

VOL 3. DESIGN RESEARCH

INSULAR URBANITIES



Abstract.

This project proposes a series of architecture and landscape interventions across the port of Pireas, in Greece.

The cities neighbouring the port of Pireas has for some years been the site of an impressive transformation since the port was acquired by the Chinese. Since then, the port grows exponentially with the ambition to become the main commercial door to Europe for Asian importations. To accommodate ever more docks, the port progressively cannibalizes any available coastline. Gradually, the city finds itself encapsulated, trapped and asphyxiated by a large infrastructural barrier, without any access to the sea. The city of islands is at risk of becoming a city of conflicts. We need to find ways of diffusing that tension.

This project suggests an aggressive welcome to the urban condition created by the port while proposing to reclaim Pireas' relationship with the seaboard. As the waterfront of the cities is turning into an infrastructural product, the new boardwalks may become perpendicular lines. This project investigates this hypothesis. It thus proposes a perforation through the infrastructural barrier from town to sea in an underused interstitial space of the port. It invites us to re-imagine the spatial relationships between architecture, landscape, energy and infrastructure in ports.

Acknowledgments.

This work would not have been possible without my tutors **Roberto Cavallo, Maurice Harteveld** and **Mauro Parravicini**.

I would especially like to thank Professor **Nikos Belavilas**, academic expert of Piraeus at the National Technical University of Athens and member of Pireas Municipal Council. Our conversations undeniably nourished my reflection and sharpened my position. I am also indebted to **Polina Prentou**, whose generous support and great insights have been essential to my investigations.

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Finally, more than anyone, i would like to thank **Takayoshi Goto** and **Eytan Levi**.

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Part 1. Schisms

To monopolise.

Economic crisis & privatization.

In the aftermath of the financial crisis of 2008, Greece suffered the longest recession of any advanced capitalist economy to date. The country faced a spiraling spending deficit as it was unable to service its mounting debt. To avoid default, the EU and the IMF loaned Greece enough to continue making payments. But in 2011, to pay back its creditors, the Greek government was forced by the HRADF to privatize €50 billion worth of state-owned assets. As part of this bailout plan, the ports of Athens and Thessaloniki, several railways networks, 15 airports, and major water or energy utilities were progressively sold.

Mounting debt

Since Greece's admission into the Eurozone, the government could borrow much easily.

HRADF

Liquidation Fund for Public Private Assets



Figure 01. Protesters gather call for a "NO" vote in the forthcoming referendum on bailout conditions set by the country's creditors, June 29, 2015.



Figure 02.

Chinese President Hu Jintao and his Greek counterpart Karolos Papoulias, November 24, 2008

The door to Europe.

In 2017, the Greek government signed a transfer agreement to sell the port of Pireas to the state-owned Chinese shipping company COSCO Pacific, for 35 years. This investment is part of a larger ambition of the Chinese government - Belt and Road initiative - to access European markets avoiding Strait of Gibraltar, reducing the time it takes cargo to get to Europe by nearly a week. Due to its strategical geographical location at the nexus of major flows between Europe, the Middle East, and the Black Sea, the Port of Pireas is intended to become the privileged door for Asian importations. The network of logistics centres and railways across the Balkans was also upgraded through Chinese financing to facilitate the distribution of their products across Europe. Pireas becomes a new reference point in trade networks.

Belt & road initiative
massive trade, investment and infrastructure network that aims to link China to emerging markets

Chinese footholds
The forgotten ports of Genova and Trieste were also partly acquired by the Chinese state-owned group CCCC.

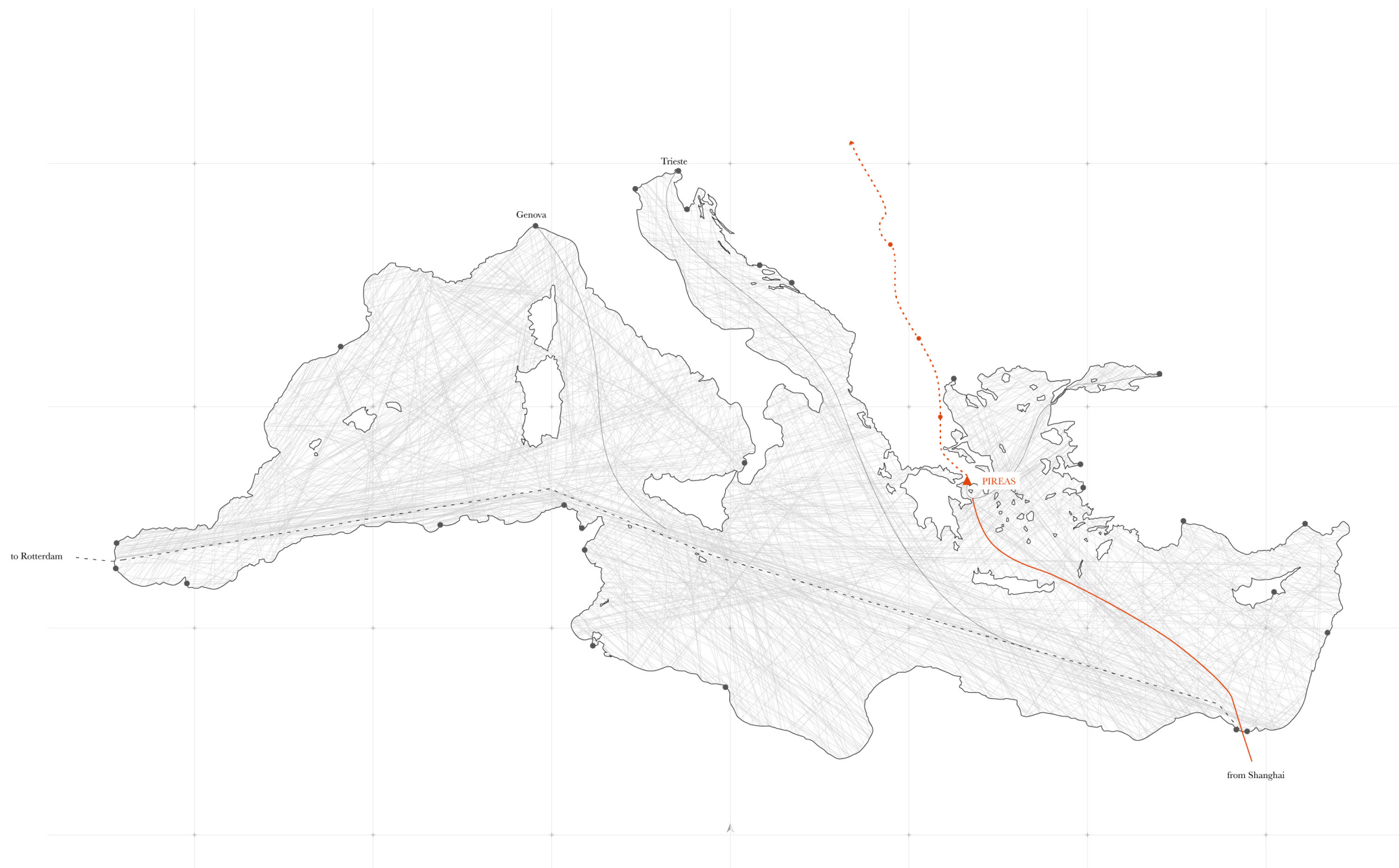


Figure 03. New maritime roads in the context of the New Belt and Road initiative

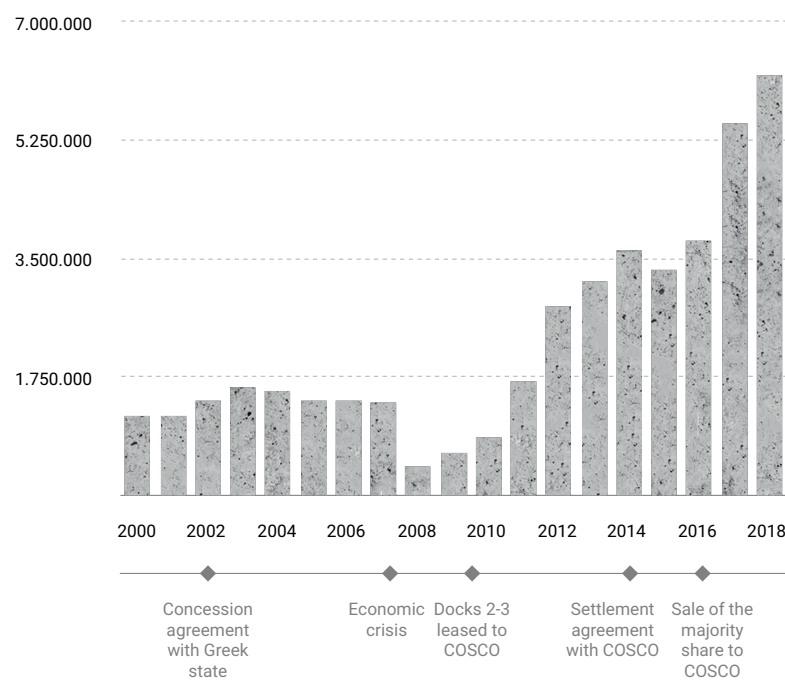


Figure 04. TEU (container capacity) since 2000 in relation to historical events

Fastest growing port.

Eighty percent of trade exchanges between China and Europe now take this route, making it the fastest growing port in the world and thus a major place of transformation. Since its privatization in 2009, the amount of containers transiting through the port has quintupled after several years of inefficiency and stagnation. From 96th container port in the world a few years ago, it now holds the 30th position and became the second-largest port in the Mediterranean after Valencia. The urban and landscape upheavals that it implies makes the city of Piraeus a particularly sensitive witness to port cities' mutations. Between a city devastated by economic crises and the emergence of an infrastructure monster, this research is a patient and attentive quest for clues to decipher this new form of urbanity.

Second largest port
In Europe, the Northern ports of Rotterdam, Antwerp and Hamburg and still dominate the competition.

To expand.

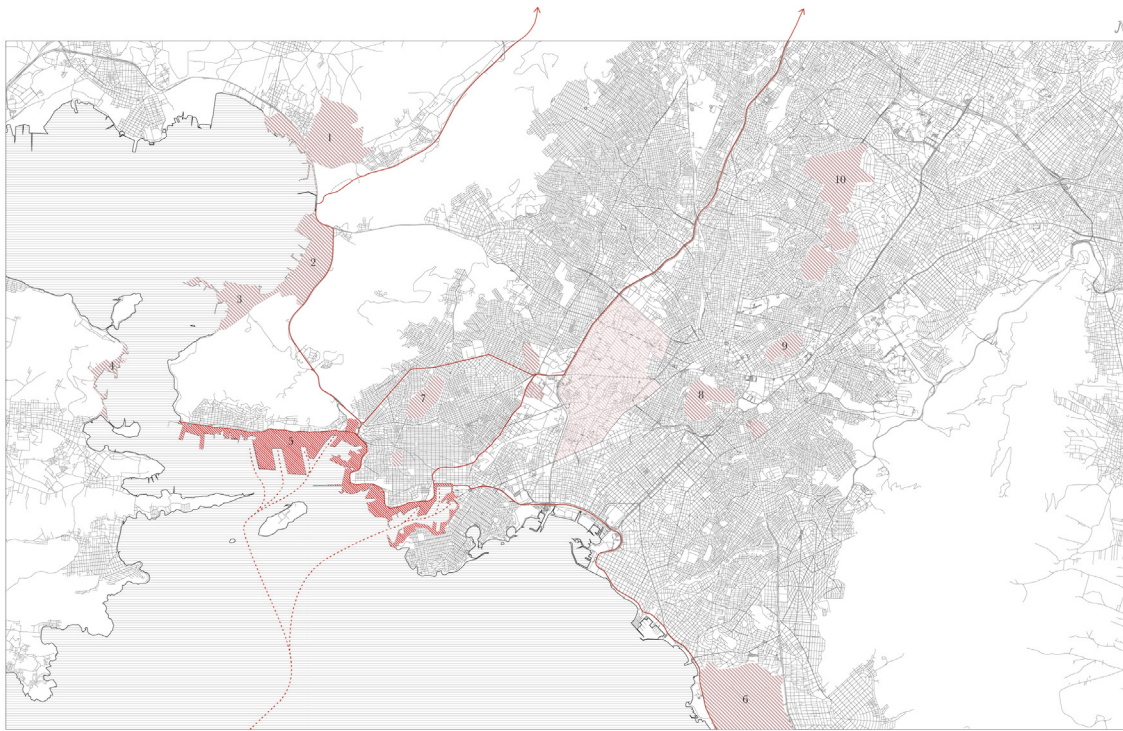


Figure 05. Mapping of the urban islands in Attica's sea of urbanization

Franchised territory.

The port is just 10 kilometers away from the Athen's Center, placing a territory of exception at the heart of a metropolis. A territorial exception: the port acts as a mere gateway, which operates in a system whose scale refers to broader territory than the coastal of Pireas. An economic exception: a booming port in a vulnerable city hit hard by successive crises. A legal exception: since 1932 already, the port operates under the status of a Free Zone Type II. An architectural exception: the buildings constructed in the port are not constrained by the city's height restrictions. Etc.

Free Zone Type II
meant for the storage of goods without time limitations. See Keller Easterling.



Figure 06. Mapping of the main infrastructural components of the port of Piraeus

Conglomerate of infrastructure.

The port stretches along the coast forming a gigantic territory large of 390 hectares, divided into three areas. On the east side, the ferry terminal provides an essential connection to the Greek archipelago for the local while the extension of the cruise port is intended to attract more tourists. On the north side, the container terminal consists of three piers, two-car terminals, oil installations and a free zone located in the city. And finally, on the west side are located the shipyards, inherited from a long tradition of boat repair in the region. A rail connection plugs the ports to the Athens-Budapest-Belgrade network. A ring road provides a fast distribution of goods through the metropolitan area and connects the port to North Greece's highway system. With increased automation systems, the port operates 24/7.

Ferry terminal

Largest passenger port in Europe with 15 million people per year

Shipyards

The Union of Greek Shipowners is among the most powerful in the world. This small group of shipping magnates exercises significant influence on the city.



Figure 07. Mapping of COSCO's masterplan for the expansion and the upgrading of the port's territory

Expanding regime of exception.

In order to scale up its container handling capacity, the port significantly expanded its territory. It progressively absorbs any available bit of the coast to make it a container terminal. On the newly acquired or built lands, the port develops into a chimerical condition of industrial activities and urban functions. It plans to construct warehouses (1) and parking-buildings (2) to boost its logistics activities, premium hotels (4, 6, 7) and shopping malls (8) to benefit from the tourists' flow, exhibition, and convention centers (3) to seduce the wealthy population. The port asks also for more docks, eating ever more coastline. An underwater road tunnel linking Perama to Salamina is expected to be built, to further expand the port in the Bay of Salamis. To limit the expansion, the city protected a number of archeological sites.

Exp. masterplan

Cosco has gained approval for \$ 670 million masterplan, to a large extend hidden from public view

Salamina Bay

In 480 BC, it was the battleground of a decisive fight between the allied Greek city-states and the Persian invaders.

To exploit.

A city, by-product of refugee settlements.

The port zone spans of four municipalities: Pireas, Drapetsona-Keratsini, Perama and Salamina, a complex urban assemblage built on the backdrop of successive crises. The original city was concentrated in Pireas, the wealthier part. The other municipalities emerged from a more tragic history: following the 1922's war with Turkey, the city faced a massive migration of 116,000 Greeks from Minor Asia. The newcomers were accommodated in official settlements in Keratsini, but shortly after, a large refugee shanty town developed on the slopes of Perama and Drapetsona and remained until the 1970s.

Greco-Turkish War
Resulted in a great population exchange: 1.200.000 refugees arrived in Greece (for a population of 5 million people) and 500.000 Turks left.

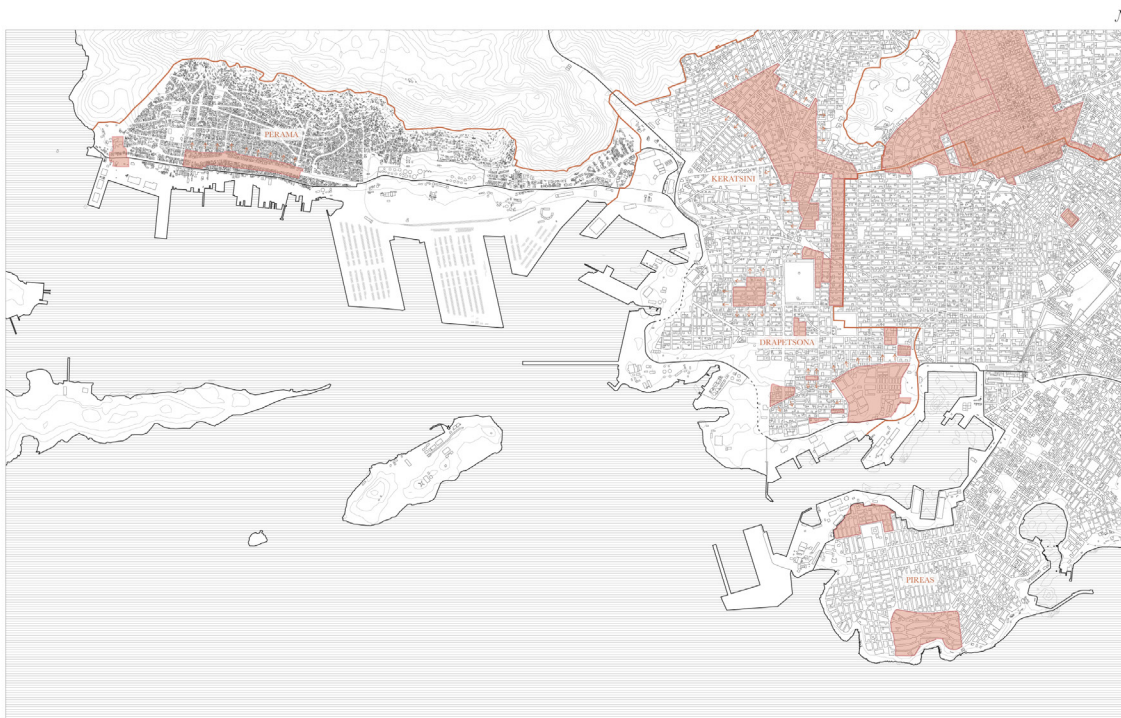


Figure 08. Mapping of the official refugees camps in 1922

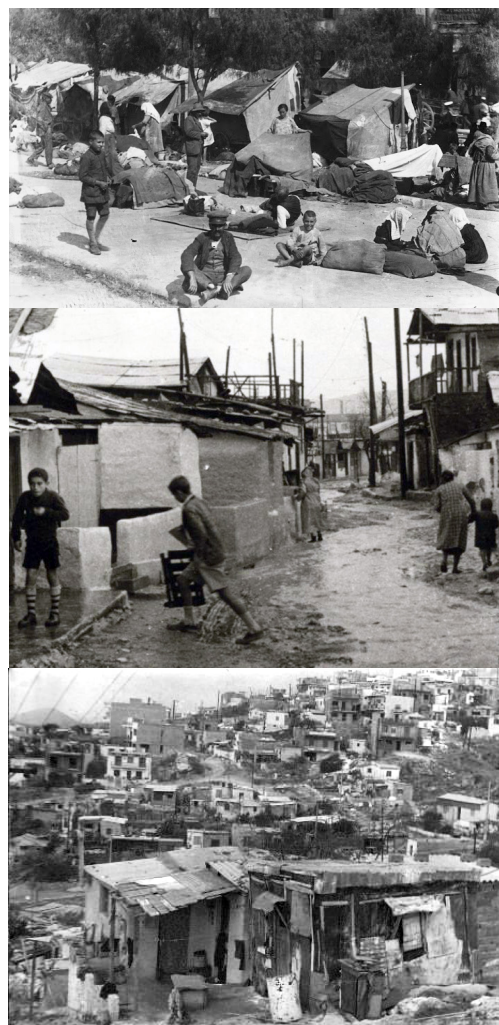


Figure 09. Refugee camps in Keratsini, Drapetsona and Perama

A vulnerable city with no project to oppose.

This concentration of cheap labor created a 'fertile ground' for the development of the port close to the western districts. Due to a lack of institutional framework, it was easy for the port-related industries to appropriate the area. The city has been submissive to the expansion of a territory of exception. The port became a machine of growth to which the city had no project to oppose. Pireas has been consistently defined by weak planning and private interests taking hold over public benefit. This exposed the city to an inexorable and unstoppable development of a regime of exception. Consequently, the city of Pireas paradoxically became a terrestrial coastal city. All the metropolis' western districts are now trapped behind a barrier formed by the harbor premises without any outlet to the sea.

Private interests

With the antiparochi and polikatoika initiatives were implemented modes of urban production based on private, small-scale initiatives in the hands of millions of apartment owners.

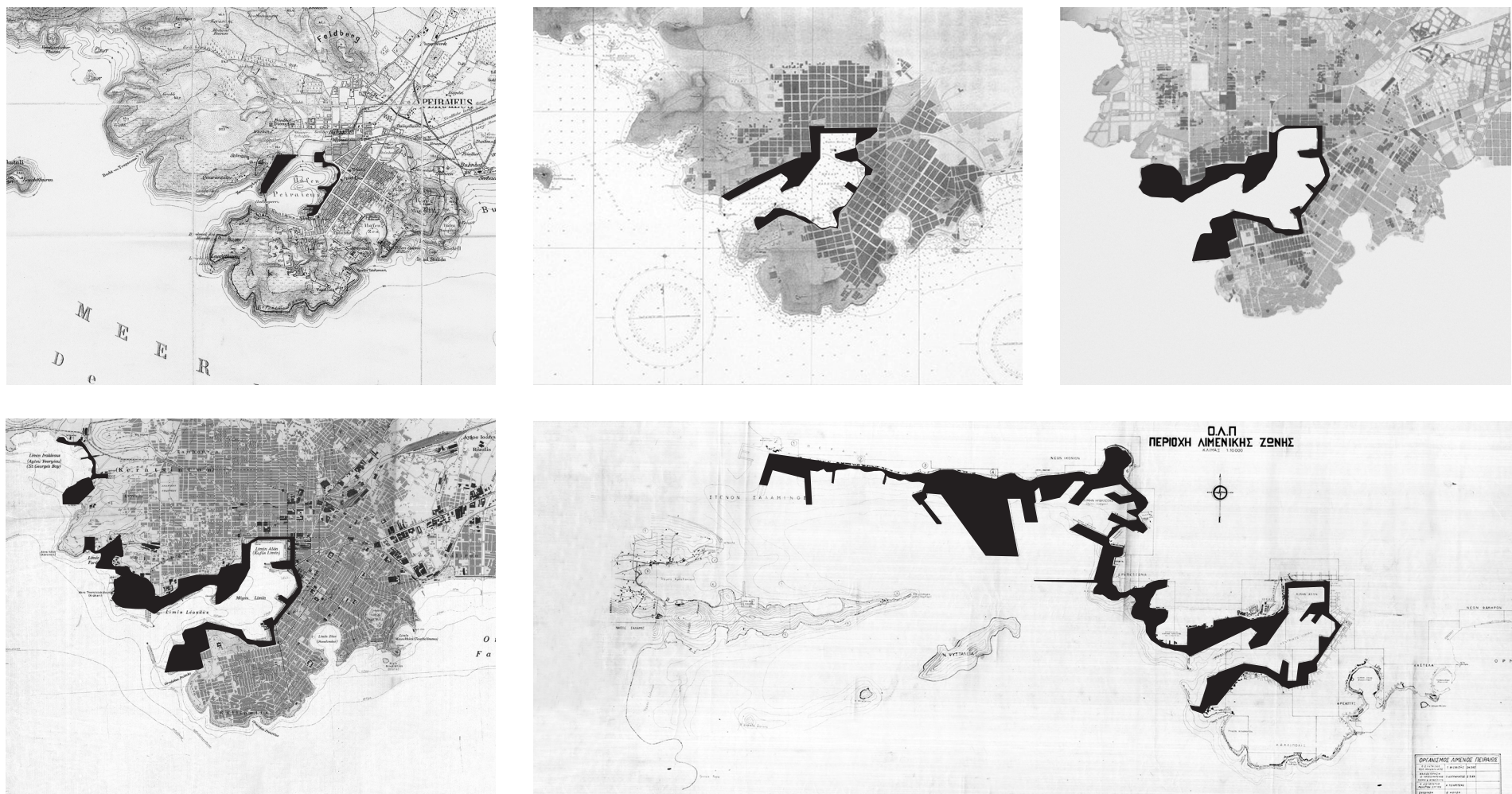


Figure 10. Maps of Piraeus: 1881 J. A. Kaupert, 1927 British Admiralty, 1944 War Office, 1946 Doxiadis, 1962 OLP

To erase.

Pockets of cityness.

In this landscape of erasure of city-ness emerge almost imperceptible fragments of the city in the port, where the city reaches the sea. We come across these leftovers by accident, almost surprised to find them. They stand as the fragile outcomes of the conflict between the port and the city, friction points where the two worlds collide. Exceptions in the territory of exception, these urban pockets appear as potential threats for the port hegemony. Faithful to the tragic tradition, these urban pockets will fight until the end despite the irrevocable end. The port will inescapably absorb the urban bastions, including the fish markets and marinas, although essential to the local life.

Cityness

This infrastructural territory at the heart of the metropolis put in crisis the notion of city. It rather suggests the necessity to identify moments of cityness.

Exceptions

Disruptions in the port's abstraction of space, ground, time, people and law



Figure 12. Mapping of the urban enclaves in the port

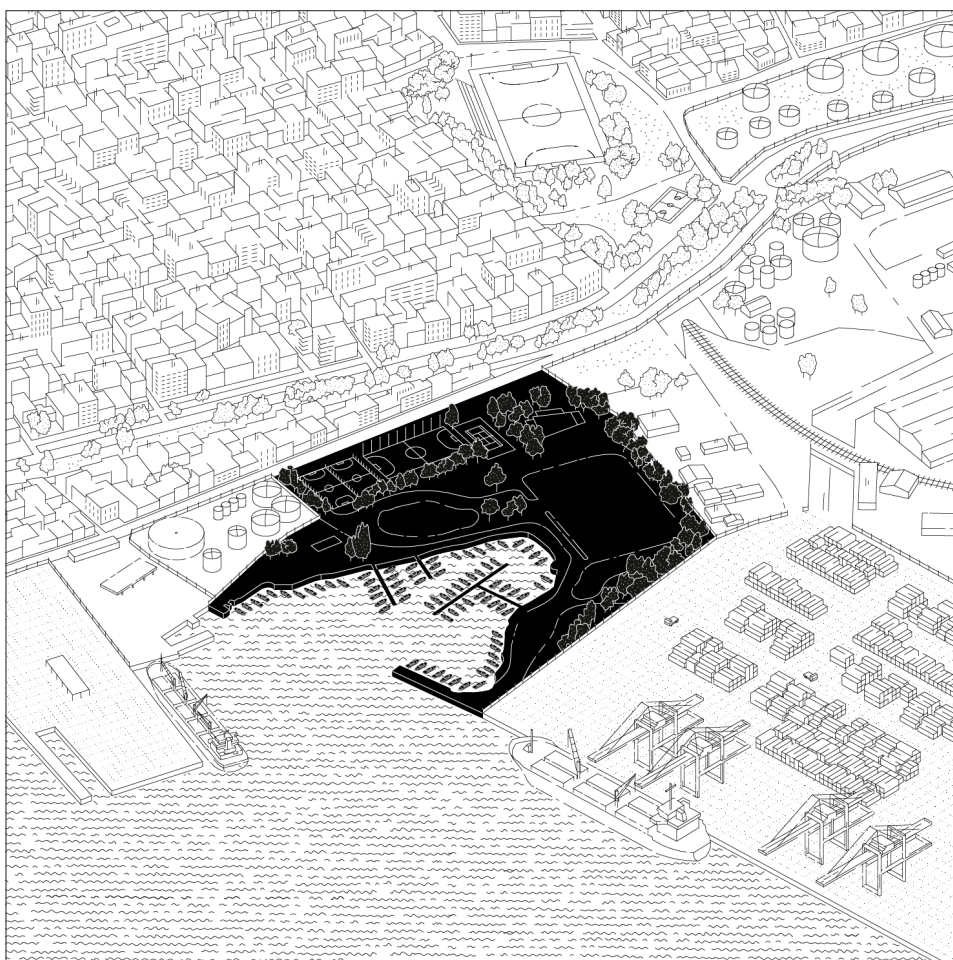


Figure 13. Perama marina, between the shipyards and the container terminals



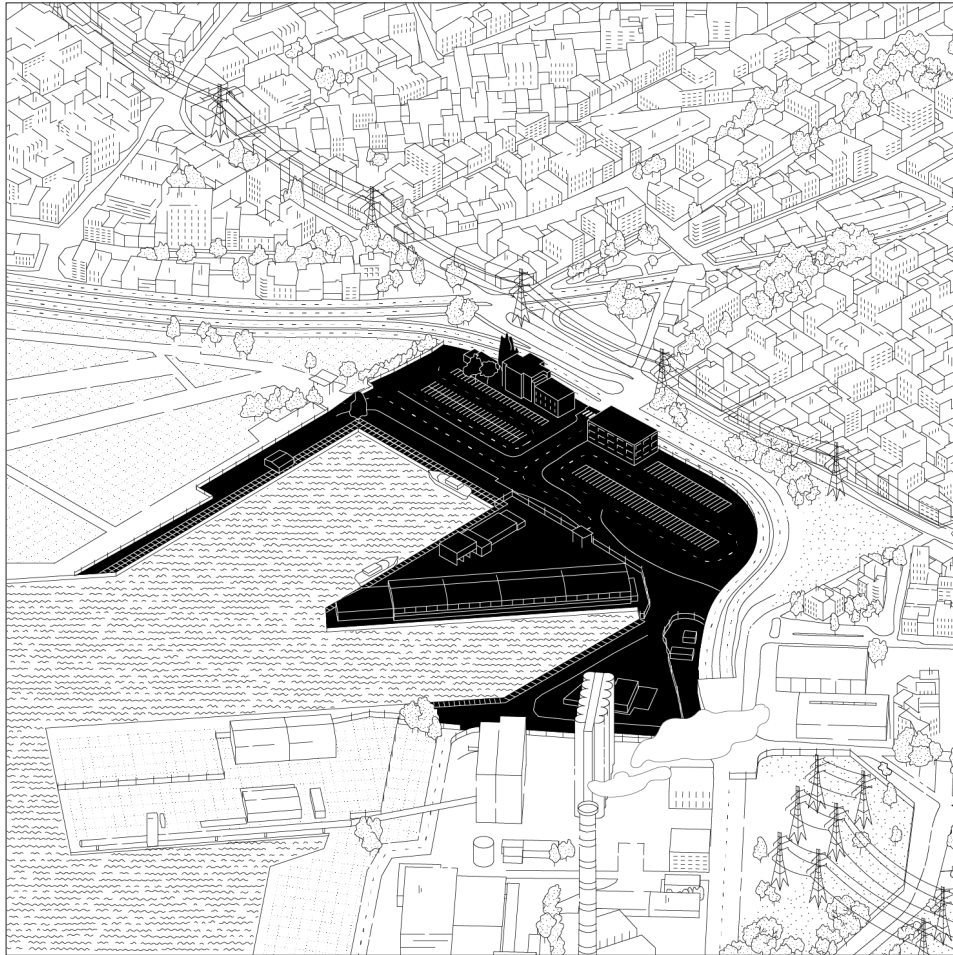


Figure 14. Keratsini fish market, between a car terminal and a container terminal



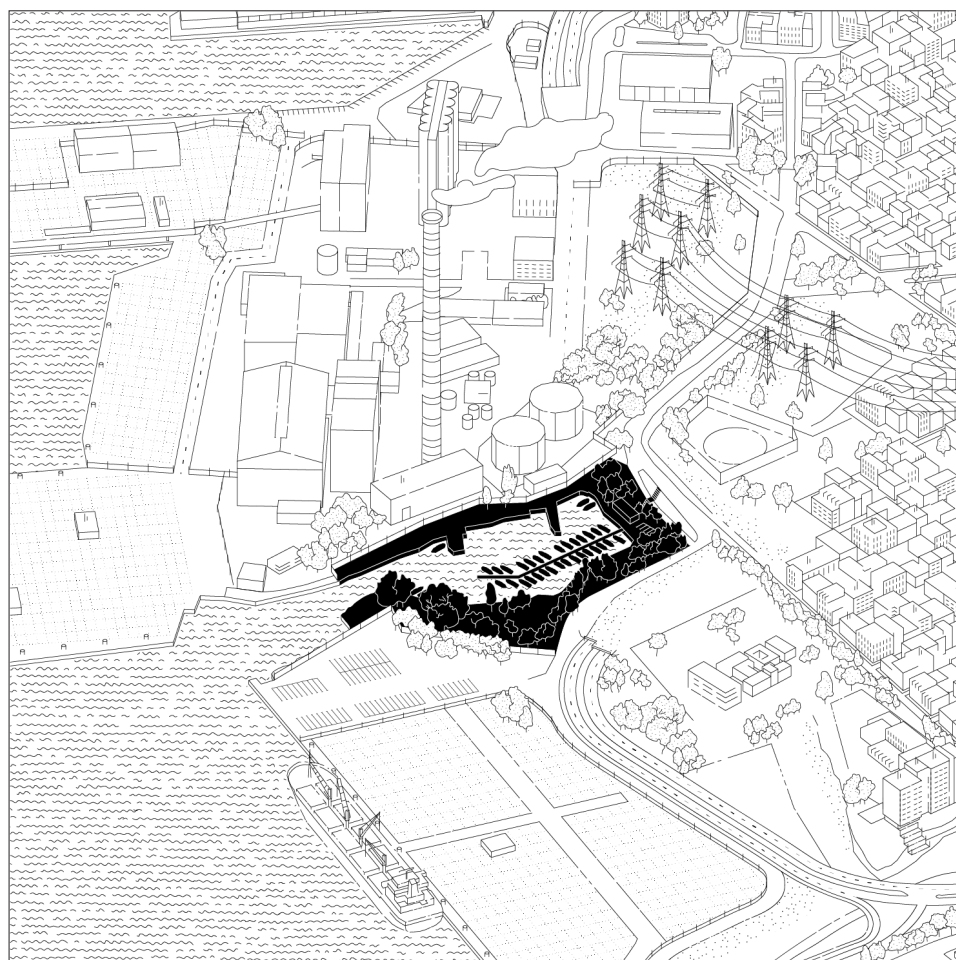
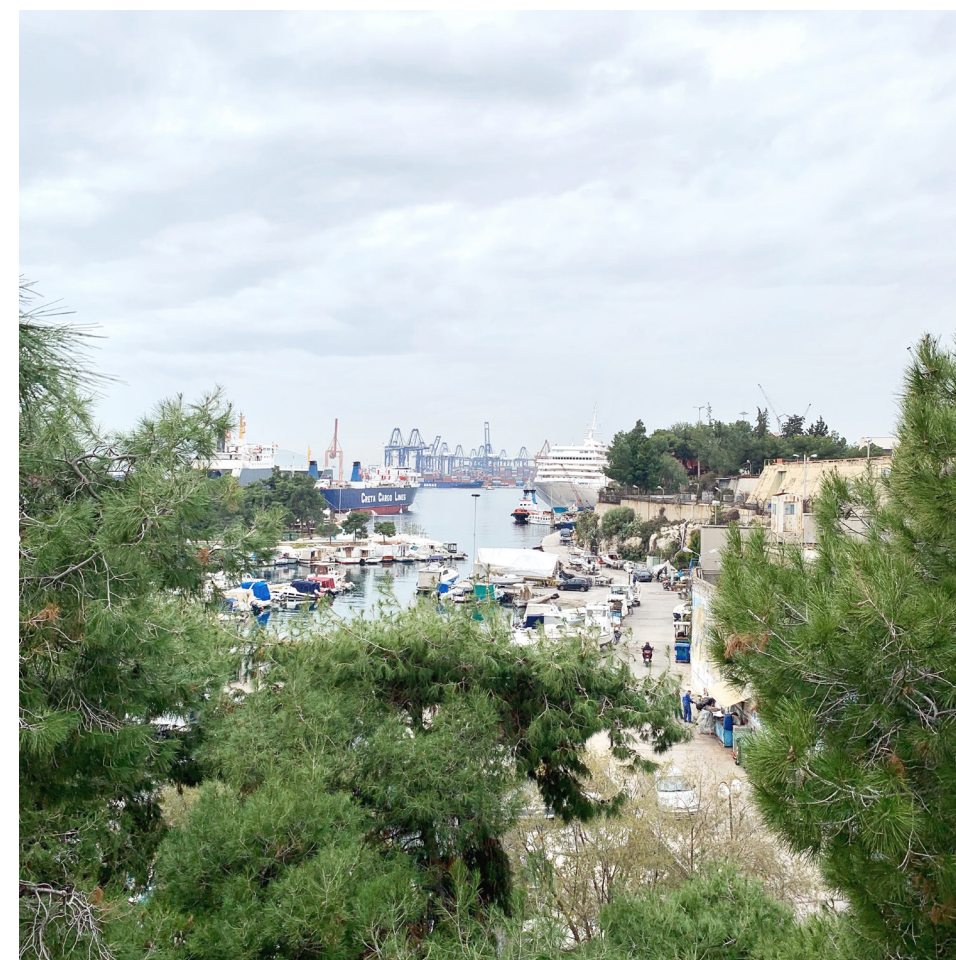


Figure 15. Keratsini marina, between the power station and a car terminal



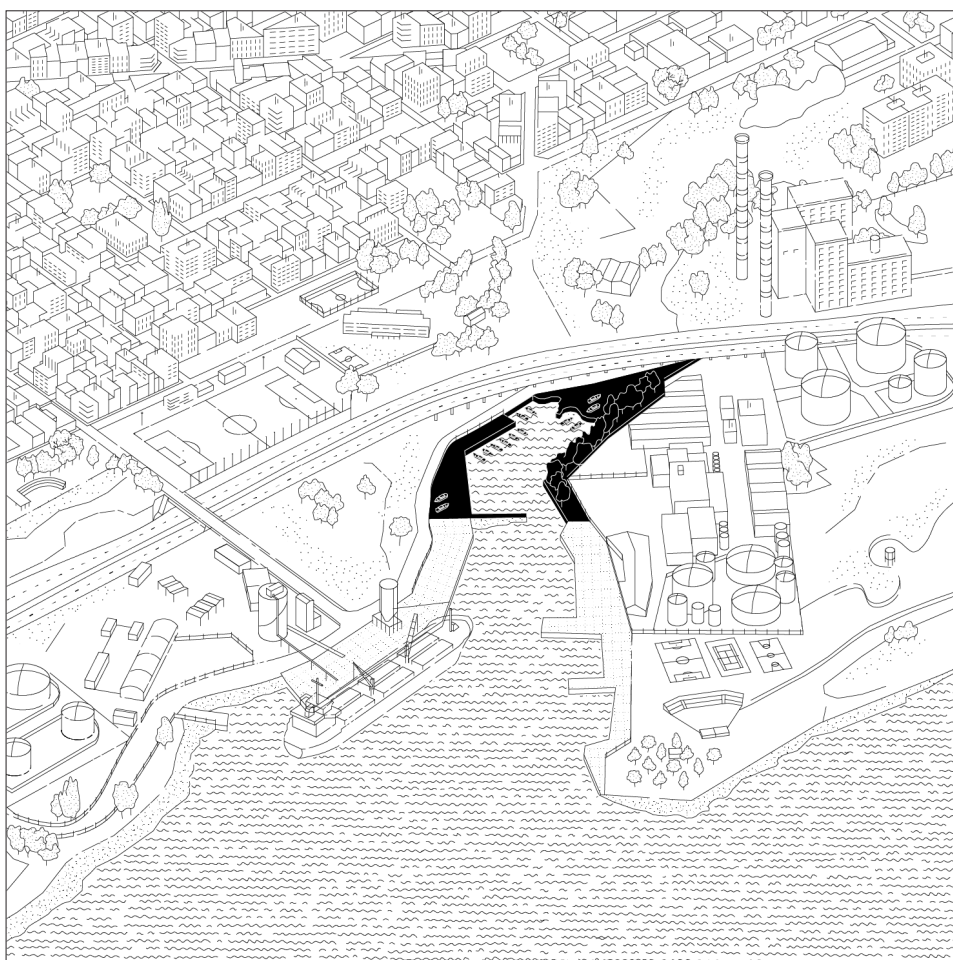


Figure 16. Drapestona marina, between the cement factory and oil tanks



To obstruct.

Jailed by the port.

In Pireas, the sea remains present in the succession of perspective views through the streets that die in the water. One is magnetically attracted by the sea. Down the street, the urban compactness collapses to let one discover the spectacular beauty of the coast. The confrontation between the sea and the city is radical, intense, stiff, that is to say sublime. By contrast, in the western districts, streets finish in a delirium of chimineas, cranes, and boats. The port and the city coexist brutally, in direct juxtaposition. The port appears as a system that menaces to trespass, pushing the city further back inland.

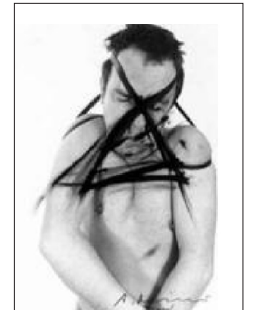


Figure 17. Mapping of the port fortress



Figure 18. Perspective views in the streets of Keratsini



Figure 19. Domestication of the cement factory's water reservoirs at the edge of the city



Figure 20. A new urban condition: living next to a hostile environment for humans



Figure 21. Mapping of the vacant interspace between the coastal highway and the city.

Asphyxiated by the road infrastructure.

This metropolitan schism is further increased by a profusion of roads, ramps and other connections of the port to the hinterland. In particular, a massive coastal highway cuts off the sea from the city from Perama down to Cape Sunion, 75 km southern. A constant flow of container trucks, tanker trucks and cars runs in this endless corridor. In some areas, the infrastructural barrier becomes a real trench dug into the rock or an elevated pathway. In others, it momentarily softens in the urban fabric or completely disappears in tunnels.

Trapped behind a junkspace.

Between the port and the city, the geometric rigor of the city collapses in a grey zone, a junkspace of derelict buildings and parking that constitutes a third insulation layer.

Metropolitan schism
Secession of territory
from the urban
landscape



Figure 22. Pedestrian bridge over the coastal highway in Keratsini



Figure 23. Abandoned buildings and wild grass
between the city and the port

To sediment.

A corner pushed ever-more inland.

The layers composing the infrastructural barrier can be found altogether in the district of Charavgi (Χαραγγή) in Keratsini. Perched on the cliffs overlooking the port, this forgotten corner of the city exemplifies beautifully (and tragically) the new urban condition in port cities. It will be our sample. The district was once a rather privileged location, at the edge of the sea. However, the successive land reclaims operated to build the port triggered a reversal of that condition. The urban fragment is now on the front line of the port developments. It embodies the contentious condition created by the port.

Sampling

The process of extracting a fraction of a material, unbiased representative of the whole



Figure 24. Pedestrian bridge leading to the spectacular tower on the cliff

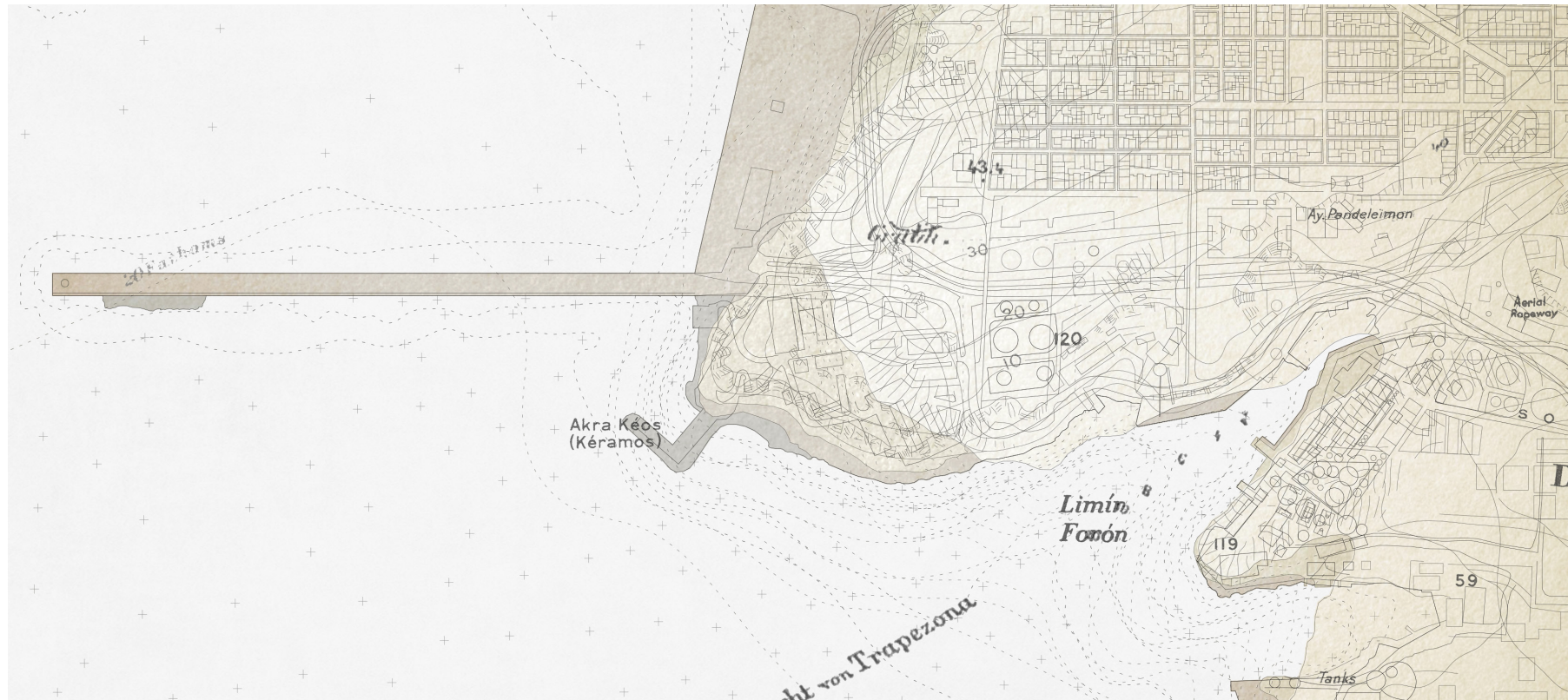


Figure 25. Migration of the coastline throughout the successive land reclaims

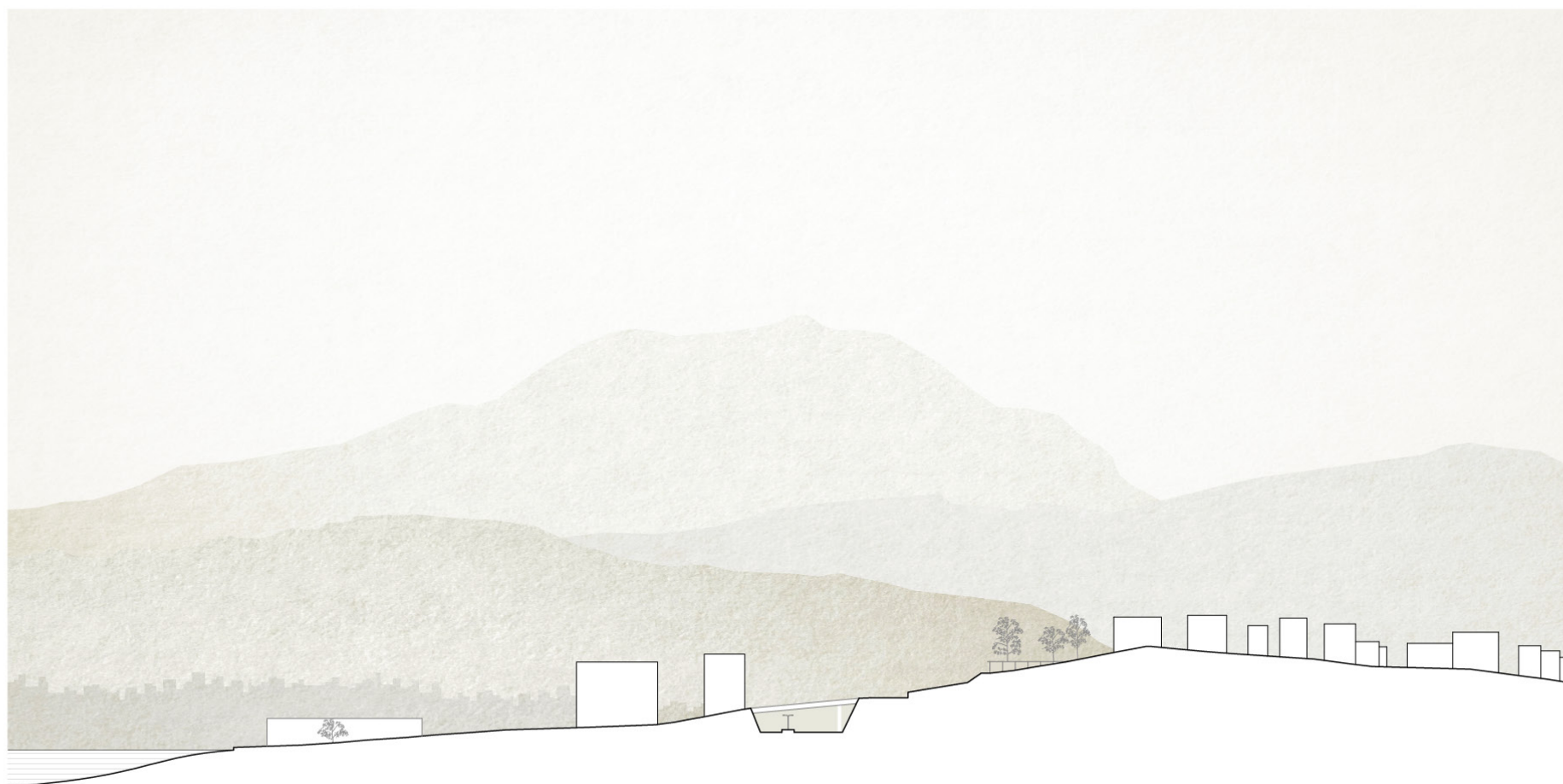


Figure 26. A thick barrier between the city and the sea.

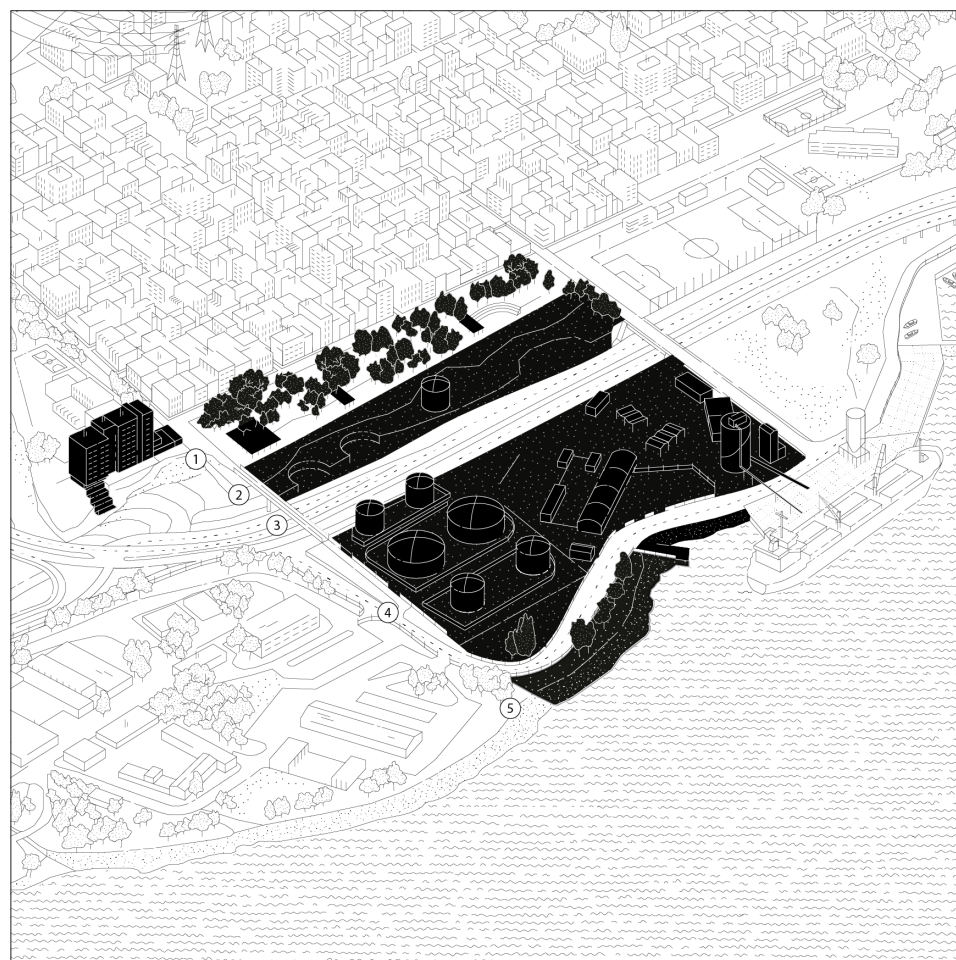


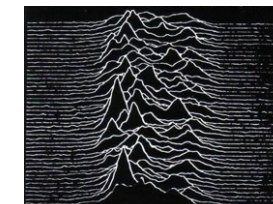
Figure 27. 'Geological' stratifications of the coastal barrier

A new urban condition.

Hence, the urban fringe (1) is punctuated by surrealist situations: belvederes overlooking the port or a building climbing down to nowhere. They appear as traces of the sea in the city, like seashells found on mountaintops. In front of the city, one finds a large junkspace (2) covered with wild grass and punctuated by holes left by water reservoirs in the rock. Then abrupt cliffs, both artificially and naturally formed, create an urban canyon (3), in which runs the highway. A thin pedestrian bridge crosses the entrenchment before ending on the other side with a small dirt road along the cement factory's water reservoirs characterizing this zone of the territory of exception (4). Finally, the path collides into a fence blocking the access to the coastline (5), making the sea distant, inaccessible.

Urban fringe

Confrontational layer between the city and the port.



Junkspace

What remains of the city after abandonment

Urban canyon

Infrastructural scar that topographically splits the city in parts.

Territory of exception

Spatial fragment that detaches itself from the continuum of the city

Coastline

Threshold between land and sea



Figure 28.

Layers perceived as bands of different materialities

Material barcode.

The history of the port city can be read as the sedimentation of different strata. Over time, each of its layers has settled along the coast to form the infrastructure barrier as we know it. Each layer is characterized by a predominant ground material. The site is thus perceived as a succession of bands of materiality. A band of urban 'fabric', a band of trees (1), a band of stone (2), a band of asphalt (3), a band of metal (4), a band of rocks, and a band of water (5). These parallel lines of varying widths, spatial characteristics, programs and materiality together compose a sort of spatial barcode of the port. The dirt road intersects all these strata at right angles, in a movement from mountains to water, from green to blue, through the gray of the port.

Strata

A layer of material, formed of a number of parallel layers one upon another.

Ground

An area of land used for a specified purpose (program).



Of friction.



Figure 29.

How to prevent a city of islands of becoming a city of conflicts?

Port territories have been progressively set apart, rationalized, insularized, whereas before we had familiar relationships with these strangeness. Supposed to be a window to the world it now becomes a constrictive element. It dominates the city that is progressively losing its relationship to the sea, a historical determinant, an inseparable part of the city's very existence, an element so inherent to the local culture. It leads to a growing spatial crisis In this claustrophobic environment, the city of islands is at risk of becoming a city of conflicts. If we want to overcome the conflict, we need to find ways of diffusing the tension. That is the task of the following design project *Prosthesis*.



Strangeness

Deviation from a norm, be it the mad or the heterotopia. See Foucault's work.

Conflict

When the 'others' become incompatible

Part 2. Prosthesis



Figure 30. Model of the intervention | scale 1:500

To perforate.

A perpendicular boardwalk.

I suggest an aggressive welcome to the urban condition created by the port, while proposing to reclaim Pireas' relationship with the seaboard. As the waterfront of the cities is turning into an infrastructural product, the relationship city-sea has to find another typology. The new boardwalks may appear as perpendicular lines. This project investigates this hypothesis. It thus proposes a prothetic arm perforating the infrastructural landscape of the port to open up a breach to the sea. These soft zones, cracks and interstitial spaces in the coastal barrier are meant to become the new civic gateways to the sea.



Prothesis

an artificial device to replace or augment a missing part of the body

Perforating

to make a way through something by punching, piercing, or the like

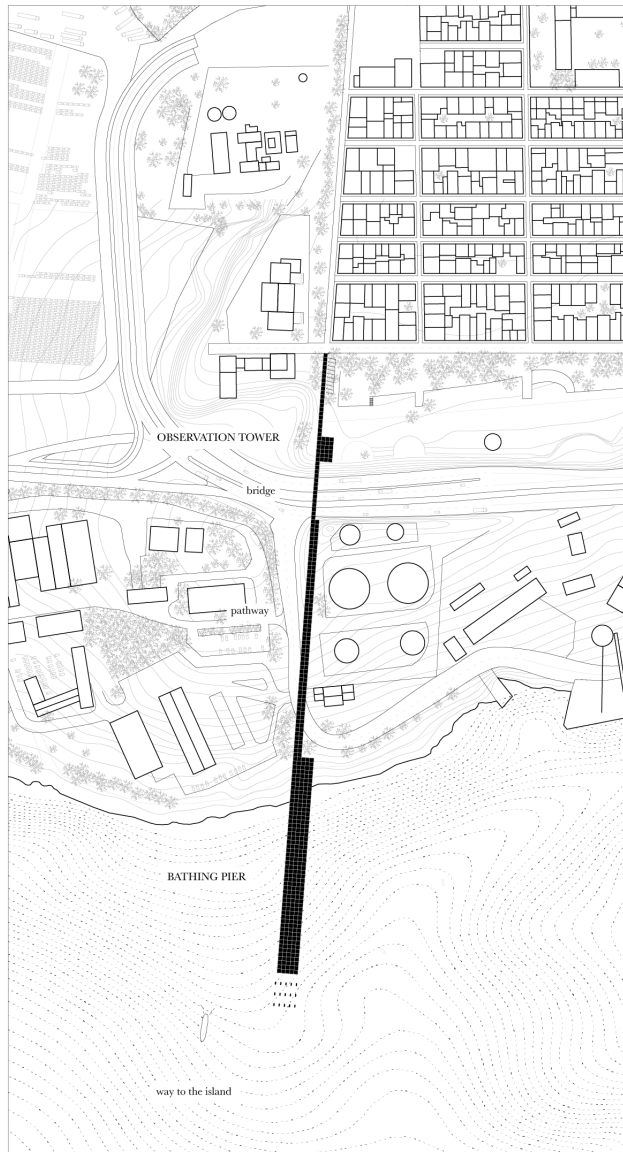


Figure 31.

Site plan of the perpendicular boardwalk

Heterotopic fragments of cityness.

In an environment where the coastline is the most precious asset, a linear boardwalk offers a very space-efficient typology. This vector projects itself into the different layers of the coastal barrier to reach the sea. It is designed as a leisure/pleasure intervention in the machinescape environment of the port of Piraeas. It creates programmatic insertions of cityness in the port. The boardwalk opposes the idea that, in the port, the city is not supposed to exist. The project thus operates a conceptual reversal: introducing heterotopic fragments of the cityness in a continuum of infrastructure. It prompts us to embrace the heterotopic condition of the city, allowing the otherness, the singularities, the strangeness of the port to cohabit with the familiarities of our everyday life.



Projects

extend outwards
beyond something
else, protrude

Prgm insertions

Introducing an
heterotopic entity
within a territory
seeking for exclusivity



Figure 32. Longitudinal section from town to sea

To agglomerate.

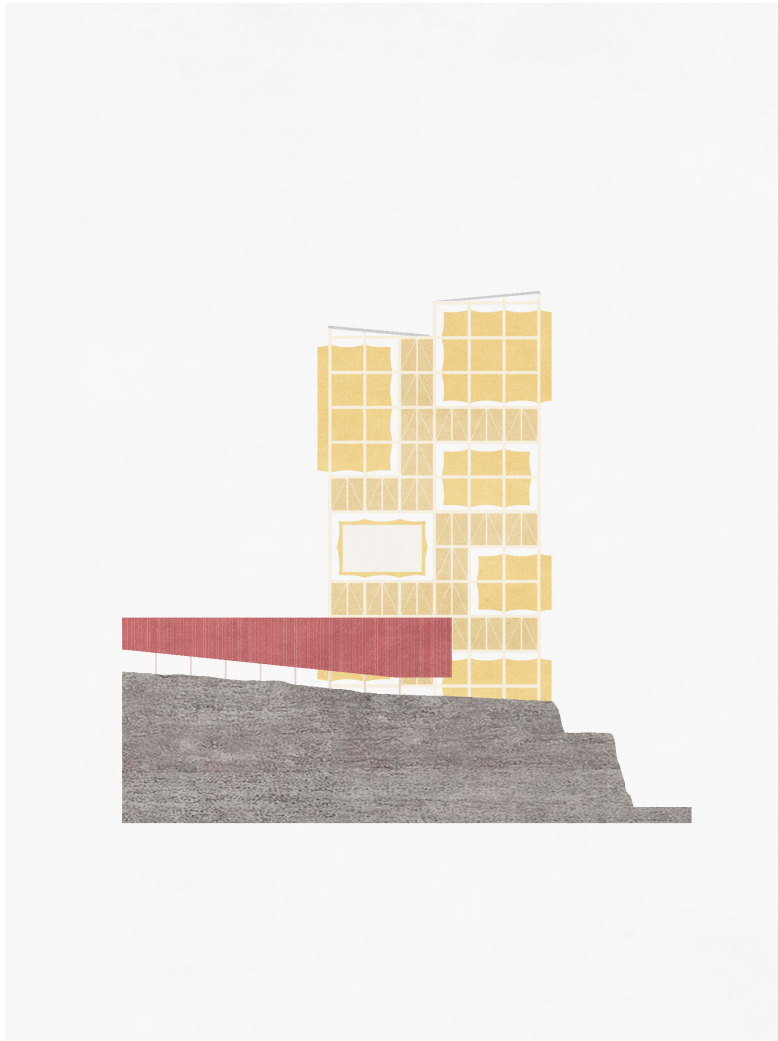
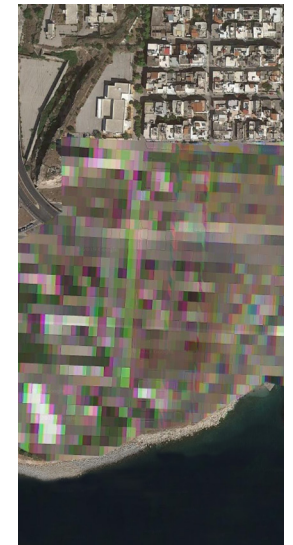


Figure 33. West facade of the observation tower

A. Reconquest of the horizon.

As you walk in the streets of Keratsini, a building emerges from the urban fabric. Located on the highest point of the city, this observation tower stands on the edge of the huge cliffs that define one of the many boundaries between the city and the sea. Overlooking the port, it provides unique elevated vantage-points on the 'lost' horizon. It gives the possibility to see the sea without necessarily going down to it. The building acts as a vertical sign announcing the breach to the sea. It makes the junction between the city-scape and the port-scape. It is the beginning of the proposed intervention.



'Lost' horizon
Several areas of the port are systematically blurred on public maps



Figure 34. Top floor plan of the observation tower

You enter the boardwalk via a long ramp which brings you down from the park of the urban fringe to the base of the tower. There, A double-decker bridge brings you to the other side of the urban canyon. Alternatively, a path invites you to go up and zig-zags around volumes of different formats layered over and under one another. As you climb, the building reveals a succession of perspectives over the horizon. Each room stretches out of the matrix on one side to reveal up a key view of the port or the city. The tower is oriented along the axis city-sea of the boardwalk. The facades towards the sea and the city and therefore widely open, while the other two facades are more closed. A system of modular facade panels displays an agglomeration of distinct bubbles and preserve the autonomous expression of each room.

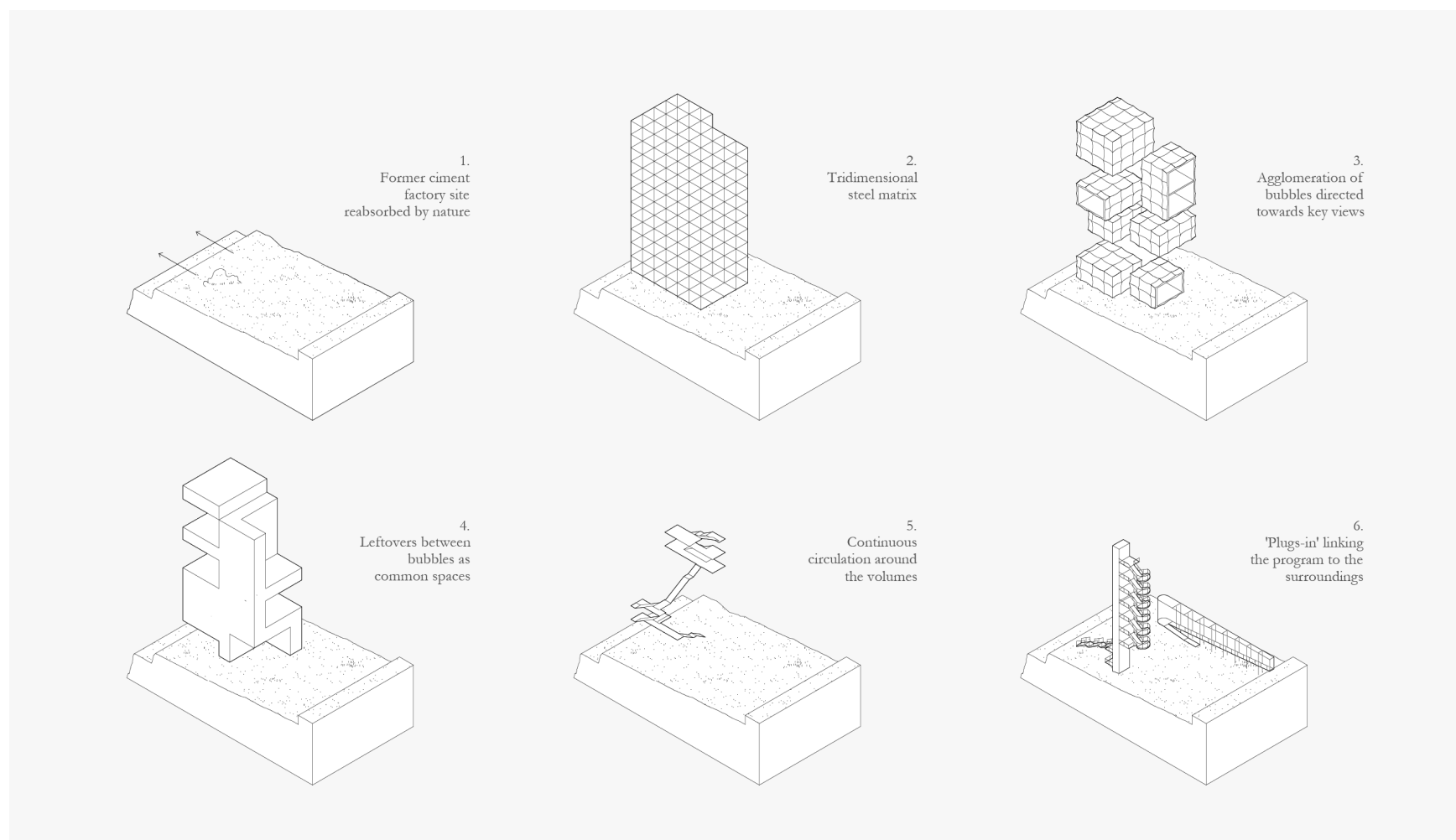


Figure 35. Spatial components diagrams



Figure 36. Long section of the observation tower

The boardwalk is a new polarity, a place of convergence which condenses urban dynamics on a narrow strip of land. Here, it offers a density of city-oriented programs, extending the realm of cityness in the first layer of the port. A sports hall, an auditorium, a music room and a library complement the facilities of neighbouring high school. They also provide the locals with sports and cultural amenities lacking in the area. In the basement, the rooms carved in the rock connect the boardwalk to the coastal expressway. They invite the port workers to mingle with the crowd in leftovers between bubbles, semi-open spaces generating informal meeting and resting areas. The various groups ultimately all gather on the top floor where a restaurant space, allows up to seventy guests to enjoy an special dining experience at communal tables with an astonishing view on the horizon.

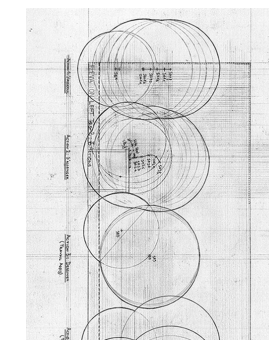


Condense
a union between
entities to form a new
more complex and
solidary compound



Figure 37. Cross section of the observation tower

The way the city can exist in the hostile environment of the port is by becoming an accumulation of urban bubbles engulfing the site. The boardwalk is thus a combination of free intensities where each cell of this ensemble offers its own qualities and characteristics. You can take them out and recognize then as individual elements but they work as a whole. The project collides a series of capsules that are almost alien to each other. It aggregates this large diversity of programs, activities, uses, populations and spaces within one entity to form a foamy environment. The matrix encompasses this assemblage, bringing together the eclectic worlds coexisting in the tower. This project can be seen as an effort to pursue a new culture, where architecture would become an instrument to create the necessary conditions for new social ecologies and new ways of living to flourish.



Foam

Form of space/society generated by the collision of bubbles. See Sloterdijk.



Figure 38. View of the observation tower and its connection to the urban fabric



Figure 39. View of the observation tower and the blocked horizon

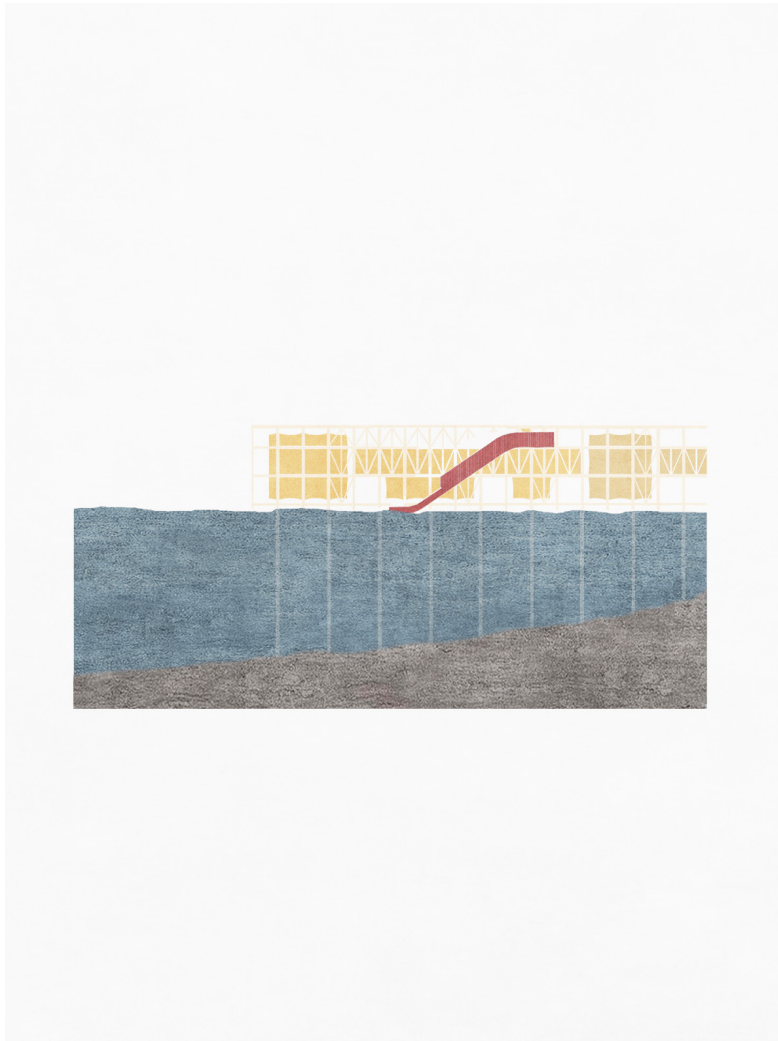


Figure 40. East facade of the pier

C. Reconquest of the seascape.

As it reaches the fundamental meeting point between land and sea, the linear system perforates the coastal barrier to become a long building deploying into the sea like a pier. Here again, the boardwalk articulates a set of eclectic programs, uses and people. It hosts a small passenger terminal for passengers waiting to embark on the island of Psyttaleia, giving them a place to park their car, use the restroom or take an ice cream before their journey. This way, the intervention connects remote fragments of cityness in the port. The boardwalk also contains bathing facilities that make it possible for the locals to go for a swim in the sea and to enjoy a popular retreat along the water. The sea, port's infrastructural space *par excellence*, is claimed back as a territory of cityness.

Psyttaleia island
archaeological site of
the remainings of the
Battle of Salamis

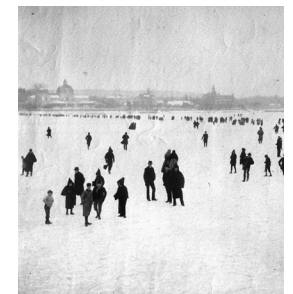




Figure 41. View of the bathing area of the pier

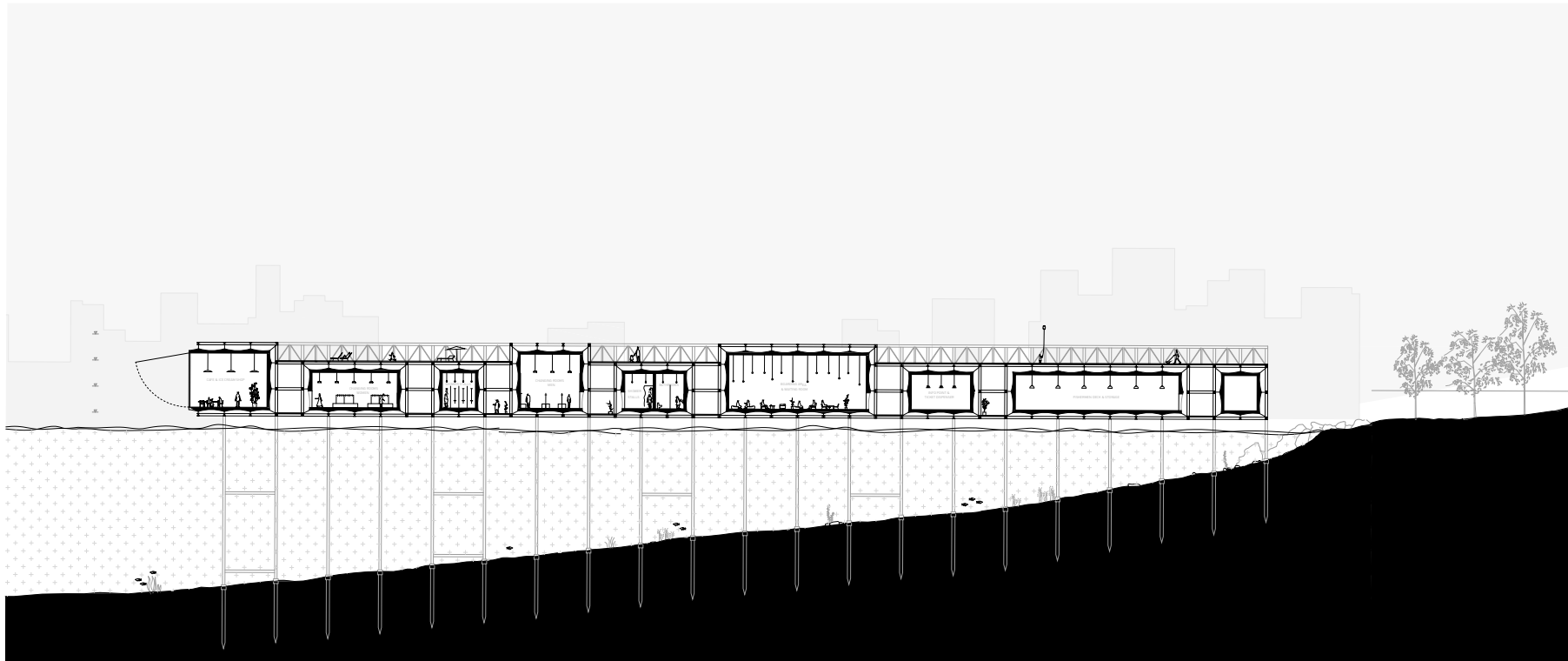
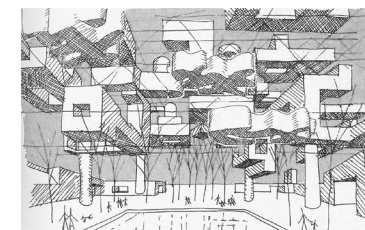


Figure 42

Longitudinal section of the bathing pier



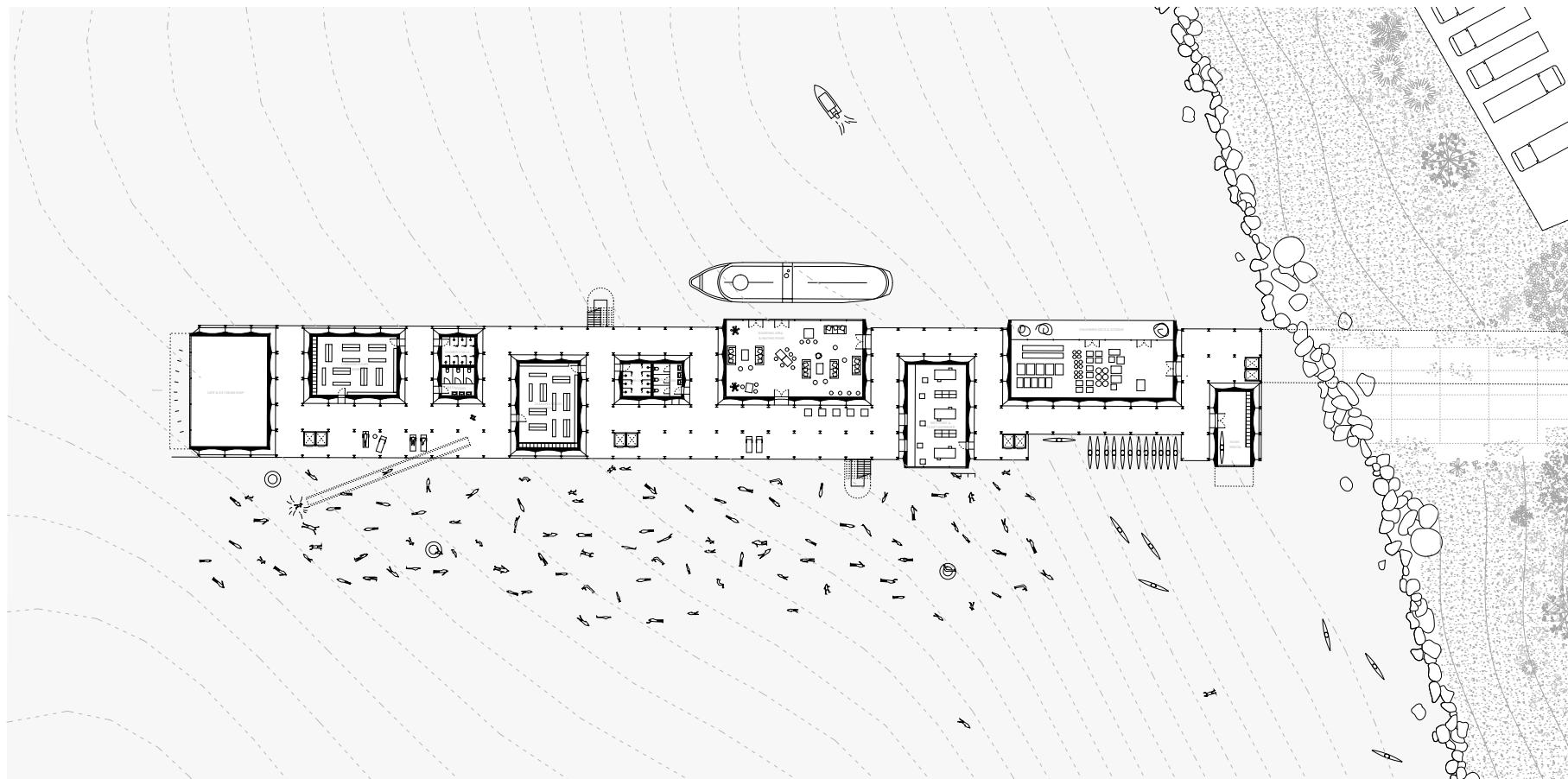
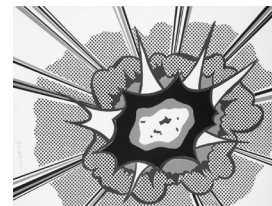


Figure 43.

Plan of the bathing pier



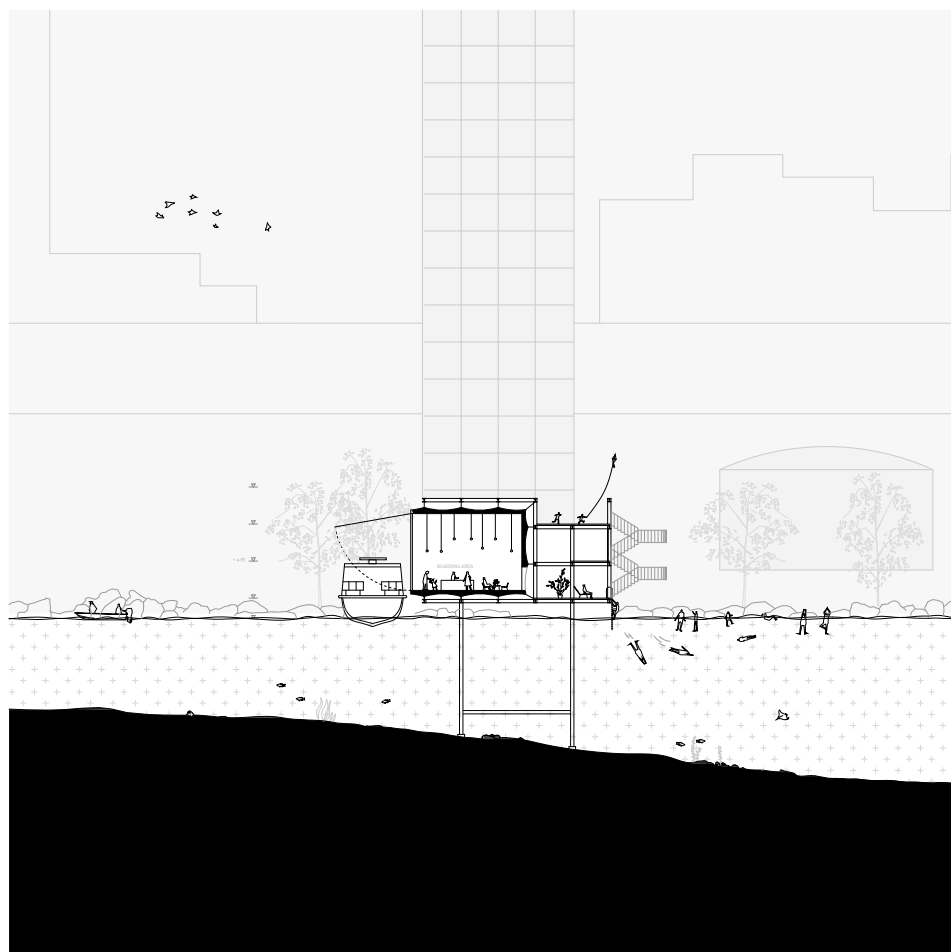


Figure 44. Cross section of the bathing pier

You enter the building from the roof where you zig-zag between the protruding roofs of bubbles. Two expressive staircases bring you down to the bathing facilities and to the water taxi departing zone. The west side harbours the mechanized programs of the pier including the fishing boats and the water taxis. On the contrary, the east side of the pier harbours the not mechanized users including swimmers, those renting kayaks.

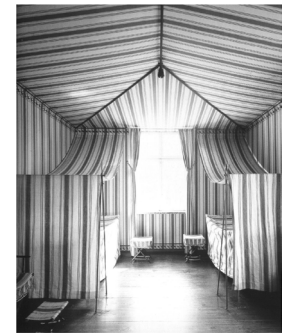
At the end of the pier, one is for the first time confronted with the full panorama of the sea. “It looked like a theatre. A theatre which stage lies exactly on the horizon. Beyond, there is nothing but the sky.” to borrow Godard’s words. With the port in the back, one can stay there for hours to contemplate the incessant ballet of the boats arriving or departing from the port.

To encapsulate.



Figure 45. Interior view of a bubble

Each bubble is experienced as an independent spatial unity, which sole connection to the outside world is the view. Inside the room, one does not experience the messiness of the outside world. The distinction between floors, walls and ceilings is blurred to create a kind of cocoon environment. A woven glass fibre fabric wraps the space, encapsulating the viewer in a smooth visual experience protected striated exterior world. An almost archaic mechanism activated manually by a crank wheel allows one to lift the skin to unveil the view. The reconquest of the horizon becomes a performative act of opening view-points onto the port.



Bubble

The intimate space, the self. See Peter Sloterdijk's spherology.

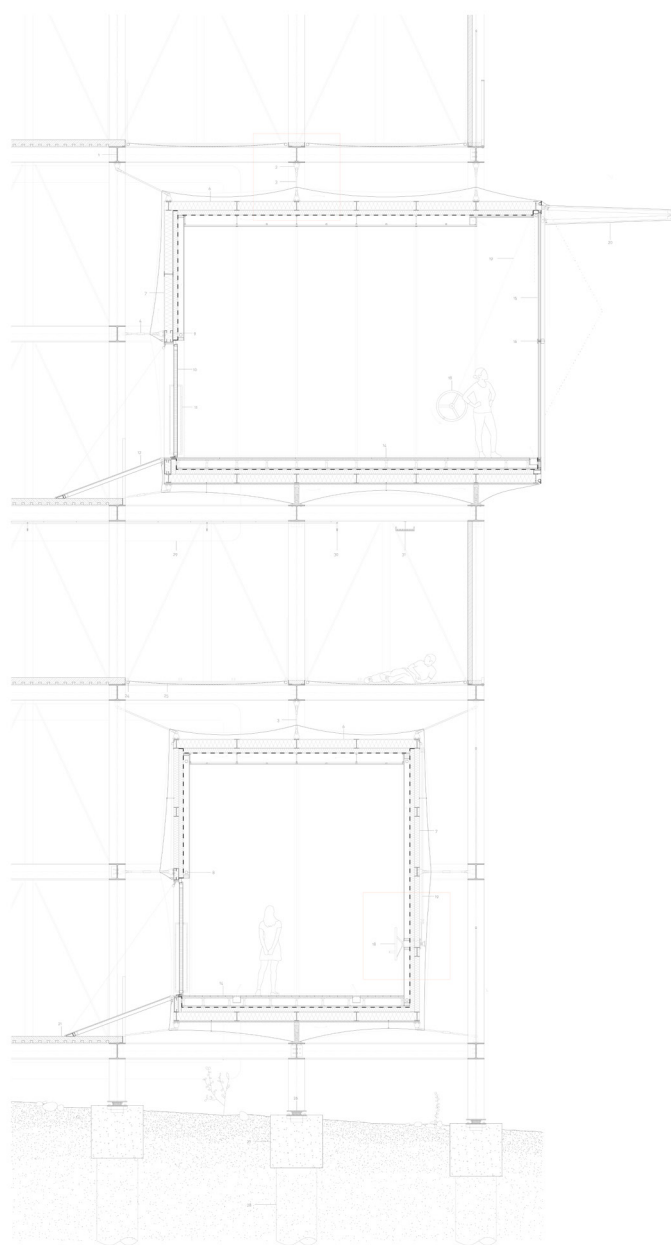
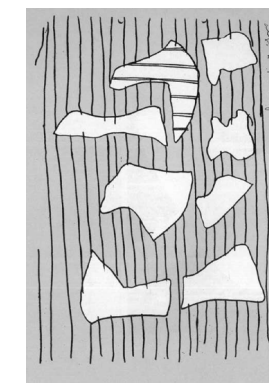


Figure 46. Technical section of the observation tower

Thanks to its dry and pre-fabricated construction system, the steel infrastructure is versatile. It can grow, contract or be eventually taken apart. It is a reversible infrastructure, totally dismountable, reusable and flexible to allow reinterpretations following evolutions of needs and uses. By contrast to the solid, massive, rigorous, stable matrix, the bubbles appear as fluid, light, amorphous, floating spaces. They are suspended from the top by steel rods. The side elements in pretension keep them in position to mitigate the effect of lateral movement while the bottom elements act as dampers to compensate the vertical fluctuations. The bubbles are selectively permeable: a system of retractable ramps connects them to the rest of the building. If deactivated, a bubble is then literally detached from the rest of the world, insular fragment carved out in the spatial continuum of the matrix.



Matrix
an armature that
can accommodate an
endless emergence of
bubbles

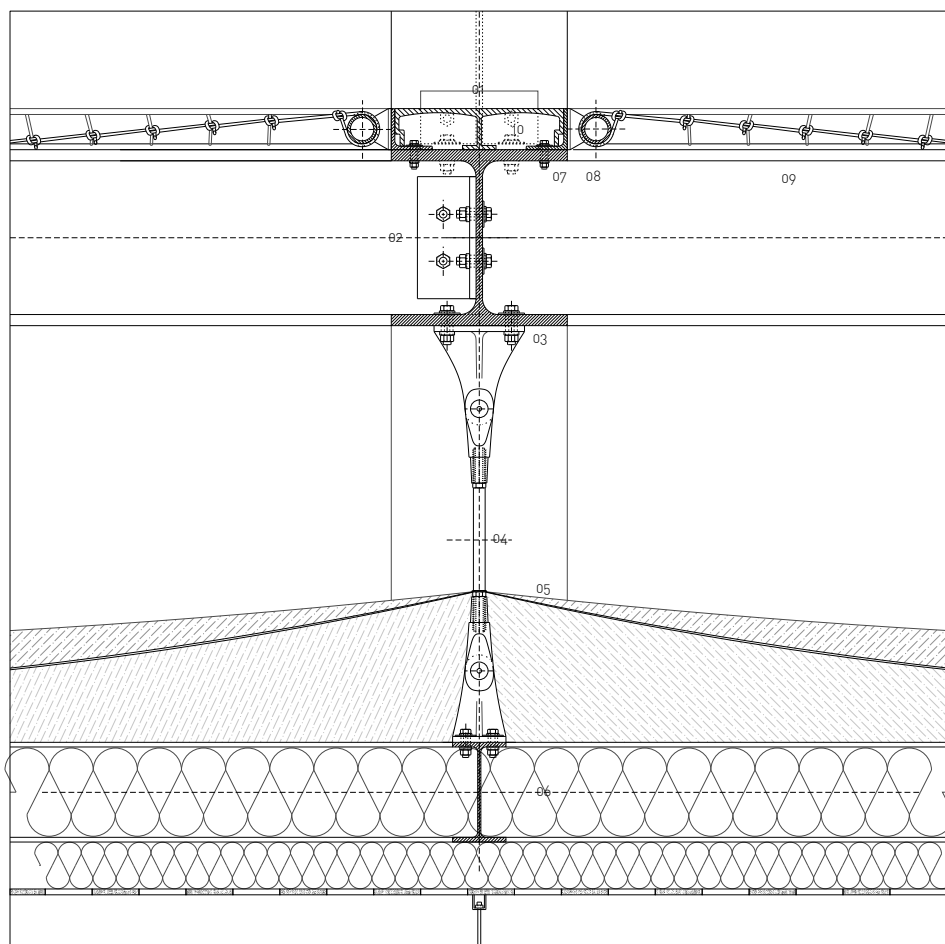


Figure 47. Detail of the suspension system

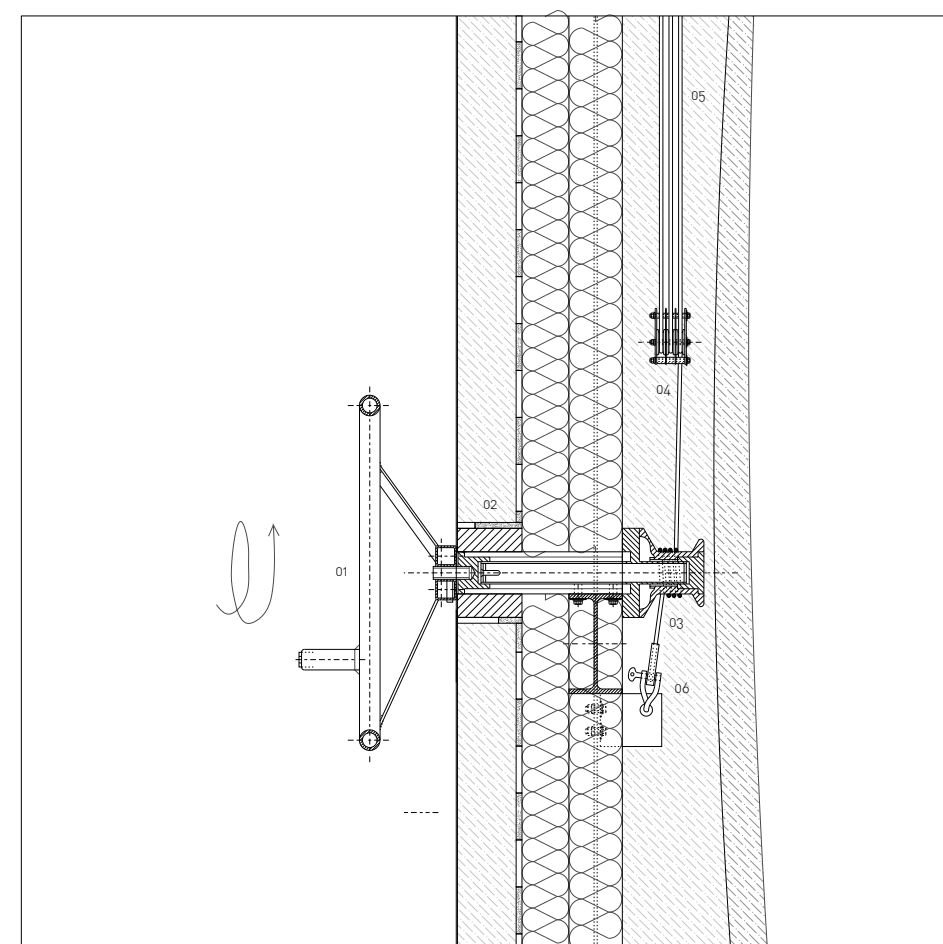


Figure 48. Detail of the crank wheel mechanism

Climatic island.

The bubble hosts a protective inner space in which the individuals can find shelter and, ultimately, safety. This applies also to the environmental comfort it offers. Its insulated membrane offers a climate-controlled shelter for its inhabitants. The building hosts thus two types of climates associated with different intensities of use. The in-between spaces, acclimatized by passive and bioclimatic systems, and the bubbles, that combine natural ventilation with radiant systems. The underground mass acts as a cooling climate device on hot summer days. A ground-coupled heat exchanger dissipates the heat and injects pre-cooled air into the upper levels through the ventilation shaft and pipes connected to the bubbles. They inject fresh air through the floor and extract the hot air to expel it at the roof level by stack effect.

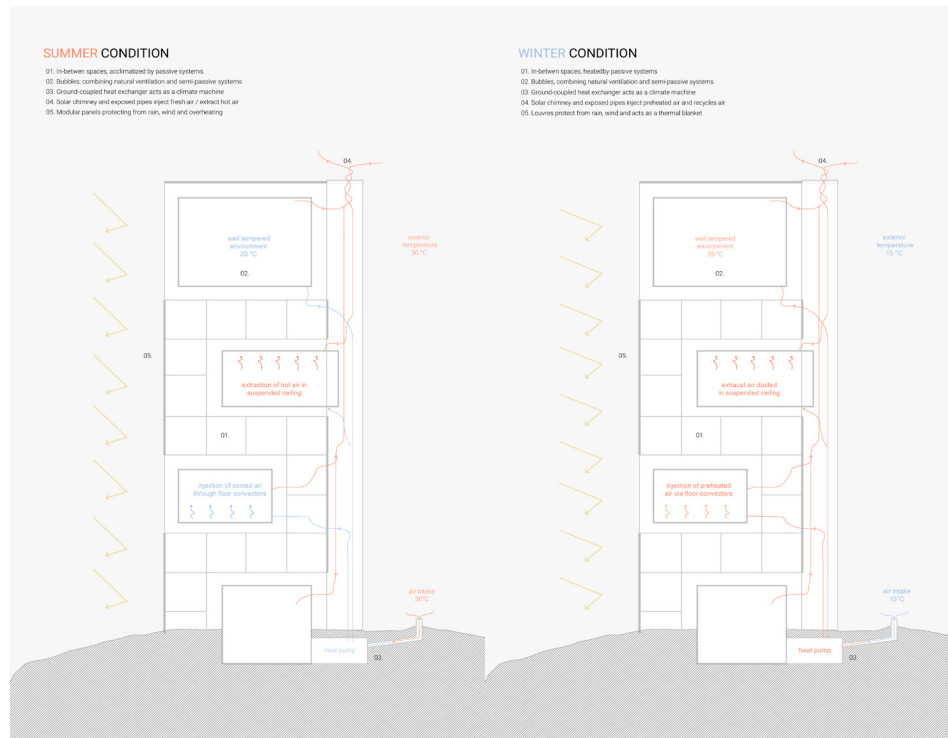
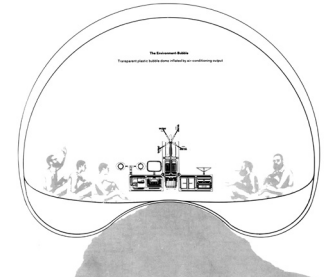


Figure 49. Climate system of the observation tower

An epilogue.

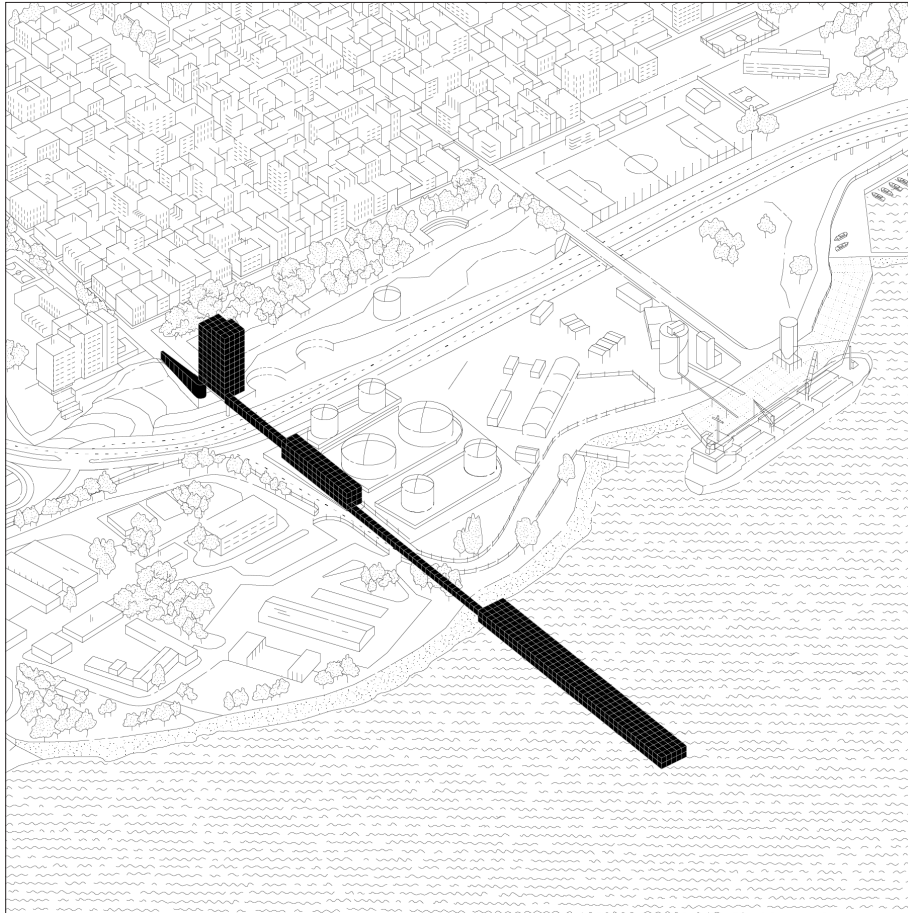


Figure 50.

The perpendicular boardwalk, a typology for coastal cities in the anthropocene era?

This project invites us to re-imagine the spatial relationships between architecture, landscape, energy and infrastructure in ports. It envisions the establishment of zones where the laws of the port would be suspended. Or at least interstices where the city can claim its right to the sea, allowing a more diffuse urbanity. The foamy architecture of the tower and the pier put forward the idea of an architecture of social, programmatic and spatial density at the heart of a territory seeking for exclusivity and exception. Perhaps, one could say that the perpendicular boardwalk is a provocation, an exaggeration of the urban, but one that envisions the City of the Future in a time of infrastructural hegemony.

Appendixes

Reflective notes.

The following notes shed light on the different approaches and meandering paths taken throughout this quest of insular urbanities.

Premises & study plan.

This project emerged from a long-lasting fascination for the condition of insularity. Throughout my studies, I recurrently came back to this theme, discovering year after year new ramifications of this issue in the spaces and territories we inhabit. In the first year of my Bachelor, the discovery of Peter Sloterdijk's spherology was a first trigger. I explored his notion of bubbles, that is to say, the self-contained worlds that every human being is driven towards creating around him/her. The project resulted in a foamy volume carved in a mass created by the overlapping of different bubbles. This interest further strengthened in my years at TU Delft starting from the MSc. 2 theoretical research. There, I shed light on the development of new lifestyles that rely on the ability to do everything without moving from your apartment. I called them "insular ways of living". My diverse readings (Antoine Picon, William J. Mitchell) and personal discoveries made me feel that I had a grip on a far-reaching subject. It was thus quite tempting to pursue this quest a step further. I saw in this graduation year as a good opportunity to understand the territorial and urban implications of this phenomenon. In the continuation of Foucault's heterotopology, I attempted to highlight the crucial transformation of cities under the regime of territories of exception. I took the insularity onto a surgery table and took a closer look at the conceptual, material and practical implications on the city.

Methodology & progress.

Through the patient gathering of information, I tried to decipher this urban phenomenon, which appears indistinctly at first. The research thus became an attentive quest for various clues and fragments. The research first started with a *Genealogy of insular ports* to investigate how harbouring got tied with insularization? I collected an exhaustive number of case studies sharing the common trait of being spatial exceptions, ranging from historical precedents of colonial and Hanseatic free ports to newly emerging spatial arrangements, such as data centres or automated warehouses. I reconstructed the historical formations of insular ports, traced back their early developments, identified their contemporary structuring dynamics and projected their future transformations. Particular emphasis was given to the port of Rotterdam and its relationship with the city in a photographic essay on juxtaposition and thresholds.

Throughout this quantitative research, certain patterns of exception started to systematically appear beyond their shared disposition of spatial insularity. Therefore, I progressively shifted to a qualitative method of inquiry to identify insularity's modalities of appearances, linking them to typical exceptions: territory, ground, urbanization, time, workforce and law. These themes, meant to be non-exclusive and intentionally incomplete, outline the various facets of insularity. I approached the port as an ideology (formula) and not simply as a physical reality (form). These findings constituted the scaffolding of a theoretical thesis entitled *Territories of exception* to understand the modalities of appearance of territories of exception. It called for more attention to the particular afflictions that make these spaces insular. By mapping out insularity's conditions of emergence, the research offered me a better understanding of the causes of the proliferation of metropolitan spaces of exception. However, it ended with a critical interrogation: aren't cities of islands at risk of becoming cities of conflict?

Out of the various case studies, the territory of Pireas seemed to tragically exemplify these tensions between a booming port and a

vulnerable city. Its contextual analysis served as an endless source of knowledge to decipher the modus operandi of a territory of exception. This phase of research was further supported by a site visit, a photographic essay as well as interviews with experts and local stakeholders. It led me to identify an exemplary case study that may stand for a larger urban phenomenon. The chosen area of intervention has been for decades the poorest and most neglected part of the city after years of economic crises, desindustrialisation, and unemployment. It results in a violent landscape marked by extreme infrastructural developments. Yet this condition generated a peculiar energy that suspended the place between fantasy and survival. Every step on the research fed a glossary that constitutes an arsenal of concepts to understand and take action in this urban condition. Entitled *Schisms*, this phase of research narrates the process of insularization of a monumental territory at the heart of a city. It shattered a lot, destroying political, economic and social structures. If we want to overcome the conflict, we need to find ways of diffusing the tension. That was the task of the design project.

Far the dichotomy research/design, the project *Prothesis* was just considered as another phase of exploration, using different means. The design did not aim at proposing mere architectural gestures, but rather at offering a framework within which architectural interventions can be deployed and cultivated. The purpose of the design was to add another facet to the year-long research and open up a discussion about possible futures in port cities. The project thus was not the formulation of a thesis but of hypotheses. The design becomes a support for theoretical position, an attempt to translate into architectural terms a conception of the world. To do so, I developed a design method that consisted of a series of topologic operations (to perforate, to encapsulate, to anchor) and their typological counterparts (the boardwalk, the bubbles, the groundscape). Consequently, the project can both be read as a linear succession of architectural moments from town to sea as well as a thematical composition of spatial operations. It is an invitation to re-imagine the spatial relationships between architecture, landscape, energy and infrastructure in ports.

Transferability and relevance of the project.

All container ports are somewhat identical. Or at least they are iterations of the same model. They constitute a transnational network, an extraterritorial archipelago of urban islands, whose context has little influence on their spatial organization. From one port city to another, the challenges are often the same. Hamburg, Copenhagen and Rotterdam see their ports migrate to the deep sea, leaving behind vast wasteland at the heart of the city. In Marseilles, Genoa and Rijeka, the port has lengthened along the side, blocking any physical relationship with the sea. The situation in Piraeus also certainly has strong resonances with other port cities, where the port expands at the very heart of the city. Studying this urban condition of Piraeus is not only about solving local issues but envisioning a new urban model for hundreds and hundreds of similar situations. Formulating a solution, or even the premises of a solution is re-imagining the future of a myriad of urban areas around the world. It has become essential for our profession to re-imagine the possibilities for architecture's subsequent future in this context. I see that as one of the major tasks of architects and urbanists for the coming decades.

Transferability of the theory.

I view this theoretical and design research as a reading of today's society and urbanity. It allows us to understand a multitude of similar phenomena, such as the development of new lifestyles that rely on the ability to do everything without moving from your apartment, already mentioned above. Armed with this knowledge and vocabulary, one is well equipped to understand the messy, unpredictable and contradictory condition in which we operate. It allows us to better understand the power relationship and to explore ways of taking action to improve the livelihoods of those who feel left behind by this form of urbanity.

About the studio's approach.

Creativity is much broader than just questions of design and spatiality. The architect, locked in a narrow silo of knowledge, rarely embraces trans-scalar and trans-disciplinary approaches. This model, far from the complexity of reality and the multiplicity of stakeholders, does not allow the architect to project himself onto the broader impacts of his actions. The architect should rather have that knowledge of thoughts gathering, creating relations between the different stakeholders, bonding together ideas that had no connexion before. This is why the Cross-domain chair found particular resonance in me. It offered me this fertile ground for finding transdisciplinary answers to these complex urban challenges, beyond the mere materialization of buildings. It allowed me to engage with the dynamics of insularity in all its social, economic and political complexity, constituting a body of knowledge at the intersection of architecture, urban design and logistics.

Moreover, architects are today marginalized in a posture of 'design consultants', where making architecture is building what is asked from them. But do projects always make sense in their content and their place of intervention? The market decides over the supply without worrying about the demand and thus omits the places where the needs are real but the returns on investments are uncertain. Such as the sub-urbans spaces, where paradoxically the City of the Future is emerging. Sometimes you have to develop architectural approaches without well-identified clients to unblock a situation. These are the unsolicited projects. The architect then makes architecture not where he can, but where it is needed, endorsing a true social role. The studio 'City of the Future' provided me with an ideal framework to tackle these urgent issues. It pushed me to take on a more enterprising more impactful, more active role of the architect in the transformation of the city.

Ethical issues and dilemmas.

Often during this research one finds oneself desperate and helpless in front of such infrastructural violence, whose answers go way beyond the architectural framework. I do not believe that my project

offers prescriptive solutions to such complex challenges and I do not believe that the answer can be solely architectural. The task of the architect and the real power of the built object are profoundly undermined in a context like that. This urban reality seems enigmatic, disconcerting, contradictory, violent and yet still poetic. It is difficult not to fall into a binary reflection which would present the port an entity to fight. Inevitably, one faces several dilemmas. What is the role of architecture (and the architect) in contemporary society? Can architecture create society or is architecture completely determined by social, political and economic conditions? To what extent should architecture embrace the violent reality of the contemporary city? Should we take part in it, condemn it, be subject to its developments? One thing is certain: this urbanity emerging before our eyes undermines our certainties. It prompts us to rethink urban imaginations to envision the city of tomorrow.

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Layout

The layout owes a special debt of inspiration to Taeseop Shin & Stephan Hernandez and their project *Making Kin: Landscape, Material and Senses*

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