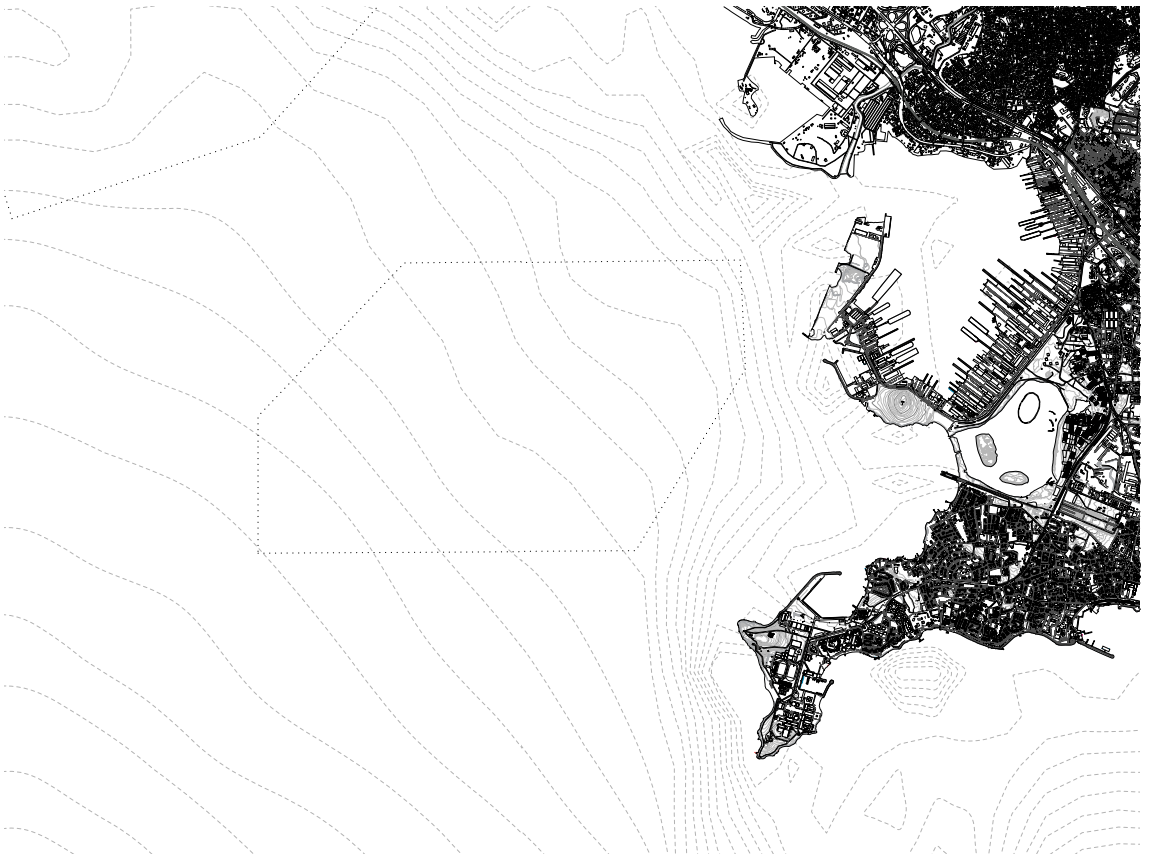
Tuzla shipyard site visit, 08/11/22.



Tuzla shipyard introduction video.







Site Plan of Tuzla's Shipyard, Turkey. 841 x 594 mm

190g/ satin coated paper

Tuzla Shipyard or otherwise known as Istanbul Shipyard is a governmental owned land which was reclaimed during the shift of the industry in the 1970s. By creating a crescent shape that protects the yards and ships from tides, it became the ideal topography for a shipyard.

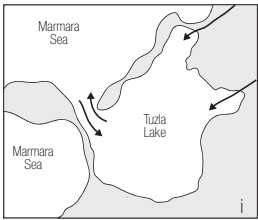
The new industry however imposed a problem to the lake located next to it. The Tuzla lake has undergone heavy environmental stress due to the expansion of the Istanbul Metropolitan City. In the past the lake acted as a recreational area for the city and as a natural barrier. Pollution and uncontrolled waste management led to the deterioration of it and ever since there have been multiple attempts to control the situation.

The Turkish Government then proceeded into leasing 37 plots for the creation of shipyards by private companies. Slowly there have been some more recent small additions in its topography.

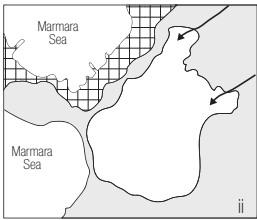
The first shipyards were established in 1390 during the Ottoman empire on the Golden Horn in Istanbul. Up until 1969 most shipyards were located in the Bosphorus and the Golden Horn (within the central area of Istanbul). In the 1970s a slow transition happened shifting the epicenter of the shipbuilding industry towards the east part of the city in a process of deindustrialization of the center.

The new site for the shipyard industry became Tuzla. While the industry was focused on building small to mid-sized commercial vessels, the sharp decline in orders since 2009 called for a change in the organization of Turkish shipyards.

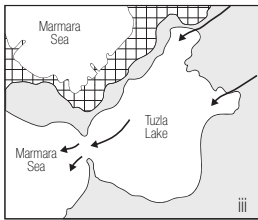
During the 2010 market change, the Turkish shipyards showed immense flexibility by adapting to new market conditions, diversifying and shifting towards ship repair, ship maintenance and naval projects. This specialization allowed the industry to enter a new niche market which turned out to be very rewarding.



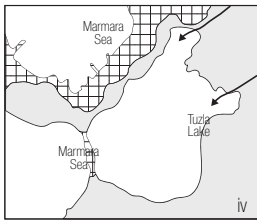
(i) Lagoon stage before 1970s.



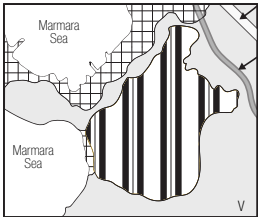
(ii) Lake stage after the dockyard construction in 1978.



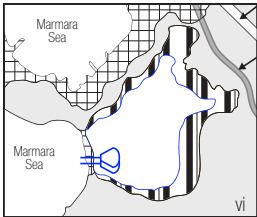
(iii) Breakdown of barrier and inlet due to flooding. This time fit with pollution of the lake by dirty creeks.



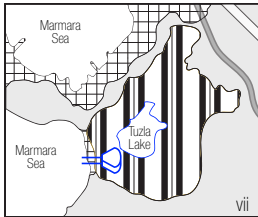
(iv) Filling of the inlet by the Istanbul Metropolitan Municipality in order to prevent coastal beaches in 1998.



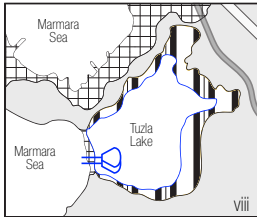
(v) Ground water level began to drop after these constructions and resulted in drying of the lake.



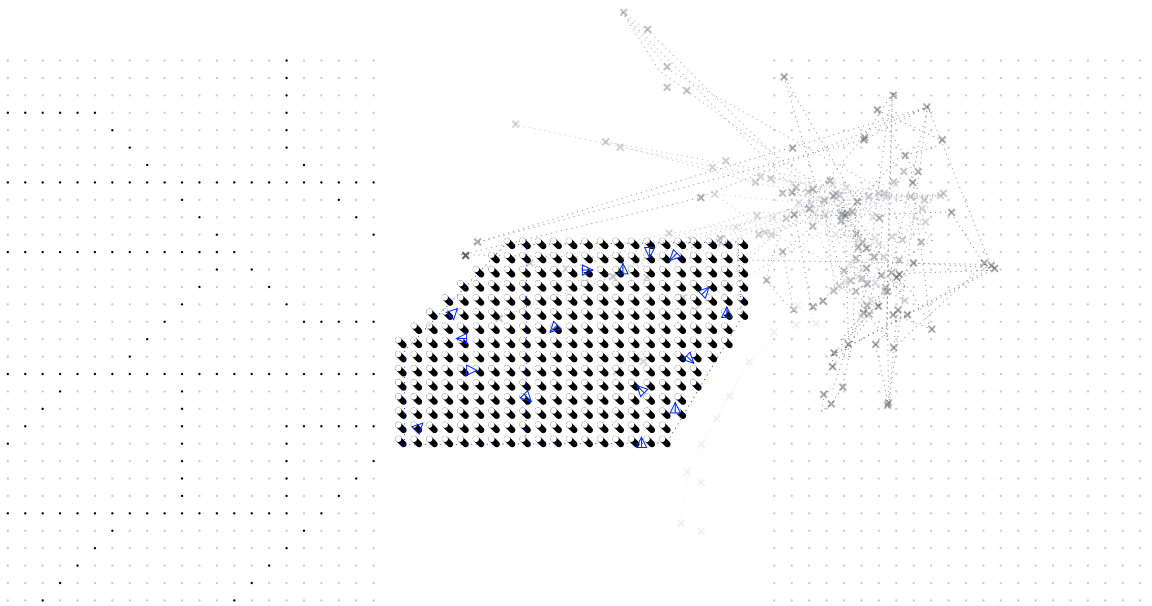
(vi) Two pipelines constructed for water exchange between lake and sea.



(vii) The pipes and their edges were filled by marine biogenic-terrigenic materials as a result of wind action.



(viii) Very limited water area of the lake in summer time.



Tug-boating System Process in Tuzla Shipyard, Turkey. 420 x 297 mm

190g/ satin coated paper

► Ship Anchored    ●●●●● Waiting Zone    .....x..... Tug Boat Movement Traces    ..... Ship Movement (Captain)

One of the first things that captured my interest in this complex site, is the hybrid spatial condition that exists between land and water. Not only in the shipyard and its operation but also in the overall layout of the area. Near the vicinity of the shipyard are two vessel waiting zones. The north one corresponds to vessels waiting to cross the strait. Whereas the second one for ships who are going to be tug boated in the shipyard.

A tugboat, is a secondary boat which helps in the mooring or berthing operation of a ship by either towing or pushing a vessel towards the shipyard or the port. Without them vessels can not dock in shipyards. In Tuzla the tug process is managed by the government. Particularly what I found very interesting is the shift in power in this process. When a vessel is navigating the person in charge is the captain. As soon as the ships anchors in the waiting, it becomes static where not a lot of actions are taking place. However during the tugging operation the

person in charge becomes the pilot of the tug boat. With very precise movements it is its job to place and align the vessel to the corresponding yard. This operation happens multiple times a day and takes between 15 to 20 minutes.

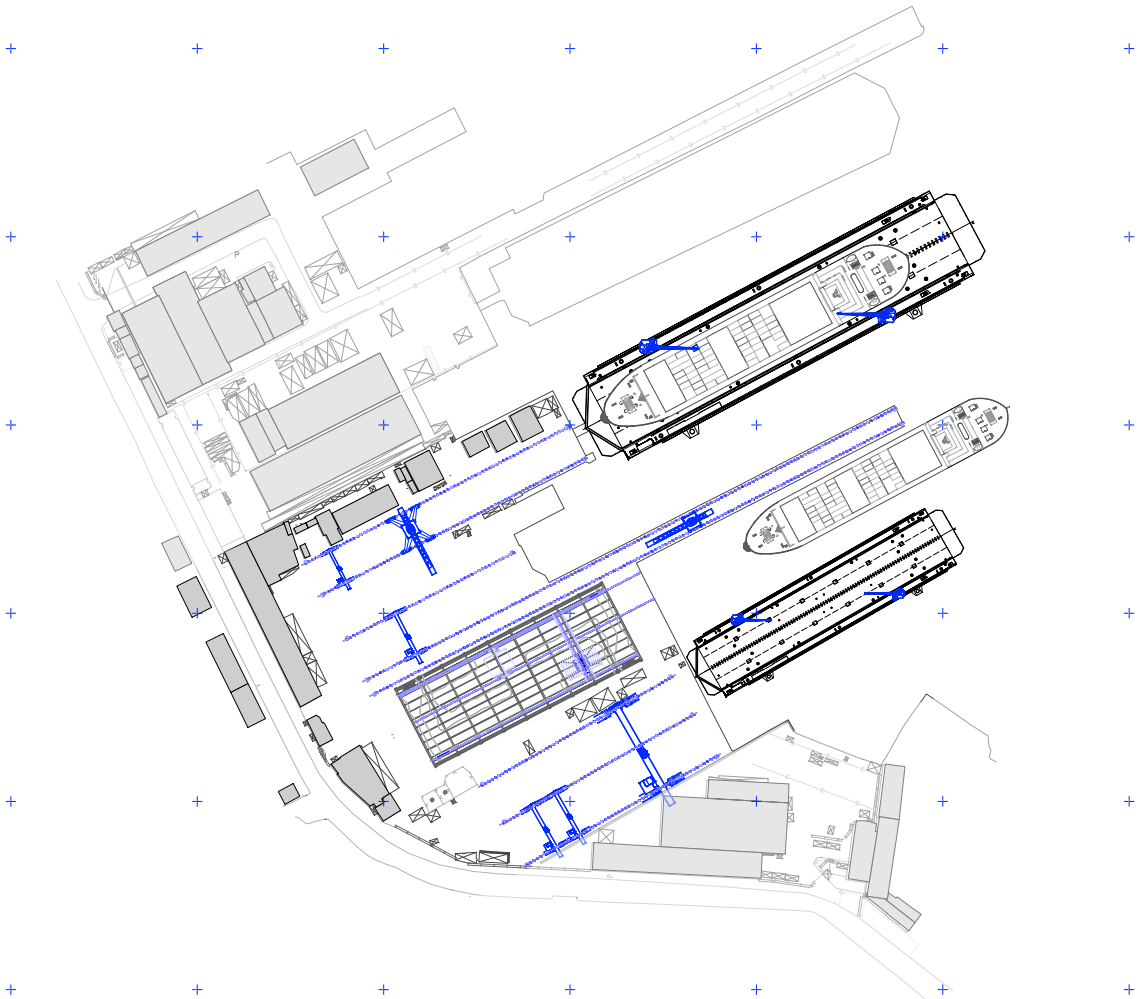
During my visit I had the opportunity to get a 2 hour tour of Desan shipyard in Tuzla. Shipyards are quite compact sites where the host various complex activities in them. Because of that they are highly organized not only for operation efficiency but also for the safety of personal. Ships are docked and undergo maintenance. However on land specific parts of the vessels are taken to undergo repairs. Investigating it as a architectural typology I identified two main structures that all of them share.

A floating dry dock is a type of pontoon for dry docking ships, possessing floodable buoyancy chambers and a “U”-shaped cross-section. Shipyard use them to take vessels of the water in order to maintain and

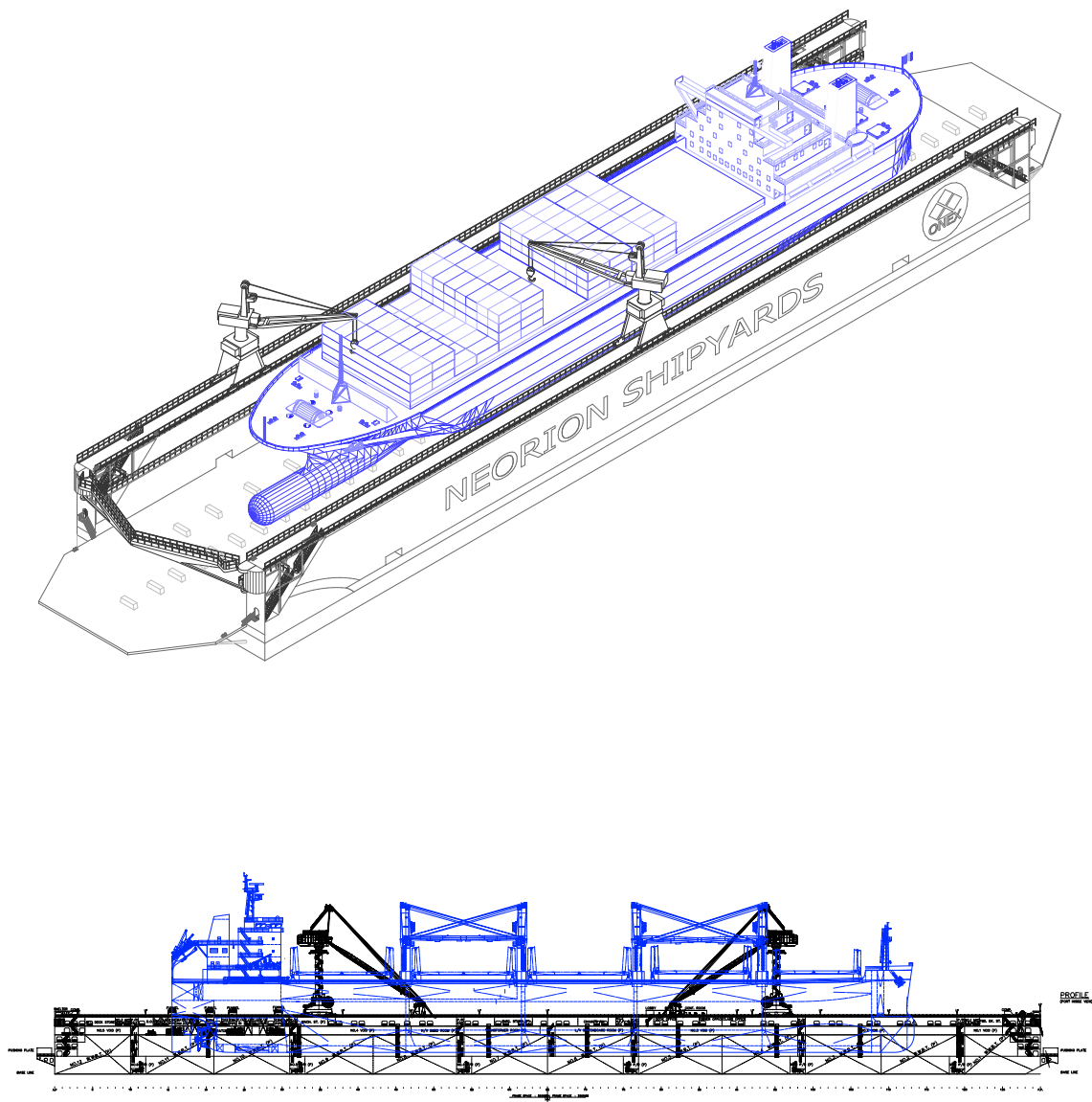
repair the hull, the propeller and other inaccessible parts of the vessel.

The second key structure in the shipyard is a large hangar. The size of which varies between each shipyard according to the size of vessels they are usually working with. In the hangar, yards are building new ships, often being confidential naval projects, but also make repairs where an enclosed environment is needed to protect the object from natural

conditions. No matter the process or the operation one key tool is identified at being an integral part of the shipyard that without it nothing would be possible. That being the use of cranes. In this typology multiple types of cranes can be found that possess a different purpose. Some of them move horizontally or vertical and others in both axis's. Cranes bridge the gap between land and water and allow for the movement of parts.

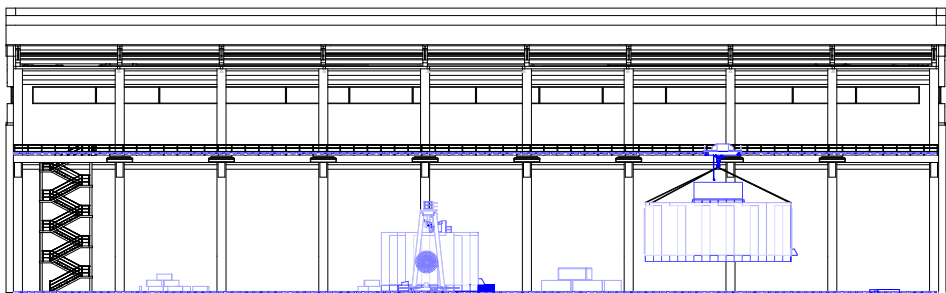
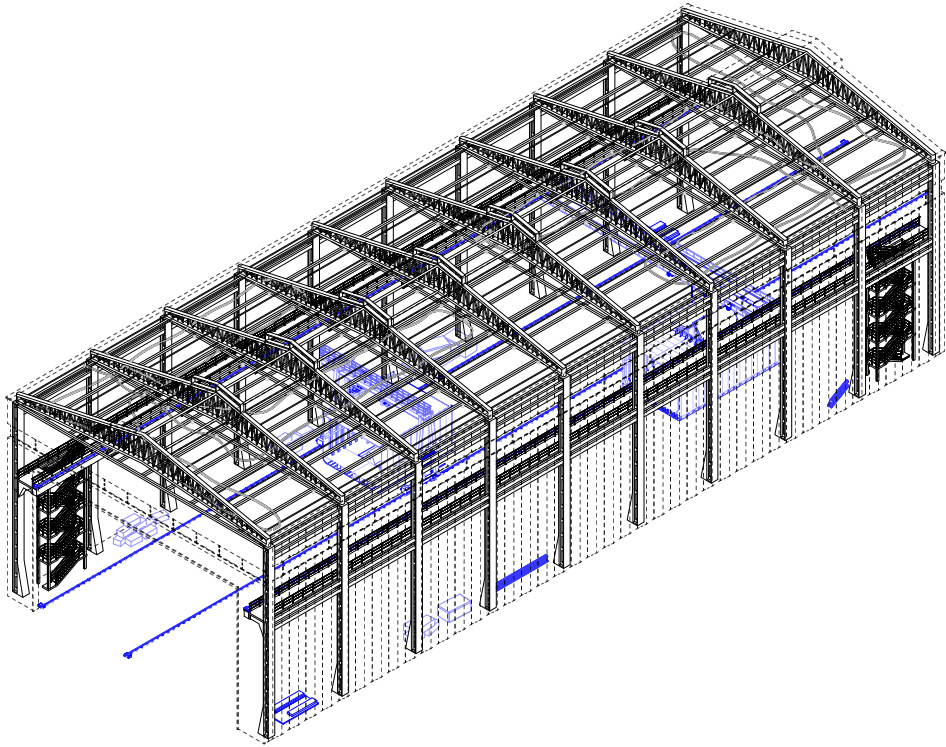


Desan Shipyard Plan located in Tuzla, Turkey. 594 x 420 mm  
190g/ satin coated paper



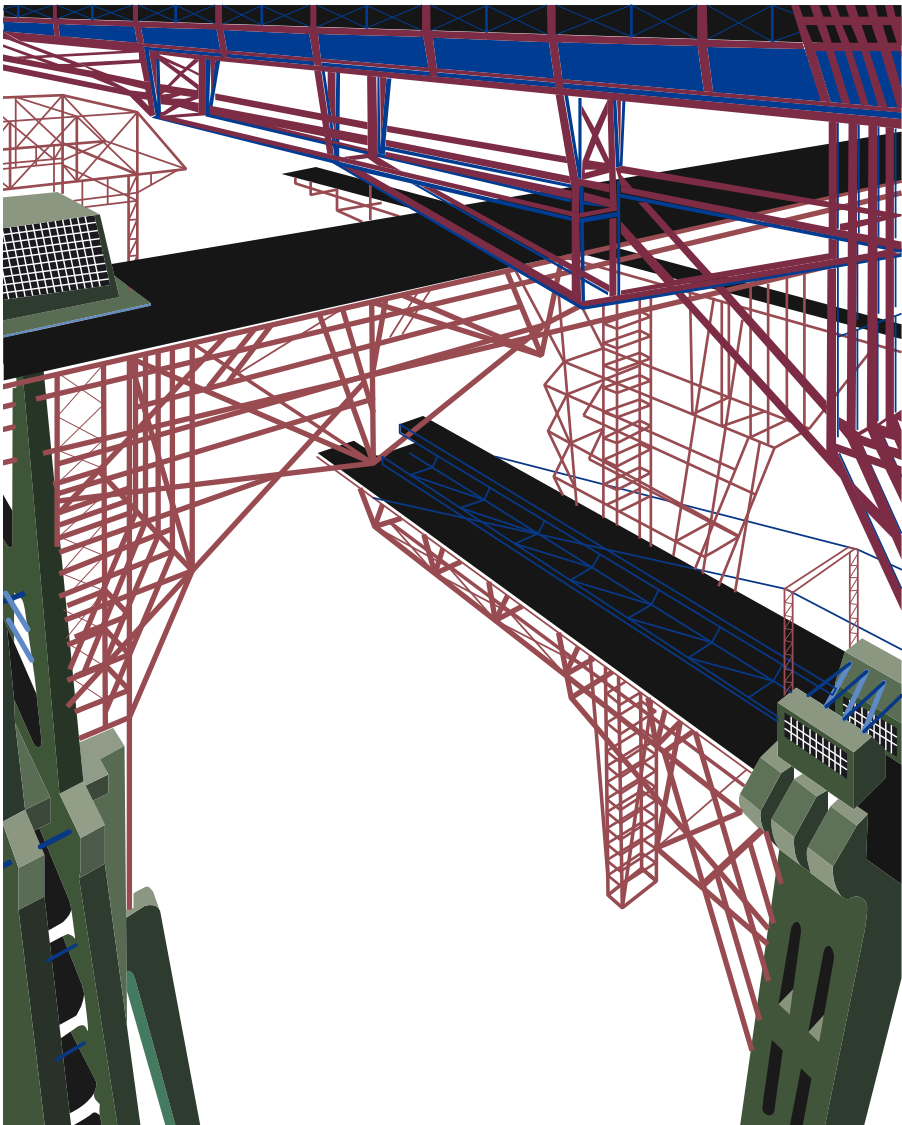
Floating Dock Documentation. 594 x 420 mm  
 190g/ satin coated paper

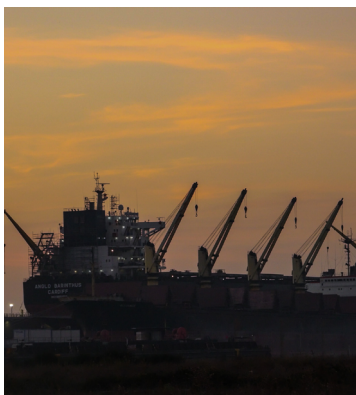
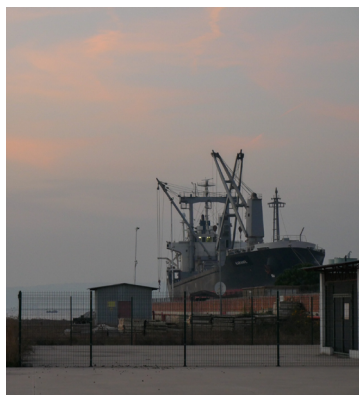




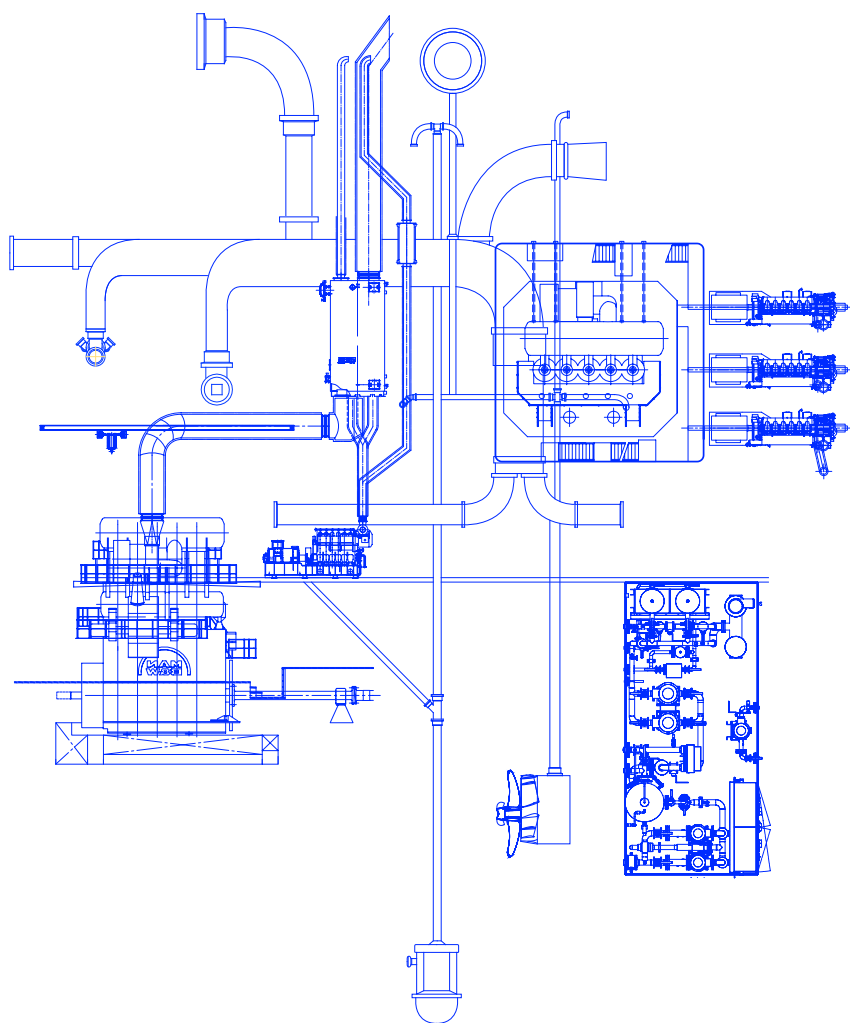
Ship Hangar Documentation. 594 x 420 mm  
190g/ satin coated paper

The shipyard is now viewed as a highly complex spatial condition. In it we identify highly technical systems and intersecting objects constantly moving. That movement is seen in the docking of the ship, the lift of the floating dock, the transportation of goods and materials, the movement of people and operation cranes. From my perspective this condition can be observed from two lenses.



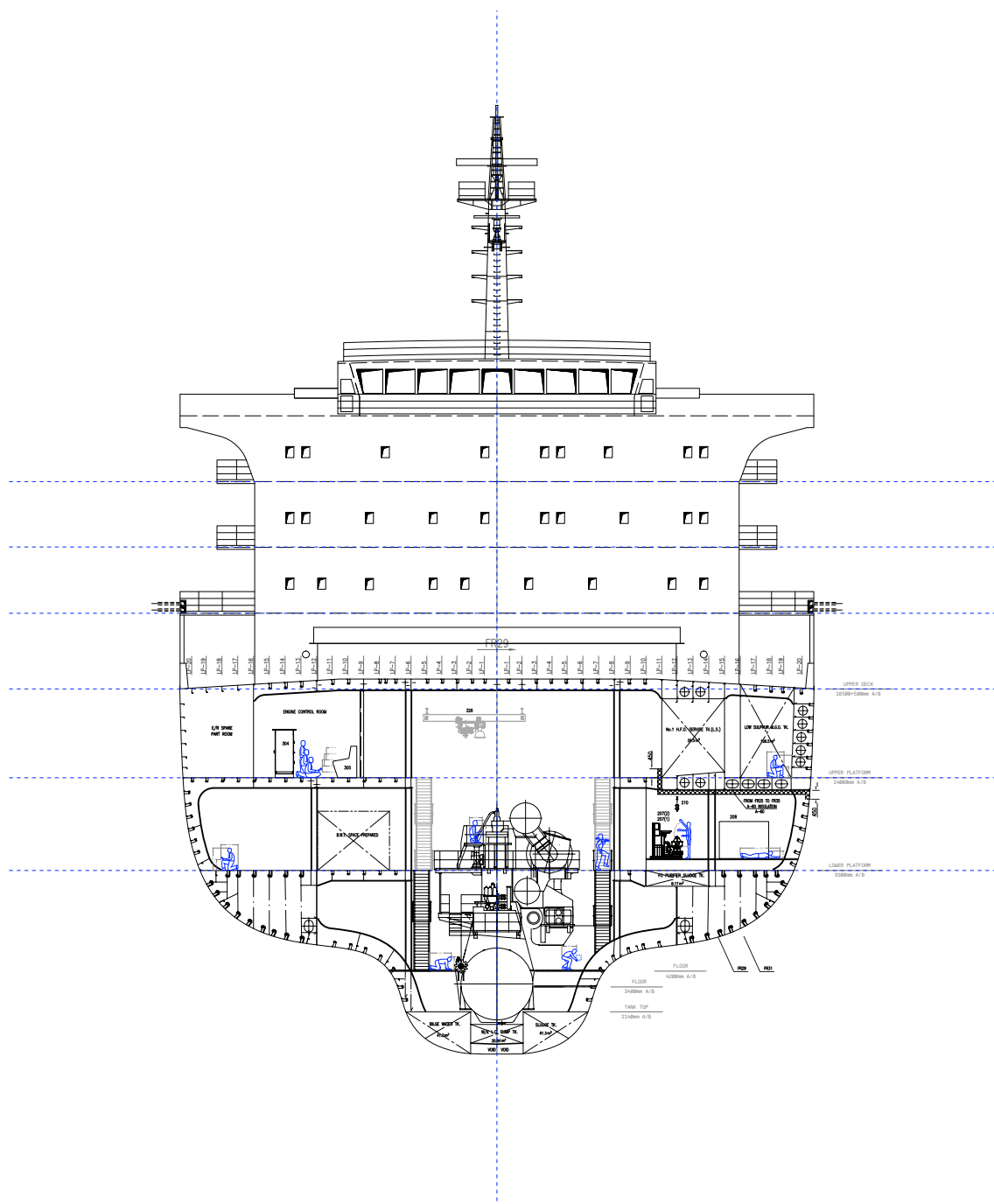


Tuzla Shipyard as a Spectacle.

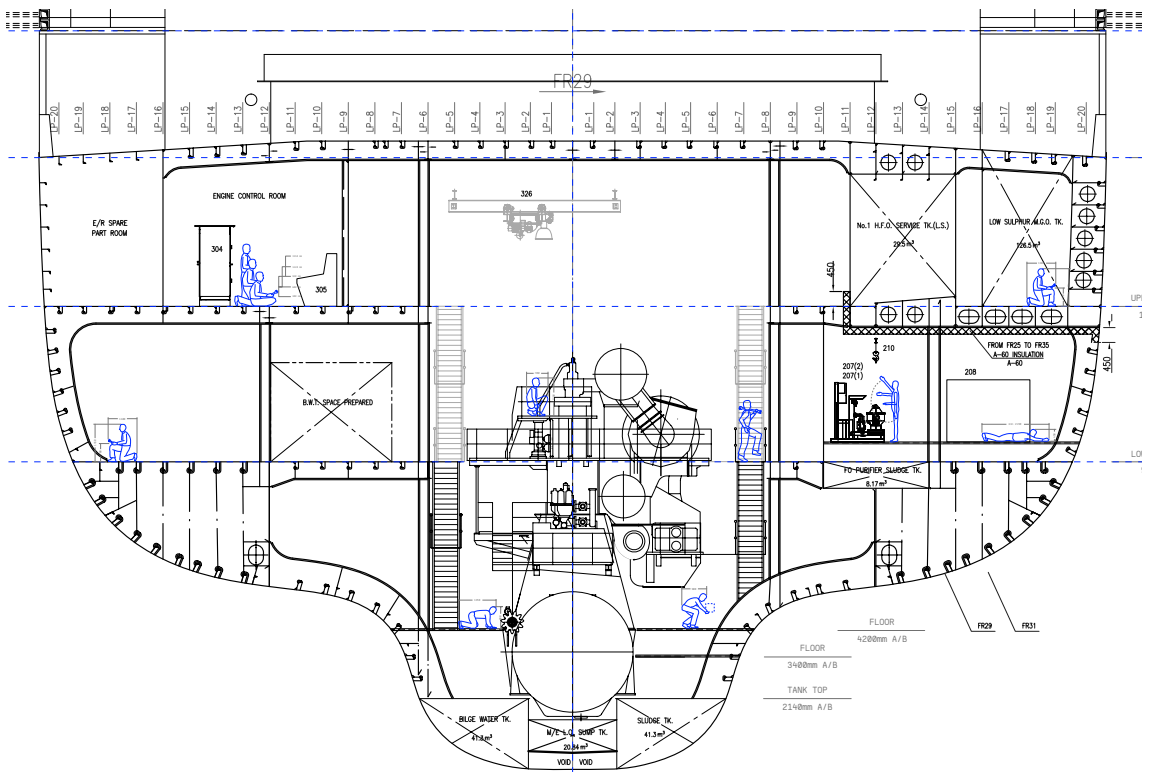


Tuzla Shipyard as a Machine. 420 x 297 mm

190g/ satin coated paper







Ship Maintenance, Ergonomic Section. 594 x 420 mm

190g/ satin coated paper

The first one being as a machine. The shipyard essential becomes a highly efficient assembly line where different actors work together to accomplish a specific goal. The purpose of it being the creation or restoration of vessels.

The second one being as a Spectacle. Not paying attention to the technical aspect but the theatrical, there are cranes, hangars, floating docks and many more that become characters of a scene. When seen from a distance all its technical and technological aspects have been blurred; all that matters is the silhouette these characters have.

On the idea of these lenses and in an attempt to bring them together I created the following drawing. The drawing portrays the site of Tuzla

in plan manner. It can be perceived as a diagram when looked at the conceptual axonometric representation of the waiting. But also as something highly technical as seen in the section.

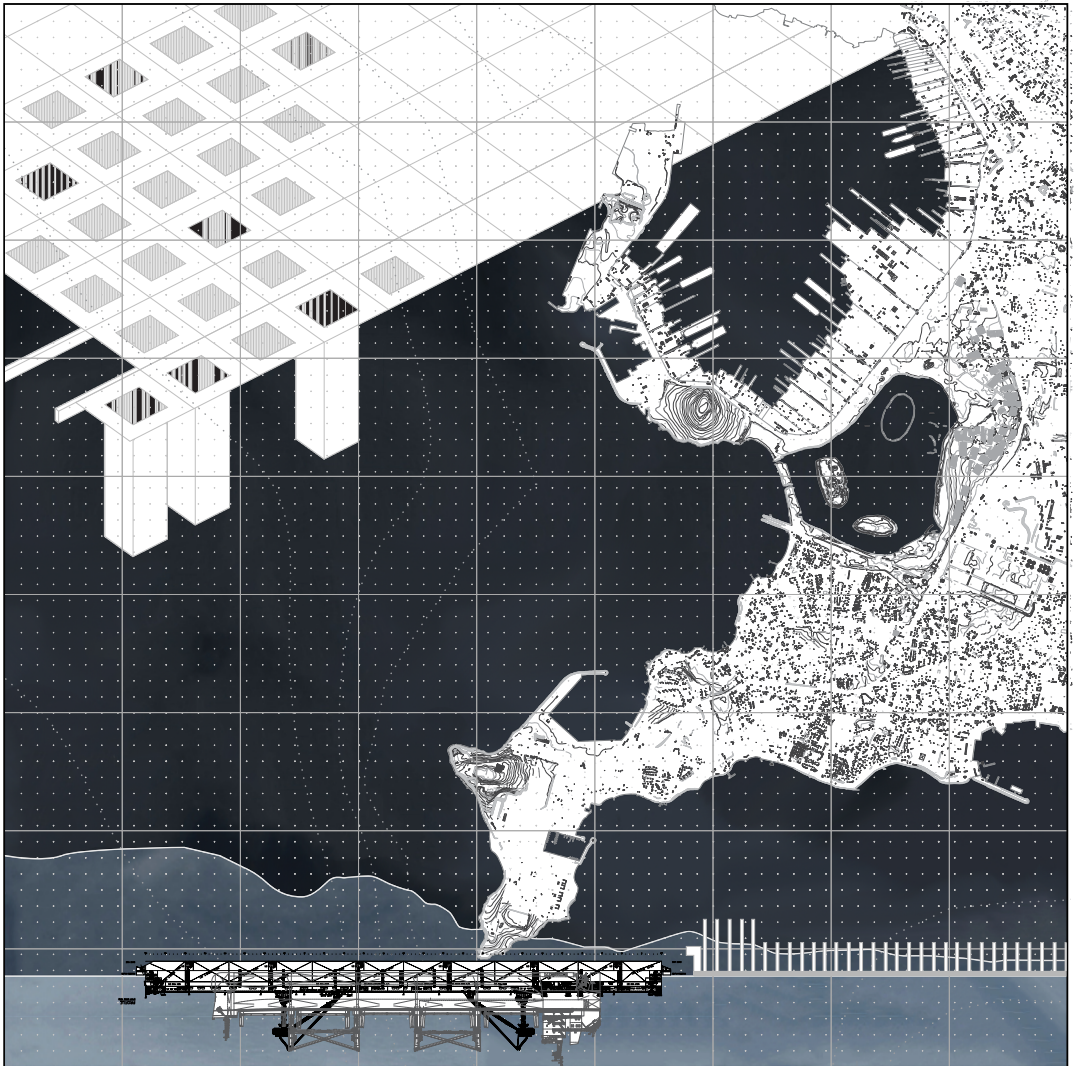
The area is a palimpsest of operations. Tug boats repeatedly go back and forth bringing ships in to the shipyard. Vessels are anchored and moored in the waiting zone and others are navigating in the Marmara sea towards either the Bosphorus or the Dardanelles strait. All of the above procedures and the ones happening in the shipyards utilize space very appropriately. In this highly efficient use of space, small to medium leftover spaces start to emerge.

## LEFTOVER SPACE

Leftover spaces often exist in the shipyard, on the coastline or on the docks. In other instances in the periphery of the area, in unused site on land or locations in the sea and the waiting zone. Depending on where they are they are identified as either permanent left-over space or temporary left over space.

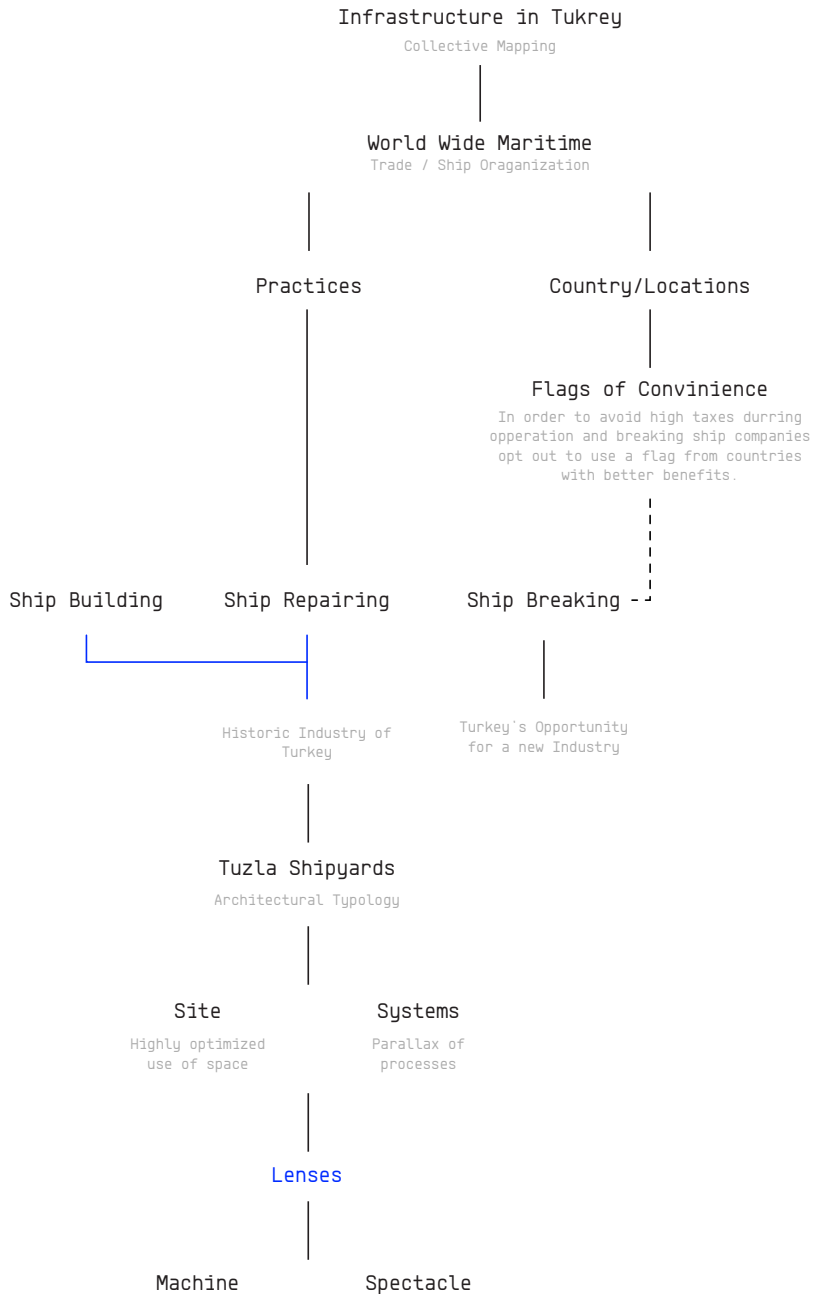
The design assignment will focus on integrating

shipyards with the surrounding context and unveiling the strong relation between the historic industry and Istanbul. The project will aim to utilize the leftover space in the shipyards by creating a series of interventions without interfering with the industry's processes. The result will be an archipelago of different structures varying in uses and functions referred to as magnets. The purpose of those structures is either going to address the technical aspect of the yards (architecture as a machine) or as a spectacle.



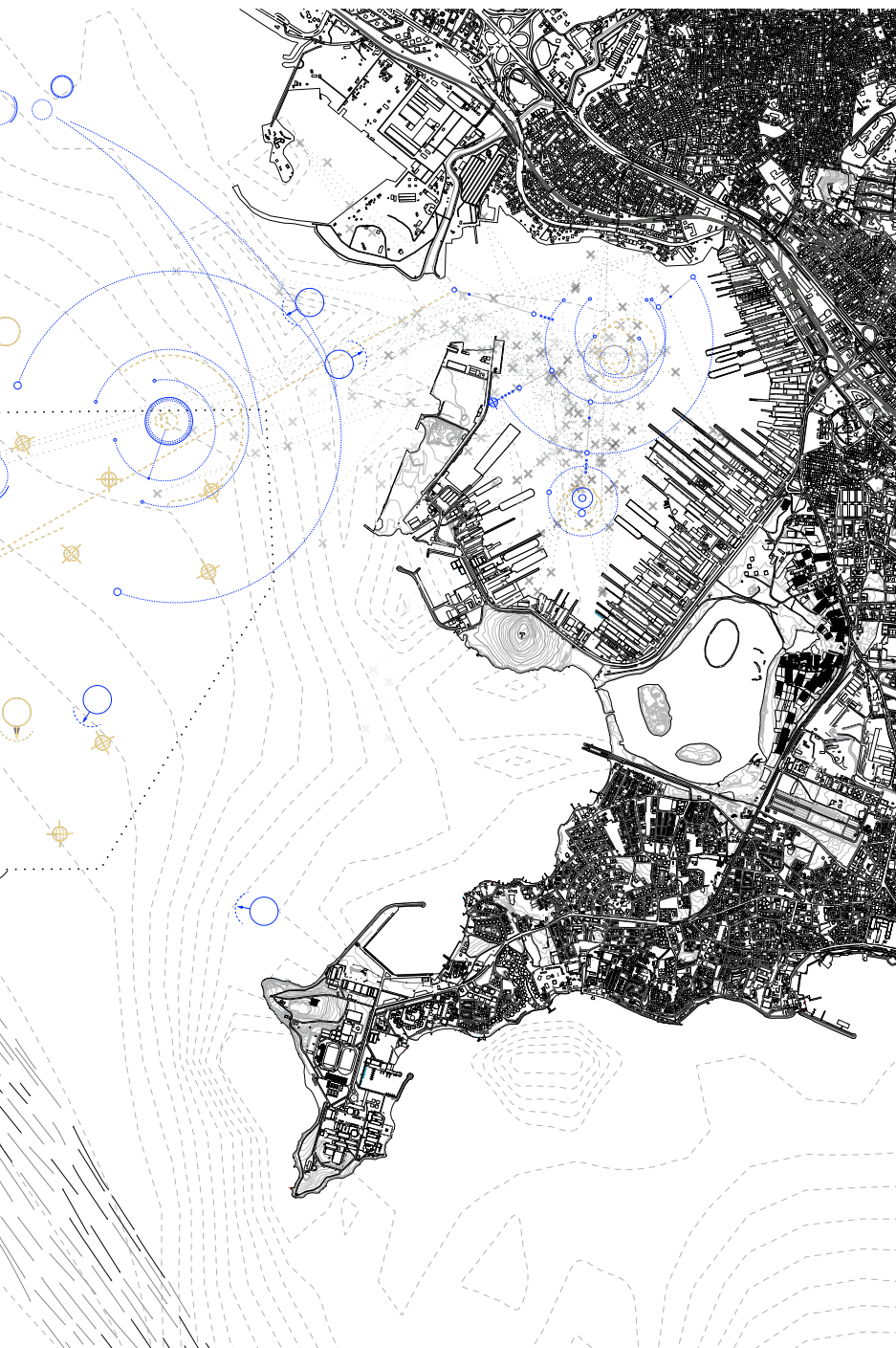
Tuzla Shipyard Portrayed as a Spectacle / Machine. 420 x 297 mm

190g/ satin coated paper








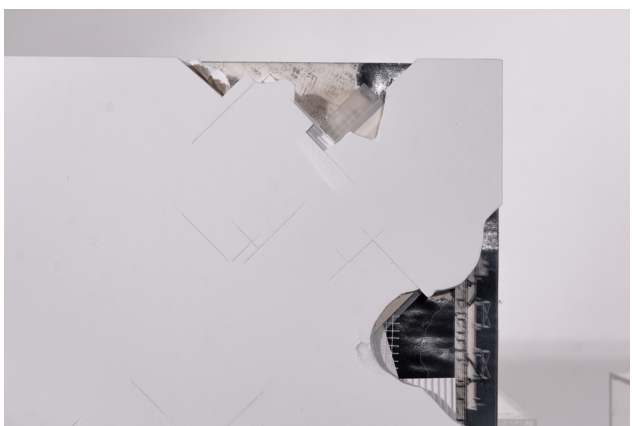
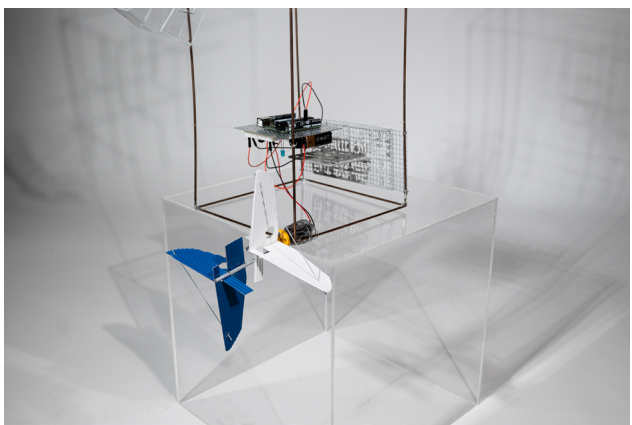




Site Analysis Plan of Tuzla's Shipyard, Turkey. 841 x 594 mm

190g/ satin coated paper

 Ship/Tug Moving 
  Ship/Tug Anchored 
  Tug Boat Movement Patterns 
  Tug Boat Movement Traces 
  Ship Movement Traces



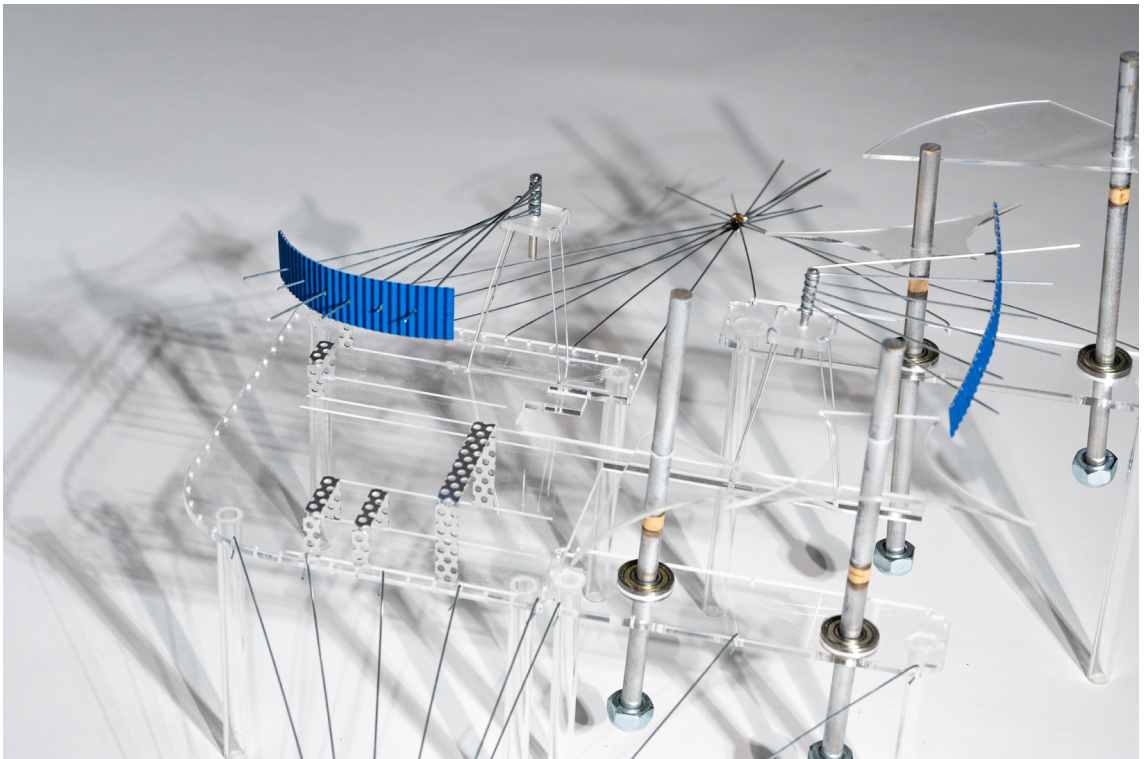
## **MODI OPERANDI**

## MODI OPERANDI I

The aim of the first experimental model addresses the notions of 'site' and 'ground' in relation to the concept of 'ordering'. Emphasizing my focus in close scale of the shipyard, I attempted to replicate one of the key systems/mechanisms of the this typology. The conceptual model pays attention to the kinetic aspect of the site and the movement of goods. Thus it portrays the variety of different cranes that exist in the site. In shipyard multiple types of cranes can be found that possess a different purpose. Some of them move horizontally or vertically and others in both axis's. Cranes bridge the gap between land and water and allow

for the movement of parts. The model illustrates the parallax of systems that exist in this spatial condition were a variety of different operations and movements are happening simultaneously and often overlapping.

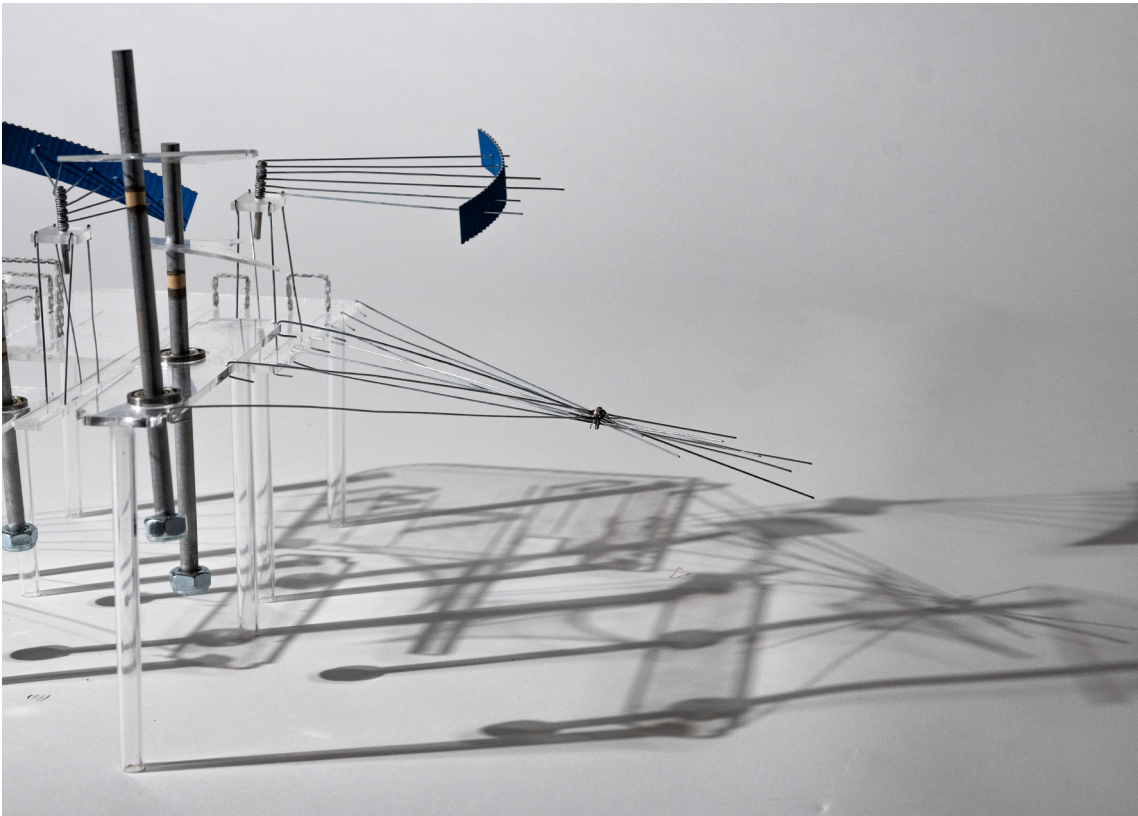
Upon casting light onto the model, the silhouette blends in with it's shadows making it particularly difficult to distinguish what is three dimensional and what two dimensional. Similarly with the shipyard when viewed from a distance, it's identified as a collective system rather than a series of individual structures.



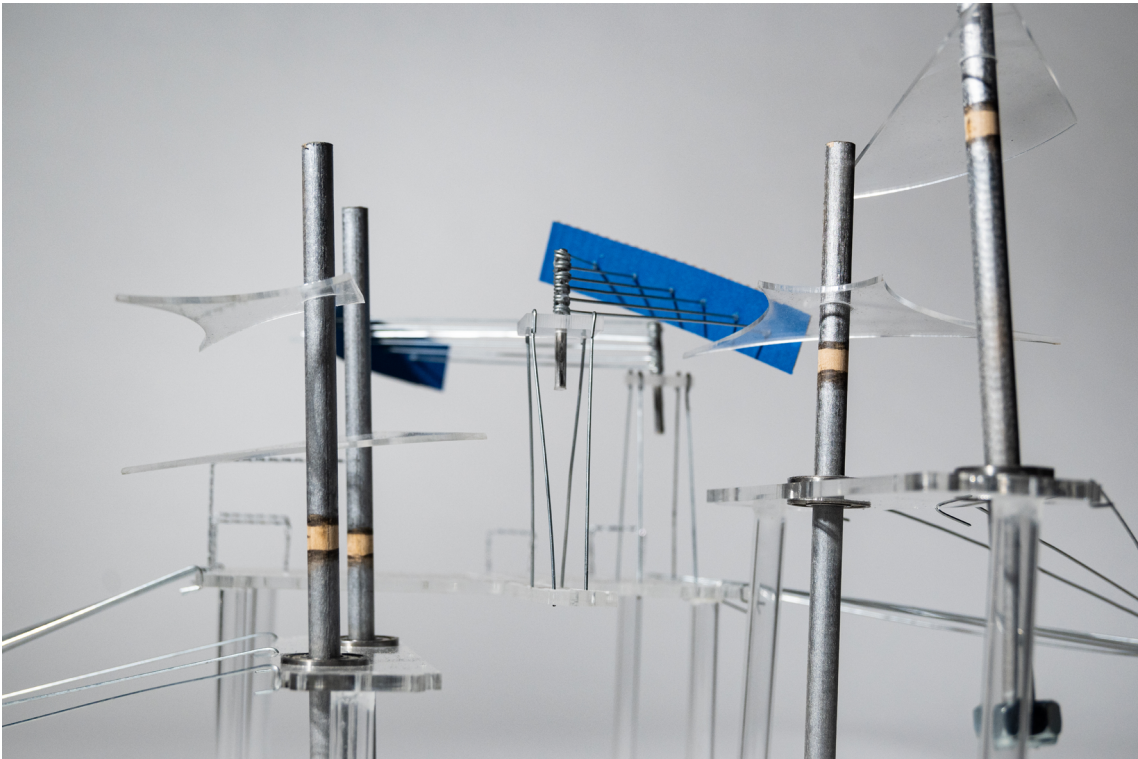
Modi Operandi I Site, Kinetic Model of a Shipyard. 500 x 400 mm  
perspex sheets, wires, cardboard

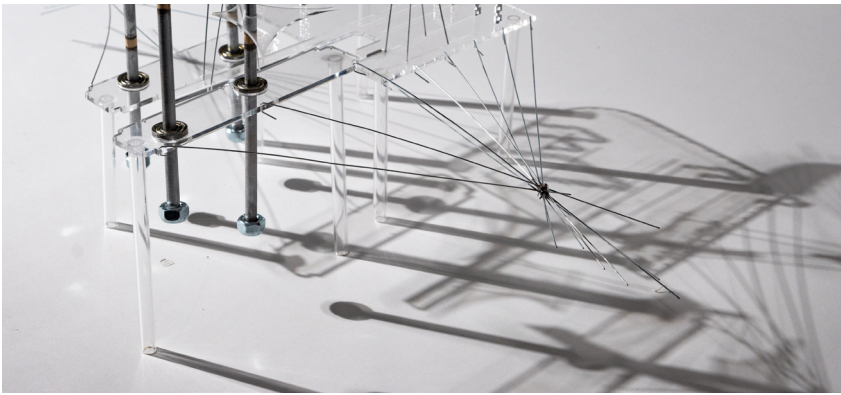








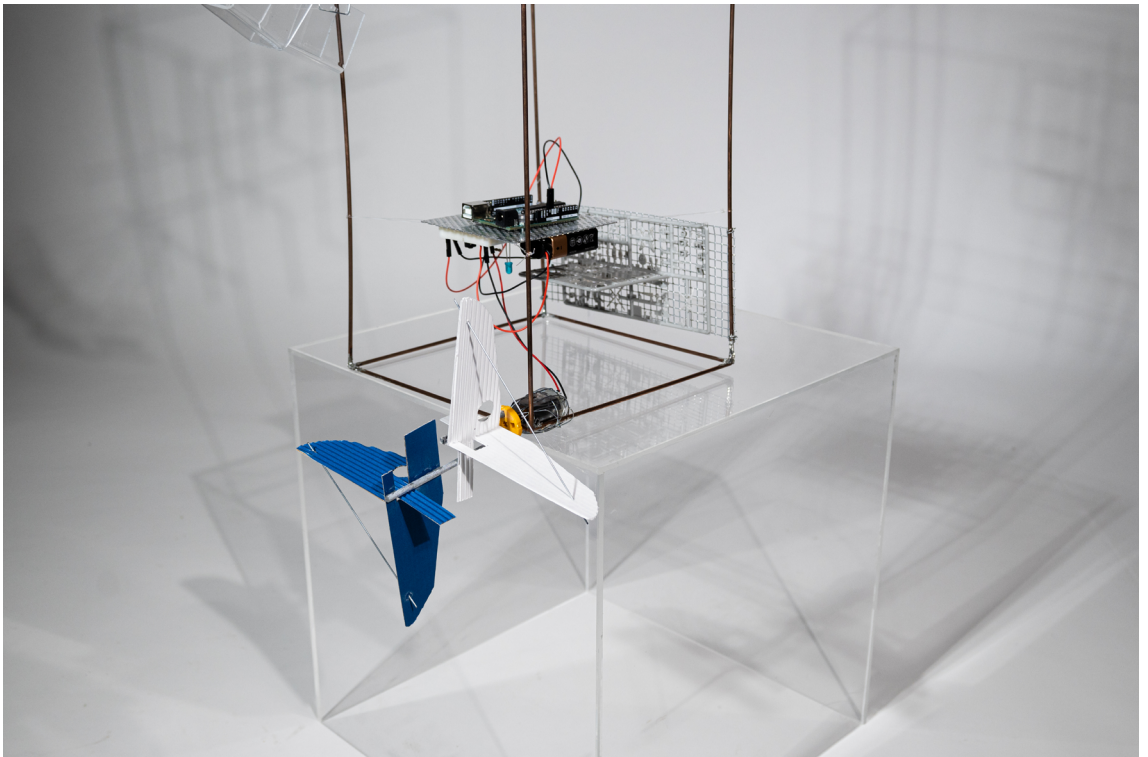




## MODI OPERANDI II

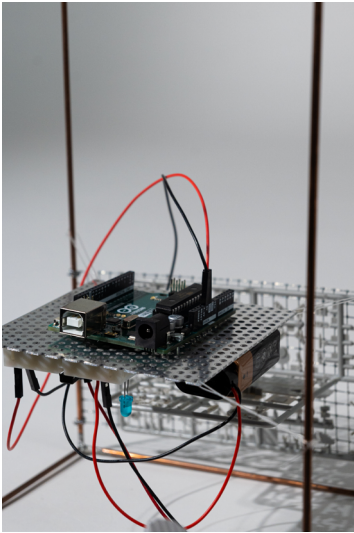
As a collection they produce an action, without directly interrelating to each other, they collectively assist in the function of the ship.

The following experimental model evolved around the notions of 'simultaneity' and 'assemblage' in relation to the concept of 'architectural form'. Now the focus is shifted towards the vessel and particularly it's unique quality of hosting an amalgamation of different systems. Those systems are often unrelated to each other, they co exist in the same space, posing different functions. Trying to visual this assemblage I constructed a conceptual model of this network. The model consists of various objects all enclosed within a copper wire-frame rectangle. These objects depict pipes, holds, engines and propellers.

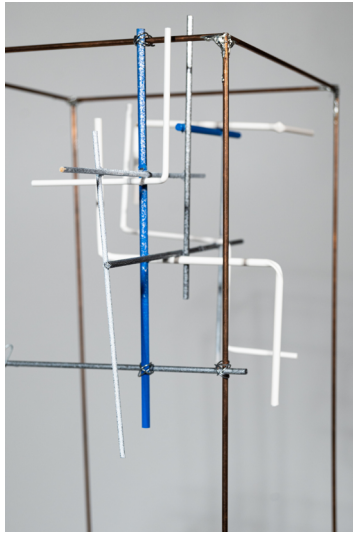


Modi Operandi II Assemblage, Amalgamation of Shipyard Systems. 500 x 200 mm  
arduino board, motor, led light, wires, copper, cardboard





Arduino electronic platform programmed to turn on an LED and start a motor upon pushing a button. Metaphorically represents the engine of a ship.

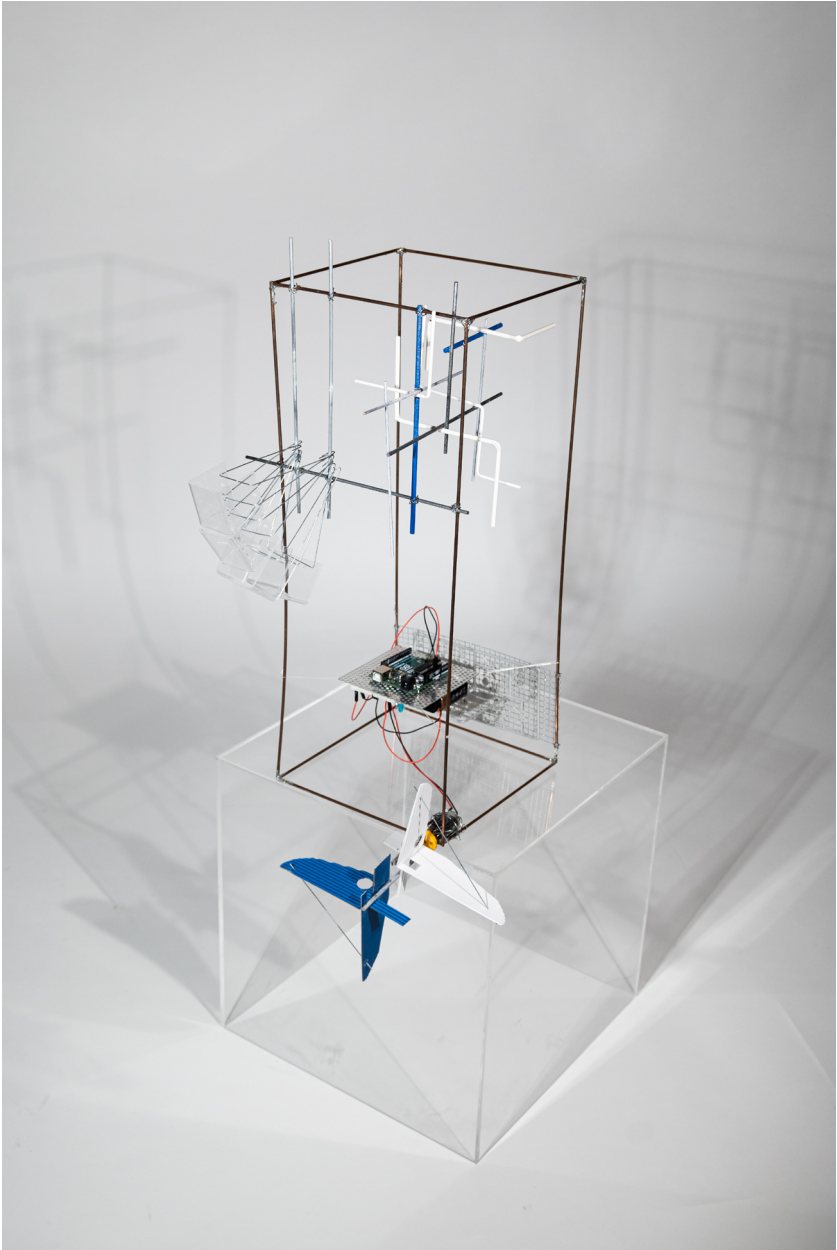


Ship consist of an amalgamation of pipes. These pipes vary tremendously in function and operation. Water, waste, ventilation, air pipes and many more are often next to each other.

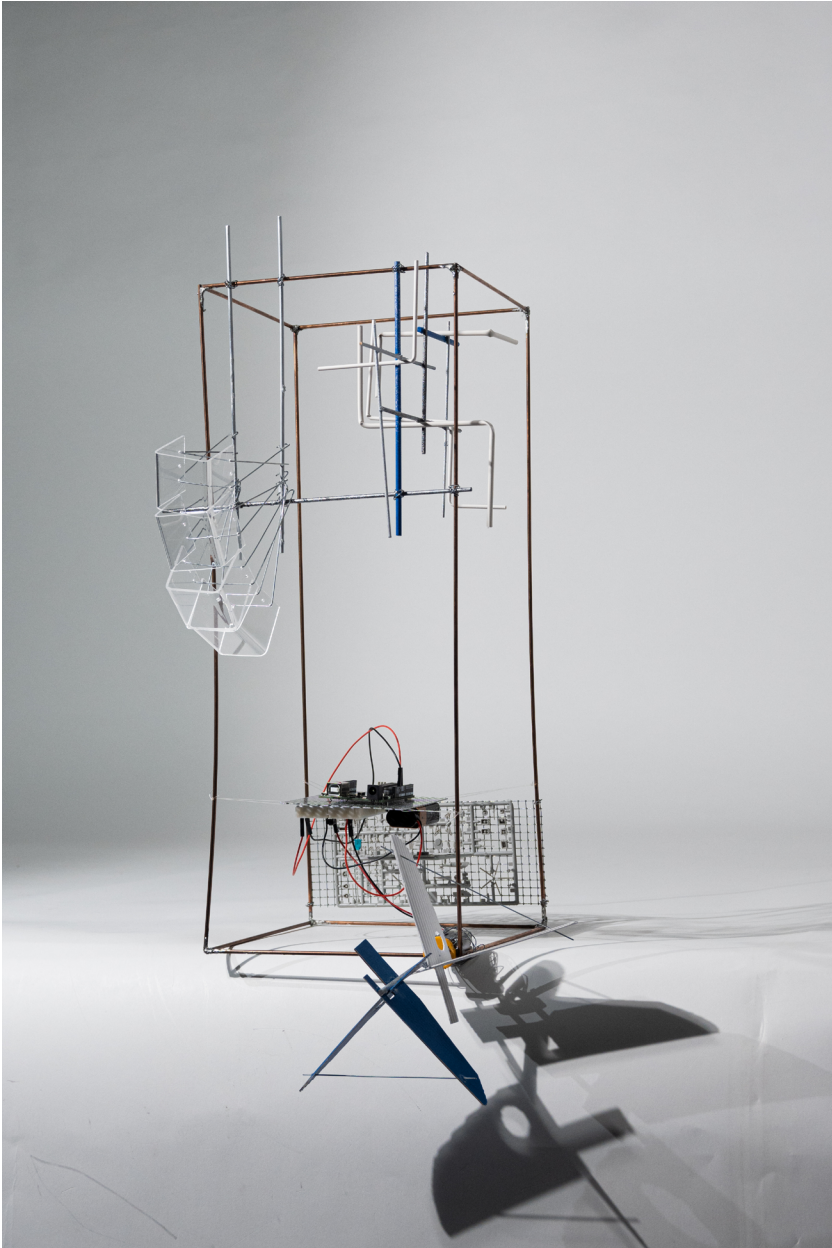


Bulk and Cargo carriers are responsible for the transport of goods. These goods are often placed in the numerous holds a vessel has.









## MODI OPERANDI III

The final experimental model was based on the notions of 'spatiality' and 'situation' in relation to the concept of 'program'. The shipyard is a very dense spatial condition with a number of different yards placed one next to the other. As a whole it forms a complex spatial condition that houses a series of different systems and operations. These processes are using space very efficiently, due to the limited availability.

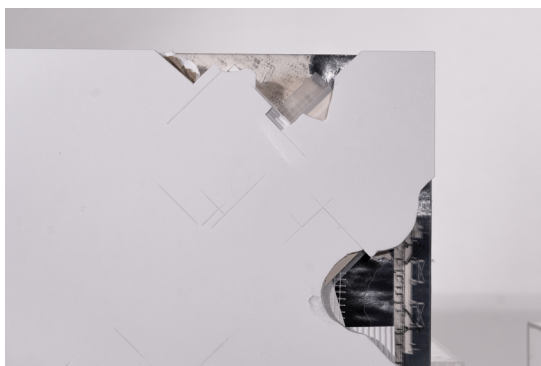
In this highly efficient use of space, a series of small to medium sized left over spaces are identified. Some of them located on land or on water,

they are formed by the well structured operation of the yard and can be either temporary or permanent. Attempting to visualize those leftover spaces and link them to their locations I created a series of models. These models vary in the amount of information they depict. They represent various locations of the Tuzla area where this phenomenon can be observed. Essentially they emerge from the overlapping processes happening around them and they form a spatial condition with no use.



Modi Operandi III Program, Isolation of various processes, reveal leftover spaces. 420 x 297 mm

foam-board, cardboard, perspex, wire, mesh tape



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The graduation studio 'Border Conditions along the New Silk Road' focusses on sites where spatial conditions have emerged that are 'teeming with suggestive meanings and unexpected potential' but are hardly analysed within contemporary architectural discourse. The studio investigates contemporary border conditions within the larger urban and territorial scale, with a special emphasis on the relationship between architecture and its socio-political context(s). B&T views the

contemporary city as an 'urban universe' of spatial conditions, which consists of constellations of elements seemingly without any relative weight. To think of an 'architectural project' in such a context means to engage in a speculative approach directed to alternative formulations of architecture, all based on a fundamental understanding of fragmentation and complexity. In the graduation studio, these new reformulations are instigated by, and at the same time applied to the controversial 'New Silk Road'.