BORDER CONDITIONS ALONG THE NEW SILK ROAD

GRADUATION STUDIO

2021 – 2022

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BORDERS & TERRITORIES

2021 – 2022
Faculty of Architecture
Delft University of Technology

TUTORS

Oscar Rommens
Nishat Awan

STUDENTS

Agata Mila
Daniel McNally
Dave Chan
Ekin Arin
Michal Smagala
Peter Gill
Thomas Zhang
Wan-Yu Yang

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INTRODUCTION

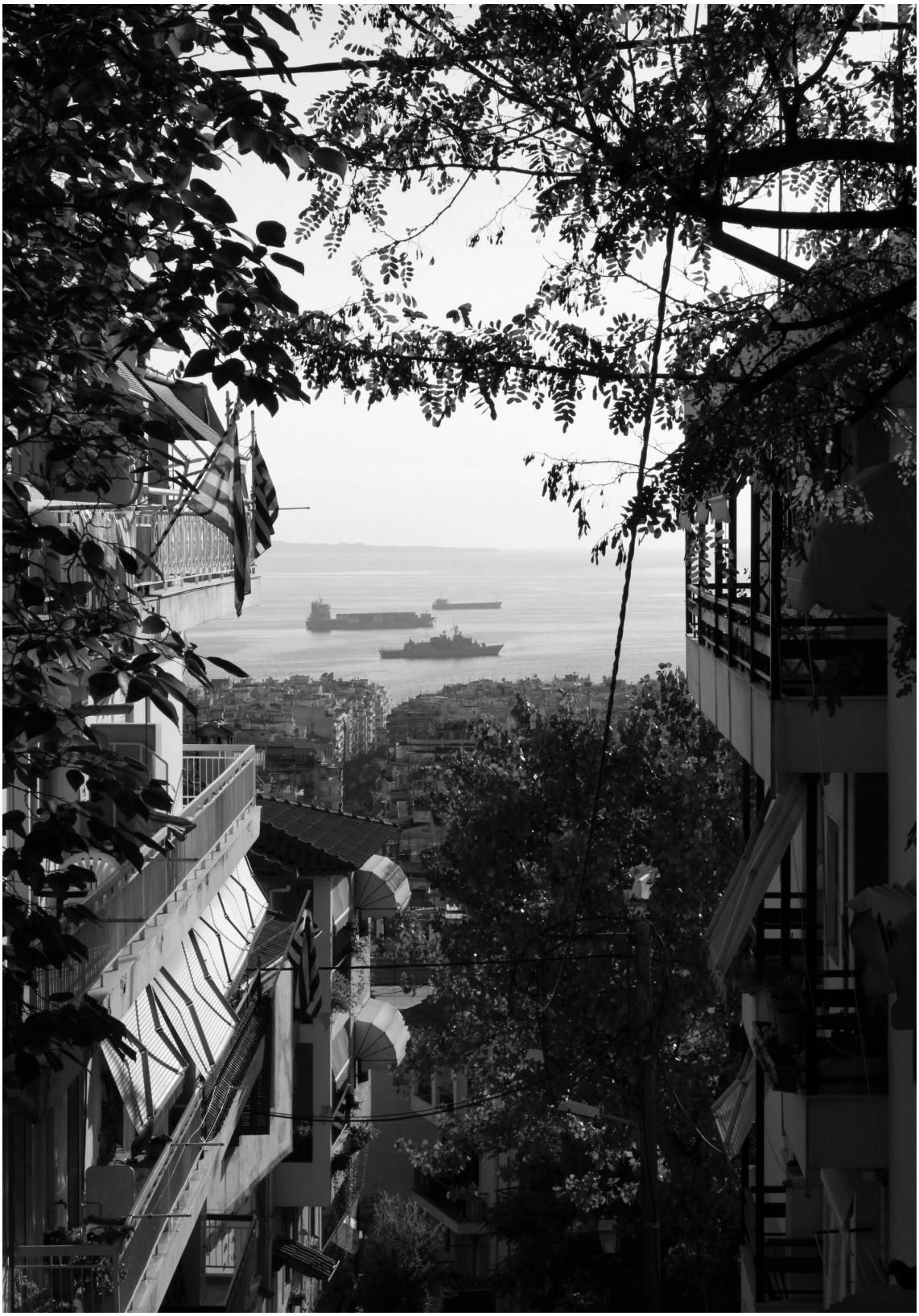
THESSALONIKI

Thessaloniki demonstrates a sprawling case study for the diverse domains of contemporary life. In the face of complete economic integration, the city's roles, images, and relationships extend far beyond its administrative boundaries. Thessaloniki presents many subjects concerning contemporary urban dynamics such as the redefinition of economic sectors, spatial politics, population displacement, and resource management. The morphing values of modern agglomeration intersect with the rich history of many cultures, nationalities, languages, and roles. In our collective research, we examine these modern and historical forces that have shaped Thessaloniki through the lens of border and territorial conditions. Our research into the transient nature of the city led us to the key themes of 'Ecologies' and 'Control' which were then explored through our cartographic investigations.

GROUP TRIP TO THESSALONIKI 25.10.2021 - 02.11.2021

We have been incredibly lucky to be the first year of students to go on a group study trip since the start of the covid-19 pandemic. We were able to be explore our initial sites of interest,experiencing the city first-hand, and experiment with a variety of research approaches throughout the trip. In addition to the academic side of the trip, countless heartfelt memories and laughs generated friendships within the group and served as the basis of our group atmosphere. We felt that the collection of images do not need any further explanation or words to capture the essence of our trip.

We were saddened to see two in our group not continue the studio with us. Despite this, we continue to look back on our time spent together in Thessaloniki and collectively remember this trip as a true highlight within the B&T programme.

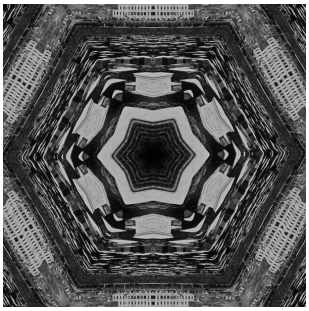


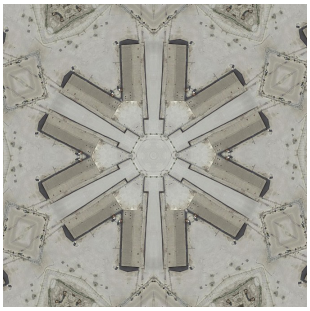
COLLECTIVE RESEARCH

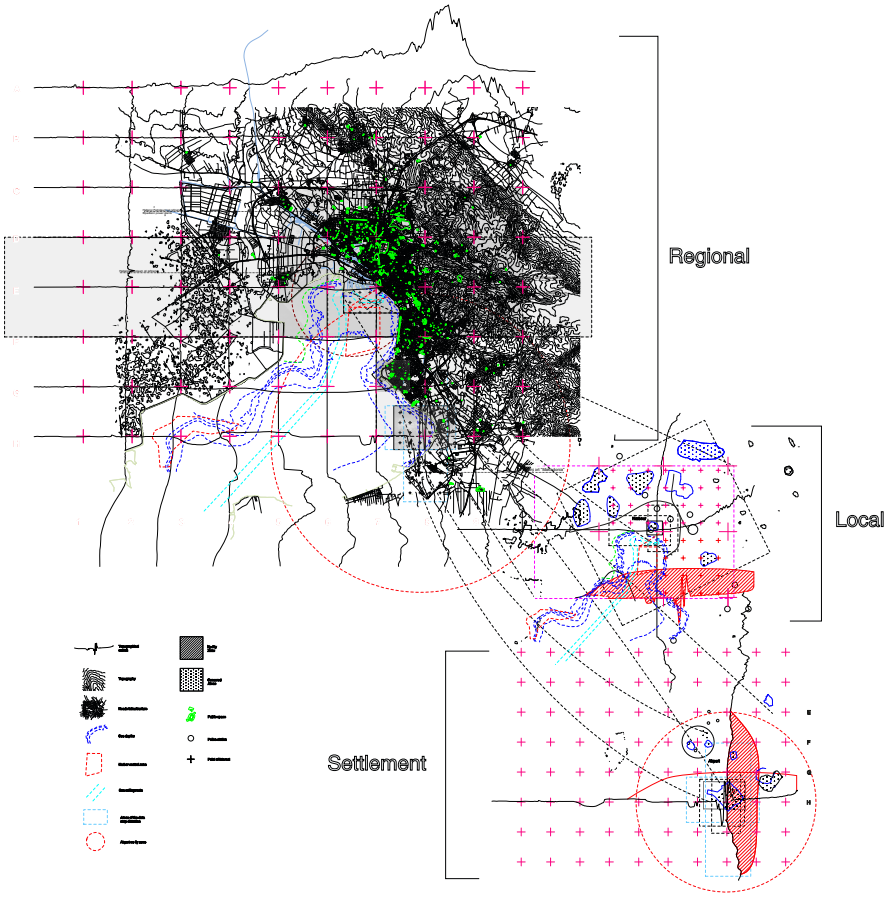
DEFINING THE TERRITORY THROUGH CONTROL

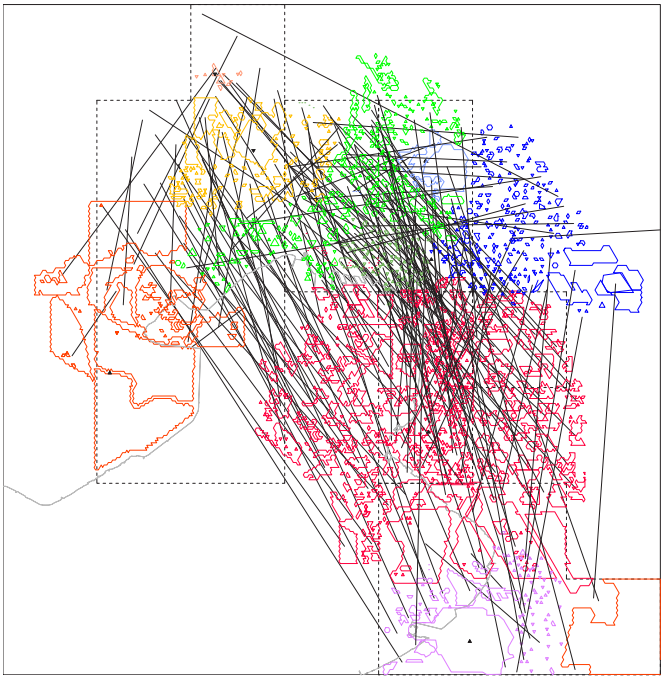
The main interest of the territory map started from the notion of control, as in Greece we have noticed many social tensions where different bodies try to establish authority over certain area, population or procedures. Starting from the discussion of the police presence in university, through the activities of communist or anarchist organisations, squatters, refugee camps, urban circulation dominated by cars, multiple zones with limited or no access and ending at the structures of the military. Initially, we tried to answer the question – how political decisions have an impact on space? We analysed possible definitions of control and how it manifests in the municipality on different scales: settlement, local and regional. A catalyst for those action was an observation that on Google Maps in Thessaloniki multiple areas are pixelated, hidden. Apart from revealing the content of the concealed places, we looked into how the distortions that randomly deformed the terrain influenced the topographical section and furthermore we superimposed with the zones of aerial control.

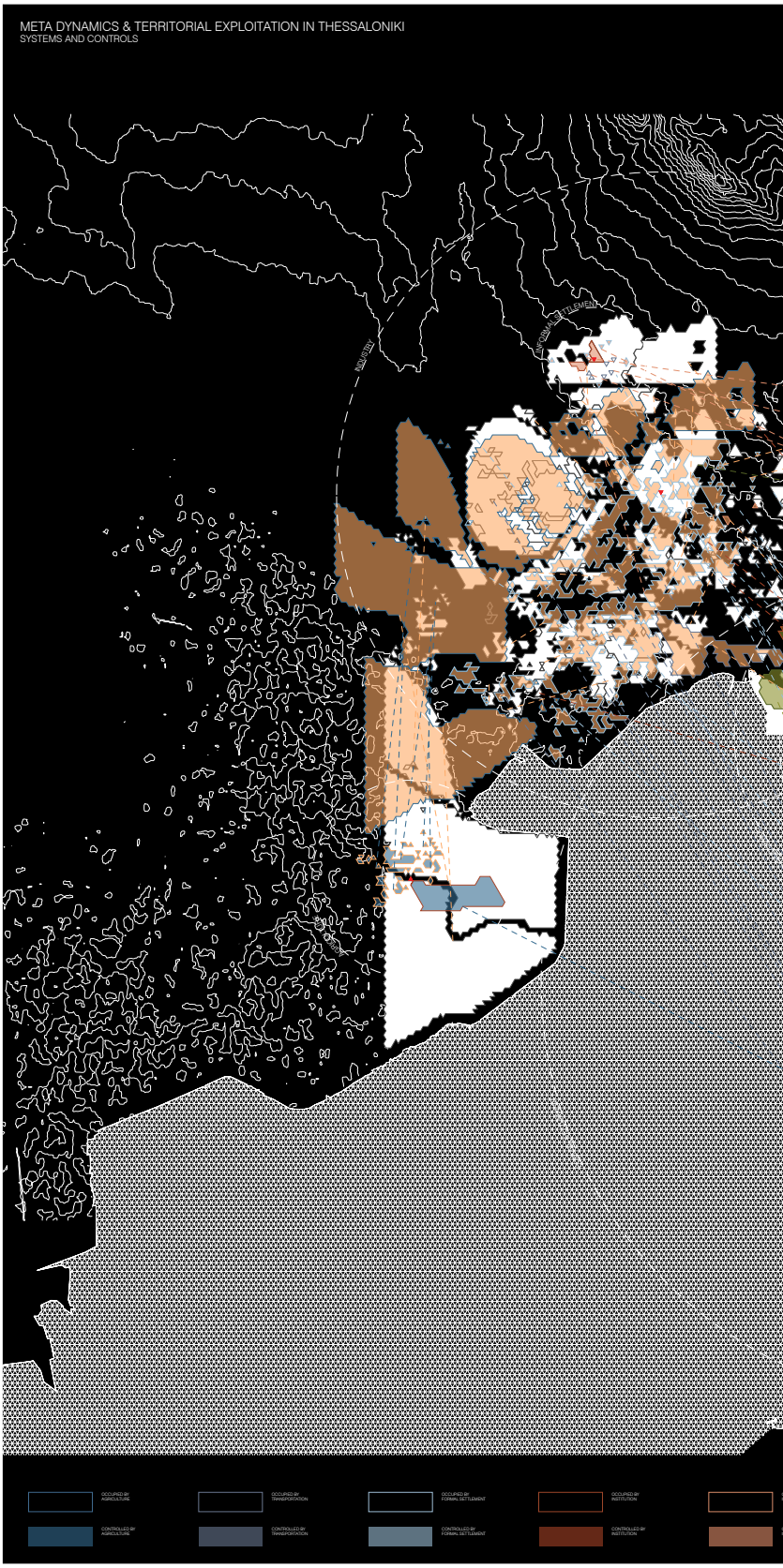
Later, in order to find a better reflection on the physical space and broaden the definition, the main interest shifted from the control to the occupation of spaces and how each place belongs to a particular category of occupying and being occupied. The triangular grid was imposed the city in order to assign a category to every single unit. Initially, the map consisted only of those particular places of interest, yet the goal was to develop a spatial representation of relations, rather than their physical location. In the next step every cluster of units moved to the gravitational centre which corresponded to the category it was subjected to. As a result, an abstract map of borderless territories has emerged, a conceptual framework encompassing proportions, situations and relations.






Regional
Local
Settlement




META DYNAMICS & TERRITORIAL EXPLOITATION IN THESSALONIKI
SYSTEMS AND CONTROLS
ANTHROPOGENIC SETTLEMENT
SALT LAKE
OCCUPIED BY AGRICULTURE
OCCUPIED BY TRANSPORTATION
OCCUPIED BY FORMAL SETTLEMENT
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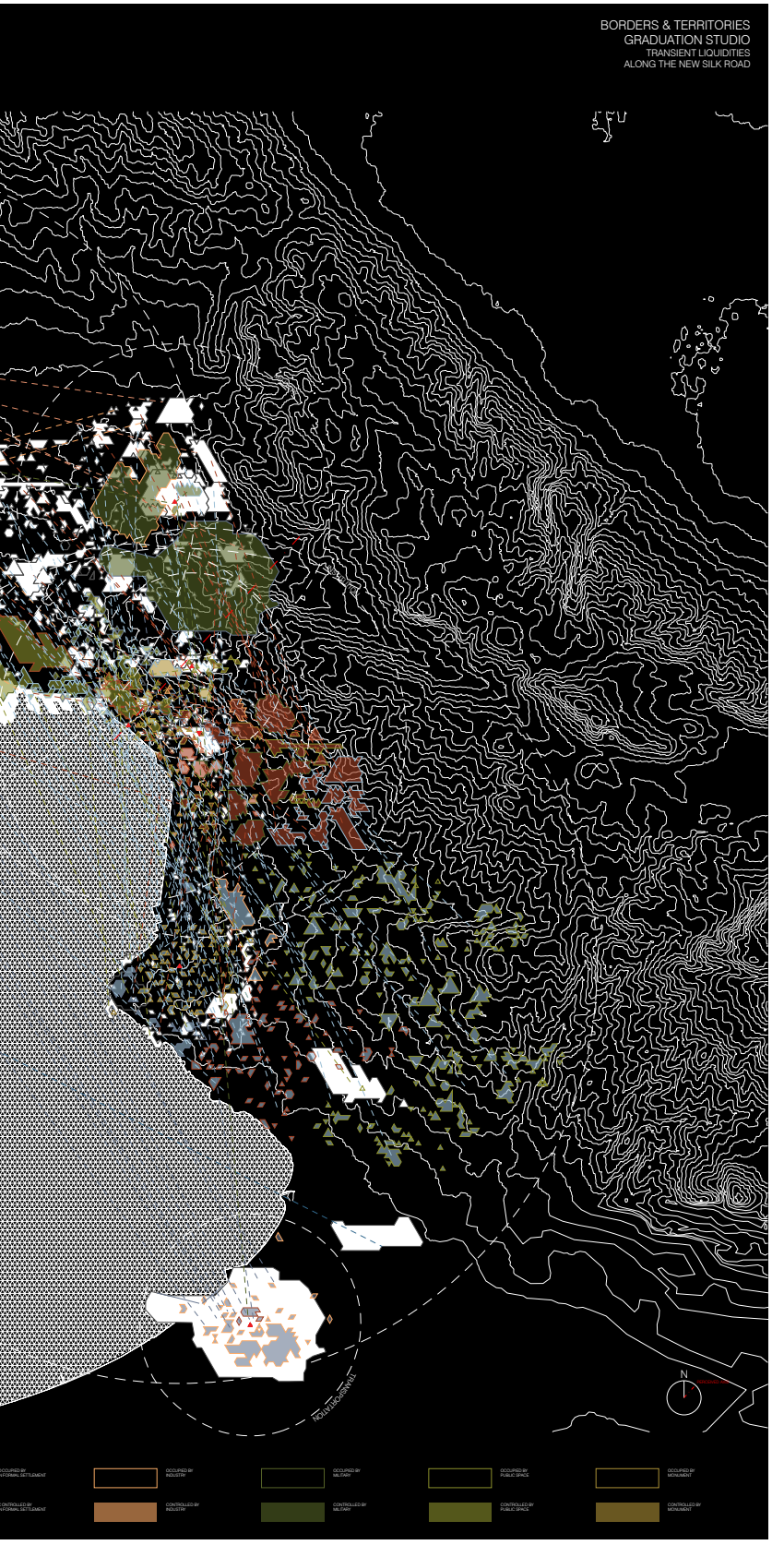

BORDERS & TERRITORIES
GRADUATION STUDIO
TRANSIENT LIQUIDITIES
ALONG THE NEW SILK ROAD
N
OCCUPIED BY INFORMAL SETTLEMENT
CONTROLLED BY INFORMAL SETTLEMENT
OCCUPIED BY INDUSTRY
CONTROLLED BY INDUSTRY
OCCUPIED BY MILITARY
CONTROLLED BY MILITARY
OCCUPIED BY PUBLIC SPACE
CONTROLLED BY PUBLIC SPACE
OCCUPIED BY MONUMENT
CONTROLLED BY MONUMENT

MECHANISMS, MOSAICS, AND MICRO CONTROL

Distributed throughout the city there is a complex entanglement of control mechanisms. Looking to unravel those unofficial emerging relations the territories map aims to construct a spatial representation of the tensions between the components and the assembly of the city.

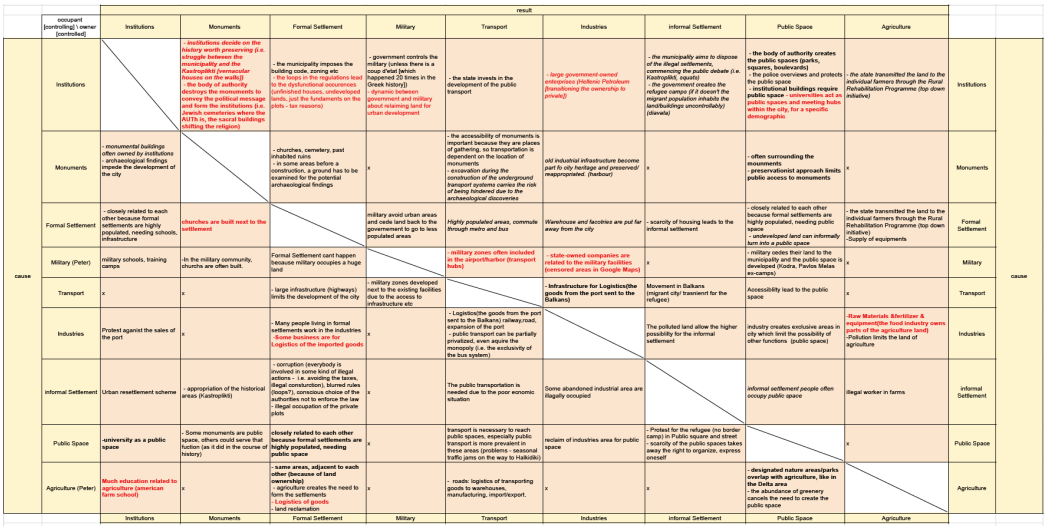
The uniquely organised nature of the city led us to a more fragmentary approach, similar to the tradtion of the greek mosaic, little fragments of different materials arranged such that together they form an autonomous whole yet each individual tile remains a distinct and unique element in its own right.

Through dividing the urban logic into distinct categories, the incredibly diverse and overlapping agglomeration of of occupied functions which on a microscale seem almost random provide insight into the multiscalar trends of the city.

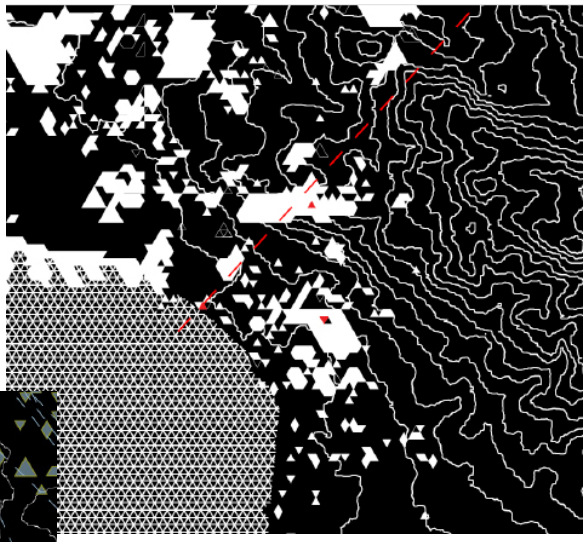
These trends are understood as a direct manifestation of the spatial distribution of occupancy and the the nuance of the spatial dynamics presenting the conflict of ownership vs occupancy; in other words; who is in control?

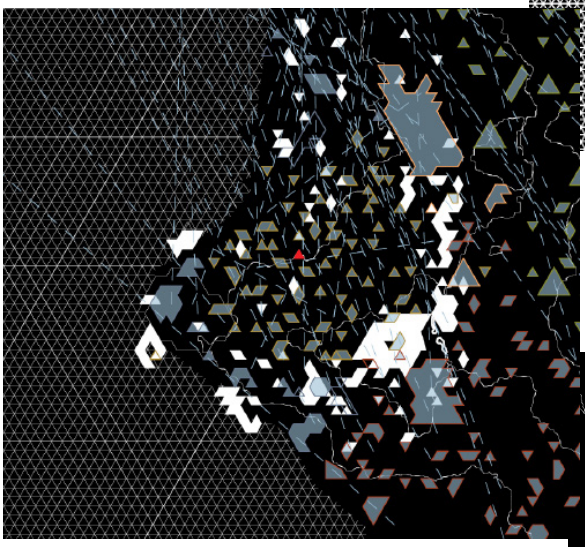
The map presents the discrepencies of ownership and occupancy as an alternative reality for the city where through the fragmentation and reconstruction map, it conveys the idea of control as a borderless tool to restrict the collective social behaviour of the occupants. The representation breaks the geographical relation of the reality, and creates a systematic understanding of the control between the owner and occupants via the traces.

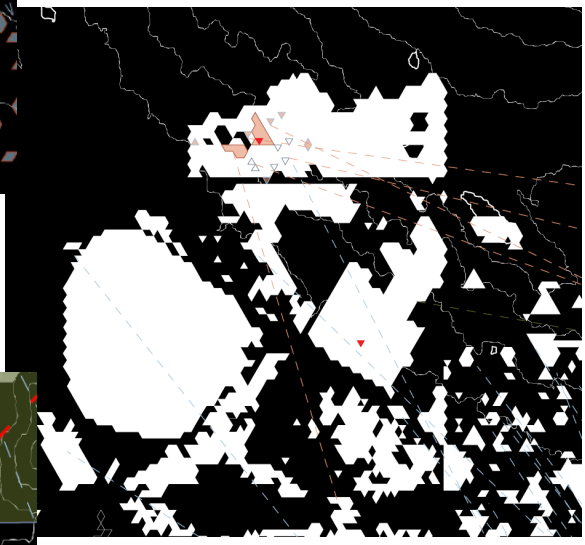
The final product of our investigation and spatial displacements is a reconstructed map of the inherently borderless areas and relations of control, both the official, state-imposed and the unofficial, resulting from the collective social behaviour of its residents.

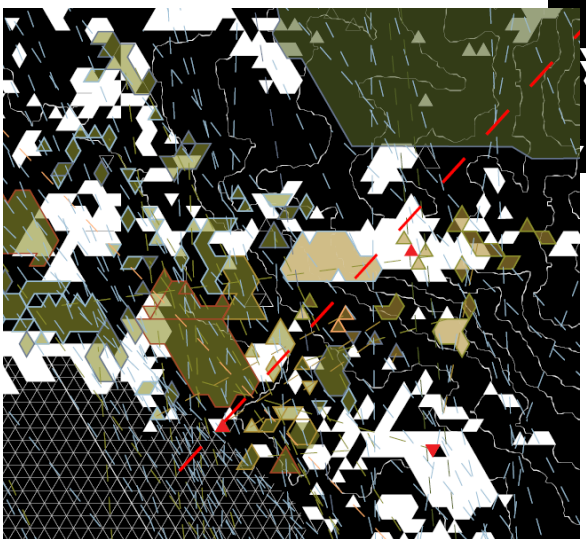


cause	occupant (controlling) \ owner (controlled)	result: Institutions	Monuments	Formal Settlement	Military	Transport	Industries	informal Settlement	Public Space	Agriculture		cause
	Institutions		- **institutions decide on the history worth preserving (i.e. struggle between the municipality and the Kashopliki (vernacular houses on the walls))** - **the body of authority destroys the monuments to convey the political message and form the institutions (i.e. Jewish cemeteries where the AUTh is, the sacral buildings shifting the religion)**	- the municipality imposes the building code, zoning etc - the loops in the regulations lead to the dysfunctional occurences (unfinished houses, undeveloped lands, just the fundaments on the plots - tax reasons)	- government controls the military (unless there is a coup d'etat [which happened 20 times in the Greek history]) - dynamic between government and military about retaining land for urban development	- **the state invests in the development of the public transport**	*- large government-owned enterprises (Hellenic Petroleum [transitioning the ownership to private])*	*- the municipality aims to dispose of the illegal settlements, commencing the public debate (i.e. Kashopliki, squats)* *- the government creates the refugee camps (if it doesn't the migrant population inhabits the land/buildings uncontrollably) (Slavvia)*	- **the body of authority creates the public spaces (parks, squares, boulevards)** - the police overviews and protects the public space - **institutional buildings require public space - universities act as public spaces and meeting hubs within the city, for a specific demographic**	*- the state transmitted the land to the individual farmers through the Rural Rehabilitation Programme (top down initiative)*	Institutions	
	Monuments	- *monumental buildings often owned by institutions* - archaeological findings impede the development of the city		- churches, cemetery, past inhabited ruins - in some areas before a construction, a ground has to be examined for the potential archaeological findings	x	- the accessibility of monuments is important because they are places of gathering, so transportation is dependent on the location of monuments - *excavation during the construction of the underground transport systems carries the risk of being hindered due to the archaeological discoveries*	*old industrial infrastructure become part fo city heritage and preserved/ reappropriated (harbour)*	x	- **often surrounding the enumments** - **preservationist approach limits public access to monuments**	x	Monuments	
	Formal Settlement	- closely related to each other because formal settlements are highly populated, needing schools, infrastructure	**churches are built next to the settlement**		military avoid urban areas and cede land back to the government to go to less populated areas	*Highly populated areas, commute through metro and bus*	*Warehouse and facotries are put far away from the city*	- scarcity of housing leads to the informal settlement	- closely related to each other because formal settlements are highly populated, needing public space - *undeveloped land can informally turn into a public space*	- the state transmitted the land to the individual farmers through the Rural Rehabilitation Programme (top down initiative) -Supply of equipments	Formal Settlement	
	Military (Peter)	military schools, training camps	*In the military community, churchs are often built.*	Formal Settlement cant happen because military occupies a huge land		- **military zones often included in the airport/harbor (transport hubs)**	- **state-owned companies are related to the military facilities (removed areas in Google Maps)**	x	- military oedes their land to the municipality and the public space is developed (Xodra, Pavlos Melas eo-camps)	x	Military	
	Transport	x	x	- large infrastructure (highways) limits the development of the city	- military zones developed next to the existing facilities due to the access to infrastructure etc		- **Infrastructure for Logistics(the goods from the port sent to the Balkans)**	Movement in Balkans (migrant city/ trasnienrt for the refugee)	Accessibility lead to the public space	x	Transport	
	Industries	Protest against the sales of the port	x	- Many people living in formal settlements work in the industries - **Some business are for Logistics of the imported goods**	x	- Logistics(the goods from the port sent to the Balkans) railway,road, expansion of the port - public transport can be partially privatized, even aquire the monopoly (i.e. the exclusivity of the bus system)		The polluted land allow the higher possibility for the informal settlement	industry creates exclusive areas in city which limit the possibility of other functions (public space)	-**Raw Materials &fertilizer & equipment(the food industry owns parts of the agriculture land)** -Pollution limits the land of agriculture	Industries	
	informal Settlement	Urban resettlement scheme	- appropriation of the historical areas (Kastropliki)	- corruption (everybody is involved in some kind of illegal actions - i.e. avoiding the taxes, illegal construction), blurred rules (loops?), conscious choice of the authorities not to enforce the law - illegal occupation of the private plots	x	The public transportation is needed due to the poor economic situation	Some abandoned industrial area are illegally occupied		*informal settlement people often occupy public space*	illegal worker in farms	informal Settlement	
	Public Space	-**university as a public space**	- Some monuments are public space, others could serve that fuction (as it did in the course of history)	-**closely related to each other because formal settlements are highly populated, needing public space**	x	transport is necessary to reach public spaces, especially public transport is more prevalent in those areas (problems - seasonal traffic jams on the way to Halkidiki)	reclaim of industries area for public space	- Protest for the refugee (no border camp) in Public square and street - scarcity of the public spaces takes away the right to organize, express oneself		x	Public Space	
	Agriculture (Peter)	**Much education related to agriculture (american farm school)**	x	- **same areas, adjacent to each other (because of land ownership)** - agriculture creates the need to form the settlements - **Logistics of goods** - land reclamation	x	- roads: logistics of transporting goods to warehouses, manufacturing, import/export.	x	x	- **designated nature areas/parks overlap with agriculture, like in the Delta area** - the abundance of greenery cancels the need to create the public space		Agriculture	
		Institutions	Monuments	Formal Settlement	Military	Transport	Industries	informal Settlement	Public Space	Agriculture		



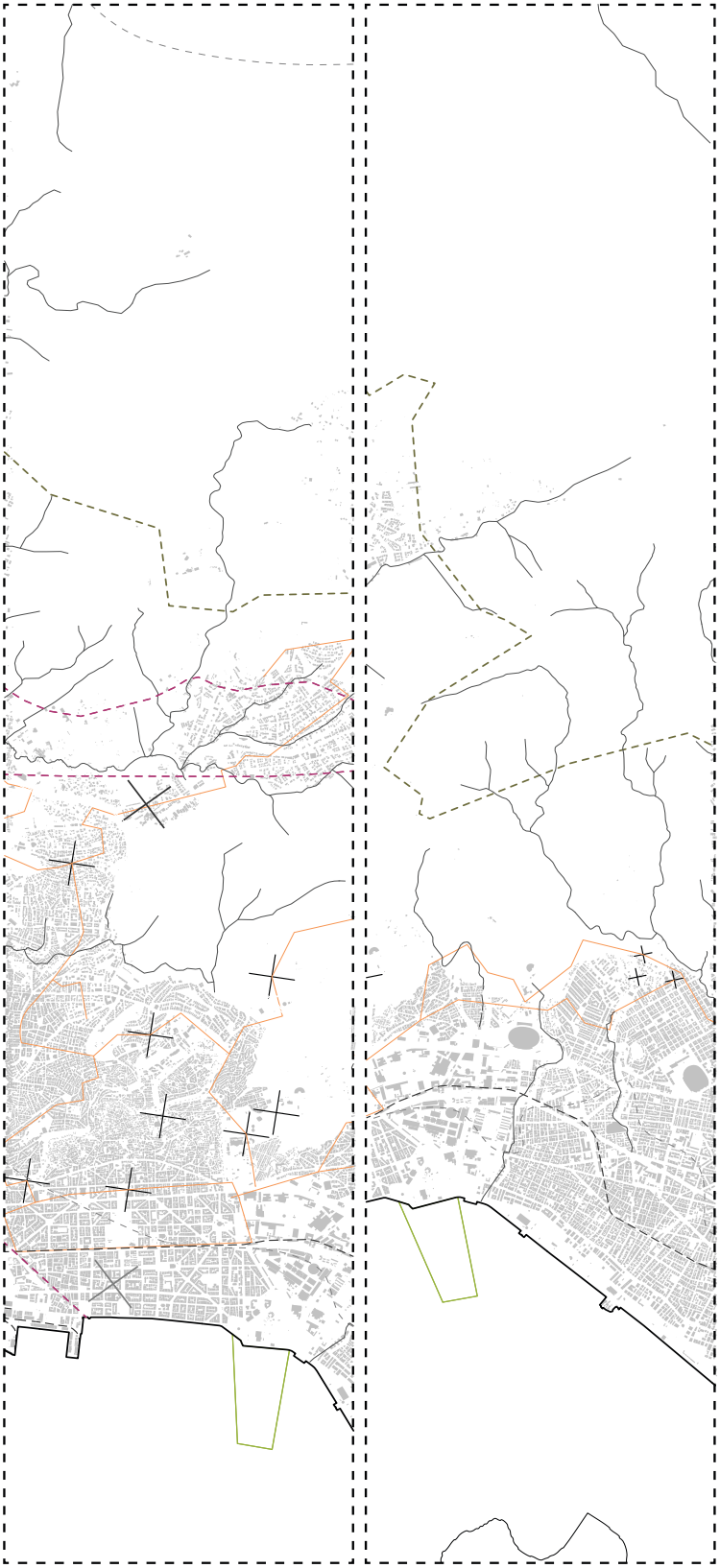






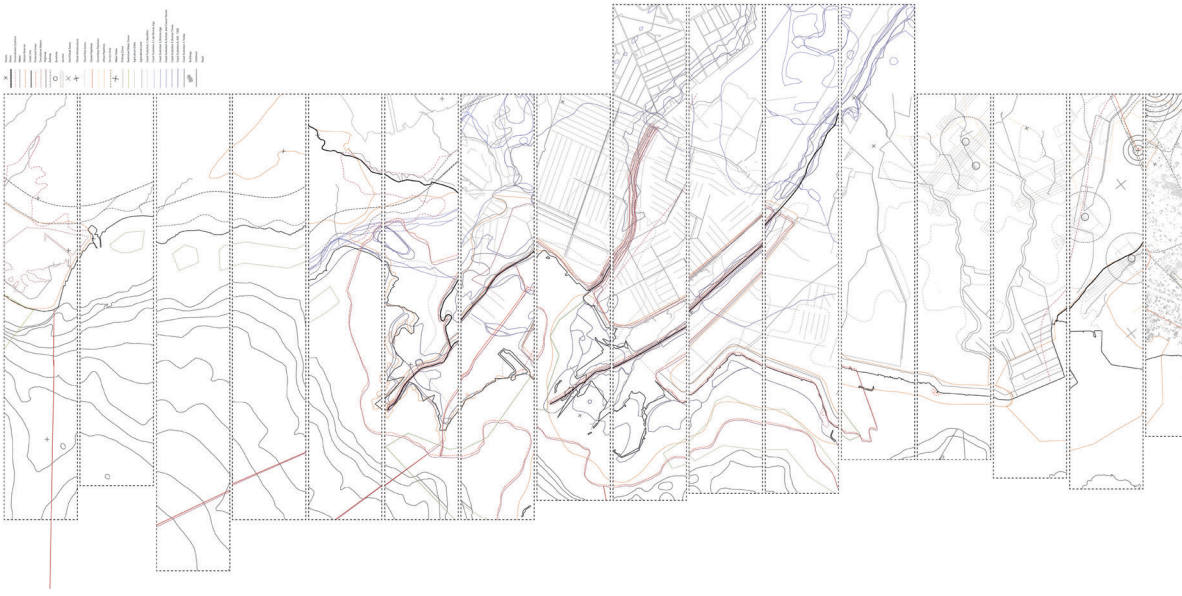
UNFOLDING

With the main focus on several land/water relationships along the coastline, the methodology of unfolding became a process of trial & error to reveal the discontinuities between various parts of Thessaloniki. The equal width of the rectangular cut shape provides equal attention to each part of the coastline. Varying lengths and positions on the relation land/water allow putting the emphasis on important aspects of the map. With that method, mapping became a series of iterations to find a balance between the seen and unseen.

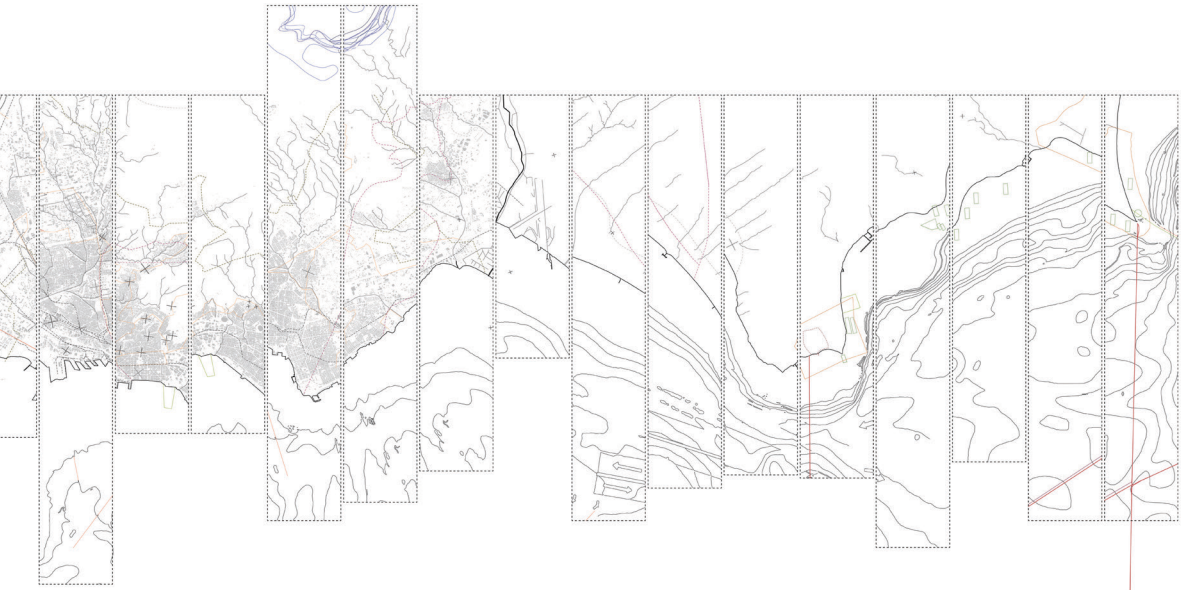


SHIFTING THE GAZE
INTERRELATIONSHIPS ALONG THE COASTLINE

By placing the central gaze on water ecologies, the Borders map reveals the infrastructural, socio-economic and natural systems that construct and support the territories of Thessaloniki. The importance of the Delta ecosystem and areas of transition are brought into relevancy for observing the coastline's shifting pressures and underlying forces, creating a different and new visual storyline. Through weekly iterative reflections on the mapping, we systematically developed a critical analysis of the intentions and tectonics of the method. The final version of the unfolding reflects the fragmentation of the coastline as the slices produce an aggregation that is inherent to the multiplicities of an assemblage. The fragmentation of the coastline emphasizes the borders that exist both along the water and also throughout the territory, highlighting the disconnection and interrelations across different fragments. The final unfolding reveals a critical shift of the gaze from one centered on the city to a perspective focusing more on peripheral borders that are fundamental to the continuity of the city. In order to visualize the data in the borders map we used representational practices that visually respond to the fragmentation. The strips are positioned with a gap in between so that the map is read as a collection of frames, instead of a uniform sequence. The removal of a background is created by printing on tracing paper, which draws attention to the fragments. When viewed from afar the fragments melt into an understanding of the ecology as a whole, while from up close the connotations of the different lines are discerned using the legend.



The unfolding reveals a critical shift of the gaze from one centered on the city to one focusing more on the peripheral borders that are fundamental to the urban continuity.



INDIVIDUAL WORKS

CULTURE OF INHABITATION EXTRA MUROS

DUALISTIC NATURE OF THE HAMIDIYE DISTRICT IN THESSALONIKI

Agata Mila

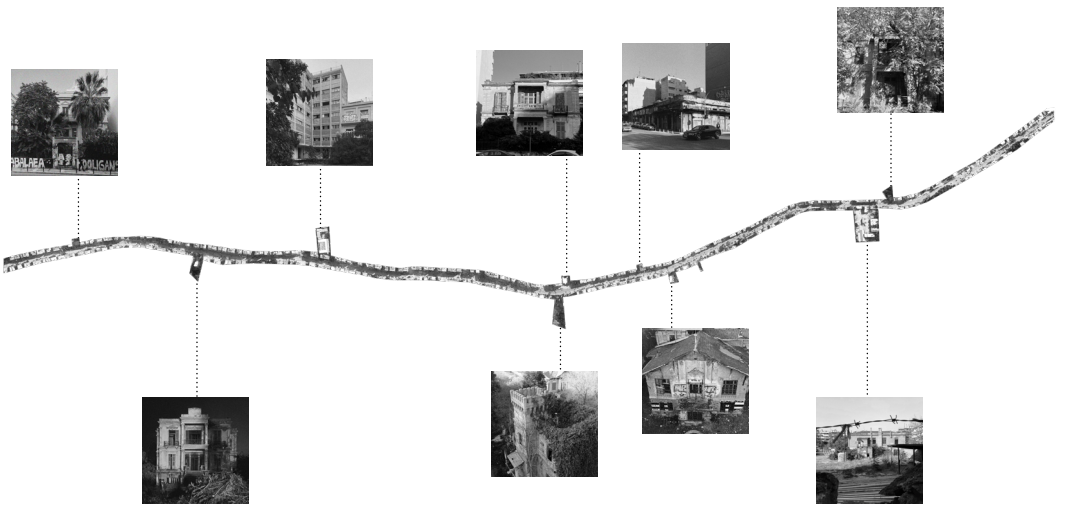
ANOMALY OF THE RUINS

The decay of the city manifests itself in the acupuncture of abandonment, objects so rich in history that they were buried under its relentless processes and fluctuations, leaving behind a heavy curtain of forgetfulness. What stayed behind is only a reminiscence of the previous splendour and usually not even that – a place within the city but foreign to its everyday functioning, the derelict building gradually becomes unnoticeable, at times consciously omitted by the gaze of the inhabitants, only to disappear in the collective perception. But what in fact do those structures mean for the city? Instead of resurfacing their former meaning, could it be reforged into a new one?

In Thessaloniki a significant number of derelict structures stands alone in the urban tissue and is accumulated within one specific area, the Vasilissis Olgas street. The whole zone is then transformed into an anomaly, commonly understood as the occurrence within a system which is possible, yet very improbable and unusual, different from the expected. Therefore ruins, treated as an anomaly, a deviation from the norm, can paradoxically describe a certain context by exposing how it wasn't supposed to be like, thus leading to a feasibly approximated version of the reality.

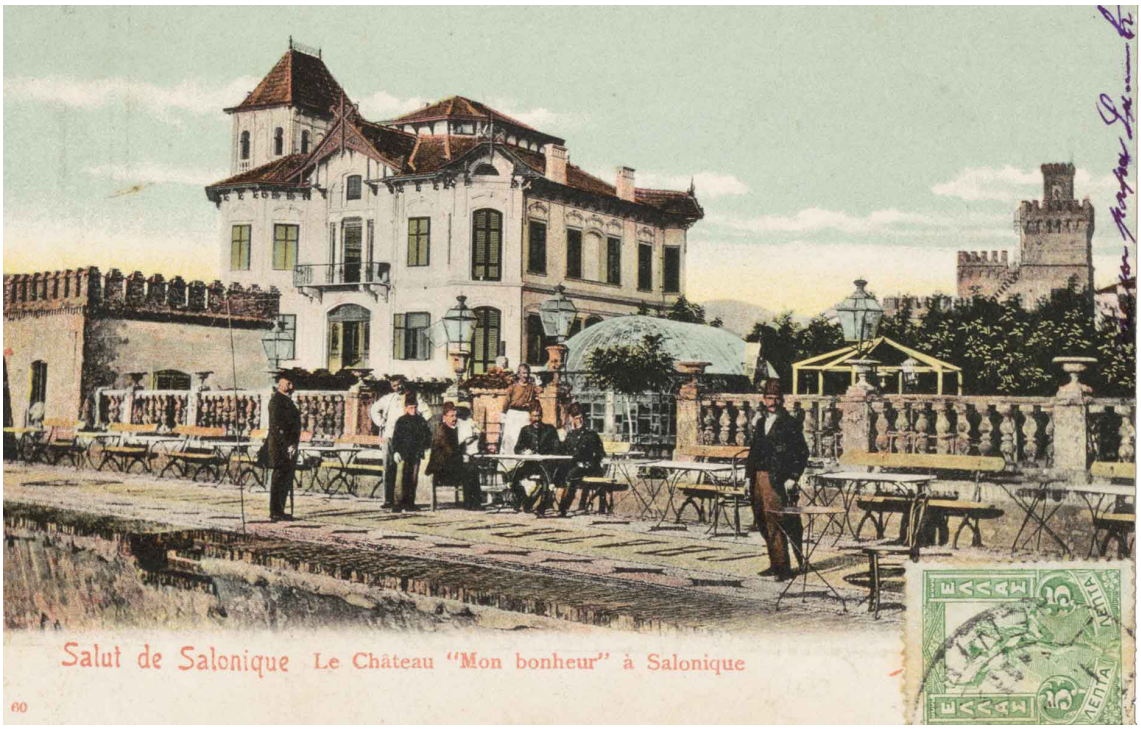
A further investigation of that phenomenon uncovers the history of failure which resulted in once splendid eclectic villas, now mostly demolished, abandoned and in a state of the advancing decay, suffocated by the omnipresent and swollen residential blocks. The district cannot recount its past which is fragmentary, yet rich in details. The ruination of specific points in the former Hamidiye area uncovers its transient genius loci – past and presence which character is seemingly lost in the condominium jungle.

The research aims to use the ruins as a tool of microhistorical gaze to understand the historical and social context of Thessaloniki, define the character of the district and its idiosyncrasies with the focus on occupancy, developing the framework of the culture of inhabitation extra muros. Consequently, the research prepares a background for a series of strategic acupuncture interventions which would tackle the social needs of the district and expose its cultural values.



UNITED

ΘΥΡΑ

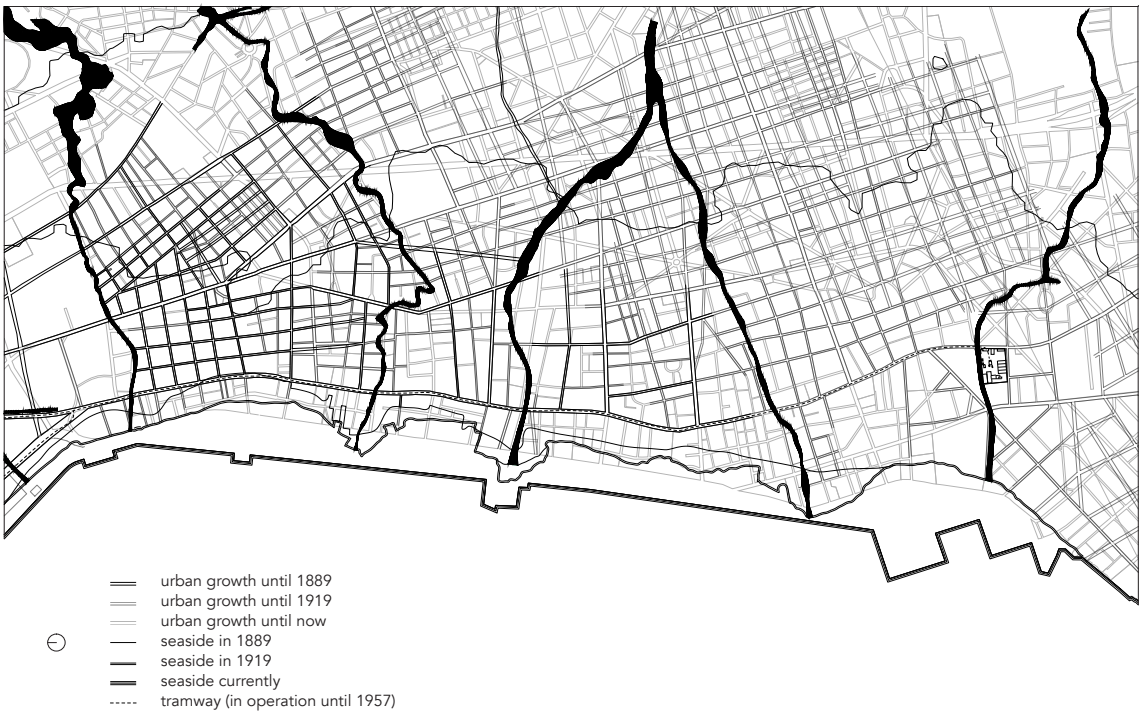


Cosmopolitan society of the past

EXCAVATING THE HISTORY

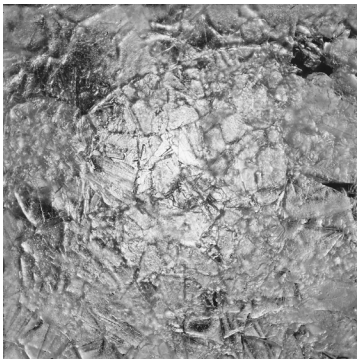
TECHNOLOGICAL ADVANCES AND POPULATION FLUCTUATIONS

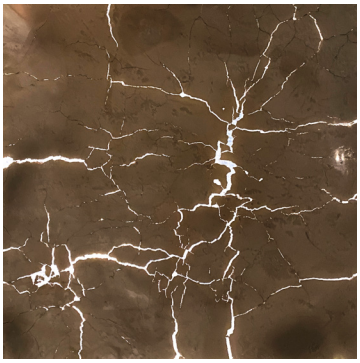
The urban expansion of the Hamidiye district began at the end of the 19th century, after the partial demolition of the walls surrounding the compact city – the growth started extra muros. The construction of the road and railway infrastructure prepared a fertile ground for the development of a new district, transition from the resort countryside into a thriving, cosmopolitan residential area. The favourable technological conditions quickly encouraged the particular communities of Thessaloniki to inhabit the area, for the first time not being divided according to the religious affiliation. Golden era of the district hasn't lasted long – after the exchange of populations in 1923 all of the Muslims left the city and the Jews for the first time became the minority. Along this change most of the mansions have been abandoned by their original owners, now giving a shelter to the refugees from Asia Minor. 20 years later another drastic population shift homogenized the city – during the WWII the Jews were



Historical development of the district

transported to the concentration camp in Auschwitz and therefore, their grand estates were seized by the German occupants. In between of those major events the 'antiparochi' system and horizontal property co-ownership was introduced in the 1929, enabling the co-ownership of one plot. Population surged drastically after the WWII, skyrocketing the housing demand. In the 60s and the 70s the demolitions of the majority of the villas prepared a ground for the new typology – polikatoikia, the condominiums. and expose its cultural values.





Modi Operandi: Shattered realities, heterogeneous society

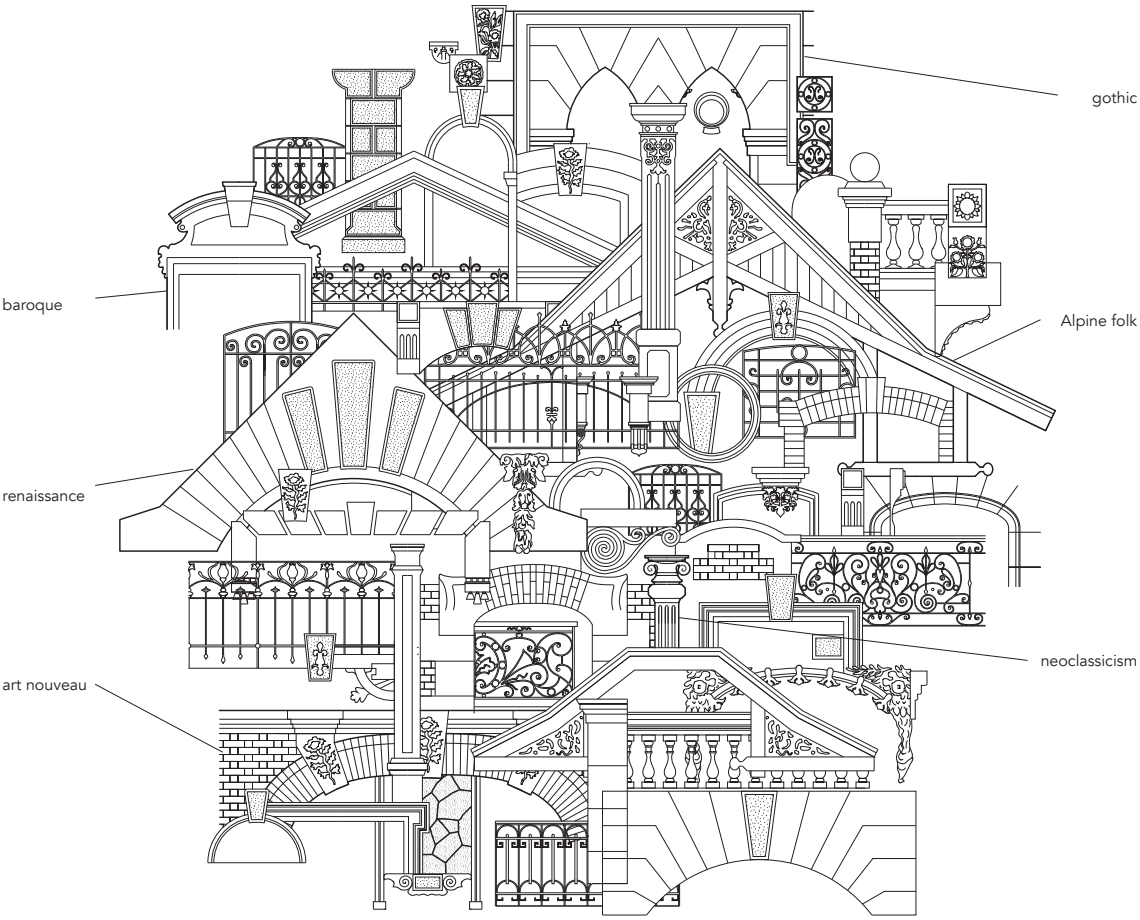
For the first time in city's history, Christians, Muslims and Jews inhabited the area depending on the social and economic status and not the religious affiliation.

THE BLISSFUL DIVERSITY – WHAT HAPPENED WITH THE VILLAS?

From over 100 mansions only 22 are still standing along the Vasilissis Olgas street and surprisingly, only few of them belonged originally to a Greek owner. Most of the preserved buildings were initially erected by Jewish or Muslim families, rarely Bulgarian, Armenian, or Austrian. Out of the melting pot of Thessaloniki the only nationality that hasn't left – the Greeks - didn't preserve their splendid residences. Why is that?
One reason is that after the relocations of the populations the properties of the Muslims and then the Jews were intercepted by the state – most probably it was the governmental negligence that saved the mansions from the mass demolitions in the 60s and the 70s. At the same time, the lifestyle changed and the spacious villas with a squadron of servants were no longer affordable, thus the owners atomized the ownership into a myriad of possible inheritors thanks to the co-ownership system or simply sold the houses, which were swiftly razed down to make space for the polykatoikes. Paradoxically, the initial abandonment led to a salvation of the heritage.

WHEEL OF FORTUNE – FAÇADE IS THE WINDOW OF THE SOUL

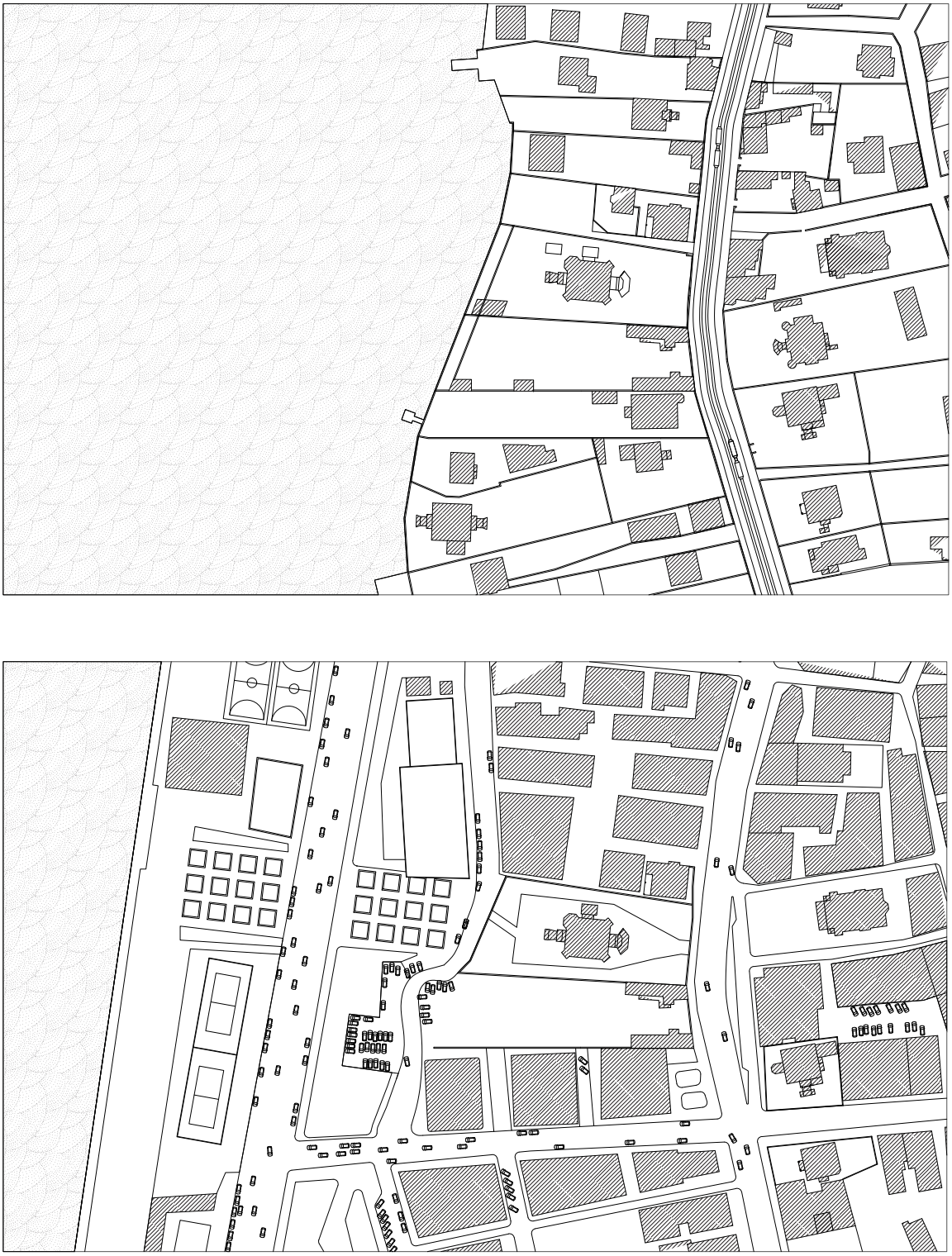
In the process of modernisation of the society the newly emerged bourgeoise of Thessaloniki wished to differentiate themselves from the old, traditional walled city. It was a perfect ground for the development of eclecticism. Various communities attempted to express their ethnical or religious affiliation through the place they inhabited. As the plan of the building remained mostly the same, the decoration and form of the façade differed from house to house. The owners of the mansions and the architects they hired adopted certain symbolic systems of the architectural elements: Orthodox Greeks preferred the Athenian neoclassicism, Muslims the Ottoman baroque from Istanbul and the Jews contemporary European models: Italian villas or Swiss chalets. The choice of specific morphological repertoire expressed not only the social and personal differentiation but also the degree of dependence on the corresponding ethic centres.



Wheel of fortune - logic of eclecticism

Eclecticism as a style allowed one to choose what best expresses their ambitions or aspirations, the only limits were the imagination of the architect and the depth of the pocket. The architectural style is no longer dictated by the era – the wide panoply of architectural elements at time results in surprising effects, as if chosen randomly by the wheel of fortune. In their distinctions the villas became uniform, European and diversified from the traditional city core.

Among the mansions that remained on the Olgas Vasilissis Street three representatives of each 'cultural hubs' were split into their prime architectural elements. The morphological constituents were analysed and juxtaposed in a whirl of styles - Greek villa Siaga designed by Xenophon Paionidis, Muslim villa Mehmet Kapandji designed by Pietro Arrigoni and the Jewish villa Giako Modiano by his son, Eli Modiano. Those three architects along with Vitaliano Posseli were the ones to design the majority of the residential mansions and the public buildings in Thessaloniki. Together, they determined the visual character of the 19th century Thessaloniki which is mostly preserved up to this day.



Past (top) vs presence (bottom)

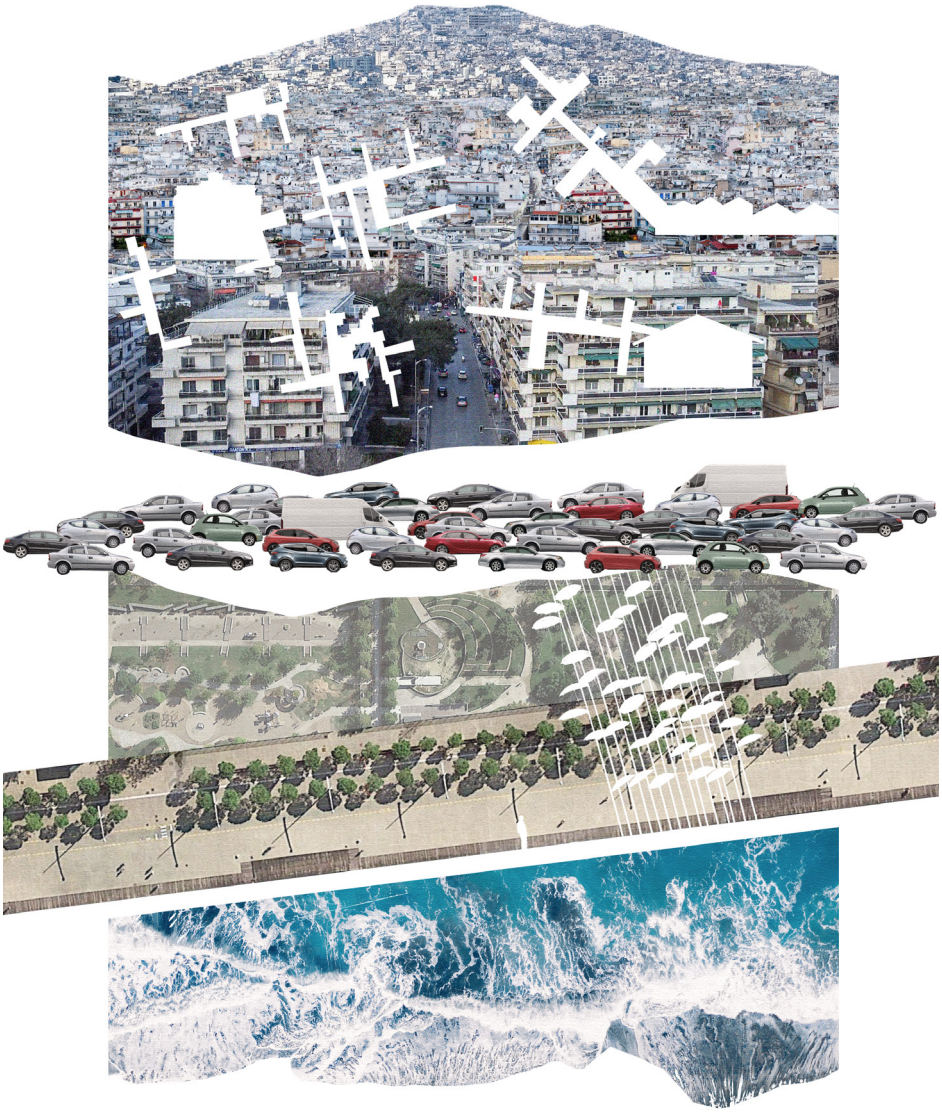
TRANSIENT GENIUS LOCI

PAST AND PRESENCE

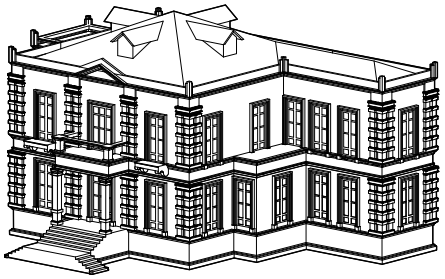
The comparison of the plans of a small section of the district from the past and the presence reveal distinctive changes to the urban tissue. Three major changes redefined this historic area: free-standing villas have been largely replaced with the densely packed condominiums, land reclamation shifted the seashore proving the space for a promenade along with the leisure facilities and the main street, Vasilissis Olgas, once filled with pedestrians and the tram that used to be the main mean of transport has been transformed into the main artery leading to the compact city and crowded with cars which now pollute the whole area.

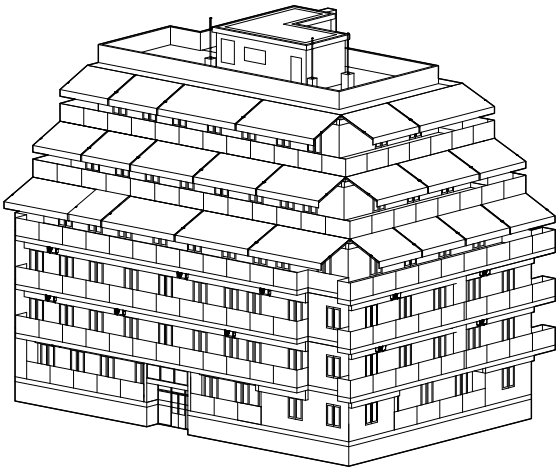
Nevertheless, the plan itself doesn't convey the genius loci of the district which altered so drastically. The collages intend to represent the atmospheres of different epochs. In the past the relation with the sea was more intimate – only the particular members of the cosmopolitan society, the owners of the villas, enjoyed the privileges of a direct access to the water. Their mansions with lush gardens dominated the landscape, concentring along the main street and dispersing towards the mountains. Spacious distances between the buildings highlighted their importance and allowed for the appreciation of every detail of the ornately decorated facades. The natural barriers defined the strata of the panorama: namely the sea, the street, the mountain with the torrents branching from it.

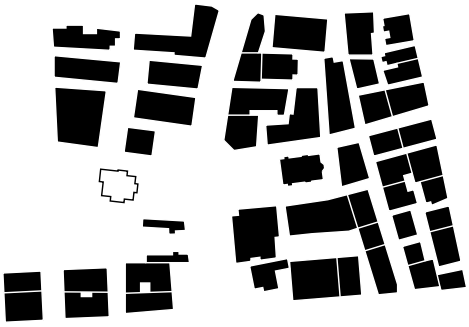
In the presence the former extra muros district is filled with man-made barriers. The sea is no longer directly accessible through

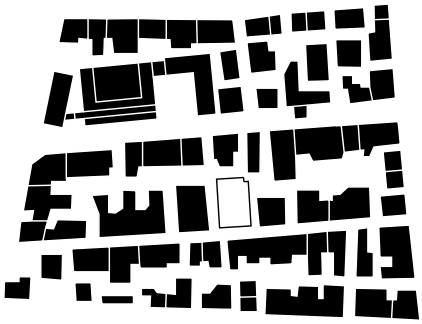


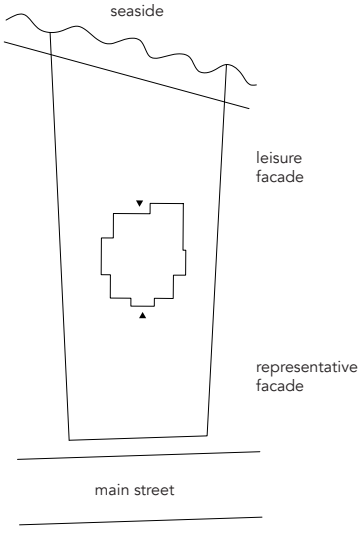
the beaches, yet the promenade is open to the public, transforming into one of the most important open-air area where the human presence is so diverse. Young, old, tourists, families, couples, banters, performers, small vendors, cyclists are populating this place. Nowadays, for the inhabitants within this part of the city it is the only open public space. This leisure zone is cut off with a busy street, to be suddenly densified with the residential blocks, tightly filling the space. They seem so pervasive that they dominated the perspective up to the horizon. The only differing voids in this concrete jungle are the villas or the abandoned buildings and the inner courtyards. The panorama consists of the obstacles: the wall of the sea, the wall of cars and the wall of polykatoikes – extra muros became the muros.

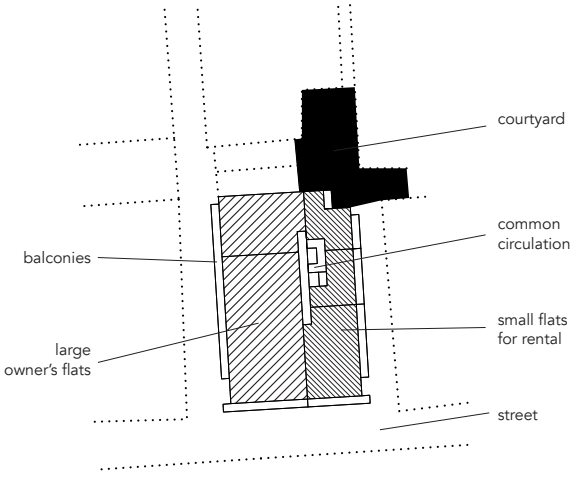









seaside
leisure facade
representative facade
main street

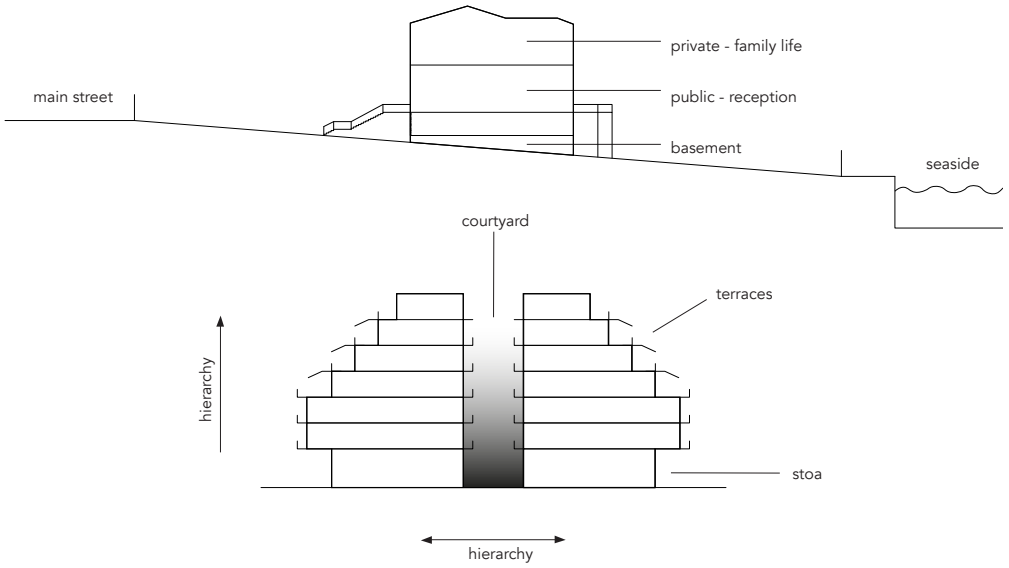

courtyard
common circulation
balconies
small flats for rental
large owner's flats
street

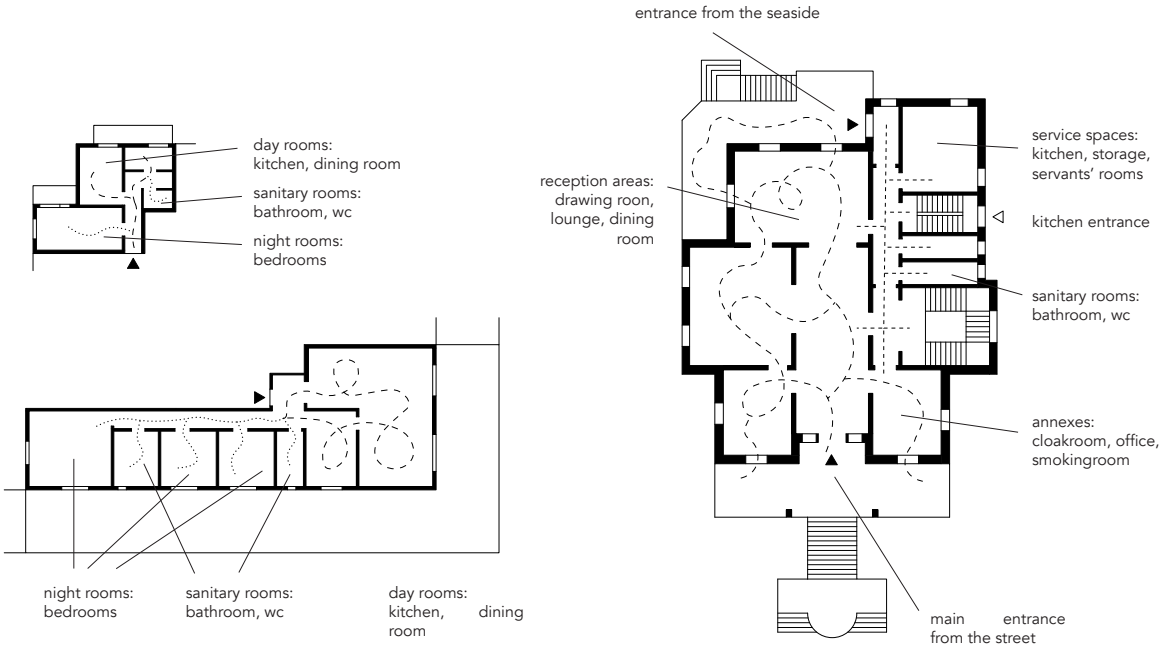
RELATION WITH A SURROUNDING - DEEP BREATH OR A DESPERATE GASP FOR AIR

Taking a closer look to the Hamidiye district we may differentiate the two typologies which represent the prevailing tendencies, needs and the models of lifestyle now and then. The polykatoikia, the multifamily condominium is juxtaposed with a 19th century villa.

Most striking feature within the urban tissue is their contradictory relation with the environment. The villas historically were surrounded by large gardens with two main facades – the frontal, representative one facing the Olgas Vasilissis Street and the less formal one, usually with the terrace, directed towards the sea. This relation changed today – the seashore has been moved and the villas are often overwhelmed by the newer developments which were often illegally constructed a few meters too close. Yet they still remain an exception, forming a vast void within their premises, so scarce in the vicinity.

On the other hand, the polykatoikes tend to be tightly squeezed next to each other, barely allowing for the space of the street. Apartments on one floor often belonged to one owner, due to the antiparochi system (land of a private individual was given to the developer in exchange for a few flats) and therefore the bigger, brighter ones were located parallel to the street and included large balconies, while the smaller, darker ones for rent faced almost exclusively the inner courtyard. The social hierarchy was not only present horizontally but also vertical – the flats located in the upper floors tend to be less numerous within one level and therefore larger with terraced balconies proving more sunlight. The ground floor of the building, usually intended for the services, was offset towards the inside from the street side, simultaneously following the modernist principles and the ancient Greek architecture – forming the stoa, a covered walkway, which was a prolongation of the street.

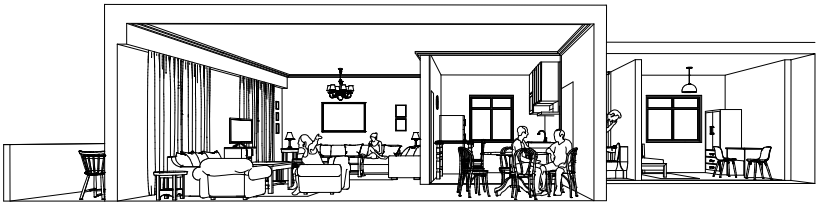


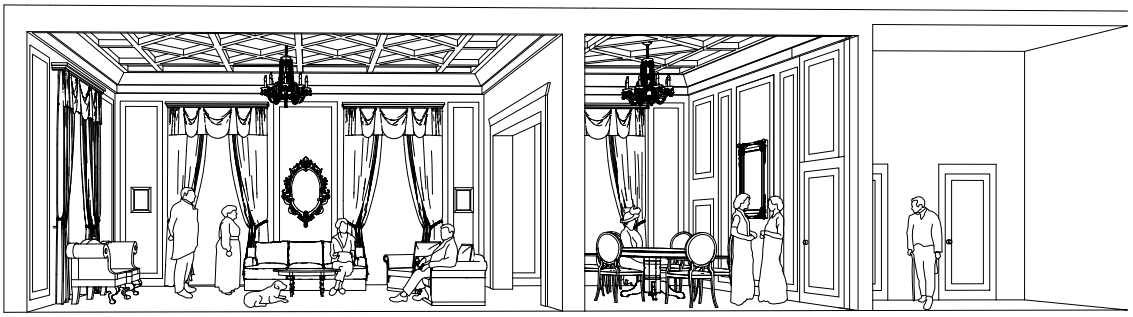


Circulation schemes

CIRCULATION – ROTATING IN CIRCLES OR FOLLOWING A STRAIGHT LINE

The 19th century brought the change in manners, daily life and family structure and along it a significant impact on the layout and the equipment of the dwelling. The importance of separating the social and family life came to the foreground with a need for an isolation and privatisation of the latter. In the villas usually only the ground floor dedicated for the reception of guests was lavishly decorated while the upper floor dedicated for the family was much more modest. The villas were centrally placed on the elongated plot with an additional access for the staff on the sides perpendicular to the main facades. The lounge, a central rectangular space was surrounded by symmetrically placed reception rooms on its two sides, enabling for a circular movement during the social events. As those gatherings had a ritual character, the plan of the house became a theatre stage, allowing for the directed movement of the actors and a particular interaction with the surrounding and each other. The increased number of corridors and staircases expressed the desire of the occupants for the autonomy of spaces and the movement of the staff independently





Style of living

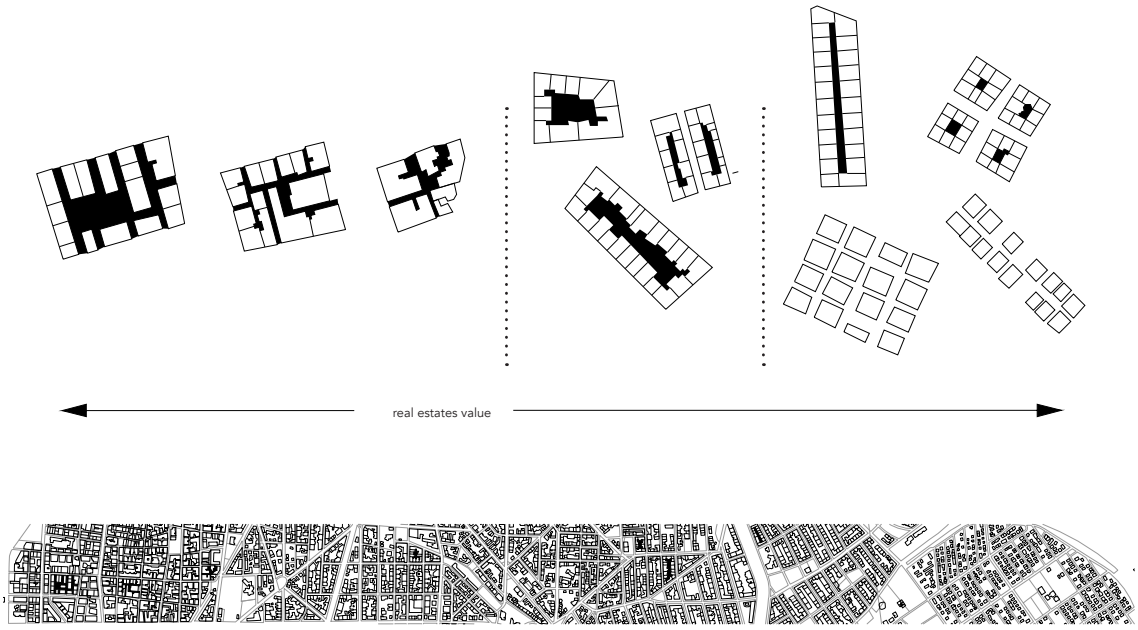
from the family lives. Therefore, the kitchen, along with the servants' rooms, storages and the sanitary rooms were located further from the reception areas, as they were the operatives of the stage from behind the scenes.

The typical middle-class dwelling, the polykatoikia, are not deprived of that theatricality either, although it's much more simplified. Here the elongated spaces are as well the crucial elements, namely the corridor and the balconies. In the larger units (the 'owner's flat') the former follow in parallel to the longer side of the flat, often throughout almost the whole building with the bedrooms and bathrooms placed along it (private/night spaces). On one end is usually the master bedroom and on the other – the modern reception rooms – the living and the dining room, the public/day spaces/. Typical for the polykatoikia is the balcony, a necessity for a modern inhabitant due to the Mediterranean culture of eating and spending time outside, along with the scarcity of open public spaces within the city. So to say, the drawing rooms have been replaced with the balconies when it comes to the importance and the concentration of the social life.

Analysis of emptiness

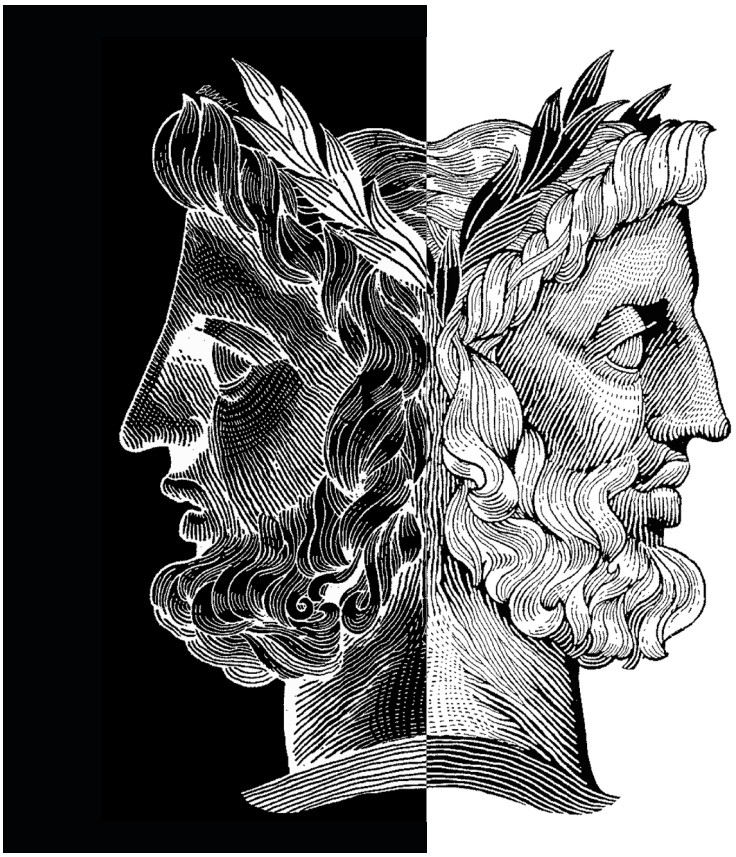
POSITIVE EMPTINESS

A cluster of polykatoikes consists a void inside – the courtyard, a resultant negative space. Randomly formed and chaotic, it is the residue of the layout of the buildings surrounding it. Often dispersed among many owners it's challenging to utilize, become the rubbish pit, the patchwork of contradictory uses, usually populated by animals and vegetation. The analysis of emptiness treats the voids as solids, with the main focus on the courtyards but also including the abandoned plots, unrestricted/restricted planes (etc a promenade, a sport field) and unrestricted/ restricted plots (vacancies, schools). While there is an abundance of the open space along the seashore, the residential buildings form a dense structure with few clearances within them.



East - west rivarly

Focusing on the courtyards exclusively there is a tendency of a change in shape – going more towards the east (uphill the city) they morph more chaotically and decrease in size, usually forming spaces too small to be efficiently used. It signifies even lesser attention to the building regulations and less interest and/or influence of the central planning bodies. Moreover, the distance from the only available open space – the promenade – increases and therefore, the need for any void is even greater, yet not satisfied.
In the end, the shape and location of the courtyard can be treated as an indicator of the real estate value.
From certain point the inner spaces become once again more regular, elongated or concentrated (following a more defined shape). Finally, at the foot of the mountain, the clusters either contain a very controlled inner space, or there is no need for it at all due to the existence of smaller buildings or even single-family houses. The value of those dwellings increases with places such as Toumpa or Panorama, commonly considered to be affluent.



Janus, the god of duality and transitions

The three pillars of this research: the genius loci, the typologies and the voids are associated with various scales of the city. Shown at the beginning the two-faced god Janus takes a shape of a villa morphing into a polykatoikia. Likewise, within all three themes the focus was placed on the extremes in an attempt to find a middle – to catch the ephemeral, transient character of the Hamidiye district. The natural conclusion of the project proposal growing from it ought to be a bridge between the public and the private, between the staged and the random, between the residential model of a villa and a polykatoikia, between the void and a solid, the monument and the residence. The alternative culture of inhabitation indicates the new course which at the same time encompasses the characters of the past and the presence with the focus on inhabiting, understood both as a living in a certain environment and a particular way of

composing one's home. The challenge is to carefully choose the constituents that will later serve the design. For instance, in the case of the villa, it could be the uniformity reached by diversity, the connection with nature, rather than against it (understood as certain socio-political and topological tendencies), a theatricality, the openness, the liberty of expression (through the façade/ architectural styles). The polykatoikia, the useful tool of the past, provides certain elements which highlight the crucial needs in a modern lifestyle, allows for a social equity, its form follows function to the extreme, the painful uniformity and chaos at the same time became iconic. Perhaps some of those aspect can only emerge when the full picture is composed, yet their particular components could still be selected in order to reach the metaphor.

ANOMALY OF THE RUINS

MODERN MONUMENTS OF OTHERNESS

Agata Mila

1. Introduction

The decay of the city manifests itself in the acupuncture of abandonment, objects so rich in history that they were buried under its relentless processes and fluctuations, leaving behind a heavy curtain of forgetfulness. What stayed behind is only a reminiscence of the previous splendour and usually not even that – a place within the city but foreign to its everyday functioning, the derelict building gradually becomes unnoticeable, at times consciously omitted by the gaze of the inhabitants, only to disappear in the collective perception. But what in fact do those structures mean for the city? Instead of resurfacing their former meaning, could it be reforged into a new one?

This paper intends to expose the real nature of those contemporary ruins and analyse them thorough the varied academic perspectives in order to gain a better understanding of the concealed impact it could potentially have on its surrounding. Within their domain the past seems to play the first fiddle, as if freezing the moment and ruthlessly weathering it, and conversely, the connection with the time gone by marked by the traces and boundaries bears a fertile ground for possible expectations of what it can convert to in the future. Perhaps then those forgotten areas could be revived as the modern monuments of the 'otherness' – the solid voids subjected to time but unceasingly active in its every dimension, if only given a chance.

2. Theoretical framework

In order to create a sufficient theoretical background multiple academic and transdisciplinary approaches have been scrutinized and compared. The task of defining the modern ruins in the particular context proves to be challenging to accurately adumbrate their ephemeral nature as the vocabulary of the topic often oscillates between the physical and the psychic realm – certain terms describing those spaces, such as 'derelict', 'wasteland', 'abandoned', 'vacant' are saturated with emotional connotations, mostly negative ones. Moreover, in the architectural discourse various notions related to those denominations intertwine, complementing and at times contradicting each other, thus any attempt of enclosing the interpretation of the topic within a certain terminology is bound to be at best ambiguous, at worst incomplete or conflicting. Nevertheless, it is in the essence of the vagueness that paradoxes are prone to be born to fill in the void.

The first notions to be presented derive from outside of the architectural discourse, starting from the multidisciplinary concept of an anomaly that later is to be analysed through the microhistorical approach. In the next section a number of architectural theories will be explained, namely the heterotopias, the terrain vague and the urban voids. The last issue addresses the value of the ruins, considering them both as an aesthetic object in itself and as an allegory, a gateway to an obstructed realm of forgotten history.

2.1 Anomaly

Defined disparately through the lens of multiple fields, such as mathematics, geophysics, biology or the atmospheric sciences, an anomaly is commonly understood as the occurrence within a system which is possible, yet very improbable and unusual, different from the expected. Within its definition it encompasses the irregularity,

an exceptional deviation from the norm, and can be valued in qualitative terms as positive or negative, or at times both.

Ruins, as the predominantly unwanted aftermath of a historical series of incidents, are inherently anomalies. Perhaps not necessarily rare, they tend to be treated as accidental mistakes and some of them bear traces of significant occurrences. If treated as an anomaly, a deviation from the norm, the idiosyncrasies of ruins can paradoxically describe a certain context by exposing how it wasn't supposed to be like, thus leading to a feasibly approximated version of the reality.

In the case of Thessaloniki a significant number of the derelict structures stands alone in the urban tissue and is accumulated within one specific area, the Vasilissis Olgas street, transforming into an anomaly in itself. A further investigation of that phenomenon uncovers the history of failure which resulted in once splendid eclectic villas, now mostly demolished, abandoned and in a state of the advancing decay, suffocated by the omnipresent and swollen residential blocks.

2.2 Microhistory

The microhistorical approach has been largely developed by an Italian historian Carlo Ginzburg in the 1970s with his notable publication The Cheese and the Worms (1982) where he examines the life of an Italian 16th century miller Menocchio who due to his extraordinary religious beliefs was burned at the stake after being proclaimed a heretic (Ginzburg 1982). In What is microhistory? Theory and practice (2013) Icelandic and Hungarian historians Sigurður Gylfi Magnússon and István Szijártó explain that microhistory allows for a comprehensive historical examination of a singular object of study 'a village community, a group of families, even an individual person' (Ginzburg and Poni 1991, 3). They compare a microhistorical gaze to a point of convergence which gathers the rays of the past in order to forge them into a greater force. As the microhistorians 'hold a microscope and not a telescope in their hands' (Magnússon and Szijártó 2013, 14), they analyse the general cultural phenomena, drafting the codes, forces and processes which shaped the particular individual detail. Following the concept of 'exceptional normal' or 'normal exceptions' most interesting points of study are those which violate the norms of their realities, unveiling the obstructed truths (Magnússon and Szijártó 2013, 32). In that sense, one may conclude that the microhistory is approached through anomalies in order to discern the identity of the era through the opposition of the otherness. Not only atypical documents are of value to the microhistorians but also those which contain lacunae, gaps in the text, as the historical evidence is always wanting and the research will inevitably encounter obstacles in the shape of ambiguity and apprehension, thus they may as well become a part of the narration.

Following the Greek historian Vassilios Colonas 'gaps in the history of a city's architecture create gap in the history of the city' (Colonas 1991, 3). Specifically in the context of the Vasilissis Olgas street, former Hamidiye district, scarce urban voids contrasting with the pathologically dense urban tissue call for the exposure of the circumstances which conceived them. Historically, the Campagnes district (as it was unofficially known as) was considered the 'new city', as it covered a similar surface as the traditional walled nucleus of Thessaloniki. At the end of the 19th century it was one

of the most prominent areas in the region, supplied with the modern installations and infrastructure, brimming with eclectic villas where for the first time the inhabitants weren't divided by their ethnoreligious affiliations but financial ones instead (Colonas 1992). The sudden surge in population due to the migrations (especially the exchange of populations from Asia Minor) lead to the increased housing demands, lenient building restrictions and rapid urbanization, preceded by the mass demolitions and mutations of the traditional buildings. Entangled with ownership inaccuracies, governmental incompetence, and high costs of restoration, the very few that remained have fallen into obsolescence and dilapidation.

2.2 Heterotopia

The concept of heterotopia was developed initially in The Order of Things (1971) and later published in an article "Of Other Spaces" (1986) by a French philosopher Michael Foucault. He described them as a formal and social 'other' space, woven in between the notion of a place and a non-place, public and private. An American architecture professor Mary McLeod in her article "Everyday and 'Other' Spaces" (1996) uses heterotopias to define the spaces of 'otherness', a condition which lies in between the opposite notions, the textuality of things. As she explains, 'Difference is a function of different locations and distributions of power, as well as formal or textual inversion' (McLeod 1996, 5), granting the concept a layer of political power through the disintegration of the cultural sign.

Perhaps in that sense the abandoned and unfinished buildings are all too apparently 'other' but one should argue to include them in the architectural discourse. What is more, inherently the concept of heterotopia is concurrent with an anomaly and a spatial anomaly can constitute a heterotopia. If a microhistorical gaze was to be applied to a specific heterotopic anomaly it could possibly expose the genius loci of the times while dissecting its constituents, exceptions among the norms of the past. The heterotopias of Thessaloniki are veiled reservoirs of the past, embedded in the presence and intercepted in the timeless stagnation of no prospects. Forsaken by their owners they become a part of the unofficial public space, appropriated by nature and illegal tenants. Their 'otherness' exposes the duality, interstices between the naturalization and urbanization, sociocultural and ecological opportunities, emptiness and density, failure and potential.

2.3 Terrain vague

Spanish architect Manuel de Solà-Morales in the 1990s coined the term 'terrain vague' to bring attention to the issue of 'empty, abandoned spaces in which a series of occurrences have taken place' which he understands as spaces of possibilities which are 'internal to the city yet external to its everyday use' (Solà-Morales 2013, 25-26). Although they are constituent parts of the urban interior, they connotate the perception of strangeness and alienation, and at the same time mirror our own intimate anxieties. The architect evokes the beliefs of a German philosopher Odo Marquand who denominates the presence as the 'epoch of strangeness in front of the world' and claims that there is a 'split between aesthetics and ethics, between experience on the world and action on the world' (Solà-Morales 2013, 27). One manifestation of this fissure is the terrain vague itself which claims the in-between position, offering the domination of the past

and the possibilities of the future at the same time.

In Terrain Vague – Interstices at the Edge of the Pale (2013) terrain vagues are expressed as refuges, mirror and memento mori at the same time. They are perceived as inconspicuous containers of the fragmented collective past, reminding that it is constantly overlapped and palimpsested, serving both as 'a condition and a process' (Barron 2013 , 1-2). The author directly connects the terrain vague with the notion of the Foucault's heterotopias as the 'counter-sites' which represent, embrace, and simultaneously convert the real cultural sites. The abandoned buildings are included within this field and treated as the reminiscent of the past and the promise of the future they could be denominated as the monuments of 'otherness'. Thessalonian ruins represent the skewed culture, distorted history of traditional architecture turned into empty containers deprived of meaning.

2.4 Urban Voids

In Space, Poetics and Void Simone Pizzagalli develops the definition of the void as a duality conditioned either by the borders or traces. In the first instance the void is understood as a representation of absence, nothingness which is clearly confined within boundaries of matter. The transitional moment between the two is clear, separating the two extremes and its importance surpasses the separated parts – the accommodating tissue of the city is a part of the same narration but not its main actor. In the second understanding the void is explained through its surrounding which calls for an infill, mending of the disrupted configuration. Therefore, the traces permeating the edge of the rupture between the two entities delineate the void and at the same time create the space of possibilities. The traces convey the hidden and fragmented history, thus becoming its 'non-literal reconstruction of the city's previous form', the residual evidences of the multi-layered palimpsest that took place (Pizzagalli 2013, 45-47).

The architect Sergio Lopez-Pineiro, author of A Glossary of Urban Voids, disintegrates the definition further – he argues that the examples of the urban voids are so kaleidoscopic and multifaceted in nature that they deserve different classification, depending on their spatial aspect, the mechanism that formed them and their importance within a specific context. As a consequence, Lopez-Pineiro creates the glossary of urban voids which is to encompass those varied aspects, juxtapose them and allow for an interpretation through simultaneous intertwining of similarities and contradictions. He argues that the urban void is to be left unnamed for only this way it can preserve its 'openness, marginality, and indeterminacy' (Lopez-Pineiro 2020, 13-18). At the same time he emphasizes that what differentiates the urban voids from other spaces is the marginality retained by the lack of value. It is the emptiness that bears a fertile ground for the other occurrences to appear. According to him the urban voids constitute the opposition to the accretion of capital in the cities as they are the most pristine evidence of the disintegration of the valuable resources, unresolved hibernation and the consequent loss of the potential profit.

Seemingly, in the understanding of Pizzagalli and Lopez-Pineiro the task to define the voids proves to be arduous and destined to fail for its multiple interpretations are often incompatible. In fact, the nature of the voids is ambiguous, mutable, and

ephemeral. What follows is that the intend to classify the abandoned buildings as the modern monuments induces the voids with value and meaning and therefore, fills the emptiness with matter. Perhaps then in this light they can be considered only as one of the manifestations of the urban voids or, even more radical, are not to be included in that notion at all.

2.5 The Value/Allegory of Ruins

The final discourse that ought to be presented is the perception of the ruin as a modern monument. An interesting contribution in that case should be the divergent opinions of a German architect Albert Speer and a German Jewish philosopher Walter Benjamin. The first one is known as the architect of the Third Reich who intended to convey a political message through his architecture and in order to do that he developed the 'Theory of Ruin Value'. It based on the atemporal and monumental decay of the buildings, focused entirely on the aesthetical value which aimed to express the mythological history and the timelessly grand importance of the ruin. Therefore, the building was designed from the beginning to metamorphose into a dignified remnant of a glorious history which is only subjected to the natural forces of the geological time rather than the outbursts of human struggles (Stead 2003, 51-54).

As a contrary to his artificial ruin, Walter Benjamin wished to strip it of any aesthetical purposes. He argued that the ruin should serve as allegory, critical approach which goes beyond the mythical and totalising symbolism and which focuses on the transient, fragile aspect of the human time – 'allegories are, in the realm of thoughts, what ruins are in the realm of things' (Walter Benjamin 1977, 177-178). To Benjamin the history shouldn't be represented as tradition, the apotheosis of the past, but rather than that as a continuous progress in which the influence of time instead of improvement results in decomposition (Stead 2003, 54-57).

Taking those two contradictory approaches into account the ruin could be identified as an accidental monument, developed by uncontrollable forces of human and natural history. Yet at the same time it recalls the memento mori, the imminent disintegration, thus perhaps it is not the proper vessel for preserving memory. Consequently, the ruin can only convey the history that was unintentionally imprinted upon it, subjective and arbitrary. In the end for Benjamin the concept of ruin serves the purpose of baring the naked and rough truth buried beneath false romantic aesthetics (Stead 2003, 58-60). Conversely, on the example of Albert Speer we can see how the ruin can be used as a tool of artificiality and political propaganda, yet at the same time it can serve as a gateway to the authentic non-literary archives of the otherwise obstructed history, giving a voice to the unheard.

Decorative eclectic villas of the Olgas Vasilissis street, initially residences of the fledging bourgeoise, erected from the multiplicity of traditional styles in the state of desolation and intercepted by nature seem more authentic and vivid in character than in their alleged heyday. Rejecting the purely aesthetical impression, they are exposing the stark impracticality of their existence in the present reality in the condominium jungle but at the same time, conversely, it is the sole absence of presence, the solid void, what brings value to their surrounding and enhances the importance of an empty space in the city.

The constant tension, a clash between the mansions privileged in their emptiness and the suffocating residential blocks with close to no windows and communal courtyards exerts bears the question what should prevail, the culture or nature, understood as the primal needs of the society?

3. Conclusions

The constructed academic framework intended to provide a substantial theoretical ground for the analysis of the topic of abandoned, neglected or unfinished buildings that assume the function of the modern monuments of 'otherness'. A critical approach has been juxtaposed to the notion of the neglected structures as heterotopias, spatial anomalies that could be discerned through the microhistorical gaze. Furthermore, they have been identified as one of the examples of the terrain vague and possibly the urban voids. After contrasting them with the 'Theory of Ruin Value' of Albert Speer and the allegorical ruins of Walter Benjamin the concept of the modern monument became clearer.

Ruins are the forgotten evidences of the unspoken history which over time accrued and overlapped, burying itself under the perpetually evolving new meanings which at some point reached a crisis resulting in a thick opaque layer of oblivion. As the exemplifier of decay in the urban structure they connote negative association with negligence and failure but in fact they conceal unknown truths which could be exposed to the world. They constitute an interruption in the composition of the city that at first desires to be unified and induced with matter but later proves to be beneficiary exactly due to its emptiness and marginality. As a research field the multivariate nature of the ruins offers a vast area of intellectual exploration and through the enticing distinction from what is known, unravels the world of hidden values beyond the aesthetical purposes. Moreover, problematizing the case of Thessaloniki in the phenomenon of ruination in the city and the specific examples of the neoclassical ex-bourgeoise architecture sheds light on the issue between the culture and the social needs. The district cannot recount its past which is fragmentary, yet rich in details. Urban voids seem to impose an uneasy question – should we occupy ourselves with culture when there are much more pressuring needs?

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GREECE'S CASH CROP

HOW SUSTAINABLE IS 'SUSTAINABLE COTTON'?

A STUDY ON THE RESOURCE USAGE IN CENTRAL MACADONIA

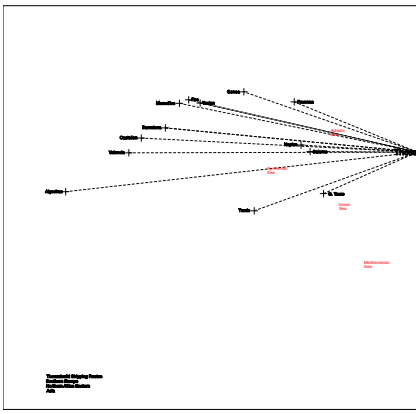
McNally Daniel

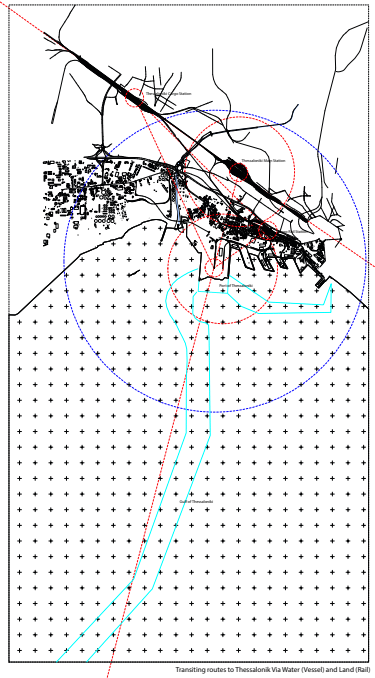
INTRODUCTION

Dissecting Thessaloniki through the lens of industry and trade.

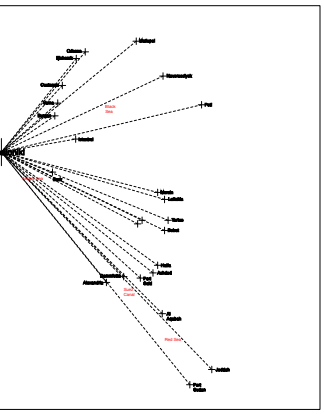
Greece is historically recognised as a heavily orientated 'Maritime nation", as shipping is the one of the oldest forms of occupation and employment. Today it is the second largest contributor to the national economy after tourism. Greece has the largest merchant navy in the world, accounting for more than 15% of the world's total deadweight tonnage amounting to over 5,300 vessels. As the Greek Poet, Odysseas Elytis quoted, "If you disintegrate Greece, in the end you'll see that what you have left is an olive tree, a vineyard, and a ship." Referring to Elytis's quote, the city of Thessaloniki is subject of this, a city with ships, ruins and agriculture, my particular interest lies around the investigation into industrial and agricultural sectors, in particular zooning into areas around the depths of the periphery and the lasting ecological impact that remains.

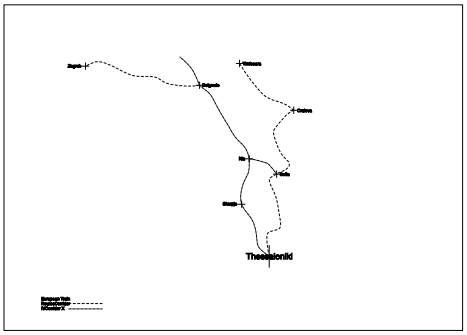
Thessaloniki provides a gateway to the Balkan region and the direct railway link to the Macedonian city "Skopje" is part of a network that connects the broader region, including the countries of Bulgaria, North Macedonia, Serbia and Romania, in relation to the Silk Road project, the port of Thessaloniki is located in an ideal location for Asia and the Middle East. Thessaloniki was considered one of the most important transit trade centres in the Balkans, as it had the largest port in the region. This identity attributed characterisations such as 'trade centre', 'major port', 'cultural crossroad' and 'Balkan metropolis' which nowadays give an indirect acknowledgment of the importance of the city's industrial past.

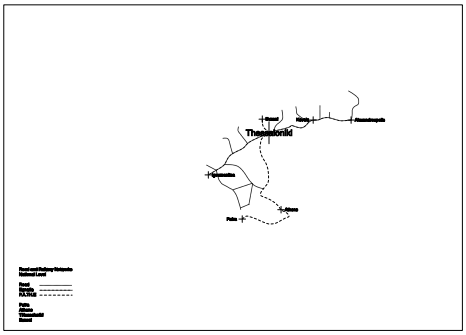




Transiting routes to Thessaloniki Via Water (Vessel) and Land (Rail)







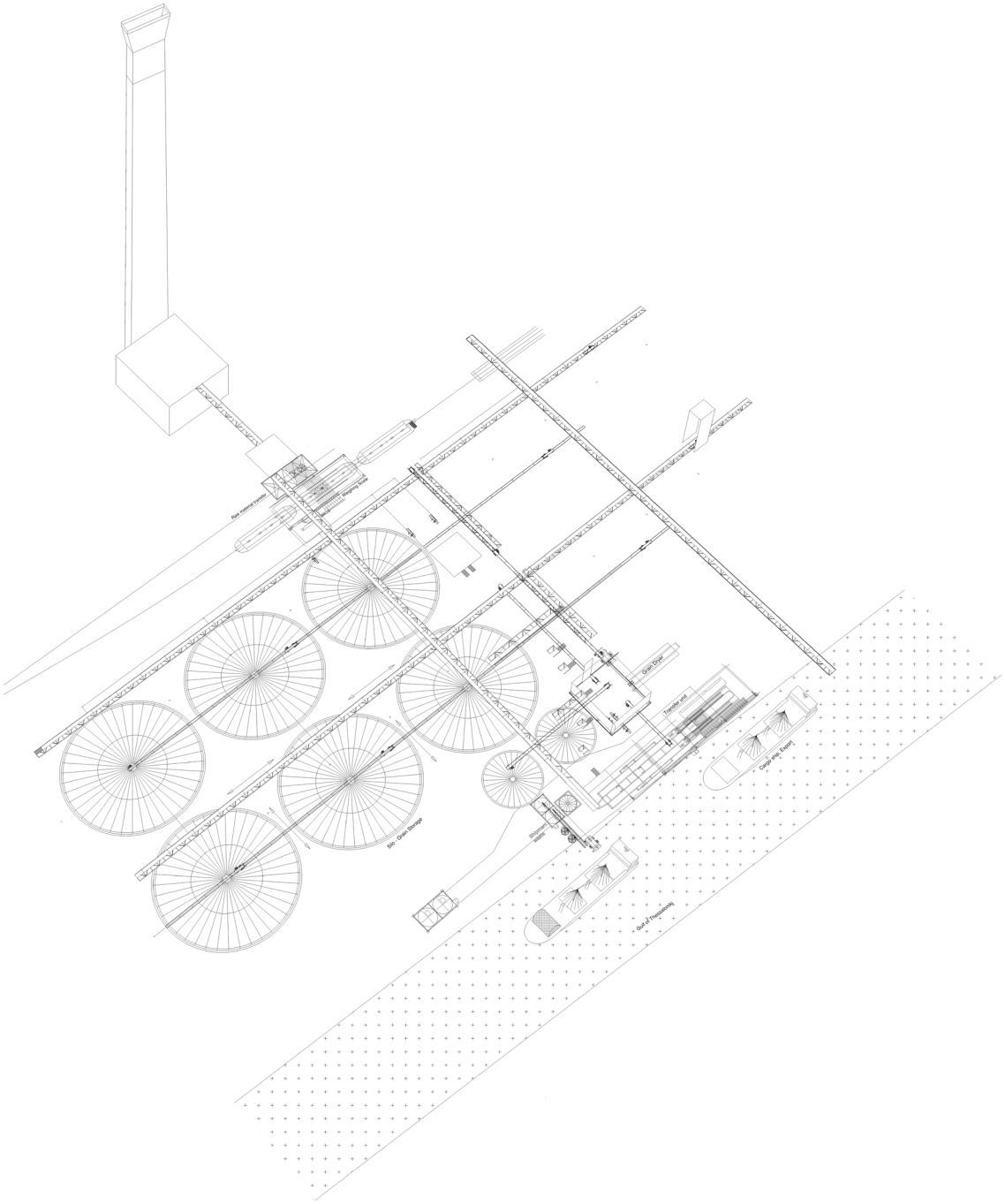
Thessaloniki trade routes

INDUSTRIAL AND AGRICULTURAL HERITAGE ALLATINI MILLS

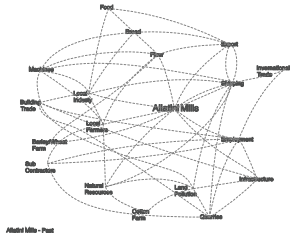
The Allatini Mills is a former industrial complex in Thessaloniki, which is historical as it signified the beginning of the industrialisation for the city. In the early decades of the 19th century, the Allatini Mills was the capital of industrial development for the northern part of Greece and, consequently, is now consiered as an integral part of the collective memory of Thessaloniki. Both the tangible and intangible substance of the Allatini Mills for the city are recorded throughout its historical acount; an account referring to the social, economic and cultural value of this site and complemented by its scientific and technological value in history of construction, manufacturing and engineering for Thessaloniki.
One of its most obvious values in the present era is the aesthetic one prevalent in the architectural design along with appearance of the main listed building. Moreover, the Allatini Mills is located in a privileged area close to the central area of the city and to the sea, which is now a highly densely-populated and a prime real estate site. Despite its historical significance, it still remains unutilised and awaits its re-inclusion in the active urban fabric of the city.

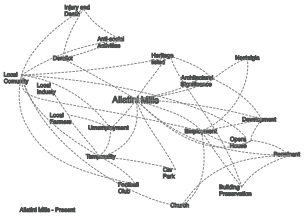
Systematic drawing - 1950

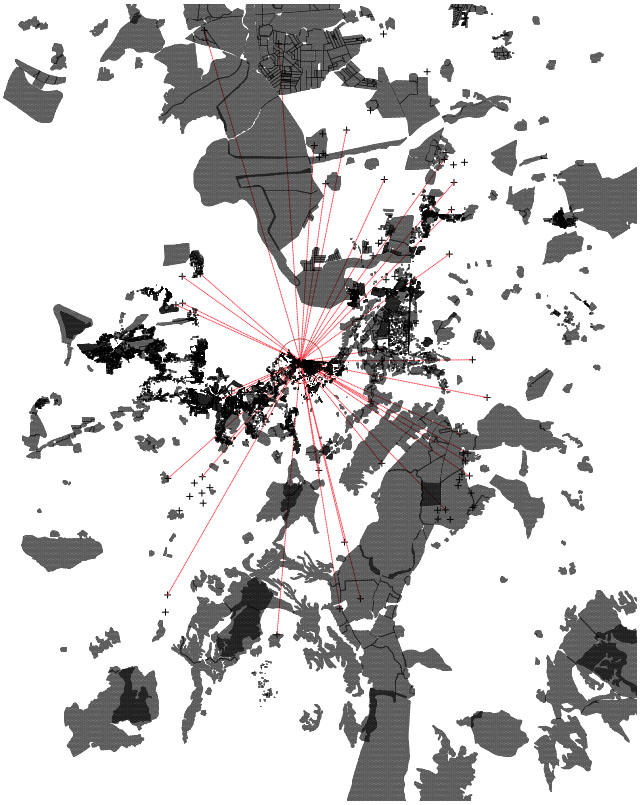
The Allatini Mills emerged under a partnership between Darblay de Corblay, a French company, and the three Allatini brothers who established the first steam-engine flourmill in Thessaloniki. The waterfront for Thessaloniki is one of the latest developments for the city that creates a new space between sea and land. However, this development stops shortly before the Allatini Mills and, as a result, the relationship between the former industry and the water is lost. The drawing captures the systematic procedures between the storage grain silos loading the raw material into the vessel, then exported across Europe. This action had a social character as this industry ended up being the main bread feeder of the city and this function transformed the space of the industry into a meeting point for many local people.

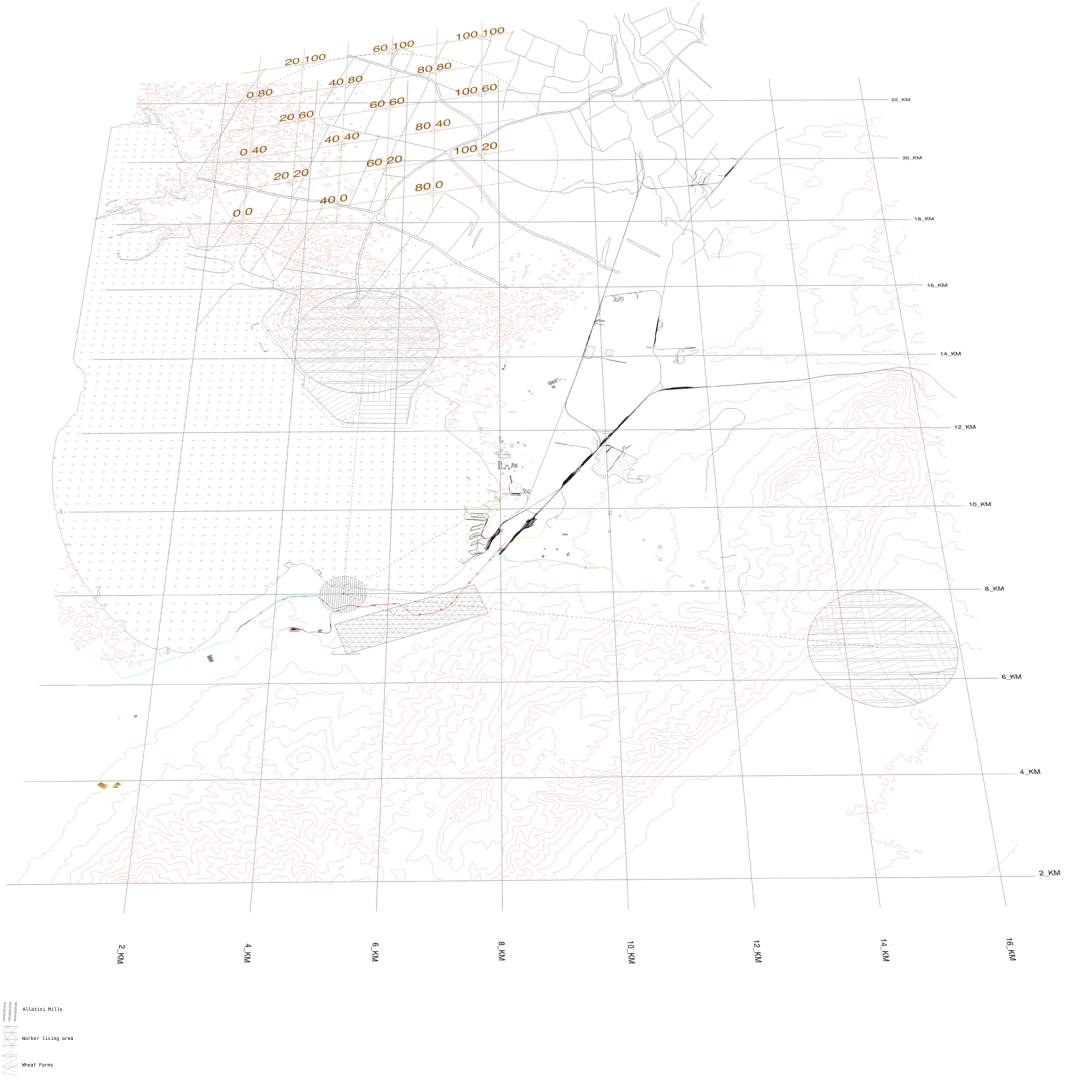

Rail national center
Shipping Dock
Silo Grain Storage
Grain Dryer
Transfer pit
Cargo ship Import
Weighing station
Gulf of Thailand

How agriculture once shapped the industrial revolution within the city of thessaloniki.









Ground Map Drawing

Allatini Flour Mill has been placed at the centre of the map. The history of Thessaloniki goes back twenty-three centuries, while the most important economic changes occurred during its transitional periods during 1830-1880 and 1880-1950; the period of early and then embedded industrialisation. The list of the Allatini Mills clientele was numbering 5,000 professionals and private individuals. As a result, the city's productive capacity expansion heavily relied on the Allatini Mills. Through this way, the Allatini Mills ended up being both the greatest and largest mill in the Balkan region with more than 500 workers.

GREECES CASH CROP.

Thessaloniki, Greece, Central Macadonia

AN INDRODUCTION TO THE CASH CROP

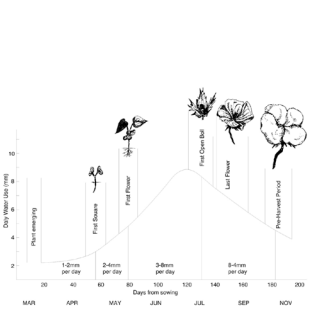
A new exporter of cotton since the early 1950's, Greece was once ranked as the second largest cotton exporter behind the Soviet Union within Europe in the 1960's. One of the most significant post-war developments in Greek agriculture was the emergence of Cotton as the country's third leading earner of foreign exchange. In 1961 cotton sales totalled to $27,000,000.

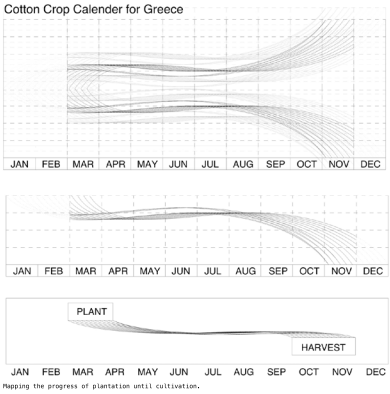
The amount of land devoted to cotton increased from 45,000 hectares (Ha) in 1948 to 207,000 Ha in 1962, with more than two-thirds of the co tton area under irrigation. Due to higher yields, the expansion of irrigated cotton had been encouraged by the Greek government.

In 1962, government grants were introduced to cotton farmers as an incentive to increase production and boost employment rates, absorbing much of the available workforce due to cottons labour intensity.
Growers were granted 800 drachmas ($26.60) per hectare of irrigated land and 500 drachmas ($16.60) per hectare of non-irrigated land.9 This measure was one of the many intended to encourage farmers to diversify agriculture production into cotton.

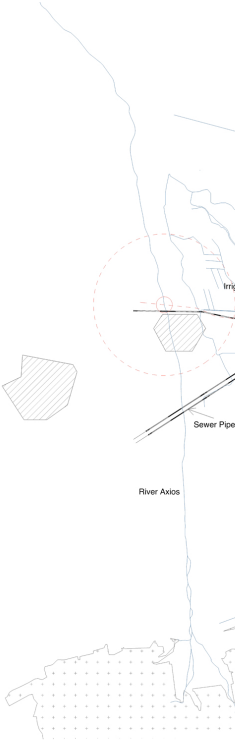
Greece is the worlds 5th largest exporter of raw Cotton. Cotton is mainly grown in the Central Macedonia and Thessaly regions before being exported through thessaloniki port

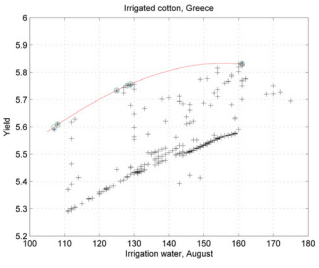
Cotton growing areas within Greece

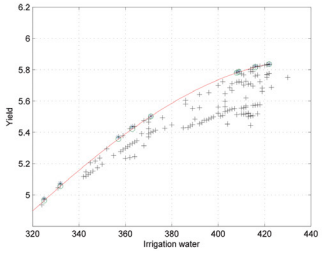


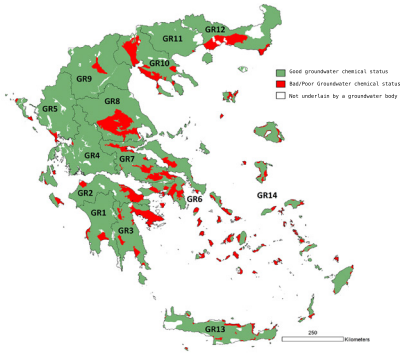


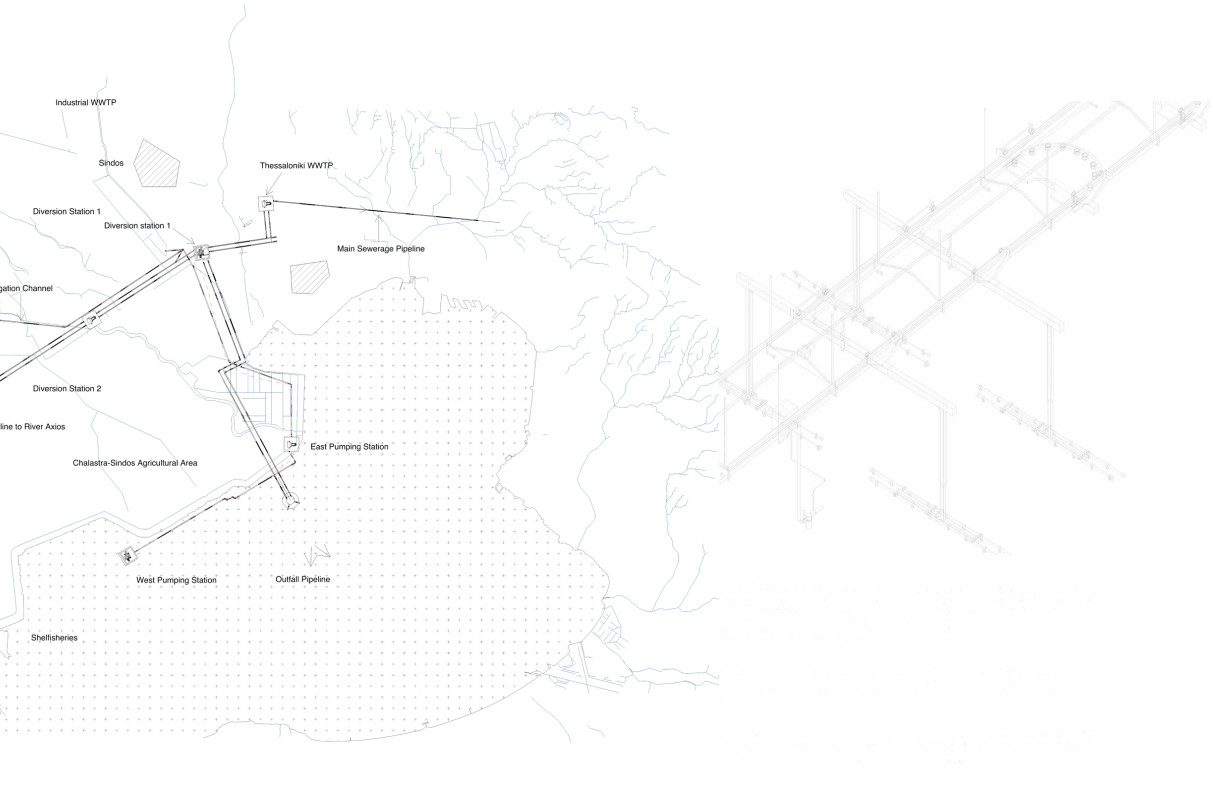
Mapping the progress of plantation until cultivation.











Increasing crop water footprint.

In the Central Macedonian Region, irrigation water-use accounts for 85% of all water uses. Water-intensive crops, such as rice, account for high volumes of irrigation water in the area around Thermaikos Gulf (Axios-Loudias-Aliakmonas Delta). Groundwater Depletion from irrigation has increased flood danger in that area. Other concerns include the challenges of subsidence, saline intrusion, and the quality of the remaining groundwater and how it can be replenished.

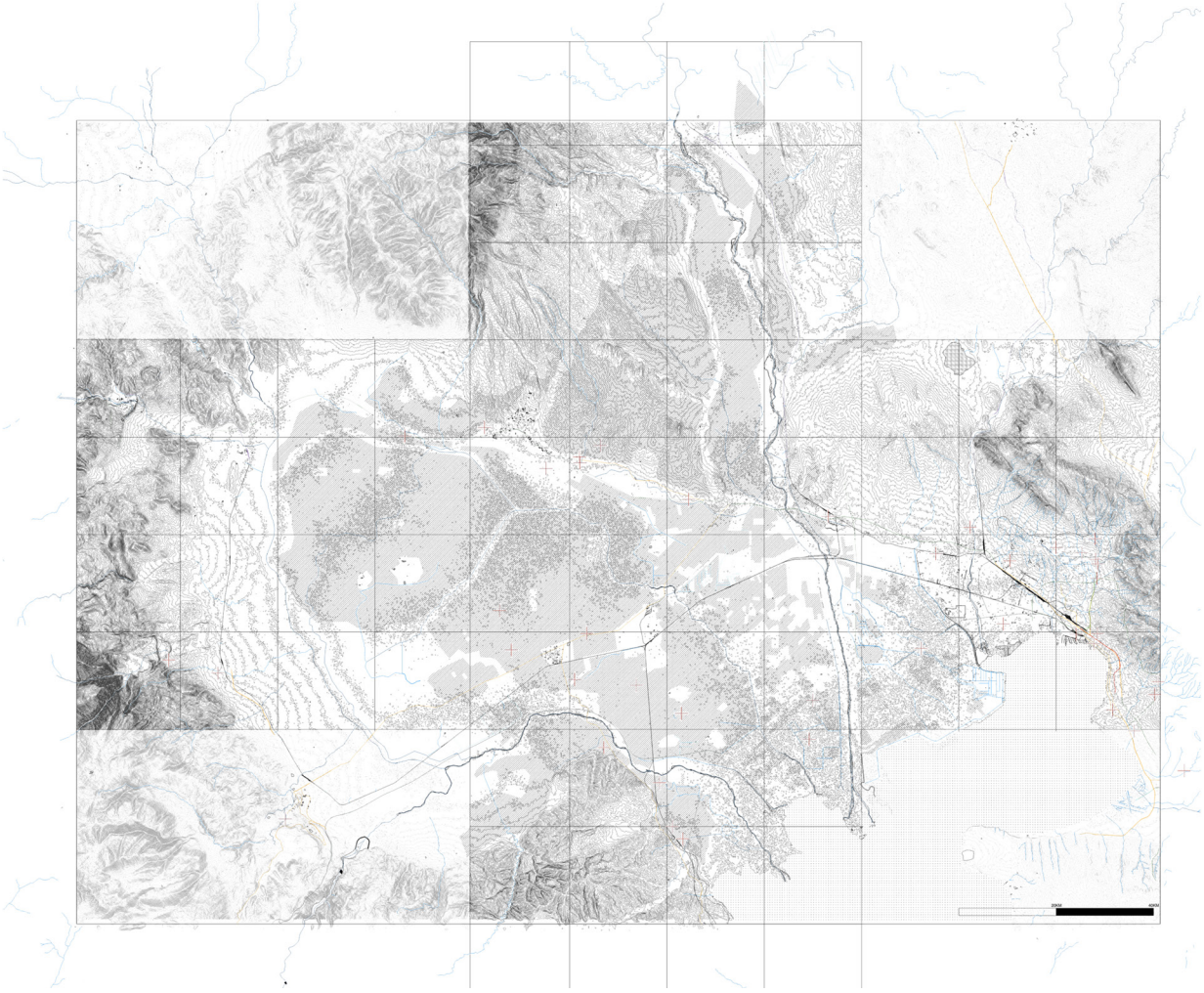
Loss of ecosystem services

Tied in 10th place with 'increasing crop water footprint' is 'loss of ecosystem services, Tied which is fitting given how these two stresses are linked. This stress was raised as a concern due to environmental degradation from government, academic, and civil society stakeholders.

Agricultural nutrient pollution

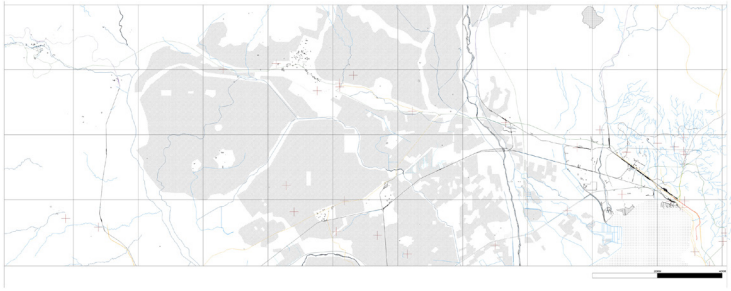
Eutrophication from the use of fertilizers throughout the Axios-Loudias-Aliakmonas Delta

Eutrophication has caused issues for the quality of the water in the Thermaikos Gulf, the health of the aquaculture systems places at the end of the delta, and for the port. This point came up in surveys and desktop research (Aristomenis P. , etal., 2006).

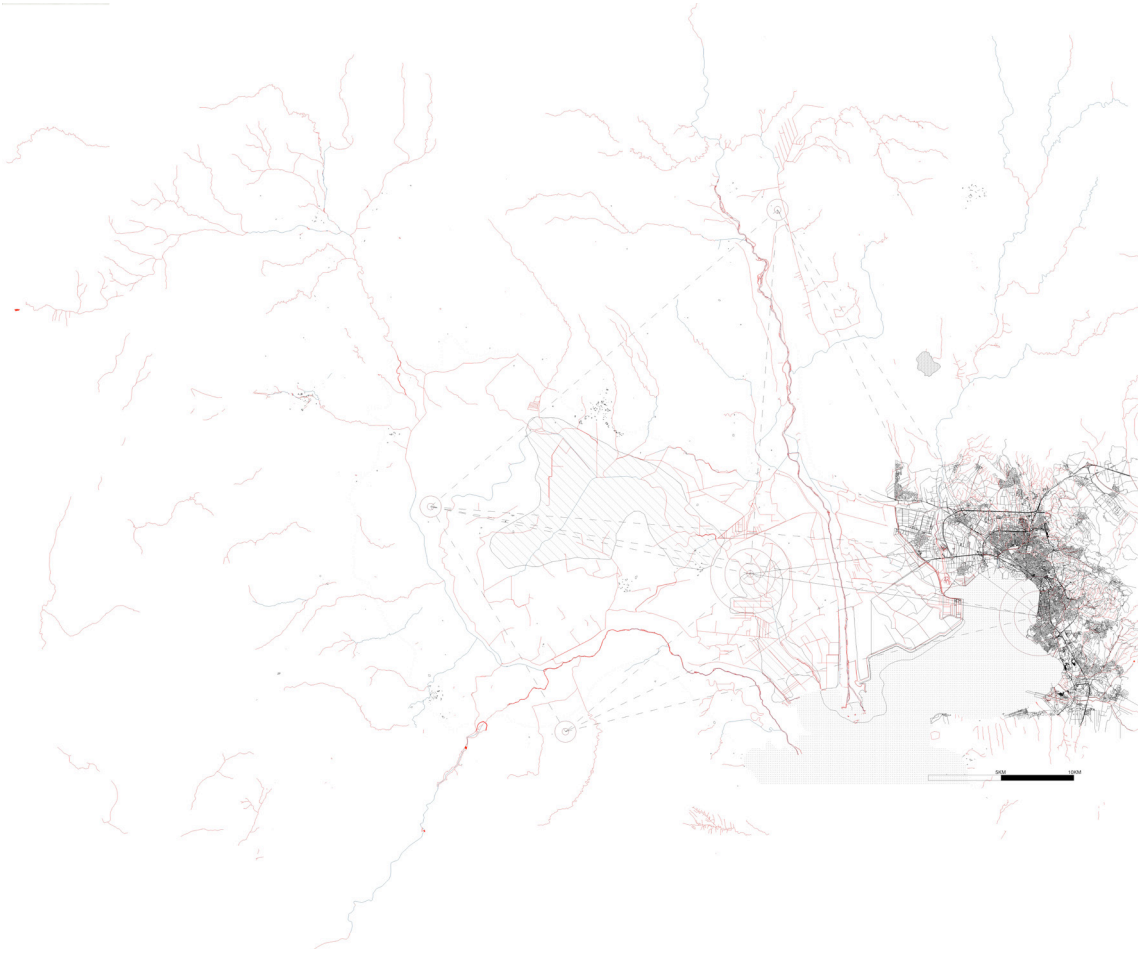


Territorial Mapping

Establishing the locations of main transportation and natural water netorks around the cotton farms in Central Macedonia

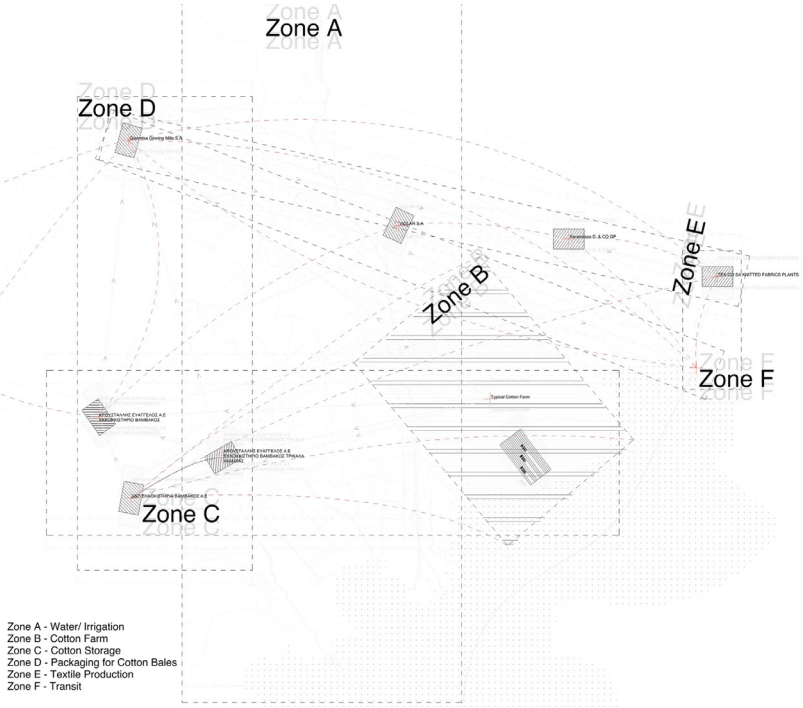


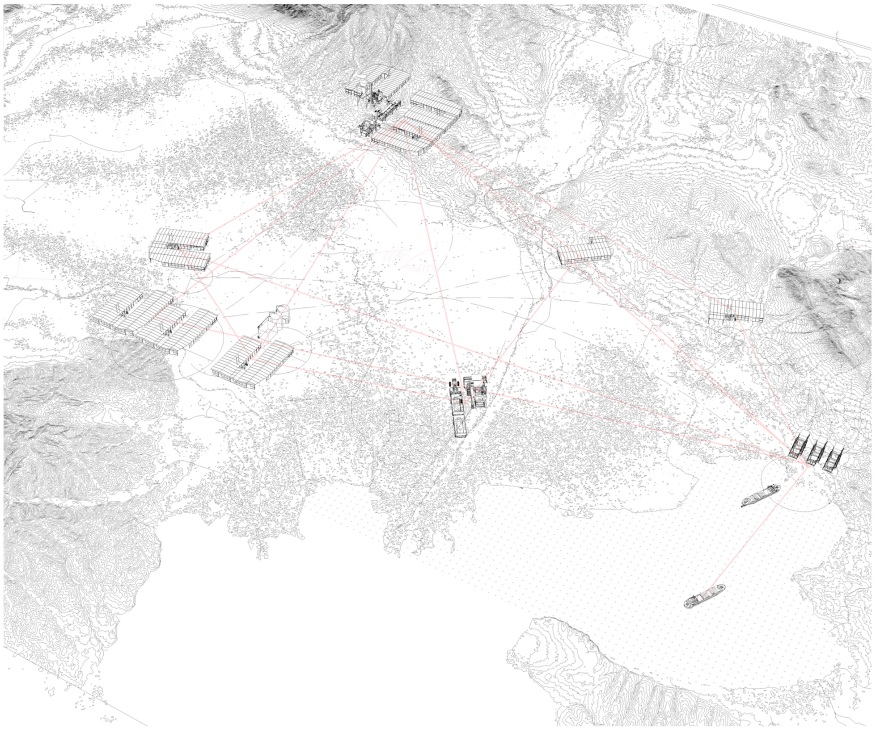
By studying Thessaloniki through the lenses of agriculture and related cotton production, highlighting the extent that these two industries helped develop the city. By carrying out critical analysis and research, through mappings and drawing, I was able to study the key operational systems in and around city involving industry and trade. To understand and develop a clear personal positioning of Thessaloniki, I had to recognise the relationships that industry and the city have to one another.



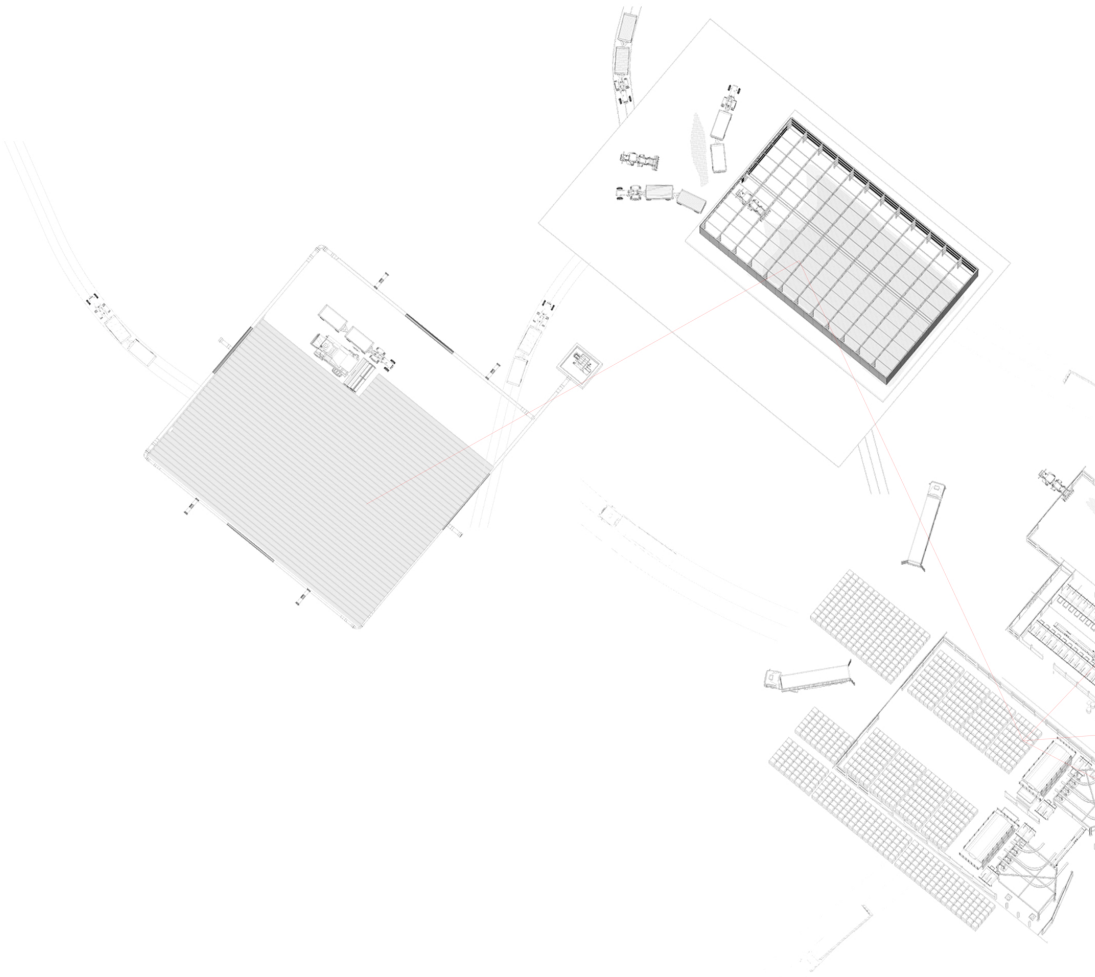
WATER AND COTTON

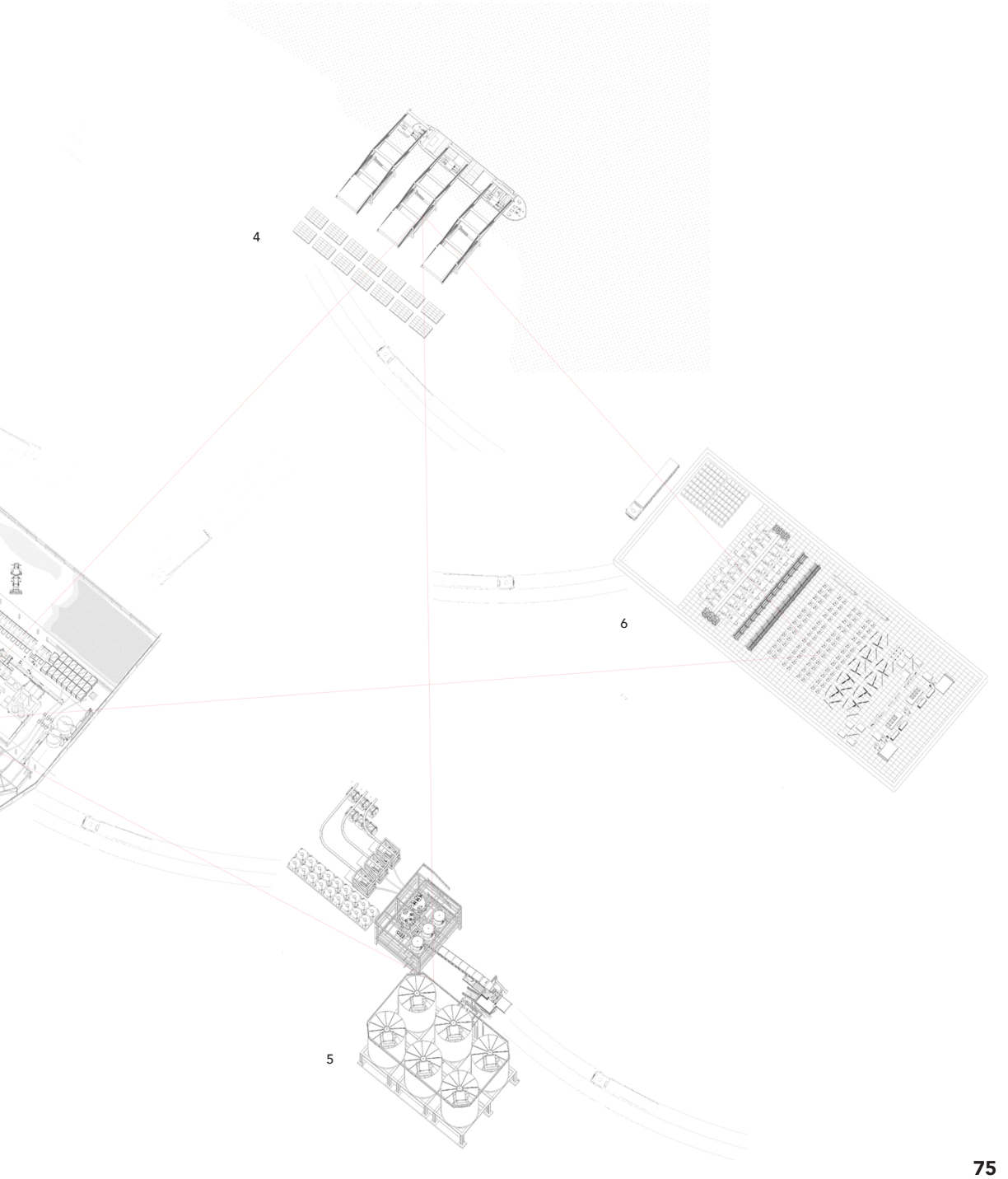
The importance of improving water use efficiency in agriculture
has been the subject of increasing concern to environmental analysts. The cotton industry within the plains of Thessaloniki has presented issues over the past 60 years, highlighting concerns with reducing the natural freshwater resources from reaching the city of Thessaloniki. With innovative architectural interventions, the project
will propose spatial solutions that can provide a greater availability of fresh water to the city and also enhance irrigated agricultural yields serving both the hinterland and the urban fabric.


Zone A
Zone D
Zone B
Zone E
Zone F
Zone C
Typical Cotton Farm
Zone A - Water/ Irrigation
Zone B - Cotton Farm
Zone C - Cotton Storage
Zone D - Packaging for Cotton Bales
Zone E - Textile Production
Zone F - Transit



Following the typical cotton trade routes from farm to production.




4
6
5

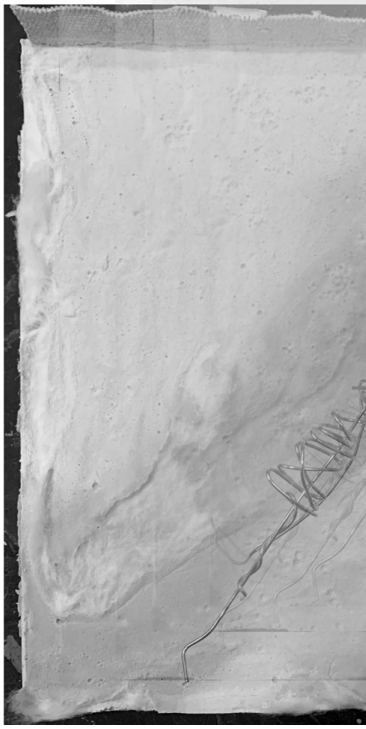
MODI OPERANDI

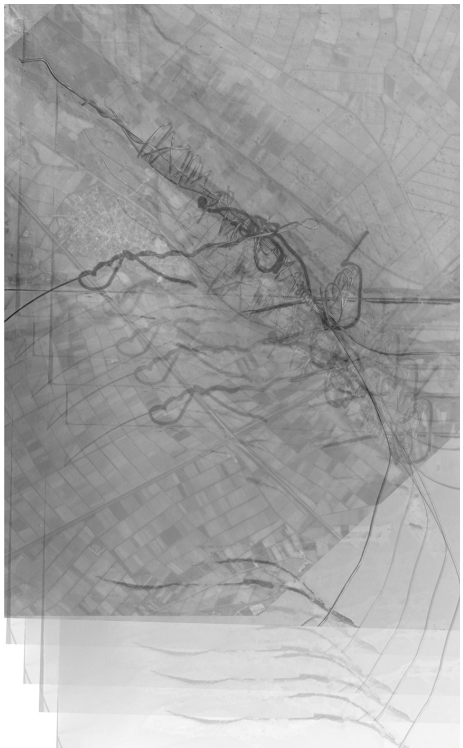
Model 1

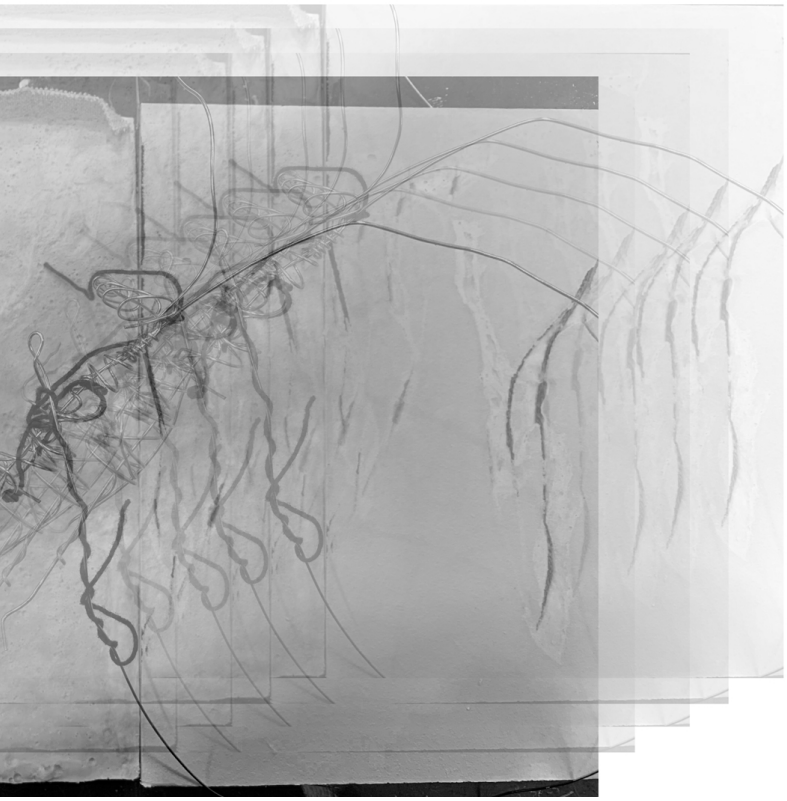
Materials - Gypsum Plaster Mould + cotton bud + steel wire + cotton string.

2.5D Plaster model study showing the thinning of natural water resources, irrigated out to cotton fields.

Contextualy the model is situated around the cotton fields along the Vardar River where over 85% of the fields are irrigated from rivers.

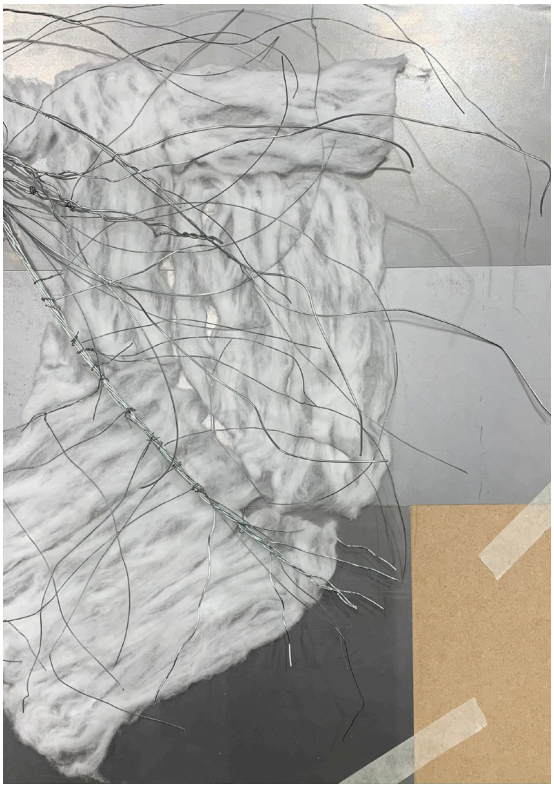






Project	Region	Capacity (m^3/day) [a]	Irrigated area (ha)	Crops
Irrigation of agricultural land				
Thessaloniki (Sindos)	Central Macedonia	165,000	2500	Cotton, Rice, Corn
Iraklion	Crete	9500	570	Grapes and Olive trees
Levadia	Central Greece	3500		Cotton, corn
Amfissa	Central Greece	400		Olive trees
Nea Kalikratia	Central Macedonia	800	150	Olive trees
Chersonissos	Crete	4500	270	Olive trees
Malia	Crete	2500	150	
Archanes	Crete	550	33	Grapes and olive trees
Kos	North Aegean	3500	210	Olive trees, citrus, *etc.*
Others		10,000		Various
Irrigation of other land (parks, forest, etc.)				
Chalkida	Central Greece	4000	50	
Chersonisssos	Crete	500	8	
Agios Costantinos	North Aegean	200	10	
Kentarchos	North Aegean	100	5	
Kos	North Aegean	500	10	
Karistos	North Aegean	1450	30	
Ierissos	South Aegean	1500	25	
Others		2000		
Indirect reuse				
Larissa	Thessaly	25,000		Cotton, corn, *etc*
Karditsa	Thessaly	15,000		Cotton, corn, *etc.*
Lamia	Central Greece	15,000		Cotton, olive trees, corn, *etc.*
Tripoli	Peloponissos	18,000		
Others		35,000		
Total		318,500		

[a] The effluent is used only during the dry period of the year, ranging from 3 to 6 months/year depending on climate, agronomical and other local conditions.



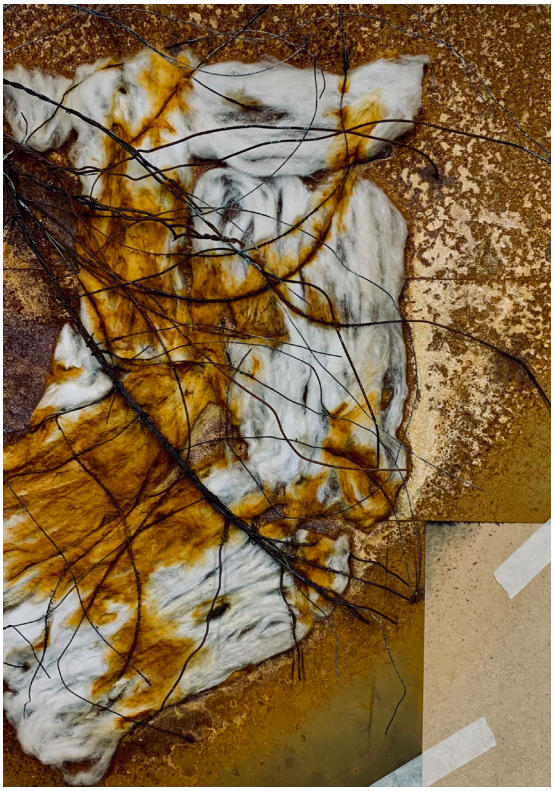
Before chemicals applied

2 minutes after acid applied

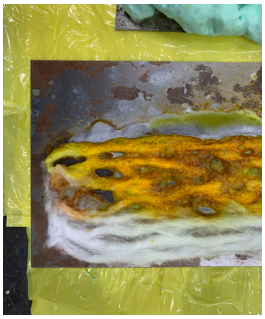
Model 2
Materials - Cotton Bud + Hydrochoric Acid/Hydro-Peroxide + Vinegar + Salt carryied out on Steel Metal Sheet.

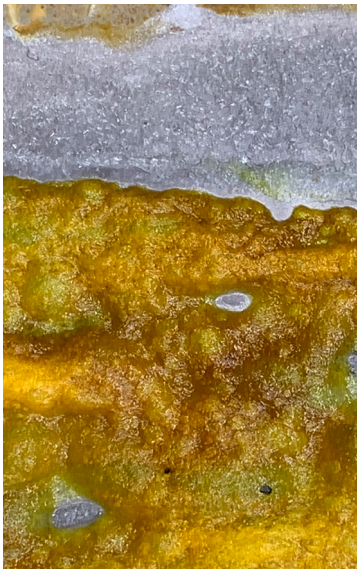
The model demonstrated how various chemical pesticides and fertilisers used across the cotton industry can affect the ground conditions over a long period of time. Over a time span of a month, the condition of the metal sheet gradually deteriorated reacting with the chemicals.

1 week after acid applied



1 month after acid applied





Model 3
Unlayering the cotton/ beyond the fabric.

Materials - Cotton medical bandage wrapped with gypsum plaster. Objects - concrete block/plaster mould/ timber/stone/cotton medical mask/bambo stick/MDF/Metal rods.

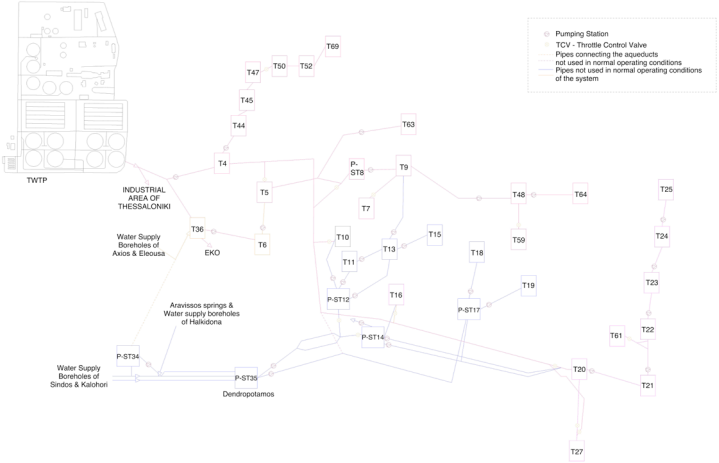
Cotton has over 1000 uses, this model represents how cotton is wrapped around our daily life unknown to us.

DESIGN INTENTION

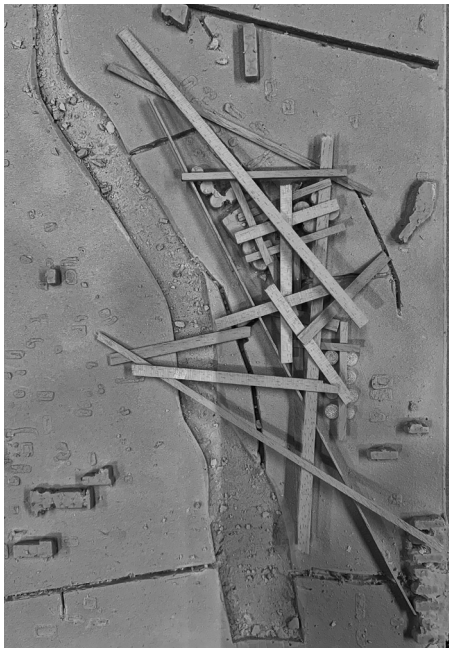
In the Central Macedonian Region, water-use for irrigation accounts for 85% of all water consumed.3 Cotton is a water-intensive crop, it accounts for high volumes of irrigated water consumption in the area around Thermaikos Gulf. During the peak irrigation period (June–August) the flow of the rivers that supply the network, get dangerously low, hence additional water resources are needed in order to meet the demand of the city. Additional concerns include the challenges of subsidence, saline intrusion, and the quality of the remaining groundwater and how it can be replenished. Currently, Greece is Europe's largest cotton producer and the worlds 5th largest cotton exporter. The region of Central Macedonia is one of the key locations for cotton growth.

Through research, site analysis and cartographic explorations, I have developed a comprehensive understanding of the context that will inform my architectural proposals. I have established that there are issues concerning the availability of natural-fresh-water resources within Central Macedonia and the city of Thessaloniki. Positioning myself through the lens of the city, I have established some key points that can serve and benefit the people of Thessaloniki whilst also enhancing agricultural yield and production. To support my argument for proposing a circulated systematic design, a scientific study from the "Hellenic Agricultural Organization" stated that the use of greywater had resulted in higher yield than the current freshwater usage. This solution alone would enhance benefit cotton farmers production rate and quality, allowing to bid for a higher crop price.

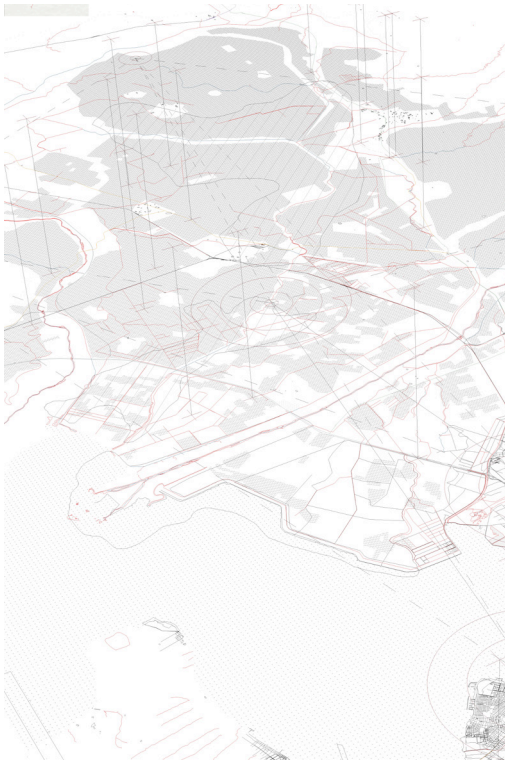
With greater concerns around the global economy and the idea of fast fashion, I can speculate that there may be a greater demand for brands to use sustainable EU cotton. Currently the majority of Greek cotton is exported to developing countries to be treated, sewn and woven into textiles. Unlike the wheat and rice industry, cotton has rarely had much connection within the urban fabrics of the city. To work as a catalyst for promoting this, I would like Thessaloniki to become more connected with the cotton that is grown around the city. The introduction of a sustainable farm to fabric production process within the city could help boost the interests firstly in Greek farmed cotton, but also Greek, EU textile products.

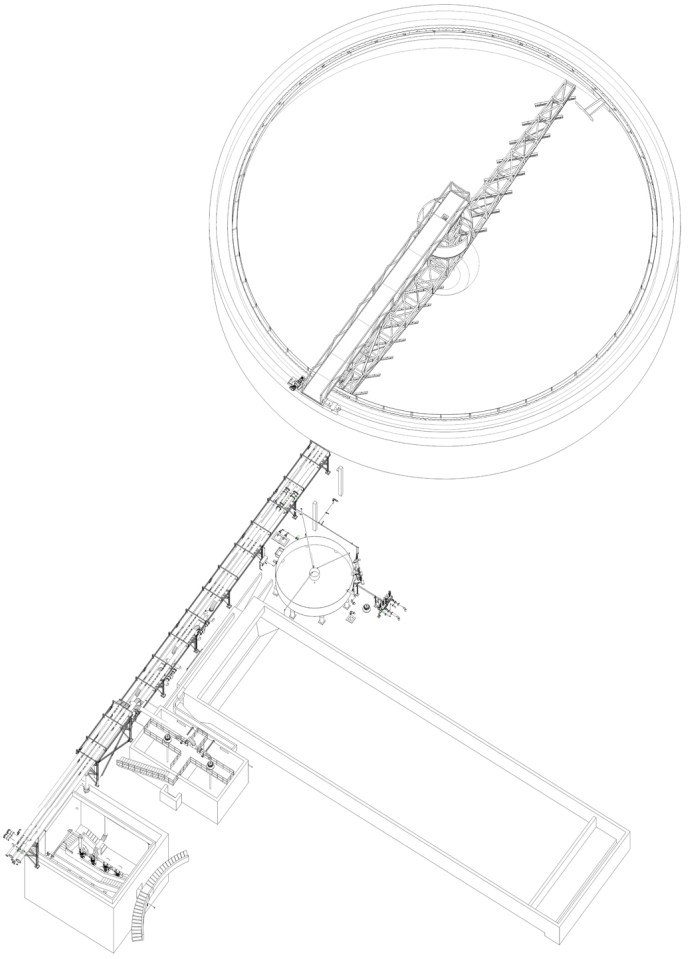


A diagram drawing of the Waste water treatment plant and the water supply to the city of thessaloniki



1:500 gypsum site model with first attempt form massing





Thessaloniki Waste Water Treatment Plant.
First stage drawing of systematically and architecturally understanding the WWTP within the city. The site works as a good location for a design proposal due to location, infrastructural links and a brownfield site to build upon.

GREECE'S CASH CROP

SUSTAINABLE COTTON WITHIN THE UNSUSTAINABLE WORLD OF TRADE

McNally Daniel

_An Introduction To, *The Fabric of Greece'*

It's estimated that cotton has more than a thousand different uses, varying from everyday clothing, medical bandages, facemasks, bedsheets or even to a €20 Banknote. Cotton is entrenched within our lives, however for many, the origins and processes of cotton is rarely given a moment of serious thought.

Greece is the largest producer of cotton within the EU, contributing to over 80% (of EU production) over a land mass of almost 300,000 ha. In relation to the international cotton market.[1] Greece is currently the 5th largest raw cotton exporter worldwide, a growth from being the 6th largest exporter in 2010 (FAOSTAT).[2]
Cotton contributes to over 10 percent of the total value of agricultural production in Greece. Greece exports about three quarters of its grown cotton with near 10 percentage increase in exports from period from 2002-09.[3]

This paper will investigate the cotton industry stemming from the cotton roots of Greece, providing a deeper understanding of the positioning of the Greek cotton industry within the global cotton trade and the associated international textile market. To begin, providing the context, it is important to understand whether changes imposed by the European Union through the Common Agricultural Policy (CAP) will have an impact on the Greek cotton industry implying whether cotton cultivation may change in future.[4] Throughout this paper, I will assess the competitiveness of Greek cotton producers and the significance of Greece as a competitor in the international cotton markets taking and also look at those involved behind the large corporate and retail institutions.

Secondly, I want to establish and explore the fact that there are many diverse agents who are involved in the cotton industry from farm to final product. Starting from the initial area around the cotton fields of Greece, using hard data and mapping techniques, I am able to trace where the cotton product ultimately ends up. As Debrah Cowen referred to 'logistics' as being simply the word on the side of a truck, the same truck that magically bring online orders only hours after purchase.[5] The entire distribution network and infrastructure involved, to bring the product to consumer somewhat remains out of sight. Global supply chains are expanding and interlinking rapidly. With the increase of 'online shopping' and 'fast fashion' even before the beginning of the Covid-19 pandemic, the simplest purchase relies on the calibration of multiple agents, through various capital circulations, and complex movements across huge distances in order to meet with supply and demand."[6]

To gather a clear position and an understanding of the agriculture, industrial and trade routes involved with cotton, I will investigate the infrastructure and the various parties whether regional or international that control the cotton market. This ultimately will lead into investigating the ports that control the trade and the brands who have such a dominant presence and influence as promoting the sale of said 'sustainable Greece cotton'. As Greece is one of the world's largest exporters of raw cotton bales, I feel it is necessary to base this paper around certain areas of interest, stemming from the farm to the ports to the sweatshops then ultimately looped back into the European market to be sold as a European product, when the reality is, that the product has been shipped across the globe and back again before being ready to be sold into the general consumer market.

[1] *Karagiannis, G. (2005). The EU cotton policy regime and the implications of the proposed changes for producer welfare.*
[2] www.fao.org. (n.d.). *FAOSTAT.*
[3] Konduru, S., Yamazaki, F. and Paggi, M. (2013). *A STUDY OF THE IMPACT OF COMMON AGRICULTURAL POLICY OF EU ON PRODUCTION OF COTTON IN GREECE: IMPLICATIONS FOR U.S. COTTON EXPORTS.*
[4] IBID
[5] Cowen, D. (2014). *The deadly life of logistics: mapping violence in global trade.* Minneapolis: University Of Minnesota Press.
[6] IBID

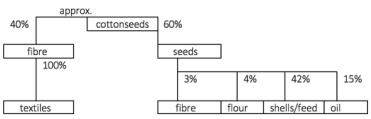
Chapter 1
_ Greek Agriculture
_Cotton

Greece's agricultural sector suffers from a lack of many natural resources, it's estimated that around 70 percent of the land cannot be cultivated due to poor quality soil or the fact that it's covered by forests. However, agriculture is heavily embedded in the plains of Thessaly, Macedonia, Thrace and Mainland Greece, where cotton, wheat and tobacco are mainly grown.

A new exporter of cotton since the early 1950's, Greece was once ranked as the second largest cotton exporter behind the Soviet Union within Europe in the 1960's. One of the most significant post-war developments in Greek agriculture was the emergence of Cotton as the country's third leading earner of foreign exchange. In 1961 cotton sales totalled to $27,000,000.[7] The amount of land devoted to cotton increased from 45,000 hectares (Ha) in 1948 to 207,000 Ha in 1962, with more than two-thirds of the cotton area under irrigation. Due to higher yields, the expansion of irrigated cotton had been encouraged by the Greek government.[8]
In 1962, government grants were introduced to cotton farmers as an incentive to increase production and boost employment rates, absorbing much of the available workforce due to cottons labour intensity.
Growers were granted 800 drachmas ($26.60) per hectare of irrigated land and 500 drachmas ($16.60) per hectare of non-irrigated land.[9] This measure was one of the many intended to encourage farmers to diversify agriculture production into cotton.

Regulations related to fertilisers, extensive use of insecticides and pesticides uses around the crop were introduced as early as the 60's. The Cotton Research Institute of Greece speculated that with a further increase in cotton production would result by shortages of arable land and water and through difficulties encountered in changing from a peasant type of agriculture to a cash crop economy.[10] Since then, in order to improve the quality of cotton, the distribution of planting seed has been regulated and supervised through agricultural cooperatives, such as the Hellenic Cotton Organisation and Hellenic Cotton Research Institute where the seed is produced on special cotton farms.[11]
The plains where cotton is cultivated have mostly alluvial soil, which is suitable for cotton. Several non-biotech varieties of *Gossypium hirsutum* are successfully grown in Greece used for fibres and the extraction of seed oil (Fig1). Currently near all cotton farmland are irrigated and only less than 5% is grown under dry land conditions. Today, the stages of cultivation process are fully mechanized.[12]

Cotton has great importance due to its many uses and cost effectiveness and considered to be more convenient in comparison to other raw materials[13]:



(Fig1) Products derived from cotton plant, Source: unctad.org[14]

_Primary Sectors

The agricultural industry holds a necessary role in the economy and development of the country,[15] amounting to 4.5% to the GDP of Greece.[16] The region of Macedonia contains one of the most developed agricultural

[7] Vouras, P.P. (1963). THE SIGNIFICANCE OF COTTON GROWING IN GREECE. *The Professional Geographer*, 15(3), pp.11–13.
[8] IBID
[9] IBID
[10] IBID
[11] International Cotton Advisory Committee (2019). *STRUCTURE OF COTTON RESEARCH, International Cotton Advisory Committee INPUT SUPPLY AND TRANSFER OF TECHNOLOGY*.
[12] Greece, Country statement 2020
[13] CHIURCIU, I.-A., SOARE, E., CONSTANTIN, D.M. and Elena BOGAN, E. (2016). Cotton Market Trends in the World and in the European Union. *Vision 2020: Innovation Management, Development Sustainability, and Competitive Economic Growth*.
[14] unctad.org. (n.d.). *UNCTAD | Cotton industry*.
[15] Shahbandeh, M. (2021). *Greece - Distribution of gross domestic product (GDP) across economic sectors 2020.*.
[16] IBID

regions in Greece with the centre of production around the greater city of Thessaloniki, presenting similarly to other aspects, a monocentric structure in relation to production patterns. This is due principally to traditional relations between the city its hinterland, which encompasses the entirety of the Thessaloniki Plain and the area close to the urban core.[17] The improvements and outward expansion of the city, following a mixed-use, land-use model, permitted the outward cohesion of the urban fabric and its function such as in the tertiary and agricultural services.[18]

_The main weaknesses of the agricultural/primary sector of the region are:

_The great dependence on highly subsidised types of cultivations.

_The concentration of manufacturing in terms of products and space.

_Land use structure.

_The ineffective management of water resources.

_The intraregional cohesion discrepancies with the presence of mountainous or peripheral zones of low development.

_The dependency of rural economies on agricultural activity.

_Secondary Sectors

"The region of Central Macedonia is characterized by a high percentage of employment in the manufacturing sector. The region holds the 21.9% of the industrial activity of the area, thus presented as one of the most dynamic areas of the new industrial space of Greece."[19]
The specialised regions for the textile and clothing sector the prefectures of Thessaloniki, Serres, Kilkis and Pellla.[20]

_The principal problems facing the sector are:

_Cost cutting through "Fast Fashion" where the Asian market is constantly cutting the price of cotton.
_Greek labour costs versus the Asian labour costs.
_The absence of a "branding" for local products.
_The small-medium sized companies that dominate the production system of the region, have a low-level organisation, management and employees. Difficult to branch out into the international markets.

Chapter 2
_Bleeding the Zones
_Greece, The Global Connection

"If you deconstruct Greece, you will in the end see an olive tree, a grapevine, and a boat remain. That is, with as much, you reconstruct her."[21]

As stated in the introduction, Greece is the world's 5th largest exporter of Raw Cotton, it also remains to be the 5th most exported product from Greece with a value of $590 million.[22] The main destinations for Greece cotton are Turkey, China, Egypt, Bangladesh and Indonesia accounting for 84% of total cotton exports. The raw cotton once exported from Greece is then treated into yarn and spun to create fabrics/clothing which then is imported back into the Western Market.

China is often referred to the factory of the world. The country dominates the world cotton sector, as it is globally the largest importer and producer of raw cotton, additionally, China also is also the largest exporter of treated *woven cotton fabrics.* The graph in fig2 represents the, "*Leading exporting countries of woven cotton fabrics worldwide in 2020 in US dollars"*

[17] IBID
[18] Kourkoutas, K. (2015). On the question of limits : The role of ecotones in the management and reintegration of transforming urban environments : Urban ecotones as territorial indicators and interfaces of urban reconfiguration : An applied study of the urban regional mosaic of the city of Thessaloniki, Greece. .
[19] Region of Central Macedonia Investment Profile (2018).
[20] Kourkoutas, K. (2015). On the question of limits : The role of ecotones in the management and reintegration of transforming urban environments : Urban ecotones as territorial indicators and interfaces of urban reconfiguration : An applied study of the urban regional mosaic of the city of Thessaloniki, Greece. *Tesisenred.net*..
[21] -Odysseas Elytis, Nobel Prize for Literature, 1979
[22] OEC (2020). *Raw Cotton in Greece | OEC*. [online] OEC - The Observatory of Economic Complexity.

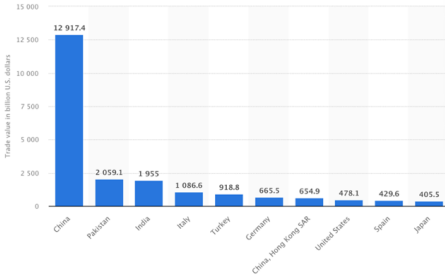


Fig 2 – leading woven cotton exporters, source: (statista.com)

_Cotton World Exports and Imports 2020/21

Leading cotton importers, exporters and producers listed by countries for 2020/21.[23]

World largest Cotton Exporters 2020/21	
1	United States
2	Brazil
3	Australia
4	India
5	Greece
6	Benin
7	Ivory Coast
8	Burkina Faso
9	Uzbekistan
10	Egypt

World largest Cotton Importers 2020/21	
1	China
2	Vietnam
3	Turkey
4	Bangladesh
5	Indonesia
6	Pakistan
7	South Korea
8	Thailand
9	India
10	Malaysia
66	Greece

World largest Cotton Producers 2020/21	
1	China
2	India
3	United States
4	Brazil
5	Pakistan
6	Uzbekistan
7	Turkey
8	Australia
9	Benin
10	Greece

_Chinese Investments in Greek Logistics

China has been actively assembling its own gateways to extend logistics corridors into other regions of the world. United Nations Conference on Trade and Development (UNCTAD) released a figure that China was responsible for over one quarter of the world's exports.[24]

In 2008, state-owned, China Ocean Shipping Company (COSCO) first secured the right to operate through parts of Greece's largest port just outside of Athens, the port of Piraeus. It acquired 51% of the port's Greek state-owned operator in 2016, then increased its stake to 67% in October 2021. In the 10 years from 2009 after COSCO began operating terminals at Piraeus, the port's container volume rose by about a factor of seven to 5.65 million 20ft containers.[25] COSCO declared that it directly employs over 2,000 people at the port and creates about 10,000 jobs overall. The company pays 3.5% of the port's revenue to local governments.

As recent as July 2020, Hong Kong based "China Merchants Port Holdings" also invested in the port of Thessaloniki forming agreements with Port Authority's in order to commercially and operationally promote the

[23] Statista. (2019). *Top cotton exporting countries 2019 | Statista.*
[24] United Nations Conference on Trade and Development, 2010
[25] KIDERA, M. (2021). *"Sold to China": Greece's Piraeus port town cools on Belt and Road.* [online] Nikkei Asia. Available at: https://asia.nikkei.com/Spotlight/Belt-and-Road/Sold-to-China-Greece-s-Piraeus-port-town-cools-on-Belt-and-Road

Port of Thessaloniki in the Chinese market as a gateway to Europe.[26]
With two of Greece's largest ports majority owned by Chinese companies, China acquired not only "a gateway into Europe"[27] but also a gateway into "the highly promising market of Southeast Europe, the Black Sea and the Middle East under Beijing's Belt and Road infrastructure-building initiative."[28]
Concerns have been raised as not only will the logistics gateway bring Asian goods into Europe, but also may import notably poor labour management and practises into Greece.[29] COSCO chairman Wei Jiafu stated at the 2010 conference of World Economic Forum, *"by going global, we are also transferring our culture to the rest of the world."* Since the COSCO investment, poor working conditions in Piraeus along delayed investments have spurred resentment against Chinese involvement,[30] the gateway is reshaping labour relations beyond the Port borders, where private companies are starting to be influenced by lowering labour costs and reducing workers' rights.[31] These tendencies towards the speed of capital are heightened with globalisation of trade relating to the Marxist theory of *'the annihilation of time by space'*, [32] gives an understanding of the drive for productivity in ports, driven by the need to overcome spatial barriers, speed up production and reduce the turnover time of capital.

How does Chinese infrastructural investment impact the Greek cotton industry? As stated, COSCO intends to make the Port of Piraeus the largest port in Europe. Ultimately this would result with a greater amount of tariff-free imported goods coming through Greek ports. For farmers, with the constant decline in cotton prices and stricter E.U growing regulations, and environmental regulating policies and measures enforced, resulting in greater difficulties and pressures forcing cultivators to continue producing at a loss. It emerges that it may be cheaper and preferred by retailers to directly import Asian grown and treated cotton.
The gain of global export and international traction has resulted in separating the ginning sector into two categories, the large, reliable ginners who sell a large percentage of their production and receive top prices from merchants, and the "second division" ginners who are facing difficulties in selling their production with prices usually 3 to 10 cents below market value.[33]
Whereas the Greek textile industry also continues to surfer as more and more textiles are cheaper to import than to create and purchase the locally sourced material. According to the Hellenic Association of Textile Industries, the Greek textile industry has been suffering from increased third-country imports (mainly from China, Pakistan, and Turkey). Adverse implications derived from this, forcing many small Greek companies to shut down. The Hellenic Fashion Industry Association reported that the textile manufacturing industry's turnover was down 30% in 2020 with the decrease of Cotton Yarn exports by 31.8 percent.[34]

Chapter 3
_Trade exchange of the, sustainable' product

Debates about the speed of capital flow and the rate of reconfigured space in the context of the increased global trade continue specifically in critical geography, there is an increasing awareness focused on the reorganisation of global labour in manufacturing. The fashion industry in Asian countries offers a nuanced picture, with high output and low manufacturing costs,[35] unfortunately this remains to be the most prevalent production model dominated by

[26] IBID
[27] IBID
[28] Cowen, D. (2014). *The deadly life of logistics: mapping violence in global trade*. Minneapolis: University Of Minnesota Press.
[29] IBID
[30] KIDERA, M. (2021). *"Sold to China": Greece's Piraeus port town cools on Belt and Road*.
[31] Nick Georgiou, president of the Dockworkers' Union
[32] Marx, K. (1973) Grundrisse, New York: Vintage.
[33] Jim.Robinson (2012). *Demand from China Helps Greek Market Diversity*. [online] Cotton Grower.
[34] Faniadis, D. and Rush, C. (2021). *THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT POLICY.*
[35] Good On You. (2021). *How the "Made in China" Label Is Transforming in Fashion*. [online] Available at: https://goodonyou.eco/made-in-china/.

western brands continuing to outsource to countries like China, Cambodia and Bangladesh.

In February 2020, US denim brand *Wrangler* launched a sustainable cotton programme at the 'Agrotica International Agricultural Fair' in Thessaloniki, Greece.[36] Roian Atwood, senior director of sustainability at Wrangler, commented: *"Wrangler products are made with cotton grown all over the world, so it's important that we help drive the entire industry toward more sustainable production. It's been great to learn from European farmers, to share our research and to unite against major industry challenges, like the loss of valuable topsoil."*[37] The "Wrangler Science and Conservation Program" boast that they collaborate with European farmers to promote sustainable agricultural production, as well as land stewardship practices that advance soil health and traceability in the supply chain.[38]

As Cowen stated, Modern capitalism has eroded the "distinction between production and distribution", and consequently, "it is misleading to think about a singular site of production. Commodities today are manufactured across logistics space, rather than in a singular place."[39] For instance, looking at a pair of Wrangler jeans, the production can be traced back from the cotton fields of Greece. Where the cotton is firstly grown, harvested and ginned before being packed into containers exported as a raw bale through the port of Thessaloniki before being transferred into a textile spinning mill in Dhaka, Bangladesh. Once the cotton has been woven and treated, the dying process proceeds. Subsequently the material is then manually stitched and sown in dreaded working conditions. Once this process is complete, the jeans will be sent for inspection before being packaged into another shipping container to Europe or America to be sold as sustainable Greek cotton jeans.

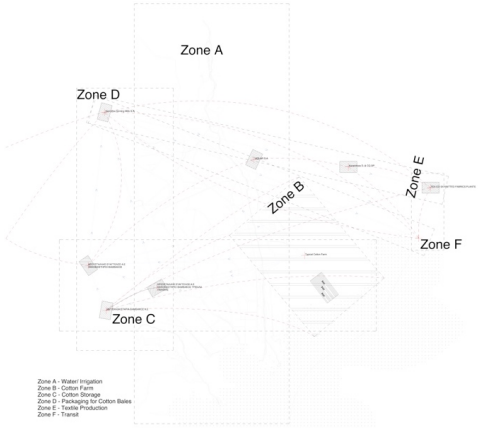
Fig 3 – Trade routes for a pair of jeans from Thessaloniki port – Dhaka and back into the western consumer market.

[36] BOTTOMLEY, T. (2020). *Wrangler launches sustainable cotton programme in Europe | The Industry Fashion*. [online] https://www.theindustry.fashion/. Available at: https://www.theindustry.fashion/wrangler-launches-sustainable-cotton-programme-in-europe/

[37] IBID

[38] Wrangler Company Statement, February 2020

[39] Cowen, D. (2014). *The deadly life of logistics: mapping violence in global trade*. Minneapolis: University Of Minnesota Press.



Stages of Greek cotton to product.
_The Cotton Farmer/Cultivator grows crop in Macedonia
_Cotton ginned at, Giannitsa Ginning Mills S.A.
_Raw cotton bales packaged into shipping containers
_Containers transported to the port of Thessaloniki
_Containers shipped to Port of Chittagong, Bangladesh
_Cotton spun in Dhaka
_Woven material sent to, Chittagong Denim Mills, Dhaka
_Jeans exported from Dhaka
_Jeans enter the western market to the general consumer.

Fig 4 – The route and destinations for raw cotton. Majority going through the transit zone.

Where interestingly, Wrangler have pledged since 2017, that the Wrangler Science and Conservation Program, an alliance of industry experts, pioneering farmers, and non-profit partners that would sponsor and research into promoting healthy farming practices, creating a regenerative cotton supply. Wrangler have made no statements into the notion of investigating bad practises that continue to occur in denim factories located in Bangladesh. Employees of denim factories are subjected to poor working conditions with no ventilation, inhaling in toxic substances and working in unsafe buildings. It is prone for accidents to occur in textile production factories.[40] Coming back to the theory of '*the annihilation of time by space*", as Marx writes, '*even spatial distance reduces itself to time; the important thing is not the market's distance in space, but the speed – the amount of time – with which it can be reached.'*[41] In the end capital wins. The time scale it takes to produce textiles working in unregulated conditions in developing countries and is a fraction in both time and money as it would take Greece.

[40] Charpail, M. (2017). *What's Wrong with the Fashion Industry?* [online] Sustain Your Style. Available at: https://www.sustainyourstyle.org/en/whats-wrong-with-the-fashion-industry.

[41] Marx, K (1973) Grundrisse, New York: Vintage.

_Conclusion
_What Is the Future of Greek Cotton?

The net income of the cotton farmers would considerably decrease without the presence of direct payments from the CAP. Cotton producers are supported by means of "coupled payments" and "decoupled payments". Coupled payments account for 35%, meaning the cotton farmers must adequately produce an agreed amount of cotton in tonnage in-order to successfully receive a support grant.[42] Due to the current fiscal deficit within the EU and the move towards free markets, the EU has considered altering CAP support schemes for cotton farmers. A result of this could lead to a shift in cultivation patterns of cotton farmers and may even shift to cultivating alternative crops.[43]

Greece has the potential to remain being one of the world's largest cotton exporters with the necessary support schemes in place, however with the increase with labour and production costs, farmers are becoming caught in-between the international market, where cotton is grown and produced at a fraction of the price.
The Greek product can also be seen as attractive option for brands and corporations that want to invest into a cotton where labour and environmental laws are more stringent in accordance with EU labour and environmental regulations. However, as Cowen writes, "the new international division of labour, offshoring, the rise of tariff free workshops and the phenomenon of runaway factories." These all present the increased profiteering that organisations amount to by sourcing and manufacturing in low-wage regions, exploiting the uneven geography of wage, social protection, and labour regulation.[44] This leaves it unlikely that cotton/fabric manufacturing could potentially scale-up to compete against the Asian textile market, where brands such as Wrangler will continue to promotively use 'sustainable cotton' against sustainable manufacturing practices.
Undoubtedly, debates have been generative, allowing for a more nuanced conception for the production of material in relation to the global era of trade.

[42] Koufos, N. (2015). Factors Affecting the Impact of the CAP: The Case of Greece.
[43] Konduru, S., Yamazaki, F. and Paggi, M. (2013). *A STUDY OF THE IMPACT OF COMMON AGRICULTURAL POLICY OF EU ON PRODUCTION OF COTTON IN GREECE: IMPLICATIONS FOR U.S. COTTON EXPORTS.*

[44] Cowen, D. (2014). *The deadly life of logistics: mapping violence in global trade*. Minneapolis: University Of Minnesota Press.

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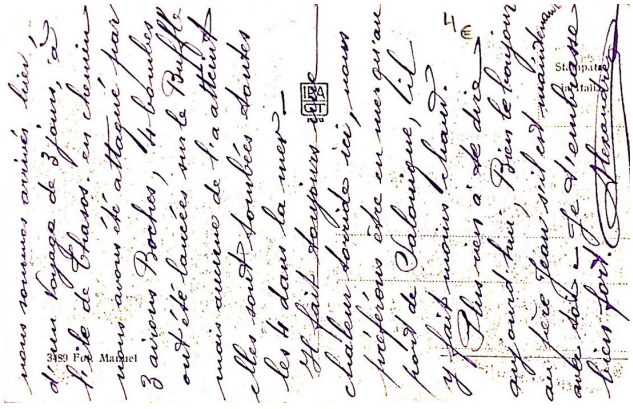
Le 14 Août 1917.
Alexandrie
SALONIQUE - Cérémonie "Bénédiction des eaux"


nous revenons arrivés hier
d'un voyage de 3 jours et
1/2 de Chaos en chemin
nous avons été attaqué par
3 avions Boches, 14 bombes
ont été lancées sur le Paquet
mais aucune de n'a atteint
elles sont tombées toutes
les 4 dans la mer —
Il fait toujours très
chaleur toutes ici, nous
espérons être en vue qu'au
bout de Salonique, il
y fait meilleur chaud?
Plus rien à te dire
aujourd'hui. Bien le bonjour
à ton beau-père et maman
aux deux — Je t'embrasse
bien fort. Alexandre
3189 F.F. Marcuel
St-Cyprien
(Dordogne)

ARCHAEOLOGY OF NOSTALGIA

A SPECULATION OF A NARRATIVE

Dave Hin Hung Chan

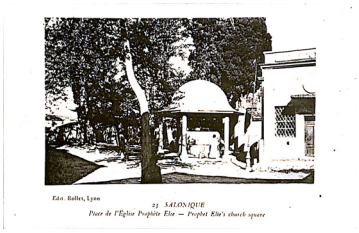
PROLOGUE

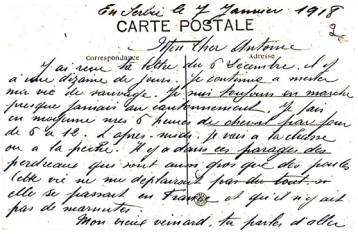
Before going into my research, I have a struggle about the typical approach on the study of a city. The scientific approach of collective mapping for our group, defined as the large-scale mappings and the study of operational systems in the city, is limiting for me. For the border map, it is about the relationship between the city and the water in an urban sense, while for the territory map, it describes the system of the controlling and the controlled. Both are less significant in experiencing the daily life in the city. In the maps under such an approach, only the basic relationships among different organizations and places are being constructed, meaning that this top-down study could not truly reflect ones' potential experience in the city. The study on the urban fabric is important to understand the systems of a city, yet architecture is more about the spatial experience of the individuals for me. Looking at the city from an outsider's perspective, we have developed our collective mappings, and understood parts of the systems that operate the city. However, one could not know the atmosphere, the potential, and the experience of living inside the city due to the limitation.

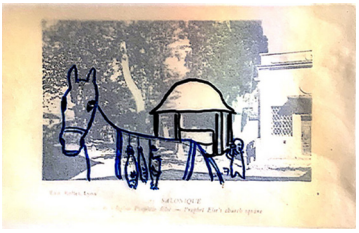
I seek for an approach that aims to construct an experiential understanding of the city from an outsider's point of view, which is an outsider of the city as well as a strange outsider from the typical outsiders that study through scientific approaches. As a result, I resort to my personal indulgence on Nostalgia. "The Greek word for "return" is nóstos. álgos means "suffering." So nostalgia is the suffering caused by an unappeased yearning to return." Nostalgia refers to a process of recalling a relatable experience of an individual, which defines ones' intimate relation between objects and experiences beyond the logical relation of functionality. The process contains not only the strong feeling of sadness but also pleasure, longing for return to an intimate moment or a desired place revealed by certain conditions such as the objects. No matter an experience is referring to a specific event or a general practice, the emotion attachment as well as the experience are always personal. Therefore, this study is more than the collective memories of a place.

On the other hand, Archaeology is introduced as an insight into the topic to create the connection between the individuals, the city, and the experience. Archaeology refers to the study of material culture, such as remnants and mementos, to reveal the potential experience associated with different objects. In my case of archaeology, different objects are in juxtaposition, neither according to the urban context nor the historical or social layers, like the objects an archaeological site, yet a subtle relationship is embedded. The speculation could generate the potential relationship(s) among the objects. Whether the result might or might not be the reality is irrelevant in the research since the process of speculation, it illustrates a parallel imaginary reality parallel from the reality that we live in. In some cases, they could intersect, in the reality of the past, the present or in the future. Therefore, based on a series of Archaeological speculations, it reveals different potential experiences that are bound to the objects in Thessaloniki, in particular the various situations, interactions, tensions, and visions, hence defining an experiential interpretation besides scientific interpretation.

In my research, I study through the experiential understanding of the city to define what could happen in the city and what the city could be like as my interpretation of the city.

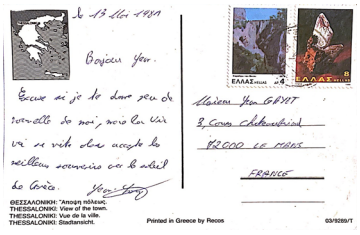

Edit. Ballet, Lyon
23 SALONIQUE
Place de l'Eglise Prophète Elie — Prophet Elie's church square


CARTE POSTALE
Correspondance
Adresse



SALONIQUE - Cérémonie "Bénédiction des eaux"

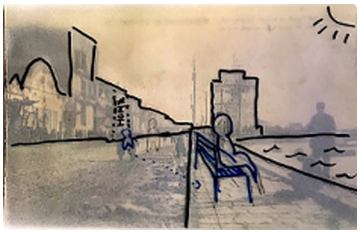
Thessaloniki


ΕΛΛΑΣ
ΘΕΣΣΑΛΟΝΙΚΗ: Άποψη πόλεως.
THESSALONIKI: View of the town.
THESSALONIKI: Vue de la ville
THESSALONIKI: Stadtansicht.
Printed in Greece by Recos
03/9288/T

Thessaloniki

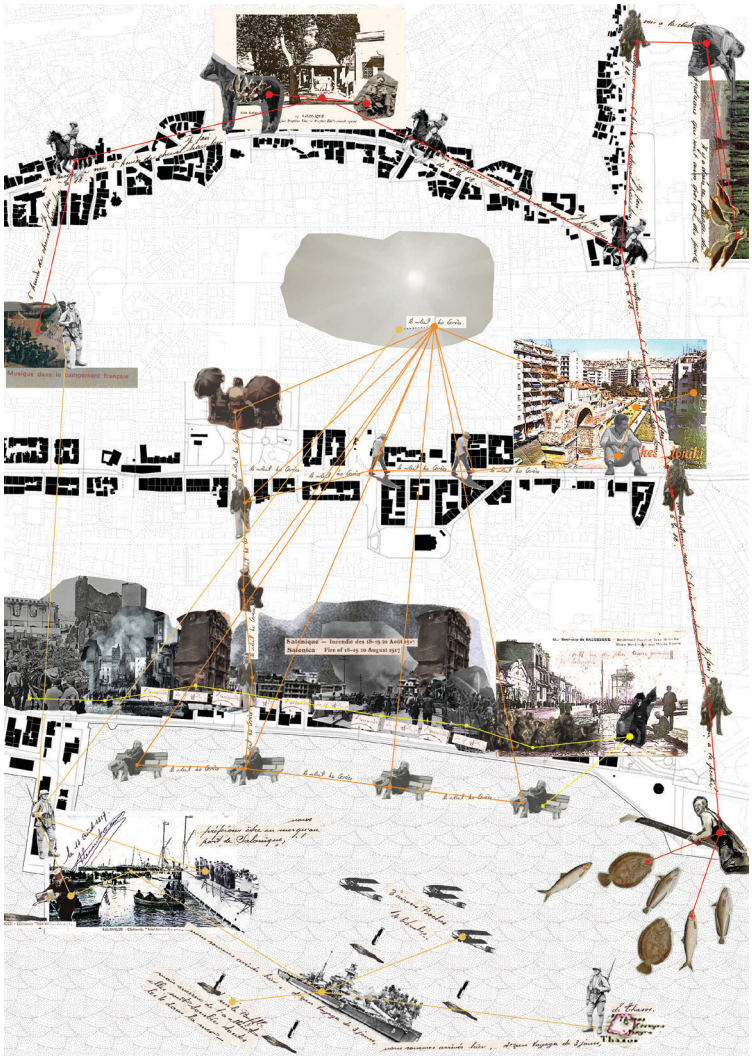
11.- Souvenir de SALONIQUE — Boulevard Square et Tour Blanche
Nikis Boulevard and White Tower

CARTE POSTALE
CORRESPONDANCE
ADRESSE
Edit. Papeterie Tchaousi, Salonique



The city is not studied as what it looks like but is interpreted as what it could be.

A potential city speculated from the postcards



AN IMAGINARY REALITY

The research starts with speculating the postcards. These postcards were sent to different nations from Thessaloniki in different periods and collected by an antique shop in the city. The text written at the back juxtaposes to the image in the front, which suggesting a story of the writer about how they might experience in the city. Through the speculations, the idea of an imaginary reality of the city has been established, which provides the basic ground to study the city away from the limitations of reality such as the location and time. Thessaloniki is not studied as what it looks like but is interpreted as what it could be. It looks at the potential activities and the situations in the city. Also, it leads to the understanding that each object suggests multiple experiences that one may have, such as one could see a fountain as a ruin, a public facility, religious object, etc.

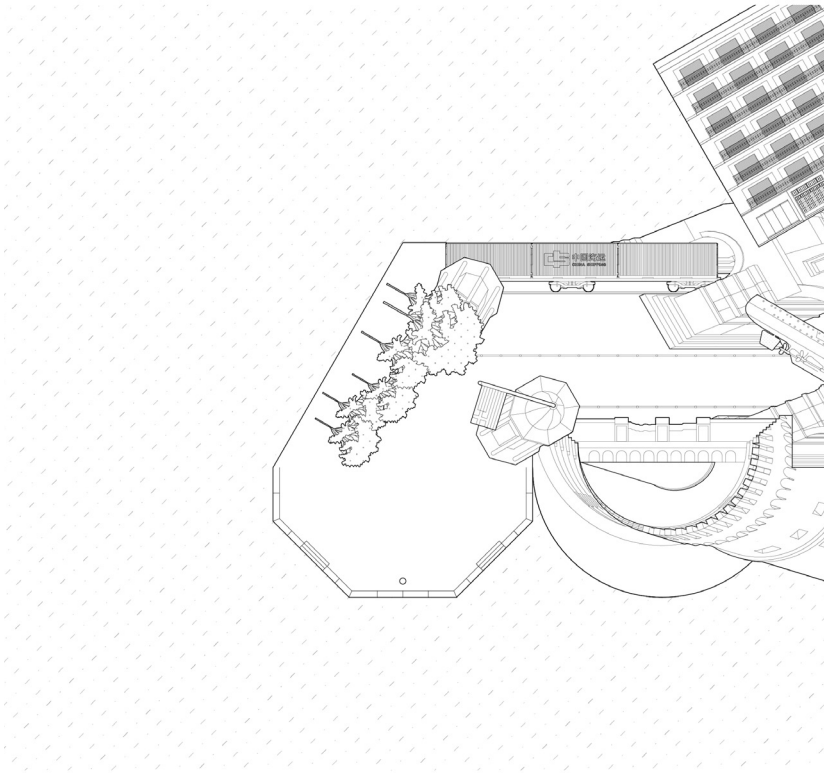
The collage mapping (left) illustrates the preliminary interpretation of the city as well as the idea of an imaginary city of Thessaloniki as the foundation of the research. The research explores not only the city itself but also the approach of archaeological speculation in a conceptual way.

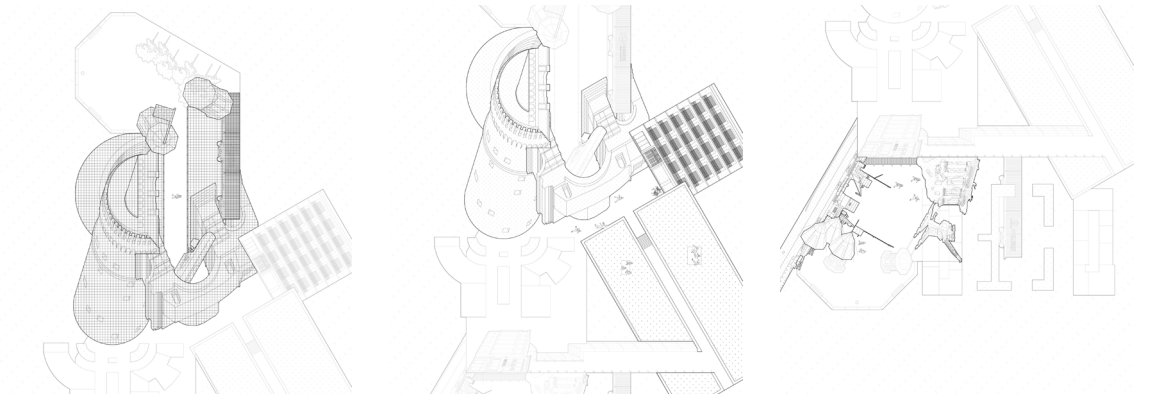
Based on the idea of an imaginary city, different objects and scenario from the postcards have been gathered in the drawing to create an imaginary archaeological site of Thessaloniki as a sandbox to explore different potential scenarios and situations in the city. The objects confront one another in an arbitrary manner similar to an archaeological site. Then, the relationships among the objects are speculated to reveal a variety of potential situations in the city.

In order to generate a more comprehensive interpretation of the city, additional objects from the reality are introduced in each phase of archaeological speculations by association, like a segregated situation could associate the segregated old train station. Furthermore, the additional objects also suggest multiple experiences, which allow more possibilities for speculation.

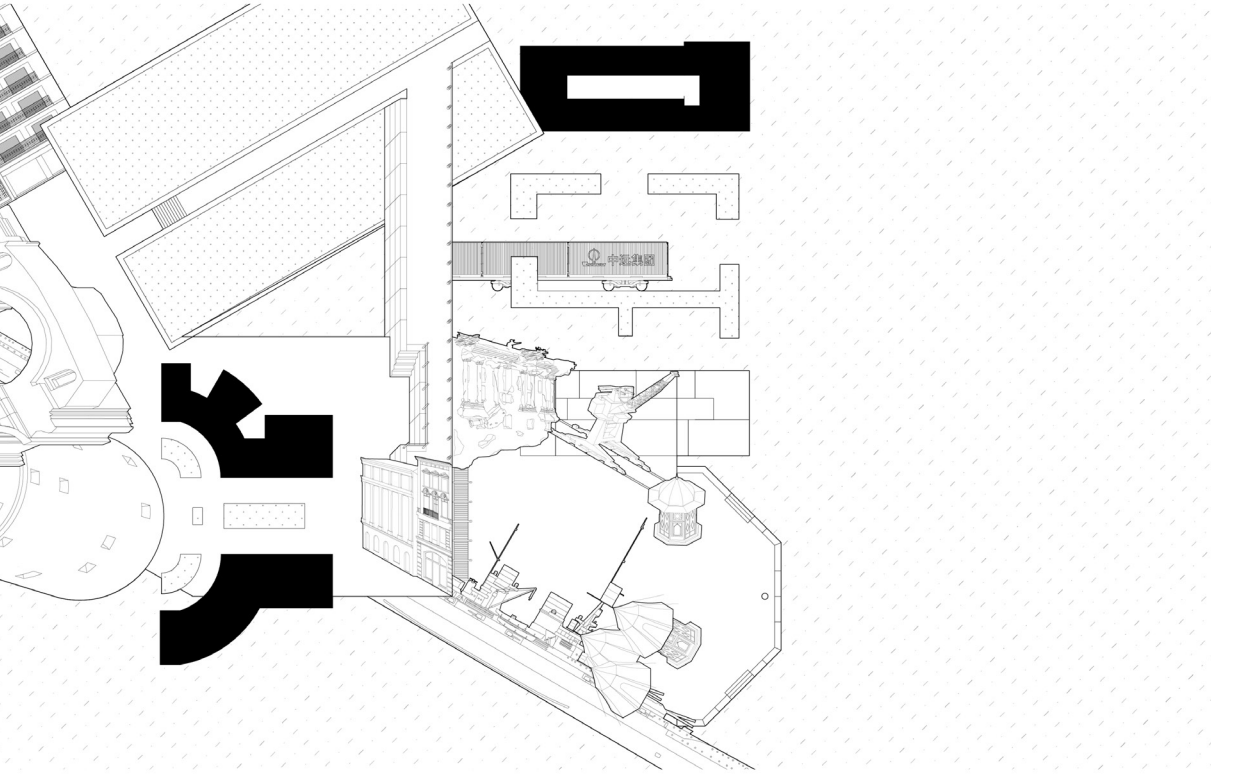
The speculation of the city as well as drawing for exploration are a continued process due to the unlimited input of the materials and the infinite possible relationships speculated, which defines the drawing as, instead of a final and explore more topics and scenarios in the city.

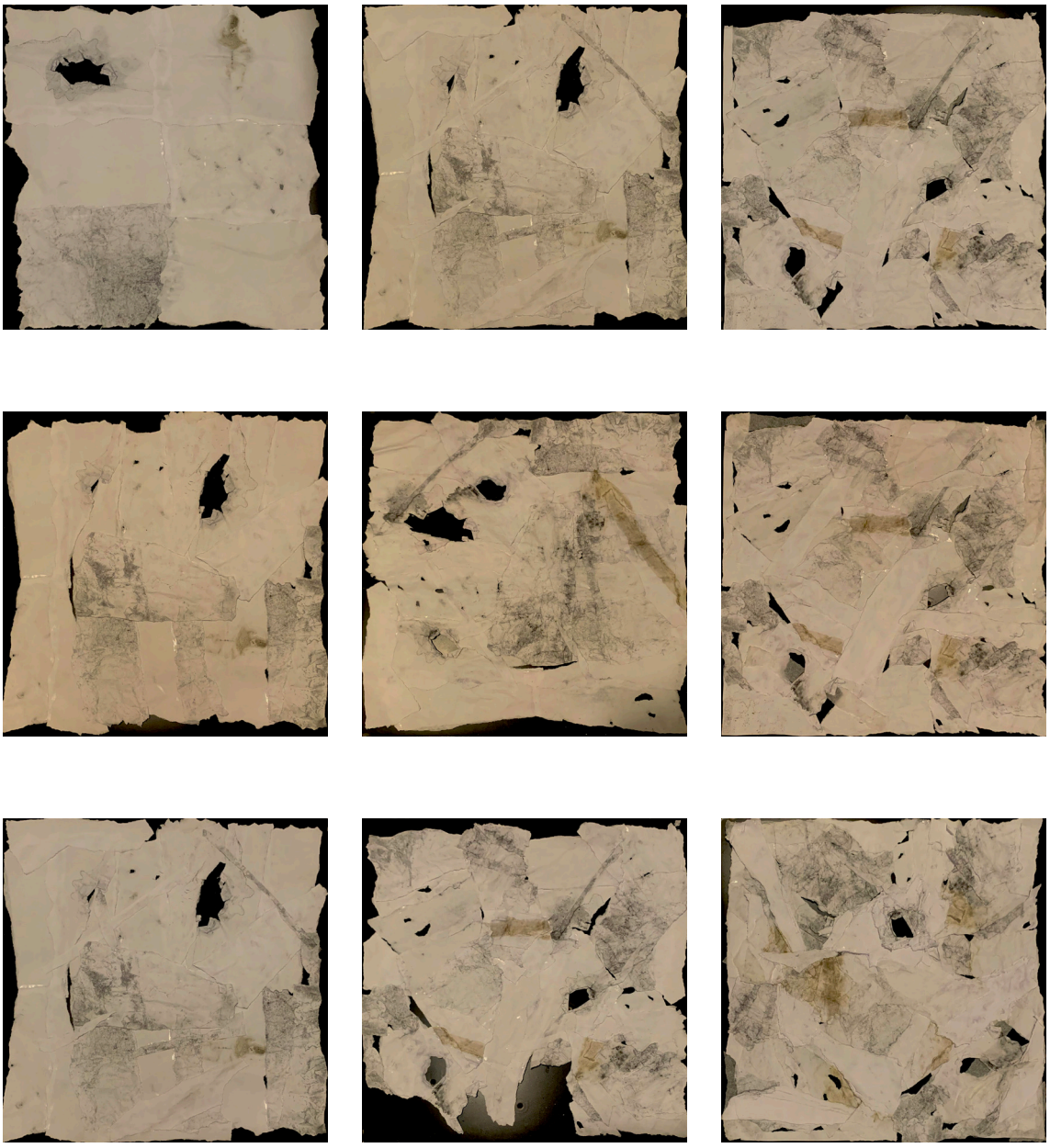
An Imaginary Archaeological Site of Thessaloniki





Some selected situations, Segregation in the city / Public Space along with Segregation / Industry as Shelter

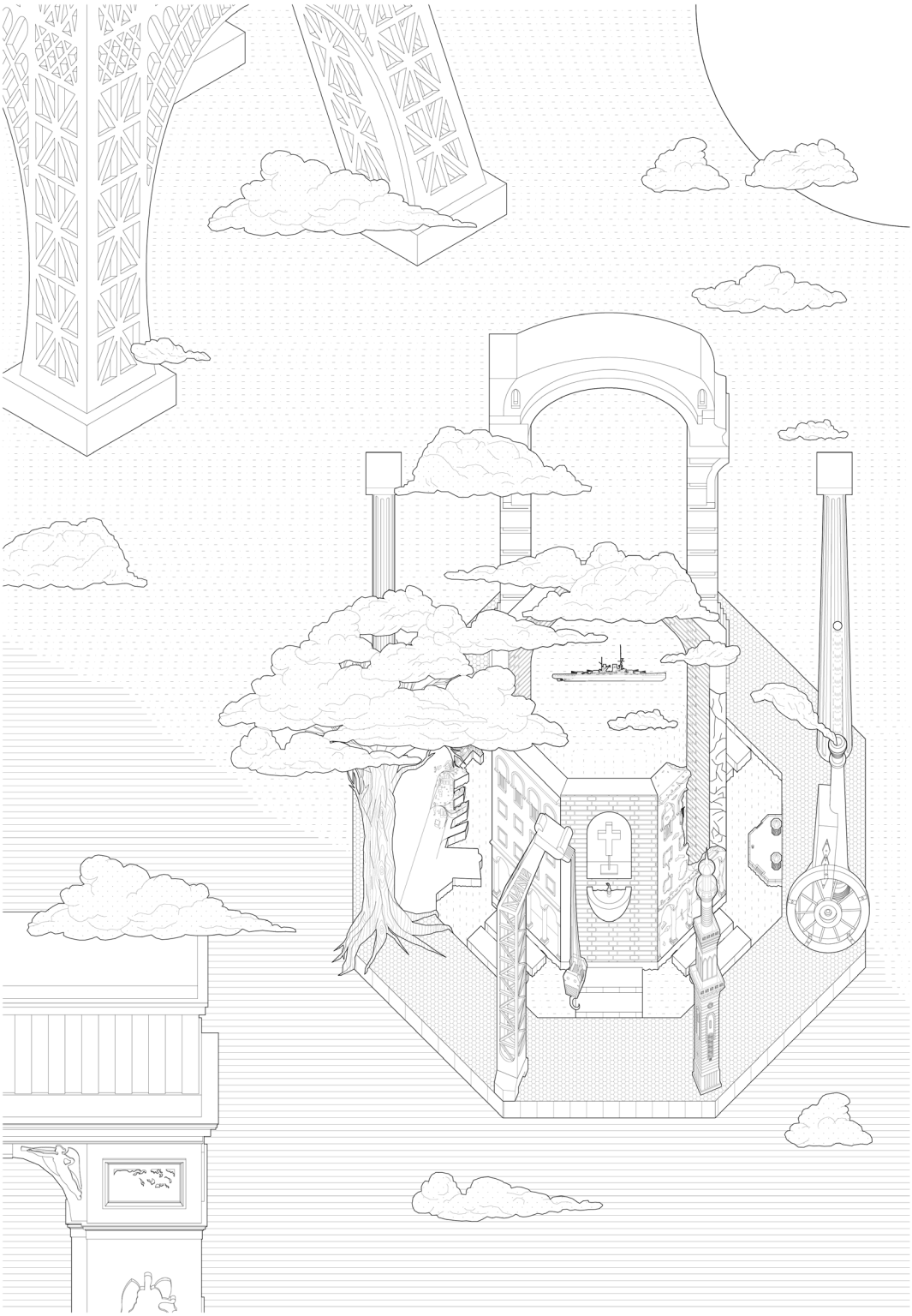




Evoluation of the Paper Model

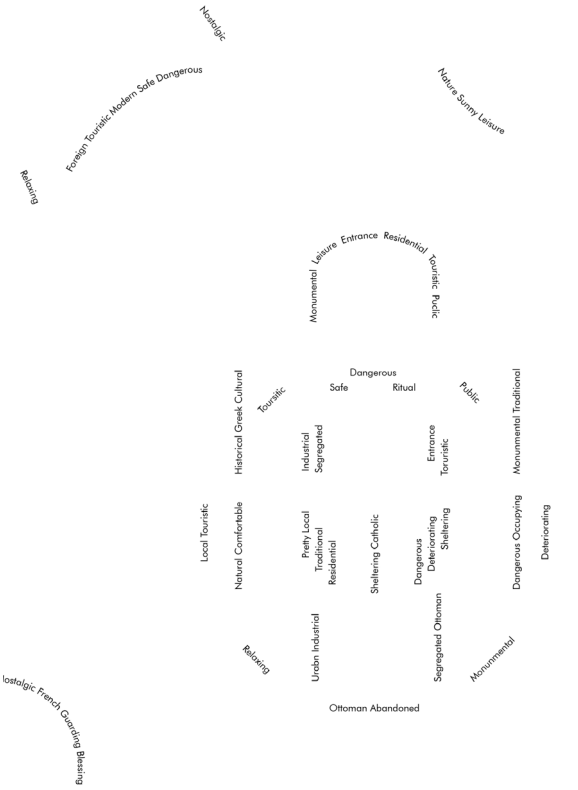
MODI OPERANDI 1

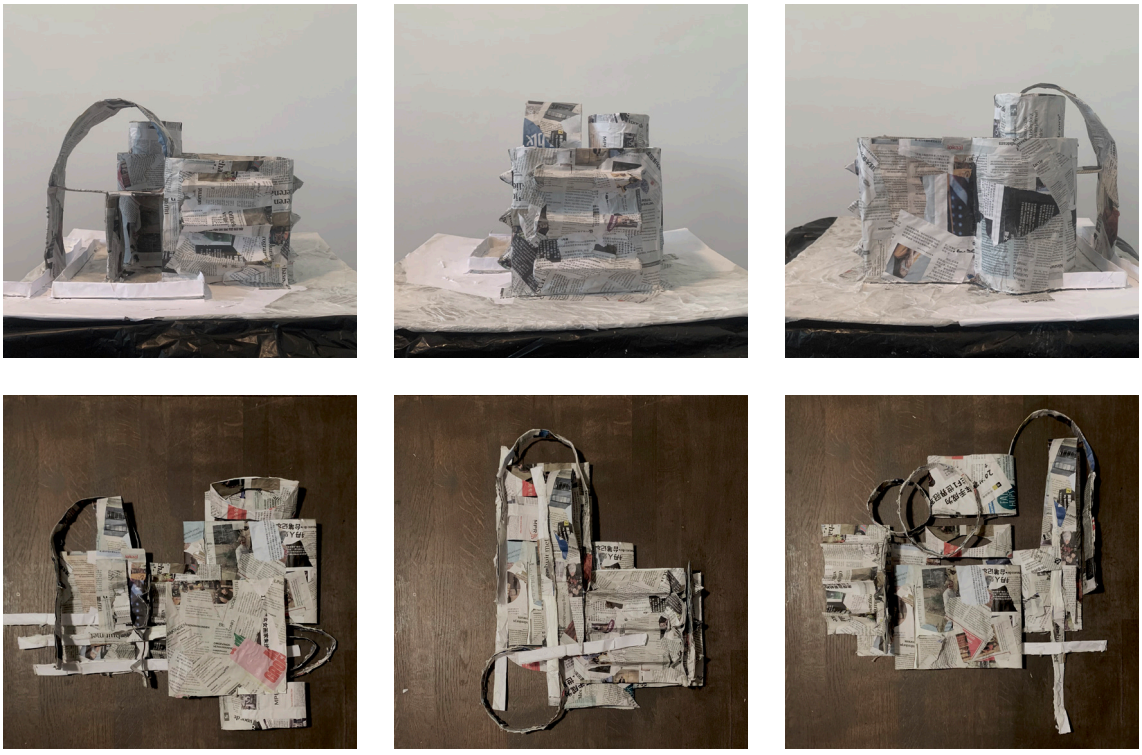
To explore the conceptual understanding of the research, Modi Operandi model 1, in an abstract sense, maps out the primary experiences in the postcards through textures and colors of the paper with regards to the locations. By demolition and reconstruction of the paper model over and over, it defines the interpretation of the city not as a series of individual events and objects but a complicated mixture of experiences that are interwove. The model demonstrates the multiple layers of the city, which generates contrast and interaction.



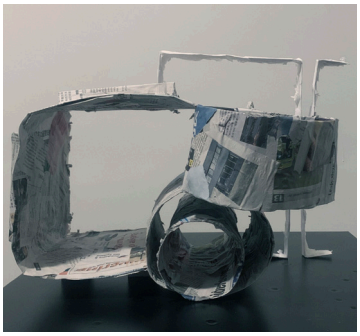
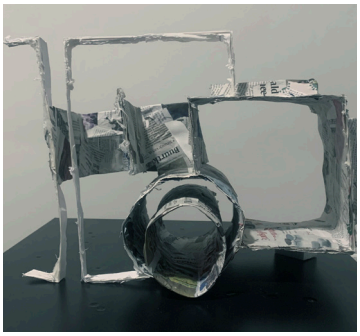
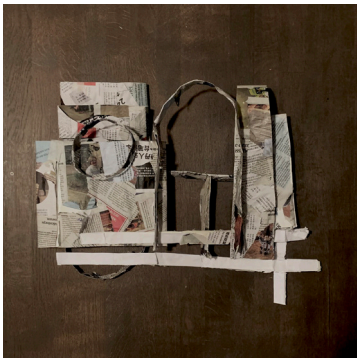
WUNDERKAMMER OF THESSALONIKI

For moving on to the design proposal, the research is concluded as a Wunderkammer of Thessaloniki. It reveals my interpretation of the city as a complex entity. It is not understood as the urban fabric but an object, fountain. Within the fountain, it gathers a series of objects from the city, which represent different situations as well as perceptions in the city. They narrate the tensions and the interactions of Thessaloniki, such as the occupation by Ottoman and Greece. This is not the absolute conclusion for the interpretation but an organisation of what is valuable for me in this research to process to design stage. The findings of what the city could be is important, yet the most crucial part of this study is the definition of an experiential understanding of the city, which alters the way one could read a city, in short, the narrative among objects, spaces and experiences through the archaeological speculation.





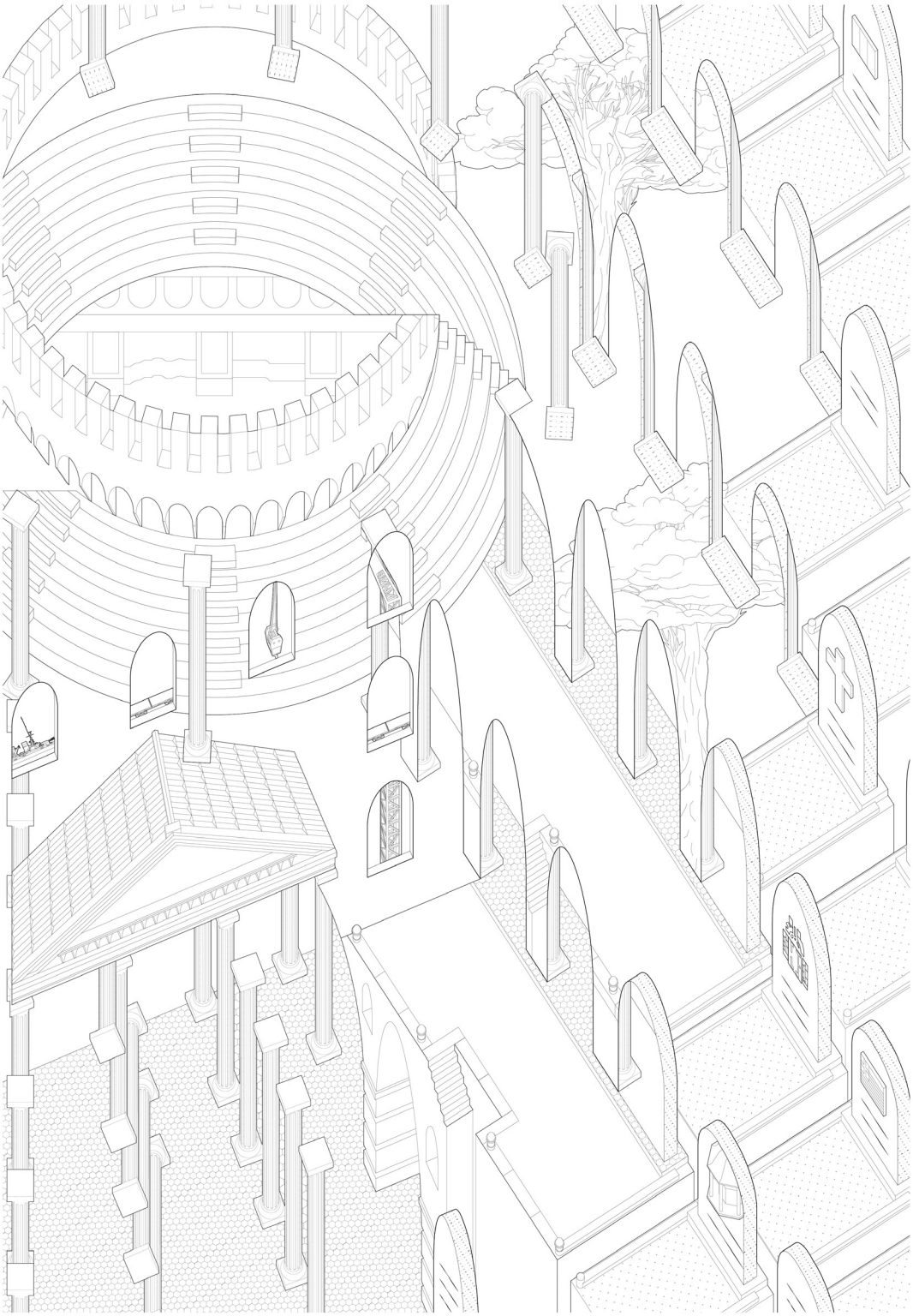
Six Perspectives of the Models and Respective 2.5D models

MODI OPERANDI 2

Modi Operandi 2 explores the speculation of forms, spaces, and programs. By taking the forms of the objects, the image of Thessaloniki has been created as the starting point. The model is then dismantled into geometries and furthermore recreated the 2.5D models according to the six perspectives of the 3D model. Activities and programs have been speculated in the six models based on the forms and spaces embedded. The results of the programs are less significant, but the narrative between forms, spaces and functions has been explored, which defines my architectural intervention as a narrative tool among these aspects and the sites.

Narrative of an Illusion of Thessaloniki



DESIGN PROPOSAL

For the design proposal, I propose the pavilion(s) as my design after the exploration in the drawing and models. The pavilion is not a stand-alone program but a temporary add-on to the chosen spaces and objects. It is a tool to alter the original experience of those chosen elements to narrate the idea of an imaginary city, in hope to provoke a criticism of reality. Hence, the ability of a program in transforming the research finding into the architecture through narrating and proposing an alternative usage is crucial. Since both the program and the research suggest a sensational and general understanding of the city, the program should not be limited to any specific site and everywhere in the city could be the site. The design approach would focus on Appropriation and Displacement, which are derived from the finding. The former refers to an alienated program that is adopted in a space with an unrelated experience, while the latter refers to an alienated object, in terms of forms, textures or spatial arrangement, that is located in a space with contradicting experience. Both objects/programs and the spatial experience could be defined from the findings of the drawings. This approach could create tensions and interactions to question the space and further alter how one could experience in the space.

The drawing (left) illustrates the key design approach with regards to the ability to narrating a potential Thessaloniki.

THEORY PAPER

ARCHAEOLOGY OF NOSTALGIA

Dave Hin Hung Chan

Prologue

"When I design buildings, I think of the overall composition, much as the parts of a body would fit together. On top of that, I think about how people will approach the building and experience that space, "said Tadao Ando.[1]

Analytical research from a top-down approach to create a generalised understanding of a site limiting. For Thessaloniki group research, the mapping approaches for the collective border and territory mapping basing on cause-and-effect study is found to be limiting for understanding the site, in the way that emotionless study could not reflect ones' experience in the city. The site is analysed from the large-scale mappings as well as from the inanimate data of the governing systems. Only the basic relationships among different organizations and the places have been constructed. The study on the urban fabric is important to understand the systems of a city, yet architecture is more about the spatial experience of the individuals for me. Looking at the city from an outsider's perspective, we have developed our collective mappings, and understood parts of the systems that operate the city. However, one could not know the atmosphere, the potential, and the experience of living inside the city due to the limitation.

My personal indulgence on Nostalgia could be a breakthrough in understanding of the site through an experience-driven perspective. "The Greek word for "return" is nóstos. álgos means "suffering." So nostalgia is the suffering caused by an unappeased yearning to return."[2] Nostalgia refers to a process of recalling a relatable experience of an individual. The process contains not only the strong feeling of sadness but also pleasure, longing for return to an intimate moment or a desired place. The experience is neither limited to only a period, a space, an object, a person, or a climate condition. No matter an experience is referring to a specific event or a general practice, the emotion attachment as well as the perspective on perceiving are always personal. Therefore, this experience is more than the collective memories of a place.

The idea of Nostalgia could be examined through an archaeological study of material culture in terms of Remnants and Mementos. Through collecting relatable objects, it reveals the memories of individuals, which is an intimate experience bound to certain environments in the past. As the aim of the study is not only revealing the collective memories but also discovering the tension between perspectives in the same place. When the tension between the two is generated, it raises questions about how city could be perceived.

In order to go beyond the limits of looking at the city from an outsider's perspective, the theory paper will investigate Nostalgia from an archaeological perspective, with the hope that an approach in perceiving the nostalgic experience in a site could be defined, to derive a unique and psychogeographical perspective to examine the site, through the exploration of the questions:

What does Nostalgia mean to a site?
How could a nostalgic experience be explored and narrated?
What is the impact of Nostalgia to a place?

They could help inform social and political issues and phenomenon in a specific study area, and establish a set of guidelines on research of the area through the immersive perspectives of the individuals, and furthermore, found the base of the design.

Section 1 – Perception / Nostalgia

What does Nostalgia mean to a site?

Nostalgia is a process of recalling a personal experience of an individual. The experience is revealed through the mementos from the site. The individuality allows multiple interpretations that is psychogeographically bounded to a site as an alternative reading of the site.

My argument on Nostalgia should start from a French movie, Amélie. In this movie, nostalgic objects act as a medium to reveal the perception of the individual. It is shaped through experiences, not only limited to the history but also a practice, an image or an event that could be attached to a certain place, a certain period, or a certain person. Here is a quote of the narrator from the movie:

"Amélie's favourites things: Looking back at the audience in a dark theatre. The details in films that no one else sees. Skipping stones. Dipping fingers into a sack of grain. Cracking the top layer of crème brûlée. Surprising strangers by returning something they'v lost."[3]

It is a story about a shy girl, Amélie Poulain changing the lives of strangers, at the same time changing her isolated life. From the quote, a series of Amélie's obsession is described that create a relationship between places and objects, so it tells the stories of what Amélie experienced. The last thing described is the main plot of the movie. By a process of discovering and understanding of the stranger with the nostalgic object, it generates a narrative among the memory, the object, and the space. The moment of the sudden encounter between the owner and the object becomes the climaxes of reading the person, that a complete story of a person is exposed, and further, an individual perception for examination an object is introduced, like the discarded photographs could be not only a matter of good or bad but also a ritual, an error, or a practice from maintenance. Regarding the perception of experience as a product of Nostalgia, it offers unique lens to speculate about different objects and places.

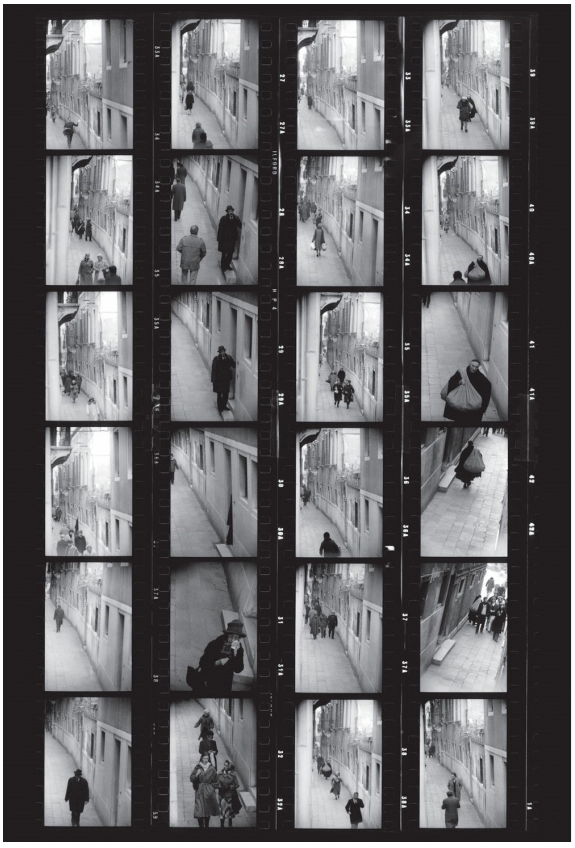
Nostalgic Objects of a boy found by Amélie

1 Robert Ivy. The Spirit of Modernism. (Architectural Record,2002).

2 Milan Kundera. Ignorance. (Faber & Faber, 2020).

3 Amélie, directed by Jean-Pierre Jeunet (UGC Fox Distribution, 2001).

Extracted from *Suite Vénitienne* by Sophie Calle, 2015



Thursday. February 21, 1980.

9:00 a.m. I ring at Dr. Z's house. The cleaning woman opens the door for me. She's the only one home. She was told to take me to the guest room upon my arrival. She leads me there. With my Leica equipped with the Squintar, I approach the window. I am just a few meters from the entrance to Casa de Stefani. I wait for him, bent over. From time to time I photograph passersby.

If I see him going out, I will not follow him. I want only to watch him one more time in hiding, photograph him, but I wouldn't want to annoy him, displease him.

10:00 a.m. A young man rings at Z.'s house, drops off an envelope, then leaves.

11:30 a.m. I give him one last chance: I count to one hundred, he doesn't appear, I leave.

Noon. I wander around Piazza San Marco.

During the afternoon I photograph Calle del Traghetto, section by section, on each side. A desperate gesture. But what to do?

This evening I will try not to go near him. I'll rest; I'll forget him for a while. My day has passed in bewilderment. Am I giving up?

I go to bed early.

The nostalgic perception of ones is strongly related to a specific location. The experience is bounded to a variety of conditions, including the site being perceived and the one perceiving. I refer to Psychogeography as the fundamental concept to understand the perception with a site. According to Guy Debord, "Psychogeography could set for itself the study of the precise laws and specific effects of the geographical environment, consciously organized or not, on the emotions and behavior of individuals."[4] The practice of psychogeographical study is mainly but not limited to Dérive. Indeed, it emphasises on the exploration of the urban setting through unexpected scenario. In this case, Berlin's Kottbuser Tor, as psychogeographically mapped by Larissa Fassler, is a precise demonstration as a psychogeographical investigation of a site. She documents the ethnography of the place through the practice of everyday life in the neighbourhood along with the geography of space. The map reveals the site is worked in the way not how it was architecturally designed but how locals adapt and modify the built environment. The site is no longer perceived in a top-down typical approach of how space is designed but, in an experience-driven approach of how space is used.

In my research, the study approach will be a Psychogeographical study grounded on the Perception of nostalgic experience. This approach provides an unusual direction to have a new understanding of a city not from what objects there are but from how they could be. Additionally, a third precedent, Suite Venitienne by Sophie Calle on joint Perception and Psychogeography is referred as a supplement to explore the potential of interpreting a city through the perception of nostalgia. The photographer started the journey with meeting a stranger at a party and decided to follow him to Venice secretly. She records what she did for following this man in terms of photographs and diary. With the intention of pursuing the man, she explores the city through the experiences of the man as well as the experience of her following. The book becomes a nostalgic object for her about her experience in Venice. A clear relation has been shown between the places she explored and the experiences (emotions, practices, events) of her and the man, though the records of different dates. Piazza San Marco is one of the important intersections that she met him, talk to him, separated from him, etc., which the Piazza becomes a psychogeographical place for her to connect to all the other places in Venice.[5] Nostalgia could arise a psychogeographical interpretation of places beyond the physical objects of the place.

4 Guy Debord. Situationist International Anthology; Revised and Expanded Edition. (Berkeley: Bureau of Public Secrets, 2006), 8-11

5 Sophie Calle et al., Suite Vénitienne (Los Angeles, Calif.: Siglio, 2015).

Section 2 – Narrative / Archaeology

How could a nostalgic experience be explored and narrated?

Archaeology is the study of material culture in terms of Remnants and Mementos. Through the lens of the collection of relatable objects, it reveals the stories of individuals, which is the intimate experience bound to a particular environment in the past. Offering the insight into the relationship between Nostalgia and a place in the previous chapter, I am exploring different Archaeological approaches to develop a narrative method for the memories bounded to a situation. Therefore, a variety of precedents about storytelling is referred. They have different focal points as well as interests on the narratives, providing a range of illustrations in digging out a story behind the spotlight.

The first reference, Mobile Museum, demonstrated how objects could be understood differently through the perspectives of the locals. The artist Verity-Jane Keefe made used of a former mobile library van to create a library of memories about the locals of London living in the estate on the periphery of east London. She looks at the memories from the perception of the locals, which she gathered the memorabilia from the neighbourhoods such as the building materials, posters as well as the building forms of the estates. The objects are like jargon that exclusively known by the locals, thus, reflect the identity of the neighbourhoods. By the way of the van and exhibition, she tells the stories of these estates to the outsiders. The objects in her case are not seen as objects but a representation of the experiences in the site. The archaeological approach for this example is experience-driven that she collects what the locals perceive every day, providing an intimate relationship between the perception and the site.[6]

Walid Raad, a media artist, also has a similar approach on exhibiting his photography collection, Let's be honest, the weather helped in 1998 on The Atlas Group. Instead of examining the objects from the perspective of the individuals, he studies the objects in an analytical way to reveal how individual objects generate a narrative collectively. In this collection, he collected bullets and shrapnel, marked where he had found them on the photographs. Through his mapping of various color coding of shells and cartridges, a narrative of seventeen countries and organizations supporting the ammunition for the fighting in Lebanon has been revealed. For Raad's mapping, the objects themselves explain nothing but the location and types, however, composing these mapping into an archaeological study of where they come from and go to, the objects narrate a story about the supplier and victims of the fights. Consequently, a perception about the objects, the site and the experience has been shaped.[7]

6 Verity-Jane Keefe, "The Mobile Museum", 2016, https://www.themobilemuseum.co.uk/home.

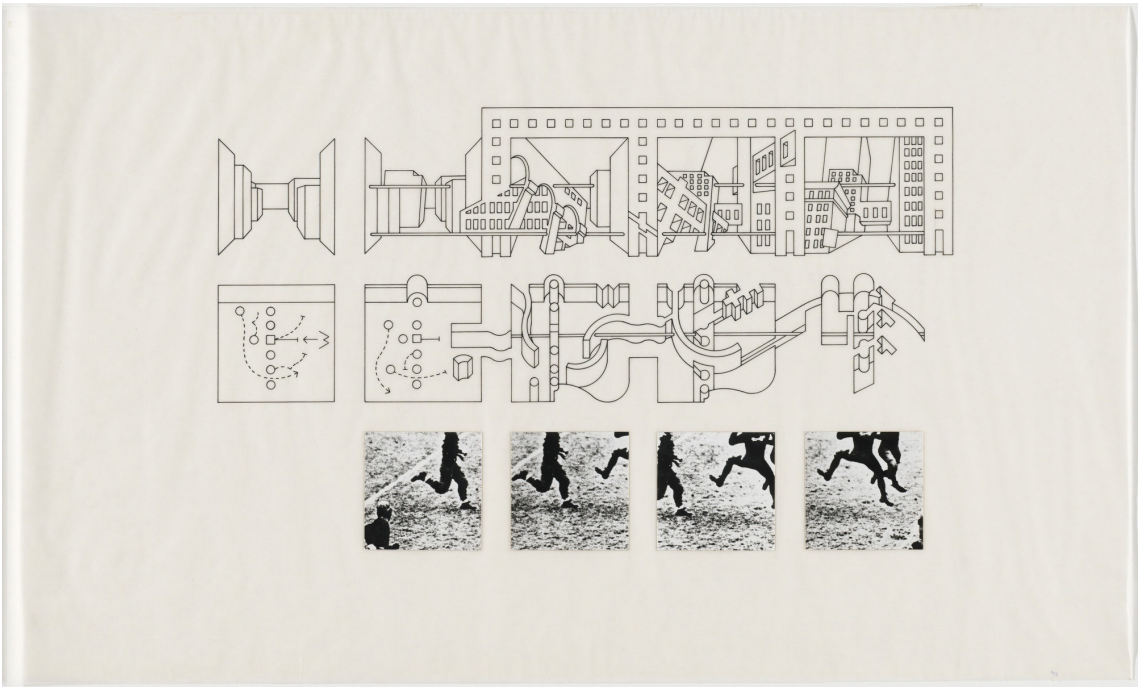
7 Walid Raad, "Let's Be Honest, the Weather Helped," The Atlas Group, 1998, https://www.theatlasgroup1989.org/weather.

8 Tate, "Jeff Wall: Room Guide, Room 1," 2012, https://www.tate.org.uk/whats-on/tate-modern/exhibition/jeff-wall/jeff-wall-room-guide/jeff-wall-room-guide-room-1.

The Destroyed Room by Jeff Wall, 1978

I look into The Destroyed Room by Canadian artist Jeff wall in 1978 as my third reference on archaeological narrative to understand how unrelated objects create a pre-existing narrative. Unlike the pervious examples, Wall creates the narrative for the photograph based on a set-up scenario. It has shown a wrecked woman's room that a broken mattress, women's shoes and clothing, cupboard, drawers, a dancer figure, etc. in the image scattered around in a mess. It provokes a speculation about the sequence of the destruction and the reason of the destruction, with also a hint that the set is held up by supports. The scenario is recreating the painting The Death of Sardanapalus by French Romantic painter Eugène Delacroix in 1827. This narrative demonstrates another possibility of using objects as a medium prompting a situation, in my research, the nostalgic experience. The objects are not exact duplications of the scenario, and the hints subtly implies it is set-up, but they work together as a recreation of a specific experience, so as to convey a certain perception.[8]

The three precedents have illustrated the possibility of narrating from different directions, namely from perception of the people, from properties of objects and from a pre-existing situation. In short, they inform insights into the relationship in storytelling between objects, places, and experiences for the Archaeology of Nostalgia, additionally advise representation methodology of perceiving Archaeology. unique lens to speculate about different objects and places.



The Manhattan Transcripts by Bernard Tschumi, 1976-1981

Section 3 – Vision / Phenomenon

What is the impact of Nostalgia to a place?

The paper starts with Nostalgia as a Perception of space, then moves on to Nostalgia as an Archaeology method, now I explore Nostalgia as a Vision for future as the final chapter. The aim for this chapter is to explore the potential of Nostalgia to discover a phenomenon or a circumstance in aspects of social, political, cultural etc., furthermore, raise a potential Vision for a place.

In the study of Nostalgia, I recognise that the architectural space, the experiences, the objects for the same place could vary. The divergence allows multiple recognitions and crossovers of the place. In the sense, it meets the opinion of Bernard Tschumi in his book, The Manhattan Transcripts published in 1981. "The dominant theme of The Transcripts is a set of disjunctions among use, form, and social values…The Transcripts aimed to offer a different reading of architecture in which space, movement and events are independent, yet stand in a new relation to one another, so that the conventional components of architecture are broken down and rebuilt along different axes."[9] He explores through drawings and photographs to analyse the relationship between spaces and usage, revealing an unconventional definition of use and program and exploring unlikely confrontations. It mentions "architecture is not simply about space and form, but also about event, action, and what happens in space."[10] The Transcripts meets the idea of Nostalgia when the divergence among different perceptions, the space and the objects could have been discovered from the psychogeographical mapping of the Nostalgia. It provides a cornerstone for my study to evaluate the relationship between perceptions and space, so as to understand the nostalgic site condition.

Also, I take reference to the concept of Archaeology of the Future, proposed by Japanese architect Tsuyoshi Tane, to further understand the Vision that Nostalgia could bring up. He stated that "we always start a project by looking back into the past as far as possible and digging into it to find memories that are embedded in the place like archaeologists. The process of searching and researching process allows deep thinking and gives us surprises and the joy of encountering things that have been forgotten, erased or vanished due to global modernization. Then the archaeology, the process of thinking from the past to the future, slowly becomes architecture. All places have memories. Architecture inherits the memories and carries them into the future. The future will come."[11] He traces back to the memories of the place and uses them as the foundation to narrate and design the place so as to connect the past and the future through present. For my research, Archaeology has an important role to identify the nostalgic perceptions and narratives for the site. Through the understanding, it allows the exploration of different issues or situations from the nostalgic experience, then is able to project and carry the topics on to a Vision for the site. The Archaeology of the Future looks at not only the past but also the present, getting into the insights that how future understand the past and the present conditions in an archaeological sense and speculate a potential future as a Vision for the present.

Regarding the Vision for the present, STRAIT By Neyran Turan at Salt is a conclusive illustration of this chapter to depict the possibility of nostalgia to envision the future. Inspired by the past oil tanker accident that occurred in the Bosphorus Strait, it speculates in 2025 the biggest imaginary tanker Oilella got stuck at the Strait and turning the waterway into a giant landfill as a Vision of the present. By the agency of the speculated story, it provides a lens to look into the present conditions of Istanbul, creating the conflicts among energy, large-scale infrastructures, urban development, etc. Clearly, in this project, it investigates the present issues of Istanbul and exploits the past event as a potential to speculate a new vision for the city in negotiating the issues discovered. A narrative between the city, the past and the future has been created to demonstrate the understanding as well as the potential of the site, which has defined a possible way Nostalgia could response to the site, proving the impact of Nostalgia to a place.[12]

9 Bernard Tschumi, The Manhattan Transcripts (London: Academy Editions; New York, 1981), 1-80.

10 Bernard Tschumi, The Manhattan Transcripts, 1-80.

11 Tsuyoshi Tane, Archaeology of the Future (Tokyo: Toto Publishing, 2018), 6.

12 Neyran Turan, "Strait," Nemestudio, 2015, http://nemestudio.com/projects/strait.

Epilogue

"Architecture perpetuates memories of a place, and architecture becomes archaeology of the future."[13]

Nostalgia is a process. In a sense, it refers to the recalling of memories in bringing up the relation among places, objects, emotions, etc. In another sense, it also refers to a research process in structuring and directing my research for a unique and psychogeographical perspective to examine my site, Thessaloniki. Eventually, it defines an approach to interpret the city from an experience-driven perception through the memories of different individuals. The potential of Nostalgia has been explored by the means of the three research questions. By answering, I have identified the perception between nostalgic memories and the site, the archaeological approach in constructing a narrative between objects and memories, and the vision derived from the examination of memories and different situation in the three chapters respectively.

The study of Nostalgia as well as the lens of Nostalgia are less about looking for collective memories of the city, but more about understanding the situations that have held power to the individuals of the city, no matter they are the locals or transients. Thus, identities are relatively insignificant in my interpretation of the city. However, the perceptions derived from a variety of individuals with different backgrounds intersecting with existing situations would provoke a peculiar interpretation of the city that is able to arise an unusual perspective to bring different phenomenon into discussion, further, allow atypical architectural intervention in the design. Therefore, the Nostalgia will be a means to introduce the perceptions and propose the visions of the city. Meanwhile, archaeology as a method to bridge the past and the future in present for my project. Conclusively, I am going into Thessaloniki as an atypical potential city built upon the ruins of the Nostalgia.

13 Tane, Archaeology of the Future, 12-13.

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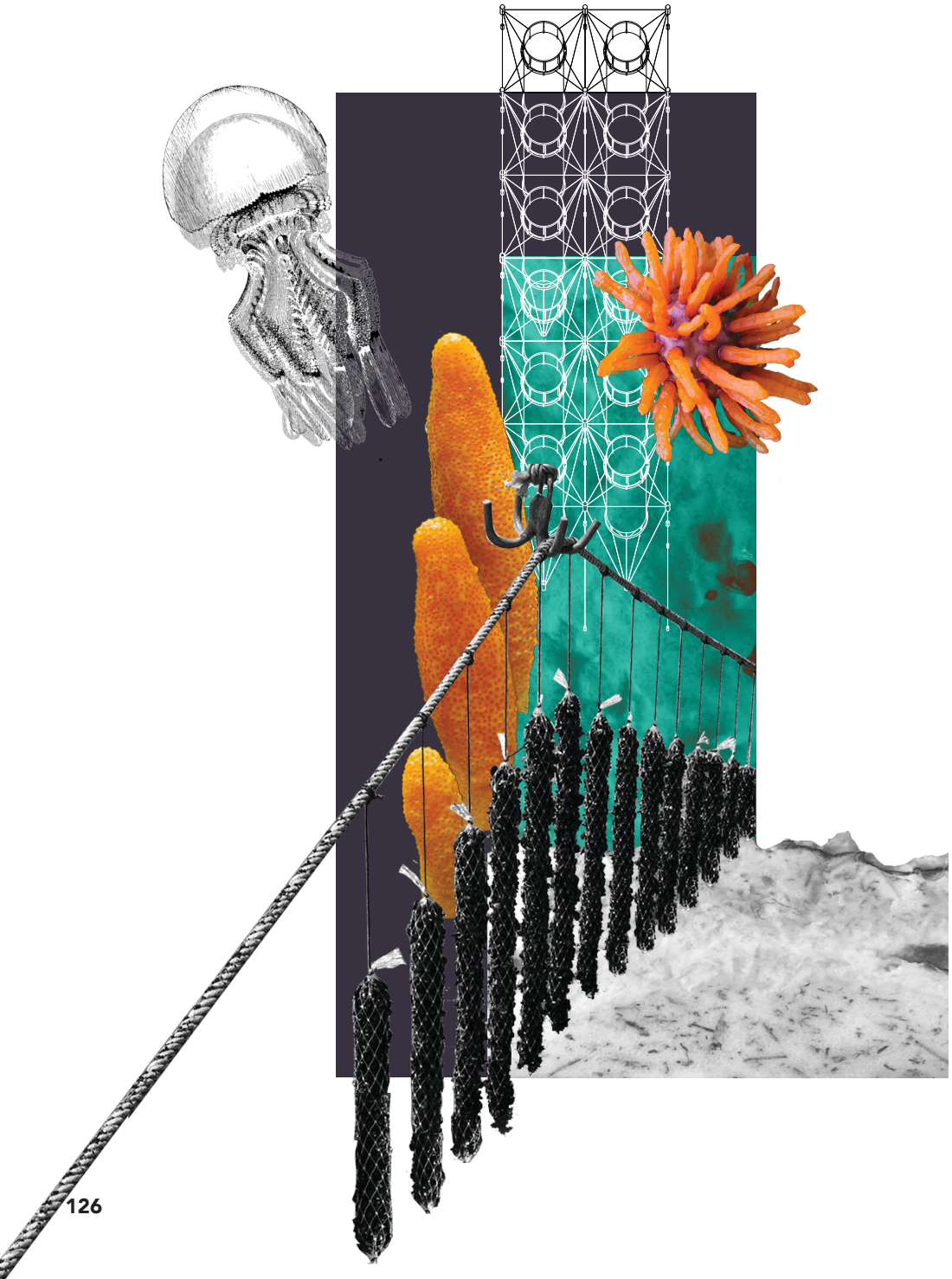


THE CONCERN WITH THE FLOOR

DISPLACEMENT OF HABITATS AND BODIES THROUGH ECOLOGICAL METAMORPHOSIS

Ekin Arin

DEPRIVED GROUNDS

We are facing an ecological crisis that does not acknowledge nationally and globally imposed borders. The borders and territories we have generated in our social reality are becoming obsolete in the face of ecological metamorphosis (Latour, 2018). Our current definitions of territories typically aim to establish ownership, belonging and control, whereas the ecological crisis is fundamentally challenging these definitions and demanding more transitional conditions that enable the free movement of land, water, humans and non-humans. These transitional movements on a territorial scale have been central in recent socio-political discourse, particularly related to the displacement of human bodies. However another displacement, inherently bound to the human body, is happening. As we focused more and more on the abstraction of land through territorial exploitation and ownership laws, we became blind to the reality of the floor, and are only now realizing the transformation unraveling underneath our constructed realities. The displacement of habitats are generating territories of depletion, where bodies face a new form of existence, one that can not take the floor for granted (Latour, 2018).

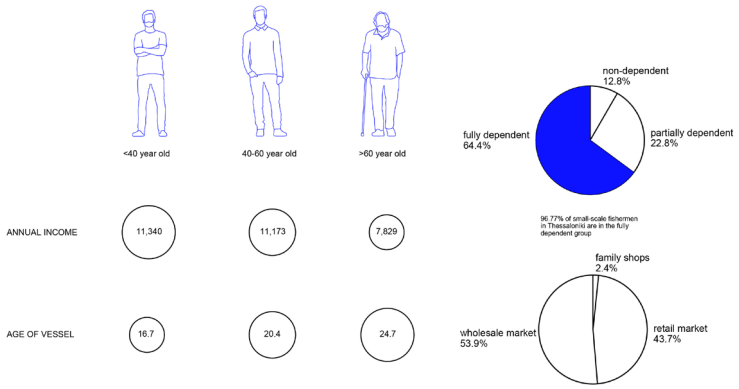
The following pages aim to investigate the adaptation and displacement of bodies (human, non-human, land, water) due to ecological metamorphosis through understanding the transitions happening in the Thermaikos Gulf and larger Thessaloniki. The impacts of transitioning territories on non-human and human bodies is explored by looking at the forces, actors and practices in the fishing industry in Thermaikos Gulf. The following pages then introduce the underlying social and political forces that have led to these rhythms of transition. After presenting the problem and briefly touching on the leading causes, the second part discusses the need for new modes of thinking and operating on the planet through examining existing efforts in the field. This paper, and the design proposal to follow, position themselves in these territories of transition by focusing more on the states of in-between and metamorphosis.

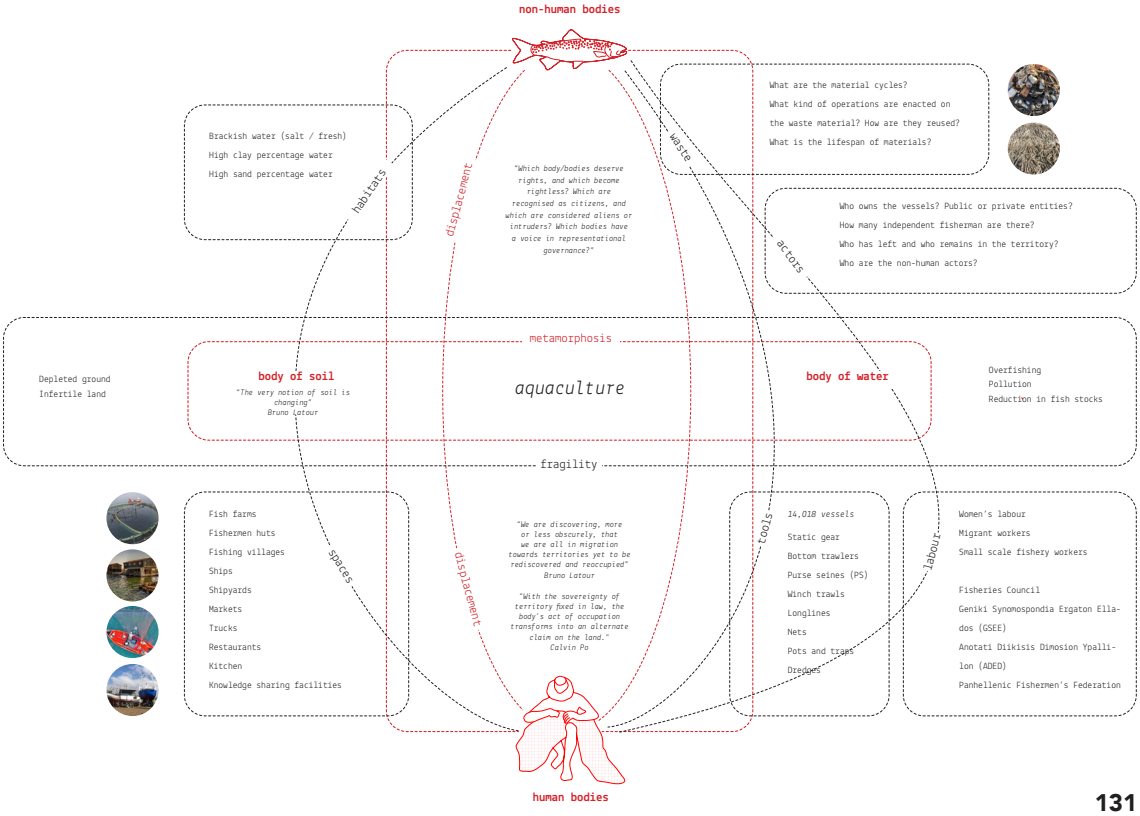
Through this research and design proposal I attempt to stress, hopefully needlessly, the need to change our relationship with the floor and other non-human bodies. The writings, topics and ideas explored for this research leave one quite overwhelmed and honestly discouraged. Therefore the practices explored in the last part not only introduce potential alternative paths but also hopefully encourage one to take a step into the unknown. With this paper I also acknowledge that I am adding to a myriad of critical theory content that opens up the question of "the socio-economic other" (Povinelli, 2011), without generating a concrete alternative to current practices and ways of operating. I hope to ask questions and point out conflicts that my design proposal(s) will attempt to address, without generating a blanket solution to these multiscalar, cross-territorial and complex changes.

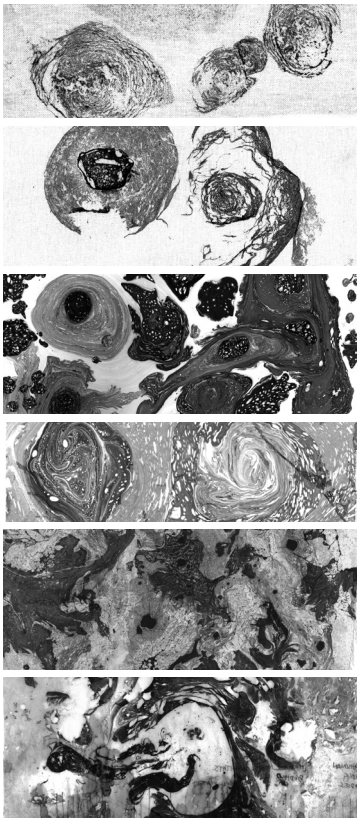
…
And there's no rhyme or reason
I'm changing like the seasons Watch!
I'll even cut off my finger
It will grow back like a Starfish!
It will grow back like a Starfish!
It will grow back like a Starfish!"
Mr. Muscle, gazing boredly
And he checking time did punch me
And I sighed and bleeded like a windfall
Happy bleedy, happy bruisy
…
Antony and the Johnsons, Cripple and the Starfish

Aquacultural production presents a metabolic system that's dependent on numerous actors, habitats, orders and socio-political structures. The research map on the right provides an introduction into mapping these operators by looking at the case of Thessaloniki and the Thermaikos Gulf that surrounds it. When looking at the context through this particular lens, two conditions of the ground stand out that are central to fishing ecologies. One is the metamorphosis of the floor and the second is the fragility of the balance.

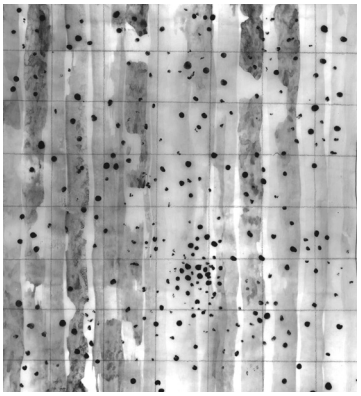
In the past 50 years the Thermaikos Gulf has been facing an intensification of ecological metamorphosis, which produced, and is still producing, waves of displacement. Although planetary transformations operate on a larger geological time frame, recent years have particularly exhibited an intensification of the change, understood through certain events. One of the most critical events is the extreme pollution of the Thermaikos Gulf, as a result of poor industrial waste management, capital-driven agricultural practices and unregulated fishing activities (Poulos, 2000; Newsroom, 2021). On the edge of a port city, the Thermaikos Gulf has witnessed an array of movements, humans and goods. However the recent ecological intensities have drawn attention to another type of movement, that of the habitat. In the mid-1900s the Thermaikos Gulf was recognized for its abundant marine life and correlating fishermen villages and aquaculture industry, which supported hundreds of families who had been forced to leave Asia Minor (Kalamaria, 2021). So the past, present and future narrative of the gulf is one of displacement. Once a thriving fishing community, the gulf now only has remains of aquaculture surviving mostly in the southern part. The industrial waste and agricultural residue has made the northern part of the sea almost uninhabitable by any non-human bodies. However the traces of practices and operations can be seen throughout the coastline in the form of shipyards, fishermen cabins, huts that form communities and small-scale markets in every settlement (Field research). The Thermaikos Gulf demonstrates the inherent conflict between the market-driven socio-economic order and the value assigned to bodies, territories and material entities. We perceive these grounds as depleted and deprived but that only stems from our approach and current operations on the land. Small gestures that demonstrate a different value system have already emerged on these grounds, questioning what decay, productiveness and value mean.

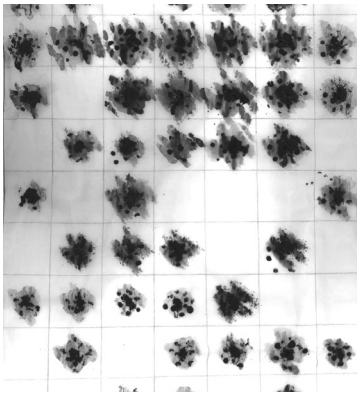

<40 year old
40-60 year old
>60 year old
ANNUAL INCOME
11,340
11,173
7,829
AGE OF VESSEL
16.7
20.4
24.7
non-dependent
12.8%
fully dependent
64.4%
partially dependent
22.8%
96.77% of small-scale fishermen in Thessaloniki are in the fully dependent group
family shops
2.4%
wholesale market
53.9%
retail market
43.7%

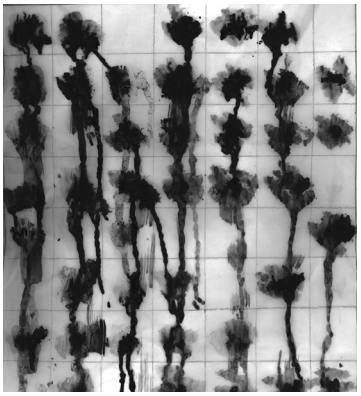

non-human bodies
habitats
displacement
waste
actors
Brackish water (salt / fresh)
High clay percentage water
High sand percentage water
"Which body/bodies deserve rights, and which become rightless? Which are recognised as citizens, and which are considered aliens or intruders? Which bodies have a voice in representational governance?"
What are the material cycles?
What kind of operations are enacted on the waste material? How are they reused?
What is the lifespan of materials?
Who owns the vessels? Public or private entities?
How many independent fisherman are there?
Who has left and who remains in the territory?
Who are the non-human actors?
metamorphosis
Depleted ground
Infertile land
body of soil
"The very notion of soil is changing"
Bruno Latour
aquaculture
body of water
Overfishing
Pollution
Reduction in fish stocks
fragility
spaces
displacement
tools
labour
Fish farms
Fishermen huts
Fishing villages
Ships
Shipyards
Markets
Trucks
Restaurants
Kitchen
Knowledge sharing facilities
"We are discovering, more or less obscurely, that we are all in migration towards territories yet to be rediscovered and reoccupied"
Bruno Latour
"With the sovereignty of territory fixed in law, the body's act of occupation transforms into an alternate claim on the land."
Calvin Po
14,018 vessels
Static gear
Bottom trawlers
Purse seines (PS)
Winch trawls
Longlines
Nets
Pots and traps
Dredges
Women's labour
Migrant workers
Small scale fishery workers
Fisheries Council
Geniki Synomospondia Ergaton Ellados (GSEE)
Anotati Diikisis Dimosion Ypallilon (ADED)
Panhellenic Fishermen's Federation
human bodies



Object studies

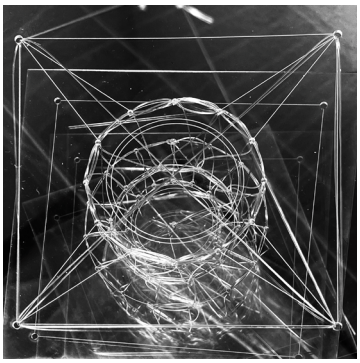


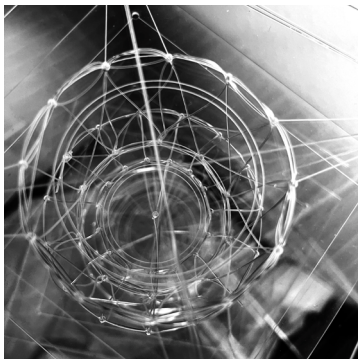


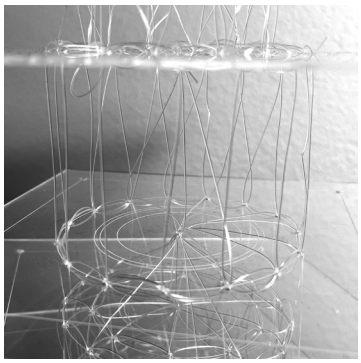


Field studies

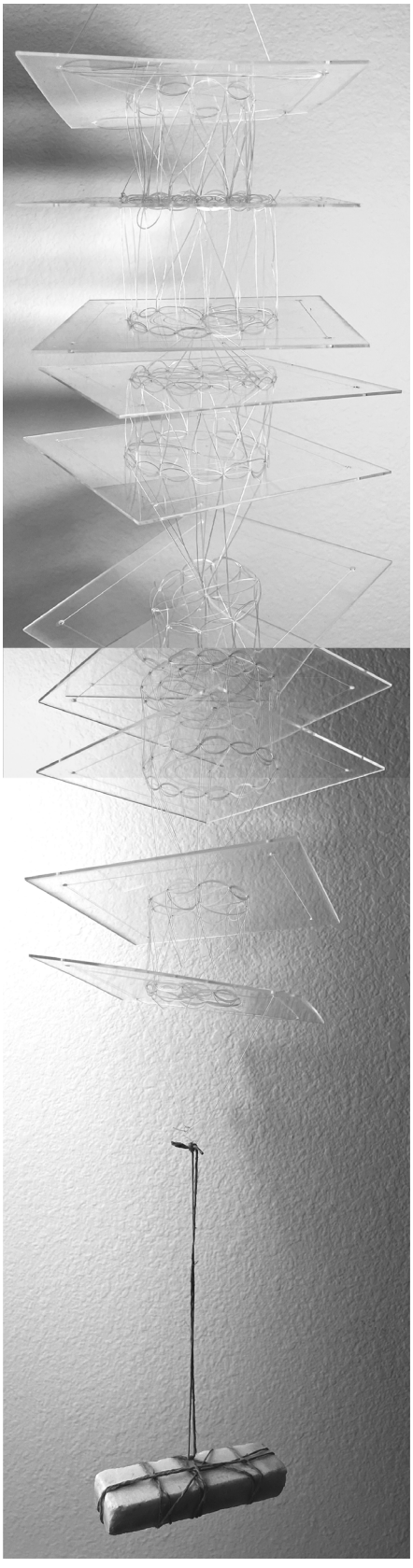
I explored the idea of metamorphosis by looking at the toxicity in the water. Society and individuals construct their realities based on particular events and mostly momentary occurrences. Therefore the system we live in now, operates on a very narrow view, not incorporating what came before and what might come after. This model aimed to introduce a different time lens, one that embraces the cyclical nature of the ground. Deconstruction of productive elements in the water eventually leads to the reconstruction of other productivities, but because our order defines productivity in a very narrow approach, anything that changes that definition becomes decay.







Fragility of the ground is also something to consider when researching aquaculture practices. The model here depicts the structure of a fish farm operation. Fish farms create synthetic environments in the water for maximum and rapid fish growth. They maintain a particular balance of chemicals to ensure this. Once they have polluted the larger body of water too much, they abandon the operation and move to another site.



LIFESPAN OF MATERIALS AND BODIES

It's important to dissect the definition of productiveness and productive value by understanding the socio-political world order that has generated these descriptions. Throughout human history, nations have abstractly claimed land to produce territories, most of the time aimed at distinguishing the limits of separation and belonging. The capitalist economic order has further exaggerated the value of these abstract definitions of land through operations of land grabs, territorial exploitation of resources, private property laws and many more innumerable acts. Neoliberalism particularly embodies this act of assigning values to bodies and grounds through reducing and colonizing socio-political and social values to the market. For the purposes of this paper neoliberalism, late liberalism, is understood as "a set of uneven social struggles within the liberal diaspora" (Povinelli, 2011). These social struggles are temporal in nature, as they generate these fields across time through small, maybe insignificant acts and events. Years of accumulation of violent acts on the ground, in the name of profit, value and revenue, have unraveled a slow but steady decomposition of not only our societies but also our planet. Today we are facing an existential crisis that is removing all preconceived ideas of belonging, land, ownership and productivity.

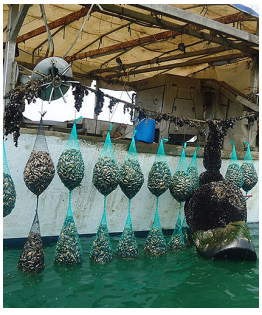
The last decade has highlighted one of the most visible and destructive manifestations of the ecosystemic transformation, migration and displacement. While our planet has experienced endless cycles of human and non-human movements, the environmental migration presents another mode of thinking and operating, as it reaches across constructed boundaries, moving territories along with it. While human migration has been an active concern in our societies, another type of movement, inherently related, has been unfolding in plain sight. The displacement of habitats and their inhabitants stems from the same problem that ignited the movement of millions of Syrians and Venezualeans. Overexploitation of resources, destruction of land, pollution and many other interrelated acts have created a floor that is unpredictably and rapidly shifting, and thus generating transitioning territories. We are no longer facing a passive planet but the floor has begun to react, dominate and decide (Latour, 2018). These habitats that have undergone a metamorphosis and possibly decay, bear the traces of exploitation not only of the land but also human and non-human bodies. The capital-driven order characterizes these territories, undergoing metamorphosis, as decaying and unproductive grounds.

Productiveness in the current system is directly linked to capital value and is measured based on monetary value, prioritizing human bodies over non-human bodies and habitats (Sassen, 2000). Therefore when looking through a market-driven lens, the Thermaikos Gulf presents a mostly unproductive territory, where resources are depleted and the current scale of operations do not extract enough capital from the territory. The current understanding of productiveness ignores the lives and potentialities that exist outside a market value (Povinelli, 2011) and reduces the significance of a territory to a specific monetary framework, which is slowly becoming obsolete, ironically due to the system that created it. Soon transitional territories such as the Thermaikos Gulf will become more prevalent than capital-defined productive landscapes. These territories offer a myriad of possible experiential events as human and non-human assemblages unfold (Povinelli, 2011). Therefore we need to redefine what productive territories are by shifting from a singularity to a multiplicity of possibilities.

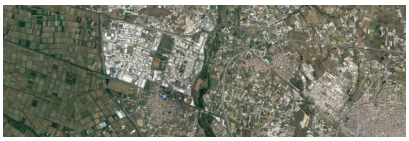
DECADE
Red mullet (4-10 yrs, 1.5 years, 16.6 cm)
Common pandora (10-12 yrs, 2 yr, 13-16cm)
Brown comber (5-8 yrs, 1 yr, 15cm)
Annular seabream (7-10 yrs, 2 yr)
Comber (4 yrs, 1 yr)
Striped sea bream (20-30 yrs, 2 yrs)
Salema Porgy (15-20 yrs, 1 yr, 30-40cm)
Wrasse (20-30 yrs, 1 yr)
Bluefish (12-15 yrs, 2 yrs, 50-70cm)
Barracuda (35-45 yrs, 2 yrs, 120-150cm)
Mussels (60-70 yrs)
Blue crab (3-5 yrs)
CENTURY
Sustenance
Greek male, pre-economic crisis (78,7)
Greek male, post-economic crisis (77,9)
Greek female, pre-economic crisis (83,2)
Greek female, pre-economic crisis (82,3)
Greek industry manufacturing workers (75,2)
Greek white collar and professional workers (79,6)
Greek queer, data not available
EPOCH
Precambrian
Cambrian
Ordovician
Silurian
Paleozoic
Devonian
Permian
Triassic
Jurassic
Mesozoic
Cretaceous
Paleocene
Eocene
Oligocene
Miocene
Pliocene
Cenozoic
Pleistocene
Holocene
Anthropocene
Chthulucene
Soil
Water
Air
DECADE
Bottom trawl net
Cast net (throw net)
Drift net
Fyke net
Gillnet
Hand net
Landing net
Lave net
Midwater trawl net
Purse seine
Push net
Surrounding net
Tangle net
Travlers, 10-20 years, yearly maintanence
CENTURY
Refinery
Bottle (soft plastic)
Coffee cup (plastic)
Barrel (hard plastic)
Petrol can (hard plastic)
Rod (hard plastic)
Metal can
Metal box
Concrete
Brick
Sand
Clay
Reuse

ARRIVING TO THE TERRITORY

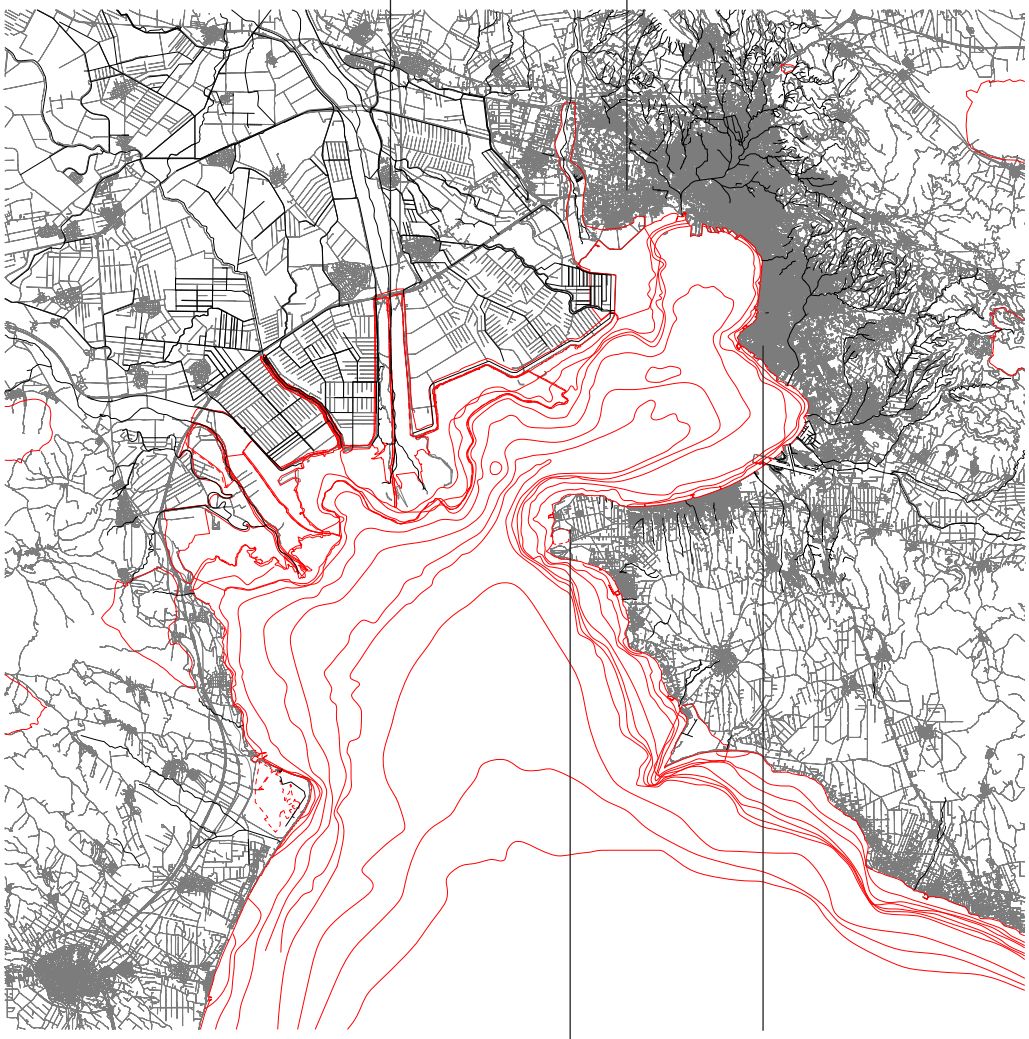
The territory of Thessaloniki presents an assemblage of fragmented lands that have been and are in constant transition, witnessing a gathering of bodies, human and non-human. Here the word territory is used to de-emphasize the city as the focal point and look at the larger context, particularly the Thermaikos Gulf that surrounds the land. Historically the movements in this territory occurred through interrelated natural, socio-political and economic forces, resulting in migrations, urban transformations, coastline formations and changes in economic activities. From it's Roman origins to its current Greek inhabitants many outsider bodies have occupied this land. Forced migrations, wars, policy changes and natural disasters have forced the arrival, stay and departure of Thessaloniki's many different occupants. How did bodies occupy, operate and move through this transitional territory?

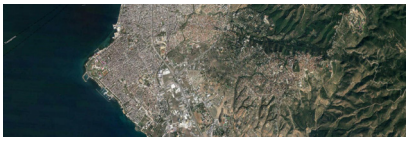


Axios River Delta



Industrial parks



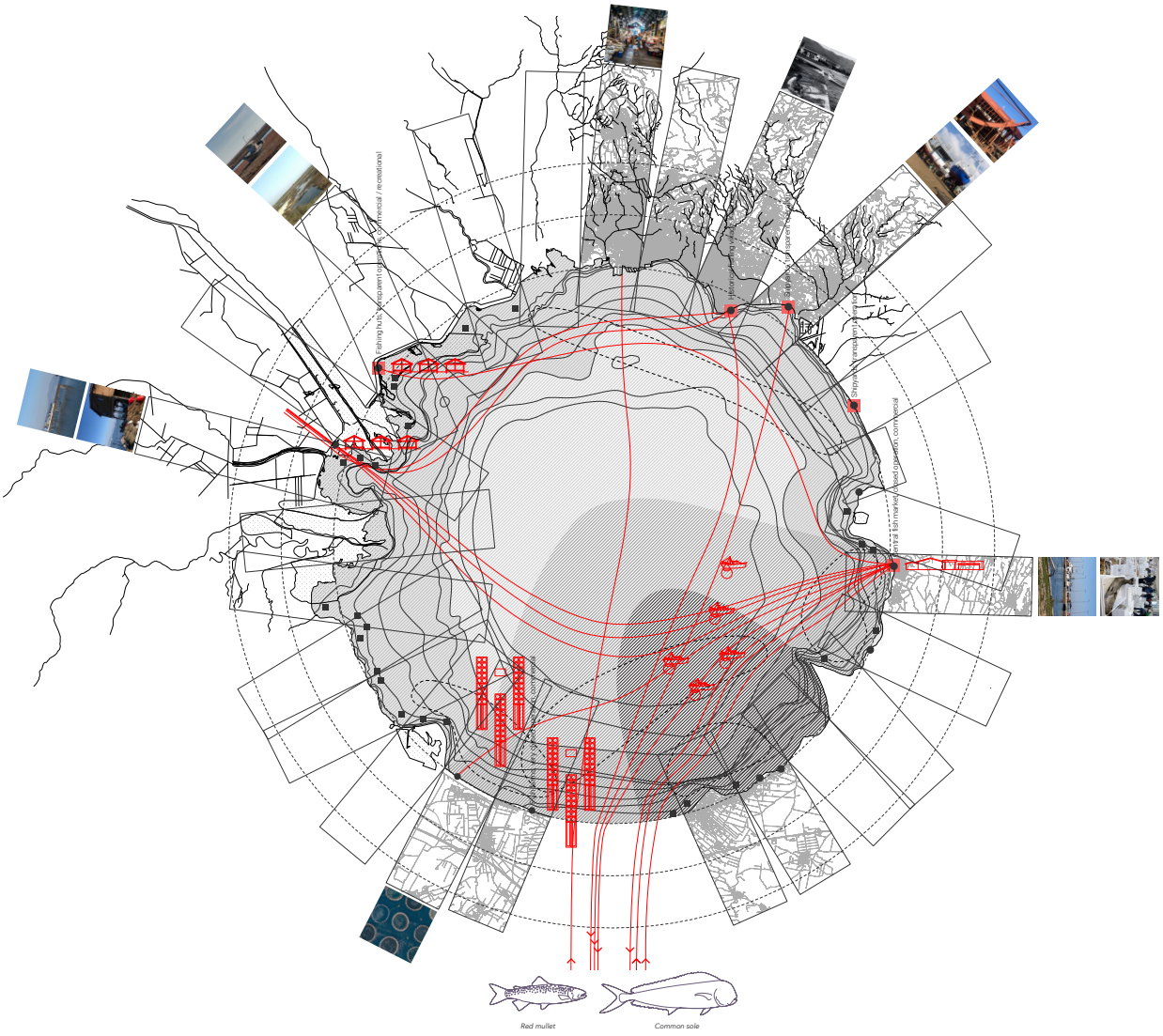


Kalamaria

Fishing villages

THE TRANSITIONING TERRITORY

I developed a different method of unfolding the coastline to place the central gaze on the water and the intersection of water and land. This system image maps the actors and operations related to the aquaculture industry in the Thermaic Gulf. The fishing activities in the territory go as far back as 10,000 years. More organized practices emerged when communities were forced to migrate between Greece and Turkey in 1923. A lot of fishermen arrived in Thessaloniki during the population exchange and founded small fishing villages along the coastline, the largest one implemented in Kalamaria. Over time, with overfishing of the gulf and larger Mediterranean, the marine species depleted and the water quality began to decay. This map shows the remaining few operations that still exist in the gulf. It's mainly very large scale fish farms and hatchery or tiny community operations along the delta.



Medium-scale fisheries

Small-scale fisheries

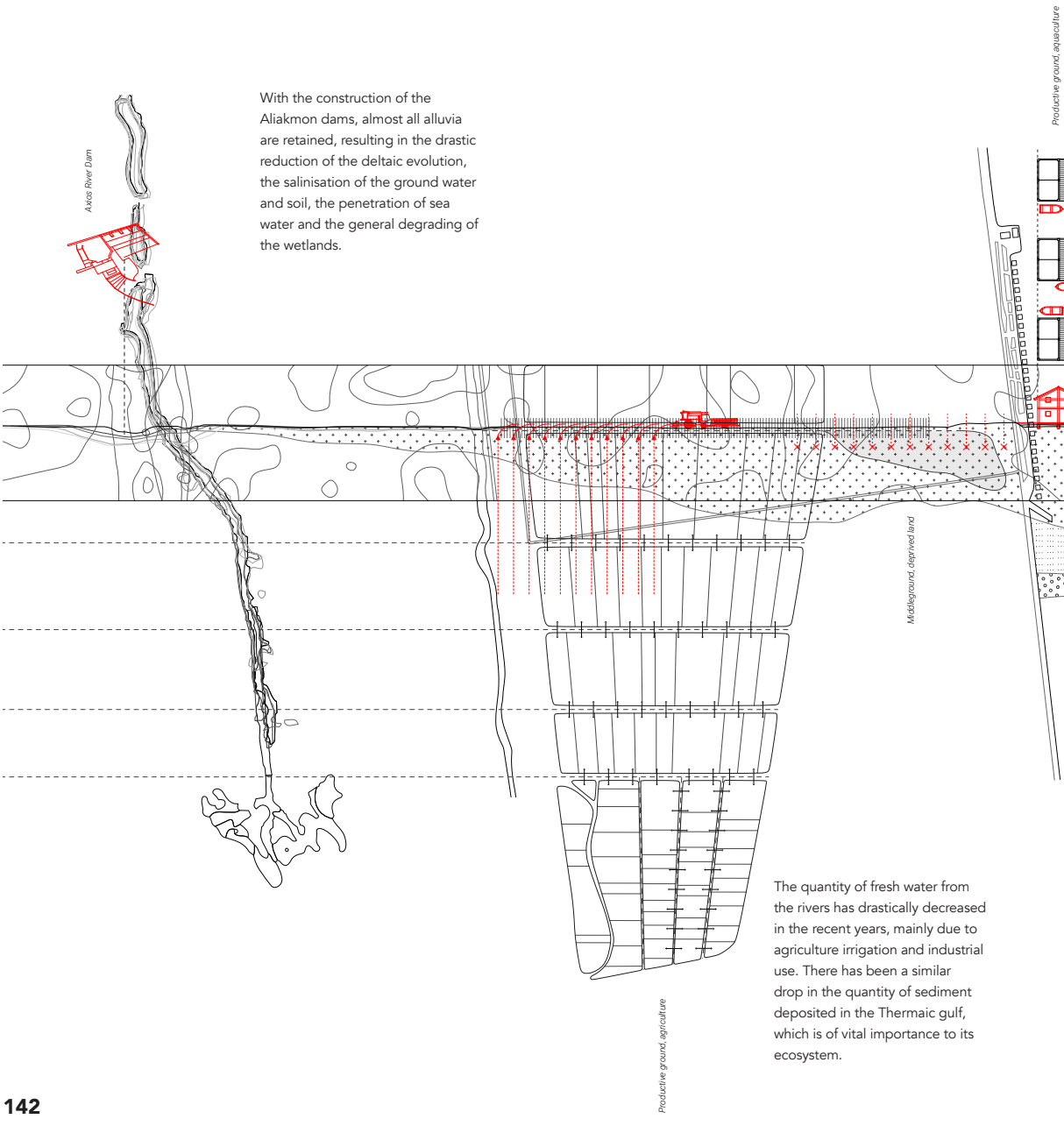
Vessel routes

>90% Clay

60-80% Clay, 20-30% Sand

> 50% Sand

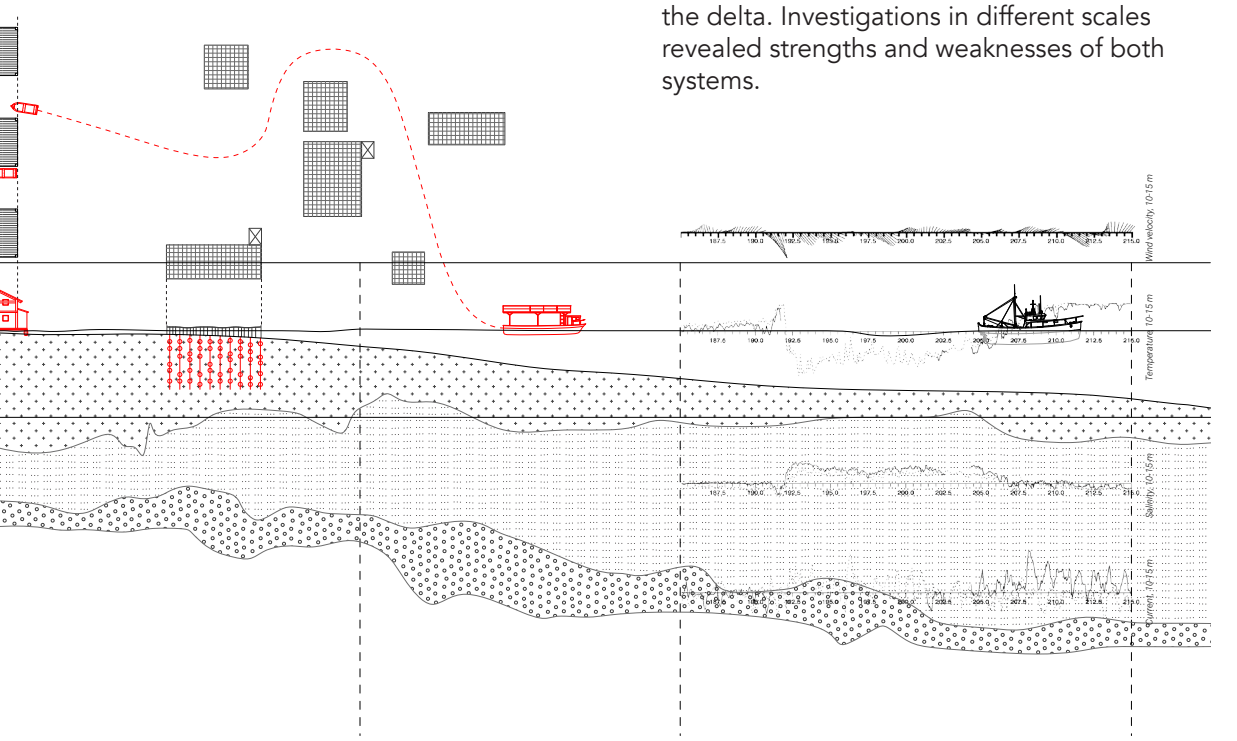
With the construction of the Aliakmon dams, almost all alluvia are retained, resulting in the drastic reduction of the deltaic evolution, the salinisation of the ground water and soil, the penetration of sea water and the general degrading of the wetlands.

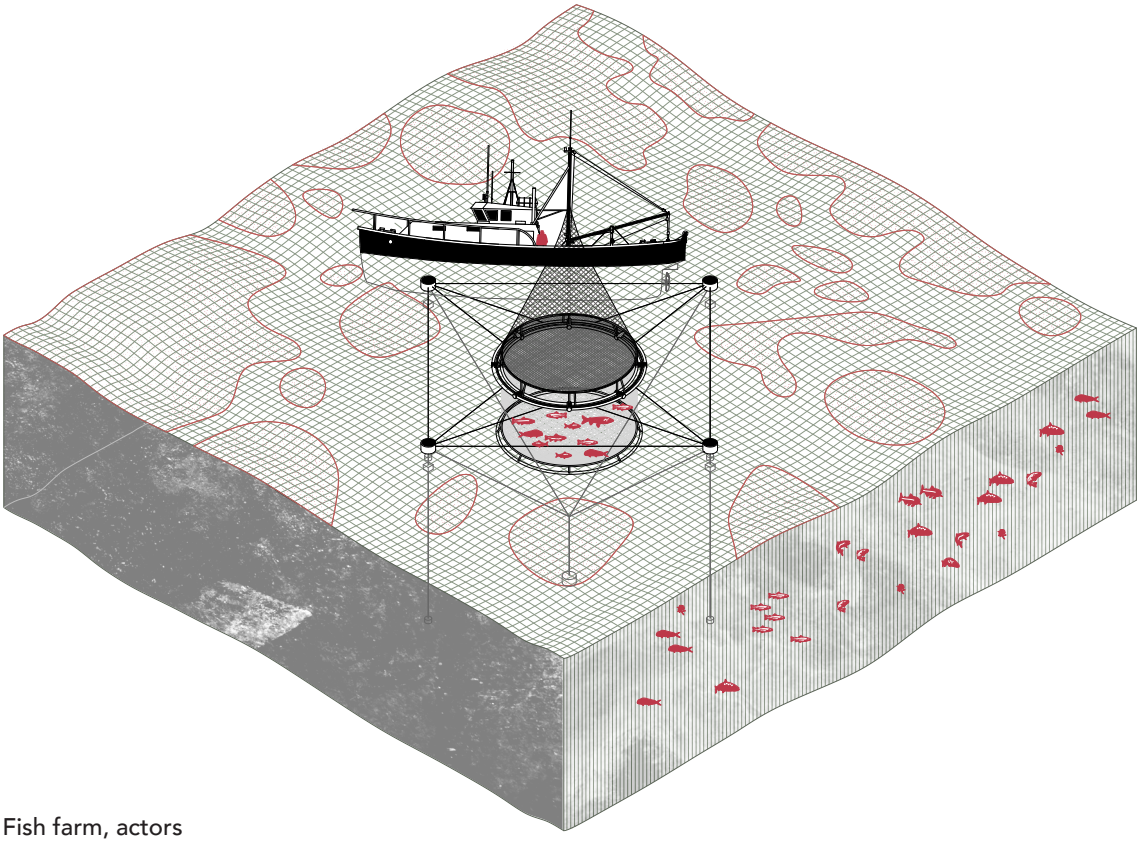


The quantity of fresh water from the rivers has drastically decreased in the recent years, mainly due to agriculture irrigation and industrial use. There has been a similar drop in the quantity of sediment deposited in the Thermaic gulf, which is of vital importance to its ecosystem.

This is a section through one of the smaller operations at the delta, situated on brackish water. This map shows the multiplicity of factors and forces that push the water to change and its inhabitants to move. The dam up northwest provides irrigation for the agriculture on the delta but also contributes to the salinisation of the water in the wetlands. The exploitative agricultural practices on the soil directly impacts the changes in the water. Together with overall increase in water temperatures, this all culminates in the depletion of underwater bodies and decrease in production. To better understand the operations existing in the gulf, I looked at two extreme cases. The fish farm operations and the small mussel and fishing village on the delta. Investigations in different scales revealed strengths and weaknesses of both systems.

Majority of the oysters and mussels sold and exported are dredged from the Thermaikos Gulf, but here the catch has declined from about 2000 t/year to just over 1000t.

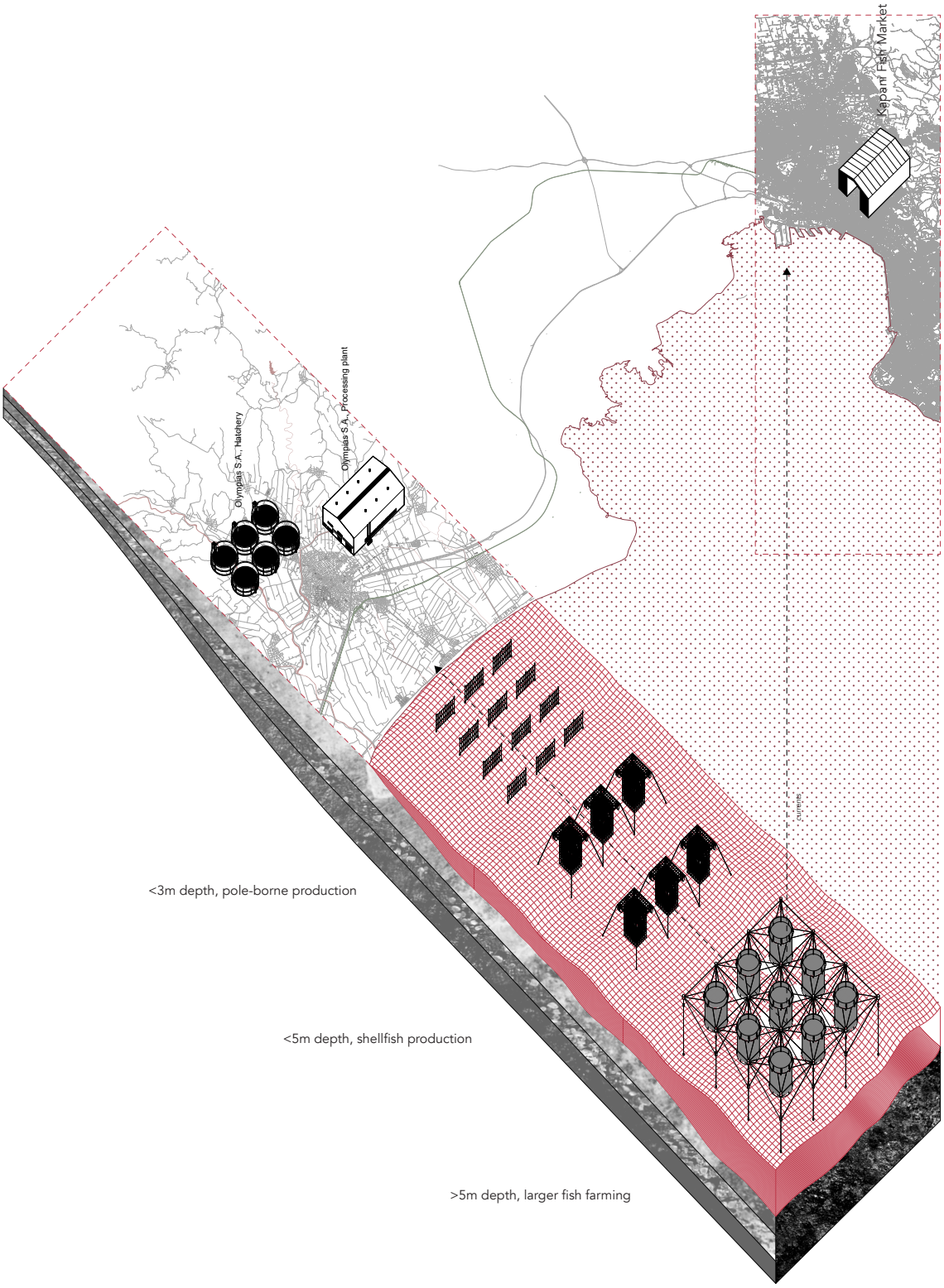


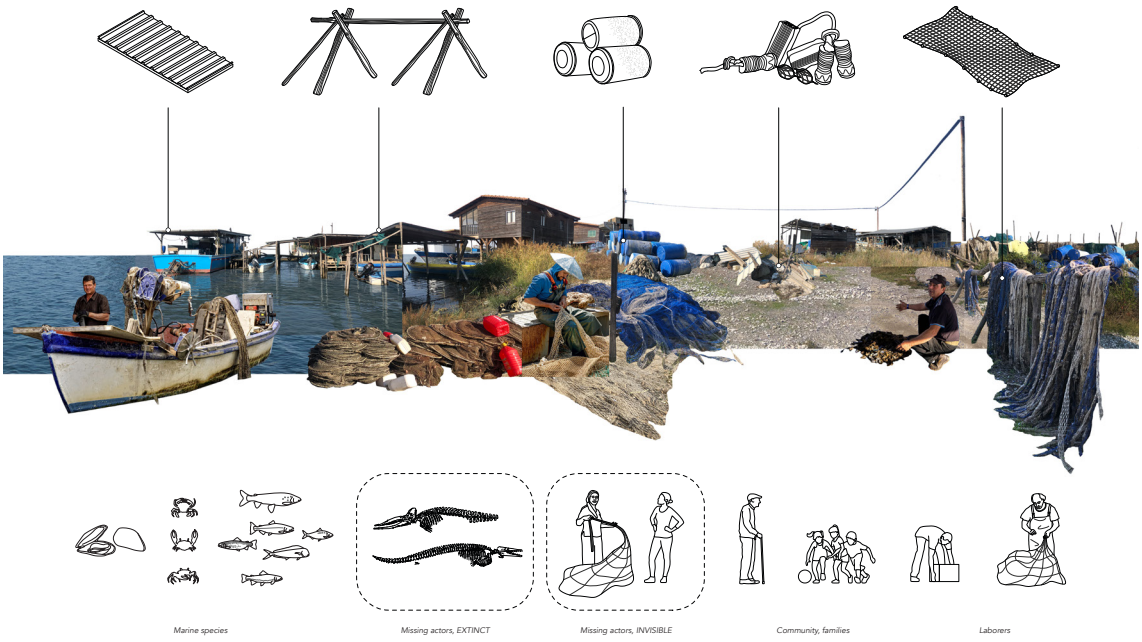


Fish farm, actors

OFF-SHORE FISH FARMS

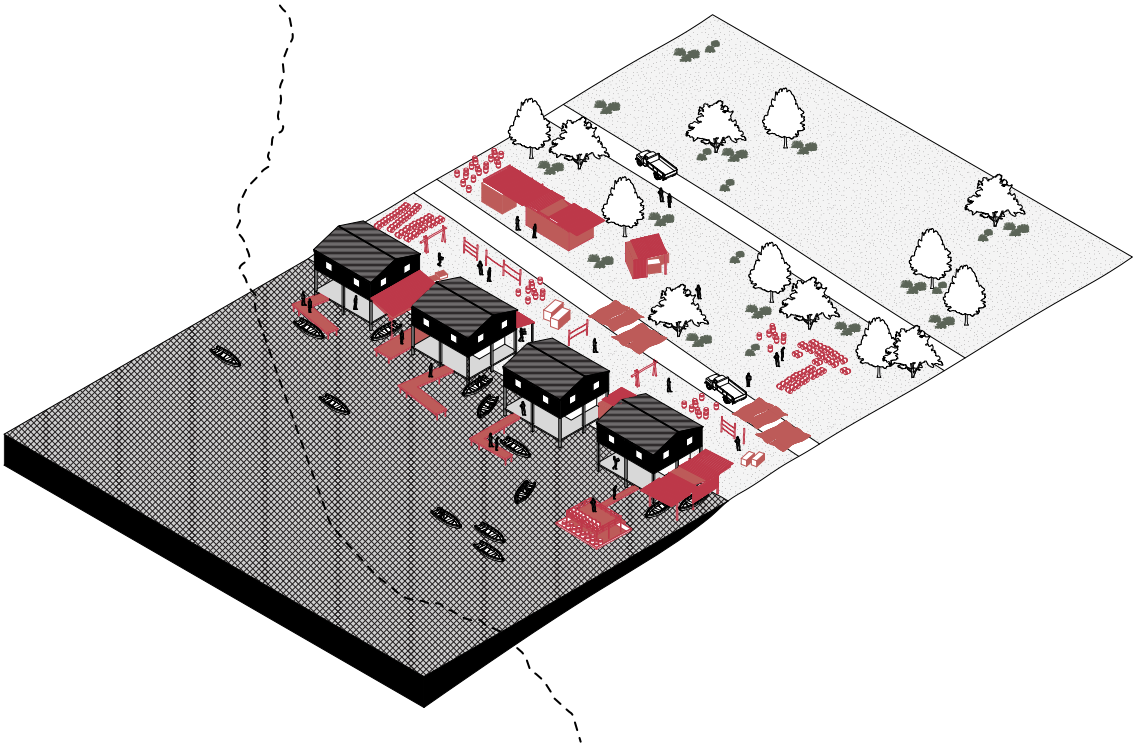
Olympias is a Greek-based company, owned by multiple global conglomerates. It has 50+ off shore fish farms, which rotate every 6-8 months due to the chemical pollution they generate. This is a slice of their operation, showing how it works. The fish larva are grown in hatcheries on land, later transported to the cages in the water. Here they are fed particular chemicals to increase growth. These antibiotics are then carried throughout the gulf by currents and waves. The fish are collected and brought to the processing plant to be cleaned and prepared for the market. The operation is very closed and private, as it is even hard to find quantitative data on how many fish etc. move through.


Kapani Fish Market
Olympias S.A., Hatchery
Olympias S.A., Processing plant
current
<3m depth, pole-borne production
<5m depth, shellfish production
>5m depth, larger fish farming



CHALASTRA FISHING HUTS

The second analysis looks at the small operations at the fishing huts on the delta. This floating village was constructed with EU grants in 2000 to close all the informal and illegal small fishing operations at the delta. The government wanted to zone the operations in a more controlled and safe area. 80-90% of Greek mussels (30,000 tons annual) are produced along the Delta, in the western Thermaic gulf. Majority of mussels are exported to Spain, Holland, France and Italy. The rigid formation of the huts remained but the informality that the communities there always had was generated around the framework. To see the spatial dynamics of the fishing villages in Thermaikos Gulf, is to be in the presence of an assemblage of events, materials and bodies. In the last 50 years the human inhabitants have aligned their methods and thinking with non-human bodies to accept and utilize materials emerging from the transitioning territory. The overall composition of the village epitomizes the tension between the late liberal value system and divergent modes of thinking. As the floor shifted, the rigid cabins remained but another type of assemblage emerged from the alliance of human and non-human residents. The assemblages are a testament to a new relationship with the floor, one that's embedded in understanding and adapting to the metamorphosis instead of considering it as decay or death. Human inhabitants started constructing small spatial interventions such as drying racks constructed out of driftwood and materials accumulated from the ground, both water and soil. These small occurrences, quasi-events, represent a level of survivance in the form of resistance that remembers what came before, to imagine what can happen tomorrow.

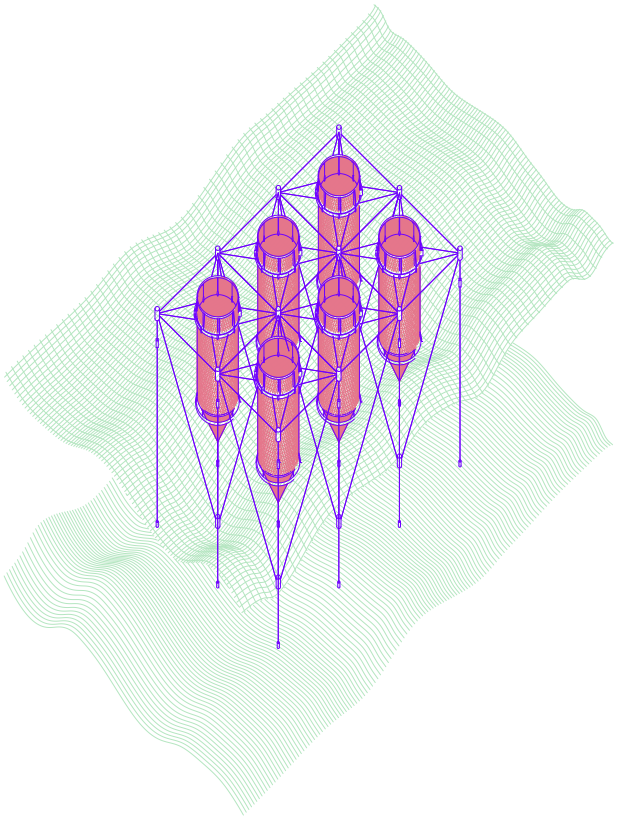


SPATIAL FORMATION

The assemblage model shows how the material constructions at the village are an accumulation of materials that come from the water or the land. While making the model I noticed that the spatial formations in between the huts are generated by quick and in the moment decisions rather than top-down planned initiatives. I noticed that using the same materials I could create hundreds of different spatial forms that respond to a particular need.

ANALYSIS CONCLUSIONS

The analysis looked at two modes of resistance in the aquaculture industry that fight to still operate in a floor that's changing. The offshore fish farms employ an exploitative and maybe violent method that mimics the attitude we've had in the last 100 years. However they do match the scale and density of our current population and could provide a solution to the arriving food crisis. On the other hand the community at the huts employ a more adaptive approach that unfortunately becomes an isolated case, with a small impact.



OFFSHORE FISH FARMS

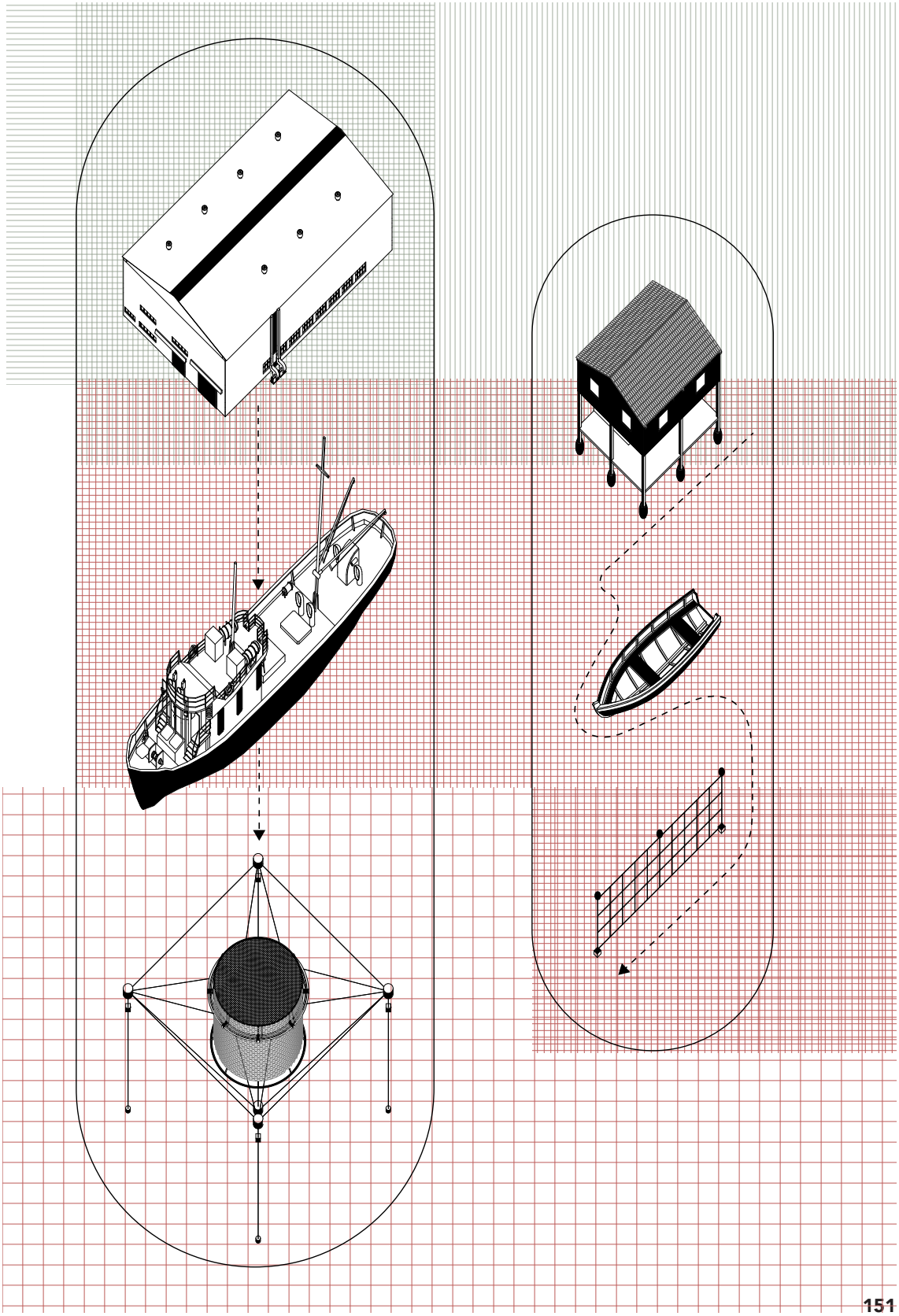
+ human/non-human detached
+ closed operation
+ market-driven value system
+ episodic and temporal
+ pollutant process
+ end-product driven

+ large operation
+ applicable in different conditions
+ part of a strong network

MUSSEL/FISHING HUTS

+ human/non-human interrelationship
+ transparent operation
+ reuse and cyclical process

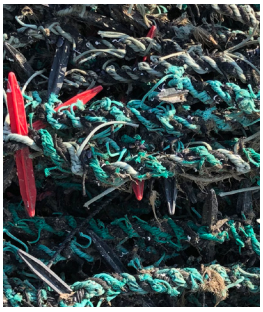
+ small operation
+ monopolized by companies/families
+ isolated

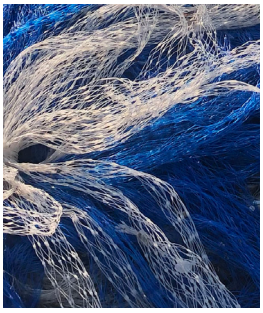


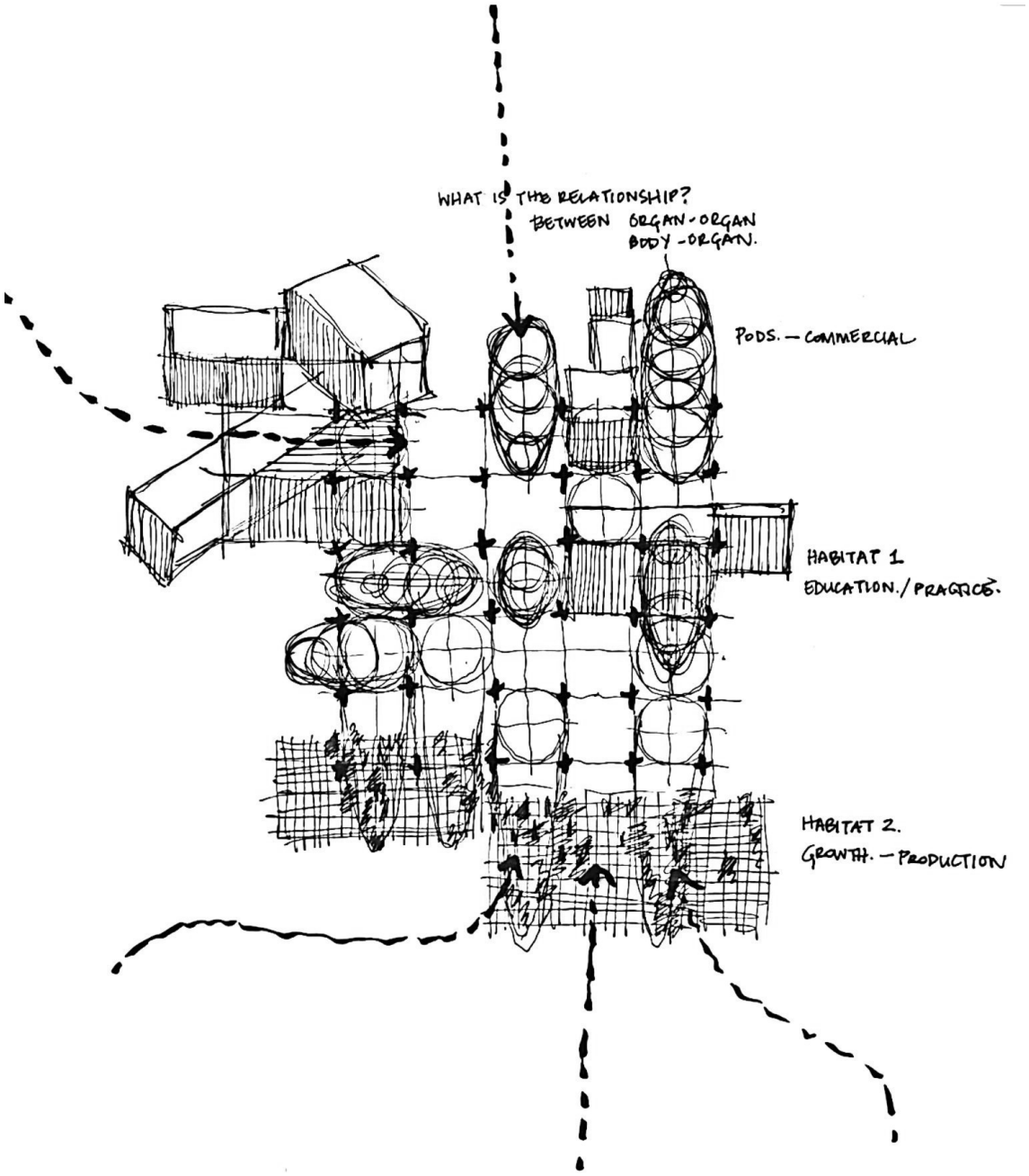
DESIGN CONCEPT

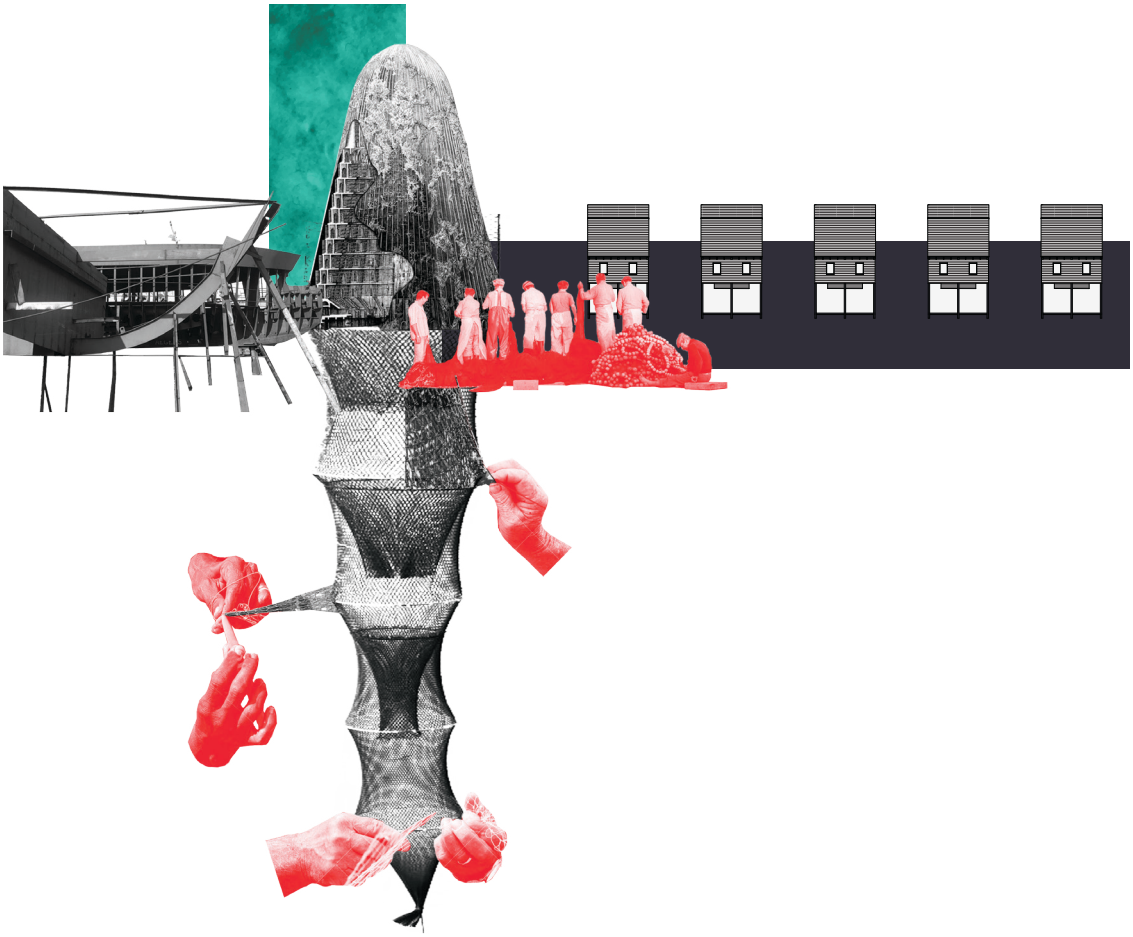
The imminent ecological metamorphosis is pushing us to reconsider the way we interact, occult and act on the planet. The emerging transitioning territories provide a ground for us to shift the way we approach our practices, spaces and relationships, both to other human bodies but also to non-human agents. In order to step outside the market-driven socio-economic order, we need to change our value structure to align with the planet we envision. While there are a myriad of ways to tackle this ambition, two themes emerged from this investigation: shifting the concern from the anthropocentric to a multi-species existence and putting more value on the aggregation of small events, which eventually leads to the way we exist and operate on the ground.

Based on the research and analysis I am proposing a three part design scheme that acts as one body, sharing one metabolism. The project emerges from the fishing huts at Chalastra, with the construction of a vessel. The vessel is then used to take over and hack the offshore floating fish farms. The floating vessel attaches itself to the fish farms and introduces a second life to the materials and systems. The third node is a workshop and kitchen in the south of Kalamaria, located along the coastline for the floating production to attach itself.






WHAT IS THE RELATIONSHIP?
BETWEEN ORGAN-ORGAN
BODY-ORGAN.
PODS. — COMMERCIAL
HABITAT 1
EDUCATION./PRACTICE.
HABITAT 2.
GROWTH. — PRODUCTION



01 DEPARTURE

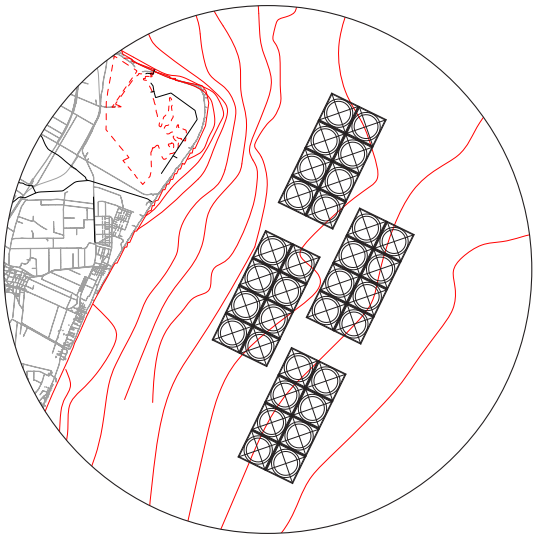
Program: Vessel construction
Location: Rural intervention, Delta
Spatial strategy: Assemblage of a floating vessel by re-using existing vessel parts and scraps.

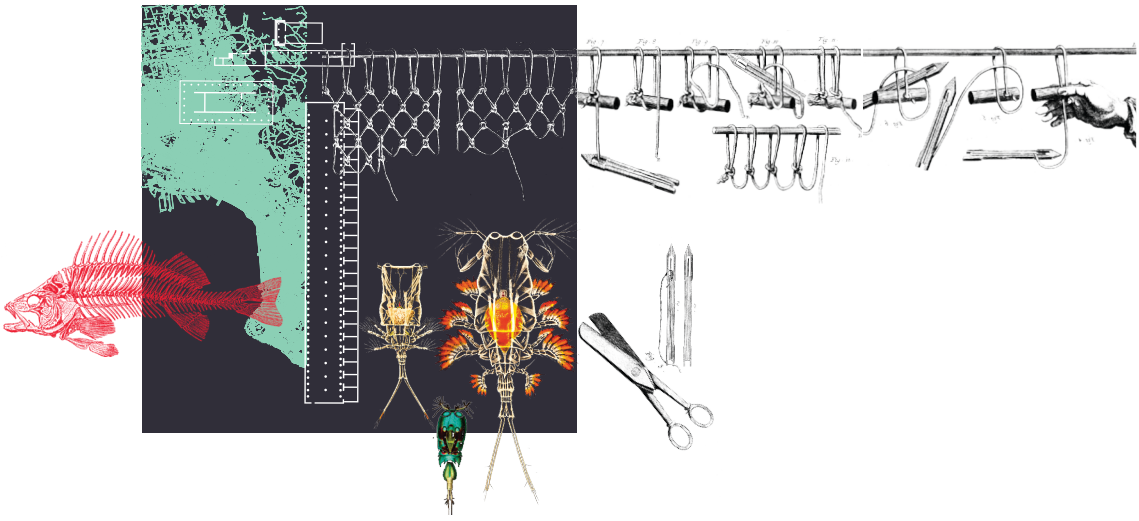
The departure point of the intervention begins at the mussel/fishing huts in Chalastra. The emergence of the project begins with the construction of a vessel. The vessel is built by the community at the huts, using the materials and tools available at the huts. The floating vessel is the ignition for the project.

02 PIRACY

Program: Post-production
Location: Intervention on floating fish farms
Spatial strategy: Tentacular growth, grafting

The constructed vessel finds “host bodies” to steal and hack. Right before the end of cycle for off shore fish farms, the vessel attaches and takes the operation in order to give it a second life. This pirate food and organism production serves as the second lifespan for the operation and introduces a new cycle of reconstruction.

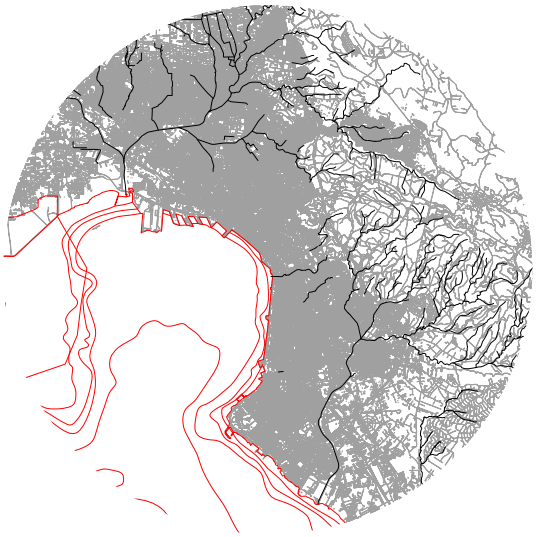




03 WORKSHOP

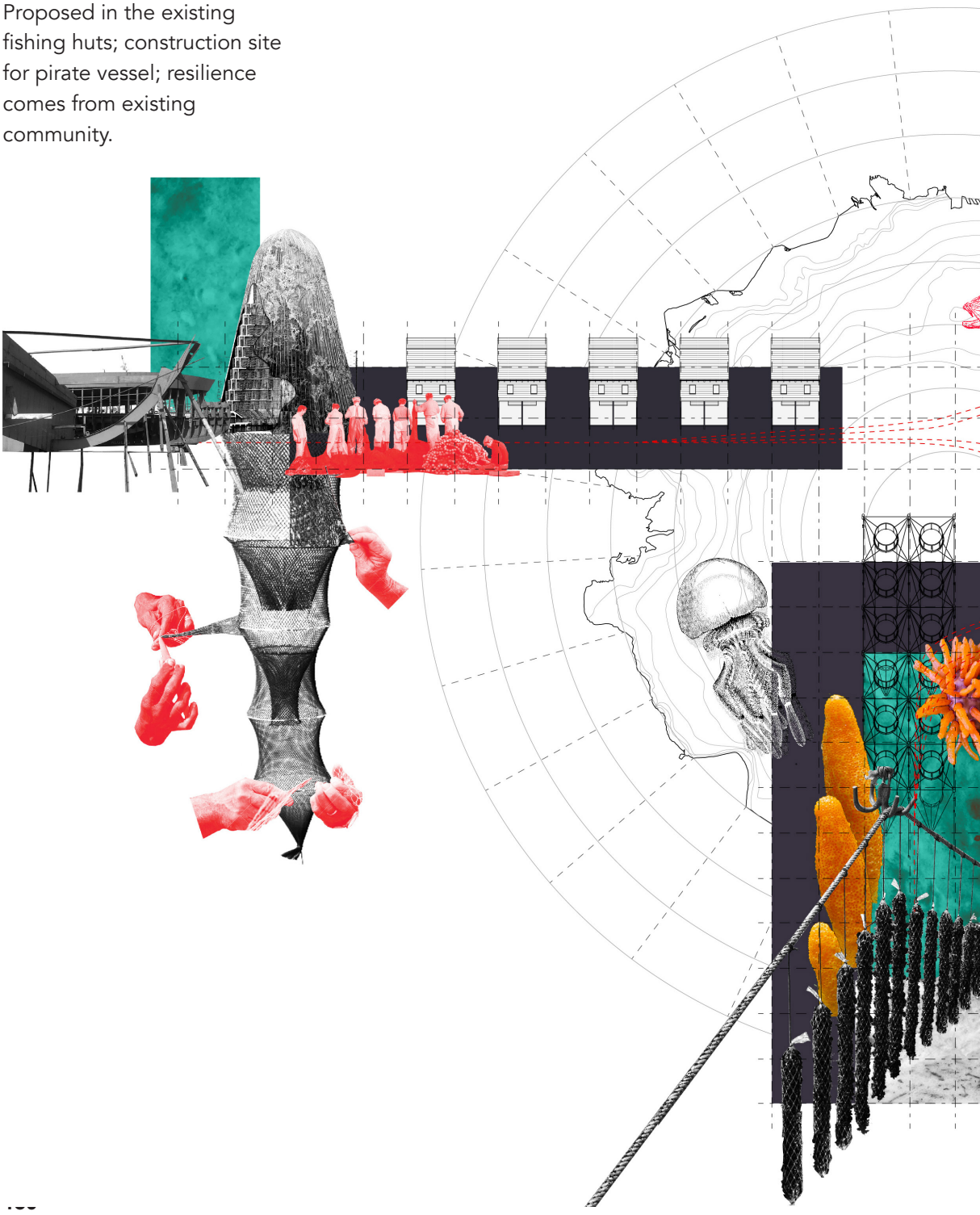
Program: Skills training and byproduct production
Location: Urban intervention, Kalamaria
Spatial strategy: Adaptive reuse in existing shipyards in Kalamaria

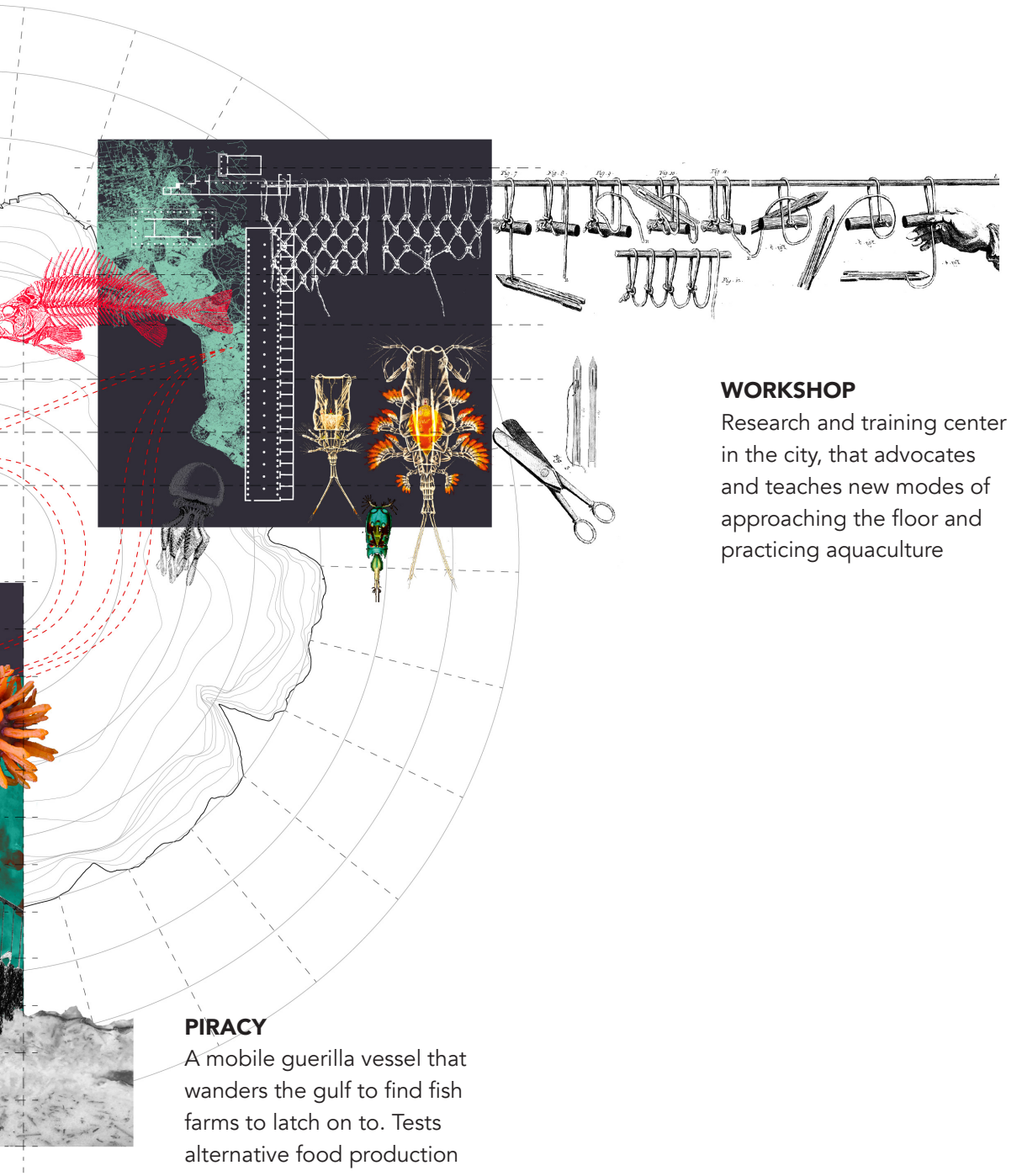
The third node serves as the site for a micro-community, where existing efforts in new aquacultural practices and new production methods can meet. It incorporates programs such as workshops, kitchens, labs and practice spaces. It employs a more wholesome approach to the industry and the grounds it operates in



DEPARTURE

Proposed in the existing fishing huts; construction site for pirate vessel; resilience comes from existing community.





WORKSHOP
Research and training center in the city, that advocates and teaches new modes of approaching the floor and practicing aquaculture

PIRACY
A mobile guerilla vessel that wanders the gulf to find fish farms to latch on to. Tests alternative food production practices, by hacking existing infrastructure

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HINTERLAND IN TRANSITION

DIFFERENT PACES OF TRANSFORMING THE ENERGETIC LAND-USE CONFIGURATIONS OF WEST MACEDONIA.

Smagała Michał

INTRODUCTION

Hinterlands are places that constantly undergo changes – geological, ecological, economic, sociological. Their characteristics are based on the dependence of their relationships with urbanization processes. On the continuum of their existence, their applications undergo numerous mutations, but the city / non-city relationship seems to persist. This work analyses the area of West Macedonia, Greece, which today exists as an energetic landscape. Although the mining operations of materials such as marble have been present in the area of Macedonia for centuries, the large-scale exploitation of coal has been here only for 66 years.

Coal is a combustible sedimentary deposit, of biogenic origin, which is rich in carbon. It is widely used as a fuel, supplying a quarter of the world's primary energy and over a third of its electricity. Rich deposits of lignite in West Macedonia, the least effective and the most polluting type of coal, are responsible for over 40% of the total energy production of Greece.

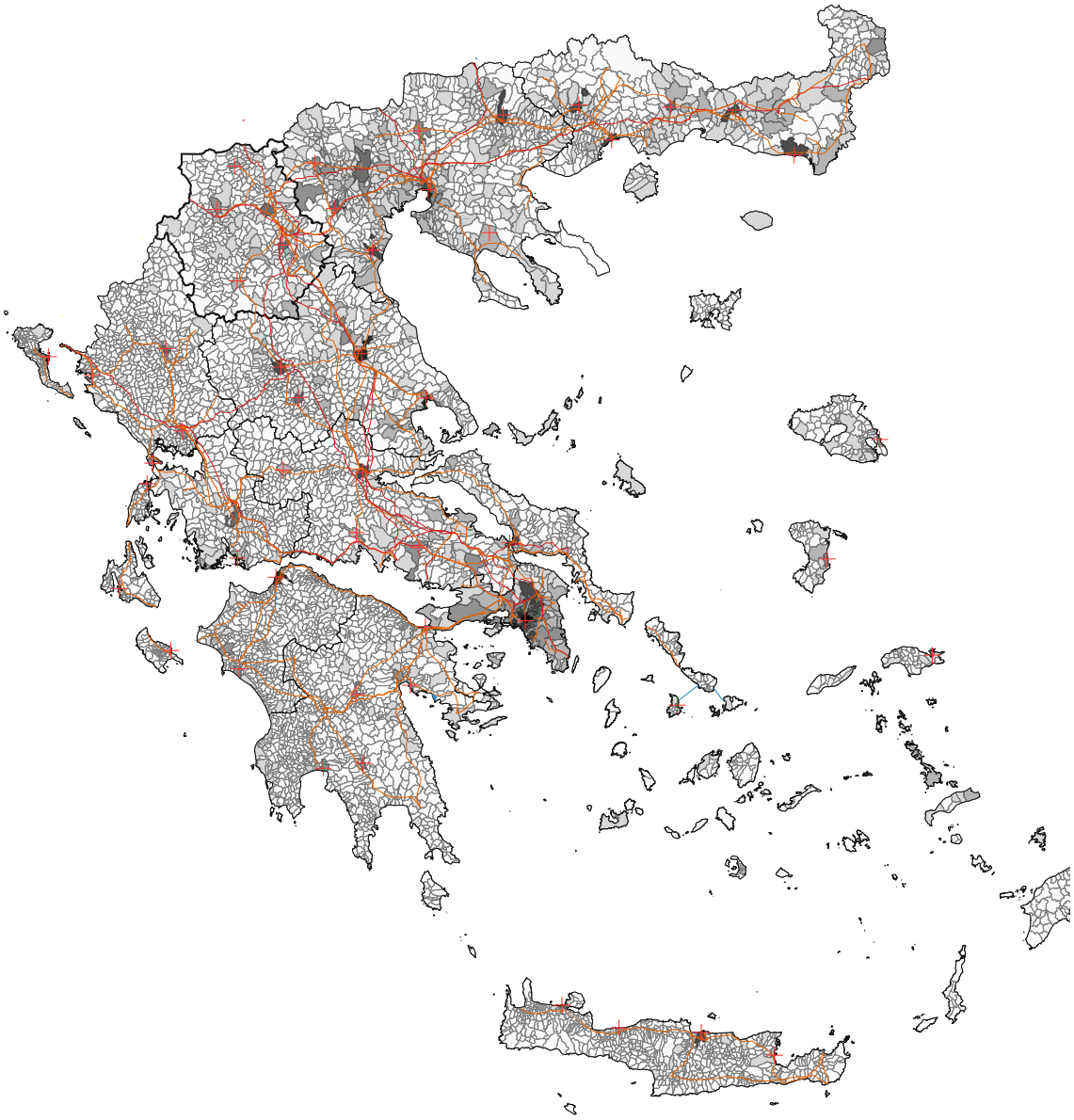
This has shaped not only the socio-economic image of the region but also the landscape itself. It became subordinated to the role of the production zone, rebuilt to maximize profits from the extraction. Even though it is located hundreds of kilometres from large urban areas such as Athens or Thessaloniki; it became an integral part of the urban processes. The mutual relationship between the production, and capital is binding and necessary for the existence of the hinterland as a whole. Its existence relies on contributing to production and supply.

That role is about to change within the next 6 years. After decades of well-organized extraction, the industry is planning to phase out coal combustion. Given the strong dependence of the economy of the region on lignite production, this decision has had an extensive impact on local communities. So far, there are no comprehensive plans or predictions for the region, even though the ecological costs have never been amortised.

Throughout history, the zones of extraction have always been treated as the sacrifice zones. Most of the "aftercare" plans are focusing on monitoring the status to prevent any additional environmental damages. Life-threatening consequences are often isolated from the surroundings, keeping the problems in the status quo. I found this fact highly fascinating. My research aims to better understand the complexities of such places, and to look for any alternative methods on how "what after" production zones are no longer needed? Do zones of extraction can be reused in a more democratic way, or after the exhaustion, they need to be left fallow?

Hinterland: "The variegated non-city spaces that are swept into the maelstrom of urbanisation, whether as supply zones, impact zones, sacrifice zones, logistics corridors, or otherwise."

Brenner N., Katsikis N. (2020) Operational Landscapes: Hinterlands of the Capitalocene

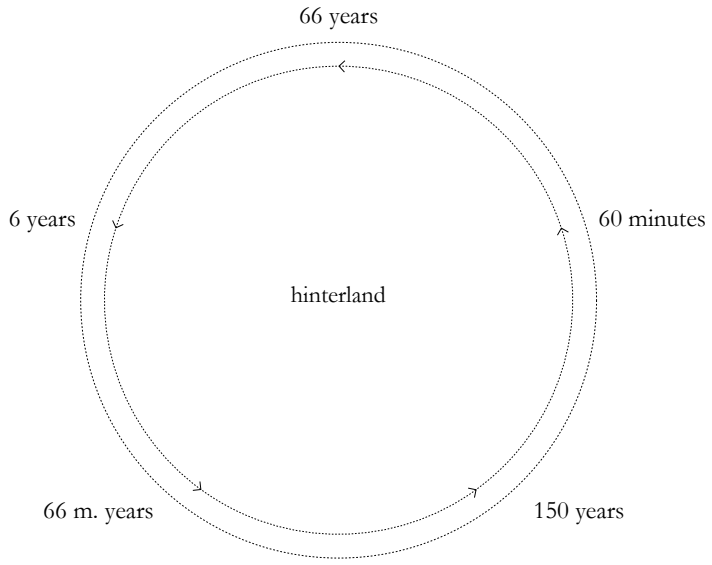


The energy use in Greece per municipality, with the "nerve system" of the high-voltage energy gird.

West Macedonia is responsible for over 40% of total energy production in Greece. In this process, it uses lignite - the least effective and most polluting type of coal.

TEMPORALITIES

The coal industry operates on three shifts. 24 hours a day, 7 days a week, for 66 years. The no-stop-non-city is constantly changing on several visible and non-visible layers. To analyze and better understand the ambiguity and complexity of it, this research uses the concept of temporalities to provide a larger context. The illusion and subjectivity of time, create various understandings of the same place. Temporalities see those relations as intertwined fragments of the whole. Often in Smithson's works, the notion of time does not use classic, linear temporality, but rather treats it as "frozen timelessness within temporality itself." Personally, I believe, that the "becoming" of West Macedonia is strongly linked with various events, not necessarily as a result of causation, but more in a circular fashion. The circular scheme of events allows to picture and connect different layers of the landscape. Some events tend to repeat themselves, but the role of the general region does not change drastically. Various lenses implement different aspects and methods of analysis to delineate different images of the region, accumulating in the city/non-city continuum.



"Time is deranged. A landslide of diamonds plunges into a polar crevasse of boundless dimension. History no longer exists."

Smithson R. (1996) Illustrations of catastrophe and remote times

1000
500
0m
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0m 500 0 1000 2000 3000 4000
Alluvial deposits - Scree
Lacustrine sediments - Peat
Alluvial fans
Lacustrine deposits
Conglomerates
Red lvams
Perdka formation
sands
clays
lignites
Eroastio formation
conglomerates
clays
Lignite bearing Ptolemaida formation
lignites
clays
marls
sands
Lignite bearing Komnina formation
lignites
clays
marls
sands
conglomerates
150
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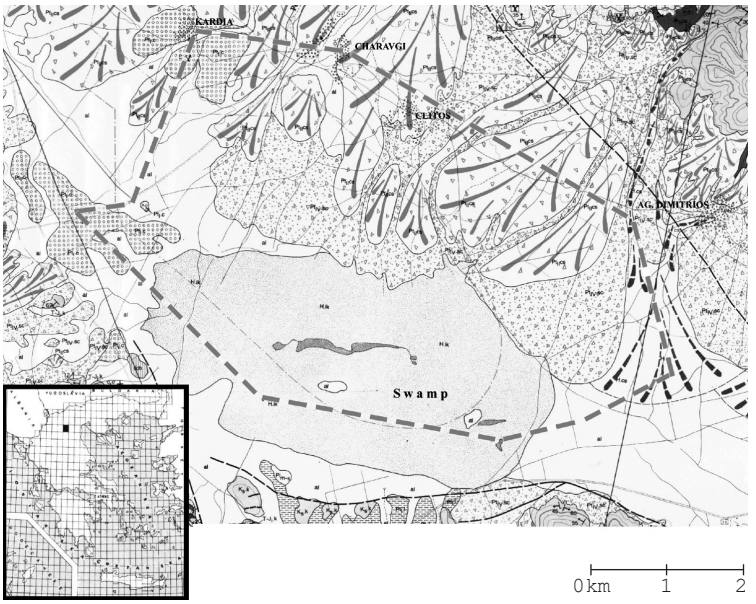
Sprawling void regularly uncovers different geologic, and historic layers.

66 MILLION YEARS

Lignite deposits of West Macedonia are located in an over 150 kilometres long sedimentary basin, which stretches through the territories of Greece and North Macedonia. Over approximately 66 million years, it has accumulated several layers of lignite due to the gradual sinking of land within fault zones. Lignite influences the economy, jobs, culture, and also where people live. Geological layers and landfaults from millions of years ago decide on the (non) existence of whole villages and communities today. The geological processes of the Ptolemais Basin not only are closely interwoven with current events of the region but also have a direct influence on its becoming.

Ptolemais Basin was also a place for some of the earliest Neolithic settlements. First farmers inhabited the region of Ptolemaida around 6500BC. Occasionally, mining operations are put on hold due to new archaeological findings and rescue excavations. Sprawling "void" regularly uncovers different geologic, and historic layers.



150 YEARS

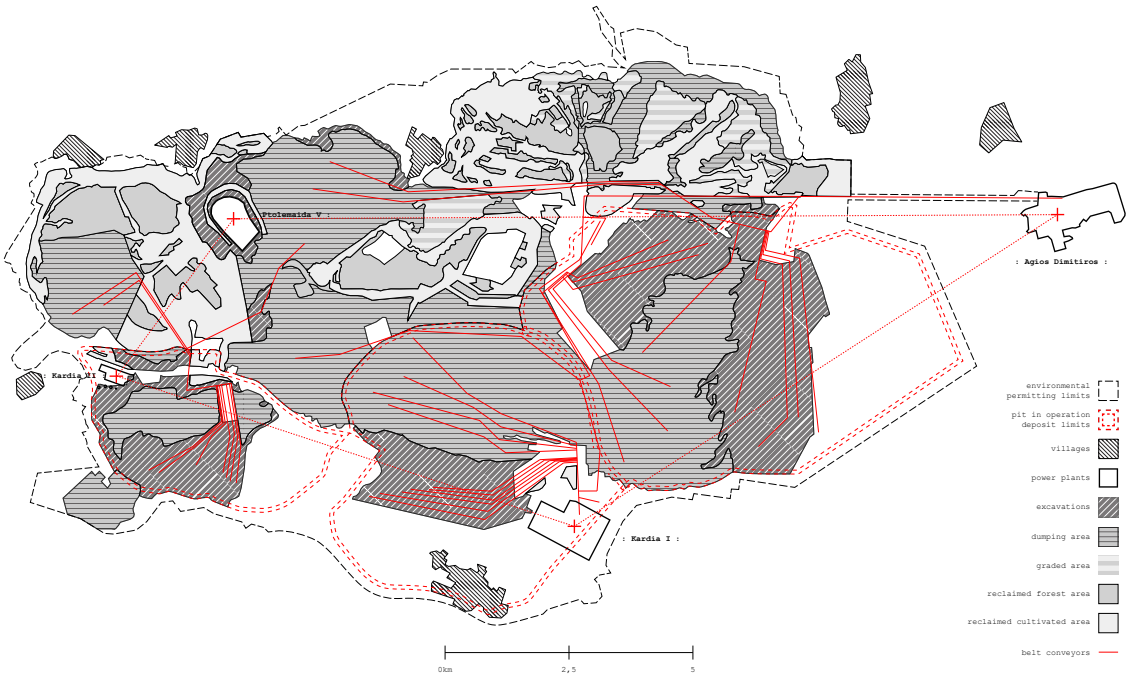
West Macedonia within the temporality of 150 years is, above all, the place of various cultural and sociological identities. Its characteristics can already be described as a production zone. Lands surrounding the Sarigol swamp, located in the area of todays' lignite mine, provided fertile grounds, orienting the communities towards agricultural production of mostly tobacco and cereals. Being the witness of the radical shift of power, it is also an area of displacement. The Greco-Turkish war and the Treaty of Lausanne divided the communities of the region.

Historic villages in Ptolemais Basin have various identities with separate names, histories, and places of worship.

Interestingly, regardless of nationality, West Macedonia has always been strongly linked with Thessaloniki, since the city has been a main centre of administration both for the Ottomans and Greeks. It operated as an agricultural hinterland of the city. Today, this has not changed much. The general role of the region remained the same, but with a much greater focus on the accumulation of the capital in the urban zones.

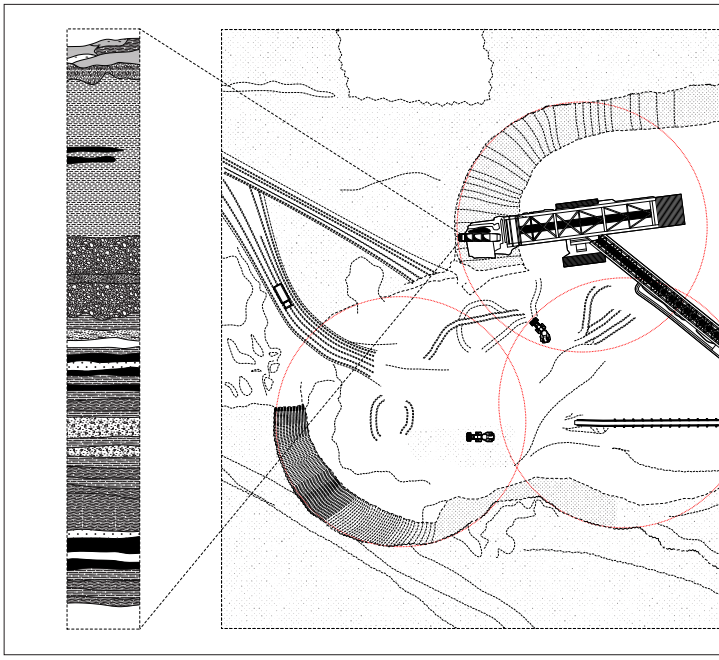
60 MINUTES

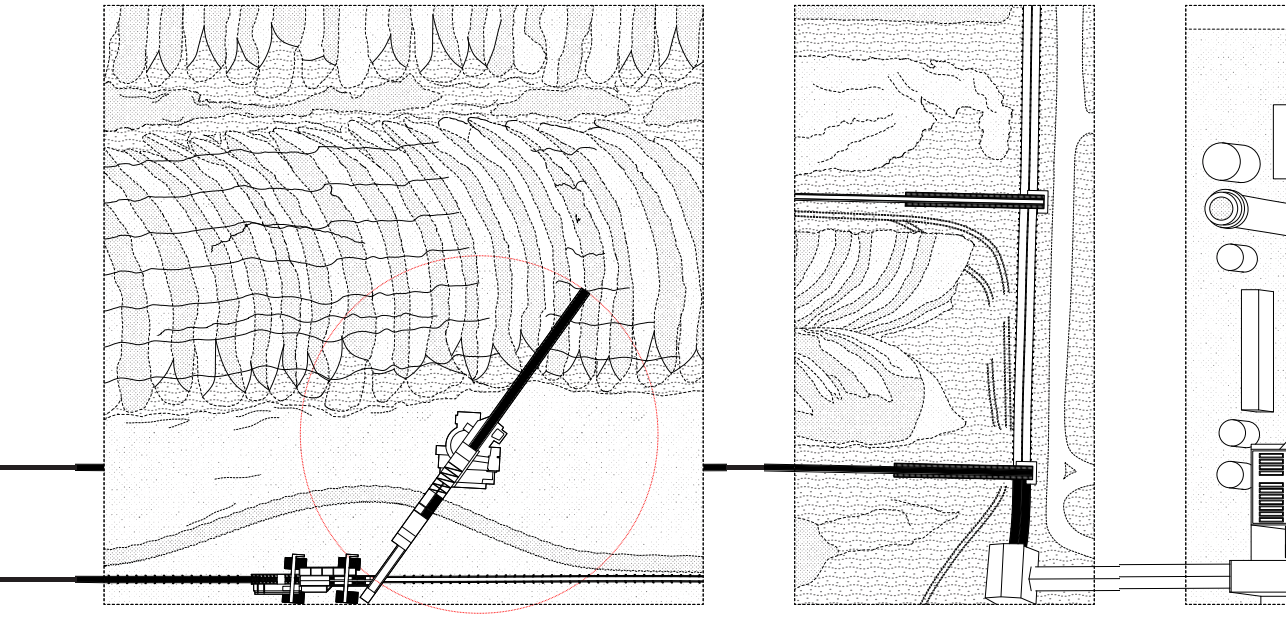
Mining is a process that operates on the logic of relocation. Lignite is only approximately 27% of what is being excavated in Ptolemaida. Levels of coal, located on various heights, are being uncovered by consistent circular turns of the bucket wheel excavators. Every hour, thousands of cubic meters of soil are moved. The overburden - soil that is not needed, is transported directly to damping zones. The vertical composition of layers of minerals is rearranged to horizontal patterns, stretching over kilometres. The whole operation utilizes over 250km of conveyor belts, employing over 3200 people. Therefore, large parts of lignite mines are the damping areas, which later undergo the process of reclamation. The constant process of "reshuffling" of the landscape, changes its topography little by little, over and over again. The notion of a continuous operation on the landscape is particularly interesting for me. In today's world globalization processes are fully automatized. Technology influences communities and accumulates the capital, at the speed of a conveyor belt.

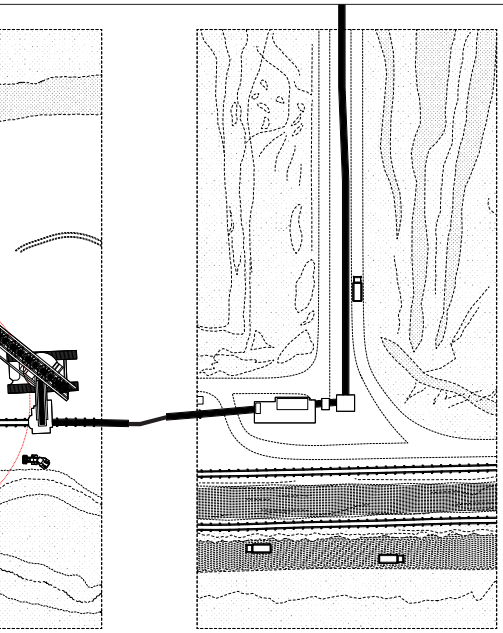


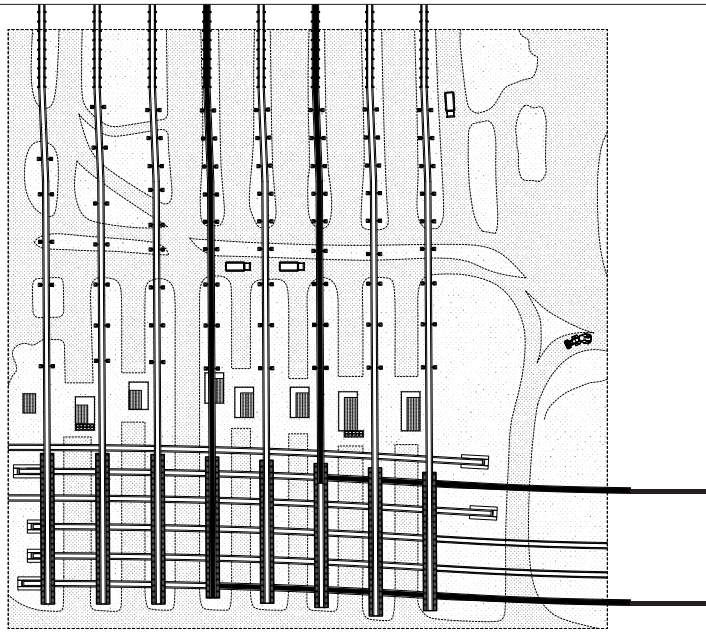
CUT & FILL

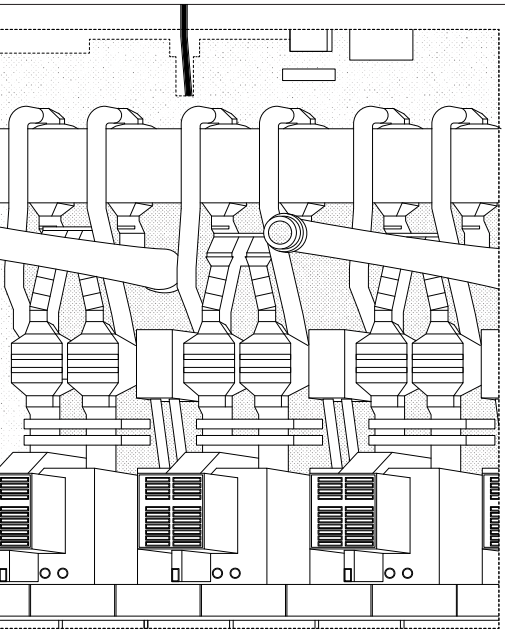
Excavation, transport, and distribution are the main components of the mining process. During its operation, it reshuffles various layers of soil from vertical order to horizontal arrangement of the overburden. After the complex journey, the fly ash - a by-product of the combustion, returns back to the quarry to the damping area.

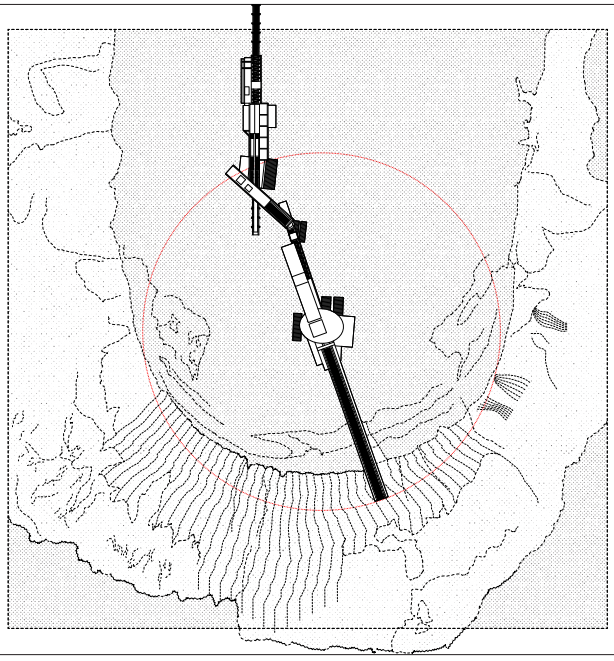










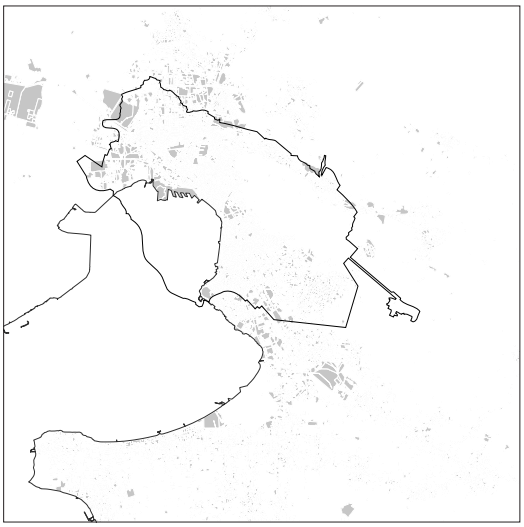


66 YEARS

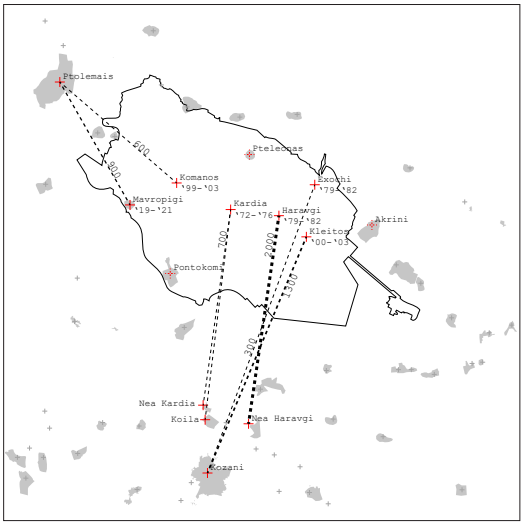
Throughout that time, the industry has occupied an area of over 17,000 ha, changing the landscape of the Ptolemais Basin. Hinterland became the size of an urban agglomeration, displacing over 5800 inhabitants of six villages. The mining operations extracted over 8.5 billion cubic meters of rocks and produced more than 1.7 billion tons of lignite. 66 years have produced a new type of territory, creating large social impacts, ecological costs, and as a result, sacrificing it. Being responsible for over 25% of the regional Gross Domestic Product, the operation established a monofunctional landscape, making it lignite-dependent. A relatively short period has a major influence on West Macedonia's "becoming". The scale of it can be difficult to grasp. It is also proof, that the price paid for technological acceleration is too difficult to amortize.

1965

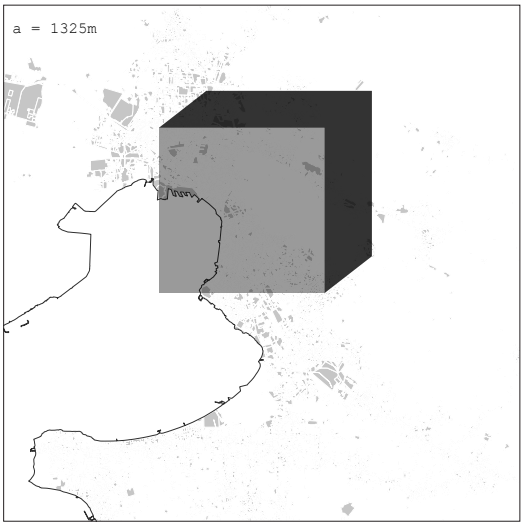
2022



The land expropriation of Ptolamaida mine.
Comparison with the city of Thessaloniki.



The internal displacement of villages due to mining operations.

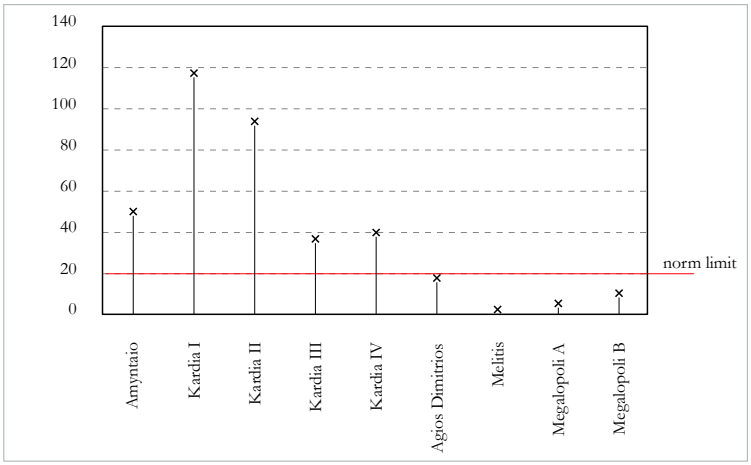


Volumetry of the lignite production.
Comparison with the city of Thessaloniki.

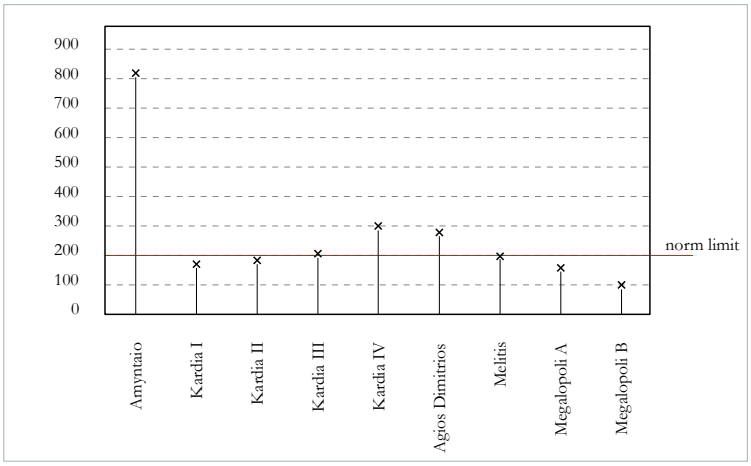
6 YEARS

The energetic hinterland of Greece is facing the task of another dramatic transition. The Greek government plans to withdraw all lignite plants by 2028. The decarbonization process to reach a net-zero emission economy requires a significant transformation. The industry, rendering obsolete, has to face numerous ecological and socio-economic issues. The environmental damage includes modification of morphology, topsoil removal, fly ash production, radiations, surface run-offs, water contaminations, and concentration of toxic substances in soil and water.

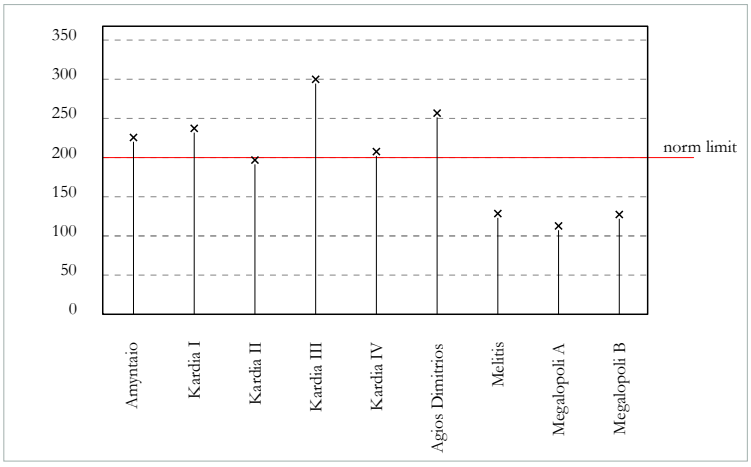
6 years is a period that summarizes over 66 years of subsequential damages. Charts provide a cold evaluation of losses. For the region, it is also a desperate attempt to provide a solution for them.



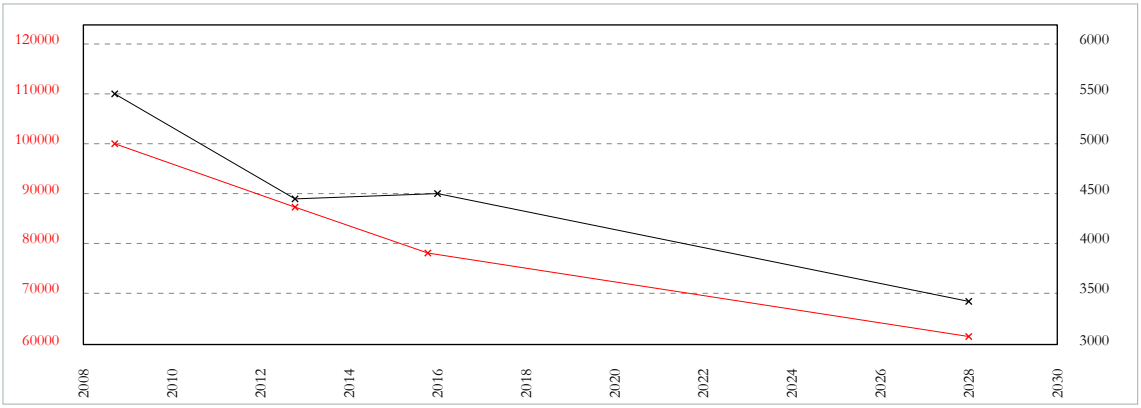
PM average of monthly emissions



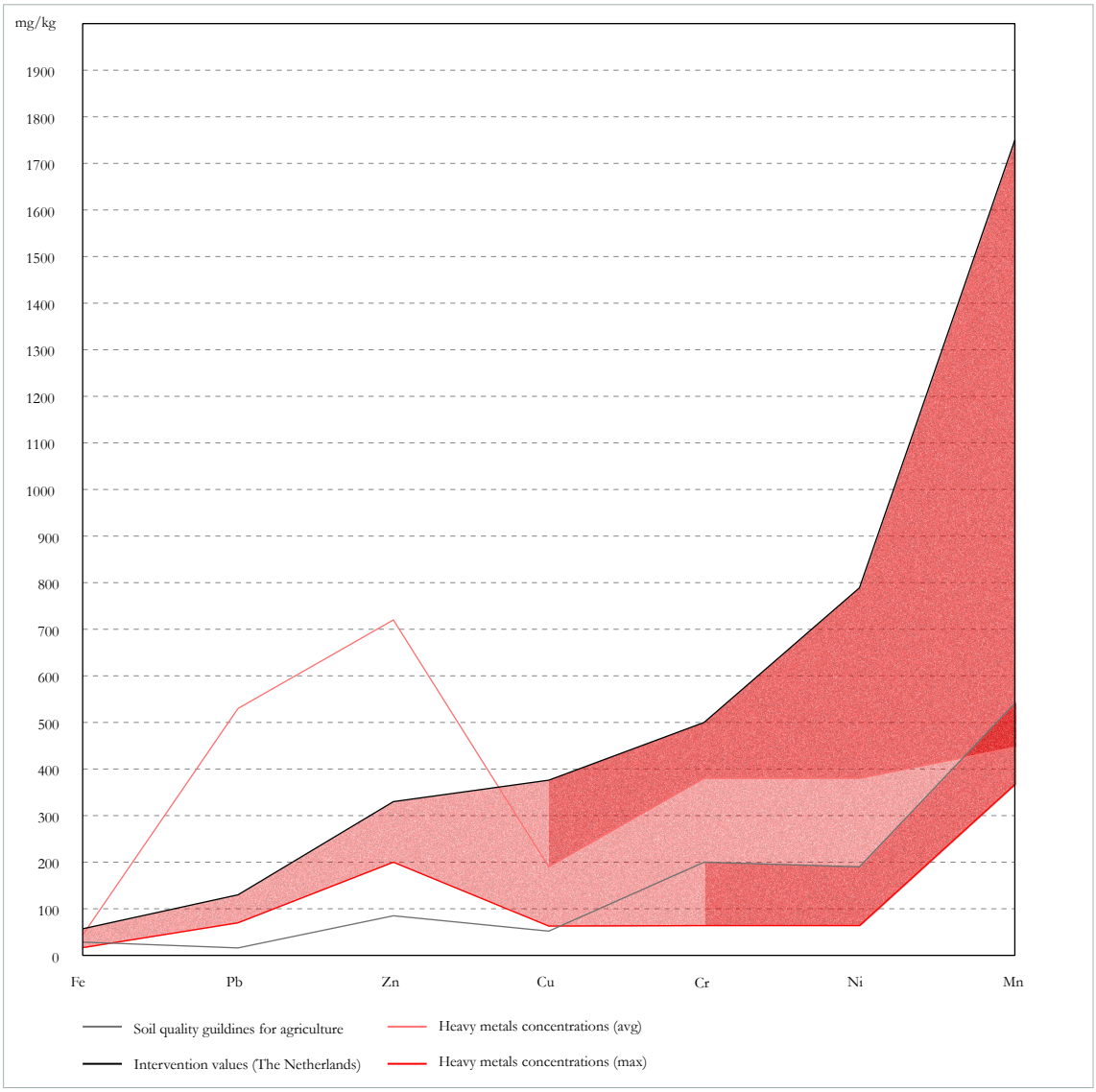
SO2 average of monthly emissions



NOx average of monthly emissions

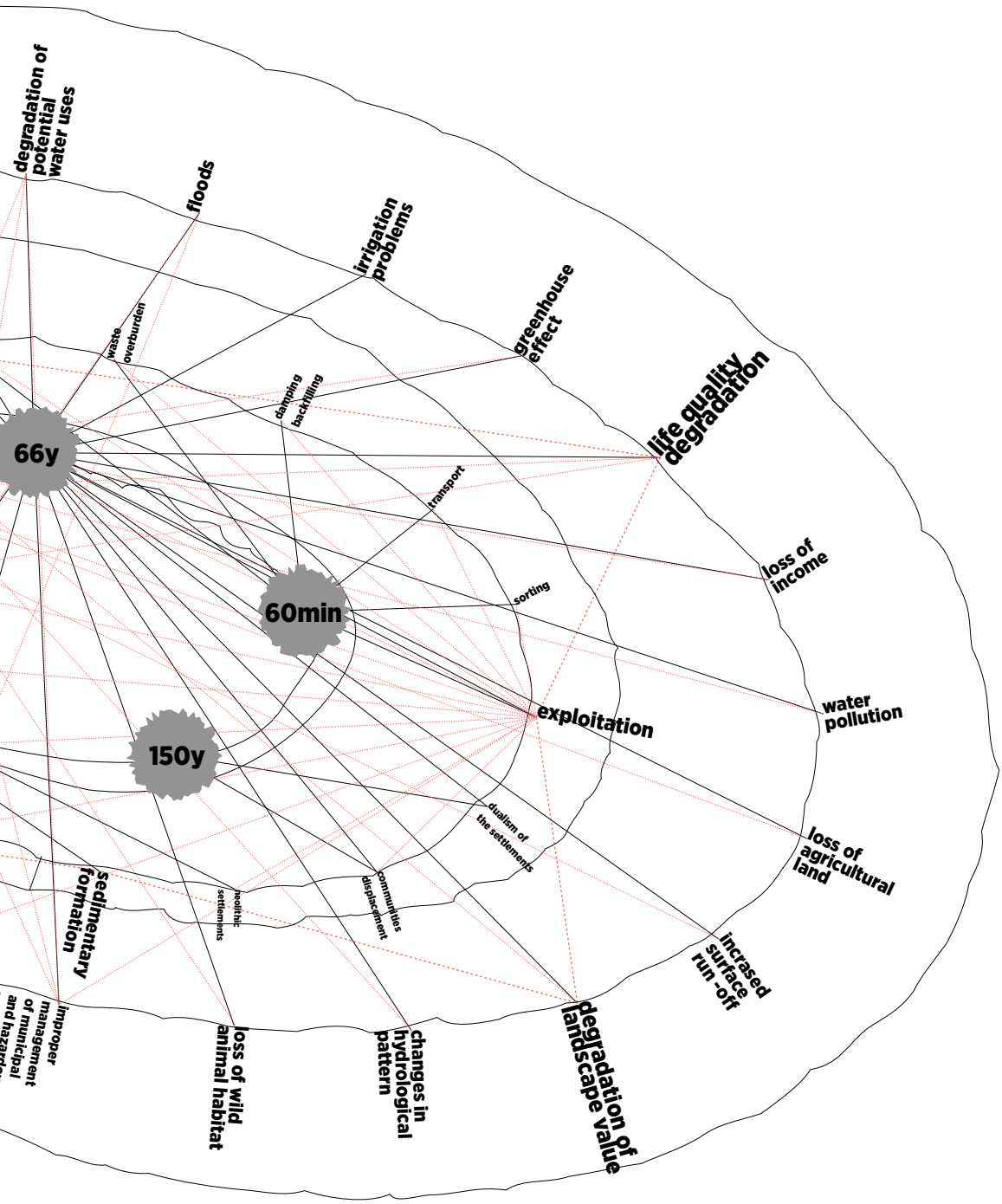


Employment and GDP (€ million) in West Macedonia



Heavy metals concentrations in soil

reJuvenation
exhaustion
city / non-city enhanced
industry-dependence
loss of importance
mono-functionalisation
increased concentration of toxic substances in soil/waters
aquatic life disturbance
modification of morphology
pumping water
topsoil removal
air emmissions
6y
66m.y
disturbances
radiations
discharges from pit protection wells
surface run-off and discharges from surfaces water collected in pit
waste



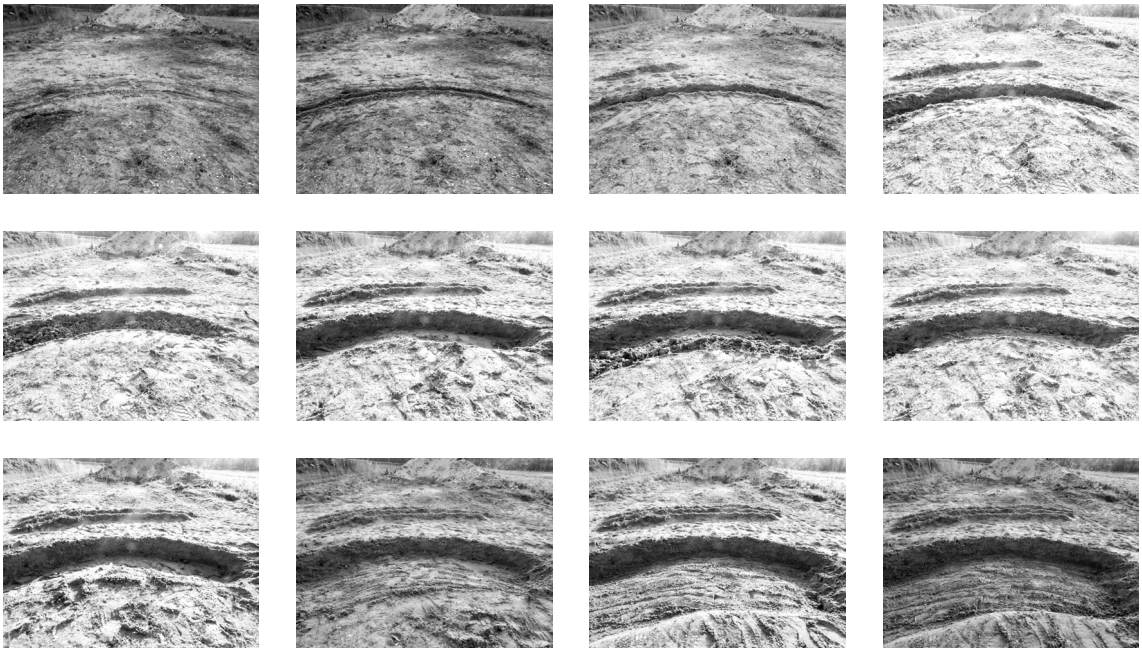
The interdependencies of temporalities and various events

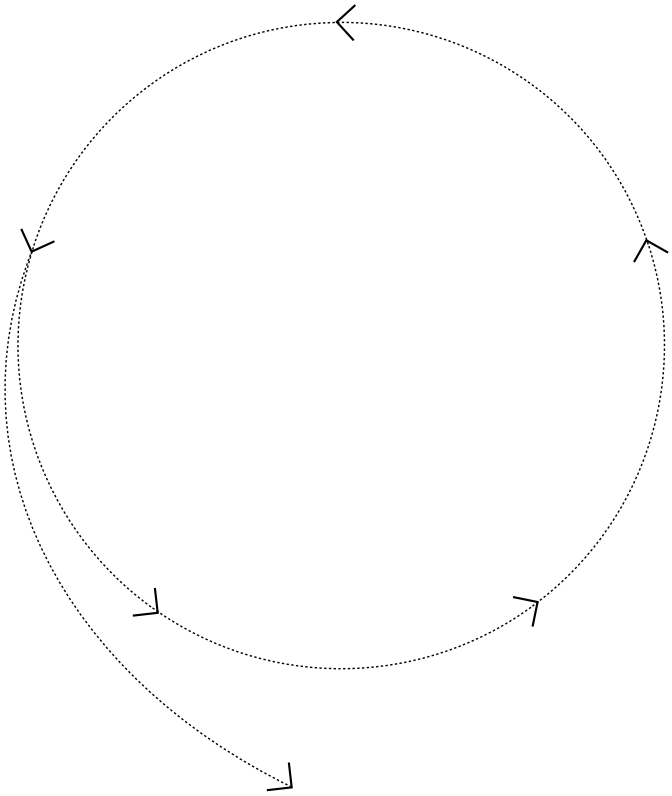
MODI OPERANDI

The workshop was an attempt to spatialize research and mappings, as well as explore different topics towards an architectural interpretation. My work mainly focused on the topics of the void and the displacement from one-to-another.

The extraction comes with a particular sequence of movements, circular turns dictated by the operational logic of the machinery. By manually mimicking the cut & fill changes on the morphology of the terrain, I was trying to capture the essence of the territory.

Similarly, in a larger in scale experiment of extracting using an excavator, I was able to better understand the rules and movements, which later on result in a certain image of the landscape. The second attempt also focused on the idea of "fixing", which is a much harder task than extracting itself. It requires greater precision and patience. Both experiments were a part of an idea for the design part, whether the logic of the infrastructure that renders obsolete, can contribute in a new way to the system that is going to replace it.





DESIGN INTENTION

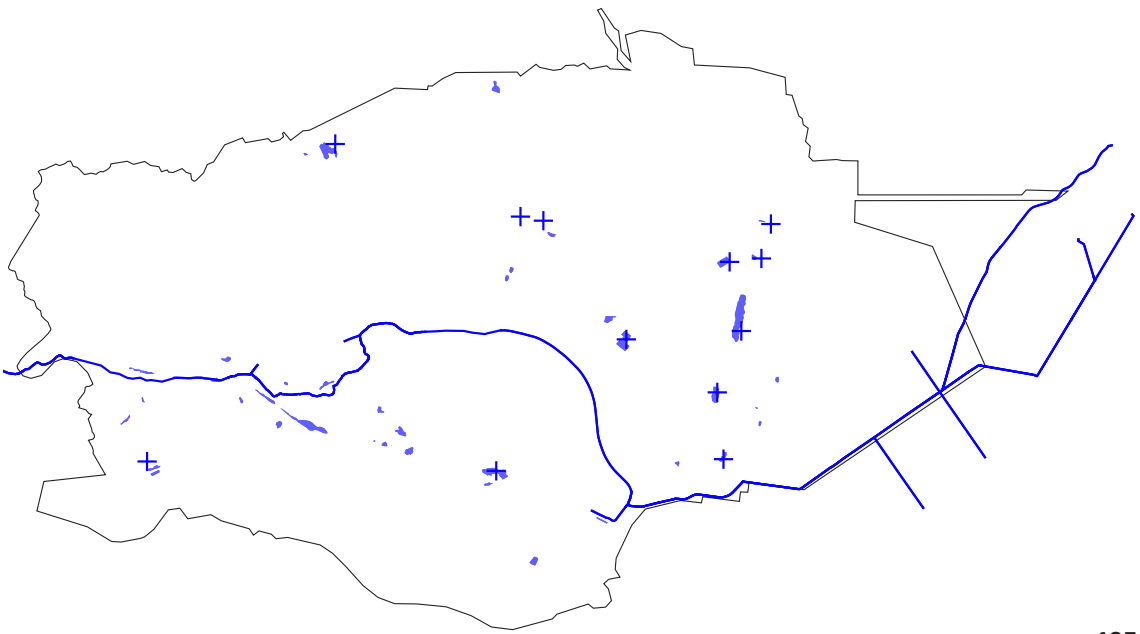
After the exhaustion, various new economical and ecological layers need to accumulate to transform hinterlands sociologically and culturally. The infrastructural landscape must be retrieved from the profit-oriented logic. The existing co-dependency of the economy and the environment needs to shrink and transform from mono functional complexes to multidimensional, ecological systems.

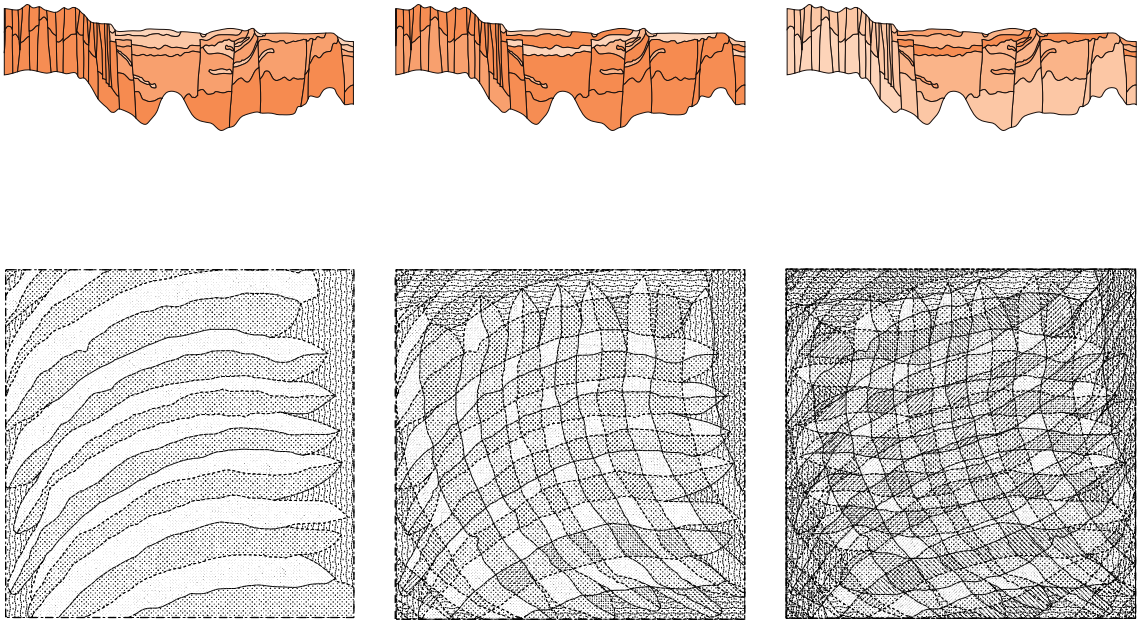
The research on the Ptolemais Basin motivated me to address the key aspects of various temporalities, but most importantly, to break the circular logic of the hinterland. Identifying and cross-referencing various visible and non-visible layers lead me to the conclusion, that the vulnerability of the region needs to be addressed in a holistic manner, providing a solution, which creates a new system, new outcome, beneficial for actors involved. The biggest challenge is the scale of the potential intervention. A comprehensive approach needs to link various aspects in a single design. The most important ones are identified in the following paragraphs.

WATER TREATMENT

Open-cast mining strongly influences the surrounding water systems. To access the layers of lignite, extensive pumping takes place; approximately 44000 cubic meters of water a day is drained and is discharged to a nearby stream.

The environmental damage between soil and water is now kept in the status quo. However, after the closure of the mine, the water will cease to be pumped out and heavy metals will enter the retention reservoir, affecting the fauna and flora within a radius of several dozen kilometres. Because of that, the further design must investigate different conventional and unconventional possible solutions regarding waste water. The operation of isolation or treatment needs to be a part of the larger approach with a potential use for other systems. The new becoming of the mine must depart from the conviction of "change" as the inherent genesis of planetary metabolism. Interventions as such must give and be given shape to material organization, living and nonliving, to connect, and to embrace friction.





SOIL TREATMENT

The environmental consequences of cut&fill operations are mainly related to the release of harmful elements from the tailings and other mine wastes. Heavy metals are leached into stream and river ecosystems, influencing both the surface and the underground.

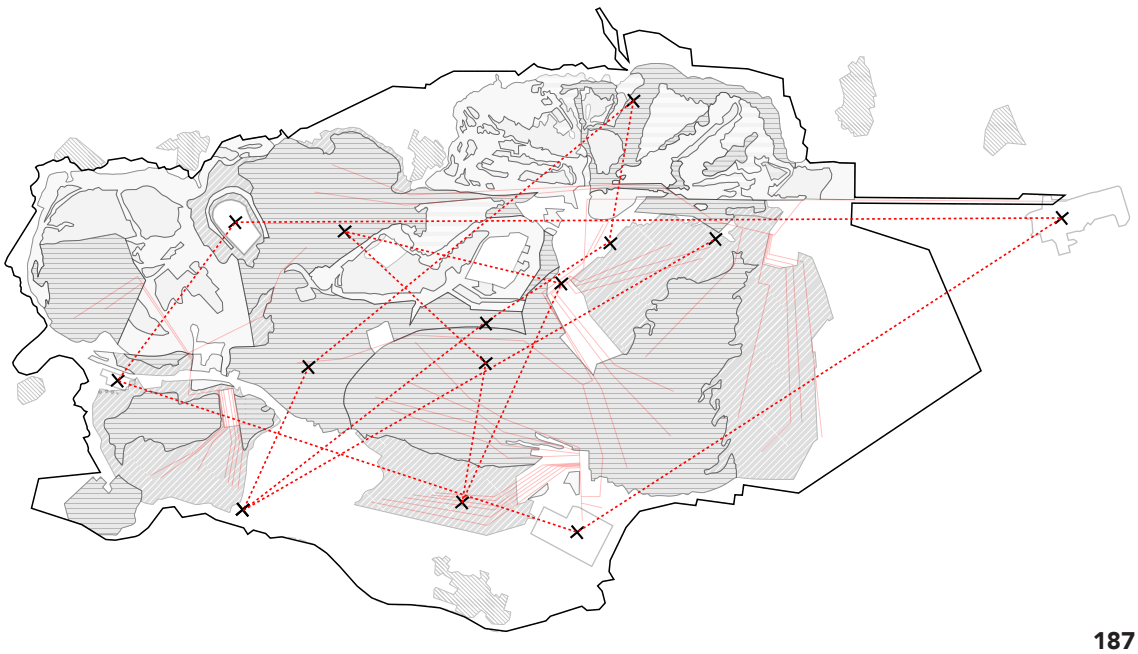
Further research needs to investigate an alternative treatment in the Ptolemais Basin, through the reorganization, of local material distribution and water circulation. Vertical-to-horizontal logic of landfilling could be used as a point of departure in the design, revaluating various layers of soil and their characteristics, restabilizng the geospheric dynamic. Another feature that could potentially be used is the notion of a constant reshuffling of the mine. The slow, but subsequential change in the topography provokes to think about the design as a temporary phase of a larger logic.

NEW SYSTEM

Techno-fixing does not address the core issues of the Anthropocene: capital, extraction, pollution, etc. Therefore, an alternative path should be established. My work intends to look for a potential low-tech and slow-tech solutions, that would aim to mitigate waste produced through the extraction, focusing on sustainable solutions.

CRITICAL SECTION

The intervention intends to dissect through different scales, temporalities, as well as the landscape itself. Ptolemais mine is the place where regional, territorial, and acupunctural meet with various stages of becoming. It is important to highlight those processes. Geological, historic, socio-economic, and ecological layers should be uncovered, revealing the complexity of the territory.



HINTERLAND IN TRANSITION

DIFFERENT PACES OF TRANSFORMING THE ENERGETIC LAND-USE CONFIGURATIONS OF WEST MACEDONIA.

Smagała Michał

"Here lies the silent twin:
the void where a landform once was.
An ancient landscape scattered and redistributed…"[1]

INTRODUCTION

For decades, for the needs of rapid development, infrastructure has been creating new systems, conquering new regions, solving problems with solutions whose consequences are incomprehensible to us. Years of focusing primarily on "the city", subordinated the surroundings to its greater authority. Urban areas, in their existence, were never self-contained. Their logic has been always supported and supplied by surrounding areas. The urbanisation processes were dependable on their production capacities, often limiting and predetermining the expansion.[2] The confined logistics of localized productivity allowed for a clear relation, as well as division between cities and their hinterlands.[3] The process of industrial acceleration, along with the rapid development of the infrastructure, diminished those rules and allowed for much greater distances between cities and their supply zones. Profit-oriented development created new scales, blurring the boundaries between urban territories. The logic of division between the "city" and "non-city", or "urban" and "non-urban", became obsolete. "What was created under the cloak of globalization, i.e., blurring the borders, strengthened the conquest of the market, and thus the conquest of the land."[4]

Today, the urban represents the political-economic relations and processes.[5] Similarly, hinterlands are no longer the close surroundings. They can be described as territories, which due to urbanization processes became planned, functionalized, subordinated, and marginalized to a certain function, to support the expanding zones, which are accumulating the capital, knowledge, labour, etc. According to Brenner, hinterlands need also be understood as political-economic territories, and as a process of urbanisation with mono-thematised productional existence to support the agglomeration processes. Today, hinterlands are the evolving processes, mutually recursive relations between agglomerations and their operational landscapes. Based on theories of planetary thinking, the term "hinterland" is used here to "demarcate the variegated non-city spaces that are swept into the maelstrom of urbanisation, whether as supply zones, impact zones, sacrifice zones, logistics corridors, or otherwise. Such spaces include diverse types of settlements (towns, villages, hamlets), land-use configurations (industrial, agrarian, extractive, energetic, logistical), and ecologies (terrestrial, oceanic, subterranean, atmospheric)."[6]

The region of West Macedonia is an example of a hinterland in a contemporary understanding of this term. It is controlled by modernity with certain technological unawareness. Even though it is located hundreds of kilometres

[1]Unknown Fields (Davies K., Young L.) (2016) Never Never Lands
[2]Brenner N. (2014) Implosions / Explosions: Towards a Study of Planetary Urbanization
[3]Ibid.
[4]Hui Y. (2020) For a Planetary Thinking
[5]Brenner N., Katsikis N. (2020) Operational Landscapes: Hinterlands of the Capitalocene
[6]Ibid.

from large urban areas such as Athens or Thessaloniki; it became an integral part of the urban fabric. The mutual relationship between the production, and capital is binding and necessary for the existence of the urban as a whole. Its existence relies on contributing to production and supply. Just as urban areas could not exist without production spaces, today's West Macedonia is not economically self-sufficient due to the monopolisation of extraction activity. Responsible for over 40% of Greece's total energy production, it is subordinated to the role of the country's economy's powerhouse. With the annual production of 55Mt, lignite deposits of Ptolemais Basin have shaped not only the socio-economic image of the region, but also the landscape itself. Zones of production became the "nature". Today, that image has a perspective of being reshaped once again, due to the closure of the lignite industry. Prime Minister Kyriakos Mitsotakis pledged to eliminate coal-powered electricity production by 2028. This ends the phase of one type of exploitation process and creates a task for West Macedonia to reinvent itself. The loss of importance of the region as an energetic hinterland foreshadows large consequences for its economy. Territory built around the idea of a production zone will become obsolete. Land, once conquered, now must undergo another transition process.

Cities and non-cities are not separate domains but are closely intertwined and mutually dependent.[7] Operational zones have been highly absorbed into the process of urbanization. Allocating regions to monothematic supply hubs often exploit them irretrievably. Such strong, highly dependent relations are difficult to amortize. In consequence, when infrastructure becomes obsolete, little to no opportunities remain for the people in terms of social impacts and ecological costs. While planetary hinterland covers nearly 70 per cent of the land, there is no clear approach to studying and understanding it.[8] This raises questions, to what extent will territories of hinterlands be exploited and what will be their role after they become obsolete? By closely examining the case of West Macedonia, this research aims to investigate such relationships and their potential future. The region has already become a monofunctional, ecologically devastated landscape. Constantly hollowing out socially, culturally, and geologically[9], the region must undergo another shift. This calls into question the future shape and role of the hinterland, which of the context and conditions this research is intending to examine.

Together with the further study of the master's thesis project, this paper will explore the questions of what are the characteristics of a territory entirely subordinated to the role of the hinterland? How far do the relations between city and non-city reach? What socio-economic and ethico-aesthetic conditions and opportunities delignification creates

[7]Brenner N. (2014) Implosions / Explosions: Towards a Study of Planetary Urbanization[8]Ibid.
[8]Ibid.
[9]Ibid.
[10]Hui Y. (2020) For a Planetary Thinking

and how an obsolete infrastructure can be used? Finally, it questions what is the role of architecture in such territories and what tools it should develop to not act in the service of the industry?[10] All of these questions are built on theories of metabolic urbanization and planetary thinking. They stem from the observations of modern urbanisation processes and acknowledge the existence of co-produced territories of modern capitalism.

TEMPORALITIES

To better understand the hinterland, perhaps we should not look at it solely as an area, but rather it requires to be seen through the lens of time. Time inhabits all living forms, forcing them to organize themselves and their actions according to temporal logic[11]. According to Darwin, life is linked to the movement of time, transforming being into becoming. His work introduces the concept of the event which appearances of life evolve and transform themselves.[12] Time does not control the existence but structures it and indicates its actions. It is often manifested in matter and space to capture and structure temporal movement in terms of the transformation of objects. It is also linked to growth, change, and decay.[13]

Similarly for the artist Robert Smithson, referring only to perception and cognition does not provide sufficient methods of analysis. Fascinated by the dichotomy between urban and suburban areas in his work "The Monuments of Passaic," Smithson, in his narrative, uses different temporalities to reveal the ambiguity and complexity of the space of the suburb: "the psychological time of the individual, the social time of culture and its symbols, and the time of geological change."[14] It allows to picture and connect different layers of the landscape.[15] "Our perception of it (the suburb), he argues, is the result of learned conventions, such as linear perspective, that present themselves as 'natural' conditions but are in fact not. (…) His aim is to precisely disrupt what he sees as the 'illusion' of unity in his experience of the suburb."[16] Smithson's thinking on time does not only refer to the notion of entropy but also introduces a term of "time-crystals". A crystal develops by repeating the same arrangements of molecules, more replicating itself rather than progressing and developing[17]. For the notion of time, this idea does not use classic, linear temporality, but rather treats it as "frozen timelessness within temporality itself."[18] "Time is deranged. A landslide of diamonds plunges into a polar crevasse of boundless dimension. History no longer exists."[19] The illusion and subjectivity of time, create various understandings of the same place. Temporalities see those relations as intertwined fragments of the whole.

Research on the transition of hinterland uses those concepts, in order to delineate different images of the region, accumulating in the

[11]Grosz E. (2004) The Nick of Time: politics, evolution and the untimely.
[12]Ibid.
[13]Grosz E. (2005) Time Travels: Feminism, Nature, Power
[14]Overdijk M. (2018) Monuments and Mental Maps. Narrating the City and Its Periphery.
[15]Ibid.
[16]Ibid.
[17]Barikin A. (2019) Robert Smithson's Crystal Lattices: Mapping the Shapes of Time
[18]Plagne F. (2018) Robert Smithson: Time Crystals
[19]Smithson R. (1996) Illustrations of catastrophe and remote times, after Barikin
[20]Costa L. (2020) Ptolemaida – life in the shadows of a coal mine

city/non-city continuum. Various time frames attempt to show the correlation between certain events and the current phase of West Macedonia's existence. If certain characteristics are interwoven, perhaps temporalities will allow us to position ourselves within the next stages of hinterland's "becoming".

66 MILLION YEARS

Coal is a combustible sedimentary deposit, of biogenic origin, which is rich in carbon. It is formed by phytoclasts, which are dead plant matter, accumulated in a basin and covered with layers of soil. Throughout millions of years, with the help of anaerobic bacteria, temperature and pressure inside the earth, the phytoclasts have been carbonized.[20] It is widely used as a fuel, supplying a quarter of the world's primary energy and over a third of its electricity[21]. Depending on the age and the exposition to high temperature and pressure, coal differs in the percentage of carbon it contains and the amount of energy it can produce. The main four ranks are: lignite (containing 25%-35% of carbon), sub-bituminous coal (35%-45%), bituminous coal (45%-86%), and anthracite (86%-97%). Due to the lowest heating value, lignite is considered the least effective type of coal.

Lignite deposits of West Macedonia are located in over 150 kilometres long sedimentary basin, which stretches through the territories of Greece and North Macedonia. Its formation began after the Alpine cycle ended and is still in progress.[22] Over approximately 66 million years, sedimentary basins accumulated several layers of lignite due to the gradual sinking of land within fault zones. The collection started in the early Miocene, where several layers of soil started being shaped due to tectonic faulting, creating a graben[23]. This process continued during the late Miocene, filling the graben with sedimentary deposits, which created the first sheet of lignite, the Early Neogene's series. The late Pliocene developed the graben into a lacustrine-marshland system, creating a new deposition. This phase is crucial for the Ptolemaida-Amytneo and Kozani basins. It is responsible for creating large lignite deposits in those areas.[24] During the Early-Middle Pleistocene, strong fault tectonism took place, which is responsible for the current configuration of the graben.[25] The last deposition of lignite occurred during the Perdka formation. It was followed by the deposition of the Middle Pleistocene, of one terrestrial formation, creating peat[26].

West Macedonia was a place for some of the earliest Neolithic settlements. First farmers inhabited the region of Ptolemaida around 6500BC. Fertile soils located around Sarigol Swamp developed various agricultural activities. Due to lignite extraction, over the last 66 years, numerous evidence of settlements has been found, inter alia on sites of Ponto

[21]International Energy Agency - Global energy data
[22]Metaxas A. (2007) Geological Evolution - Stratigraphy of Florina, Ptolemaida, Kozani And Saradaporo Graben
[23]Graben - an elongated block of the earth's crust lying between two faults and displaced downwards relative to the blocks on either side, as in a rift valley. (Oxford dictionary)
[24]Metaxas A. (2007) Geological Evolution - Stratigraphy of Florina, Ptolemaida, Kozani And Saradaporo Graben
[25]ibid.
[27]ibid.
[27]Fotiadis M., et al. (2019) MEGALO NISI GALANIS (6300–1800 BC): Constructing a Cultural Sequence for the Neolithic of West Macedonia, Greece

Komi, Mavropigi, Mikto Nisi Akrinis, Nisi Pontokomis, Kleitos, and Ayiou Dimitriou[27]. The geological temporality of approximately 66 million years of the Cenozoic era, not only is closely interwoven with current events of the region, but also has a direct influence on its becoming. Like lignite is a composition of sedimentary layers formed in the infinite accumulation of time, comparatively, West Macedonia and the image of it is a fragment of crystalline structure.

150 YEARS

West Macedonia within the temporality of 150 years is, above all, the place of various cultural and sociological identities. Regardless of nationality, it has always been strongly linked with Thessaloniki, since the city has been a main centre of administration both for the Ottomans and Greeks. However, at that time, the region was characterized by a much greater role and independence. Along with the general trend of West Macedonia, the production in the area of Ptolemaida was largely oriented toward agriculture. Close proximity to the Sarigol swamp provided fertile grounds for the cultivation of cereals and tobacco, amongst others. The region of Kozani has been booming due to the supremacy of the commerce of the Balkan Peninsula, broadening exchange activities to the north and along the Danube.

Being the witness of the radical shift of power, it is also an area of displacement. The Greco-Turkish War which led to the takeover of the territories of West Macedonia by Greece, as well as the exchange of populations ordered by the Lausanne Treaty, gave another identity to all villages and areas. The mosaic of different cultures and languages has dramatically decreased. From a region that had Greeks, Muslims, Bulgarians, and Romanians, the replacement reduced the number of non-Greeks to 12% in 1928. For both Greek and Ottoman communities, the population exchange had traumatic psychological effects, distorting memories of growing old in different places.[28] The aftermath of the displacement is still visible in villages surrounding the Ptolemaida mine. Each place has two identities with separate names, histories, and places of worship.

66 YEARS

Until the industrial revolution, the usage of coal, as far as prehistoric times, was limited. With the invention of the steam engine, coal consumption accelerated drastically. In Greece, the most important phase of technological acceleration took place in the years 1962-73.[29] To supply the rapid growth, the Greek government decided to begin the extraction of the lignite deposits of West Macedonia in 1956. Supported by all Greek governments over the years[30], the decision

[28]Kaloudis G. (2014) Ethnic Cleansing in Asia Minor and the Treaty of Lausanne
[29]https://www.archaeology.wiki/blog/issue/the-industrial-revolution-in-greece/
[30]Pavloudakis F., et al. (2020) Sustainable Rehabilitation of Surface Coal Mining Areas: The Case of Greek Lignite Mines
[31]ibid.
[32]Ziouzios D., et al. (2021) Challenges and Opportunities of Coal Phase-Out in Western Macedonia
[33]Costa L. (2020) Ptolemaida – life in the shadows of a coal mine

of transforming the agricultural lands of Ptolemaida into an energetic hinterland has shaped the economic image of the region. Mining operations escalated at a fast pace, deploying the local community in the power production industry and neglecting other economic activities. The lignite industry has been responsible for over 25% of the regional Gross Domestic Product, employing more than 22,000 direct and indirect jobs[31]. Covering most of the country's electricity for decades, at the peak of the activity, lignite production in West Macedonia exceeded 55 million tons per year.[32]

Such a decision imprinted the infrastructuralisation processes, making West Macedonia dependent on the role of being a production landscape. The lignite industry has created a direct relationship between the volume of material excavated, the GDP and employment of the region, marginalizing other economic activities. Having no alternative that could balance out the jobs and income provided by the extraction, decreased production of lignite in recent years brings overall wealth loss of the region. The vicious cycle of the productional landscape was a main factor of unemployment during the financial crisis, which was highest in Greece.[33] The establishment of a monofunctional landscape made it lignite-dependent.

The results of millions of years of geological processes have been exhausted. Being one of the largest coal mines in Europe, Ptolemaida became a hollow landscape. The mining operations extracted over 8.5 billion cubic meters of rocks and produced more than 1.7 billion tons of lignite. After 66 years, the landscape voids are occupying over 17,000 ha and turned forests and agricultural areas into dessert-like scenery. The important attractor for farming throughout centuries - The Sarigol Swamp, has been reclaimed to cater for mining activities. The exploitation of the land has numerous environmental impacts, including modification of morphology, topsoil removal, fly ash production, radiations, surface runoffs, water contaminations, and concentration of toxic substances in soil and water.[34] As a consequence, the region suffers from changes in hydrological patterns, loss of wild animal habitat, water pollution, air pollution, irrigation problems, aquatic life disturbance, and general life quality degradation.[35] The most significant effect is related to the combustion processes of lignite, heavily polluting air and contributing to the greenhouse effect, as well as rising cancer cases in the region by 16 per cent since 1950.[36]

Environmental impact is not the only factor in the shrinking life of the region of Ptolemaida. Additionally, the city / non-city relation hollows out social and cultural factors. Due to sprawling mining operations, PPC, the company responsible for the energy production, has been relocating villages sitting on the deposits. With the first operation in the

[34]Pavloudakis F., Roumpos C. (2004) Evaluation of Land Reclamation and Environmental Protection Strategies in Open-Pit Lignite Mines
[35]ibid.
[36]Costa L. (2020) Ptolemaida – life in the shadows of a coal mine

period of 1972-1976 till today, the company has internally displaced over 5800 inhabitants of six villages, with the next two waiting for relocation. Slowly absorbing lands of agriculture and living, mining activities are displacing large communities to new locations. Descendants of victims of population exchange from the 1920s are forced to share a similar fate. The impact of extraction leaves no opportunities for residents not willing to leave their homes, who are being deprived of the electricity and water supply.

The relatively short temporality of 66 years is directly interwoven with the Cenozoic period within the context of underlying grounds for becoming of West Macedonia an energetic hinterland. Similarly, the temporality of 150 years helps to better understand the sudden, radical change the region has undergone, shifting the populations, as well as the image of the landscape to strictly operational. 66 years produced a new type of territory, new alteration of the hinterland, creating large social impacts, ecological costs, and sacrificing it. It strengthened links between cities and non-cities, as well as established new connections, since industrial acceleration does not limit only to city / non-city, but also non-city / non-city relations. Energetic hinterland also exists to supply other hinterlands, creating an array of dependences, boosting profits, and accumulating capital. Supporting various sectors, e.g., agriculture, fishery, maritime, and industry, it increases the production output, allowing to establish more eurozone and worldwide connections. Being a part of the international energy grid, it contributes to the profit maximisation of the sector.

60 MINUTES

"Extraction produces arrangements of matter that disfigure other organic and nonorganic arrangements, such as bodies and land."[37]
Lignite extraction relies on the logic of real-location. It involves the processes of excavation, transport, and distribution. During its operation, it reshuffles various layers of soil from vertical order to horizontal arrangement of the overburden. Sediment that can be used as fuel is approximately 27% of what is being excavated. To provide enough fuel for the combustion, the Ptolemaida mine operates on 3 shifts, 24 hours a day, 7 days a week, for 66 years.
"The machine itself makes no demands and holds out no promises: it is the human spirit that makes demands and keeps promises. In order to reconquer the machine and subdue it to human purposes, one must first understand it and assimilate it."[38]

The pace of work is ordered by the pace of the main tool of the extraction, the bucket-wheel excavator. It is a heavy equipment machine, used in open-pit mining operations, which with consistent circular turns, removes

[37]Yusof K. (2021) Mine as Paradigm
[38]Mumford L. (1934) Technics and Civilization
[39]Pavloudakis F., et al. (2020) Sustainable Rehabilitation of Surface Coal Mining Areas: The Case of Greek Lignite Mines
[40]Yusof K. (2021) Mine as Paradigm
[41]Pavloudakis F., et al. (2020) Sustainable Rehabilitation of Surface Coal Mining Areas: The Case of Greek Lignite Mines
[42]Costa L. (2020) Ptolemaida – life in the shadows of a coal mine
[43]Pantelia A. (2018) Lignite mining: Greece's dirty secret – in pictures

approximately 12,500m3 of overburden per hour. The mine of Ptolemaida is equipped with 42 bucket-wheel excavators, along with numerous conventional boom excavators.[39] Mine shovels are directly connected with the distribution equipment. The overburden is categorized and transported for damping and backfilling. Using 17 spreaders, the by-products are rearranged into the circular patterns of dunes spreading across hundreds of meters. Lignite is transported to fuel thermal power units located in close vicinity, with a capacity of 3737 MW, to finally end up as a fly-ash at the damping area of the mine. Those processes are automatized and connected, utilizing over 250km of conveyor belts. The image of the landscape is highly subordinated to the movement of the machine. Circular cuts, both horizontal and vertical, spiral pits, and numerous shapes of dunes, stretching for over 170 square kilometres, are a result of slow, continuous, simple movements.

If mining unearths the exoskeleton of geologic life to produce the nowness (or the now, now, temporality) of contemporary life (its energy and communication networks, its highways and pathways), it also creates an opening and the passageways of unintended fractures—fissures—that lead into other undergrounds."[40] For every million tons of lignite produced, 185 jobs are maintained in the mining-energy sector and 725 jobs are created in the local labour market.[41] Currently, the Ptolemaida mine creates employment for around 3200 people, giving workers approximately 680 Euro per month.[42] Due to the extreme mono-functionality of the region, it is often the only choice for the people willing to live there. Successive generations are being involved in the extraction operations, which frequently take a toll on their health. Premature paternal deaths due to cancer, force workers to follow their fathers' paths, as there is a lack of other job opportunities.[43] Each hour contributes to the cycle of dependencies and differences between city and non-city.

Small time-crystals accumulate, producing a hollow landscape. Economic dynamics, machinery, and people are involved in that relation of demand and supply. With each hour, the energy usage, essential to the urbanization processes, cuts out a consecutive piece of land, geophysically transforming it for millennia. Cities, located hundreds of kilometres from the Ptolemaida mine, have a direct influence on the economy, ecology, and sociology of the region, amongst other aspects. That influence is instant and has a speed of the electric current to be precise. One of the essential characteristics of energy logistics is the inability of storing, leaving no margins for the supply and demand chain. The production of electricity is a direct response to the usage of a single moment. In that respect, flipping a switch in Athens or Thessaloniki can cause the turbine of the Agios Dimitrios Power Plant to start spinning. This is often used by the Public Power Corporation in exerting pressure on

[44]Brenner N., Katsikis N. (2020) Operational Landscapes: Hinterlands of the Capitalocene
[45]Hellenic Republic (2019) National Energy and Climate Plan
[46]Pavloudakis F., et al. (2020) Sustainable Rehabilitation of Surface Coal Mining Areas: The Case of Greek Lignite Mines

workers and inhabitants of surrounding villages, threatening any operational disruptions may cause power outages in the country. This illustrates the fragility of the region, being a "sacrifice zone"[44], entangled in the toxic process of supplying profit-oriented capitalism.

6 YEARS

The energetic hinterland of Greece is facing the task of another dramatic transition. The decarbonization process to reach a net-zero emission economy by the mid-century requires a significant economic transformation. The Greek government plans to withdraw all lignite plants by 2028, with the majority of units being withdrawn by 2023.[45] It is 25 years earlier than the lignite industry anticipated based on the natural reserves of the Ptolemaida basin. Long-term dependence on extraction, lack of diversification, as well as the stagnation of other branches create a threat of losing thousands of jobs in the coming years. Due to political acts, the low-value, degraded landscape will suffer another socioeconomic impact, which will surely expose local communities. It is estimated that the delignification will result in a decline of GDP by 26%, loss of 21,00 jobs, and an employment reduction of 24%. The total income loss for the years 2013-2028 will reach €9 billion.[46]

The transition plans' strategic direction requires backing of transforming and differentiating the economic sectors. West Macedonia will partially remain an energetic landscape, replacing lignite with solar farms and hydrogen production facilities. Additionally, the area will be supported by a more diverse industry involving battery production, the return of agricultural production, and the development of sustainable tourism.

Even though often rendered obsolete, infrastructure systems are still needed. However, the case of West Macedonia proves that capitalistic approaches of separation of industries to maximize profit are dangerous for the future existence of hinterlands. Profit-oriented, monofunctional systems prove to create destructive relations between cities and non-cities. Instead, a new system is required, operating in synergy with different economies and ecologies. Referring to existing knowledge, hinterlands require a new model, with a variety of different, smaller activities. The landscape "needs to be reformed as a system of essential resources, services, and agents that generate and support urban economies."[47]

"66 MILLION YEARS"

Hinterlands are places constantly undergoing changes – geological, ecological, economical, sociological. Their characteristics are based on the dependence of their relationships with urbanization processes. On the continuum of their existence, their applications undergo numerous mutations, but the city / non-city relationship seems to persist. The current becoming of hinterlands has reached a point of saturation. Any changes in their role render them vulnerable. Simultaneously, by relying their existence on extraction, they are progressing the exhaustion. In this way, this relationship makes the image of the hinterlands a place of capitalist machinery, where people and landscape become infrastructure in the process of capital accumulation. The delignification process, as well as the challenges and predictions facing it, show how unstable the position of the hinterlands is. Infrastructural configurations, which are now becoming obsolete, are not able to amortize the environmental costs. Non-city is a vulnerable place, degraded and eroded by the logic of profit maximization.

In the circulating history of events, the urbanization processes have reached a critical point. "66 million years" is an attempt to stimulate further reflection and investigation on the dynamics of the hinterland transition. The repetition of the first temporality points out the necessity of introducing the rejuvenation phase. Similarly to the process of lignitogenesis, ecological and economical layers need to accumulate to transform hinterlands sociologically and culturally. Operational landscapes must change their logic in a sustainable and democratic way. The next pace of the transition is an ambition to reverse and balance out the city/non-city relationships. The infrastructural landscape must be retrieved from the profit-oriented logic. The existing co-dependency of the economy and the environment needs to shrink and transform from mono-functional complexes to multidimensional, ecological systems. Perhaps exiting operational territories, and the socio-economic and ethico-aesthetic conditions they create can bring a different understanding of infrastructure. Further spatial research and design project aim to explore the opportunities of incorporating obsolete systems and machines accompanying them, to restore value to the degraded landscape. The operational logic of mining processes has created an effective tool for the transition of the landscape. Paraphrasing Lewis Mumford, we have to reconquer it and subdue it to human and ecological purposes.

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WHERE THE WALL LIES: URBAN BARRIERS AND EDGE CONDITIONS

INVESTIGATIONS INTO MANIFESTED SOCIAL NARATIVES THROUGH URBAN TRACINGS

Gill, Peter

INTRODUCTION

In the built lies a trace of every conscious and subconscious decision by all those who have ever lived. In their acts we can read a story of their lives, the triumphs, the victories, but also the tragedies of their existence. From the very little we have left of our built past we can read the lost stories of our cities telling us of the struggle which allows us to stand here today.

The ancient walls of Thessaloniki stand as a monument to this. Since their establishment in the 4th century their status and significance in the city has only grown. Thessaloniki was a trading town strategically placed on a hill overlooking the bay below. As it grew, so did the walls with them eventually spanning from the old town down to the bay. The significance of these walls may seem obvious; they protected against military attacks, but this was a rare exception. The true significance of the walls was more related to micro-control; regulating ingress and egress. In its modern context Thessaloniki is no longer a walled city yet the wall has and still plays a significant role in the spatial narrative of the city. The co-existence of the concept of a historic wall, which is treated as a monument, and the ruin of the wall, which stood as an obstacle to the development of the city, has resulted in a conflict between preservation, presentation, or development and as such provides a rich diversity in spatial realities.

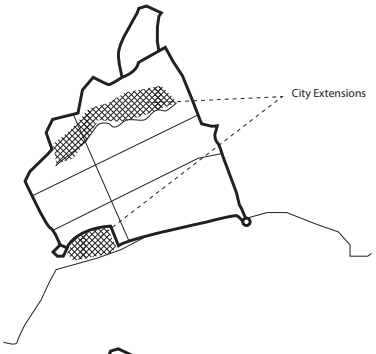
The dynamic spectrum of spatial outcomes surrounding the city's historic and contemporary boundaries work to reveal the changing cultural views on heritage and borders.

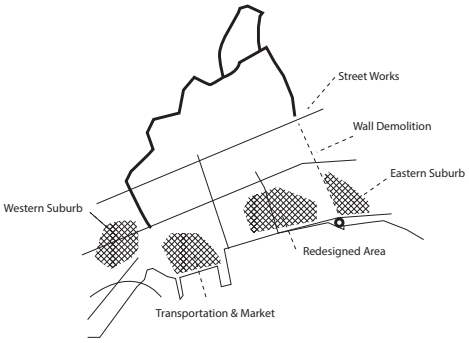
Due to the scale and the quality of preservation of Thessaloniki's historic wall, it presents itself as a unique case study for the analysis of the spatial consequences of such a monument. Many European city's walls were entirely demolished during the industrial revolution (Kostof, 2015). and as such only exist through obscure references in street names and roads. Thessaloniki's wall, on the other hand, exists in various states of disrepair which lead to a variety of different architectural and urban outcomes. Embedded in each of these outcomes is a rich variety of attitudes towards a boundary. As such, a lot can be learnt about the mechanisms of constructing and deconstructing urban boundaries.

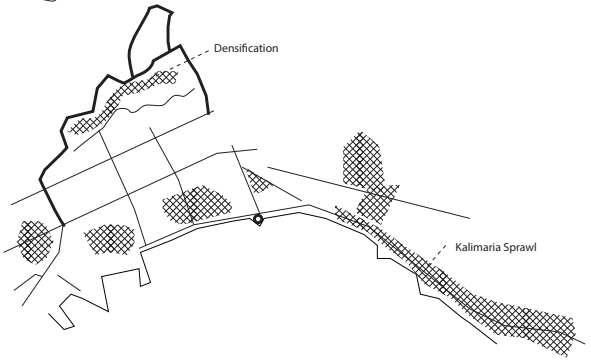
"One of the deepest impulses in man is the impulse to record, to scratch a drawing on a tusk or keep a diary… The enduring value of the past is, one might say, the very basis of civilisation."

John Jay Chapman, (1862-1933)

INTRA MUROS/
EXTRA MUROS







Intra Muros/ Extra Muros are a set of terms used to describe two spatial locations relating to walls and boundaries. Intra Muros explores the internal condition; to be within the confines of the wall. Spatially this means being surrounded by or being located within an area. It is an exclusive term which connotes feelings of inclusion, separation, and authority. On the other hand, Extra Muros is a much broader term which describes all that is not contained within a separated area. Through its scale and inherent vagueness, it is used to suggest that which is foreign, unknown, and ultimately 'other'.

Historically, the mentality of Intra Muros/ Extra Muros presented itself through a mentality. The mentality that by being on the inside of the wall you are protected, living withing a defined area, ruled by law and that by being outside the wall that the inverse applies. To some extent this still applies to the current context of Thessaloniki, but this mentality is unevenly distributed throughout the previously walled areas of the city. In the lower town, which has seen significant redevelopment in the 19th and 20th century with large portions of the wall being demolished, a modern city grid being applied over the rectilinear Hellenistic city structure, and densely developed with 5-10 storey buildings this mentality has nearly disappeared, only being post-partum reintroduced by the forced excavation of the remaining parts of the wall. This rigid system never existed in the upper town, and partially due to the topography of the upper town being steeper, retaining a large portion of its historic buildings, and retaining much of the city wall, an informal culture of development remained where due to historical tenancy, residents felt the right to claim and occupy space.

The phenomena of Intra/Extra Muros is one which now transcends the walls of Thessaloniki and exists beyond the Euclidian geometry of naturalised space. Its literal translation of "inside/outside the wall" points towards a fixed cartographic method of territorialisation but this bears almost no resemblance to its applied meaning which deals with nuanced identity politics codified and materialised through volumetric elements and spatial performance.

The contemporary Intra Muros mentality is now in contention with the volumetric elements which previously defined their spatial autonomy. The evolution of heritage and its value as a cultural artefact has now reached the point where Intra/Extra Muros has become Intra/Omni/Extra Muros where the definition of the divide also has its own associated mentality and spatial praxis.

AUTONOMY OF MONUMENTS

When looking at the resulting spatial outcomes surrounding the historic wall of Thessaloniki it appears that, due to a number of factors, it has its own spatial autonomy within the urban fabric. Karen Barard's concept of Agential Realism provides some innovative insights on this phenomenon. Despite being based in the field of physic-philosophy, Agential Realism discusses the sociomateriality of entanglement and the inseparability of social with materiality.

To argue that the city wall, as an artefact, has its own distinct spatial agency simply by existing is therefore no longer valid, its agency must be derived from its intra-activity. Through the lenses of heritage and social value, many of these intra actions have come to light, but as Barad points out, the frame of observation defines the result of the observations. The quantum state of observations applies in full force to the wall and this project. By focusing on one particular area, this investigation is only able to derive the intra-actions of the frame, severing ties with larger scale systems. Therefore, to be able to draw larger conclusions about the autonomy and agency of the wall within t
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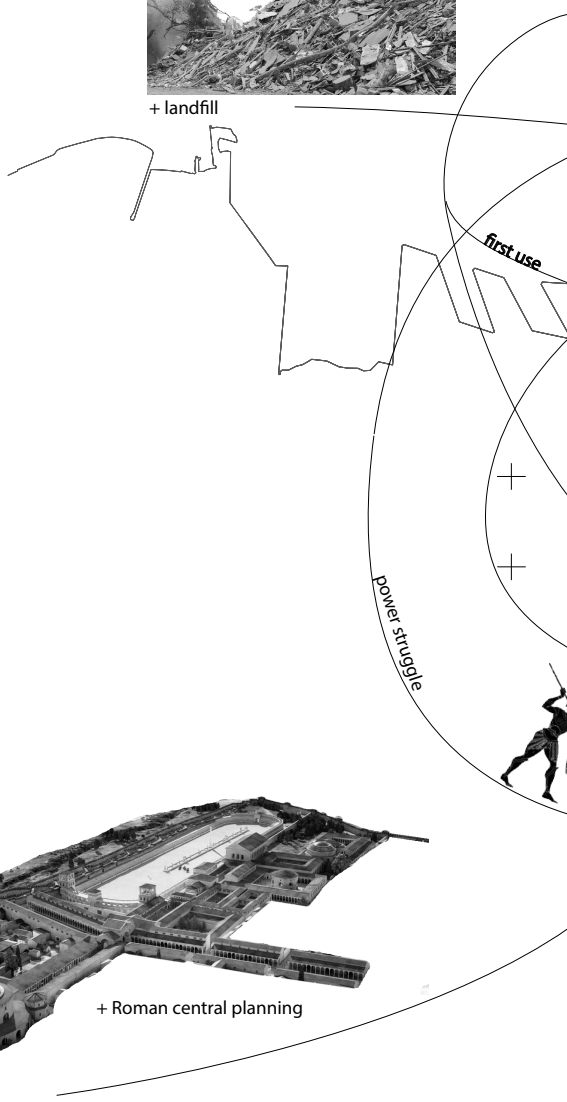

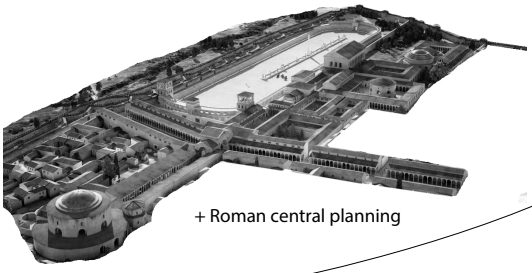

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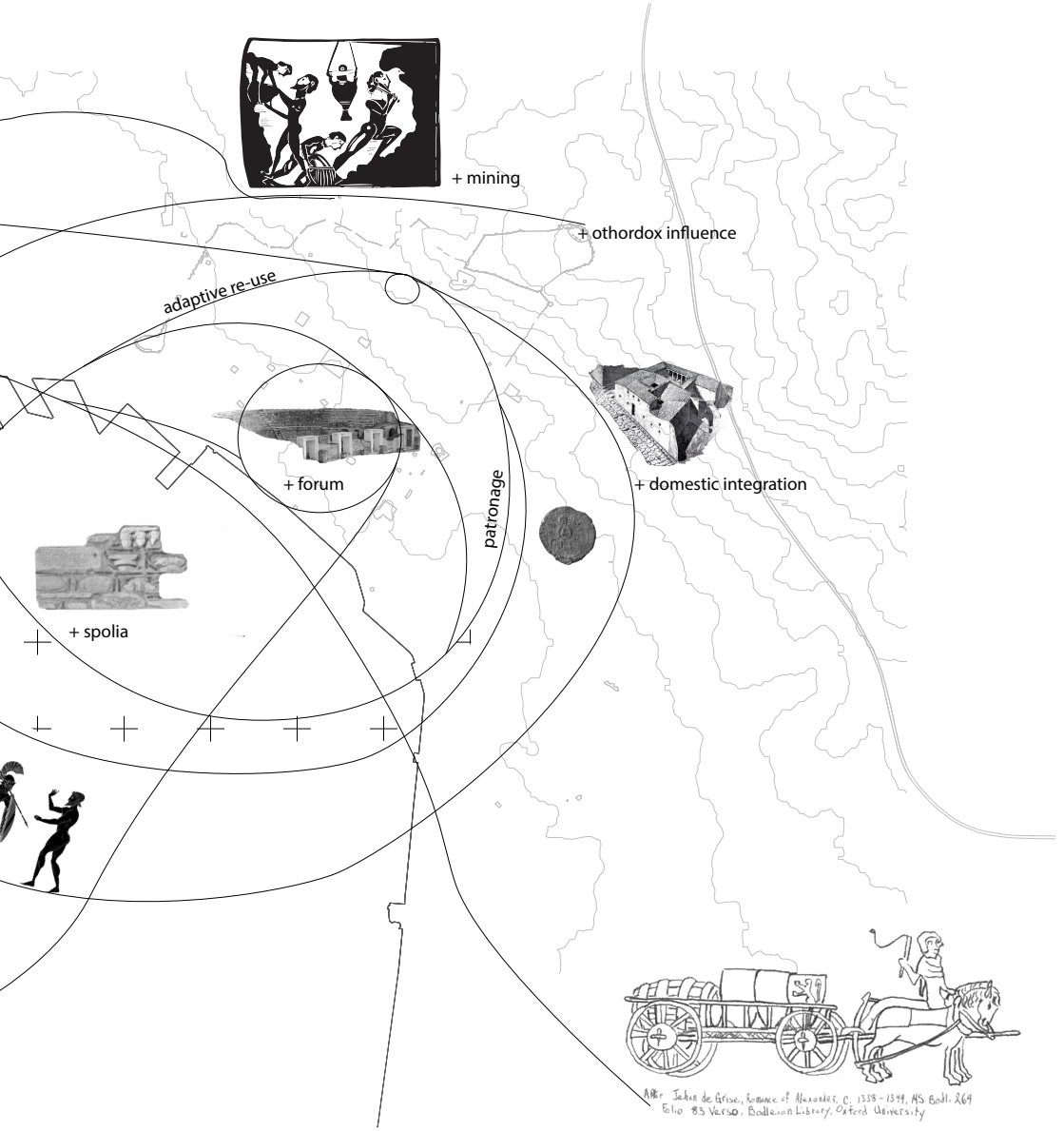
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adaptive re-use
+ forum
+ domestic integration
patronage
+ spolia

View from the Cascade, 2017

VERTICAL HISTORIES

In her 2003 works titled "Posthumansist Performativity", Barad reconceptualises the concept of performativity. She describes performativity though material-semiotic actors which entails that object are defined through relational understandings (intra-actions) and are not composed of "things in themselves" or "things behind phenomena" but are instead "things in phenomena".
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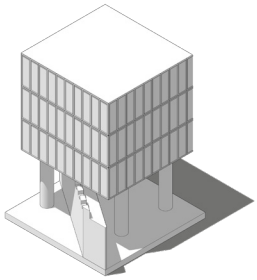
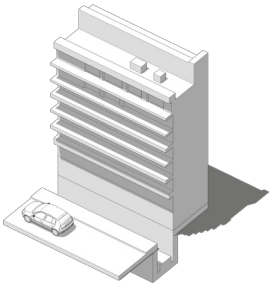
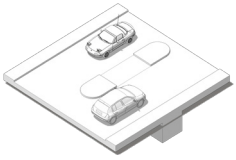
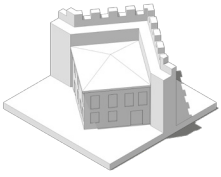
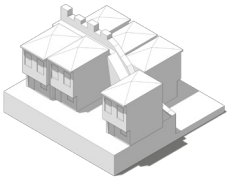
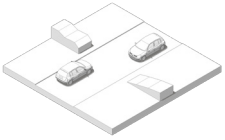
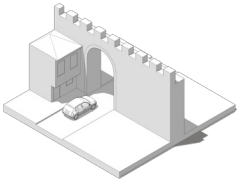
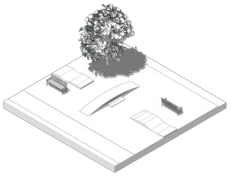
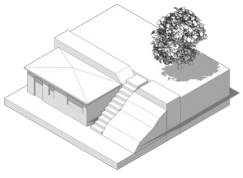
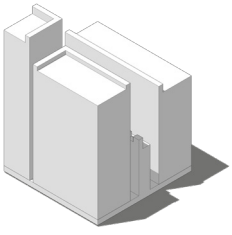
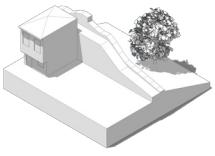
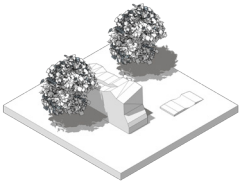

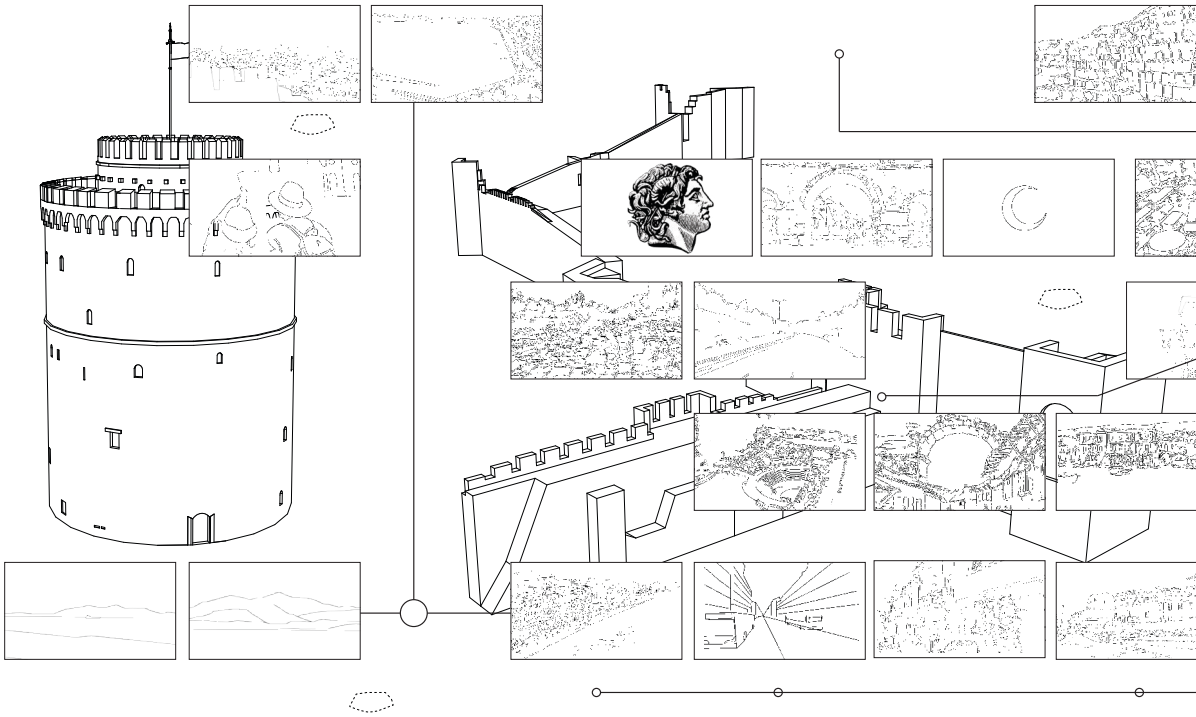

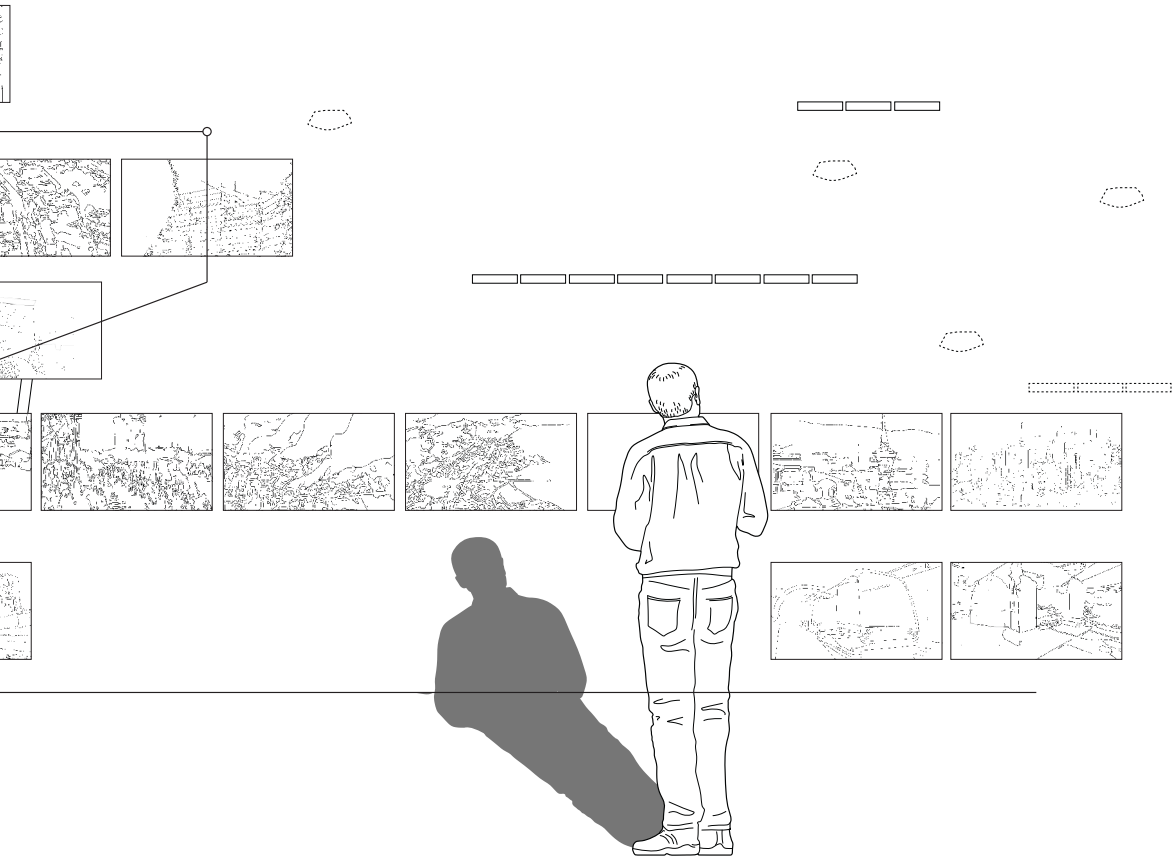

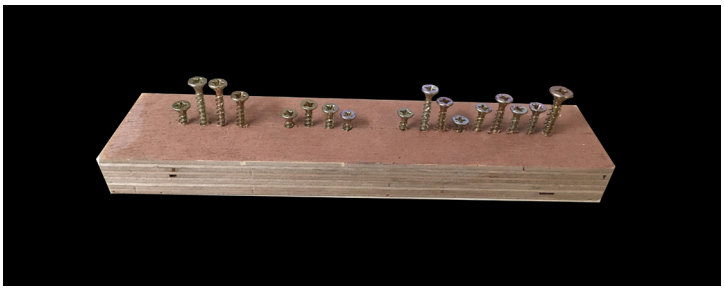

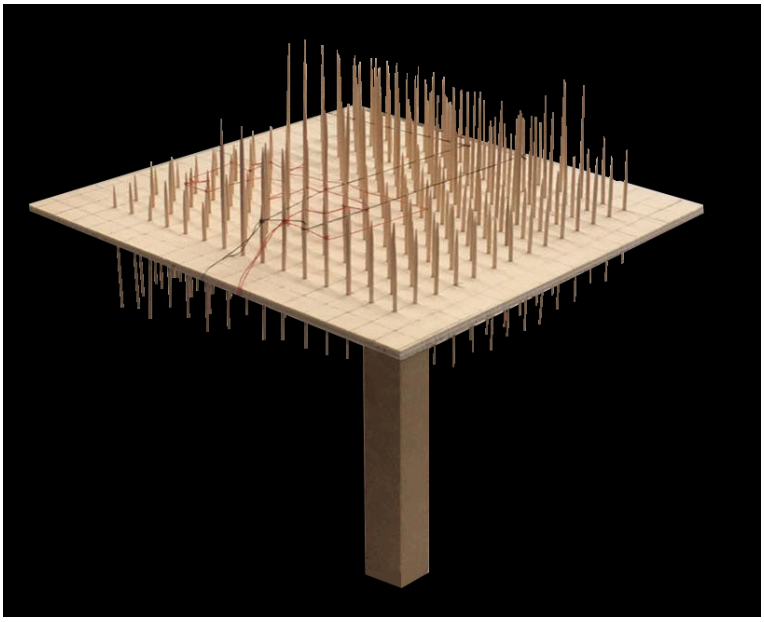

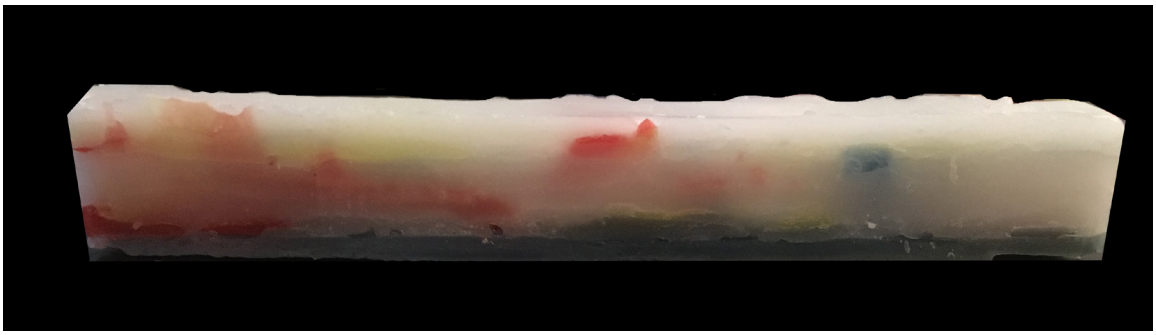

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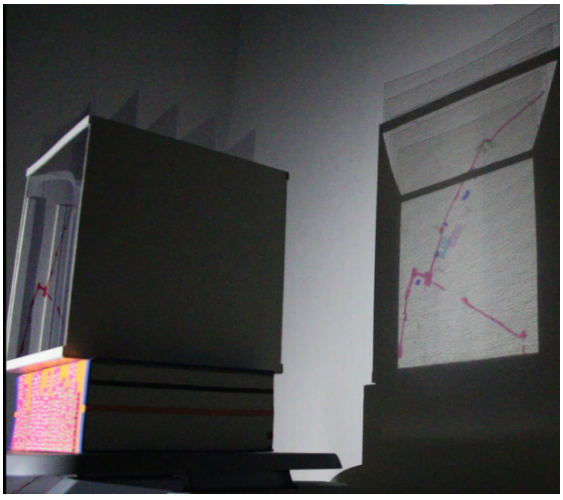
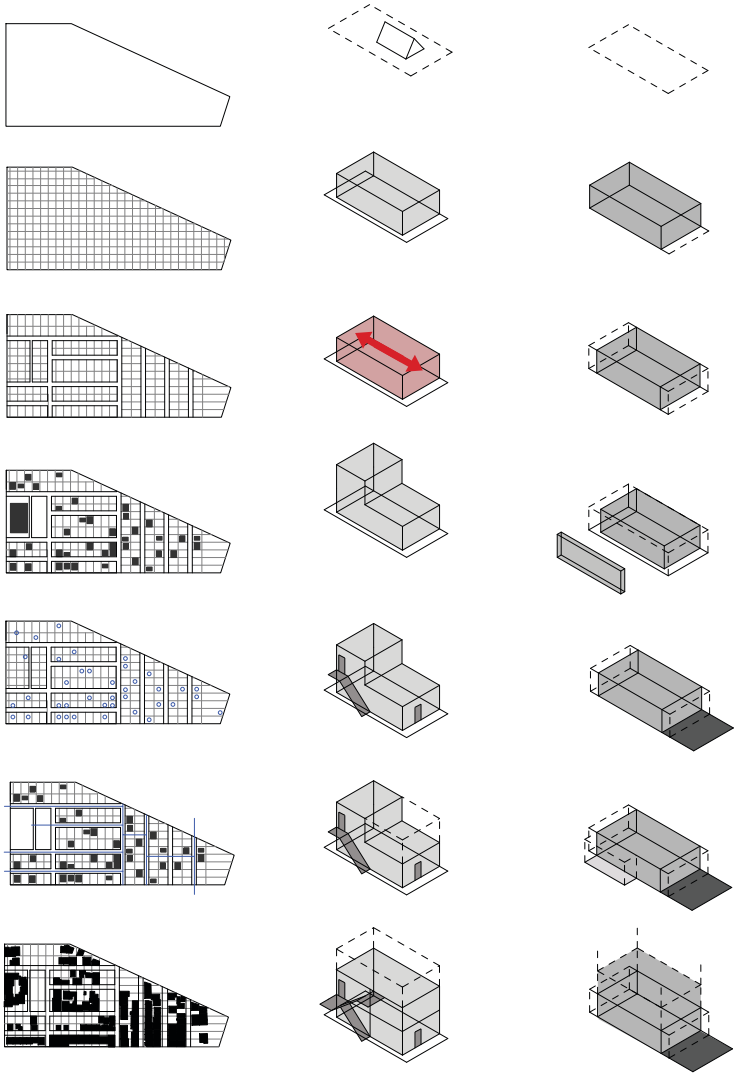
While exploring the tectonic qualities of my explorations were realised through processes based abstraction.
The first layer looked to the conditions surrounding Thessalonikis historic wall. the systematic demolition of later additions to the wall was erasing the traces of the evoluttion of the monument. Over its history the wall has fallen and been rebuilt, and mined, and built again. with each change a new texture was added resulting in a rich tapestry of materialism.
elaborating the topographical role in the placement and material of the wall.
The layers of this system were extacted and manipulated through the projections of the second weeks' experiments.
by seperating the layers and manipulating the source of light, layers can be translated and overlapped in ways which could not naturally occur.
In the final week these layers were then remanifest through the form of the wall,
the additive layering of wall allowed for a visual representation of this layering and the embedded quality of the vertical history.
as a final act this artefact was melted out to create a final manipulation of the urban layering.





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THEORY PAPER

EDGES AND BOUNDARIES AS SPATIAL MODIFIERS

Gill, Peter

Where the Wall Lies: Urban barriers and edge conditions

An investigation into edges and boundaries as spatial modifiers

A wall is both a barrier and an opportunity. The ancient walls of Thessaloniki stand as a monument to this. Since their establishment in the 4th century their status and significance in the city has only grown. Thessaloniki was a trading town strategically placed on a hill overlooking the bay below. As it grew, so did the walls with them eventually spanning from the old town down to the bay. The significance of these walls may seem obvious; they protected against military attacks, but this was a rare exception. The true significance of the walls was more related to micro-control; regulating ingress and egress. In its modern context Thessaloniki is no longer a walled city yet the wall has and still plays a significant role in the spatial development of the city. The co-existence of the concept of a historic wall, which is treated as a monument, and the ruin of the wall, which stood as an obstacle to the development of the city, has resulted in a conflict between preservation, presentation, or development and as such provides a rich diversity in spatial realities. In this investigation, the dynamic spectrum of spatial outcomes surrounding the city's historic boundary are explored revealing the changing cultural views on heritage and borders.

THEMES:

Intra Muros /Extra Muros, Border conditions, Heritage & preservation, Autonomy of monuments, Spatial modifiers, Spatial agency

INTRODUCTION

Since the conceptualisation of a globalised borderless future, popularised in the late 1980s, the field of research into borders and their conditions has grown significantly. In contradiction to earlier predictions, the world has become a more divided and polarised place than could have ever been predicted. With this, the definition of borders and boundaries grew to the current context where the field is "concerned with the widely different, sometimes incompatible, and constantly changing definitions of the border" (Schimanski & Wolfe, 2018). The concept of a border as a simple line dividing two halves is no longer compatible with the modern theory and as such borders exist as a meta-physical assemblage of functions, mechanisms, and actors (Rumford, 2008).

In order to be able to accurately represent the dynamic assemblage of Thessaloniki's historic wall, multiple methods of analysis will have to be conducted. A qualitative approach is necessary as many of the functions, mechanisms and actors which contribute to the spatial characteristic of the wall are not represented through official channels and statistics. This being said, this does not mean that this information will be ignored, it means that this information will only every be used in conjunction with a series of other sources to ensure reliable and multivariate conclusions are drawn. In combination with practical fieldwork and previous research, a series of explorative drawings will be made which connect data, information, and experience into visual media. These drawings will serve as both responses to lines of inquiry but will also work together to form conclusions on the

historical and contemporary position of the city's wall.
In relation to the topic of the Studio, Transient Liquidities along the New Silk Road, Walled cities have played a crucial role in controlling and protecting trade. In his book "The Travels of Marco Polo", all but few of the cities visited named by Marco Polo during his 1275-95 expedition from Italy to China were walled. From Jerusalem, to Tabriz, to Kashgar, to Beijing, these walls were necessary infrastructure for a proto-globalised world. (Polo & Latham, 1958)
Due to the scale and the quality of preservation of Thessaloniki's historic wall, it presents itself as a unique case study for the analysis of the spatial consequences of such a monument. Many European city's walls were entirely demolished during the industrial revolution (Kostof, 2015). and as such only exist through obscure references in street names and roads. Thessaloniki's wall, on the other hand, exists in various states of disrepair which lead to a variety of different architectural and urban outcomes. Embedded in each of these outcomes is a rich variety of attitudes towards a boundary. As such, a lot can be learnt about the mechanisms of constructing and deconstructing urban boundaries. Depending on the scale and time period of the encounter between the wall and those seeking to occupy it, 3 types of approaches emerged: disassociation, transgression, and appropriation (Figures 1, 2, 3). Each of these 3 approaches have unique architectural and spatial typologies which strongly contradict each other and contain within them different strong cultural attitudes toward heritage. These structures also call into question our understanding of a boundary as a static urban element, instead presenting it as a dynamic artefact with its own spatial autonomy.

Thessaloniki no longer exists as a walled city in the same sense that it did in the 18th century and has since gown far beyond its historic boundary. Despite the fact that for large portions of its length, the wall is no exists above ground (Figure 4), its legacy still plays a large role in the spatial, cultural, and architectural division of the city. As both the concept of the historic wall, which is treated as a monument and is to be untouched, and the ruin of the wall, which stands as an obstacle to the development of the city, exist in parallel a conflict exists between the official and cultural image of the wall as an urban artefact. Due to the dichotomous urban relationship the historic wall has with the built environment, it has left a void in the city fabric where it is not reaching its full potential as an instrument that could activate the spatial integration of the past and the present. Through its unpacking, the wall's role as a controlling artefact can shed light on the power dynamics and politics of the city. This will not only reveal the significance of this cultural artefact as a boundary element but also elaborate the spectrum of spatial territory this artefact occupies within the city.

THEMATIC DEFINITION
In the following chapters the main themes of this investigation will be elaborated on. These themes provide the main structure of the city and site investigations. Starting on the city scale, these themes capture a particular aspect of Thessaloniki's historic wall. With each iteration of the investigation, these will be reintroduced and evaluated against one another to provide visually tangible insights

about the spatial impact of the wall.
Four themes have been defined in order to provide structure to this investigation and to support findings. Firstly, by exploring the cultural attitiudes to the wall as an urban artifact the concepts of Intra Muros/ Extra Muros will be used to define the historical and contemporary approaches to the wall. This found understanding will then be used to investigate the autonomy of the wall as a monument as defined in the second theme. The reasons behind this will be justified through the heritage and preservation lens of the third theme. Together these investigations will then be projected against the current state of the wall in the fourth theme to create a vertical history represented through the physical condition and materiality of the wall itself. This should all together provide significant information to justify the existing state of the wall and inform decisions surrounding its future as an element of the city's urban fabric.

THEME 1 : INTRA MUROS/EXTRA MUROS
Intra Muros/ Extra Muros are a set of terms used to describe two spatial locations relating to walls and boundaries. Intra Muros explores the internal condition; to be within the confines of the wall. Spatially this means being surrounded by or being located within an area. It is an exclusive term which connotes feelings of inclusion, separation, and authority. On the other hand, Extra Muros is a much broader term which describes all that is not contained within a separated area. Through its scale and inherent vagueness, it is used to suggest that which is foreign, unknown, and ultimately 'other'.
Historically, the mentality of Intra Muros/ Extra Muros presented itself through a mentality. The mentality that by being on the inside of the wall you are protected, living withing a defined area, ruled by law and that by being outside the wall that the inverse applies. To some extent this still applies to the current context of Thessaloniki, but this mentality is unevenly distributed throughout the previously walled areas of the city. In the lower town, which has seen significant redevelopment in the 19th and 20th century with large portions of the wall being demolished, a modern city grid being applied over the rectilinear Hellenistic city structure, and densely developed with 5-10 storey buildings this mentality has nearly disappeared, only being post-partum reintroduced by the forced excavation of the remaining parts of the wall. This rigid system never existed in the upper town, and partially due to the topography of the upper town being steeper, retaining a large portion of its historic buildings, and retaining much of the city wall, an informal culture of development remained where due to historical tenancy, residents felt the right to claim and occupy space.
The phenomena of Intra/Extra Muros is one which now transcends the walls of Thessaloniki and exists beyond the Euclidian geometry of naturalised space. Its literal translation of "inside/outside the wall" points towards a fixed cartographic method of territorialisation but this bears almost no resemblance to its applied meaning which deals with nuanced identity politics codified and materialised through volumetric elements and spatial performance.
The contemporary Intra Muros mentality is now in contention with the volumetric elements which previously defined their spatial autonomy. The evolution of heritage and its value as a cultural artefact has now reached the point where Intra/Extra Muros

has become Intra/Omni/Extra Muros where the definition of the divide also has its own associated mentality and spatial praxis.

THEME 2 : AUTONOMY OF MONUMENTS

When looking at the resulting spatial outcomes surrounding the historic wall of Thessaloniki it appears that, due to a number of factors, it has its own spatial autonomy within the urban fabric. Karen Barard's concept of Agential Realism provides some innovative insights on this phenomenon. Despite being based in the field of physic-philosophy, Agential Realism discusses the sociomateriality of entanglement and the inseparability of social with materiality. She states:

"Crucially, agency is a matter of intra-acting; it is an enactment, not something that someone or something has. Agency is doing/being in its intra-activity. It is the enactment of iterative changes to particular practices-iterative reconfigurings of topological manifolds of spacetimematter relations through the dynamics of intra-activity. Agency is about changing possibilities of change entailed in reconfiguring material-discursive apparatuses of bodily production, including the boundary articulations and exclusions that are marked by those practices in the enactment of a causal structure" (Barad, 2003, p.235).

To argue that the city wall, as an artefact, has its own distinct spatial agency simply by existing is therefore no longer valid, its agency must be derived from its intra-activity. Through the lenses of heritage and social value, many of these intra actions have come to light, but as Barad points out, the frame of observation defines the result of the observations. The quantum state of observations applies in full force to the wall and this project. By focusing on one particular area, this investigation is only able to derive the intra-actions of the frame, severing ties with larger scale systems. Therefore, to be able to draw larger conclusions about the autonomy and agency of the wall within the broader scale of the city, this analysis must be performed iteratively on varying scales.

THEME 3 : HERITAGE & PRESERVATION

As alluded to before, the scope of heritage in the contemporary context is broader than ever before. Cultural heritage has grown to include both the natural and the manmade. It is no longer as black and white and old vs. new or ancient vs modern as now both can be valued equally. It is in that process, of valuation, where the properties of an object are supposed to be evaluated to derive cultural property, historical conditions, and the relationship with philosophical and behavioural concepts and also the socio-economic role of such objects in their broader context.

Contemporary conservation theory evaluates these subjects under two main categories: Cultural-historical values, and socio-economic values (Appendix 1). The following table combines the two categories with subcategories to propose a multifaceted system of evaluation (I. Szmelter, 2016).

Of these categories the historic, identity, documentary, and economic value are best represented along with values of culture in space, and value as a cultural product.

The value of the city wall, when assessed through the cultural-historic and socio-economic value system aligns very strongly to the outlined points of the table. Where the wall of the city has played a large role in the development of it culture and stands as a physical representation of the city. When you learn that tourism is the third

largest contributor to the Greek economy representing 25% of the country's GDP in 2019 (Marketing Greece S.A., 2019) it is not surprising that the city is heavily investing in restoring and beautifying the wall as its main touristic attraction.
In Thessaloniki, it can be said that an approach is being implemented negotiates with contemporary heritage assessment but is much more in line with enlightenment concepts of conservation. Reminiscent of Manuel Le-Duc's conception of historical purity. The wall of Thessaloniki is actively being stripped of all later additions to create a fictitious buffer zone.

THEME 4: VERTICAL HISTORIES
In her 2003 works titled "Posthumansist Performativity", Barad reconceptualises the concept of performativity. She describes performativity though material-semiotic actors which entails that object are defined through relational understandings (intra-actions) and are not composed of "things in themselves" or "things behind phenomena" but are instead "things in phenomena".
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CONCLUSION
The spatial autonomy afforded to the city's historic wall through its historical value, role in the cultural development of the city, and its intra-activity initially communicates a wicked system, but through an iterative process of Baradian analysis and heritage valuation, the underlying networks and spatial relationships present themselves as tangible and representable information. The literature studies gave form to apply and give guidance to the types and topics which were developed in a series of explorative exercises, elaborating the spatial characteristics of the wall as a spatial modifier. By being composed of multi-medium explorations including photography, 2D and 3D drawing, abstract model making and systems tracings, these exercises provided an inventory of conditions and mechanisms which were refined through Agiential Realism, developing an understanding of the socio-cultural attitudes towards bordering elements and heritage in the city. This understanding was derived from a number of sources ranging from literature and news articles to legislation and personal interviews. The visual language of the analysis of the wall as a boundary condition was expanded on to include these views. Thus, through the thematic and theoretical underpinning of this investigation allowed for a cross examination of these spatial and cultural characteristics of the wall such that valid and grounded conclusions could be synthesised.

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SHIFTING PERSPECTIVES ON INFRASTRUCTURAL DEVELOPMENT

HOW THESSALONIKI'S URBAN DEVELOPMENT UNCONDITIONALLY RECONFIGURED THE HINTERLAND

Thomas Zhang

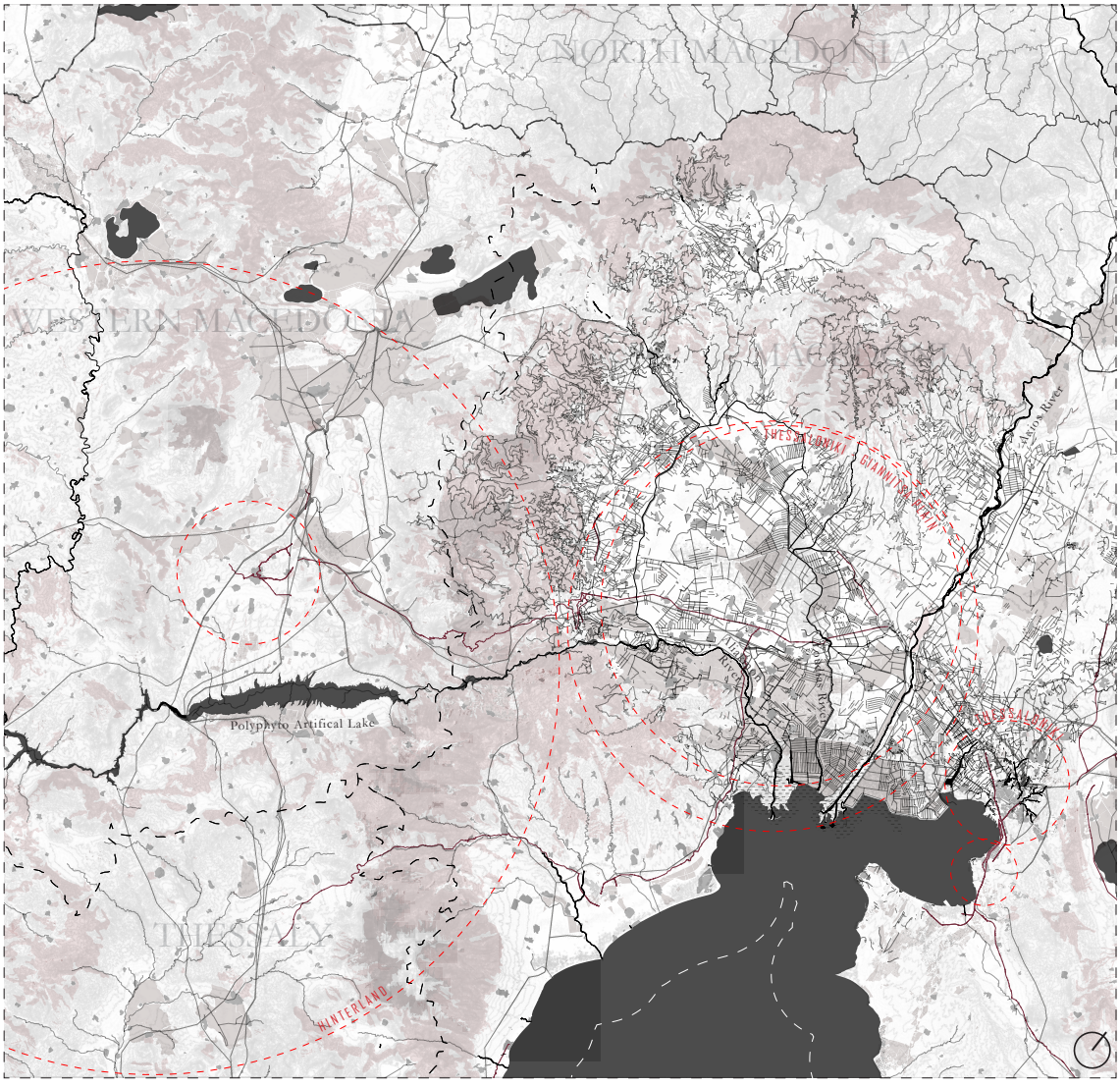
RIVERS OR RESERVOIRS

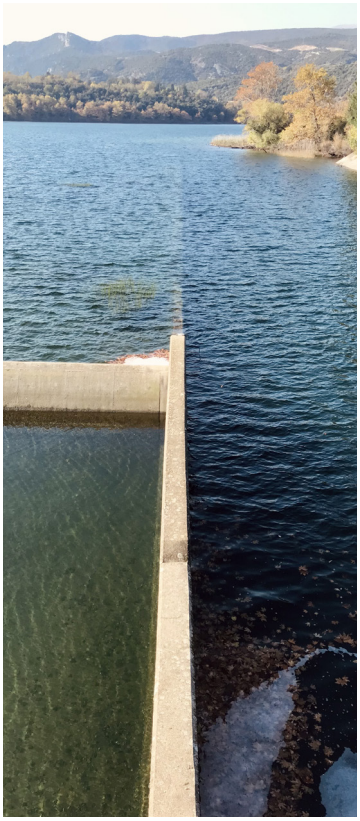
Water is the backbone, the structure of what contributes to thriving natural ecosystems, civilizations and cultures. 'Wild' rivers that flow without anthropogenic interference have practically become extinct throughout Europe. Greece is no exception where many of its rivers have faced, continuous control, dismemberment and diversion to reconfigure urban influences of far-reaching territories. The myriad uses of water, for instance irrigation has led to the development unsustainable growth and productivity in agriculture that has placed tremendous amounts of pressure on the region's water resources. Dams and reservoirs are often the object of study implemented in the 'hinterland' to leverage the natural landscape in collecting water resources. The land used often suffers from a 'double exposure' between the locals and the top-down planning authorities ultimately marginalizing the immediate citizens of said area. . One man's imagined community is another man's political prison (Appadurai).

This story is not unique to what I have investigated through my research and has surfaced time and time again in countries and states that face a population body with inherent hierarchies between different groups and cultures, that sets the stage for conflict between both sides or more.

The origin of my interest though has come much closer, from home. In my hometown in Belgium, Eupen we recently experienced a terrible flood which uprooted thousands of citizens. Alarmingly, one of the dams, the Wesertalsperre failed to manage/plan the days of continuous rainfall and contributed to the flooding of the lower part of the city. Dams often argue their presence for being able to prevent floods.

Heavy interventionist policies have created a multi-tiered land, not only because of the material super-position of these networks, but also by the differentiated systems of relation which they have instituted (Corboz).





Landscapes of hydraulic abstraction and interference

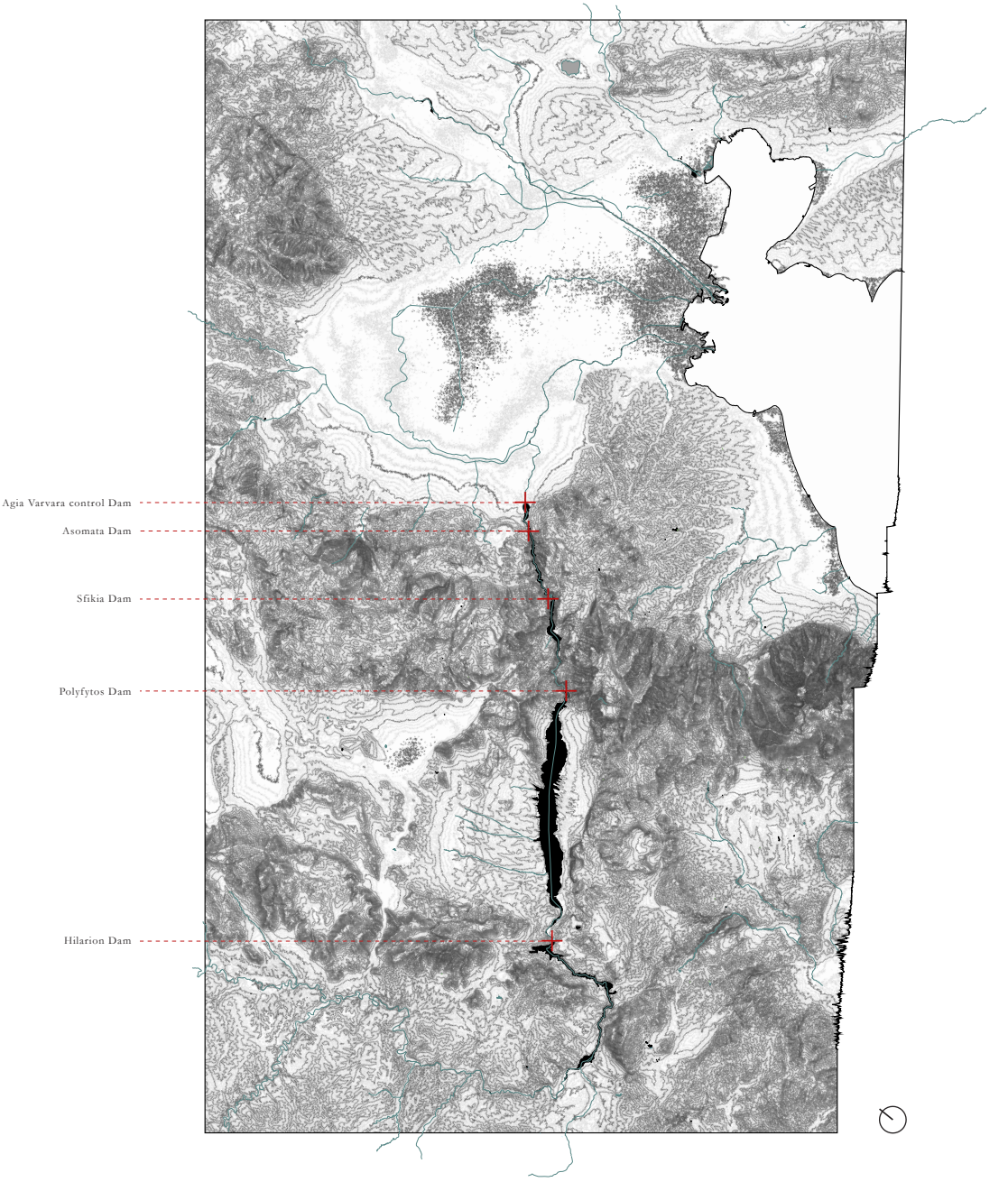
The Aliakmon River supplies 60% of Thessaloniki's water supply today and has been inextricably altered into a series of interconnected reservoirs and dams to facilitate this infrastructural connection. When travelling along the spine or the river, I came across five large dams that now were nestled firmly into the landscapes, however I was constantly imagining how today's accepted reality was totally different only 50 years ago when the first dam was built.

WATER NETWORK

The dams, 8m steel pipe conduit, bridges were all signs that major infrastructural projects took place in the Greek hinterland where there is a sense of 'nothingness' to the planners, to the (PPC) Public Power company. No obstacles besides the landscape itself. Further research would reveal a different story.

The Aliakmon River system and development

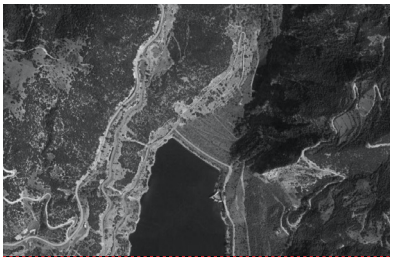
...the Aliakmon is a living
river
it's just like a human being
if you cut it
you damage the body
one can't do this
from head to toe
it's all connected



Agia Varvara control Dam

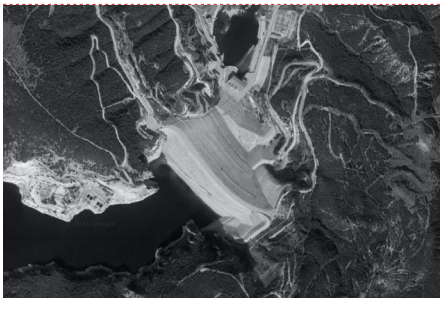
Asomata Dam

Sfikia Dam



Polyfytos Dam

Hilarion Dam

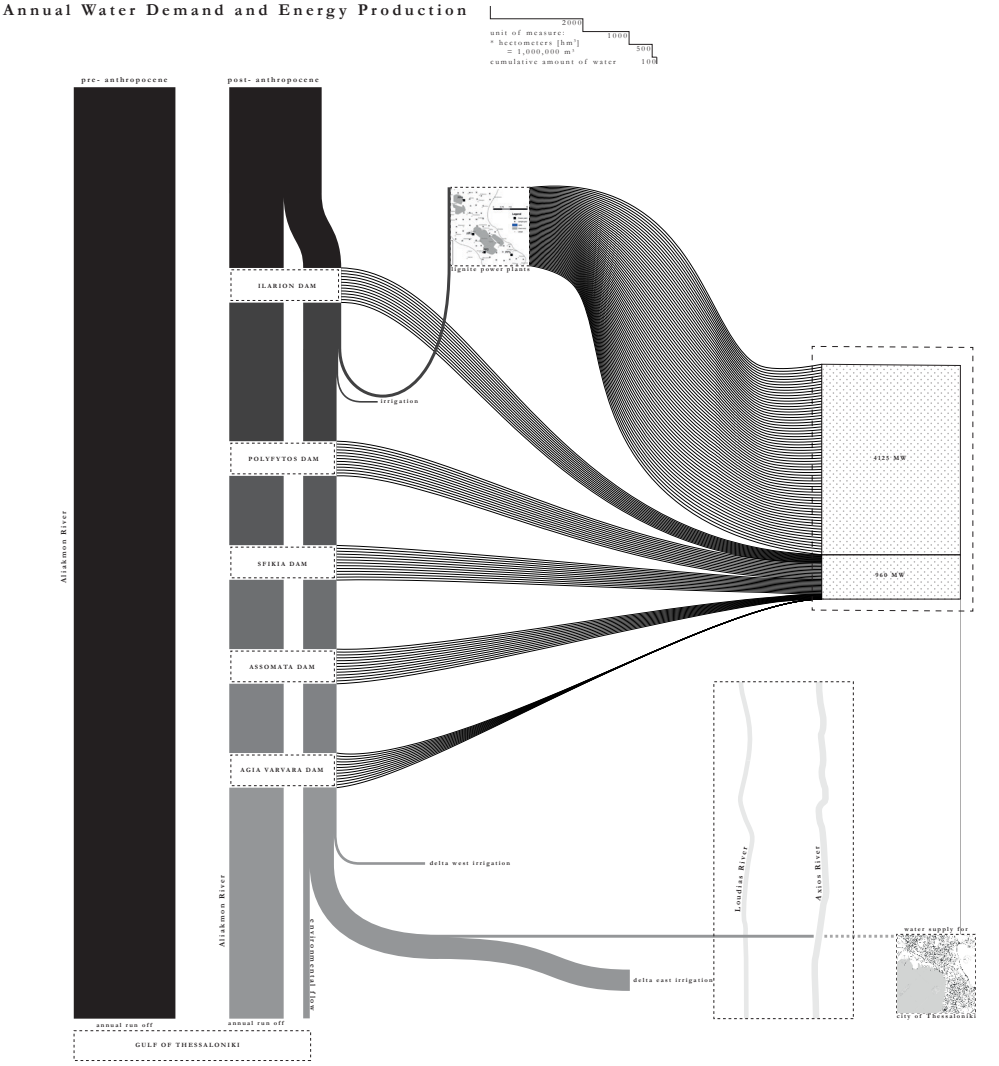


The anthropogenic effects of 'taming' the Aliakmon river are still further developing today as an additional dam upstream is planned for construction. The images above show the recent construction of an 'ecology focused' regulating dam (Agia Varvara dam) ensuring a steady flow regulated at 4 m^3/s.

PRODUCTIVE WATER

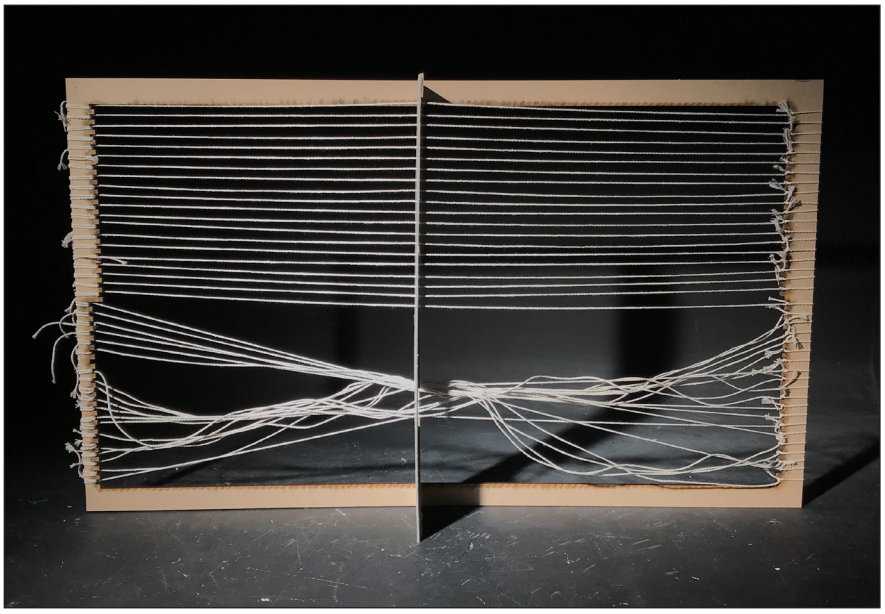
The map on the next page visualizes the top-down focussed level of extraction from the Aliakmon River. The post-anthropocene 'river' is now embedded in a network of electricity production, power plant cooling, irrigation, and water supply. All streams funnel to service the Delta plain for the large-scale operation of industrial agriculture to continue and to Thessaloniki, however, between the dams of Hilarion and Polyphyto, smaller flowsv` for irrigation in the hinterland is also growing its dependency within this productive system.
The inception of harnessing the Aliakmon for its water resource reveals the geopolitical dynamics that rivers are implicated in. One of the other main sources of water for Thessaloniki and the Delta was the Axios, however this river lies 95% within the territory of Northern Macedonia and throughout the 20th Century the nation started heavily damming their side of the river, to the point that in summer months the water would be trickling down through the Delta and Greek territory.
The Aliakmon lies 100% within Greece which led to the securing of its water resource through the subsequent building of dams and reservoirs. This unfolding development represents just a tranche of the networks, dynamics and systems that are mired within this web of hydraulic infrastructures that define the lives and territories urban and rural, national and global.

Annual Water Demand and Energy Production

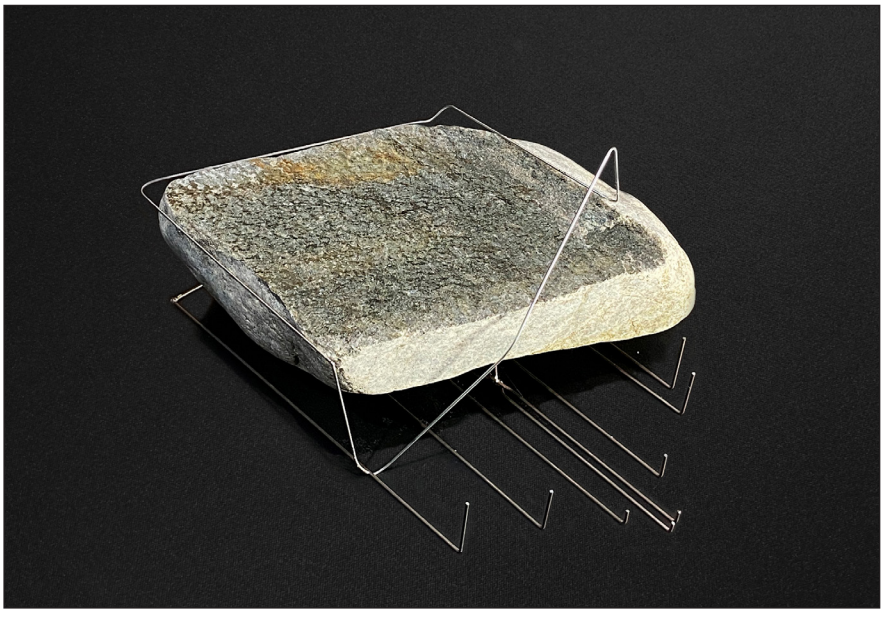


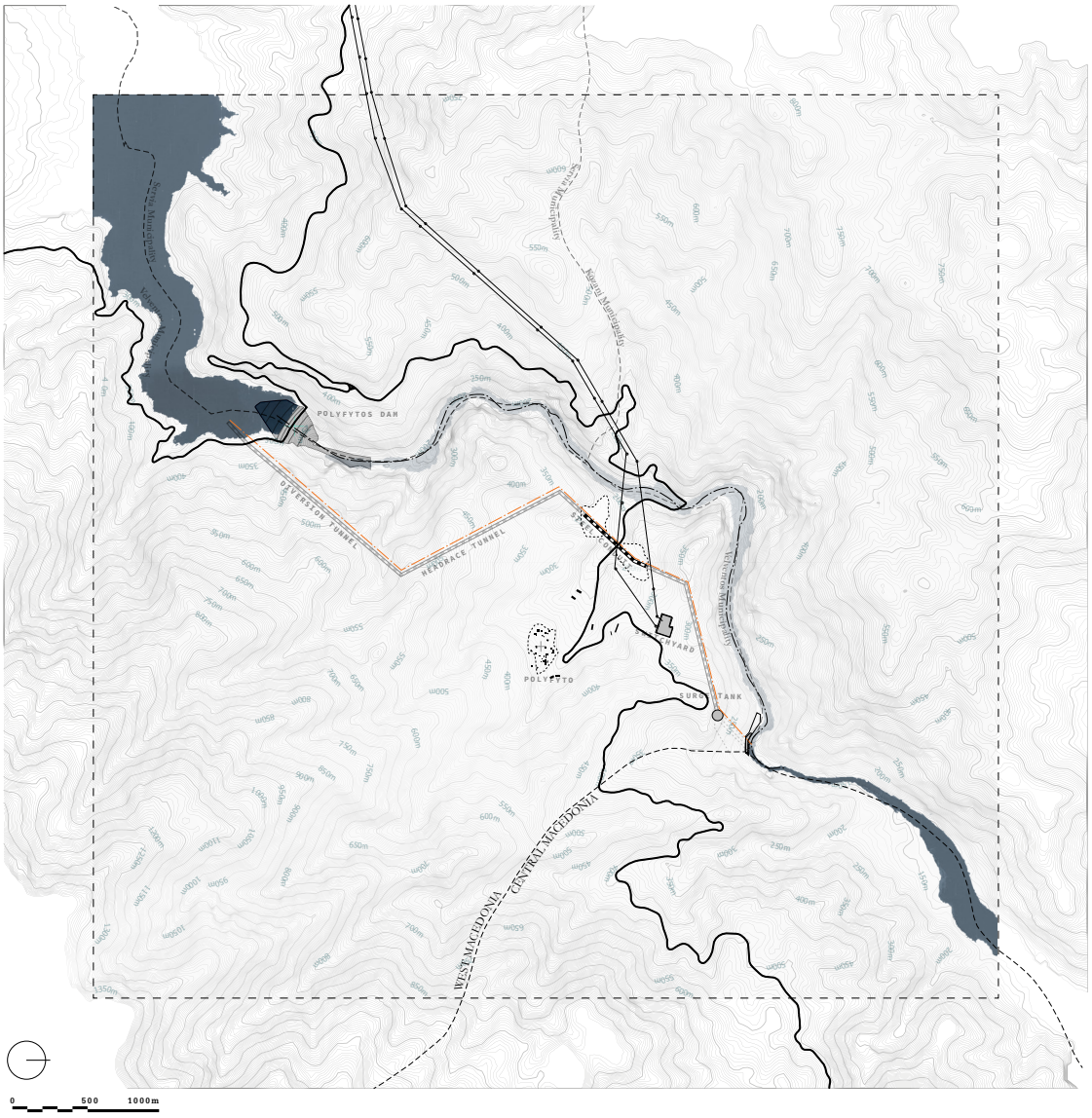
MODI OPERANDI

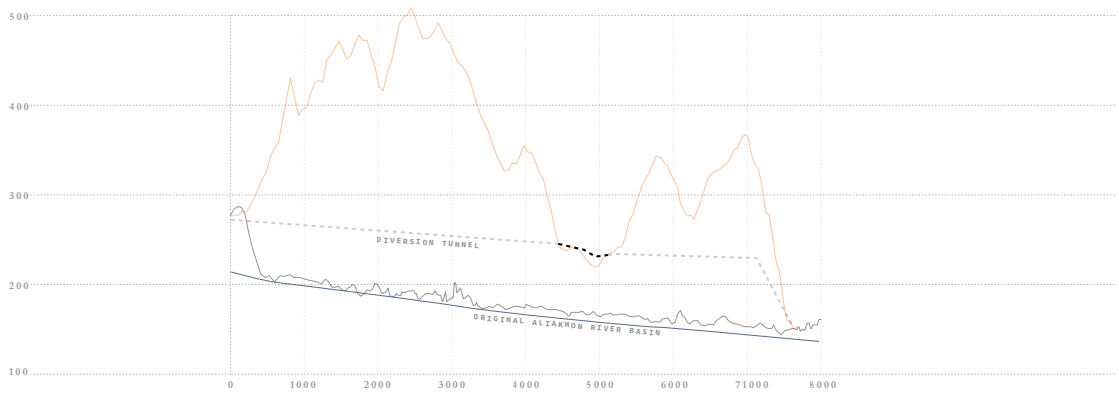
Throughout the weeks of investigating the fragile and complex system of the Aliakmon River in its infrastructural context, within its territories, I began experimenting with materializing certain elements that would generate new understandings or ideas through the process of making these maquettes and works. The first model shown manifests the hierarchal organization of the resource, mapping the actor-networks and imbalances that displayed more clearly how the hinterland is the collector but not the user. This led me to focus on the narratives at play for the citizens of the hinterland. The two pieces on the next page highlight the illusory pursuit of alignment and control next to critical points of balance, socially, politically, culturally.



Through the careful alignment and planning of an ordered system, the dam network reciprocally generates unforeseen consequences and intertwined conditions




POLYFYTOS DAM
DIVERSION TUNNEL
HEADRACE TUNNEL
POLYFYTO
WEST MACEDONIA
CENTRAL MACEDONIA
0
500
1000m

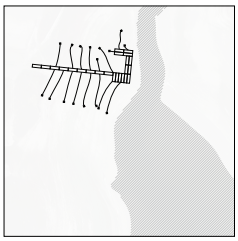

500
400
300
200
100
0
1000
2000
3000
4000
5000
6000
71000
8000
DIVERSION TUNNEL
ORIGINAL ALIAKMON RIVER BASIN

CONCEALED OPERATIONS

Tucked within the landscape, the Polyphyto dam is the most hidden in its operation and function. Being the first dam built in 1974, it was built at the narrowest point in the valley using earth-fill and clay. Through extensive research, certain maps revealed how the majority of the water flows downstream through an 8m steel pipe going through the mountains towards the hydropower station 140 meters lower. As a consequence, the river section between those two points has trickled into an almost dry creek. The abstraction of the river takes place in this steel tube, which momentarily emerges out of the mountains in a valley.

This highlighted to me the disconnectedness of what was once a natural river and has now been reduced to a resource pumping operation. The said operators of this dam are tucked 4 kilometres facing away from the dam itself at the hydropower plant. With no visible sight, the operators are reliant on a set of systems of tools to understand the huge body of water they are managing. This disconnect also continues to the system of operations and its inhabitants surrounding the reservoir.

img.001
object.floating-docks
quantity.002



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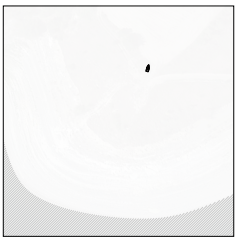
object.floating-dock
quantity.001



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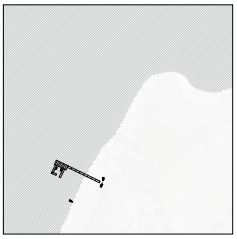
object.strandedboat
quantity.001

img.016
object.boats
quantity.002



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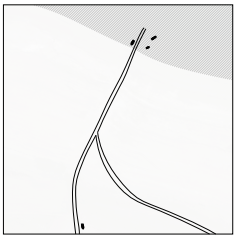
object.floating-dock
quantity.001



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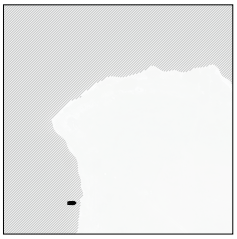
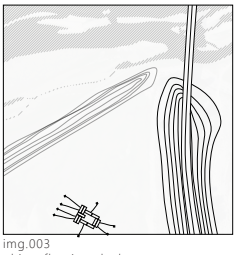
object.boats
quantity.004



img.012
object.boat
quantity.001

img.017
object.boats
quantity.002



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object.floating-dock
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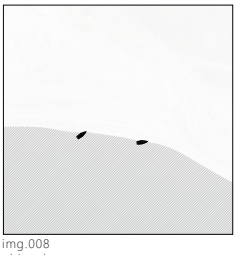
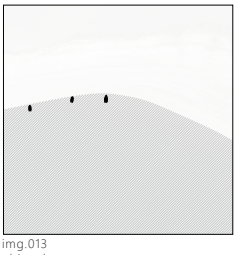


img.008
object.boats
quantity.002



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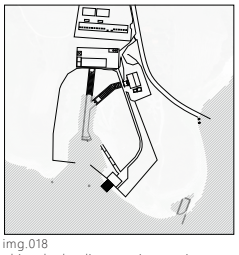
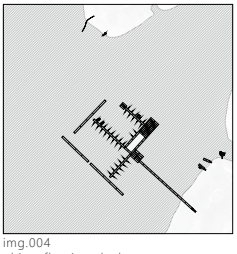
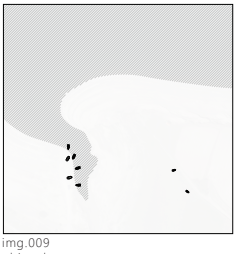
object.boats
quantity.003



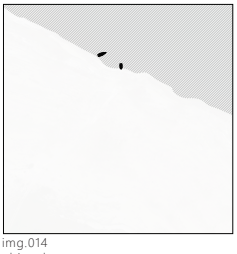
img.018
object.hydraulic-pumping-station
quantity.001



img.004
object.floating-dock
quantity.001



img.009
object.boats
quantity.008



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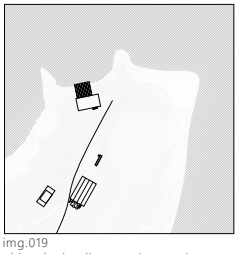
object.boats
quantity.002



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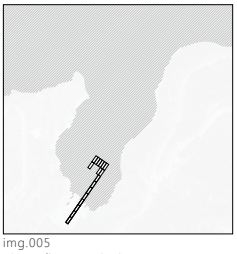
quantity.001



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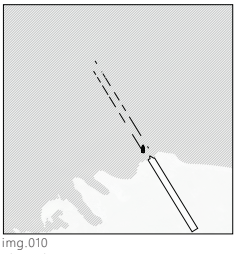

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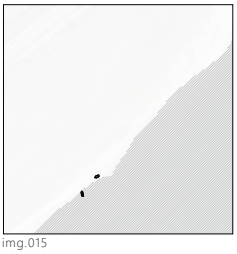

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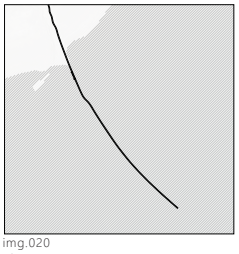
quantity.001



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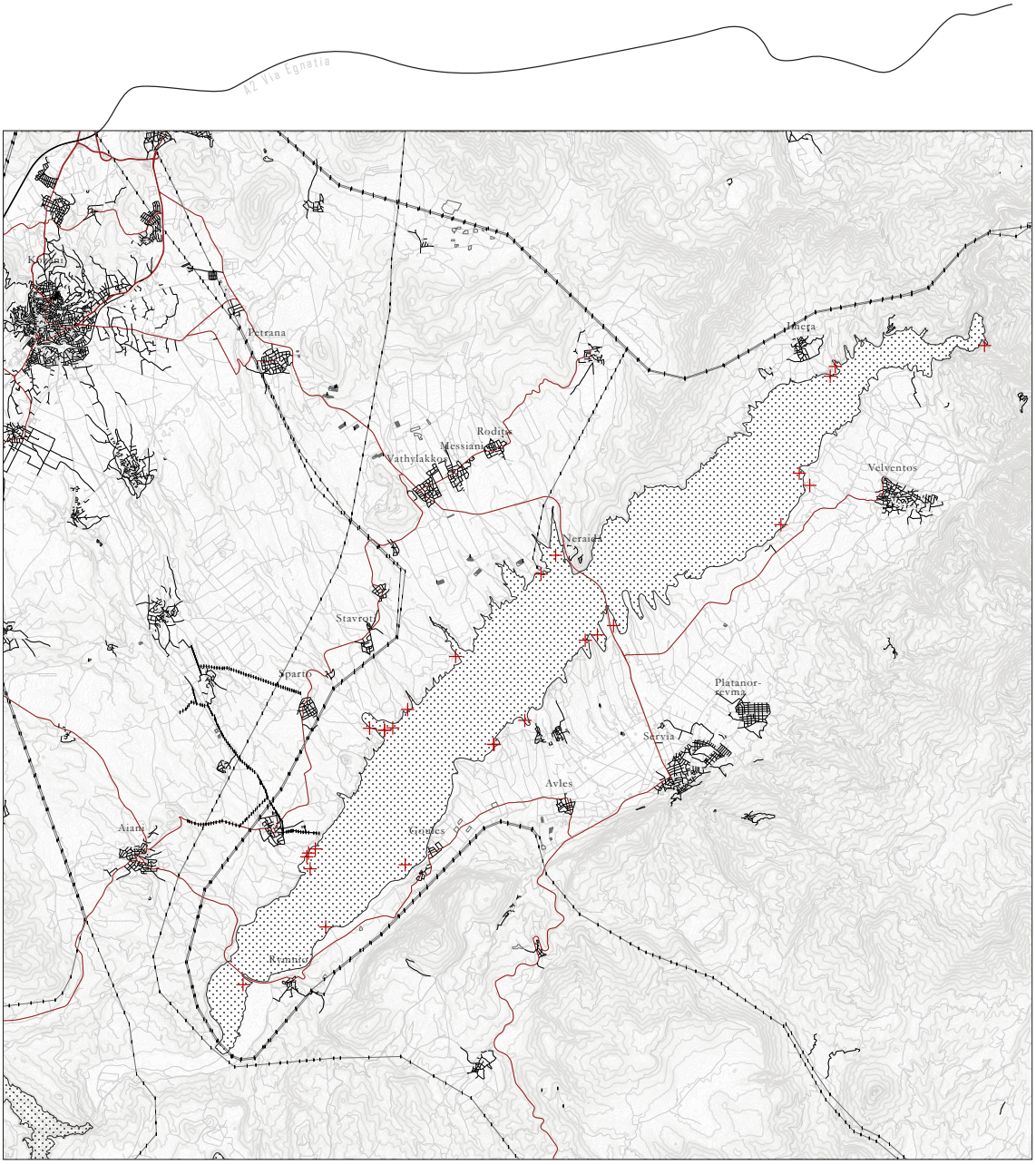


land/water interface

primary roads

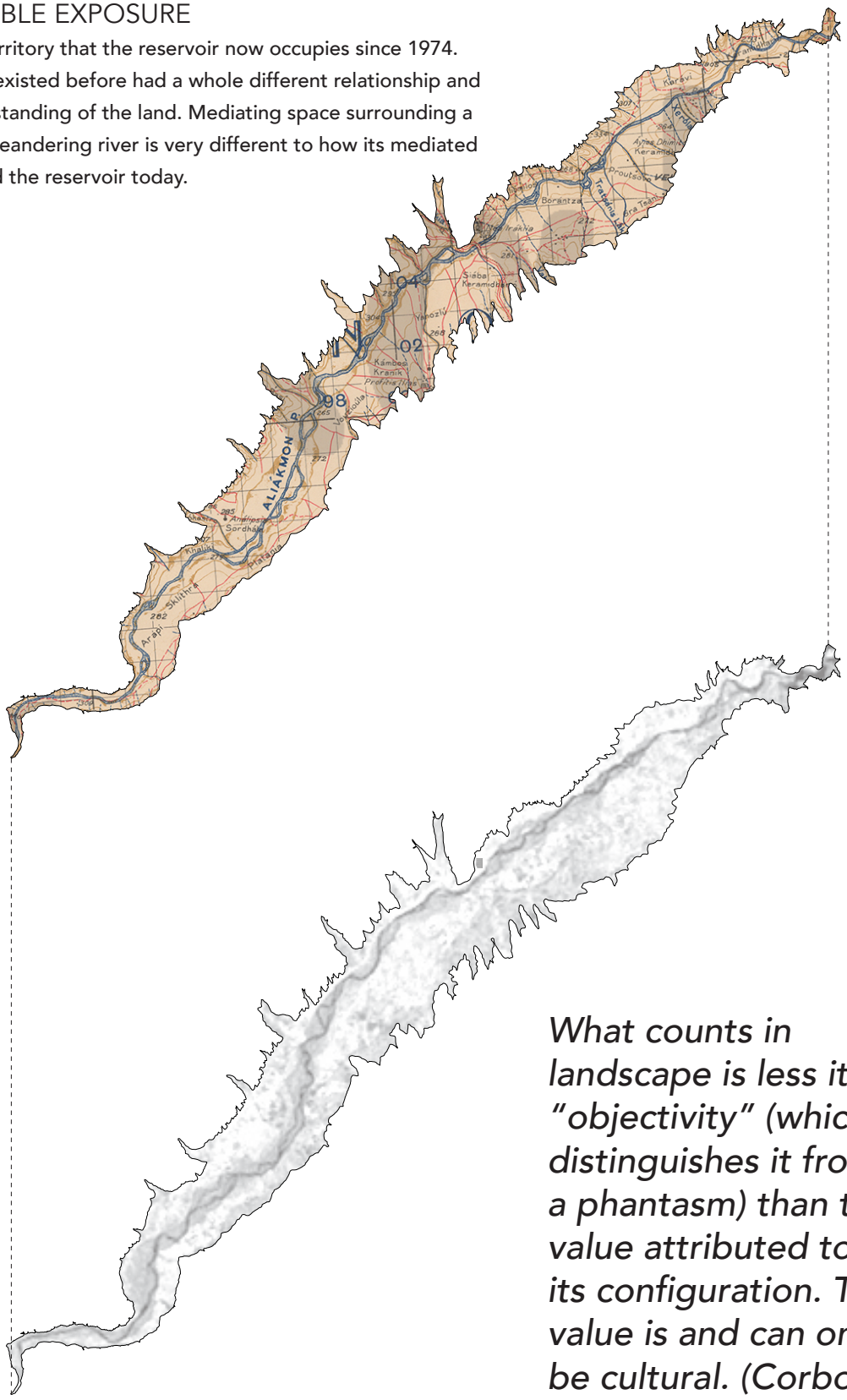
roads

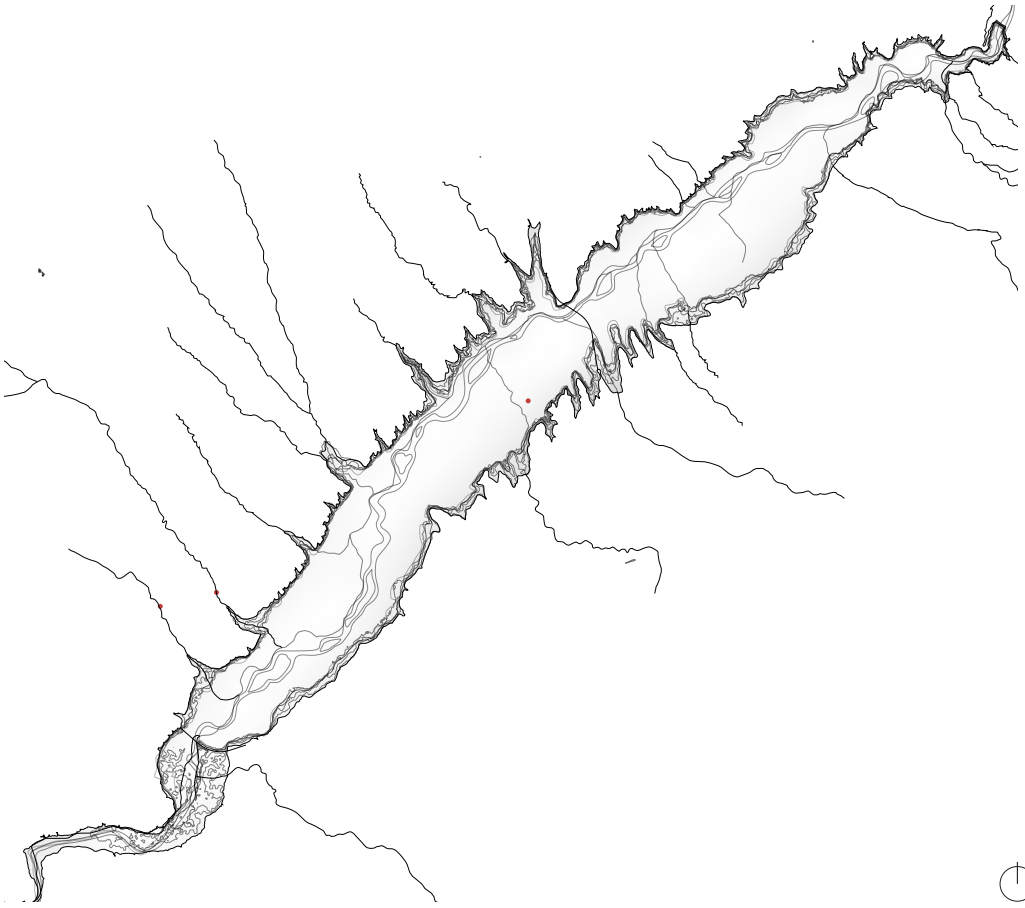
power lines

The Polyphoto reservoir holds 2,244,000,000 m^3 of water and faced the biggest transformation of their own land. The reservoir covers a huge area that was once inhabited through farmland, villages, schools and churches. Today the inhabitants have come to accept the reality, some have been forcefully resettled. The urban extensions and dynamics influence this territory which is still inconclusively a benefit or a cost to the local inhabitants. The red crosses currently map the points where the land/water barriers are being traversed through. The accompaning drawings furhther map these instances and types of interfaces.

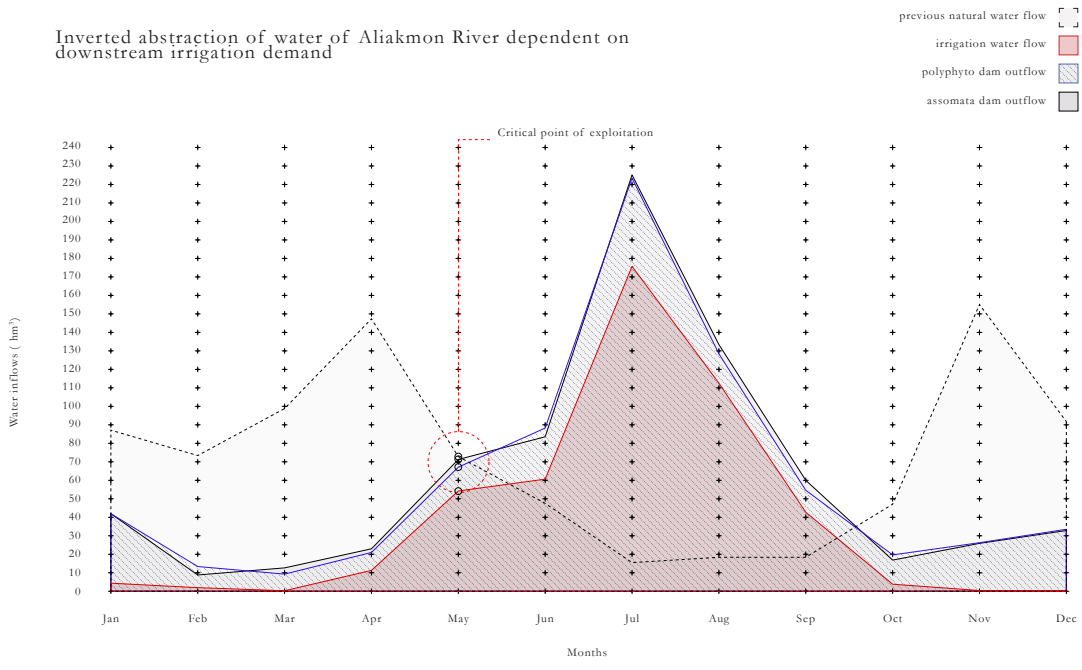
DOUBLE EXPOSURE

The territory that the reservoir now occupies since 1974. What existed before had a whole different relationship and understanding of the land. Mediating space surrounding a wild meandering river is very different to how its mediated around the reservoir today.

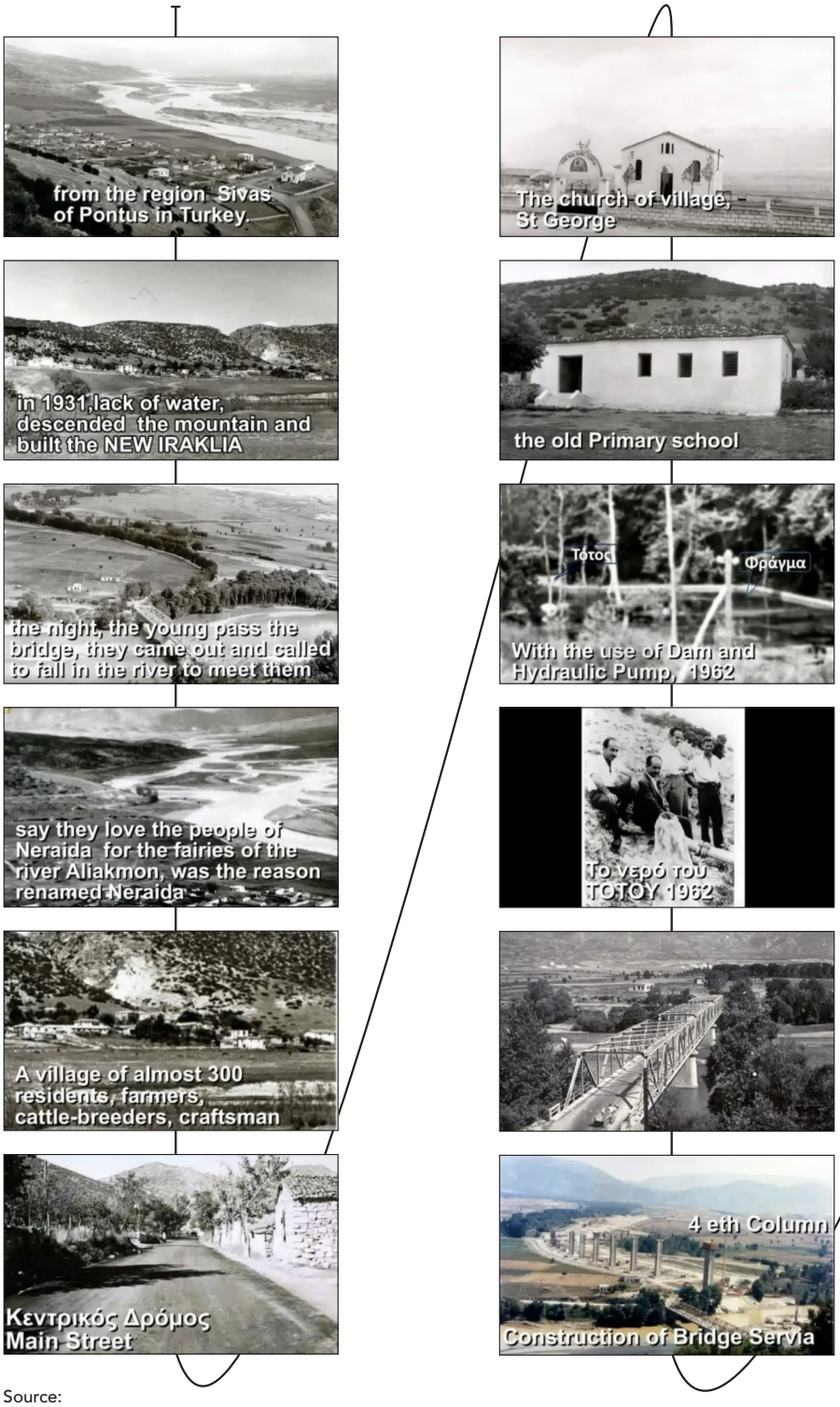

ALIÁKMON
Sidiba Keramidhia
Kámbos Krania
Sordhia
Arapi Sklithrá
Trakhina
Borántza
Kerasi
Xerdha
Ayios Dhimitrios Keramidhia
Proutsova
Irakha
Kambos Krania
Prefitia Tiles
Ano Kouloura
Kato Kouloura
Andinos
Khalikis
Kriaguna
Tra Tsa
Ano Tsa
Ayios Dhimitrios
Ayios Dhimitrios
Ayios Dhimitrios



Inverted abstraction of water of Aliakmon River dependent on downstream irrigation demand

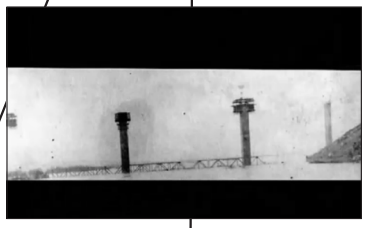


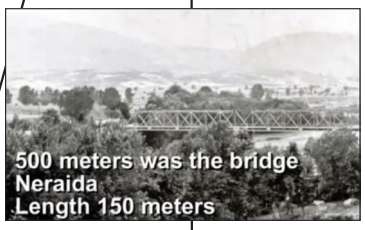
HISTORICAL ACCOUNT OF NERAIDA DOCUMENTED BY RESIDENTS



Source:

https://www-maxmag-gr/agnosti-ellada/i-komopoli-neraida-kozanis-to-agnanti-apo-tin-gefyra-tou-aliakmona/



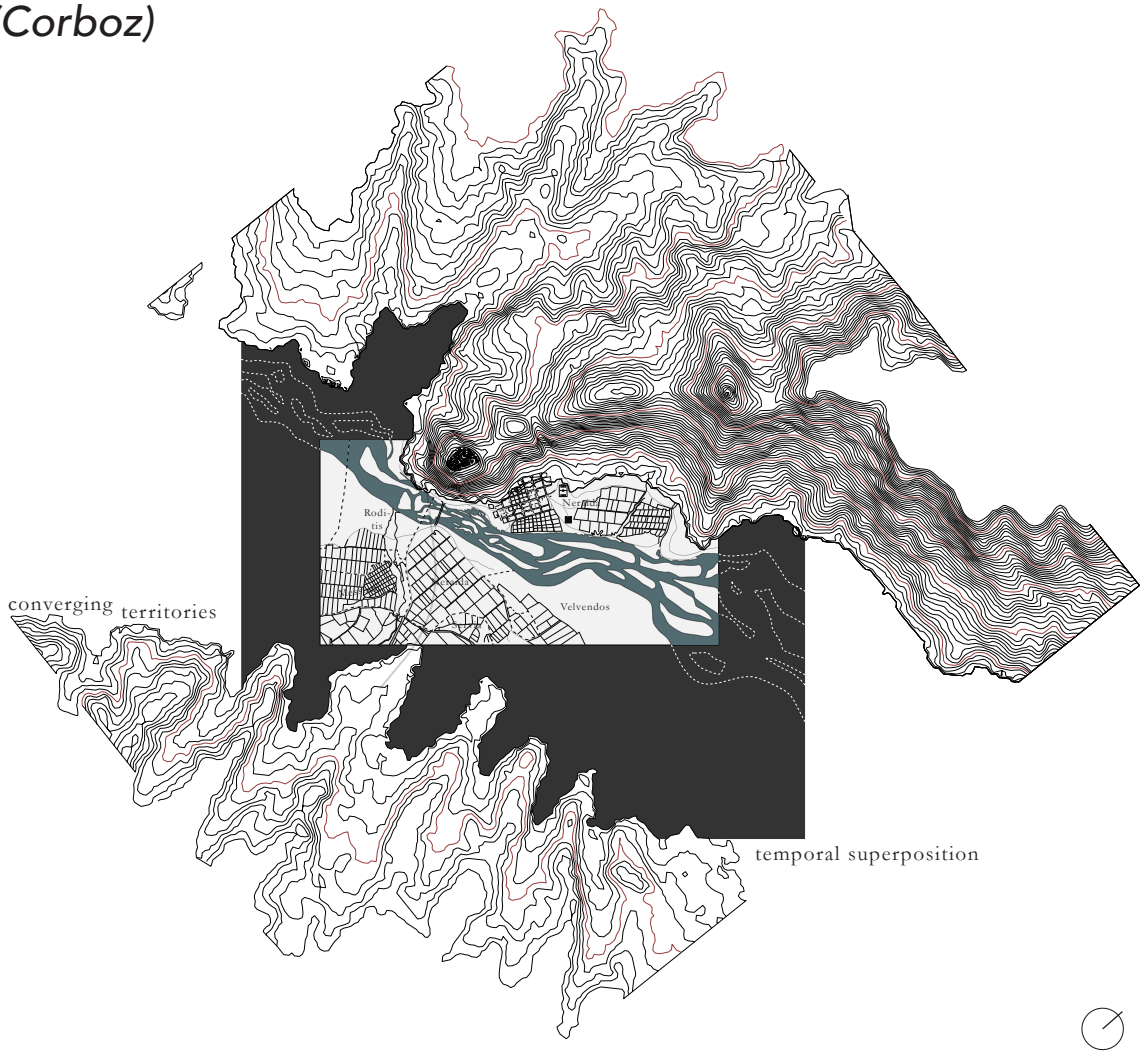


In 1922, the settlement of Neraida was created by Pontic and Asia Minor refugees, who settled in the area after the Pontian genocide and the exchange of populations of the Asia Minor catastrophe.

According to the testimonies of its older inhabitants, the name of the village comes from Fairies who appeared as soon as dusk appeared, to the first refugee inhabitants of the area, who crossed the hill outside the old village. The name of the village was given by the then Despot of Serbs-Kozani, Blessed Joachim. Named 'Fairy' (Neraida).

40°14'29"N 21°57'42"E
settlement: Neraida
region: Kozani
population: 148
area: 0.71km²
altitude 380 m
275 m

'In this late phase, an aesthetic institution was generalized which permits landscaping the world at small expense: the belvedere. It creates a fixed relation between a given point of land and all those other points which can be seen from it. The belvedere transforms the landscape into a shape, freezes it into a cliche, socializes it in banality...' (Corboz)



The town of Neraida was one of the notable settlements that were forcefully driven away from their initial settlement close to the river. A map shows the demarcation of the land to the adjacent towns. At this scale the different communities surrounding this plot of land had set agreements and acknowledgements of the territory. Neraida was a recent refugee village but had integrated and mediated itself with their neighbouring communities into finding land which they could build and farm on. These practices of appropriating land to that scale were not used by the planners of the reservoir, the land which is now fully erased and submerged.

HINTERLANDAM

HOW THESSALONIKI UNCONDITIONALLY CHANGED THE HINTERLAND THROUGH THE CONSTRUCTION OF DAMS

Thomas Zhang

After days of continuous heavy rainfall my hometown in Belgium, Eupen experienced a flood of the century, heavily damaging the lower part of the city with forty-one deaths linked to the flood. Two kilometres outside of Eupen lies the Weser dam, which could have prevented the flooding experienced in that week. Instead of acting on the EU flood warning system to drain the reservoir four days earlier, the engineers and planners of the dam decided to adhere to the policy of water storage with disastrous results.[1] Luckily our neighbourhood was unaffected, however this led me to question the perception I had with the dam, realizing that there are networks and relationships that the infrastructural systems of dams and reservoirs irreversibly generate, to the land and its people. This personal interest gravitated me to investigate the Aliakmon River and the dams as the spine for my investigation and how it links to the city of Thessaloniki.

As the second largest urban area in Greece, Thessaloniki has witnessed an urban sprawl especially during the twentieth Century. Its size has necessitated the development of far-reaching infrastructure systems that helps feed and sustain the city. Throughout most of its history, Thessaloniki's water supply came from the springs of Mount Chortiatis in the East.[2]

Today sixty percent of the city's water is supplied by the dams and reservoirs built along the Aliakmon River. It is one of the rivers that form part of the Dimos Delta. It is evident in the ways these interventions to the natural landscape have benefitted the main city and immediate periphery; however, it becomes much more interesting to shift the gaze to the communities and settlements of the area where these dams and reservoirs are situated. Built on such a massive scale, this paper aims to recontextualize the dams influence on the hinterland through the theoretical framework of André Corboz 'The Land as Palimpsest' together with Arjun Appadurai's 'Disjuncture and Difference in the Global Cultural Economy', revealing a much more fragile, interdependent, and conflicting understanding of the territory.

The developments and links that are responsible for driving the inception and materialization of the hydraulic infrastructure to the Aliakmon hinterland will be outlined based on Nikhil Anand's research on Mumbai's hydraulic citizenship in his book 'Hydraulic City'. Finally, the combined understanding from the comparative study of the territory and the dams will highlight the links that lead to the discovery of a wider network of actors and domains, and how the governing body of the dams results in the synthesis of an oligopticon.[3]

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[1] 'Wesertalsperre: Chronologie Eines „kolossalen Fehlers" - GrenzEcho', accessed 10 January 2022, https://www.grenzecho.net/59315/artikel/2021-07-22/wesertalsperre-chronologie-eines-kolossalen-fehlers.

[2] S Yannopoulos, 'Evolution of Water Supply Infrastructures of Thessaloniki City, Hellas, through Centuries', 2017, 8.

[3] Bruno Latour, Emilie Hermant, and Susanna Shannon, Paris Ville Invisible (English Translation by Liz Carey-Libbrecht) (La Découverte Paris, 1998).

At first glance, the smaller settlements in the hinterlands project an impression of being independent actors within their local environment. However, with the impoundment of the Polyphyto artificial lake, the land has irreversibly been transformed and lost to the pressures of the urban and agricultural areas of Thessaloniki downstream (Figure 1). 'The dynamism of urban operations succeeded in contaminating the rural counterpart, and the divergent mentalities found themselves drawn closer.' [4] This urban-rural rivalry generated conflict and tension between the two as a hostile take-over on the ownership of the territory took place. When early interest began in the 1960's by the Ministry of Agriculture and the Public Power Corporation S.A (PPC), their relation to these hinterlands were mostly based on site visits and studying of maps based on the primary objective of rendering a productive landscape collecting water and generating electricity; a very different relationship when comparing to the inhabitants' relation to the land and their intimate relationship with it.[5] Jean Bau-drillard's statement 'The land no longer has precedence over the map, nor survives it; from now on the map has precedence over the land' rings true to this top-down transformation of the territory with the dams. The issue also lies in the forming of the 'imagined worlds' regarding the relationship to their territory, through temporal, cultural, and historical lenses. PPC's imagined world, from an outsider gaze and its own abstraction of the land by study of maps is incompatible in relating to the relationship that the locals have developed with the land.

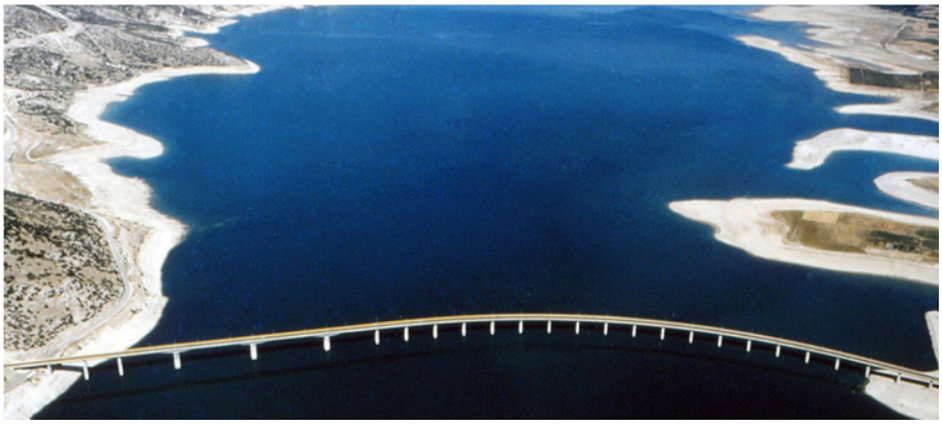

Figure 1 The impounding of the Aliakmon valley with the newly completed Servia bridge

[4] André Corboz, 'The Land as Palimpsest', Diogenes 31, no. 121 (March 1983): 12–34, https://doi.org/10.1177/039219218303112102 5.

[5] Michael Styllas, 'Natural Processes Versus Human Impacts During the Last Century: A Case Study of the Aliakmon River Delta', in The Rivers of Greece, ed. Nikos Skoulikidis, Elias Dimitriou, and Ioannis Karaouzas, vol. 59, The Handbook of Environmental Chemistry (Berlin, Heidelberg: Springer Berlin Heidelberg, 2017), 31–49, https://doi.org/10.1007/698_2017_470.

In this case the "double exposure" term discussed in Corboz's 'The Land As Palimpsest' has resulted where both incompatible groups have claimed the same territory. Unfortunately, due to the progress driven modernization of the country, the electrification and regulation of water as a productive resource became a high priority of that time. In Pierre Jacquet's article he outlines:

During the first half of the twentieth century, water conveyance over large distances experienced new developments, as nation-states grew more involved in economic development and financing of large, multi-functional hydraulics projects....The model also spread across Europe, particularly in countries under authoritarian rule and in certain colonies.[6]

This explains the underlying reason why building these large-scale infrastructure projects were also built to impose the nation's governance over its historically disputed territories. The controversy on the control and access of water were successfully delegitimized to those affected in favour of improved public services.

The damming and electrification of the hinterlands can be seen as an effort for Greece to slowly unify and culturally realign Macedonia. This nation building effort introduced new urban dependencies to the rural hinterlands of Western Macedonia where the benefits of introducing Greek influence would be realized in the long term. As Corboz observed: 'A certain artificial lake, violently opposed as a foreign intrusion when its dam was constructed, now is defended as an integral and indispensable element by the descendants of its adversaries.' [7] The act of finding new opportunity and reappropriation of the land is forced to occur.

'There is always a fear of cultural absorption by polities of larger scale especially those that are nearby. One man's imagined community is another man's political prison.' [8] This sentiment also fits the conditions that were initiated through the construction of the dams. The prioritization of Thessaloniki and the Thessaloniki-Giannitsa plain's demand for water and electricity highlights not only this disparity but also the subsequent cultural shifts and continuous pressure taking place in the hinterland. The Aliakmon valley, historically known for its heterogeneous history of migrating bodies in relation to ethnic groups and cultures, has continuously fallen into the orbit of the Greek's hegemonic cultural absorption efforts.[9] As they have become inextricably linked to the urban activities downstream, the dams simultaneously act as a key influential mediator in allowing urban culture/influence to flow up the river, and spill into the hinterland. Ultimately, this reconfiguration of the diverse cultural fabric is taking place to serve the disposition of Thessaloniki and its 'city people'. [10]

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[6] Pierre Jacquet et al., eds., 'The City Returns to Its Hinterlands for Natural Resources', in Cities: Steering towards Sustainability (New Delhi: Teri Press, 2010), 272.

[7] Corboz, 'The Land as Palimpsest'.

[8] Arjun Appadurai, 'Disjuncture and Difference in the Global Cultural Economy', Theory, Culture & Society 7, no. 2–3 (June 1990): 295–310, https://doi.org/10.1177/026327690007002017.

[9] Cerbion Guard, '"'ΣΕΡΒΙΩΝ ΦΡΟΥΡΟΣ'": ΥΨΗΛΗ ΓΕΦΥΡΑ ΣΕΡΒΙΩΝ ΠΕΡΙΓΡΑΦΗ ΚΑΙ ΙΣΤΟΡΙΚΗ ΑΝΑΔΡΟΜΗ.', '"ΣΕΡΒΙΩΝ ΦΡΟΥΡΟΣ"' (blog), 25 November 2016, http://cerbiwnfrouros.blogspot.com/2016/11/blog-post.html.

[10] Corboz, 'The Land as Palimpsest'.

The building of the dams also serves to highlight the unequal consideration towards certain communities and groups. The construction of the first dam in 1972, (Polyphyto dam) meant a small settlement built fifty years prior along the riverbanks in the Aliakmon valley was forced to resettle. Neraida, built and founded by Pontic refugees, was under the planned future water level. The inhabitants of Neraida comprised of refugees who were part of the +150,000 refugees from Asia Minor to Northern Greece, arriving first in Thessaloniki. Initially settled in the west of Thessaloniki bordering the Thessaloniki-Giannitsa plain, they travelled more than two-hundred kilometres west, looking to move away from the big urban area finding refuge in the Aliakmon Valley. The initial settlers built up the village on the north banks of the river without conflict, finding a gap in the land, that the other established settlements of the valley had not claimed/cultivated. Within those fifty years, the families of farmers and craftsmen integrated themselves within the other settlements of the valley, while simultaneously generating a growing connection to the land they inhabited.

According to newspaper article accounts, the forced resettlement and abandonment of their homes and land came abruptly with no negotiations or sufficient warning. Allegedly Goules, a small village but of Greek lineage was able to get into discussions with the PPC planning authorities and negotiated a maximum water level that would not submerge most of the village. This exemplifies the underlying struggle for Greece to recognize equal citizenship of its people and points to a hierarchy with the immigrants feeling left behind as second-class citizens.

The treatment of the affected inhabitants of Neraida from the impounding of the newly built dam is a strong example of the citizenship disparity that exists also between the larger, more well-established settlements. Nikhil Anand reflects this in his talk on Mumbai: Hydraulic City on how certain groups of people within the nation or states are not considered/treated equally.

Anthropologists have showed how social and cultural difference have often been the grounds for both the denial and the accommodation of citizenship claims, as marginalized groups, immigrants, minorities, indigenous groups, and the poor, are often seen and treated as second-class citizens by their nation states. These graduated forms of membership and belonging that ensue demonstrate how citizenship can be very inclusive, yet also dramatically unequal.

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[11] 'ΙΣΤΟΡΙΑ ΝΕΡΑΪΔΑ ΚΟΖΑΝΗΣ GREECE', accessed 4 December 2021, https://docs.google.com/document/pub?id=1AP-tR-bNsweEbJ0-xX9Mf11hB4jnlwlLz7eR-R5BmNzM.

[12] Styllas, 'Natural Processes Versus Human Impacts During the Last Century'.

[13] 'ΙΣΤΟΡΙΑ ΝΕΡΑΪΔΑ ΚΟΖΑΝΗΣ GREECE'.

[14] Nikhil Anand, 'DCRP - Hydraulic City Lecture' (Lecture, UC Berkeley, 22 March 2018), https://vimeo.com/266894456.

The difference in treatment among different groups is seen throughout the entire hydraulic infrastructure of the Aliakmon. Not only the hinterland is affected by the Greek's state seize of control over the Aliakmon River. As Nikhil states,

Water infrastructures are an important site for the making of citizens...[15]

When quickly identifying who manages the Aliakmon River, one key actor is the Public Power Corporation of Greece. The PPC owns the artificial lake of Polyphyto, but also the three reservoirs downstream, including managing the flow of water to the canal that passes through the Thessaloniki-Giannitsa plain to deliver Thessaloniki its required water supply.[16] It therefore becomes necessary to investigate how Aliakmon's hydraulic infrastructure came to be and how it forms the different groups and communities affected by it.

The dam system is tied to a much larger network of secondary hydraulic infrastructures, not visibly linked through a much wider scope of factors and influences rooted in politics. For instance, the migration in the 1920's of 150,000 refugees from Asia Minor to Northern Greece led to the 'Reclamation Project of Thessaloniki-Giannitsa Plain' which transformed the uninhabited swampish marshland into suitable farmland for industrial agriculture. Through the drainage of the land, canalisation of rivers and building of polder irrigation networks, the plain's industrial activities required an exceedingly rising amount of water.[17] Over the twentieth Century, the main River, Axios experienced less and less water flowing out towards the delta. This was due to the ongoing dam projects being built in North Macedonia (in total twelve would be built). Since ninety-five percent of the Axios River lies within the territory of North Macedonia (also known as FYROM), Greece had to find a more secure source of water.[18] The anthropogenic activities on the plain in essence created a new dependency on unsustainable demand for water. From one river to the next, the Aliakmon River became a new site of intervention. Unlike the Axios, Aliakmon runs fully within Greek Territory. As Anand states '...cities, citizens, and the political authorities are mediated through the everyday government of hydraulic infrastructure.' Even on this scale, the political landscape become apparent. Northern Greece's water management and interventions forms its cities and citizens of today, including its citizens in the hinterland.

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[15] Anand.

[16] Panagiotis I. Bakanos and Konstantinos L. Katsifarakis, 'Optimizing Current and Future Hydroelectric Energy Production and Water Uses of the Complex Multi-Reservoir System in the Aliakmon River, Greece', Energies 13, no. 24 (9 December 2020): 6499, https://doi.org/10.3390/en13246499.

[17] Styllas, 'Natural Processes Versus Human Impacts During the Last Century'.

[18] Styllas.

Through observing the flows from the Aliakmon River, it becomes apparent that each stream and splitting of streams is controlled and managed, generating at each step a set of new conditions linked to changing hydraulic citizenships of different groups of people. The constitution of hydraulic citizenship has far wider implications as Nikhil Anand elaborates:

I want to suggest that hydraulic citizenship is not a singular, historical event, in the linear time of liberal qualities. Instead, it is an incremental, intermittent, and reversible process that is composed of multiple temporalities. Second, as citizens are formed through the historical, political, and material relations in pipes, these relationships have effects that constantly exceed human intentionality, power, thought, and action.[19]

The continuous finding of links and traces that lead to the discovery of a wider network between the actors and its citizens exemplifies the impossibility for the actors to consider all the links that make up this network. There are a multitude of interactions, stories, conflicts that each builds into its own perspectives regarding the relation to water and its infrastructure.
Many perspectives cannot be adequately understood across the various groups and organizations that constitute the current system and mode of operation that is in place today. The PPC has decidedly formed its own system of understanding their network of dams through its system of tools and measurement devices.

With the systems-based thinking they have implemented, the need to abstract the understanding of it through maps, inflows-outflows, and quantifiable indicators became necessary in order to effectively understand enough of the infrastructures they are managing and from which they can act on. Their primary goal of finding an optimal regulation of the water in the reservoirs and its daily supply to the agricultural and urban complex of Thessaloniki becomes possible. However, their abstracted understanding also highlights other aspects, the holes or gaps of knowledge that arise that are also directly impacted by the activities of the dam. The notion of an oligopticon starts to develop as it becomes clear that just a fraction of what these dams are determining for the surrounding environment and beyond is being adequately understood. Bruno Latour's outlining of urban infrastructure networks further describes the oligopticon:
Water, electricity, telephony, traffic, meteorology, geography, town planning: all have their oligopticon, a huge control panel in a closed control room. From there very little can be seen at any one time, but everything appears with great precision owing to a dual network of signs, coming, and going, rising, and descending, watching over Parisian life night and day. No single control panel or synoptic board brings all these flows together in a single place at any one time.[20]

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[19] Anand, 'DCRP - Hydraulic City Lecture'.

[20] Latour, Hermant, and Shannon, Paris Ville Invisible (English Translation by Liz Carey-Libbrecht).

Figure 2 illustrates this reliance on the systems-based mode of operation, effectively managing each of the dams' interdependent operation, and its role as an ancillary service to the grid and irrigation infrastructure. However, the isolated nature in operating the dams fails to consider factors that are becoming increasingly important as the understanding of river ecosystems and its far-reaching consequences to seemingly isolated networks from other domains become affected. One example is the construction of an artificial levee in 1925 near the mouth of Aliakmon River, to increase the cultivation area of the plain. Inadvertently the flow of the water streaming through the canal increased compared to the original meandering river line and saw the formation of a new bird-foot delta propagate further into the gulf of Thessaloniki. This accelerated progradation of the sediment discharge continued just until the damming of the Aliakmon in 1974 which then led to a ninety per-cent reduction. The impact on the environmental ecology was unplanned and illustrates how there are more links to a larger system of networks and

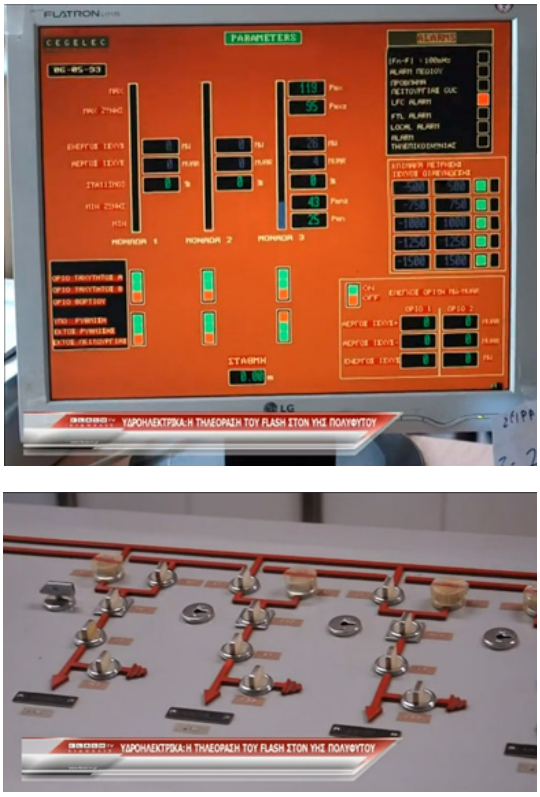

Figure 2 Control monitors and switches seen in the control room for the Polyphyto dam

[21] M. Lazaridou-Dimitriadou et al., 'Contribution to the Ecological Quality of Aliakmon River (Macedonia, Greece): A Multivariate Approach', in Man and River Systems, ed. Josette Garnier and Jean-Marie Mouchel (Dordrecht: Springer Netherlands, 1999), 47–58, https://doi.org/10.1007/978-94-017-2163-9_6.

[22] Styllas, 'Natural Processes Versus Human Impacts During the Last Century'.

Playing a larger political role today is to close the gap between rural-urban inequalities. The citizens along in the Aliakmon River in Western Macedonia have had to come to terms with the irreversible transformation of their land for the greater good of the larger cities and actors downstream. However, the current operation of the dams and reservoirs are still generating tension between the citizens in the hinterland and the urban/ agricultural demand. The temporal nature of the fluctuating water levels observed in the Polyphyto reservoir subject to the dam operators have caused shortages in the supply of crayfish of which 160 families rely on for the primary source of income.[23]
In addition, a recent proposal by PPC to cover the reservoir with 3000 acres of floating solar panels also threatens the growing tourism activities that the reservoir has generated. Environmental spokespeople also voice concern for the potential damage to the rich bird fauna observed on the artificial lake.[24] A hundred-twenty-eight different bird species make up the new ecosystem generated by the Polyphyto dam. It is unclear whether the project will continue, however what is clear, is that the PPC's influence and its current systems-based framework of operations is not adequately including a large portion of elements that are subject to the disposition of the dam operator's decisions.

The dams that were constructed along the Aliakmon River represent a complex network of actors and elements that have influenced the current social, economic, political, ecological, cultural conditions of Northern Greece today. The far-reaching links that have been identified through this paper illustrates how profound of an impact dams have on not only the physical presence on the landscape, but how a multitude of reconfigurations on different territories adjusts across different scales and temporalities. The conflicting and fragile situations that occur at the site of the dams and reservoirs reveals the incompatible understanding of the territory between the local inhabitants and the state. The urban pressures moving into the hinterland hints toward its disjunctive connection and growing interdependency between the two that is more about serving the former. The territories that form part of the hydraulic infrastructural network of Aliakmon also generate a hydraulic citizenship as the relationships to the resource of water are continuously shaped and dictated through an interlinked network of actors. Lastly, the pursuit of understanding the relationships and links that the network of dams has generated presents the impossible challenge of considering every aspect into the operation of the dams. This relates back to the current operation by the PPC, in how their systems-based thinking has become the synthesis of an oligopticon.

This infrastructure is a living, breathing, assemblage, of more than human relations. This composed as much of steel, and cement, as nature, law, social histories, and political practices.[25]

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[23] 'Εκπρόσωποι Της Εταιρίας Για Τα Πλωτά Φωτοβολταϊκά Στη Λίμνη Πολυφύτου: «Μπορούμε Να Συνυπάρχουμε Στην Λίμνη Με Τα 3.000 Στρέμματα Από Τα 73.000 Της Λίμνης»', accessed 10 January 2022, https://energypress.gr/news/ekprosopoi-tis-etairias-gia-ta-plota-fotovoltaika-sti-limni-polyfytoy-mporoyme-na-synyparhoyme.

[24] 'Να προστατεύσουμε το φτερωτό πλούτο της λίμνης Πολυφύτου', www.ecology-salonika.org (blog), 1 February 2012, https://ecology-salonika.org/02/01/protect-the-winged-wealth-of-lake-polyphytos/.

[25] Anand, 'DCRP - Hydraulic City Lecture'.

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POSSIBILITIES OF LEFTOVER SPACES IN THESSALONIKI

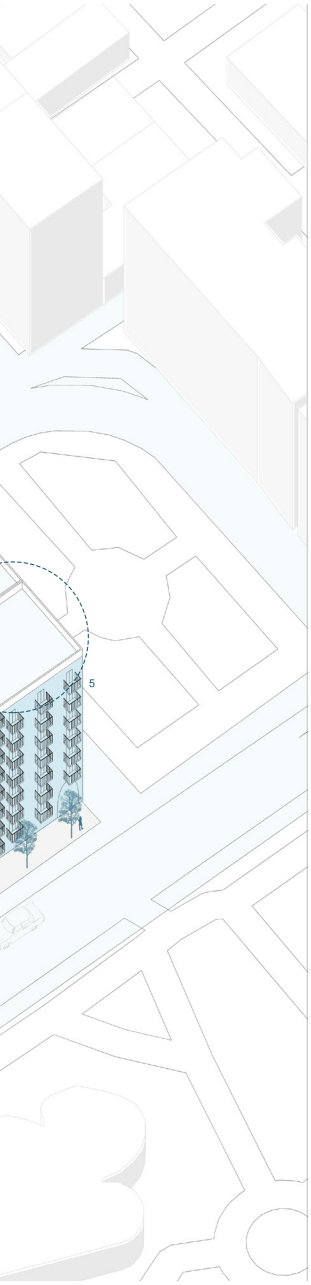
THE FORMATION OF INFORMAL URBANIZATION

Wan-Yu Yang

Possibilities of Leftover Spaces in Thessaloniki

The formation of Informal urbanization

Wan-Yu Yang | 5207878



1. Graffiti

2. Storage

3.Occupied by neighbor

4. Under Construction

5. Antennas on the Rooftops

INTRODUCTION

Even in the bustling Athonos Square in the city center, there are still many leftover spaces, which are quietly and informally used by the residents. This project will be conducted through a series of research methods, including a precedence study, site visits, making observational maps for specific areas, and typological research. These will become the nutrient for studying the relationship between Leftover Spaces and Informal constructions.

In the process of precedence study, try to understand the definitions and discoveries of leftover spaces and informal urbanization by past scholars as much as possible and expand their knowledge in this area. Next, we will conduct field trips and visit local people in Thessaloniki for about two weeks. By understanding the local people's living and cultural habits and the city's development history, it may be possible to find out the reasons for the formation of these informal structures and leftover spaces, the systems behind them, and the hidden rules. Next, select two to three areas to draw the observing maps to analyze the current situation in depth. There will be a chapter that clearly categorizes the leftover spaces of Thessaloniki and how informal elements in a tabular format occupy these spaces. These will become tools for future project design.

The city view proceeds from the individual act cumulatively out ward to the resultant collectivity.

TYPOLOGIES OF LEFTOVER SPACES

1. Void Spaces
Large underutilized sites surrounding buildings.

2. Redundant Infrastructures/Shops
Infrastructures/Shops which is not in use anymore.

3. Space Around
The result of new development in old context, creates intermediary zones between public and private space.

4. Space Between
The result after urban demolition or the gap area between buildings.

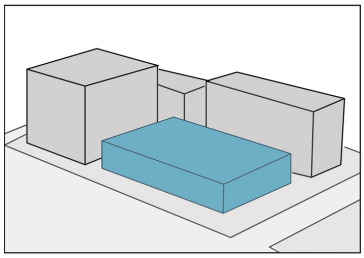
5. Spaces Below
Spaces below elevated highway/railways.

6. Rooftops
Underutilized rooftop spaces of buildings.

7. Wedges
The result of intersection of conflicting urban grids or infrastructural lines.

8. Oversized Road
Overestimated spaces for traffic.

(1)



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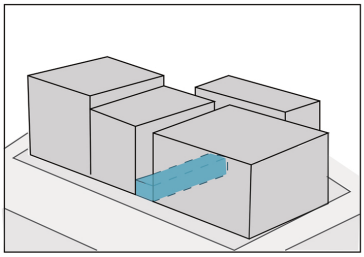

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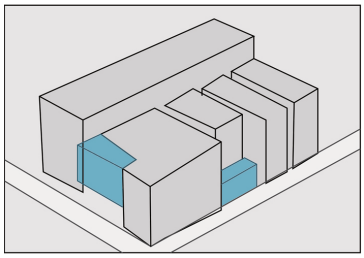

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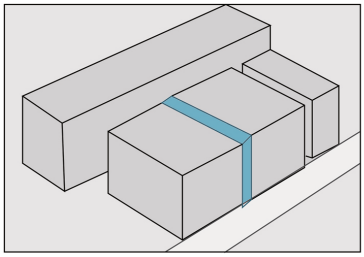

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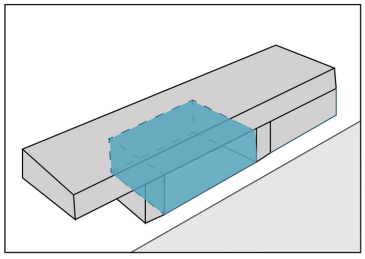

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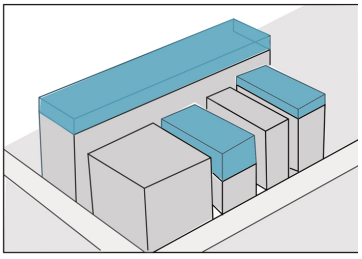

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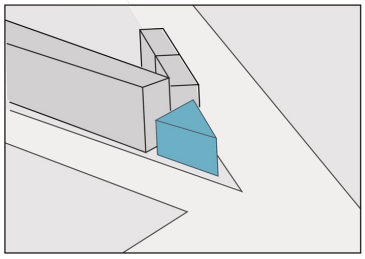

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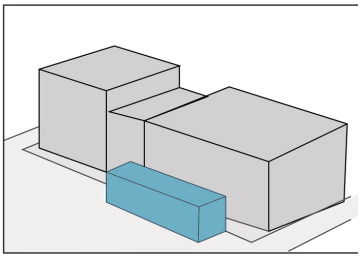
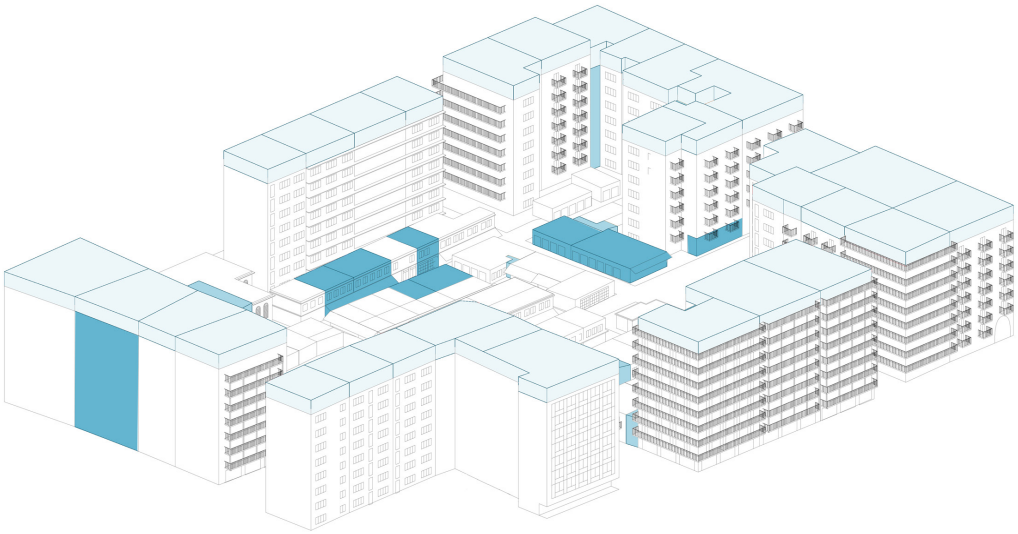


The leftover spaces provide flexibility for the residents and allow this city to breath.

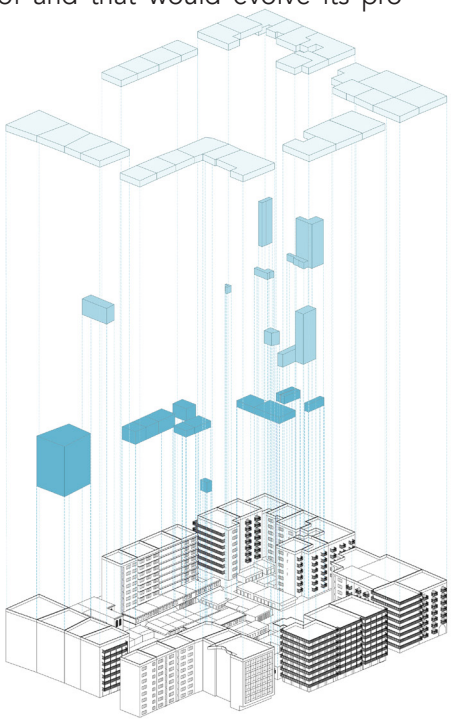


LOCATION: Athonos Square

Athonos square is a place got preserved by Thessaloniki government due to its crucial culture. This is also where local residents and tourists gather, regardless of age, ability or interest; The traditional cafe, taverns, restaurants ,carpenters, cobblers and machine shops are what make this area so popular.

This project will create links between people that wouldn't otherwise connect with each other. Moreover, people will be invited into this project to define their own space. It's a place that the people themselves could take ownership of and that would evolve its program based on the specific wants and needs of its users.

At the same time, the site is located next to the original park in the district, and the park does not function as it should to gather local residents. So I think this is a suitable proposal for reactive leftover spaces that are not being used properly.
In this project, will substitute in the way residents use leftover spaces, and use this space to tell stories that belong to the residents of Thessaloniki.



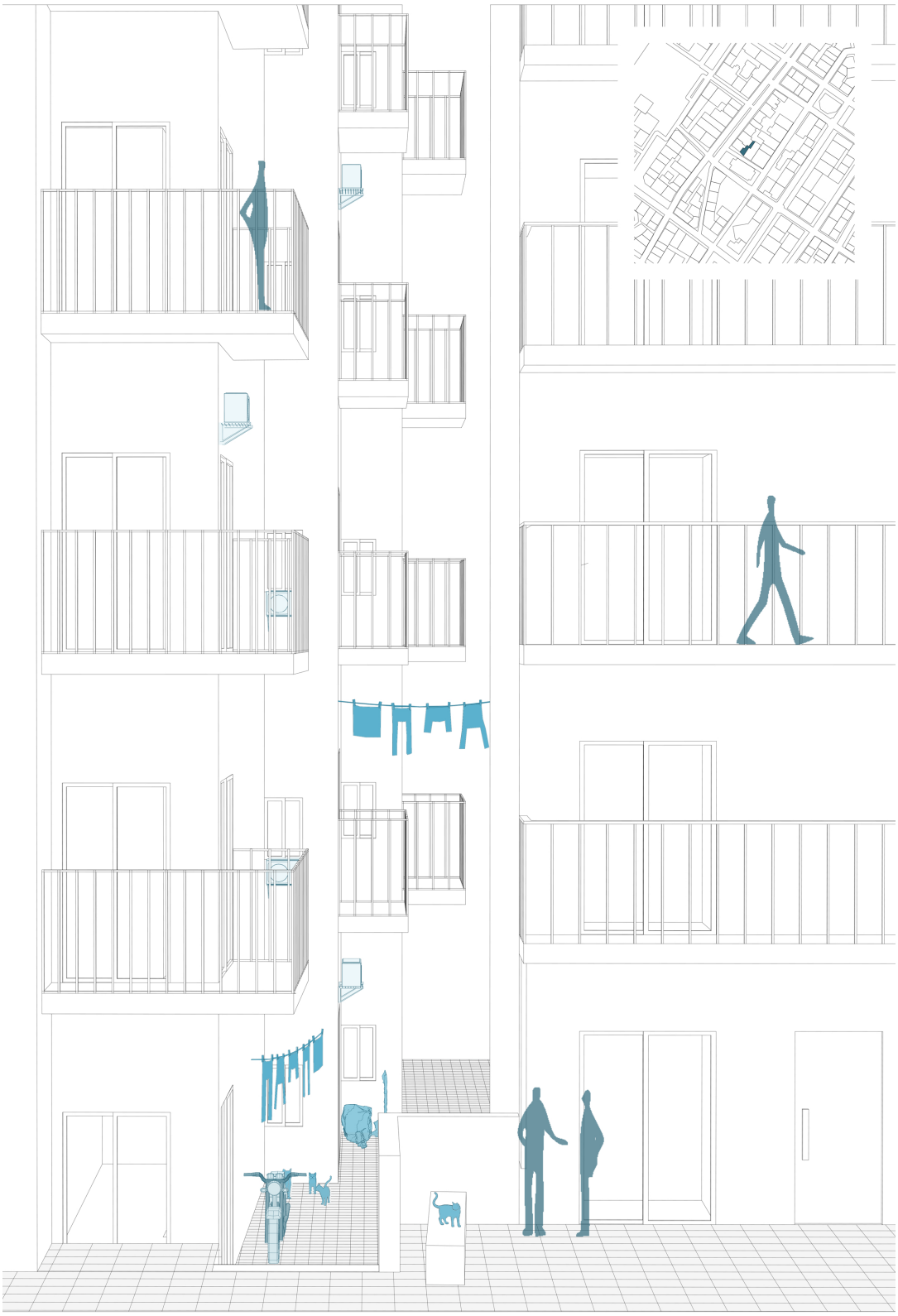
Rooftops 11.37%

Interstitial Spaces 1.96%

Redundant Sites/Shops 5.65%

Athonos Square 100%

The intellectual investment of inhabitants themselves is what makes them feel belonging to the city.



EMPTY SHOPS

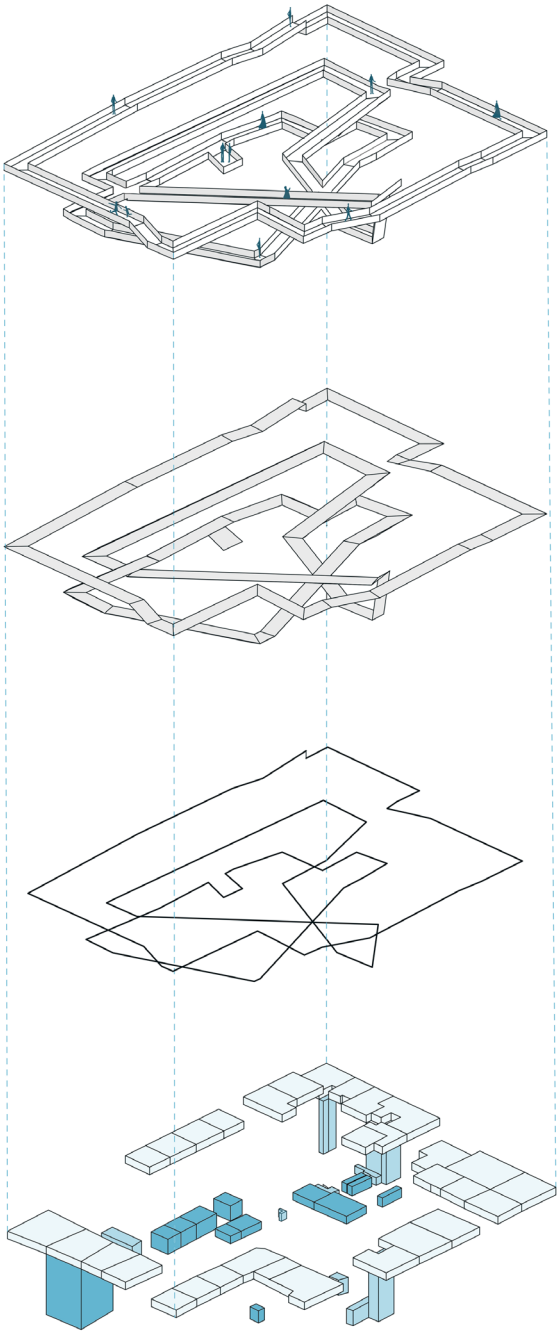
SHE IS LIKE THE
WEATHER
SHE CHANGES FROM
SUN TO RAIN
BUT THAT'S ALRIGHT
BECAUSE I HAVE
AN UMBRELLA

ΑΘΩΝΙΚΟ
ΕΝΟΙΚΙΑΖΕΤΑΙ
ΕΝΟΙΚΙΑΖΕΤΑΙ
FART

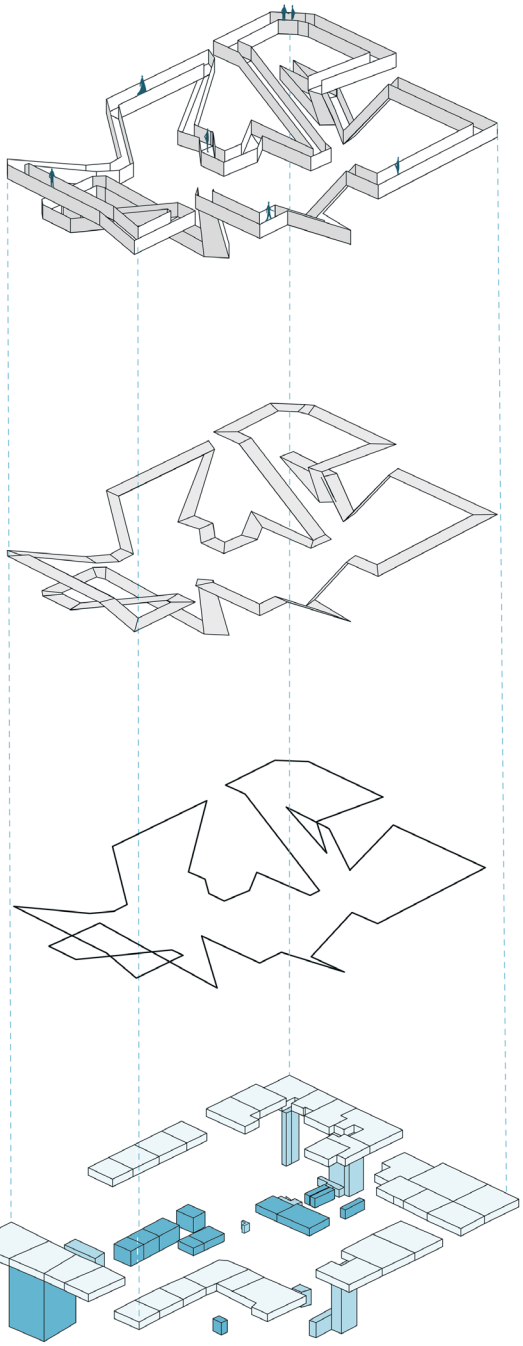
aθωNIKO

aθωNIKO

Three routes connecting different type of leftover spaces



One route connecting all type of leftover spaces



RESEARCH CONCLUSION

• Human behavior creates the particularity of this space. Not only the architects, but also the inhabitants themselves play an active role.

• Most of the existing leftover spaces in this area have been effectively used by local residents.
Before I start the research, I always think these leftover spaces are negative, in some word "messy, useless, need to be changed". But after analysis, I found out that these leftover spaces are used more interestingly than other spaces.

• The leftover spaces provide flexibility for the residents in this area; These are the spaces allow this city to breath. Also, the intellectual investment of inhabitants themselves is what makes them feel belonging to the city.

• Interstitial spaces between buildings provide private areas for the locals. Therefore I think these spaces is better to be preserve for the local people.

DESIGN PROPOSE

• Design regarding the existing characteristics of leftover spaces, bring out as the stories of users of leftover spaces. Letting both local residents and tourists know more about how inhabitants using the leftover spaces.

• Design a space allow people to do "improvisation". The adaptability of space to spontaneous actions and changes is the first goal of my design. Spaces should encourage free individual and community expression. It should be a space where every inhabitant could feel comfortable and experience specific qualities of space.

• Reactivating the unused leftover spaces. Although most of the leftover spaces in this square have been effectively used, but still some are not.

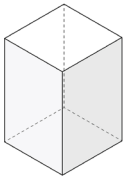
• Design a space can have different usage at different time and season. Different uses may be proposed for different time.

• Instead of copy paste the same pattern to another area, I decide to strength the character of leftover spaces in the same district. Also, rather than try to intervene directly to these spaces, I chose to explore strategies and rules of design and planning that would address the unique and delicate conditions of the areas.

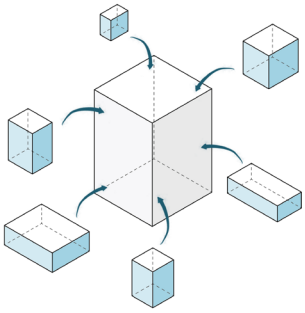
Design a space allow people to do "improvisation"!!!

VOLUME

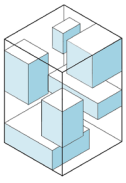
In the past, in order to achieve the maximum utilization rate of the space, all the spaces will be filled, but in this scheme, the required area of all the program will be calculated, and the remaining spaces will be left blank as leftover spaces. But leaving blank does not mean not doing any design, but design as a space that can be defined by users. So between these volumes is where the real fun will happen, what will become is entirely user-defined, just like the interstitial area between buildings in Thessaloniki.



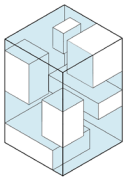
Site



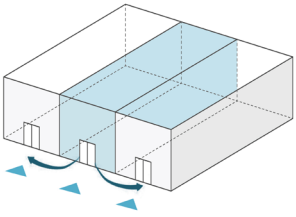
Caculate Volumes



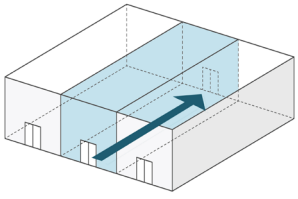
Insert Volumes



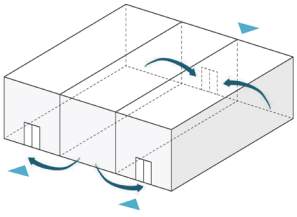
Create Leftover Spaces



Empty shops occupied by neighbor



Change entrance direction



Create more using possibilities

POSSIBILITIES OF LEFTOVER SPACES IN THESSALONIKI

THE FORMATION OF INFORMAL URBANIZATION

Wan-Yu Yang

Keywords: leftover spaces, temporary use, possibilities, informal urbanization

ABSTRACT

Thessaloniki is a city with a history of more than 2,300 years. After many regime changes, many buildings have been constructed, destroyed, reused, or abandoned. As a result, many interesting leftover spaces are created, and these spaces provide places where informal elements can be placed. In other words, leftover spaces are an important reason for the formation of Informal Urbanization. In this paper, the relationship between the leftover spaces and informal constructions of Thessaloniki will be discussed.

INTRODUCTION

In Thessaloniki, many informal phenomena can be seen everywhere, such as the antennas on the roof, the Greek flags on the balconies, and the common graffiti on the outer wall. The existence of these elements does not follow government regulations but is produced independently by residents' living habits and culture. Moreover, these informal elements indirectly affect the way people use the surrounding space, for example, people's walking paths and the way travellers view the city. These elements can be called "informal constructions," and these "informal constructions" constitute the so-called "informal urbanization." Furthermore, most of those informal elements exist in abandoned and often unused spaces in cities, such as roofs, abandoned buildings, empty shops. This is how these two terms are linked. Therefore, the relationship between Leftover Spaces and Informal constructions is worthy of being explored.

Antennas on the rooftop

Postcard with antennas from Thessaloniki

PROBLEM STATEMENT

In addition to unused land, due to economic recession and government policy factors, Thessaloniki has many more leftover spaces, such as buildings that have been half-built and suspended, buildings that have not been completely demolished, and empty shops that people no longer operate. Nevertheless, these seemingly useless spaces actually have many activities happening in them, which may be temporary or permanent. The main directions of this research are the reasons for the formation of these informal constructions/ activities, the systems behind them, and the hidden rules. And then determine the advantages and disadvantages of these phenomena for the city and discover more possibilities for these leftover spaces to help have a beneficial impact on the city's future development.

But this article is not intended to fill the leftover spaces of the entire city because these blank spaces allow residents to have more possibilities for different activities, just like Barre claims:

"Surprise must remain possible, the eruption of the non-assigned, the force of diversion, sudden and then gradually accepted. Finally, the city must keep its blank pages, its waste areas, its pockets of adventure, zones and barriers that owners know how to use." [1]

1 Barre, F. & Academy. (1980). *Urbanity*. Academy Editions.

THEORETICAL FRAMEWORK

The definition of Leftover Spaces

The term "leftover space" was first addressed in 1977 by Venturi as an extra layer of space exists between the exterior and the interior.[1] In 2009, Dr. Alanyali Aral redefined leftover space as space that is not 'possessed' by people. The following is a more detailed description of her:

"Leftover spaces, accordingly, lack a specific care by people, through a certain period of time, observable in their physical properties. Leftover spaces are relatively unused, underused, but in some cases, even well-used spaces may be named as leftover, due to lack of maintenance and control, which is reflected in their appearance."[2]

In history, there have been many deformations related to leftover space, which were defined by different theorists. The table on the following page is organized according to their usage quality and spatial quality:

The definition of Informal Urbanization

Informal urbanization is defined as the production of urbanization independent of formal frameworks and assistance, composed of informal construction. As for informal construction, each country has its own building regulations. Broadly speaking, buildings that do not follow the building regulations can be called informal construction. However, formal and informal cannot be understood as absolute duality because there are still transition zones with different degrees of formality in between.[3]

The definition of spatial behavior

According to Mirilia Bonnes and Giuseppe Carrus, "The concept of spatial behavior relates to how individuals regulate and use (in terms of appropriation and defense) their spatial environments at different personal, interpersonal, and group levels."[4] The relevance of this term to this research is how different void spaces affect people's behavior.

[1]Venturi, R., Scully, V., & Drexler, A. (1977). *Complexity and Contradiction in Architecture* (2nd ed.). The Museum of Modern Art, New York.

[2]Alanyali Aral, E. (2009). *Redefining Leftover Space: Value and Potentiality for the City.* VDM Verlag.

[3]Werthmann, C. (n.d.). *Informal Urbanism – About – Habitat UNI.* Habitat UNI. https://uni.unhabitat.org/informal-urbanism-about/

[4]Bonnes, M., & Carrus, G. (2004). *Environmental Psychology, Overview.* https://www.sciencedirect.com/topics/medicine-and-dentistry/spatial-behavior

Year	*Theorist*	*Term Used*	*Usage Quality*	*Spatial Quality*	*Example Forms*
1968	Whyte	The area of second chances	- Abandoned	- Mostly smaller in size - Wasted	
1978	Burrow	Vacant urban land	- Unused		- Derelict/ Spoiled areas - Demolition areas - Neglected wasteland
1986	Roger Trancik	Lost Space	- Abandoned - Underutilized - Potential Exploitable - Unproductive	- Need to be redesigned - Ill-defined boundaries - Invisible/ Unexposed - Deteriorating in appearance	- Leftover unstructured landscape - Abandoned waterfronts - Abandoned train yards - Vacated military sites - Vacated industrial complexes
1986	Rivlin	Found spaces	- Appropriated	- Uncertain/ Blurred - Indeterminate (Rule of usage) - Unplanned	- Street intersections and squares that were set off from surrounding space.
1995	Solà-Morales	Terrain vague	- Abandoned - Unproductive - Obsolete	- Undefined	- Unincorporated margins - Interior islands void of activities
1996	Loukaitou-Sideris	Cracks in the City	- Abandoned	- Unplanned - Undeveloped	- Decaying parks and playgrounds
2005	Groth & Corjin	Intermediate Spaces		- Indeterminate	
2007	Doron	Dead Zone/Edges	- Abandoned - Appropriated		- Train yards - Dysfunctional harbors - Vacated industrial sites - Dysfunctional barracks
2007	Stvens	Loose spaces	- Appropriated	- Unplanned	
2009	Ela Alanyali Aral	Leftover Spaces	- Abandoned - Appropriated - Underutilized - Potential Exploitable	- Uncertain/ Blurred - Ill-defined boundaries - Deteriorating in appearance (Ruined)	- Unbuildable areas - Abandoned sites - Vacant lots - Interstitial spaces - Sub-spaces - Neglected public parks and plazas
2011	Kamvasinou	Vacant Urban Lands	- Abandoned - Unproductive	- Unplanned - Undeveloped - Uncertain/ Blurred (land usage)	- Voids between spaces - Vacant land - Land pending development - derelict land

TYPOLOGIES OF LEFTOVER SPACES

(1) Unbuildable areas: Areas that cannot be built due to natural environmental conditions.
(2) Redundant Sites/infrastructures/Shops: The area or building which is not in use anymore.
(3) Void Spaces: Large underutilized sites surrounding buildings.
(4) Interstitial Spaces: The result after urban demolition or the gap area between buildings.
(5) Space below: Spaces below elevated highway/railways.
(6) Rooftops: Underutilized rooftop spaces of buildings.
(7) Space around: The result of new development in old context, creates intermediary zones between public and private space.
(8) Wedges: The result of intersection of conflicting urban grids or infrastructural lines.
(9) Oversized Road: Overestimated spaces for traffic.
(10) Neglected public parks & plazas: The designed urban spaces which remain disused or underused.

According to the actual city survey in Thessaloniki, it is found that the following three categories of leftover space account for the majority of the areas with the most human activities in the city center: (1) Redundant Sites/infrastructures/Shops; (2) Interstitial Spaces; (3) Rooftops. They have different causes and ways of being used, so in this paper, I will focus on the status of these three categories in Thessaloniki.

(1) Redundant Sites/infrastructures/Shops:

Description

Broadly speaking, this category is defined as the area or building which is not in use anymore. There are two main reasons for this type of space. The first is that the original design does not meet the needs of users, and the second is that It is the acquired environment that makes people no longer need these spaces. For either of the above reasons, these spaces are now empty spaces where many different activities can take place.

The causes of formation in Thessaloniki

The reason for the existence of such leftover space is mainly because of the economic recession, especially after the outbreak of Covid-19 in 2020, which made Thessaloniki's already poor financial situation even worse. According to research, a large part of Thessaloniki's revenue comes from foreign tourists visiting historical sites. The decline in tourists is undoubtedly a blow to the city. Redundant Sites/infrastructures are mostly half-built but stopped due to policy or financial difficulties. Most of them are located next to the main road, so they have become another unique scene. The redundant shops are mostly located on the inner ground floor of the block, with fewer people passing by. Due to the epidemic, a large number of tourists have been reduced, which indirectly caused the closure of these shops and restaurants, and released a lot of empty space.

Current state of use in Thessaloniki

According to the actual investigation, the redundant shops in the city center are effectively used by local residents. The interior is mostly the storage space of the landlord, and it can be seen that some of the interiors are full of cardboard boxes or furniture. The area in front of the shops is used by different neighbors nearby according to different times. For example, during the day, it is used as a space for product display; at night, it is used as a space for placing tables and chairs in the restaurant next door, and in the middle of the night, it is occupied by the opposite bar to allow customers to have more places to drink. Many graffiti and posters can be seen on the walls and windows of these empty shops. These seemingly empty spaces, upon closer inspection, are actually occupied by many activities.

(2) Interstitial Spaces:

Description

The definition I give to this category is the void area between buildings. In the 'Redefining Leftover Space,' Dr. Alanyali Aral gives a more detailed explanation: "These are spaces left over around (in the front, sides and back of) buildings, and within the boundaries of their parcels -so in their property."[1] Therefore it can be courtyards, alleys, or those spaces between buildings which you can't give a category.

[1] Alanyali Aral, E. (2009). *Redefining Leftover Space: Value and Potentiality for the City.* VDM Verlag.

The causes of formation in Thessaloniki

I mainly found two reasons for the existence of this type of leftover space. First, Thessaloniki is a historical city; after some buildings have been destroyed due to historical damage, there are often small spaces between new and old buildings that cannot be integrated. Second, there was no complete block planning in the early days, so each building in most blocks was designed separately and independently. The relationship with the surrounding buildings was not fully considered. As a result, many distorted spaces are formed. These spaces are usually at the back of the building, narrow and winding, and there is not enough light to enter, so the narrowness and darkness have become the characteristics of these spaces.

Current state of use in Thessaloniki

According to actual observation, four informal uses have been found in this type of leftover space: 1. Many residents use it as a space for drying clothes, so bamboo poles or iron poles are often seen standing. 2. As a parking space for motorcycles and bicycles. 3. The space where the homeless live, so it is often seen that a particular corner is particularly messy. 4. Cat's living space, you can often see a family of cats living in this type of space, and you can also see empty bowls and empty cans left by someone feeding these cats. These seemingly dark and quiet corners of the city actually have many activities quietly happening in them.

(3) Rooftops:

Description

Most of the early houses had sloping roofs to facilitate drainage, but with the advancement of construction technology, flat-roofed buildings made of reinforced concrete are increasing day by day. Such structures are usually less expensive and therefore widely used. Give residents more space to use. Rooftops can be seen in the film "The Rooftops," directed by Algerian director Merzak Allouache, providing a lot of room for a busy capital facing housing problems. Rooftops can be seen in the film being used as practice spaces for bands, practice areas for boxers, shelters for the homeless, and prisons for the mentally ill. These informal events take place every day on rooftops in Algeria.[2] Let us understand that rooftops have many unknown possibilities.

The causes of formation in Thessaloniki

In Thessaloniki, we can see that the old town on the higher ground to the north is primarily orange-red sloping roofs, while the city center near the port is quite different. With the advancement of construction technology and the government's policy of saving money, the city center is mostly eight to nine-story flat-roofed concrete buildings, so the coastal city center roofs have many more possibilities for residents to use. These rooftops spaces, which the government usually ignores, have become one of the main spaces where informal activities of local residents take place. And the government turned a blind eye to these idiomatic constructions and tacitly allowed them to proceed, which is why the current situation has emerged.

Current state of use in Thessaloniki

In Thessaloniki, residents have three main informal ways of using these rooftops: The first is the space used to place the antenna, which is now characteristic of Thessaloniki. According to interviews with local residents, most people are unwilling to share their own antennas in order to keep their own signals from being affected, resulting in the situation that every household has its own antenna. This is the main reason why there are so many antennas. These antennas are usually attached to the outside walls of a stairwell or the inside of a parapet. And from time to time, you can see wires connecting different rooftops to form a colossal grid system. Second, residents will use iron sheets to build on rooftops to develop new storage spaces. The third is to use metal rods to create roof gardens on rooftops, sometimes like greenhouses, sometimes open for vines to climb. All of these make Thessaloniki unique even when viewed from above.

[1] Allouache, M. (Director). (2013). *The Rooftops* [Film]. JBA Production, Baya Films.

CONCLUSION

This research aims to understand the past, present, and possibilities of thinking about the future of Thessaloniki leftover spaces. The "past" represents the reason and the history of the formation of the spaces; on the other hand, the "present" points out how these spaces are occupied by people, animals, plants or objects, through actual visits to Thessaloniki, interviews with residents and reading references on paper and the Internet and get the information you need. Integrating the above information with these understandings can be used as the basis and stepping stone for the future design and planning of these leftover spaces.

The study shows that most of the leftover spaces are not only used for a single purpose, nor are the entire area occupied at all times, but there are still many empty spaces and times, which may also be a kind of "less is more" interpretation. These spaces are like oxygen in water, allowing living things to breathe and survive. Especially in Thessaloniki, the second-largest city in Greece, these leftover spaces allow this busy city to breathe and have more interesting possibilities.

This article aims to let people understand the reason, meaning, and value of leftover spaces and reminds designers to remember appropriate white space when designing for this type of space in addition to thinking extensively about the possibilities brought by the space. Let users have more opportunities to paint their own possibilities on blank paper. It will also serve as the central concept for my subsequent stage design in the future.

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Bonnes, M., & Carrus, G. (2004). *Environmental Psychology, Overview.* https://www.sciencedirect.com/topics/medicine-and-dentistry/spatial-behavior

Allouache, M. (Director). (2013). *The Rooftops* [Film]. JBA Production, Baya Films.

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'.

BORDERS & TERRITORIES