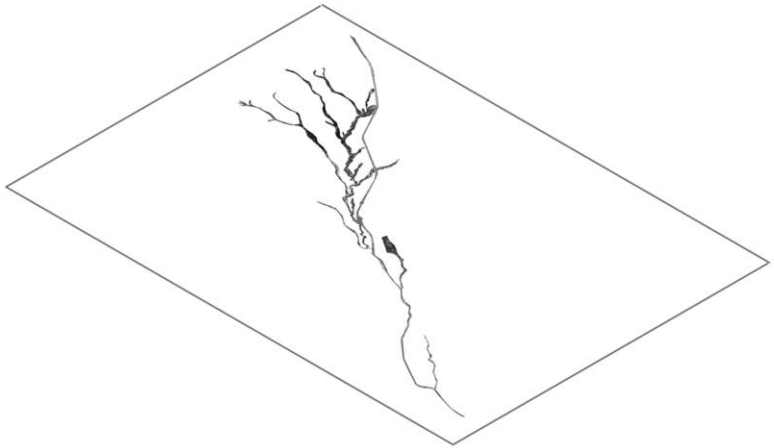
The oppositions of Kifissos

From static duality to dynamic coexistence



Becoming familiar with Kifissos

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Becoming familiar with Kifissos

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Mentors: Inge Bobbink, Esther Gramsbergen

Abstract

The aim of this thesis project is to address a highly problematic landscape in an alternative conceptual way. Instead of following a problem-solving approach, I will try to see how the way a specific site works in space and time can be related to a number of concepts. Furthermore, how do these concepts become part of wider, both theoretical and practical discussions about the role and the limits of planned and designed human interventions on the natural and the urban landscape.

The landscape in question is Kifissos, a heavily abused urban river in Athens, Greece. Kifissos used to be a river. As the city evolved it became part of the city's infrastructural network, functioning as a highway, a sewage and drainage collector. The river is strictly contained within heavy concrete boundaries. This condition is a result and expression of the conceived necessity to dominate and control nature, in order to guarantee for the safety and functionality of the urban world. The binary division between urbanity and nature is in our case expressed by the opposition of the two identities of the river and the highway as well as by the spatial isolation of the two systems from their surrounding environment.

The opposition between the over-controlled elements of the landscape and their unpredictable, uncontrolled dynamics is also reflected in the urban tissue, in the tension between the designed/formal and spontaneous/informal patterns of urbanization. By studying how the urban landscape of Athens has evolved through the years, we can see that the development of these opposing patterns is closely related to the underlying structure of the landscape and the introduced element of the highway.

Within this wider theoretical framework that describes the case of Kifissos not only as an urbanized river, but also as an over-controlled landscape and a ground for conceived oppositions, the design will not depart from the imposition of external forms and structures. It will rather be born out of an excavation on the site that will investigate the common ground between things conceived as opposites. Reading the existing landscape will result in a number of design tools, compatible with the identity of the city and the landscape, that will guide the design process.

The resulting designed landscape works as an experiment of how a concept driven design does not necessarily consists of distanced ideas. Rather it can result in a flexible landscape architectural framework able to incorporate social, environmental and technical aspects closely related to the realities of the existing milieu.

Furthermore, it explores and indicates how landscape architecture, as a discipline, has the capacity to work as an integrative common ground, bringing together conflicting notions such as natural and engineered, formal and informal, concept and reality, process and form, the designed landscape and the practices of everyday life.

Key words: conceptual approach, urban river, natural/engineered, formal/informal, over-control, integrative landscape.

CONTENTS

INTRODUCTION

1. Fascination

a. Tension between objectifications of space and alternative readings

My fascination lies in the way that alternative readings challenge strict hierarchical structures that try to objectify and accurately define space. Approaches such as the Surealist and Situationist descriptions of the city, or the emphasis of phenomenology on the ephemeral aspects of experience work as inspiring examples that investigate ways to redefine convectional structures such as regulative systems or one-directional, imposed meanings. Approaching space and its design in this unconventional can help to return mystery and desire into *a world of places and things that have been otherwise excessively classified and structured… (1)*

(1)James Corner (1999) *The Agency of Mapping. Speculation, critique and Invention*

b. The agency of landscape and the transgression of fixed designs

The agency of landscape has a great potential in challenging urban and architectural design approaches that tend to reduce the complexity of space in a number of well defined geometrical figures associated with well organised uses. With its emphasis on processes, interrelations and the qualities of the existing site, it helps us to think beyond strict design models that provide us with definite images of both space and nature. Many inspiring treatises in the field of landscape architecture, such as writings by J. Corner, M. Prominski and E. Meyer, reflect on this potential, and encourage designers to think in terms of dynamic systems that embrace and incorporate change instead of constantly trying to delimit and fix it, by means of geometry and structure.

However, the shift of emphasis from form and program to the poetics of processes and systems is sometimes associated with a conceived opposition between fixed and dynamic which limits design practices from developing a fertile interaction between the two.

The created order
is everywhere punched
and torn open
by ellipses, drifts,
and laks of meaning
: it is a sieve-order.

Michel de Certea (1980) The Practice of Everyday Life

2. Problem field

a. Opposition between dynamic and fixed: between formal and informal, natural and engineered.

The opposition between fixed and dynamic is one of the prominent themes that reappears in different ways in contemporary treatises of architecture, landscape architecture and urbanism. This tension is often expressed in terms of two different dualities. One is the conceived opposition between the natural and the engineered landscape, and the other between the formal and structural, simplifying aspects of design, as opposed to the dynamic and highly complex processes of urbanization. Both cases develop a critical approach towards the imposition of over-controlling, deterministic design structures, either on the people that use the space, or the site and the natural processes it includes.

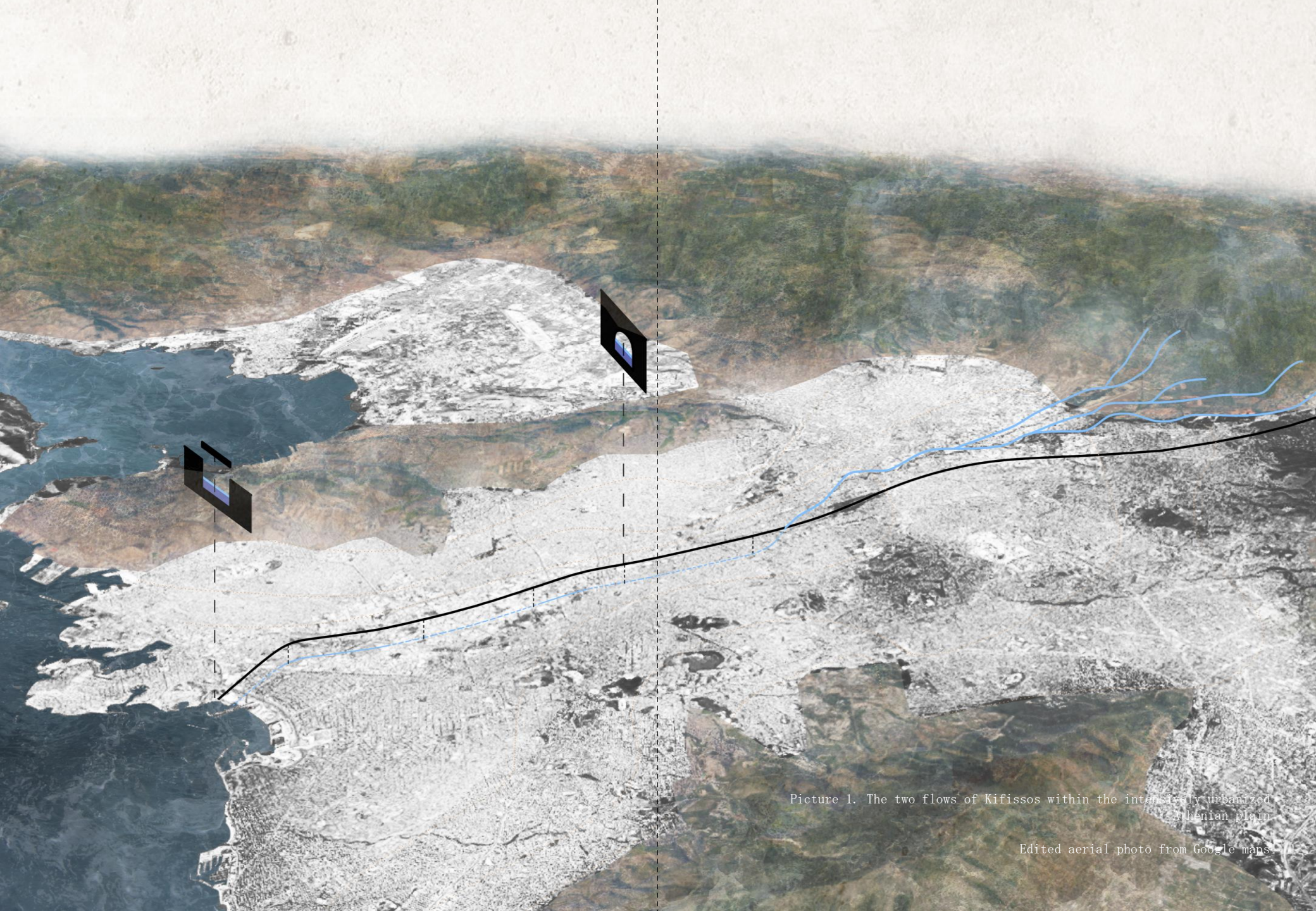
Picture 3. Atelier Descombes Pampini (2001) Re-naturalization of the river Aire

How the natural processes of a river transform the rigid structure of the grid

Source: http://www.landezine.com/index.php/2016/06/renaturation-of-the-river-aire-geneva/

b. Overcontrol

Both approaches agree that this imposition o highly determined structures on space, nature and people is driven by a conceived necessity to limit and control processes of change. Understanding change as a threat often leads to the condition of excessively controlled landscapes. For instance, formal masterplans often try to control the way space is used by imposing often irreversible spatial boundaries between different uses and social groups. However, the informal practices of people often question and controvert this order. At the same time, a hardly engineered landscape attempts to control natural forces and their influence on human activities. Nevertheless, manmade interventions on natural systems have, in many cases, proven to have unpredictable consequences both on natural and human environments.



Picture 1. The two flows of Kifissos within the intensively urbanized Athenian plain.

Edited aerial photo from Google maps

c. An exemplary case of over-control - The linear landscape of Kifissos

To understand how the opposition between dynamic and fixed, resulting in conditions of over-control works, I focus on the linear landscape of Kifissos, in Athens. Kifissos is a heavily engineered river landscape with essentially restricted natural dynamics.

At the same time, it works as an important structural line on which gestures of formal and informal growth have been articulated during the development and expansion of the city. As a result, it facilitates the tension between controlled and uncontrolled, which is the central focus of this study.

ci. Kifissos: a conceived opposition: A River or a Highway?

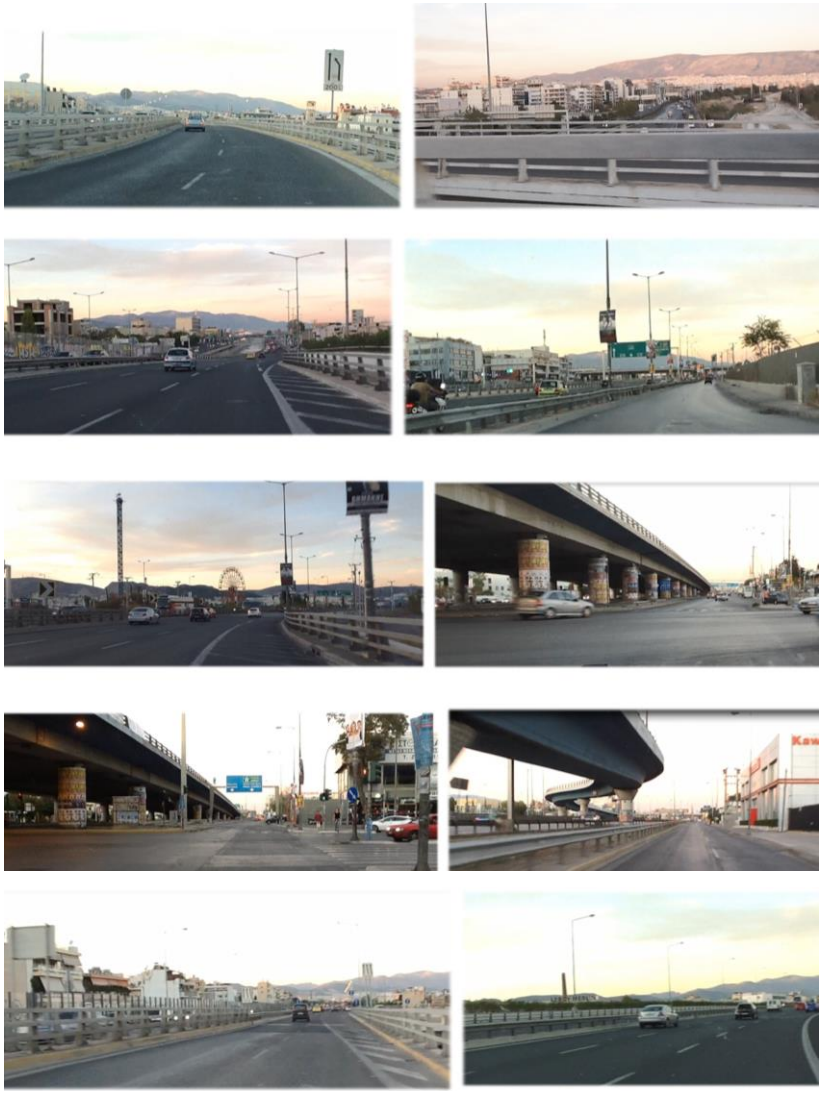
In the case of Kifissos, the tension between dynamic and fixed is expressed in terms a conflict between two different landscape identities. In the way that this landscape is conceived, the dynamic natural element of the river is seen in opposition with the rigid element of the highway. Understanding this most evident opposition, and the wider, complex conditions that led to this situation, provides with a better understanding of over-control and its consequences, suggesting the necessity of an alternative approach.

Picture 2. Kifissos as a river

Scenic experience of the landscape in the northern streams

Picture 3. Kifissos as a river

Photos by author - experience along “Pikrodafni” triburary



Picture 4. Kifissos as a highway

Photos by author - driving through Kifissos

cii. Kifissos as a river

Kifissos river is the main watercourse of the Athenian plain. It originates from the mountain Parnitha from where it flows through the Athenian plain -approximately 25km from northeast to southwest-, until it reaches the Saronic Gulf.

Those who conceive Kifissos as a river nostalgically refer to times when the stream used to be a sacred element in the city. The restoration of the ecological value of the river system remains important, but is overshadowed by the river's pictorial image. *Within the pictorial image, Nature is represented by a softly undulating pastoral scene, generally considered virtuous, benevolent, and soothing, a moral as well as practical antidote to the corrosive environmental and social qualities of the modern city. This landscape is the city's other, its essential complement drawn from a nature outside of and excluding building, technology and infrastructure.*(2) For this specific group, the hard-engineered element of the highway have no place in the future visions of the city. However, should that be the case?

(2) James Corner (2011) Terra Fluxus, p.27

a. ii) Kifissos as a highway

Processes of rapid urbanization and uncontrolled growth, that followed the second world war, turned the river from a water artery to a traffic lane and a dump for toxic industrial waste as well as illegal construction. As the Athens basin has been covered with roads and parking lots, the landscape has lost its capacity to absorb water causing multiple, catastrophic floods through the years. The natural elements of the urban river are essentially degraded and are beginning to fade. Intensive and hard urban interventions mark the urban river palimpsest with irreversible traces, leaving no room for natural processes, essential for the system's equilibrium, to unfold.

At the same time, Kifissos avenue is a very important element of Athens mobility network and transportation infrastructure. Removing the highway would very likely cause serious congestion problems in other parts of the city.

d. The unpredictable consequences of over-controlling the river

The erasure of Kifissos river and its dynamic nature is the result of, one of the many cases, where processes of urbanization and industrialization included intensive and extensive engineered interventions are oriented towards the total control of their natural setting. As K. Shannon describes, *the attitude that urban spaces close to water could only be used to their full potential when they were not subject to the river dynamics led to strict limitations on the space within the direct sphere of influence of the water... over time, natural water bodies have been channelized, piped, covered or even filled. (3)* The result of this one-sided technical and functional approach has made the river's original form, structure and the way they shape their environment barely perceptible. Its intensive canalization has not only caused multiple damages on water quality and biotope diversity, but also triggered many flooding events. *More control concentrates more energy which needs to be restrained. The narrower the flood space the higher the water rises; the smaller the space for self-dynamic channel development the stronger the pressure on the bank and riverbed reinforcements.(4)* As a result, exaggerated process limits are not only dividing river landscapes from public life, but also enhancing the threat that they initially tried to condition.

However, *it is not only since the catastrophic floods of recent years, the consequences of climate change and the decline of species diversity beside and in the water that the total control and one-sided technical perception of our straitjacketed rivers has been increasingly called into question.* (5)

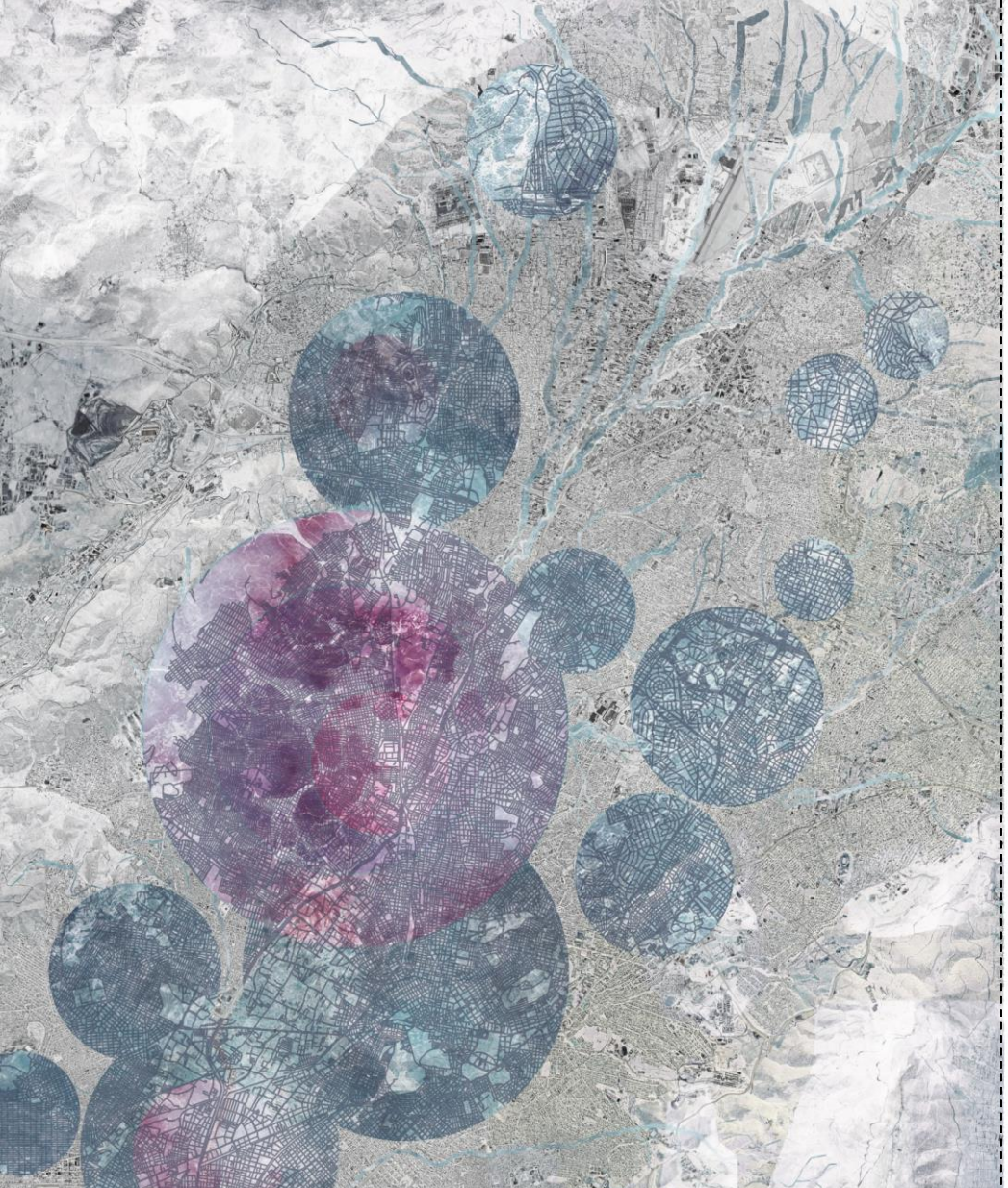
Picture 5. Consequences of over-control - The recent catastrophic floods in the wider area of the Athenian basin

Source: ….

(3) Kelly Shannon.(2013) *Eco-Engineering for Water: From Soft to Hard and Back, In:* Pickett S.T.A. with Cadenasso M.L. and McGrath B. (ed.) "Resilience in Ecology and Urban Design. Linking Theory and Practice for Sustainable Cities", Springer, New York,, p.163-182

(4) Bülent Cengiz (2013). *Urban River Landscapes, Advances in Landscape Architecture*, In: InTech, DOI: 10.5772/56156 (ed.) Dr. Murat Ozyavuz
Available from: https://www.intechopen.com/books/advances-in-landscape-architecture/urban-river-landscapes

(5) Martin Prominski (2012) *River Space Design. Planning strategies, Methods and Projects for Urban Rivers*, Birkhauser, Basel, p.32
Prominski (2012) p.78



Picture 6. The floods of the Athenian plane through the decades collage made by Author
Source of data for the flood events: Michalis Diakakis (2013) *An inventory of flood events in Athens, Greece, during the last 130 years. Seasonality and spatial distribution,* Article in : Journal of Flood Risk Management

1890-1933

1933 -1955
decrease

1955 -1980
increase

1980 -2002
less spread
more intense

2002 -2007
dicrease
flood protection works

2007-2017
only temporarily
increased
more intense


ΑΠΟΓΕΥΜΑΤΙΝΗ
Ο ΑΠΟΛΟΓΙΣΜΟΣ ΤΗΣ ΤΡΑΓΩΔΙΑΣ ΤΗΣ ΝΥΚΤΑΣ ΤΗΣ ΚΥΡΙΑΚΗΣ ΠΡΟΣ ΤΗΝ ΔΕΥΤΕΡΑΝ
ΕΙΣ 47 ΝΕΚΡΟΥΣ ΚΑΙ 300 ΤΡΑΥΜΑΤΙΑΣ ΑΝΕΡΧΟΝΤΑΙ ΤΑ ΘΥΜΑΤΑ ΕΚ ΤΗΣ ΧΘΕΣΙΝΗΣ ΘΕΟΜΗΝΙΑΣ ΠΟΥ ΕΠΛΗΞΕ ΤΗΝ ΠΡΩΤΕΥΟΥΣΑΝ
3500 ΟΙ ΑΣΤΕΓΟΙ, 800 ΤΑ ΚΑΤΑΡΡΕΥΣΑΝΤΑ ΟΙΚΗΜΑΤΑ ΚΑΙ ΥΠΕΡ ΤΑ 20 ΕΚΑΤ. ΑΙ ΖΗΜΙΑΙ
ΟΛΟΚΛΗΡΟΙ ΟΙΚΟΓΕΝΕΙΑΙ ΕΠΙΓΗΣΑΝ ΟΜΑΔΙΚΩΣ, ΕΝΩ ΑΙ ΕΚΚΛΗΣΕΙΣ
ΠΡΟΣ ΒΟΗΘΕΙΑΝ ΤΩΝ ΕΣΧΙΖΑΝ ΤΟ ΣΚΟΤΑΔΙ ΤΗΣ ΕΦΙΑΛΤΙΚΗΣ ΝΥΚΤΑΣ

Fifty-two floods are identified between 1880 and 2010
in various locations around Athens basin,
which caused 182 casualties and substantial damage.


ΕΛΕΥΘΕΡΙΑ
Νὺξ θανάτου καὶ καταστροφὴς εἰς 'Αθήνας
Νεροποντή, ἀνεμοθύελλα, χάλαζα καὶ πλημμύραι
ΤΡΙΑΝΤΑ ΕΝΝΕΑ ΝΕΚΡΟΙ ΑΠΟ ΤΗΝ ΘΕΟΜΗΝΙΑΝ
ΤΟ ΚΕΝΤΡΟΝ ΑΝΕΝΔΟΤΟΝ ΘΑ ΑΓΩΝΙΣΘΗ ΕΝΑΝΤΙΟΝ ΤΟΥ ΑΠΟΤΕΛΕΣΜΑΤΟΣ

e. The failure of large scale gestures

Athens is a particular example where formal plans and large -scale gestures, such as major changes in the transportation infrastructure system, followed informal growth instead of controlling it. For example, the highway of Kifissos found in the space of the river's main stream a space that was not occupied. Thus, placing the highway on top of the river provided with an convenient solution.

Furthermore, the illegal constructions on the rivers edge become part of these informal practices of urbanization that authoritative, large-scale plans failed to address and control. The spaces resulting from these practices have become an integral part of the city's particular identity. It is discussed that the erasure of these illegal constructions will open up more space of the river. However, it might as well have the same effects as formal official plans, such as the works that prepared Athens for the Olympic games in 2004, the application of which resulted n the city's fragmentation.(6) Within this framework, a large-scale design gesture of re-naturalization hides the risk of resulting in another act of over-control.

(6) Dina Vaiou (2002) "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24: 219-220

Picture 7. Illegal constructions of historical value at the edge of Ilissos, a tributary of Kifissos

Source:Dimitris Philipides (1979) *An inner city squatter residence in Athens,*
In:《Settlements in Greece》(ed.) Paul Oliver and Orestis Doumanis

3. Problem Statement

In the case of Kifissos, the inadequacy of large scale planning to limit the problems of uncontrolled growth indicates the necessity for a different design approach than that of idealized, distanced plans. The excessive control over nature becomes part of these plans, suggesting that the oppositions between natural and engineered and informal and formal become part of the same underlying tension between dynamic and fixed.

Even though our efforts to delimit the unpredictability of natural and urban dynamics have, in many cases, proven to have increased the "undesirable" condition of uncertainty, design practices still insist on following strategies of over-control.

Picture 8. Heavy engineering works for flood protection at Kifissos mouth

Photos by author

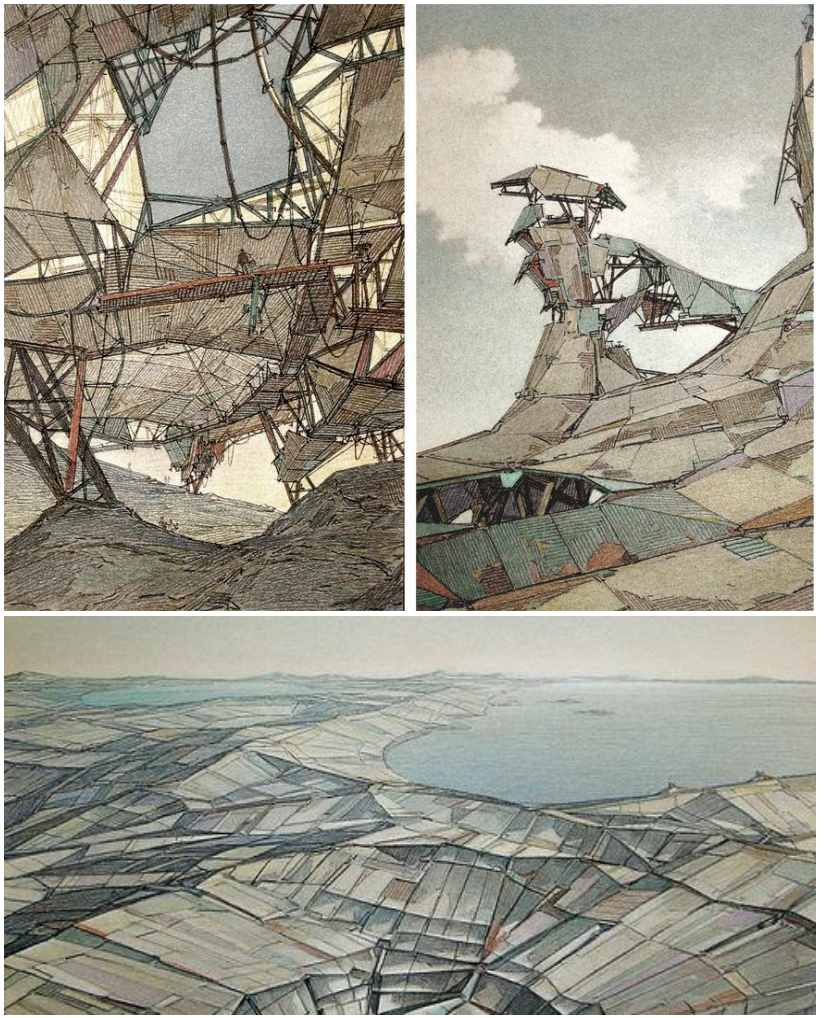
4. Hypothesis : From duality to hybridization - a dynamic balance between changing and fixed

If we want to address the consequences of overcontrol we must no longer think in terms of oppositions. Rather, we need to search for ways, through design, to establish a more dynamic balance between natural and urban, informal and formal.

Within this framework, for the linear landscape of Kifissos, the solution does not lie in the prevalence of one system over the other. Both landscape identities need to be retained. However, their condition of little -or no- interaction needs to be redefined and move towards the formation of a common, hybrid identity. (7)

(7) Terra Nova: "a 'second nature,' a terra nova, that engages the human and the natural in ways that are primarily spatial. The ultimate aim was to maintain the distinct characteristics of each, without sentimentalizing either, and to foster a 'third,' which is a new, ecological utopia… The utopian condition is one of conflict, achieving a dynamic balance of opposing ideas, actions, forces, through continuous struggle to assert differences of every kind..."

Lebbeus Woods - Building landscapes/ Lebbeus Woods: Terra Nova 1988-1991



Picture 9. Lebbeus Woods - DMZ

A theoretical project that investigates a dynamic balance between the natural and the manmade. An artificial topography spreads following the intensities of the natural topography. It is a hybrid landscape. It grows like an organism, with its artificiality remaining evident. Both identities are retained within a new spatial form.

Source: https://weaponizedarchitecture.wordpress.com/2010/09/17/reference-lebbeus-woods-dmz/

5. Research and design objective - From static duality to dynamic coexistence

a. An essential synergy between dynamic and fix - focus of fertile situations created by the tension between them

Towards this direction, I would like to investigate what can be the contribution of the agency of landscape in the transgression of deterministic structures and in the discovery of fertile situations created out of the tension between dynamic and fixed.

Instead of approaching dynamic and “fixed” elements of the landscape landscapes as opposites, I will investigate through what processes over-controlled landscapes can be re-opened to dynamic processes of change. Within this framework, I will focus on the potential of processes of change, weather natural, or urban. More specifically, I would like to focus on how such processes work their way through rigid, predetermined, imposed systems of control and how do they transform and appropriate these systems, creating, in this way, hybrid coexistences open to indeterminacy and change.

b. Development of landscape-architectural tools derived from the qualities of the site

To accomplish that, I will specifically focus on the landscape of Kifissos, to see how a new design can be generated as an active translation of what already exists.

By accumulating knowledge about how the site works and what are its particular spatial and processual characteristics, I aim to reach a design project which does not approach the existing situation as something external that has to be controlled and fixed. Rather it is a result of unexpected combinations between elements, qualities, practices and processes inherent in the site’s history and particular identity.

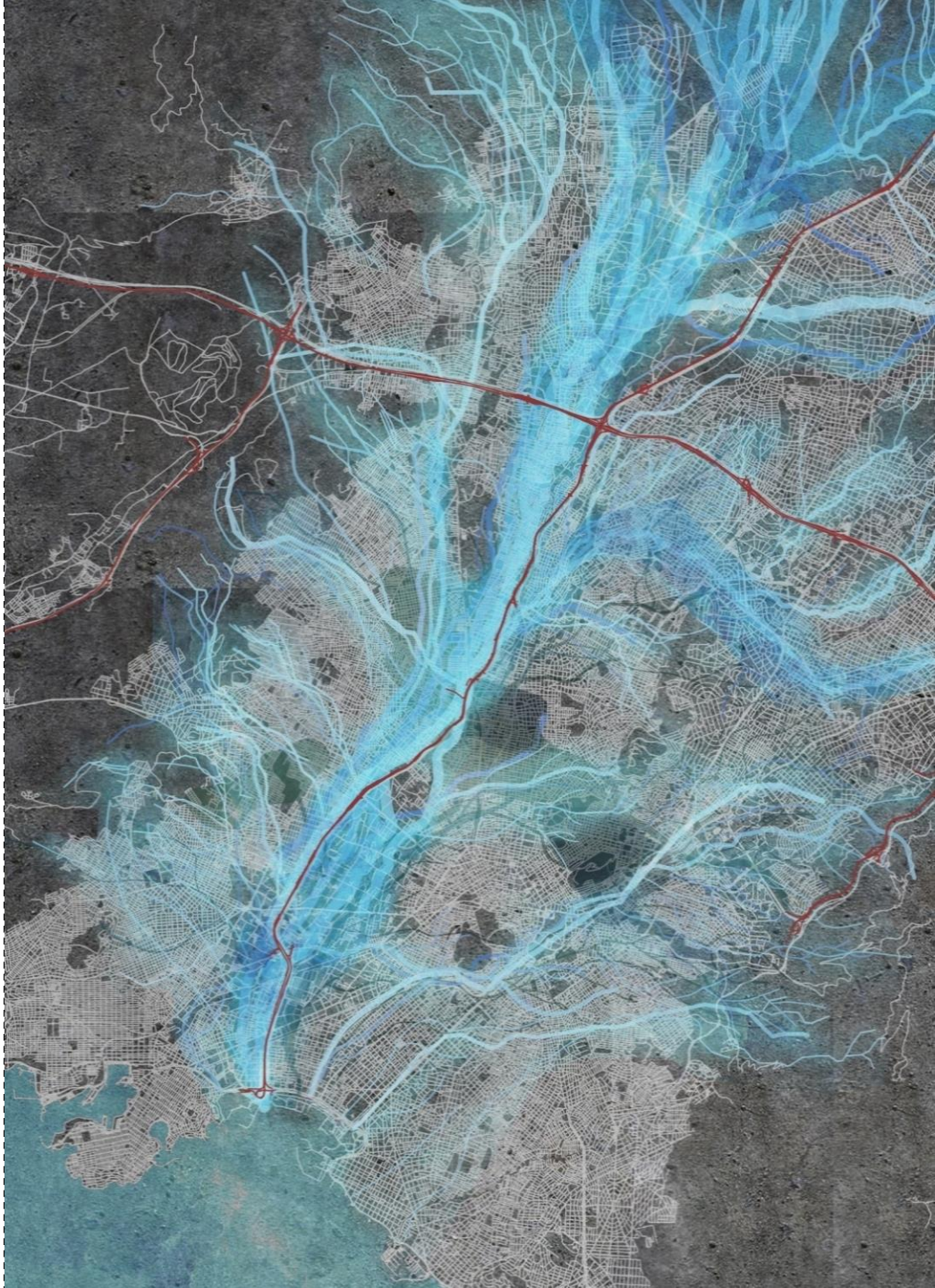
Within this framework, landscape and architecture work together, as interweaved practices, to form an associative design process, very different from strategies of over-control.

Therefore, I will focus on fertile situations between formal and informal, as well as between the natural and the engineered can work as conceptual design tools. These tools will then be associated to a number of flexible landscape-architectural tools able to generate new interrelations between the river, the highway and the city.

Through this approach I hope to address the wider problem of over-controlled landscapes, weather natural or urban, and to indicate a gradual process of undoing its consequences, such as the increasing floods and the fragmentation and diffusion of the city by its infrastructural elements. By focussing on these two aspects, the problem of overcontrol is addressed as one of tension between the natural and the engineered, and the formal and the informal.

6. Research questions

Within this framework my research question is: What kind of design is able to reverse the consequences of over-control, by creating conditions for a more dynamic coexistence between natural and engineered, formal and informal?



Picture 10. The buried, erased space of the river and its extent of influence

Drawing by Authro, overlap of tracings from different maps

Sources:1) M. Bardie du Bocage (1785) Plan of the Environs of Athens
2) E. Curtius and J.A. Kaupert (1900) Karten von Atika
3) Study on the streams of Athens, National technical university of Athens
4) Geological Study of Athens, National Technical University of Athens

Sub-questions:

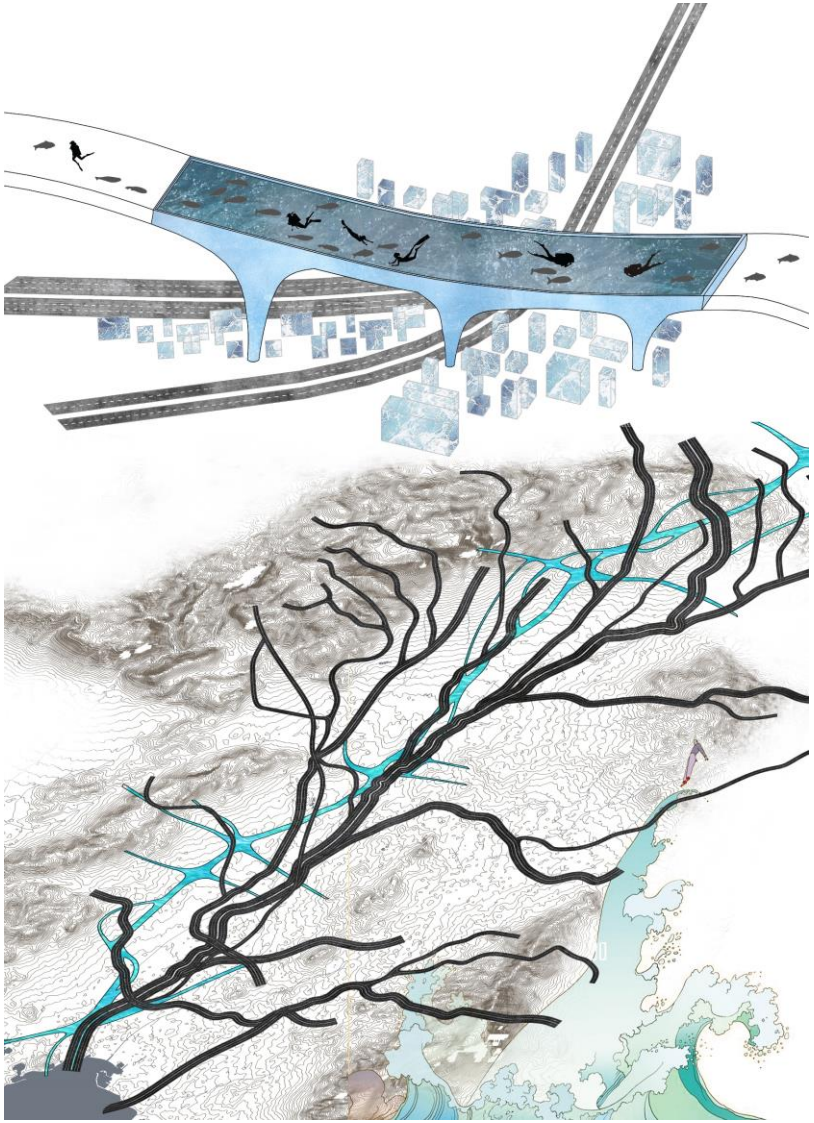
How do approaches of over-control relate to the conceived oppositions between natural and engineered, informal and formal?

What kind of principles of an alternative design approach, that embraces indeterminacy and change, can be identified?

In the case of Kifissos, what kind of landscape-architectural design tools can create conditions for the development of dynamic coexistences between the river, the highway and the city? Can these tools also establish a more dynamic balance between the dynamic and the fixed, the natural and the engineered, the formal and the informal?

What are the elements of the existing landscape that can generate new ideas for an alternative design approach? Are there fertile conditions created out of the tension between the formal and the informal that can help to form design tools, compatible with the history and the identity of the city?

What design principles can we extract from the way that these qualities work in space and time, and how can they be translated into landscape-architectural tools?



Picture 11. Kifissos opposition - an experiment of reversing the two identities I search for a more dynamic balance between less rigid identities

Drawing by Author

7. Method

a. Design by research/research by design

As the structure of the questions indicates, the thesis derives from a literature study on theoretical treatises of landscape architecture, architecture and urbanism, with the aim of understanding the problem of over-control, its roots, its influence and the way its devices become themselves drivers of change. More specifically, I will focus on sources such as the writings of James Corner, Martin Prominski, David Leathrbarow, Stan Allen, Alex Wall, the architect-academic Raul Bunschnoten as well as the anthropologist-geographer David Harvey. The aim is to comprehend how the above thinkers reflect on the oppositions between formal and informal and what they suggest towards the transgression of this dual way of thinking and designing. Theory offers the conceptual tools that will both help to grasp the problem and indicate potential ways to address it.

At the same time, the literature study is influenced by the choice of a specific site and the way that it incorporates the tension between the dynamic and the fixed. This will help to narrow down the scope of the research as well as to relate it and test its relevance and applicability on a real example. Reading the site gives valuable input in the actual forms that over-control takes on, guiding the more theoretical research and helping towards its comprehension.

Further on, the development of experimental design typologies to address these forms of over-control contribute to the wider research on methods to integrate natural and urban dynamics into design practices.
As a result, the current project will work on two interrelated levels: one more open and theoretical and one specific and related to design. These two levels might correspond accordingly to individual general and specific research and design questions. However, the investigation of the one is never seen separately from the other. They rather become part of the same fold.

b. General principle/ working method: The Rhizome

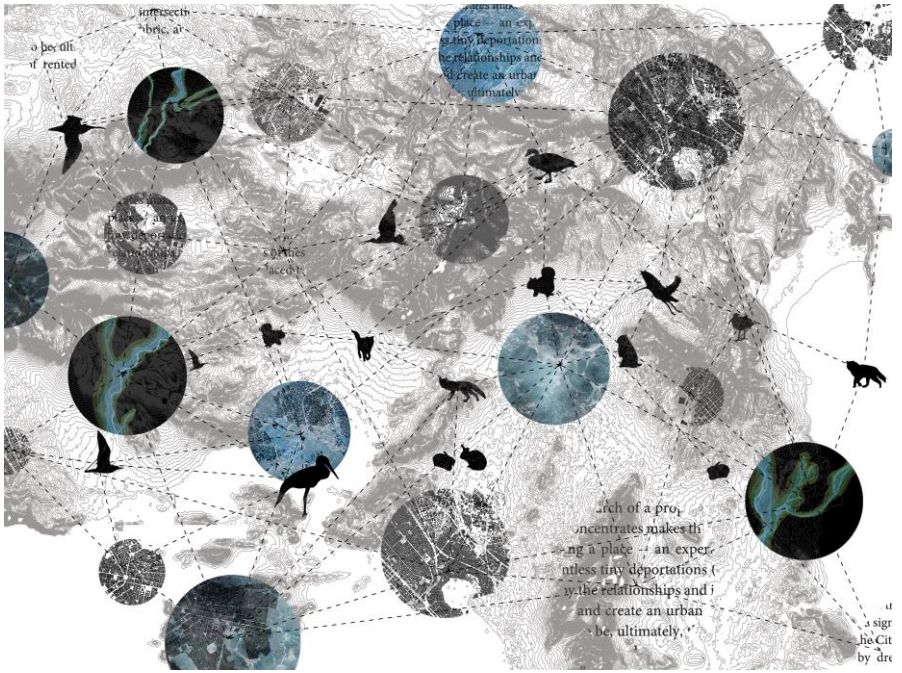
This constant movement between theory and design, between the site reading, its conceptualization and the design principles derived from it does not seem to fit within a hierarchical method. Rather it should be open to diverse entrances and interpretations.

To facilitate this "back and forward" movement, I use the concept of the rhizome. The rhizome is defined as a process form that incorporates the characteristics of indeterminacy and open-endedness.

Unlike trees or their roots,' write Deleuze and Guattari, 'the rhizome connects any point to any other point ... It has neither beginning nor end, but always a middle (milieu) from which it grows and overspills, [constituting] linear mulitiplicities.(8) This flexible and non-hierarchical system of nodes enable us to place diverse research findings, as well as extracted qualities of the site, in a network of multiple potential interrelations. *(In this way), rather than limiting reality, the rhizome opens reality up to a host of new and alternative possibilities.(9)* Thus, a method inspired by this concept focuses on the formation of a rhizomatic network of potential conceptual and design tools to address the complex problem of a contemporary, overcontrolled landscape.

(8) Gilles Deleuze and Felix Guattari (1987) *A Thousand Plateaus: Capitalism and Schizophrenia,* (tr.) Brian Massumi, University of Minnesota Press, Minneapolis, 2005, p.6

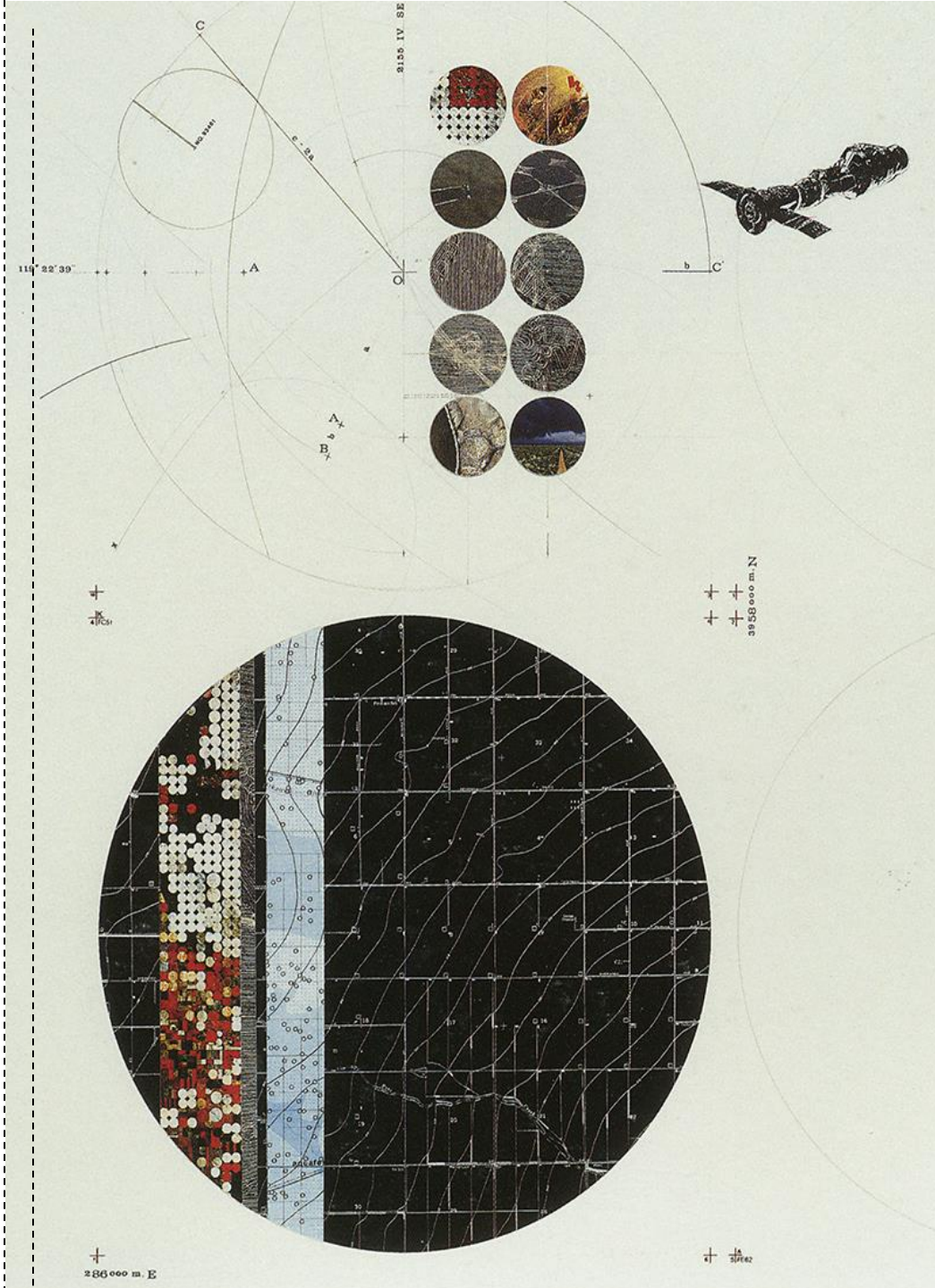
(9) Corner (1999) p.245



Picture 12. Method as rhizome - An open and inclusive process form that can facilitate the interrelation of diverse

c. Departing from reading the site as a dynamic system – Bringing into surface latent qualities

The development of a design process that will gradually work towards reversing the structures of over-control, in the case of Kifissos, goes hand in hand with the formation of the theoretical framework that investigates the principles of such a process. In opposition with authoritative, deterministic plans that take little or no regard of the existing situation, this design process works as an active translation of what already exist. For that, it draws inspiration from James Corner's essay, "The agency of mapping. Speculation, critique and Invention", which suggests that the act of mapping, if performed in an unconventional, creative way can lead to the generation of new ideas. Mapping involves reading the site in order to bring into surface latent forces and hidden qualities. These are then extracted from their habitual settings and interrelated within the field of the map. Thus mapping becomes an act of de-territorialization and re-territorialization, in a field of multiple potential interrelations.



Picture 13. Uncovering the site's latent qualities. The map as a rhizomatic field of interrelations discovered and extracted by a specific miliex

James Corner, Pivot Irrigators, In: Taking Measures cross the American Landscape, 1995

PART2. RESEACH DESIGN

The application of an alternative design approach on the linear landscape of Kifissos

After having concluded in these four principles, I will try to formulate a method for applying them in the case of Kifissos. Departing from the principle that emphasizes the qualities of the existing landscape, the design process starts with a careful reading of the site and the processes it includes. The question that follows is how to read the site as a dynamic system. Furthermore, how to incorporate those readings in a new design, able to embrace indeterminacy and bring together the currently opposing landscape identities of the river and the highway, in a common system of interactions with the city.

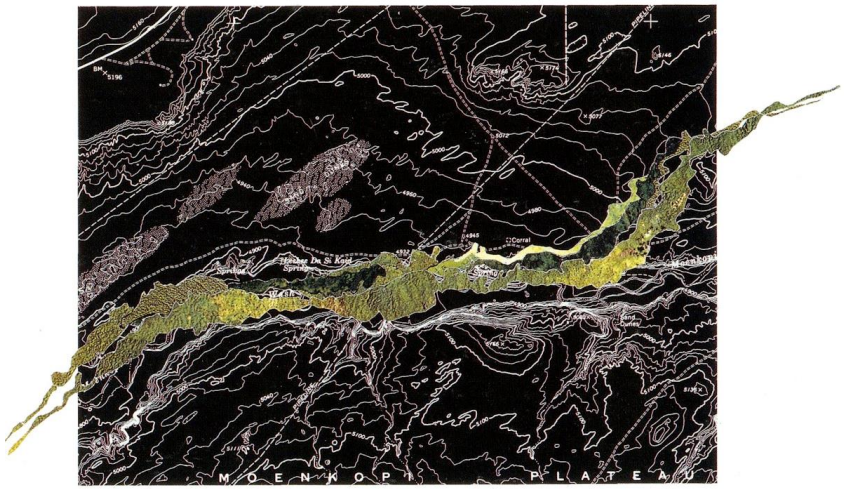
(43) Corner (1999)

1. Reading the site: bringing into surface and realising potential

In his essay, "The Agency of Mapping", the landscape architect and thinker James Corner, suggest that the generation of new design ideas lies in the creative reading and mapping the site. Such an act of understanding the existing, would start with an investigation of its hidden qualities.

What already exists is more than just the physical attributes of the terrain (topography, rivers, roads, buildings) but includes also the various hidden forces that underlie the workings of a given place. These include natural processes, historical events, local stories, economic and legislative conditions, regulatory mechanisms and programmatic structures. (43) All these elements constitute a second landscape, within the existing one, that has to be discovered and revealed. The act of revealing this second landscape and its latent forces generates ideas for potential acts of transformation.

(43) Corner (1999)



Picture 14. Uncovering the site's latent qualities

James Corner, Navaho Spring Fields, In: Taking Measures cross the American Landscape, 1995

2. De-territorializing the extracts and plotting potential relationships

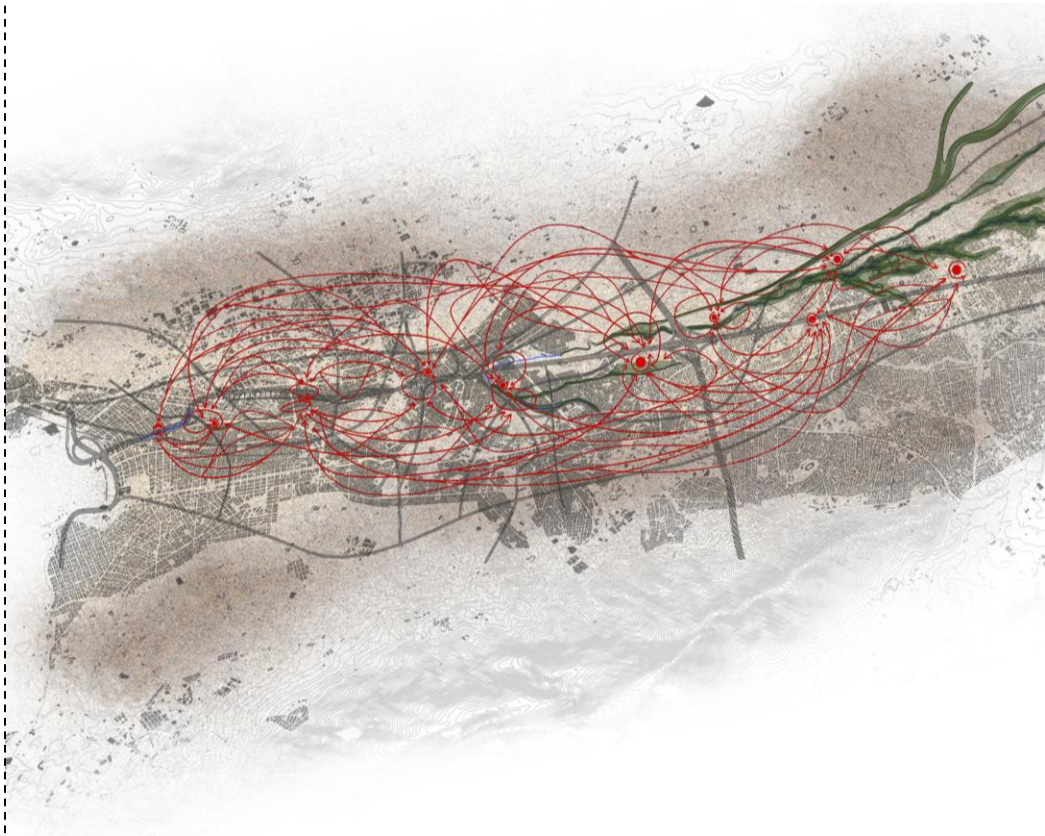
As Corner suggests, reading the existing site involves the subsequent acts of “excavation”: searching, exploring and revealing the hidden qualities of the site and “extension”: realising hidden potential engendering new sets of possibility. (10) Through the act of excavation, one comes across of elements of particular significance for the site and its evolution. The selection of those features is described as an act of “extraction”, or identification of “extracts”. Extracts are selected fragments that represent characteristic qualities of the terrain. They may include objects as well as qualities, processes, data, quantities, velocities, forces, trajectories.

After detached from their habitual setting, extracts are re-networked, encouraging new and unpredictable combinations and associations. Different arrangements of extracts reveal different sets of possibilities. (11) This process is described as the act of “plotting”, or the “re-territorialisation” of the extracts which draws and sets up new relationships and associations between them.

(10) Corner (1999) p. 225

(11) Corner (1999) p. 231

According to Corner, in the unpredictability of these new associations lies the generation of new ideas. Thus, reading the site is a process of disassembly and reassembly, that creates a new narrative out of the latent forces that shape the site and their resulting qualities.



Picture 15. Deteritorialization and Reteritorialization in the filed of Kifissos

Drawing by author

3. Reading the site in two layers: Urban and territorial processes

The complex image of the ambiguous landscape of Kifissos is a result of two interrelated systems of dynamics, the territorial and the urban processes. These two linear systems develop and evolve in very different timescales. The form of the natural terrain changes slowly and gradually over time, through principle geological and geomorphological processes. Urbanization processes, on the other hand, are far more complex and fragmented. They change rapidly influenced both by the availability of technical means and by the way that man conceives of and relates to nature.

Addressing the two systems in terms of two layers allows us to address the complex problems of each layer individually, while at the same time placing them in a field of multiple potential interrelations. Within this framework, the reading of the site begins with documenting the two systems individually, looking for and emphasizing their differences. (12) Since our aim is to bring the two landscape identities of the river and the highway into a dynamic state of coexistence that would not prioritize the one identity over the other, to understand their differences and retain their qualities becomes an important part of reading the site. As a result, their specific differences in terms of form, structure, experience, the processes and flows they involve and the way they could potentially relate to the space of the city should be indicated.

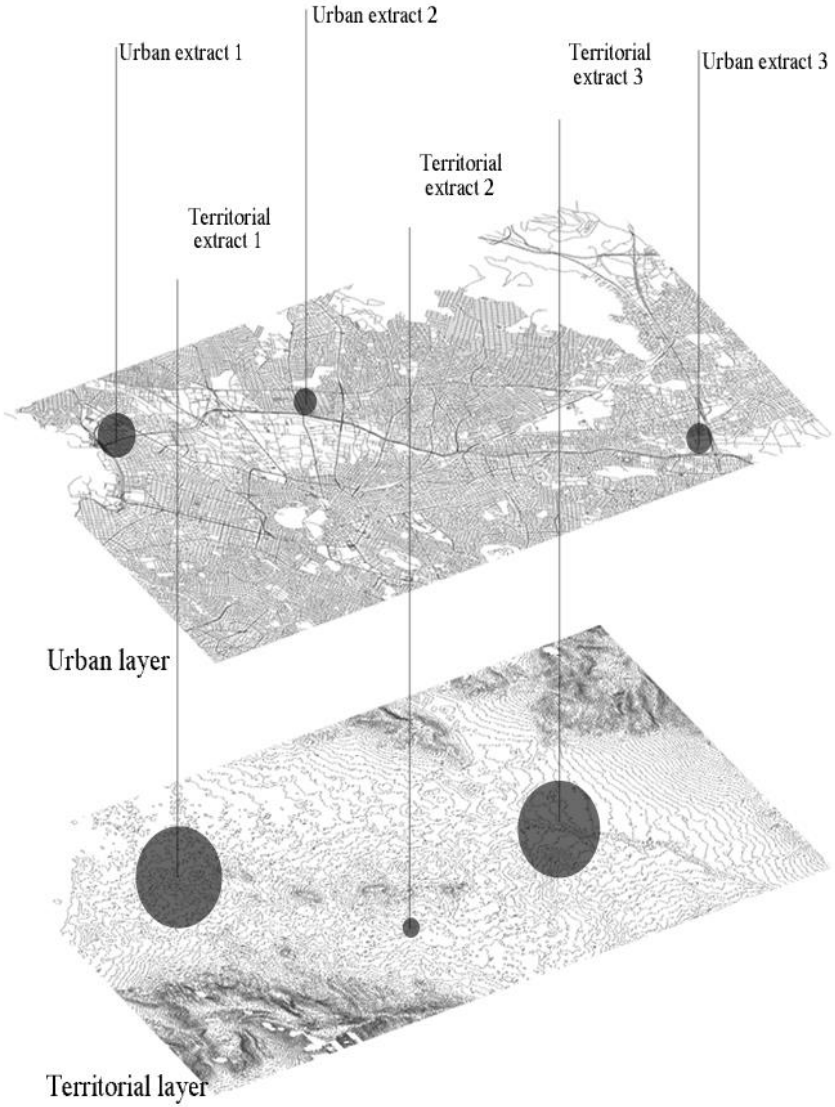
At the same time, the excavation is not limited within the two specific identities. Rather, to the wider opposition between the urban and the natural landscape that their dual relationship becomes part of. This widening of our scope has a greater potential in bringing forward the extracts that will later work as conceptual tools to accomplish both the hybridization of the two systems and their interaction with the spaces of the city.

Furthermore, each layer begins with staging a specific theoretical framework, which guides the process of reading and translating the site. Subsequently, the main body describes the findings of the analysis which will then work as potential conceptual tools that will guide the design process.

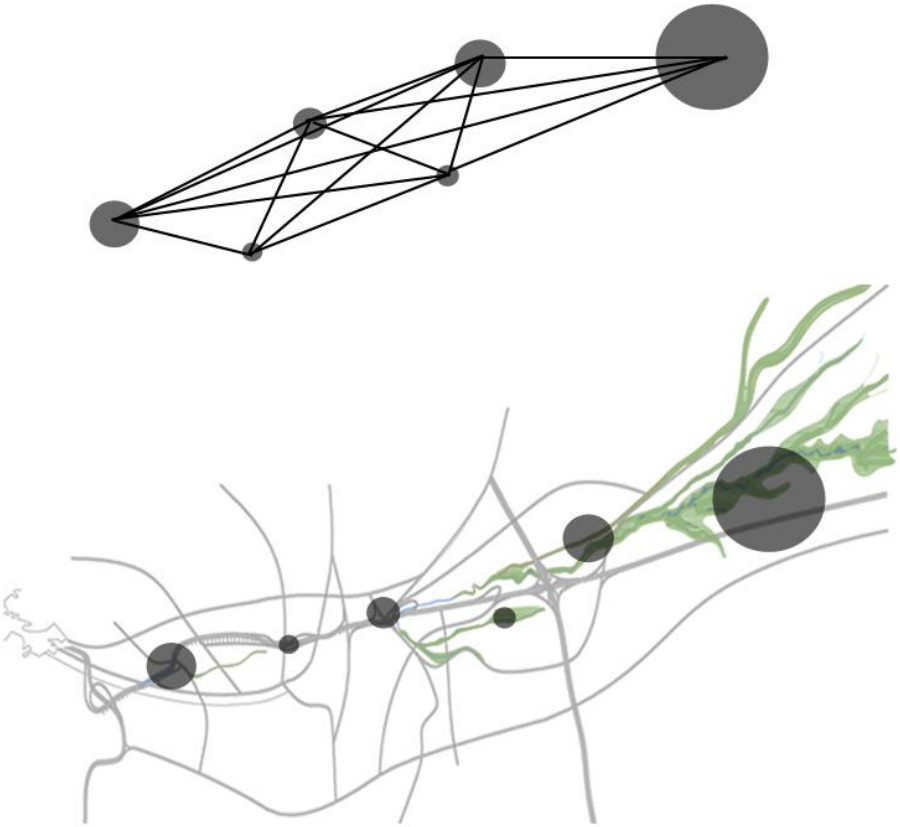
(12) “As in all cases of coexistence, neither presence is sacrificed at the expense of the other; rather, each impacts the other in creating—hopefully—a balance…”
Lebbeus Woods - Building landscapes/ Lebbeus Woods: Terra Nova 1988-1991

Method - reading the site

1. Extracting existing qualities - potential conceptual tools



2. Interrelating the extracts on the plain of Kifissos



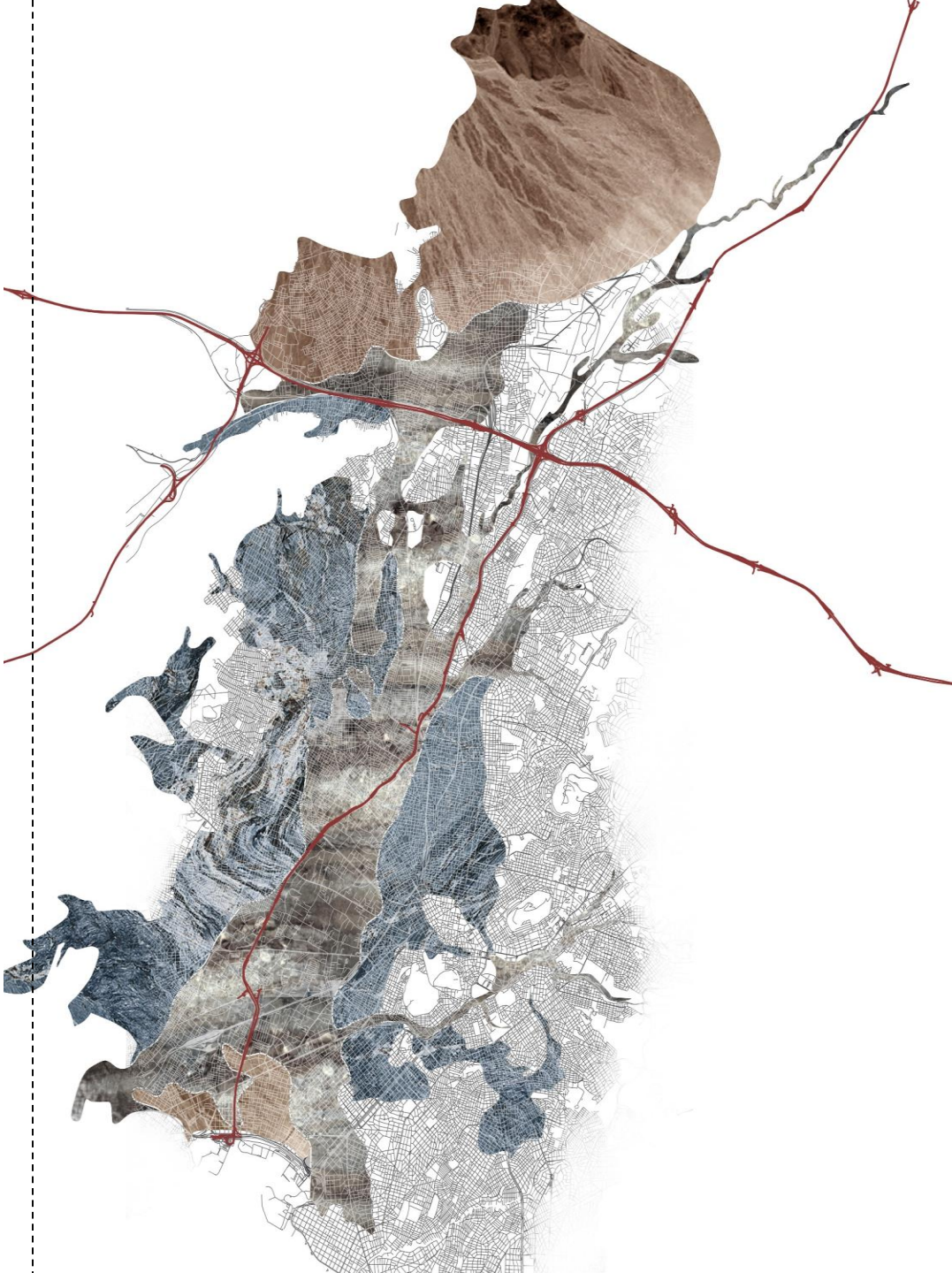
Picture 16. A method for an alternative reading of Kifissos
Extracting hidden qualities in two layers: The territorial and the Urban, and interrelating them in the common field of the two flows

Drawing by author

a. Territorial layer

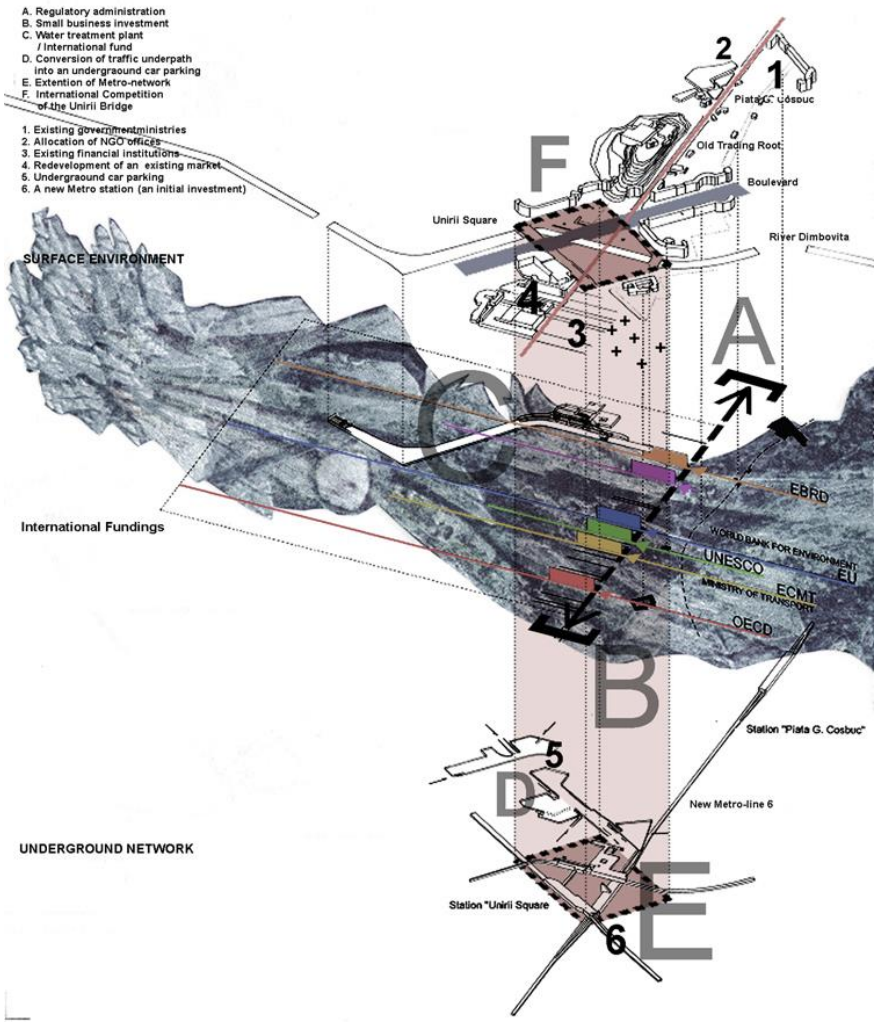
The analysis done at a territorial level departs with studying geological and geomorphological maps, as well as historical maps that indicate the qualities of the streams -prior to their canalization or covering-, in order to define what kind of river Kifissos is and what are the qualitatively different environments, produced by different soil conditions as well as from different gradients of exposure to the river dynamics.

After identifying the river and its catchment area, I will focus on a number of river processes that their principle ways of working in space and time can be translated into conceptual design tools. A research question that would describe such an investigation would be: How can the natural processes, become part of a dynamic river system can help to form a coherent conceptual framework to address the complex issues involved in an urban river?



Picture 17. Soil types of Kifissos plain
In correspondence of urban areas with different character

Drawing by Autho
Data for the identification of the different landscapes: Geological study of Athens (2004)
Technical University of Athens



Picture 18. Raoul Bunschoten, Black Sea: Buchrest stepping stones

Relating Bucharests geomorphological conditions with the political, social, physical and many other unpredictable changes that have affected the city.

Source:http://iffi.org.uk/projects/chora/bucharest/bucharest_stepping_stones.htm

The study of the Athenian territory and the principle processes that led to its formation is an exploration for conceptual tools, derived from the site's natural structures that can help us address and bring together the complexities of the two, currently opposing, flows. Understanding how a natural system exist in a continuously transitional state can provide us with concepts that will help us comprehend and respond to the complex processes of urbanization. *There is a kind of awareness that we have a lot to learn from nature: not in an idealized way, but by regarding it as a kind of system that calculates and regulates. If we can understand those mechanisms, we can also produce architecture that is more responsive.(13)* As Corner stresses, *dynamic relationships and agencies of process become highlighted in ecological thinking, accounting for a particular spatial form as merely a provisional state of matter, on its way of becoming something else… (14)*

(13) Allen (2007)
(14) Corner (2011) p.29

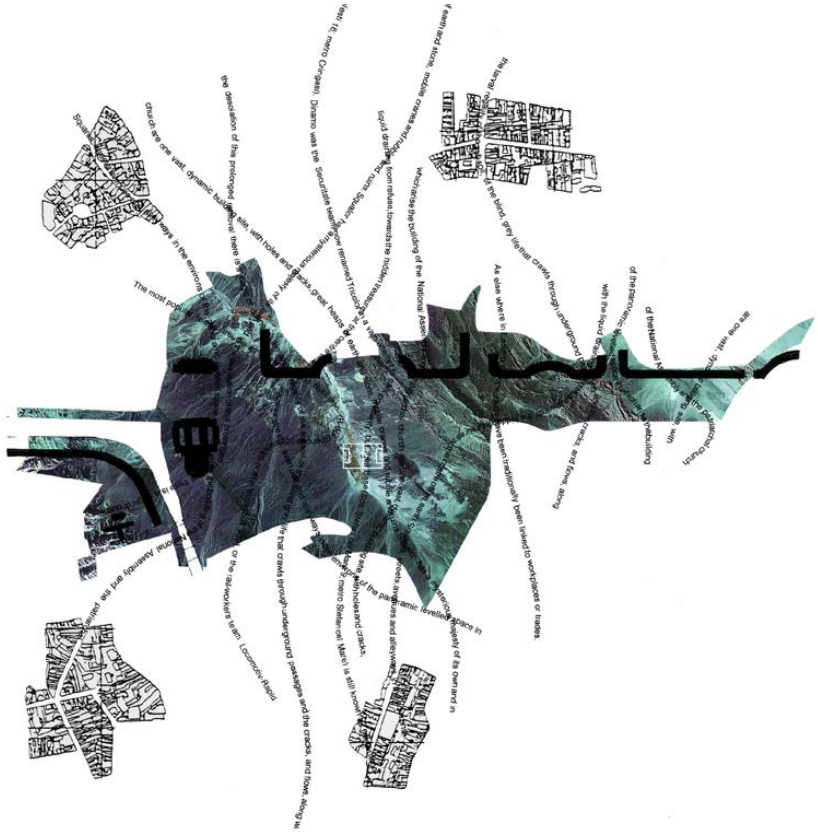
Furthermore, the form of the territory works as a fundamental base for *understanding the contemporary city and the important changes that have occurred in its spatial, economic and social structure. The centrality of landforms, the continuous redefinition of natural and societal territories, and their dynamics inspire less abstract and more situated approaches, in which the agency of natural elements is integrated in social space.(15)*

From this point of view, the way a natural river works creates the framework upon which diverse spaces and experiences as well as ecological habitats can evolve. This overall concept works as a coherent structure that weaves together the different spatial, ecological, singular and experiential entities into a common narrative.

Consequently, within the territorial chapter, I will try to address the following questions:

What are the principle processes that were most involved in the formation of Kifissos river plain?

How can these processes work as potential conceptual tools?
How can they be translated into design gestures?



Picture 19. Raoul Bunschoten, Black Sea: Buchrest stepping stones

Relating Bucharests geomorphological conditions with the political, social, physical and many other unpredictable changes that have affected the city.

Source:http://iffi.org.uk/projects/chora/bucharest/bucharest_stepping_stones.htm

b. Urban Layer

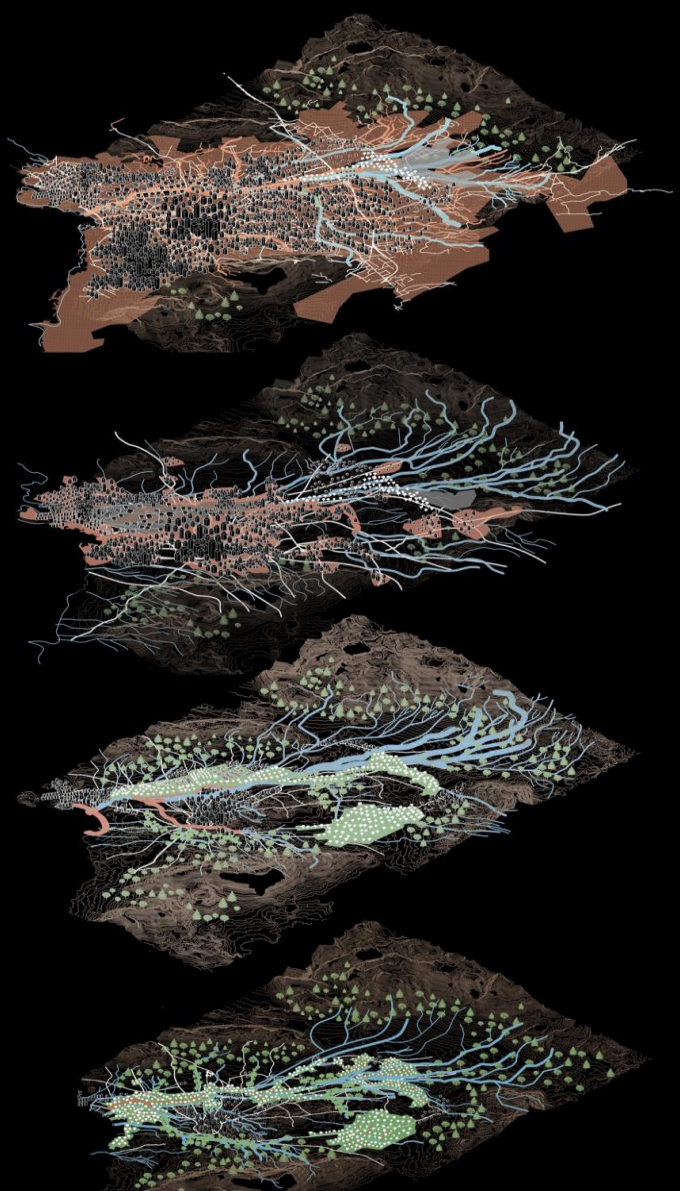
bi. Identification of the urban extracts

The study of the site on a territorial level focuses on how the tension between formal and informal urban growth patterns relates to the river and to different approaches towards nature through time. Furthermore, it investigates how human interventions and processes of urbanization relate to relate to serious flood events, through the years.

The second level of this search, instead of focusing on problems, locates some potentially productive situations that are born out of this tension and how these become dynamic symbols, traces and qualities that define the city's identity. According to R. Bunschnotten, *the dynamic nature of the city calls for dynamic symbols - for traces of various things in motion which endure, if only temporarily, and become recognisable as traces, while simultaneously becoming urban characteristics…. Architecture engages with these emergent configurations and orders. It recognizes them and suggests mechanisms to make them instrumental. (16)* These tracesare defined as "proto-urban conditions", a range of productive situations that derive from local forces in a specific site. (54) These proto-urban conditions can be the elements that the extraction process focusses on.

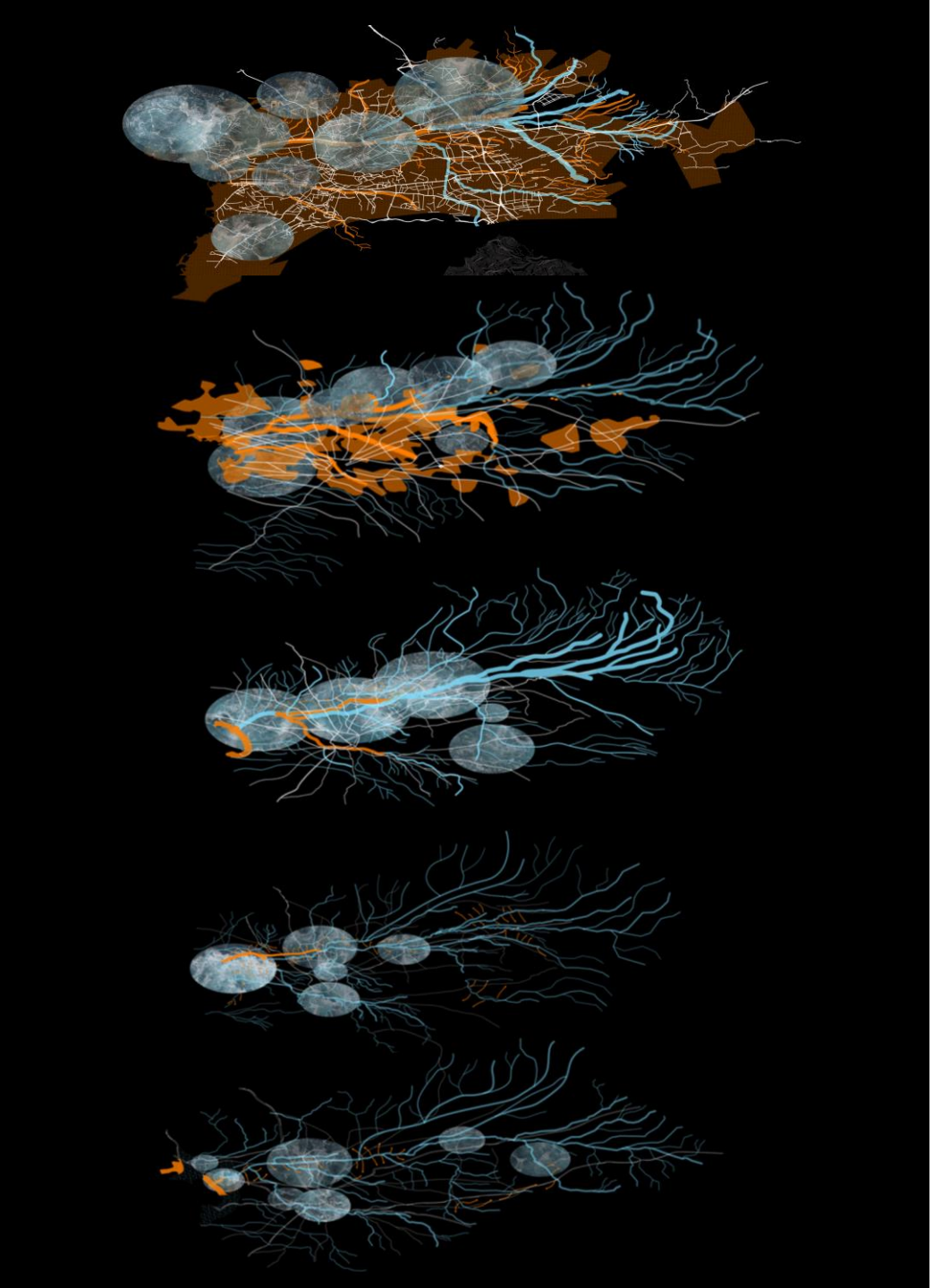
(15) Raul Bunschoten (1998) *Metascapes,* Black Dog Series, Black Dog Publishing

(16) Corner (1999) 239



Picture 20. Urban evolution of the Athenian plain
Investigating how formal and informal urbanization practices relate to the river. Within the last 70 years, 70% of the river system has been covered by urbaniation

Drawing by Author
Sources for the maps: 1) M. Bardie du Bocage (1785) Plan of the Environs of Athens
2) E. Curtius and J.A. Kaupert (1900) Karten von Atika
3) Study on the streams of Athens, National technical university of Athens



bii. Understanding urbanization processes as circles of growth, transformation and decay

However, we need to understand that even though we take those extracts away from their habitual relations, they still remain part of a system and are subject to change.

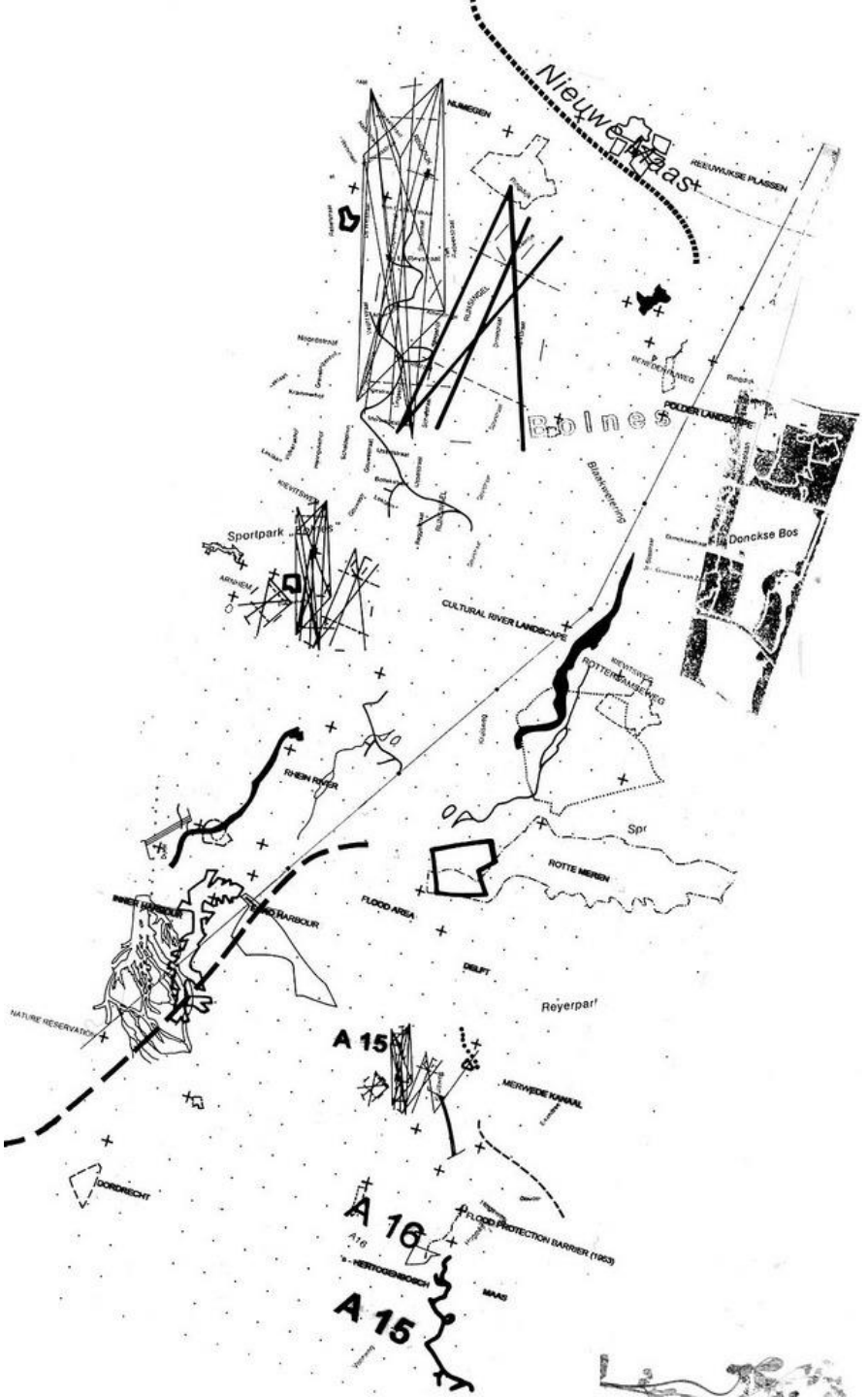
In his book "Metaspaces", Bunschnoten relates the formation and transformation of proto-urban conditions with a set of principle urban processes: erasure, origination, transformation, and migration. The process of erasure, refers to the creation of programmatic or occupational voids within the city's structure, due to a number of possible causes, including natural disasters (in our case the floods) or economical collapse (the crisis). Processes of erasure result in open, uninhabited territories which are fundamental for urbanism as they "allow for renewal and change". On the other hand, the process of origination describes the emergence of new conditions.

Picture 38. Flood events between 1890 until 2007 in relation to the human interventions on the river system. The more the river gets urbanized, the more serious and intense the flood events. Suggesting the futility of over-control

Drawing by Author
Sources for the maps: 1) M. Bardie du Bocage (1785) Plan of the Environs of Athens
2) E. Curtius and J.A. Kaupert (1900) Karten von Atika
3) Study on the streams of Athens, National technical university of Athens
4) Michalis Diakakis (2013) *An inventory of flood events in Athens, Greece, during the last 130 years. Seasonality and spatial distribution,* Article in : Journal of Flood Risk Management

Origination indicates points of change, insertions of seeds for new beginnings or turning points that create new conditions for the inhabitation and occupation of space. In between the processes of origination and erasure, either as a cause or/and as an effect we find processes of transformation and migration.

Migration refers to *elements in the city which can move, expand, flow into other parts of the city, or come together from elsewhere and have to be found a place.* In the case of Athens, the urgent practices of the refugees that arrived in the city, that resulted in the sprawling of the city towards its territory, are the prominent examples of the processes of migration. All the above processes cause rearrangements that radically change the form, shape, appearance and condition of the spaces of the city that they affect. These changes are described as processes of transformation.



Picture 21. Raoul Bunschoten, Rotterdam Exploded
The extracts of the city's identity n a new field of interrelations

Source:http://plagiarismisnecessary.tumblr.com/post/586445627/raoul-bunschoten-chora-rotterdam-exploded

These fundamental processes often appear in circles of growth and decay. Growth, associated with origination, also refers to processes of accumulation and expansion of the city towards its periphery. *The development of these processes leads to the phenomenon of urban sprawl and dispersed territories.(17)* Decay, which is comparable to the process of erasure, is relevant to processes of abandonment. Such processes are, for instance, evident in post-industrial sites ,at the southern part of Kifissos river, that are being now reclaimed from the city.(18)

In our case, the discussed framework helps us to formulate the following questions that will guide the reading of the site:

How do processes of accumulation/ origination or attrition/ abandonment/ erasure, and the migrations and transformations associated to them appear in the history of Athens?

How do these processes relate to the river and the highway? Can they help us extract potential conceptual tools to formulate a design compatible to the city's scale and identity?

(17) Alan Berger (2006) *Drosscape: Wasting Land In Urban America,* Princeton Architectural Press, New York, p.13
A landscape that have been accumulated in the city in a previous period will be the landscape of attrition in the next…
(18) Eleni-Anna Kotsikou (2017) De-fragmenting Athens
Available on: https://issuu.com/emu_tu_delft/docs/eleanna_kotsikou_final_booklet

4. Translating the extracts into landscape-architectural apparatuses - How the field of Kifissos defines the type of interventions

a. A transformation that cannot be predetermined by a specific method

The question that follows is how the extracts can be translated into landscape architectural apparatuses, that would both work as an active translation of the existing and generate new processes of interrelation between previously disconnected parts. This question remains open until the end of this research -even after it- and is highly influenced by the way the design process evolves. The way the extracts work is not predetermined by a specific method. It is rather an uncertain process of testing multiple interrelations and coming up with potentially interesting combinations. In this way, the transformation of the extracts into landscape-architectural tools remains open to multiple associations.

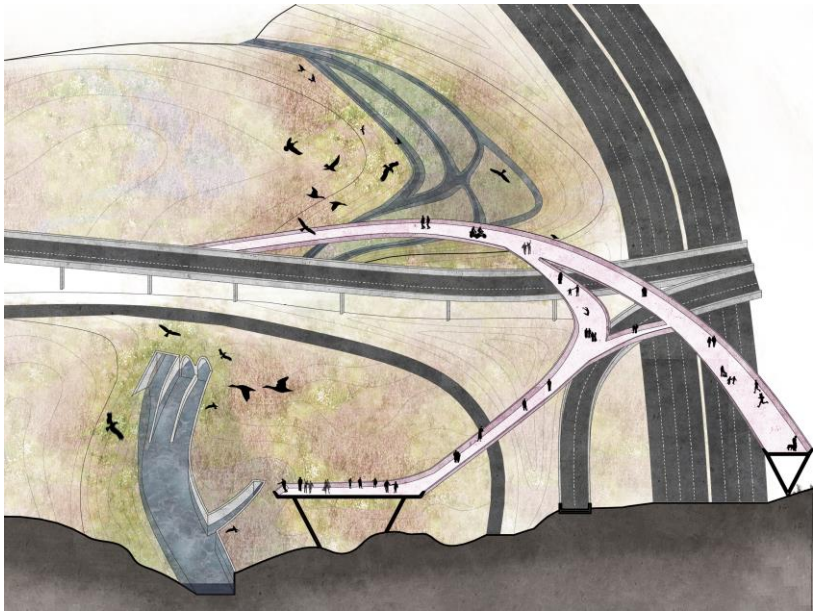
b. In search for connective landscape-architectural features - articulation along the flows

However, what makes the transformation of the extracts more tangible is their relationship to the flows of the river and the highway. Since the aim of this design process is to turn the awkwardly ambiguous flow of Kifissos into an associative landscapes, we know that the landscape architectural interventions should work as generators of interrelations.

This already gives us an idea of what kind of spaces the transformation of the extracted existing qualities is going to result in. Elements such as bridges, viewing platforms, for example, are landscape architectural objects that can create the conditions for various interrelations between the river, the highway and the city, establishing common, in-between spaces.

According to Stan Allen, *there is a very broad category of architecture that is not per se a building. That could be surfaces, roads, infrastructure, and constrictions in site.* Platforms, pavilions, canopies, amphitheaters or roofs are all architectural components that can be used for the transformation of a specific landscape. These may compromise *a whole series of very specific architectural interventions, that are not necessarily a kind of enclosed envelope or designated interior and exterior distinction. (19)* By being responsive to the site and its processes, these elements become landscape-architectural elements.

(19) Allen (2007)



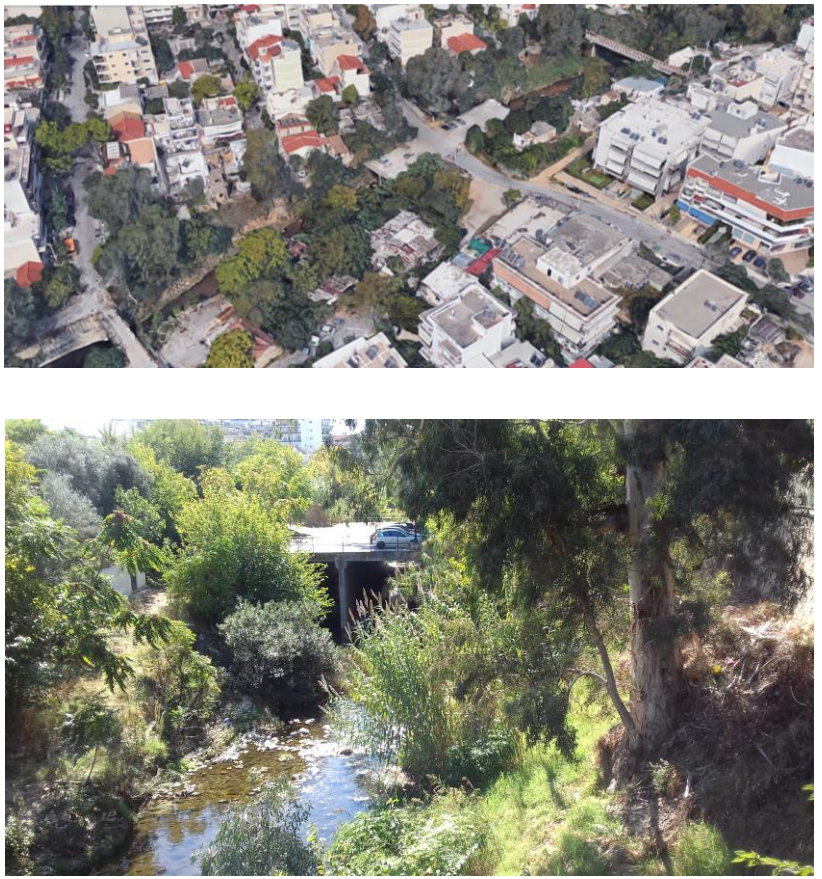
Picture 22. The potential of the landscape architectural tool of the bridge
Creating conditions for interrelations between the two flows and their environment

The bridge, as a theme, does not defined as a physical crossing from A to B. It can also refer to mental, ecological, metaphorical connections or connections in terms of the use of material

c. Responding to existing spatial and functional relationships between the flows

As we have already mentioned, the two flows can act as the common thread that weaves together otherwise fragmented landscape architectural interventions in a common narrative about Kifissos. However, as a connective field Kifissos remains differentiated. Thus, along the flow different segments, described by different spatial qualities between the two flows, are identified. The different spatial qualities are suggestive of the different forms and transformations of the extracted design tools.

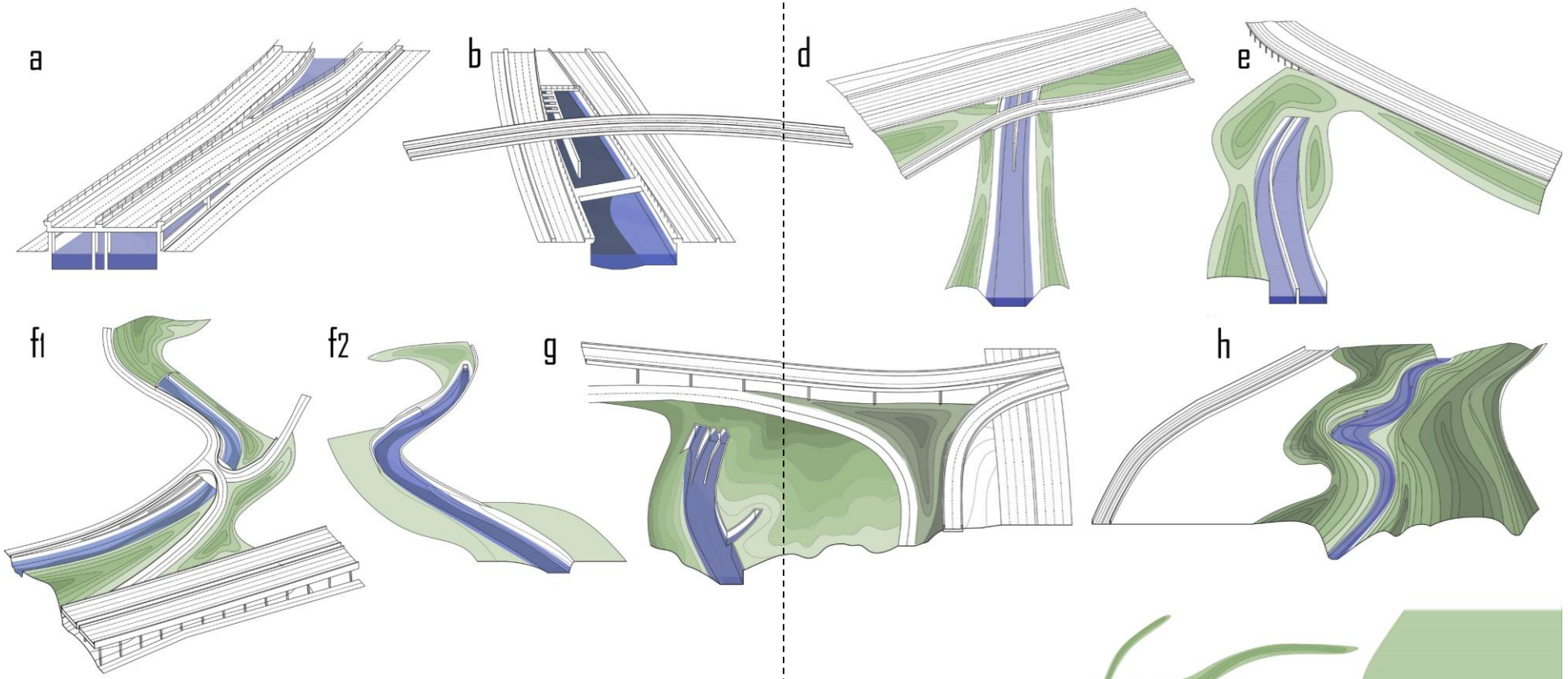
Finally, the existing programmatic connections gives us useful insight into how the desired landscape architectural connective devices will work in space and time and what kind of exchanges they will develop with their environment in different parts of the linear flow.

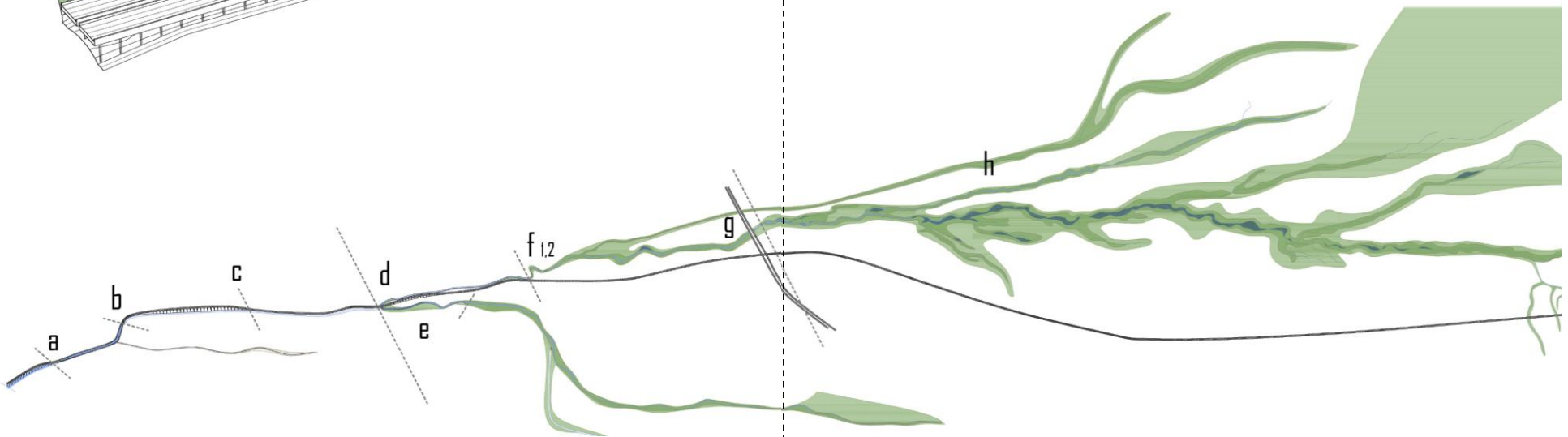


Picture 23. Three visually interrelated bridges on Pikrodafnis stream, one of Kifissos tributaries.

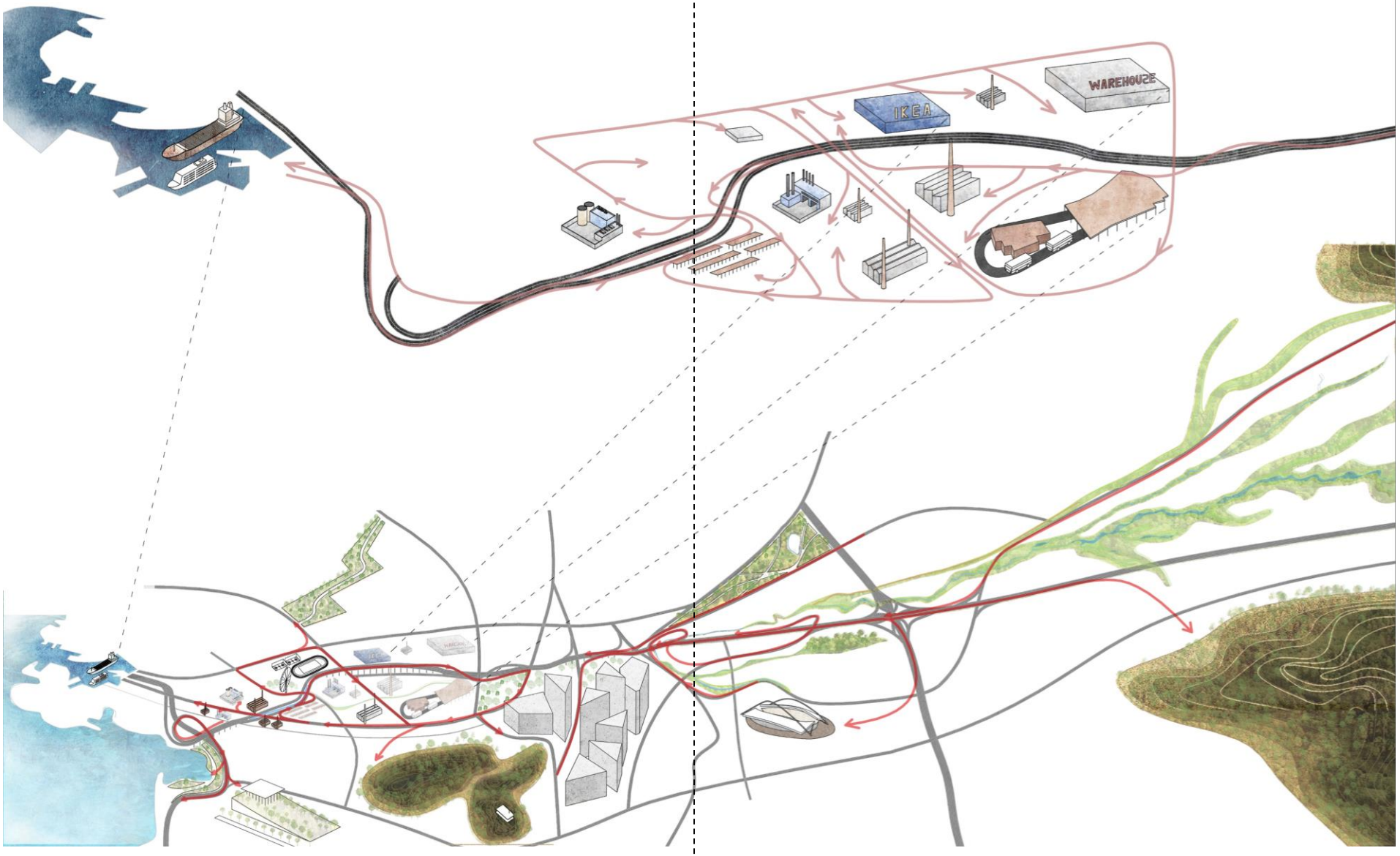
Aerial photo from google maps and photo, taken by author, from the one bridge looking towards the other - Bridges as places

Existing spatial qualities between the two flows





Existing conditions of connectivity



CONCLUSIONS

To sum up, the linear landscape of Kifissos is not only a heavily abuse urban river. It is an ambiguous landscape that sums up a number of oppositions: between the natural and the engineered, the formal and the informal.

These oppositions nourish attitudes of over control which restrain both natural and urban dynamics.

The aim of this research is to depart form a creative reading of the site in order to uncover the latent forces that have shaped the territory. Furthermore to investigate existing fertile conditions created from the tension between the formal and the informal.

The discovered extracts will then be placed in a field of potential associations, in order to form a coherent design concept on how to redefine the condition of no interaction between the river, the highway and the city.

This effort unfolds in five different chapters. Chapter 1, the current booklet introduces the river to the area of study and the issues it involves. Furthermore, it develops a method to address the oppositions of Kifissos, which are related to design and engineering approaches of overcontrol. What is overcontrol and how the issue appears in contemporary discourses of urbanism and landscape architecture is the theme of the second chapter, named “Over-controlled Landscapes”.

The third and the fourth chapter perform respectively a reading of the territorial and the urban processes that are involved in the landscape of Kifissos. The first focuses on the evolution of the territory within a spectrum of ten million years. The second examines the interrelation between formal and informal urban patterns and processes of growth. Each chapter concludes with a number of extracts. The fifth and final chapter focuses on the design proposal and tests the incorporation of the extracted qualities into a new landscape in the city. This landscape is intended to work as a common surface where opposites such as natural and urban, formal and informal, river and highway work out their differences.

The reason behind the separation in five different booklets is not only to make the thesis more easy to read. It rather sees different parts of the research and the design process as individual layers to be interrelated. In this way, the findings are placed in a network of multiple potential associations. For instance, one can simultaneously look at the urban and the territorial extracts and come up with unexpected combinations, different than the ones included in the current study. In this way this project becomes open ended, more inclusive and encourages more thought both on the concept of over-controlled landscapes and the particular site of Kifissos.

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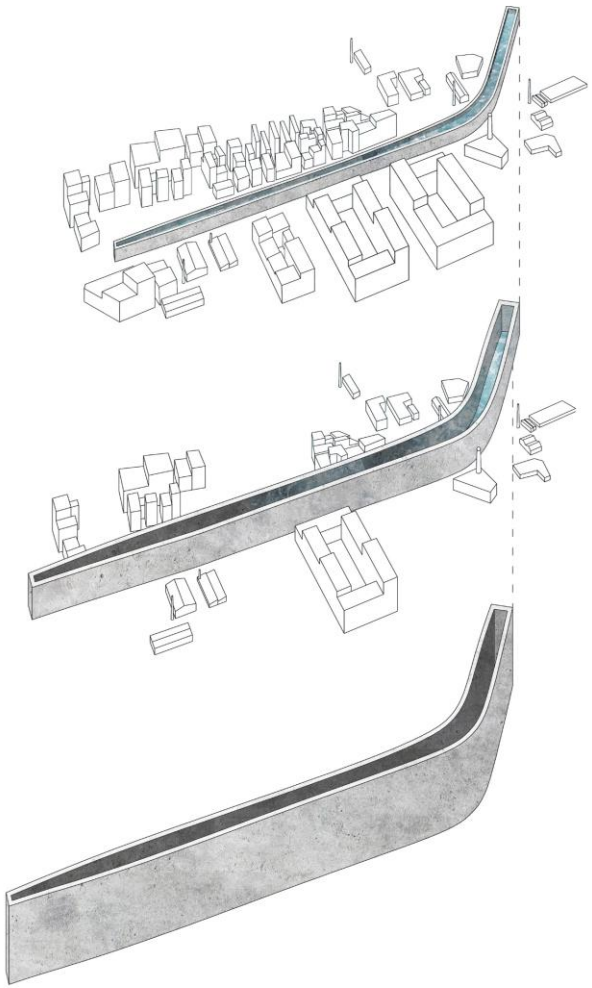
The oppositions of Kifissos

From static duality to dynamic coexistence



Over-controlled Landscapes

The oppositions of Kifissos

From static duality to dynamic coexistence

Over-Controlled Landscapes

Eleni Chronopoulou
Mentors: Inge Bobbink, Esther Gramsbergen

OVER- CONTROLLED LANDSCAPES

PART 1. Theoretical Framework

PART 2. Conclusions

The principles of an alternative design approach

PART 1. THEORETICAL FRAMEWORK

The aim of this chapter is to provide a deeper understanding of the problem of over-control, as expressed in the oppositions between the natural and the engineered, and the formal and the informal. Furthermore, to develop the principles of an alternative design approach that would, hopefully, create the conditions for a more dynamic balance between the dynamic and the fixed elements of the landscape.

1. Between natural and urban/engineered landscapes

a. Anti-urbanization and the idyllic image of nature

According to C. Girrot, *The relentless problem with the new urbanism and its attitude towards nature is that it is retrograde and nostalgic, whilst the imaginary used is that of our idyllic pastures…* (1) At the same time, contemporary environmentally oriented approaches often nurture the misconception *that cities ought not to exist since they are the highpoint of plundering and pollution of all that is good and holy on planet earth… This predominant anti-urbanism is as odd as it is pernicious.* (2) The opponents of this approach have the tendency to exclude urban form and process from any ecologically driven analysis and design. (3)

(1) Christopher Girot, Change of Nature, On: "Architectural Papers III. Natural metaphor. An anthology of essays on Architecture and Nature (ed. F. Sauter, J. L. Mateo), 2007, Actar, Barcelona/ New York, p.28-33

(2)) David Harvey (1996) *Justice, nature and the geography of difference* p.426

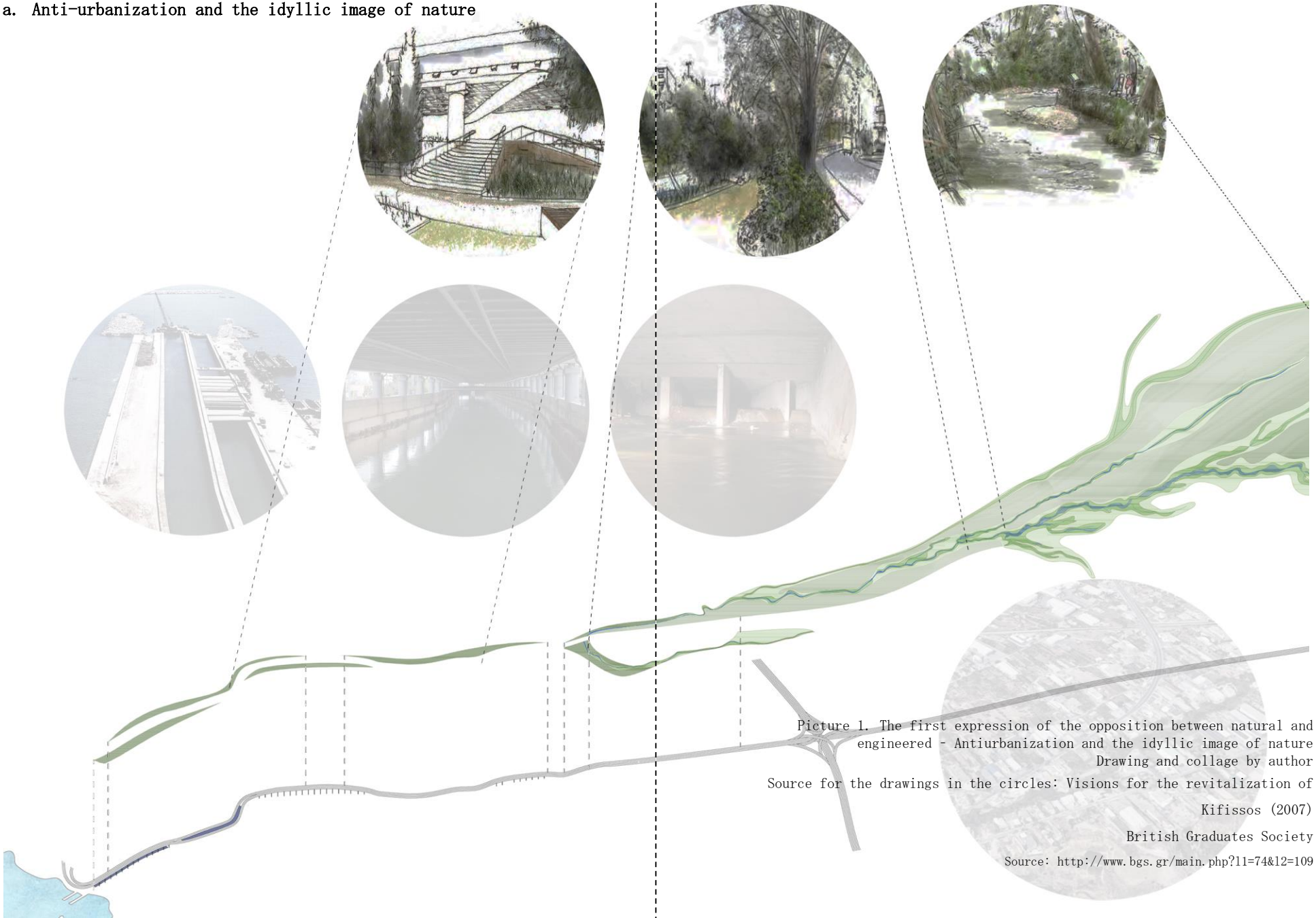
(3) Corner (2011) p.27

Within this framework, the way in which we speak about the landscape and the city is still, even though not on purpose, *affected by the 19th-century lens of difference and opposition... cities are seen to be bust with technology of high density building, transportation and infrastructure, and revenue-producing development... whereas landscape, in the form of parks, green-ways, street trees, esplanades and gardens, is seen generally to provide both salve and respite from the deleterious effects of urbanization.(4)* By treating the cultivated elements of the natural landscape, such as water and greenery, as the prominent parts of the experience of an ideal environment, we find ourselves, once again, trapped to a very specific, green and harmonious image of nature. The persistence of this pictorial conception of landscape, rooted in the Picturesque ideal, still remains one of the most prominent ideological boundaries restricting the thinking and practice of landscape architecture.(5) *Can the concept of Arcadian scenes, composed of meadows, hedges, trees and water, be useful in the design of our contemporary landscapes which have to address contemporary elements like infrastructural lines, derelict industrial sites or wind power masts? … For the design of contemporary landscapes, the monopoly of this landscape concept must be replaced by new approaches.*

(4) James Corner (2011) Terra Fluxus, p.24

(5) Martin Prominski (2015) Designing landscapes as evolutionary systems, p.2

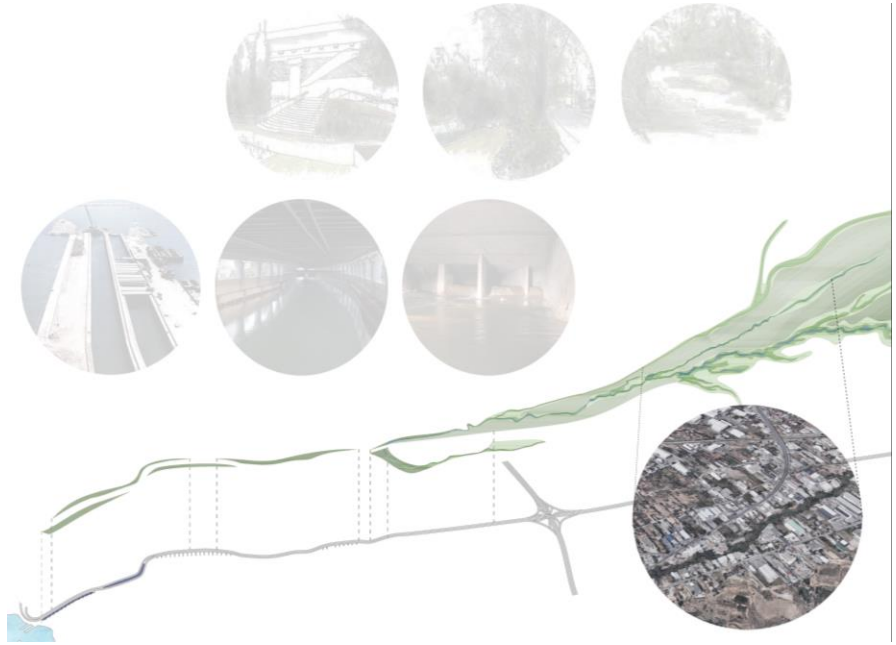
a. Anti-urbanization and the idyllic image of nature



Picture 1. The first expression of the opposition between natural and engineered - Antiurbanization and the idyllic image of nature
Drawing and collage by author
Source for the drawings in the circles: Visions for the revitalization of Kifissos (2007)
British Graduates Society
Source: http://www.bgs.gr/main.php?l1=74&l2=109

b. Nature as an external “thing” open to exploitation

This attitude is often described as a counter-reaction to the rapid processes of urbanization and industrialization that, through the modern age, where oriented towards the total control and exploitation of their natural setting. The notion that nature is a source or a thing that can be controlled by man has its origins in the 17th and 18th century. More specifically, Descrates argued that ″the general good of all mankind” is best attained by gaining the necessary knowledge that would help to “render ourselves masters and possessors of nature.″ *Such views were later implicated in the development of modern science and the rise of distinctively instrumental and capitalistic values with respect to the human use of the natural world.(6)* This attitude nurtured the idea that man has to be emancipated from the limits and the dangers of nature. Thus, nature is to be strictly controlled in order not to delimit, but to enhance progress.(7) Today, *the exploitation of nature has led to the present scenarios of catastrophe and apocalypse… indicating that we cannot really estimate or control the consequences of our actions with regard to nature… (8)*



Picture 2. The second expression of the opposition between natural and engineered - nature as open to exploitation - Greenhouses on the banks of Kifissos reaches, at the north.

Drawing and collage by author
Source for the drawings in the circles: Google maps

(6) Kelly Shannon (2013) Eco-engineering for Water: From Soft to Hard and Back, p.196

(7) David Harvey (1996) Justice, nature and the geography of difference , p.134

(8) Christian Kerez (2007) *Close encounter*, : “Architectural Papers III. Natural metaphor. An anthology of essays on Architecture and Nature (ed. F. Sauter, J. L. Mateo), 2007, Actar, Barcelona/ New York, p.100-111

c. Nature as a threat - the conceived necessity of controlling natural dynamics

Conceptions of nature as a powerful source that reacts to human abuse further intensifies the opposition between the natural and the manmade landscape. The high uncertainty and unpredictability of natural dynamics, such as the flooding events of a river system, was in many cases, addressed through hard engineering works that essentially disturbed the natural processes of the landscape. These works might create the illusion of stability and cultivate the idea that any part of the landscape, no matter its degree of exposure on natural phenomena, can be completely adjusted to society's needs for stability and safety. Although this tendency for *domination never deliberately embraced the destruction and despoliation of the natural world*, it led to consequences that we can no longer ignore. (9) *Today, humankind is poised as heir to a triumphant age of apparent mastery over nature-yet the very opposite proves true as recent disasters evince. In an era when nearly all is possible with technology and money, we have finally become more aware that consequences can be detrimental-to both cities and their wider environments.(10)* This phenomenon indicates that excessive control over nature has exceeded its purpose, further increasing the threat that it initially tried to address.

(9) Harvey (1996) p.125

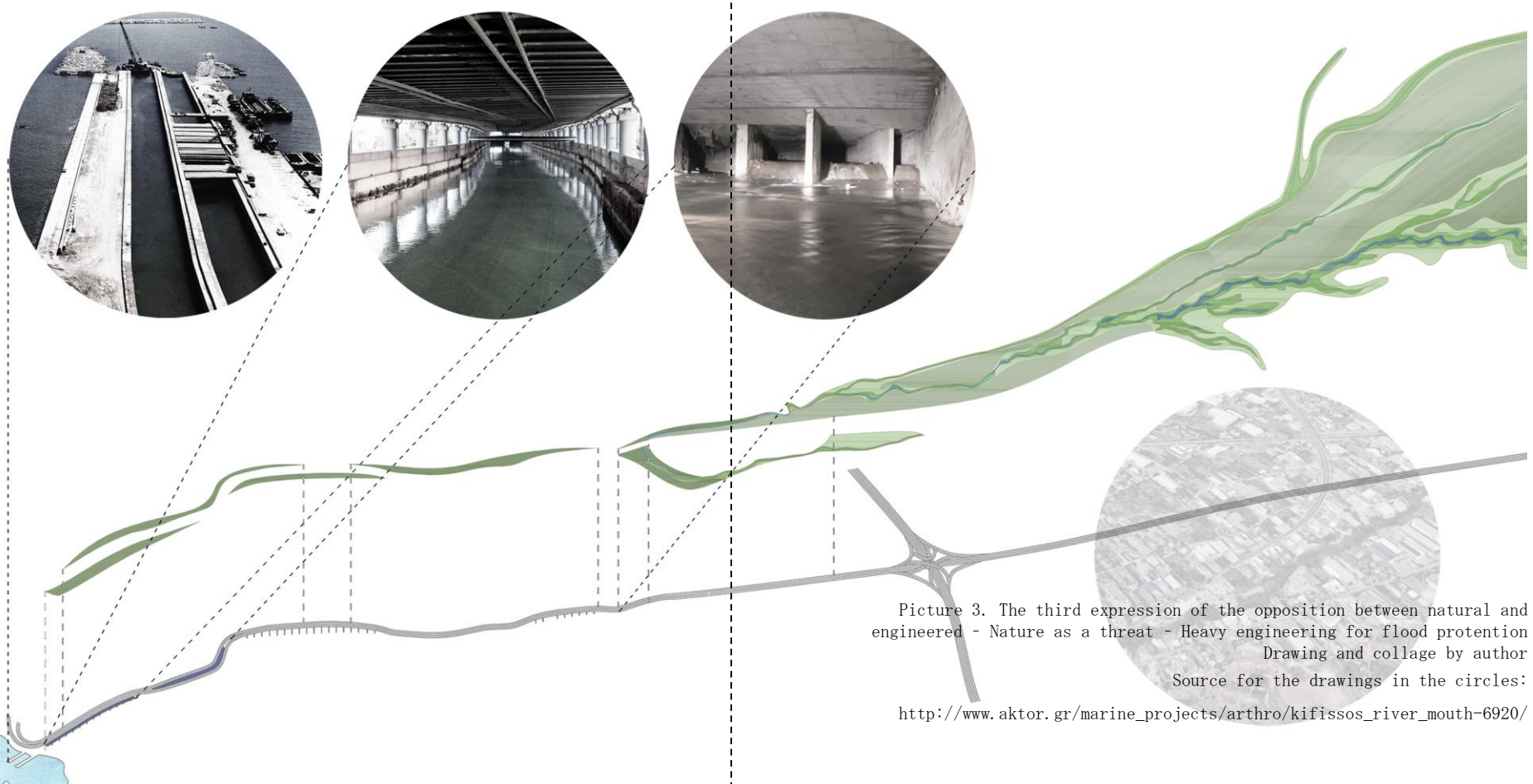
(10) Shannon (2013) p. 179

d. Conclusion: Opposition - External Nature

In the end, either as a naturalizing veil, as a source to be exhausted, or as a threatening forced to be excessively controlled, nature is seen as an object external to us, to be controlled and exploited to either offer us aesthetic pleasure, or a comfortable life. This conception reinforces the binary division between man and nature leading to the in-ability to approach them as interrelating parts of a common system.

c. Nature as a threat

the conceived necessity of controlling natural dynamics



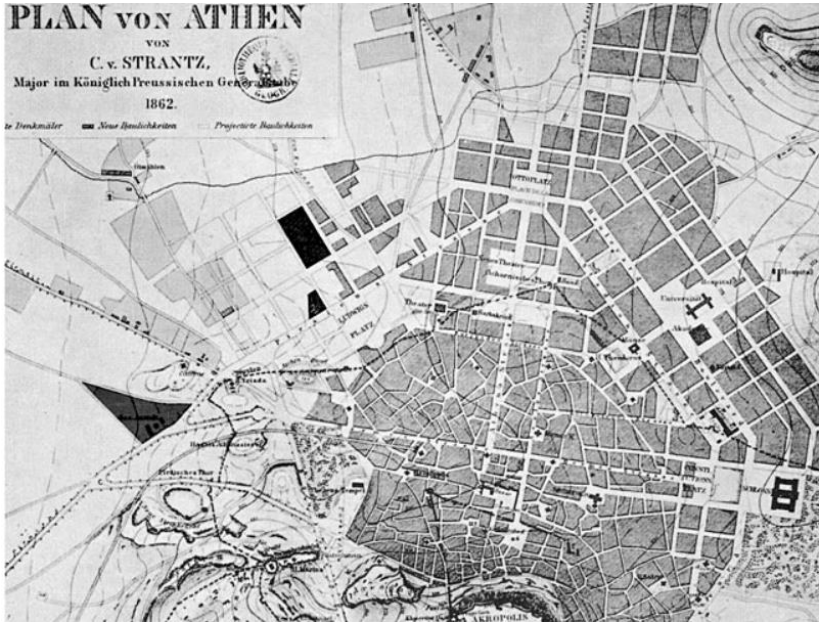
Picture 3. The third expression of the opposition between natural and engineered - Nature as a threat - Heavy engineering for flood protention
Drawing and collage by author
Source for the drawings in the circles:
http://www.aktor.gr/marine_projects/arthro/kifissos_river_mouth-6920/

2. Between informal and formal

Contemporary spatial design approaches are also criticized for their tendency to emphasize form and structure as means to strictly control space, its use, experience and perception.

a. Rationalization of Space: From Enlightenment until today

Many treatises in the fields of architecture, landscape architecture and urbanism, influenced by diverse streams of thought –from existentialism to post-structuralism–, trace the planner's persistence on accurately determining and strictly controlling space, on Enlightenment's enthusiasm for rational progress. Emphasis on pure reason and logical explanations was translated in "universalist" approaches towards master-planning, that emphasized geometric forms and ideal proportions. (11) Later, during the early twentieth century, emphasis on control and structuralization was echoed in the determinism od Modernist approaches that translated the rationalistic principles of the 19th century to develop ideas and principles of ultimate functionality and optimization. (12) *After the second world war the generic machine metaphor was criticized and a more specific approach to accept local conditions was envisioned.(13)* However, the way we practice and think about design, from the architectural scale to the scale of the city and the landscape, is still strongly, even though not always consciously, highly influenced by the tools of objectification and controlled offered by the rationalistic and the modern paradigm.



Picture 4. Section of a map of Athens in 1862, by the German officer C. von Stranz
A universalist approach towards master planning

Source: Archeology of the city of Athens
http://www.eie.gr/archaeologia/En/index.aspx

(11) Alberto Perez-Gomez (1983) *Architecture and the Crisis of Modern Science*, The MIT Press, p.50-87

(12) Corner (1999) p.279-299

(13) Florian Sauter(2007) *Interview with Stann Allen,* in: "Architectural Papers III. Natural metaphor. An anthology of essays on Architecture and Nature (ed. F. Sauter, J. L. Mateo), 2007, Actar, Barcelona/ New York

b. Space as a static model: emphasis on form, structure and composition

Event toady, the way we represent and design the spaces of the landscape and the city follows formal and structural models that try to accurately define each spatial element, by pre-determining its features as well as its place within a strict hierarchical structure. Sites are treated as geometric figures to be manipulated from above, by authoritative masterplans.(14) Plans that focus solely on compositional qualities, have the tendency to isolate their component parts by making them part of strict and irreversible hierarchies. Focusing more on the urban landscape, Christopher Alexander defines programmatically controlled and over organized spatial structures as "trees". For him the concept of the tree represents a hierarchical structure where there is no interaction between the internal part of the system. Only hierarchical relationships in a logical sequence. *When we think in terms of trees we are trading the humanity and richness of the living city for a conceptual simplicity which benefits only designers, planners, administrators and developers… It is more and more widely recognized today that there is some essential ingredient missing from artificial cities… our modern attempts to create cities artificially are, from a human point of view, entirely unsuccessful.(15)*

Picture 5. The national garden of Athens, a formal garden
Emphasis on form and composition

Source: Archeology of the city of Athens
http://www.eie.gr/archaeologia/En/index.aspx

(14) James Corner (1999) Eidetic operations, p.250
Those artificial cities that echo the hierarchical relationships of a tree have been deliberately created by designers and planners.

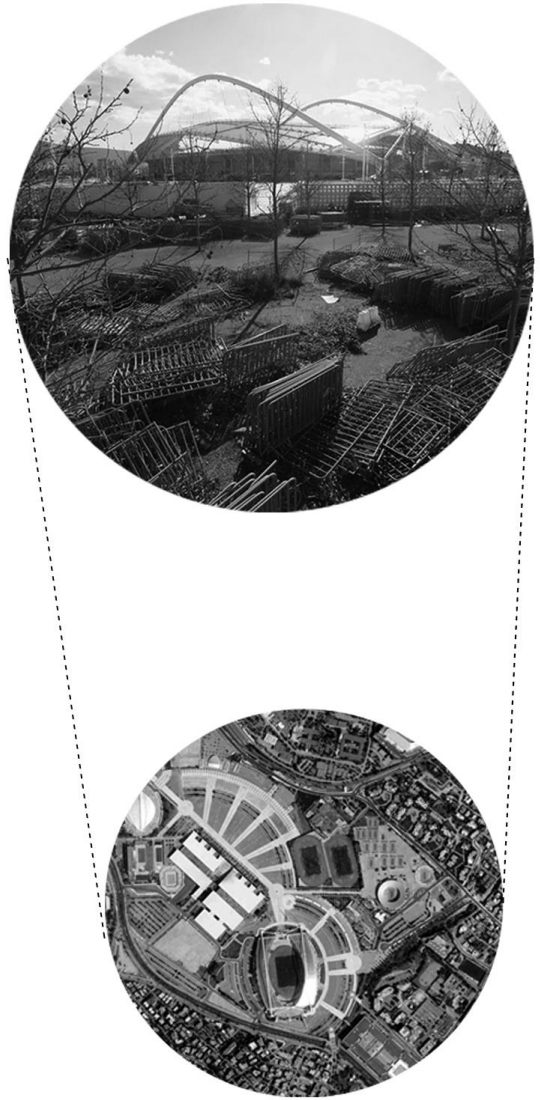
(15) Christopher Alexander(1965) The city is not a tree

c. Conclusion: strict hierarchies cannot sustain the "metabolizing" processes of urbaization

Formal design operations often treat the city merely in terms of spatial form and aesthetic appearances, City is a thing, an object which can be predetermined and stable. Indeed, most design and planning operations appear somewhat outmoded, overwhelmed or incongruent in comparison to the rapidly metabolizing processes of urbanization.(16) On the contrary, it seems that the more that planner exercise their authority, the more the city is about to lose its liveliness. *The dynamic multiplicity of urban processes cannot be contained within a singular, fixed spatial frame, especially when that frame neither derives from, nor itself redirects, those processes moving through it.(17)* The chaotic, and many times problematic processes of urban and ecological transformation cannot only be controlled or "corrected" by the imposition of the appropriate spatial form.

(16) See Reyner Banham, *Los Angeles: The Architecture of Four Ecologies* (London, 1973)

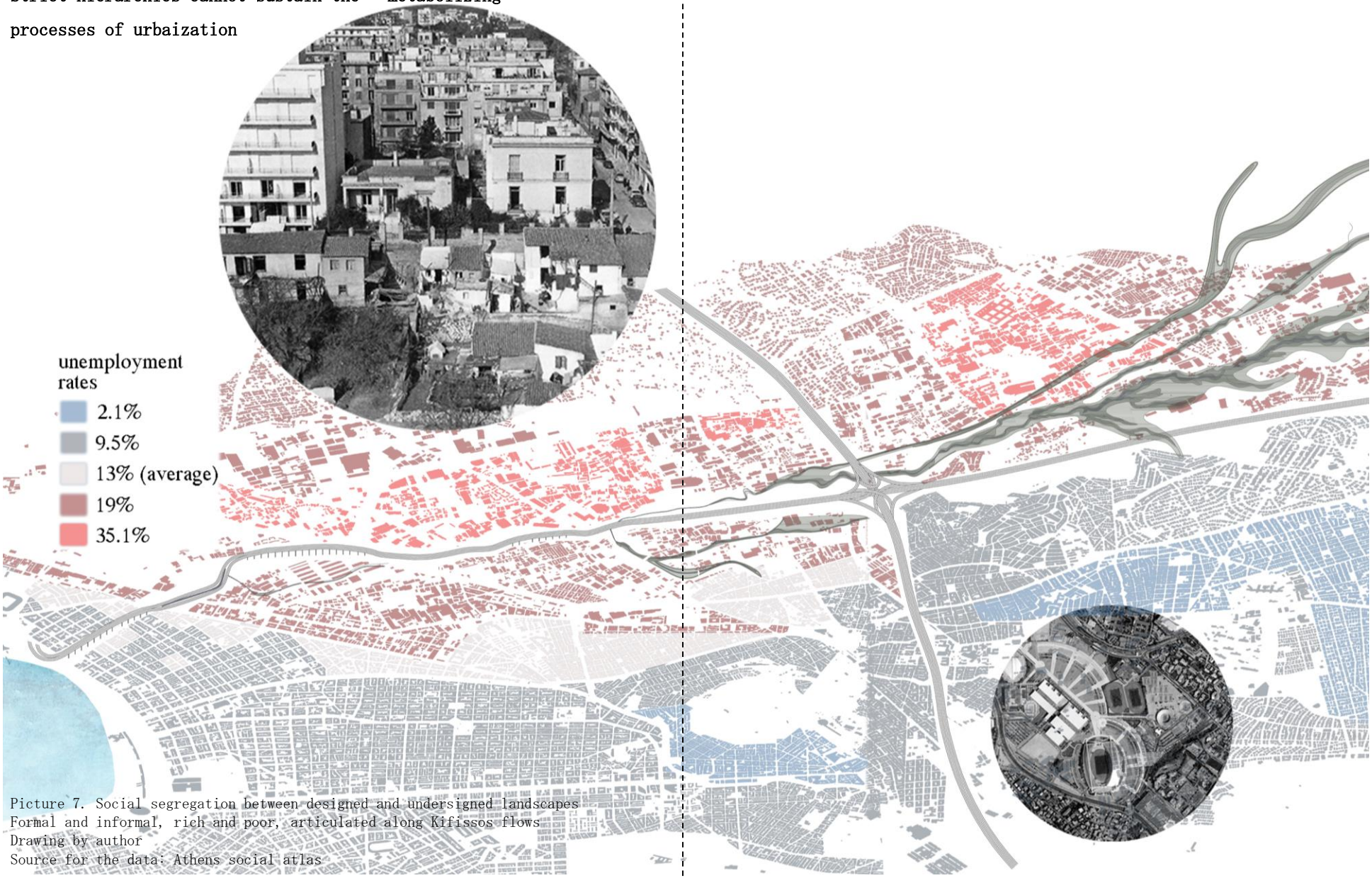
(17) Corner(1999) p. 226



Picture 6. The rejection of formal plans from the metabolizing processes of urbanization. The beautiful Olympic stadium, designed by Calatrava for the Olympic games of 2004 lies since then abandoned and misused

Source for the images: Google earth

Strict hierarchies cannot sustain the “metabolizing” processes of urbaization



Picture 7. Social segregation between designed and undersigned landscapes
Formal and informal, rich and poor, articulated along Kifissos flows
Drawing by author
Source for the data: Athens social atlas

3. Over-control as opposition between the dynamic and the fixed

a. The futility of over-control - technologies of overcontrol as drivers of change

Like the dynamic natural processes, the fact that our urban landscapes are subject to continuous transformation can cause uncertainty. Understanding change as a threat often leads to the problem of excessively controlled landscapes. According to David Harvey, the strategies that impose control on natural and urban processes do not unfold independently. *Mastery over nature inevitably turns into mastery over men... Increasing mastery increases conflict, while the attractive promises for social peace and material abundance remain unfulfilled. The real danger that the resulting frustration may be turned against the instruments of mastery themselves (science and technology) must not be underestimated. As integral factors in the ascending spiral of domination over internal and external nature, they are bound to an irrational dynamic which may destroy the fruits of their own civilized rationality.(18)* The fact that technology, as the means through which control is orchestrated, is often enough the one to blame is again related to the uncertainty of the outcome of its use.

(18) Harvey (1996) p.234

(19) John May - On Technology, Ecology and Urbanism, Verb magazine/crisis, p.112

As John May suggests, *in our desire to comprehend and control life at larger and larger scales, we are perhaps unknowingly putting in motion whole regimes of mass phenomena that can initially appear natural, or at least non-human, in origin. We are somehow managing to alter the world at the level of ontology.(19)*

Our rigid designs are less stable than we think, not in terms of form and appearance, but rather in what they do, and how they influence the landscape in space and time. From this point of view, overcontrol may depart from an attempt to limit dynamic, unpredictable processes, weather urban or natural, but it also, without being always aware generates new series of events. For example, a highly engineered urban river, equipped with damns and flood control mechanisms, appears to limit the dynamics of the river that are considered dangerous, such as the flood. However, at the same time, by making the river space more accessible, it might create the conditions for processes of uncontrolled urban growth. At the same time, the derangement of the natural equilibrium has in many cases proven to have aftereffects, in the long term, in other parts of the river system. Within this framework, while the conception of change as a threatening condition gives birth to approaches of over-control, the fact that the technologies used to provide stability become themselves drivers of change suggest their futility.

b. The need for a different approach

i) The potential of change

Our false consideration of constructed and designed technologies as providers of stability that are not dynamic themselves, brings us back to the problematic opposition between urban and natural, dynamic and fixed. The consequences of overcontrol, and their unpredictability, stress the need to develop a different form of design that will, gradually and in the long term, bring the opposing systems into coexistence, treating their dynamic uncertainties not only as problems that have to be resolved, but also as potential sources of inspiration. In the words of Stan Allen, *your thinking has to be every bit as fluent and adaptive as the kinds of systems that you are talking about. In other words, you cannot apply rigid or dogmatic principals to systems that are themselves fluent, adaptable, changing and always incorporating feedback.(20)*

(20) Stann Alen, in: "Architectural Papers III. Natural metaphor. An anthology of essays on Architecture and Nature (ed. F. Sauter, J. L. Mateo), 2007, Actar, Barcelona/ New York, p.133-141

ii. The essential synergy of the natural and the constructed, the dynamic and the fixed

Furthermore, *given the complexity of the rapidly urbanizing metropolis, to continue to oppose nature against culture, landscape against city... is to risk complete failure of the architectural and planning arts to make any real of significant contributions to future urban formations.(21)* An approach that totally excludes technological and engineered elements from design practices further strengthens the opposition between what is urban and what is natural, limiting designers and thinkers from reaching more "chiamatic" ways that will bring the two in a more fertile interrelation.

The question that follows is how could we, as designers, develop such an approach and what should be its main principles? How can design and planning practices open up to change? And how can be the contribution of landscape architecture and architecture when it comes to addressing the complex problems of a contemporary, over-controlled urban landscape?

(21) James Corner (2011) Terra Fluxus, p.28

PART 2. DESIGN APPROACH

The principles of an alternative approach

1. Landscape architectural intervention: an appropriation of the existing situation/Landscape architectural apparatuses that are both generated by and create the conditions for processes

Martin Heideger, relates the act of planning to that of "enframing", of defining a holistic framework, an order that determines the interrelationships between the parts. Technological "enframing' is described as *a production, that draws or tears "out of concealment" the resources of the earth, conferring upon them the status of a "standing reserve". This transforms the earth into material, a commodity, which makes the constructed work less the outcome of care and cultivation than of exploitation.(22)* From this point of view the act of "enframing" is very similar to the deterministic models of control, discussed in the first part of the report. However, the foresight and planning of technical operations is always a response to what already exists. *Technical objects sustain their own "naturalization" or appropriation into what has arisen non-technologically. One agency of this "naturalization is the "territory" neglected by the autonomy of the technical system - an agency of obvious potential and inevitability in the making of an architectural system.(23)*

Picture 8. Imperfect and not definite landscape-architectural apparatuses. The approach also influences the way of drawing Atelier le Batlo, 'La couverture vivante du Dôme', Montreal

Source: https://lebalto.de/best-of-le-balto/skizzen/

(22) David Letherbarrow and Mohsen Mostafavi (2002) Surface Architecture. In: Rethinking Technology/ A reader in Architectural Theory (ed. William W. Braham and Jonathan A. Hale, 2007, Routledge, Oxon, p.413-420

(23) Letherbarrow and Mostafavi (2002)

Within this framework, planning is always, almost inherently connected with the act of appropriation. *Design projection is only a partial determination; equally effective or participant in the historical process are improbabilities of place and performance. And these "agencies" of appropriation unfold through time, a time of partial success and partial failures.* Each device or technical apparatus is then a chronicle of its own modification, a proposal that is discovered to be "not so clever", which is followed by a recuperative and appropriating re-proposal that is itself, eventually, discovered once again to be incomplete.(24) This not only suggests that architectural apparatuses respond to the qualities of the existing territories, but also that they generate future processes of technical re-appropriation. A technical, built intervention is more open to change than formal and deterministic models allow us to understand. This characteristic, together with its response to the existing condition is what makes it a landscape architectural intervention.

(24) Letherbarrow and Mostafavi (2002)

Picture 9. Landscape-architectural elements responding on the qualities of the site
Emf (2012) Public use of Tudela-culip park at the natural park of Cap de Creus

Source: https://lebalto.de/best-of-le-balto/skizzen/

2. Emphasis on the site and its processes

Thus, the use of architectural apparatuses that respond to the qualities of the site, not only to suggest/ encourage the creation of places, but also to generates processes of transformation (in response to natural dynamics) and appropriation (as a result of human action). This combination encourages us to look for the principle processes, both natural and urban, that have shaped the site and how can they inspire different tools of intervening. That would constitute an *attempt to look at each and every condition (of the existing site) and make the best of it, thus integrating new architectural projects within existing forces and natural (or unnatural) conditions of a site… Each place has its own story. Therefore, it makes no sense to replicate urban models from elsewhere, when the inherent qualities of a site lay fallow...(25)* Design practices that follow this approach, distinguishing themselves from the application of universal planning methods, see future projects as transformations of specific and unique local histories. Furthermore, understanding the inherent quality of each site, regardless of its condition, has the potential to help us understand and be aware of our relationship with what we define as nature.(26) For bridging the opposition between urbanity or architecture and nature, the agency of the landscape and its emphasis on processes and dynamic systems in relation to a specific terrain, has a lot to offer.

Picture 10. Interventions emphasizing the landscape’s qualities
Bernard Lassus, Crazannes Quarries

Source: Michael Conan, Crazannes Quarries by Bernard Lassus

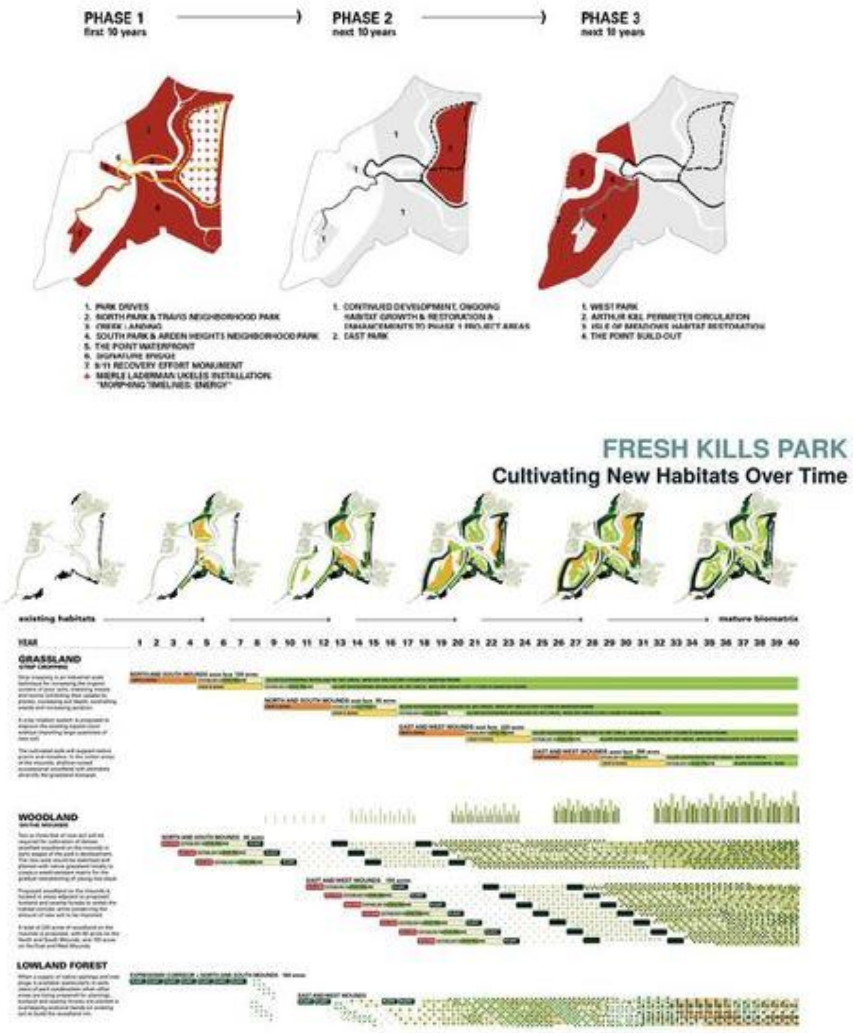
(25) Christopher Girot, Change of Nature, On: “Architectural Papers III. Natural metaphor. An anthology of essays on Architecture and Nature (ed. F. Sauter, J. L. Mateo), 2007, Actar, Barcelona/ New York, p.28-33
(26) Christopher Girot (2007)

3. Embracing indeterminacy

Towards this direction, what contemporary treatises of landscape architecture suggest is to embrace indeterminacy, rather than trying to precisely predict and strictly control it. As Prominski writes, *uncertainty should not be seen as something to be resolved, but as an integral part of the design and inspire an approach more guided by time and process rather than space and form. Process orientation is an important design principle which applies to all kinds of landscape, for they are shaped by a multiplicity of cultural and natural processes: settlement growth, transport access, the changing seasons, vegetation growth, geological processes and climatic change.(27)* The emphasis here shifts from object appearances to processes of formation, dynamics of occupancy and poetics of becoming… *from appearances and meanings to more prosaic concerns for how things work, what they do, how they interact and what agency of effects they might exercise over time.(28)*

(27) Martin Prominski (2012) River Space design, p.16

(28) James Cornner (1999) Eidetic operations on new Landscapes, p.159



Picture 11. Accepting indeterminacy. A parkland that grows in time

Field Opperations, Freshkills park

Source: http://www.fieldoperations.net/project-details/project/freshkills-park.html

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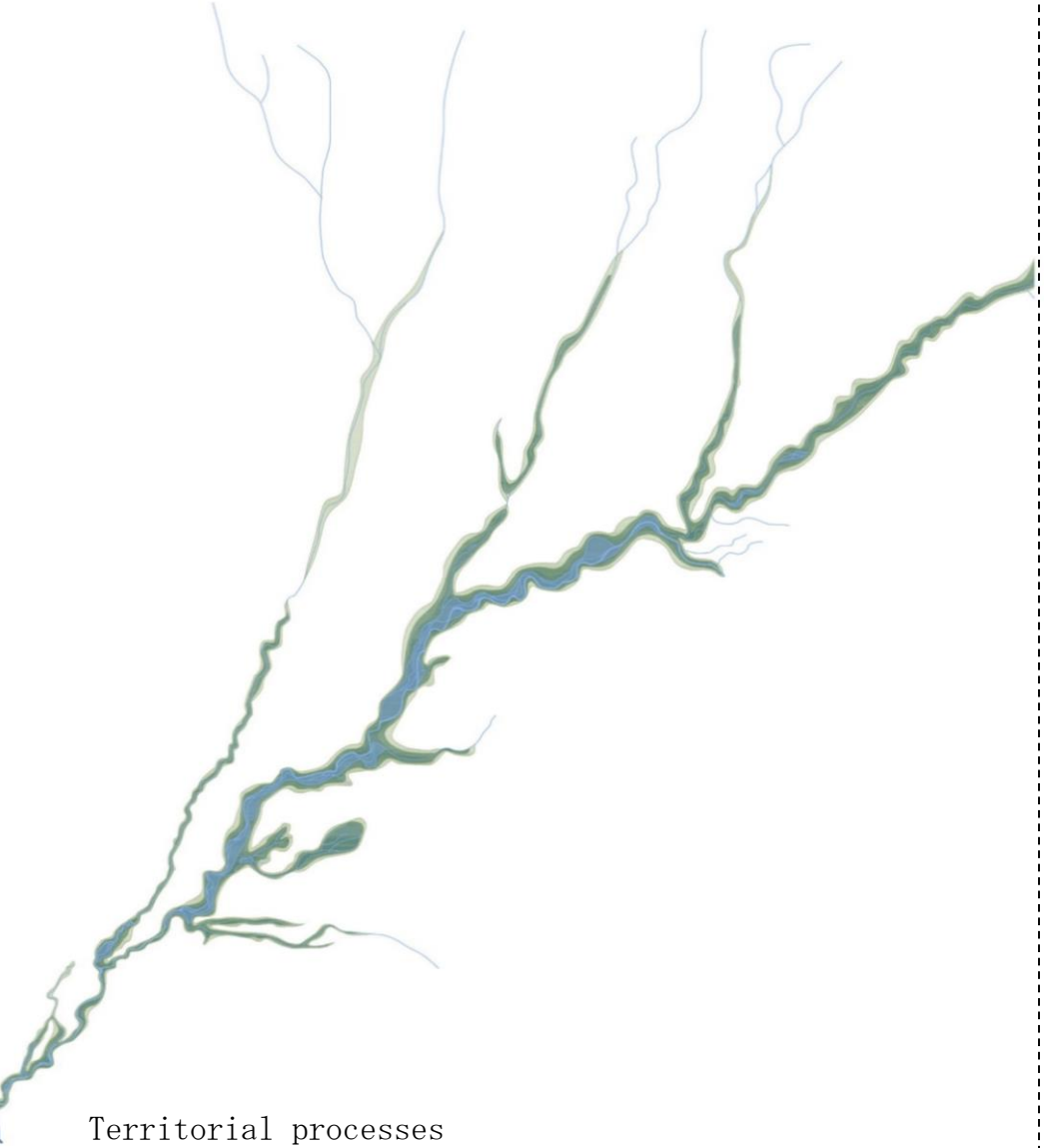
The oppositions of Kifissos

From static duality to dynamic coexistence



Territorial processes

The oppositions of Kifissos

From static duality to dynamic coexistence

Territorial Processes

Eleni Chronopoulou
Mentors: Inge Bobbink, Esther Gramsbergen

CHAPTER 2. TERRITORIAL PROCESSES

CHAPTER 2. TERRITORIAL PROCESSES

Introduction. Natural processes as conceptual design tools

The aim of this chapter is to look for the latent forces that have shaped the territory within a spectrum of ten million years. For this reason it studies the geological and geomorphological evolution of the terrain to see through what transformational processes the river plain of Kifissos came to being. This will help us to identify what kind of river Kifissos is and to further look on the specific dynamic processes that characterize this specific river type.

Later on, these processes, which are no longer visible in the current condition of the landscape, will be brought back in the form of conceptual tools that will guide the design process.

Picture 1. Drawing by Author. Attempt to trace the structure of Kifissos streams

1. Identification of the Kifissos river

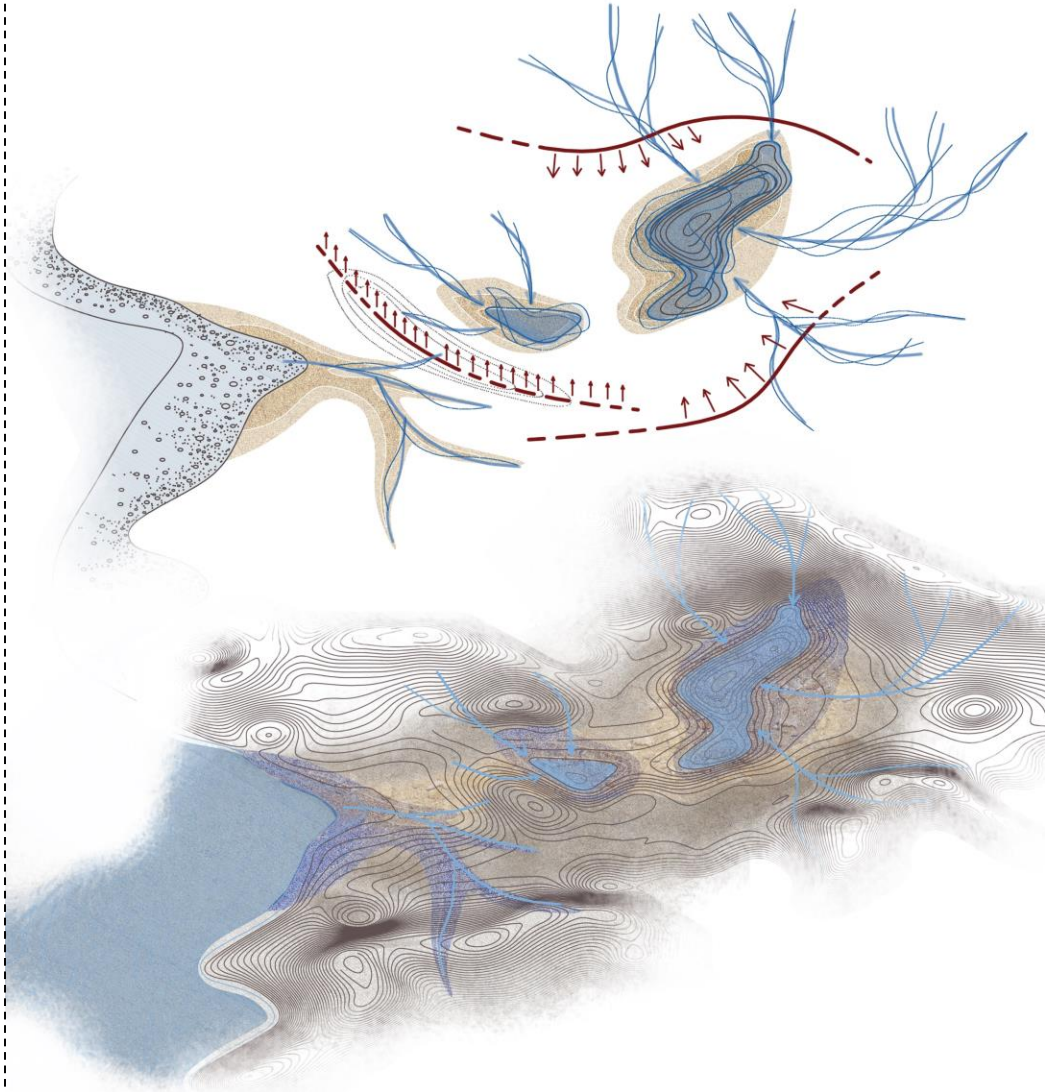
a. Historical evolution of Kifissos river plain - Identifying the processes that contributed to the formation of the river landscape

i) Uper Milocene 10-6 million years ago

The general image during the upper Milocene was that hills were surrounding the inside of the plain which then had both more intense topography and tectonic activity.

The Athenian plain used to have more intense topographical differences instead of the smooth descending slope it forms today. At the borders, mountainous volumes were beginning to grow, defining the enclosed area of the plain. The inner core consisted of soft, not very dense soils, which were easy to erode, transform and redeposit. This explains the creation of ephemeral lakes and their changing shapes depending on the amount of rainwater caught within the topography.

Furthermore, the coastline used to be more up to the north. The erosion of the grater hills at the borders and the smaller ones in the middle resulted in the disposition of material on the coastal areas, which in turn resulted in the land expanding towards the sea.

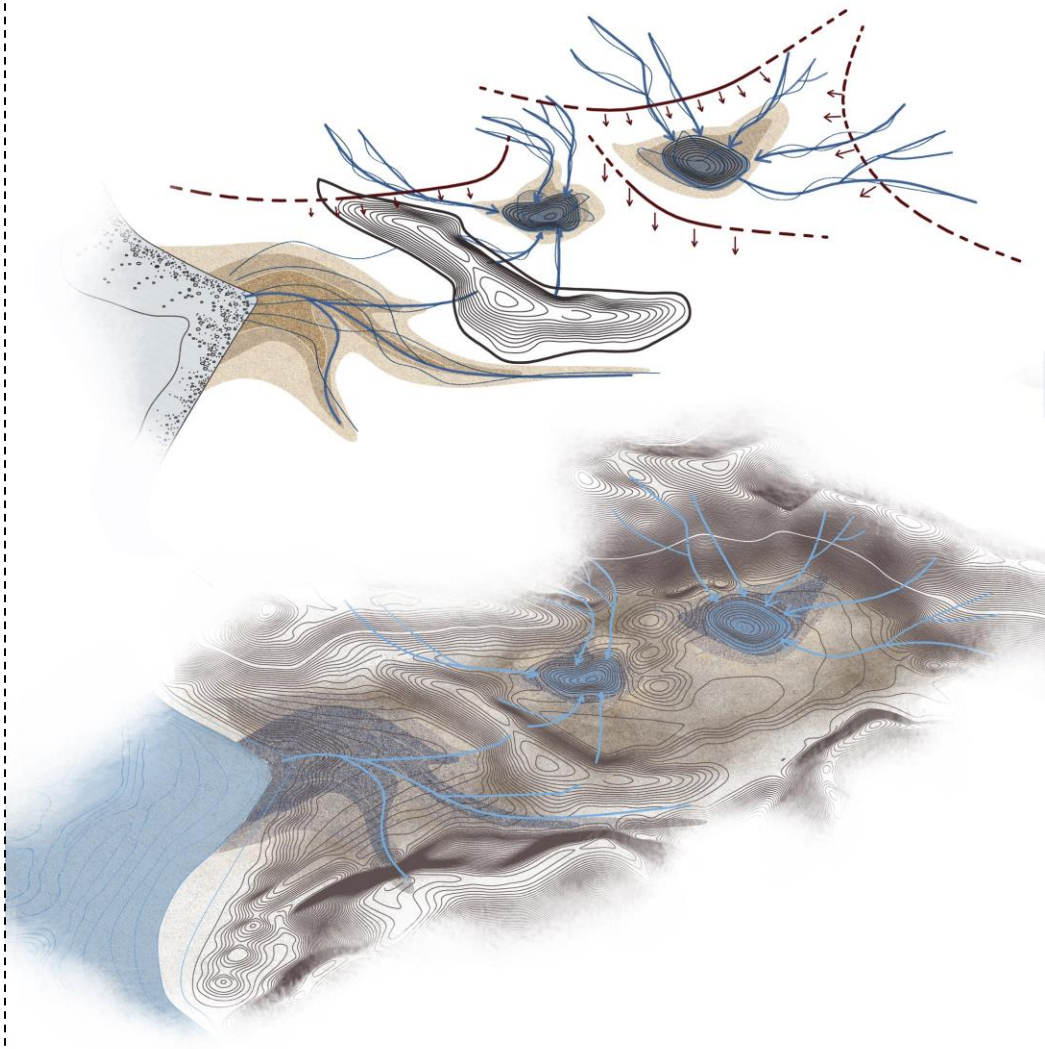


Picture 2. The image of the topography and the processes involved in its transformation during the Uper Milocene

Drawing by Authror
Visually translating material from the Geological Study of Athens, National Technical University of Athens

ii. Higher Plexocene (4-2 million years ago)

During the upper Plexocene, the hilly volumes at the borders have already developed into mountains, while inside the Athenian plain there still exist smaller hills, their volumes reduced by erosion processes. It is suggested that the mountains of Hemytus, Penteli, Parnitha and Aigalaio rose even higher than they do today. The hills in the middle of the Athenian plain were forming a linear element from east to west dividing the plain into a northern and a southern part. At the northern part the lakes are still distinguishable, but their size is reduced. The boundary of the hills served to hold the water from descending to the sea. At the same time processes of erosion on the large mountainous volumes begun, which explains their reduced size today.



Picture 3. The image of the topography and the processes involved in its transformation during the Higher Plexocene

Drawing by Authror
Visually translating material from the Geological Study of Athens,
National Technical University of Athens

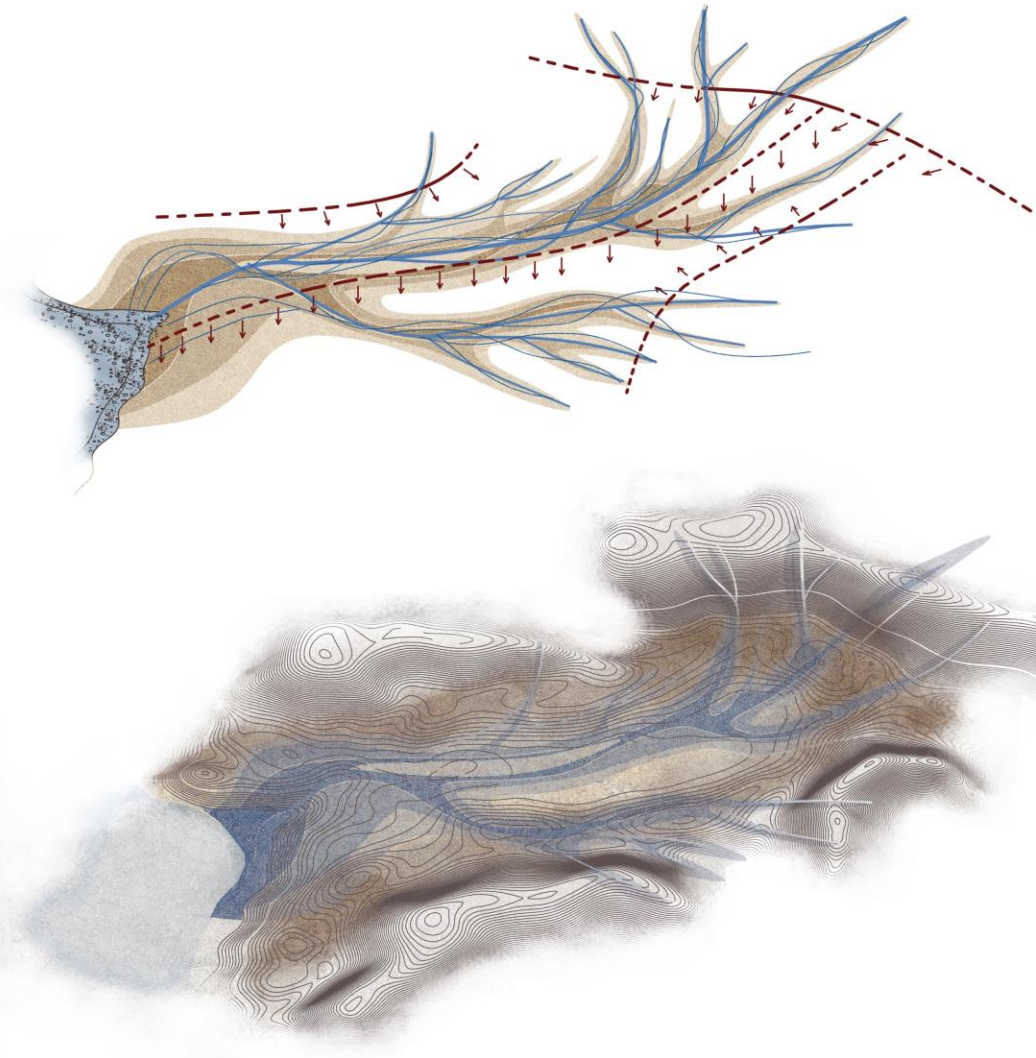
iii. Middle Pleistocene (500.000- 800.000 years ago)

Until the middle pleistocene, the situation was very close to what it is today. The mountainous volumes were relatively stable, the coastline to almost the same position as today, and the lake areas disappeared. The mountains were still in a state of erosion, producing sediments the accumulation of which created transitional zones at the bottoms of the mountains. In the enclosed area between the mountains the topography has been smoothed. The hilly boundary has seized to exist.

Since the hills no longer blocked the flow of the water to the sea, the stream of kifissos was gradualy formed. The coastline, in the area the coincides today with the river's ejection cleated an alcove which were later filled by the deposits of the river.

At that time Piraeus, today's port, was an island. Later, due to the deposit carried from the river, the island became part of the coast.

This period, tectonic activity appears to move outside of the Athenian plain, to the west and the main force that causes changes in topography is that of erosion.

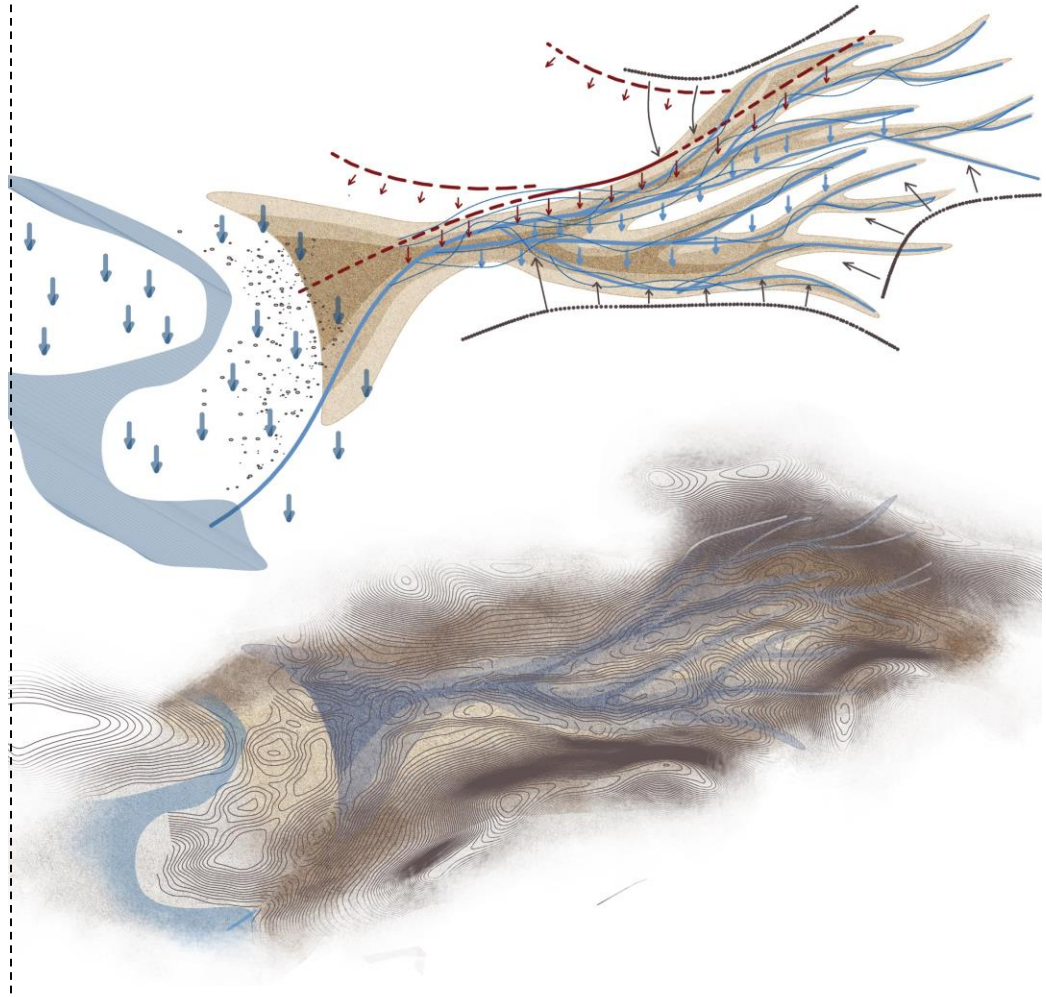


Picture 4. The image of the topography and the processes involved in its transformation during the Middle Pleistocene

Drawing by Authror
Visually translating material from the Geological Study of Athens,
National Technical University of Athens

iv. Upper Pleistocene

In this period the effects of climatic change and melting of the ice become most evident. The changes of temperature and the subsequent alterations of the sea level resulted in corresponding extensions and recessions of the land. As a result, the coastline is shifting its position, moving back and forth. In the end the sea level was notably lowered resulting in the transformation of a large part of the Saronic gulf into land. Besides the climatic changes, other forces that drove the transformation of the territory were the river-torrential depositions.



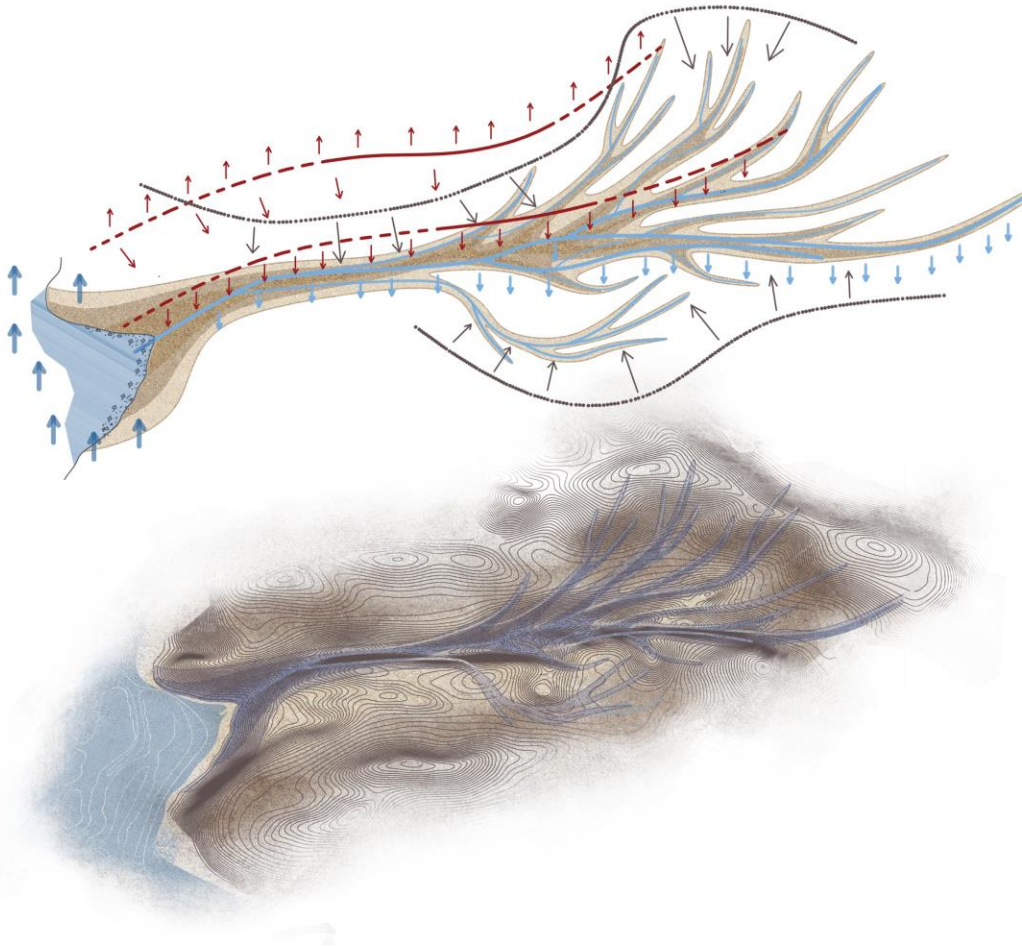
Picture 5. The image of the topography and the processes involved in its transformation during the Upper Pleistocene

Drawing by Authror
Visually translating material from the Geological Study of Athens,
National Technical University of Athens

v. Holocene (The image of the last 3000 years

Between the high mountainous area a gentle slope is formed with a relatively low average height of 150-200 meters. The river deposits have created a very fertile valley, a very advantageous landscape for the cultivation of the land. This homogenous area is surrounded by the mountain Hhymetus, to the east (1000m), the mountain Penteli to the northeast (1.100 meters), The mount Parnitha to the north, which reaches up to 1400 m and almost encloses the plain at the north side from east to west. Finally, at the western part is defined by the lower mountains of Aigalaio and Poikilo which reach up to 450 meters. In the plain's "interior" we find some lower hills such as Acropolis, Filopapou, Lecabetous and Tourkovounia.

This was the state of the landscape when it was first inhabited by ancient Greek civilizations.



Picture 6. The image of the topography and the processes involved in its transformation during the Holocene

Drawing by Authror
Visually translating material from the Geological Study of Athens, National Technical University of Athens

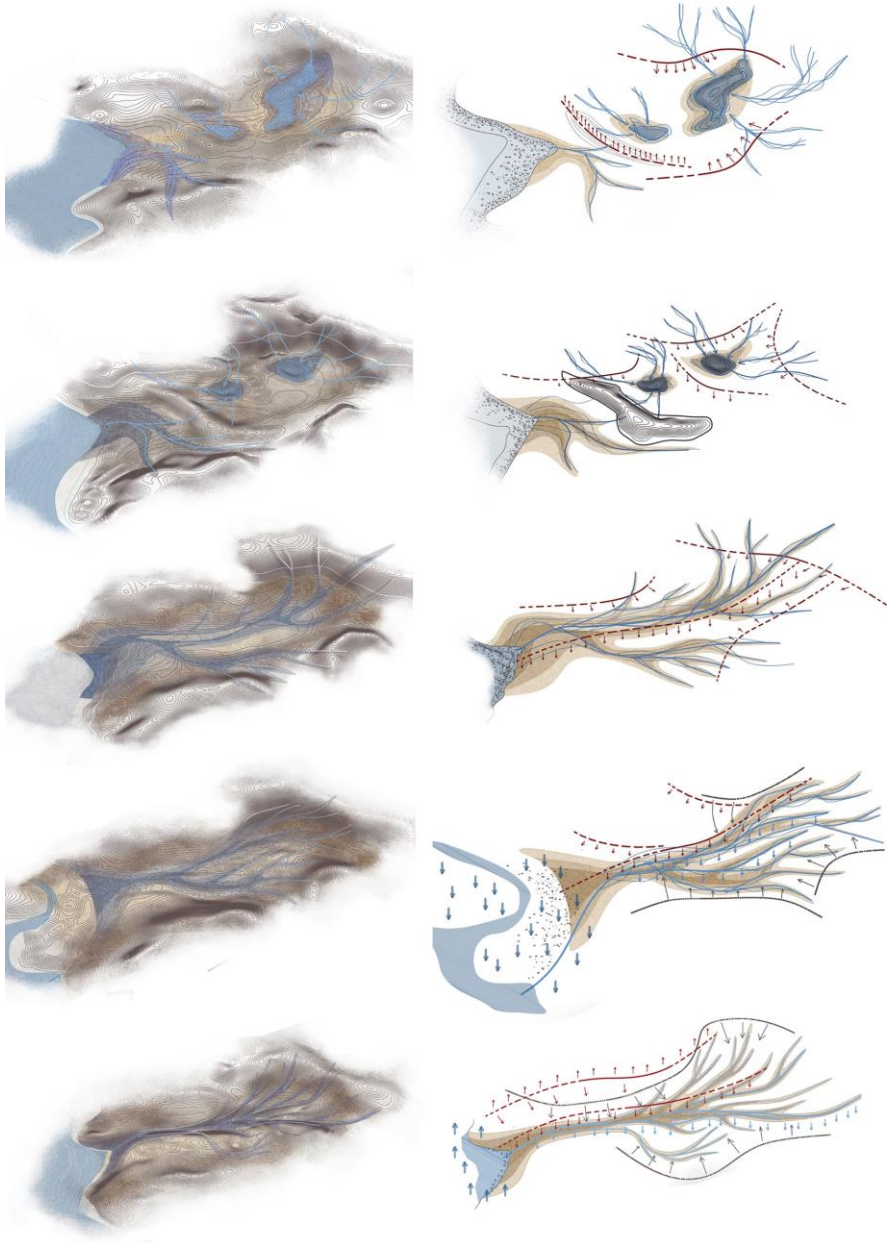
b. Conclusions - A 800.000 year old winter torrent on a gentle, fertile valley.

bi. Description of the Kifissos river plain

The plain of Kifissos has radically changed throughout the years involving various, gradually shifting relationships between the water and the land. These changing interrelations have created a vary wide zone and rich zone of spaces with different gradients of exposure to the water. The gradient of different exposures resulted in a very rich ecology traces of which can be found even today, that the river system has been covered to its seventy percent.

Furthermore, the intense movement of the tectonic plate has created a steep mountainous environment that surround the river valley. As a result the water travels fast developing the force of the torrent. In Greece, which has a mild and relatively dry climate, torrential rivers are mostly active during the winters. Thus we would describe Kifissos as a winter torrent. Seasonal rivers are also called ephemeral.

Torrential rivers are known for the continuous deposition and re-deposition of material coming from the mountains. As a result, the soil at the lower regions is loose. This specific type of soil is called alluvium, and the area where it gathers alluvial plain.



Picture 7. The evolution of the Athenian plane and the formation of Kifissos torrent

Drawing by Author

bii. Characteristics of winter torrents and alluvial planes

Kifissos, as a winter torrent is an “ephemeral river” that remains dry during most part of the year. Overall Kifissos river system has a tree-like structure. The streams at the north resemble the structure of a “braided river with multiple interweaving streams. This could be explained by the steep and alternating topography. As the river moves towards the sea the tributaries meet to form a main stream, which in our case is not meandering. The stream and its overflows form an alluvial plain.

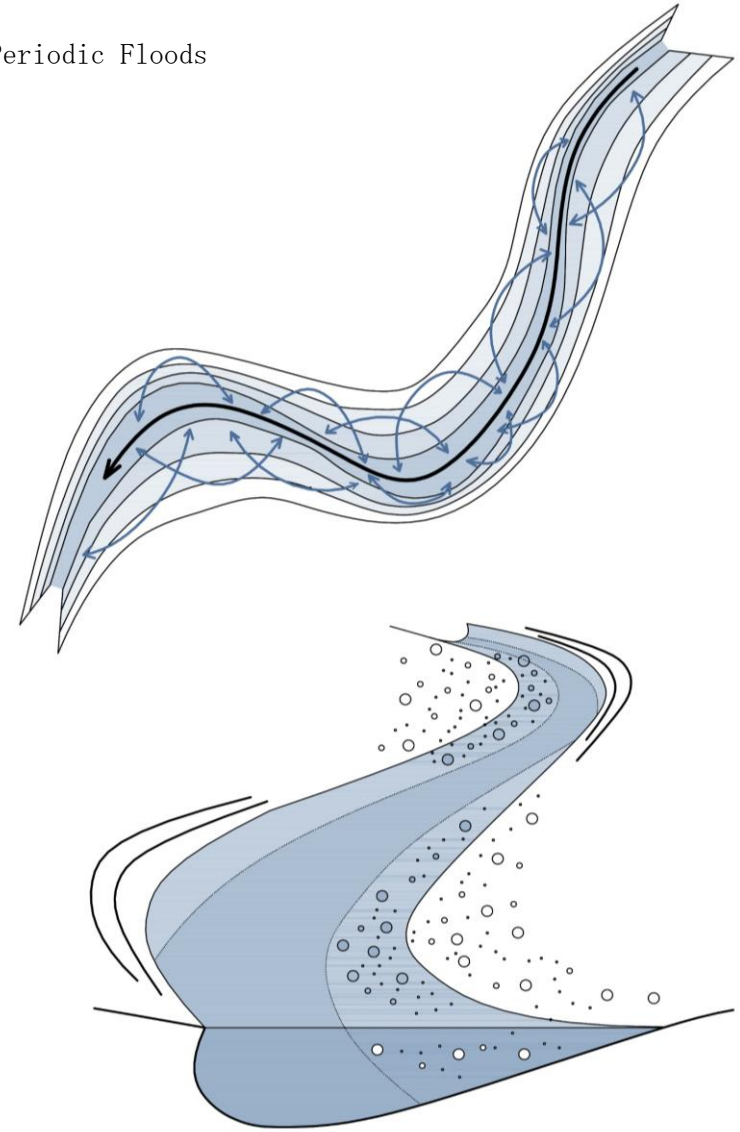
An alluvial plain is characterized by its soil, alluvium. Alluvium is loose soil composed of sediments which have been eroded and redeposited by the water of the stream. Alluvial plains are flat and are formed by eroded, deposited and re-deposited material over a long period of time.

A floodplain is part of the process, being the smaller area over which the rivers flood at a particular period of time, whereas the alluvial plain is the larger area representing the region over which the floodplains have shifted over geological time.(1) More specifically, the eroded material from higher lands is transported to the lower part of the topography.

Within the river plain periodic floods occur which form a space of exchanges between the river and its environment. Forces of sedimentation and erosion, *over geologic time, will form the plain, a region with little relief (local changes in elevation), yet with a constant but small slope.(2)*

(1) *"Glossary of Landform and Geologic Terms" (PDF). National Soil Survey Handbook—Part 629. National Cooperative Soil Survey. April 2013. Retrieved 30 September 2017.*

(2) Ibid.



Picture 50. River processes on (alluvial) planes
Drawing by Author

3. Identifying the extracts: Focusing on specific river Processes on Alluvial Planes

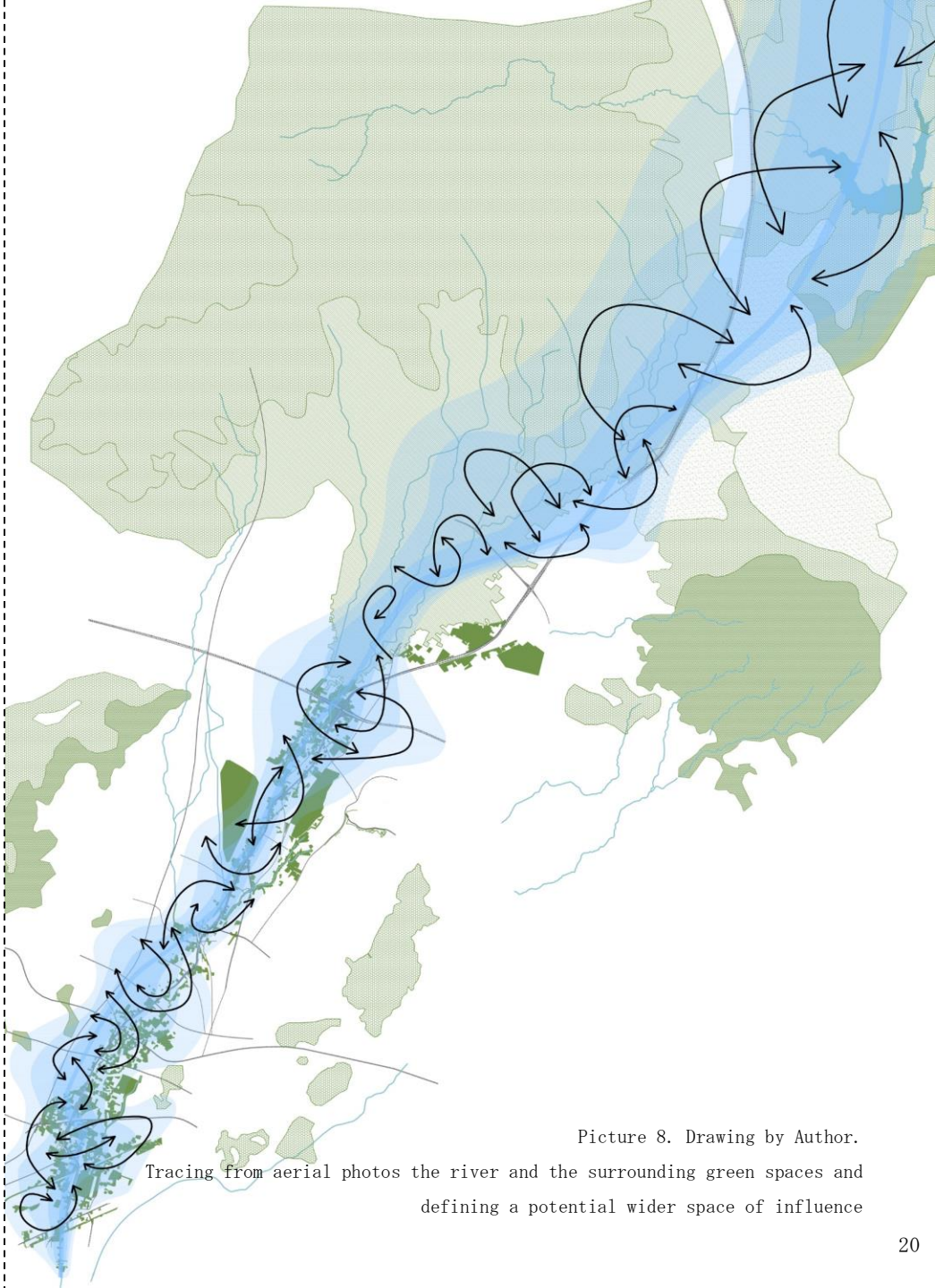
a. The “floodpulse” concept

The flood pulse concept is a theory supporting that the annual flood pulse is the most important aspect and the most biologically productive feature of a river’s ecosystem. It contrasts with previous ecological theories which considered floods to be catastrophic events. More specifically, it describes the movement, distribution and quality of water in river ecosystems and the dynamic interaction in the transition zone between water and land. (3)

River flood plain systems consist of an area surrounding a river that is periodically flooded by the overflow of the river as well as by precipitation, called the aquatic/terrestrial transition zone (ATTZ). The ATTZ is the area covered by water only during the flooding.–These flooding events, in turn, create unique habitat that is essential to the survival of many different species. (4)
The flood pulse concept is unique because it incorporates the outlying rivers and streams which add a lateral aspect to previous concepts. From this lateral perspective, rivers can be seen as a collection of width-based water systems. (5)

The flood pulse helps maintain genetic and species diversity in the flood plain ecosystem, and it brings in oxygen to help fauna and decomposition. The flood pulse also increases yields by increasing the surface area of water and showers the land with river biota. Flood plain systems also serve as migration routes, hibernation spots, and sprawning locations for many species.(6)

(3) Thorp, J. H., & Delong, M. D. (1994). The Riverine Productivity Model: An Hueristic View of Carbon Sources and Organic Processing in Large River Ecosystems. Oikos , 305-308
(59)Johnson, Barry L., William B. Richardson, and Teresa J. Naimo. 1995. Past, Present, and Future Concepts in Large River Ecology. p. 134-141. In BioScience, Vol. 45.
(60) Thorp, J. H., & Delong, M. D. (1994). The Riverine Productivity Model: An Hueristic View of Carbon Sources and Organic Processing in Large River Ecosystems. Oikos , 305-308
(61) Junk, W.J., P.B. Bayley, and R.E. Sparks. 1989. The flood pulse concept in river-floodplain systems. p. 110-127. In D.P. Dodge [ed.] Proceedings of the International Large River Symposium. Can. Spec. Publ. Fish. Aquat. Sci. 106.



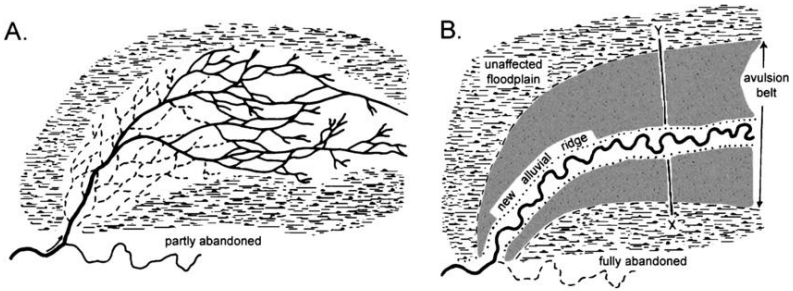
Picture 8. Drawing by Author.
Tracing from aerial photos the river and the surrounding green spaces and defining a potential wider space of influence

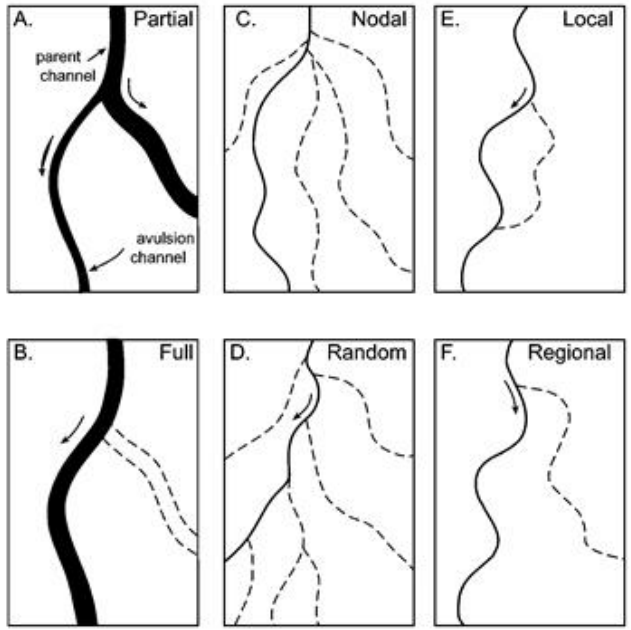
b. Avulsion

Avulsion is the sudden diversion of a channel to a new location on the floodplain, leading to the abandonment of a channel belt and the initiation of a new one.

The phenomenon of avulsion is usually caused by large floods when the amount of water exceeds the capacity of the current stream. If there is no significant difference between the slopes of the old and the new channel a partial avulsion will occur in which both channels are occupied by flow.(62) On the other hand, when the new slope is steeper, the stream completely changes its course. In many cases, "oxbow" lakes form where the old channel used to be.

(62) Slingerland R., Smith Norman D. (2004). "RIVER AVULSIONS AND THEIR DEPOSITS". *Annual Review of Earth and Planetary Sciences*. 32, p. 257





Pictures 9, 10. Process of Avulsion

How the process works and different types of avulsions

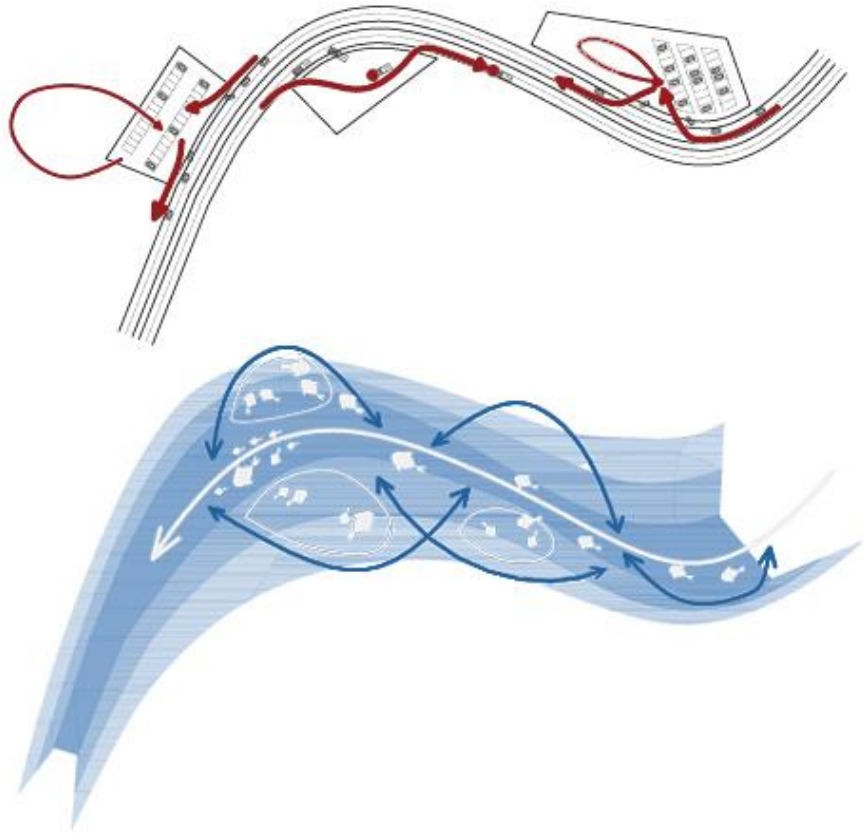
Source: R.L. Slingerland and N. D. Smith, River Avulsions and Deposits, Article in Annual review of Earth and Planetary Sciences, April 2004

4. Translation of the extracts into design tools

a. The river-highway pulse - a wider space of interaction with the city

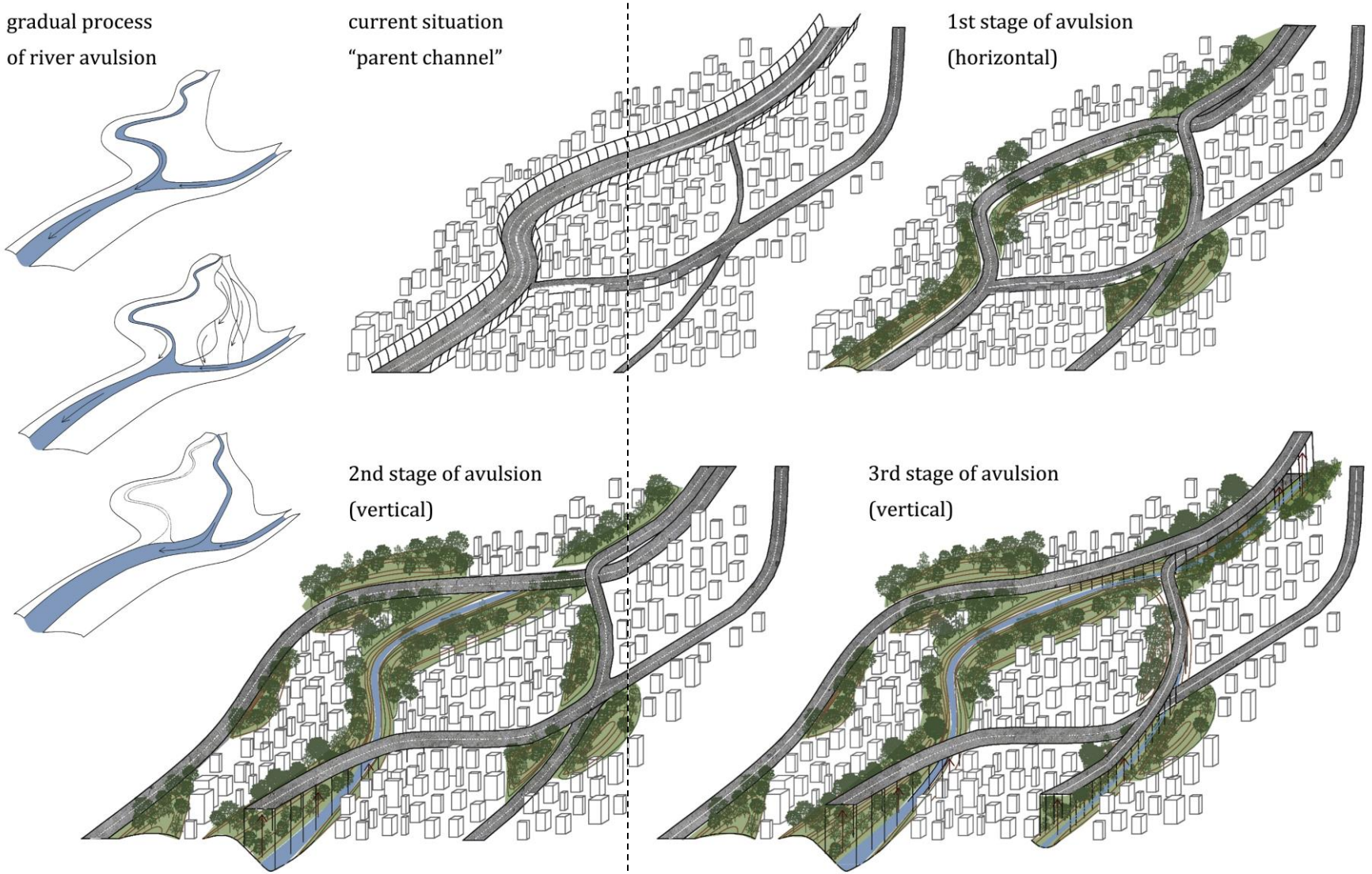
Faunal life histories in unaltered large river-floodplains can be viewed as analogous to vehicles on a highway network.

Were non-terrestrials to investigate this network, they would observe numerous bodies traveling in opposite directions and might well surmise that resources from those bodies were derived from highways… A detailed study would have revealed that four-wheeled creatures need to leave highways periodically for sustenance, along with their apparently symbiotic occupants. Eventually, major sources of production would be identified in farms, oil fields and mines, vehicles consuming and distributing resources via the highway network as a response to production cycles and long-term economic changes.



Pictures 11. Flood pulse and highway pulse
The essential interaction of the flow with its environment
Drawing by author

b. Highway avulsion - A potential way to make room for the river



Picture 12. River and highway avulsion
Looking for ways to gradually make room for the river
Drawings by author

Conclusions

In this chapter we saw how natural processes can work as conceptual tools to design urban landscapes.

This conceptual openness is an important element when one looks at things from “a landscape point of view”. From this point of view, urban and natural processes are not seen in terms of conflict, but as complementary systems that can potentially support each other both literally and conceptually. Nature is not restricted within specific environments such as parks, yards and other types of controlled green spaces. Today’s renewed interest in landscape architecture *is not merely an interest in vegetation, earthworks and site-planning... but also a deep concern with landscape’s conceptual scope; with its capacity to theorize sites, territories, ecosystems, networks, and infrastructures, and to organized large urban fields.*(63) Concepts like landscape, nature and ecology can help us understand the city as a ″living arena″ of interrelations that change and evolve over time, resulting in a wide dynamic range of activities, patterns of occupation and experiences. Understanding how a natural system exist in a continuously transitional state can provide us with concepts that will help us comprehend and respond to the complex processes of urbanization.

(63) James Corner (1999) Terra Fluxus, p.30

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The oppositions of Kifissos

From static duality to dynamic coexistence

Urban processes

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Urban Processes

Eleni Chronopoulou
Mentors: Inge Bobbink, Esther Gramsbergen

CHAPTER 3. URBAN PROCESSES

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Introduction: Understanding the complex urbanization processes of the Athenian city (of which the highway is part of) and their relation to the natural structures of the territory (of which the river is part of)

1. Research framework: why thinking in terms of processes is essential to understand to complexity of the urbanized Kifissos plain

At hens is the city manifesting the contemporary era: noisy, polluted, extended and fragmented. Opposed to the cities of culture and rationality, Athens is the city of the myth and chaos. Opposed to the cities of order and rules, substantiates the inordinate and the lack of rules.(1)

It is exactly this opposition between the formal and the informal city, the established plans and the spontaneous processes of origination and transformation that resulted in the chaotic Athenian image.

(1) R. K. Scoffier (2007) La ville en eclats, Futura, Athens

Picture 1. Dimitris Philippidis, Typical View of Athens , 2000

Source: Dimitris Philippides, Modern Architecture in Greece , Melissa, Athens 2001. Courtesy of Dimitris Philippidis Archive

In the case of Athens, the highly complex urban tissue does is not the result a specific plan, but is continuously formed and transformed, both through legal and illegal means, responding, through the years, to different situations of urgency, moments of interruption and radical changes. In the development of the city's chaotic image formal ways of planning and designing have played a very small role. (2) The formal city has always followed the origination of urban form instead of preceding it.

Within this framework, formal operations have proven to be *outmoded, overwhelmed or incongruent in comparison to the rapidly metabolizing processes of urbanization,* indicating that the "city as a thing" must be replaced from a more dynamic conception of our urban environments, as dynamic systems. As J. Corner stresses, *the urban project ought to be less about spatial determinism and more about reshaping those urbanization processes that are fundamental to the construction of the things that contain them.... (3)* Within this framework, *familiar urban typologies of square, park, district etc, are less significant than are the infrastructures, networks, flows, ambiguous spaces, and other polymorphous conditions that constitute the contemporary metropolis.(4)*

In our case, the study of those processes is essential for understanding how the opposition between the natural and the constructed elements of the landscape is formed, transformed and practiced through the years, According to R. Bunschoten, if we define the natural landscape as "the skin of the earth", *cities are like second skins. The contemporary metropolis is hugging the ground, drawn to it, but also alienated from it…The second skin, the metropolis, in some ways mimics the first skin with its slowly shifting features.(5)*

(On the other hand, through simultaneous) movements, increasing speeds and quantities of information, the second skin appears to collapse what we thought of space, re-defining its scale, reducing specific differences and eliminating what lies beneath…The increasing complexity of the second skin and the dynamics between the first and the second skin requires a new reading of the way cities are to be handled.(61) Seeing through what events and corresponding interventions did this situation of little, or no interaction between the city, the river and the highway was formed, and the stages it went through, through the years, can help to generate a model for a reverse process that would bring back the river into the life of the city, using the highway system as an apparatus to achieve this goal.

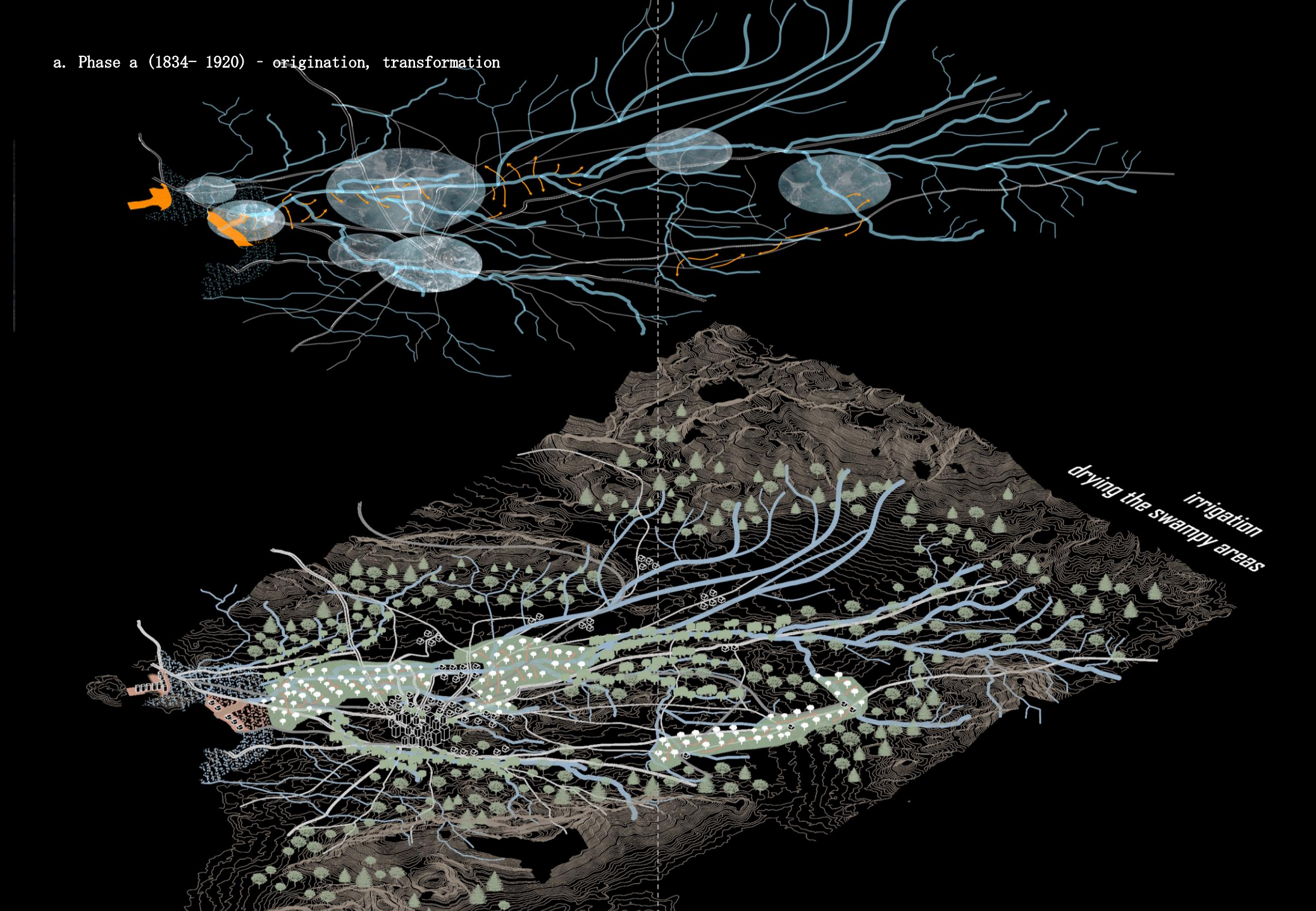
(2) In less than two centuries Athens grew from a small town of 6.000 inhabitants to a dense metropolitan area of 4 million which covered the Attica Basin. *This acute enlargement resulted from consecutive waves of human displacement, in respective periods of the city's recent history…, (during which) Athens had to be significantly densified and expanded in order to accommodate such fundamental transformations. (source1)*
Ntonou Efstratiadi, Anna; Nielsen, Tom; Dragonas, Panos. "The impact of economic and demographic changes in the city of Athens during the inter-war period (1922-1940)". In Carola Hein (ed.) *International Planning History Society Proceedings*, 17th IPHS Conference, History-Urbanism-Resilience, TUDelft 17-21 July 2016, V.04 p.047, TUDelft Open, 2016

(3) James Corner (1999) The Agency of Mapping. Speculation, critique and Invention, p. 226-228

(4) Alex Wall, Programming the urban surface

(5) Raoul Bunschnoten/CHORA, Metaspaces

a. Phase a (1834- 1920) - origination, transformation

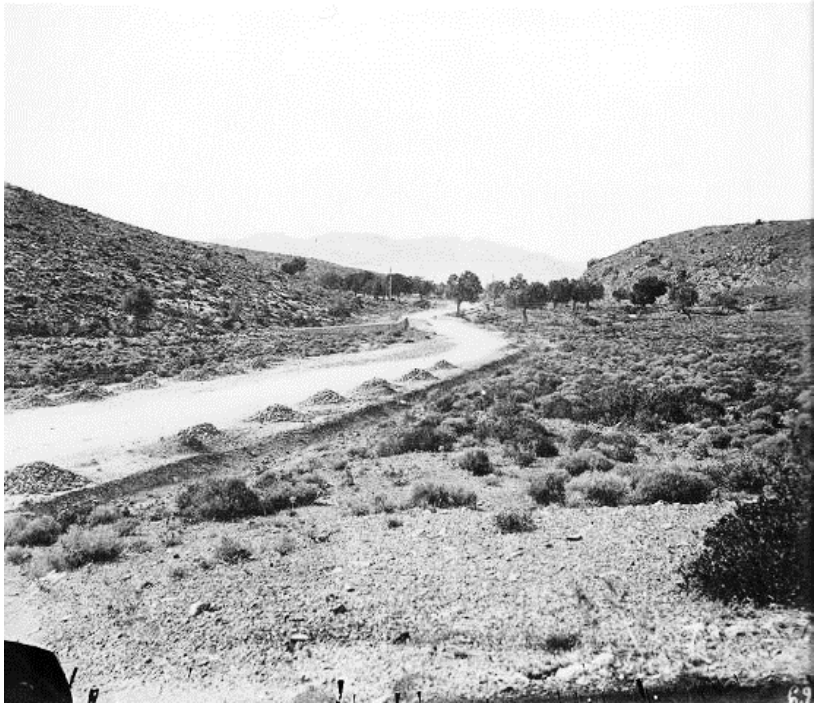


2. The evolution of urbanization processes on the river plain of Kifissos

a. Phase a (1834- 1920) - origination, transformation

Athens was defined as the capital of Greece on 1834, a few months after the country gained it independence from the Ottoman rule. At that time its scale and atmosphere resembled more that of a village, while its economy was mainly based on agricultural activities.(62) By the turn of the century however, this image has radically changed. Major infrastructural works were conducted, including the design of road networks and the Peireaus port.(63) These works function as a spine on which the first industrial activities, consisting of small-scale local factories originated. The road connecting port with the centre of the city was transformed into a linear industrial zone.

This zone intersected with the floodplain of the river Kifissos, which at that time was covered by dense olive grooves some parts of which were exploited, while others retained natural with a rich variety of flora and fauna. To establish a better connection between the core of the city and the port of Peireaus the swampy areas close to the river's mouth were dried.



Picture 3. The olive grooves from a distance - Approaching Kifissos through one of its perpendicular roads (Iera avenue)

Source: : http://palmosaegaleocity.blogspot.nl/2016/04/blog-post_87.html?spref=fb

(62) " For most of the 19th century, Athens was a small settlement with practically no industry, living by its administrative function as the capital of liberated Greece."

(63) (Burgel. 1981) Leontidou, 1987 (source 6)

In the rest of the river's length, only minimal interventions of irrigation and drainage took place. These included drillings at the lowest order streams and the construction of small damns and aqueducts. (6) During the months of drought, the water was collected there and transferred to the city through the transportation network. This informal measure worked as a substitute for large infrastructural works that would have radically altered the nature of the river. Furthermore, pictures of this era also suggest that such infrastructural facilities were enhanced with a recreational character, acting as points of reference and gathering places close to the water.

The importance of the river, as a strong natural structure of the existing territory, is also evident in the social composition of the city. As Kifissos runs through the west part of the Athenian plain, he creates an area highly influenced by its dynamics, composed of unstable fluvial soils and exposed to frequent flooding events. These areas were left out from the formal plan for Athens which aimed to turn the city into a neoclassical capital with spacious public spaces, connected with the monuments of the city with straight and undisrupted views.(7)

Picture 4. Water infrastructures as places for recreation
One of the fountains at the north suburb of Kifissia

Source: : Zisis Kotsionis, "Where is Athens?Visions on the topography of Attica

(6) George Kallis, Harris Coccossis - Managing water for Athens: From the hydraulic to the rational growth paradigm. file:///D:/tudelft/graduation%20studio/athens%20water%20treatment.pdf

(7) The first proposal for the plan of Athens was made by Kleanthis and Schaubert in 1833. It was revised by Klenze in 1834 and applied with a lot of alterations.

However, due to the opposition of landowners to the transformation of their land into public space, this plan was only partially implemented. *While the royal court and the bourgeoisie were debating the plan for Athens, the city was growing through a multitude of complex, small scale decisions. As population was migrating to the new capital, illegal settlement, the process par excellence of urban growth, appeared in the form of clusters by place of origin around the planned area and sometimes within its boundary…(8)* These processes, practiced by social groups in urgent need for shelter, found in the wider area around the river a site open for reclamation, The tension between the aforementioned planned and unplanned "locational decisions", resulted in the division of the city along a northeast-southwest axis, into an eastern and western part: *the eastern contained the royal palace and the residences of rich families, while the western developed into a working-class area.(9)*

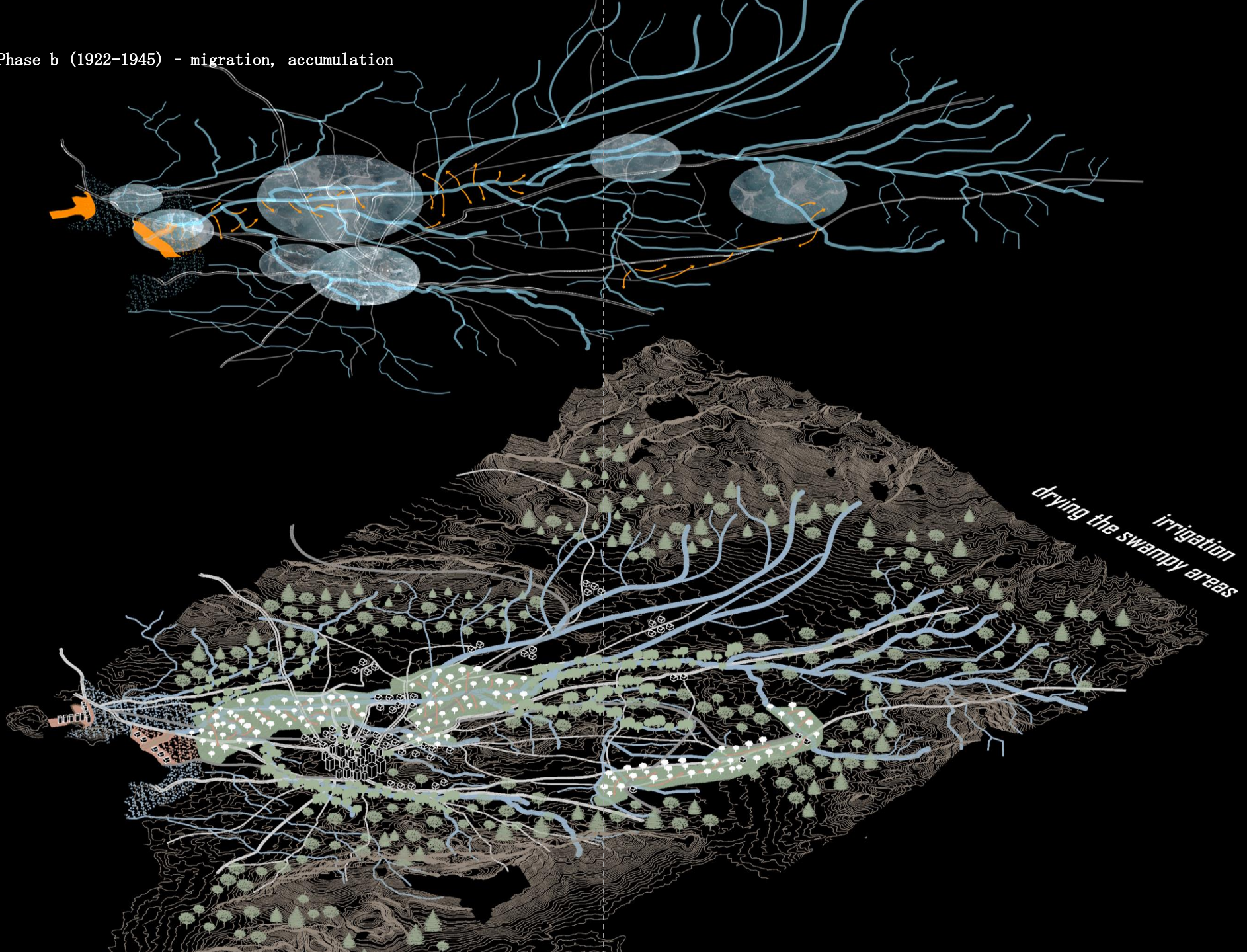
(8) Ntonou Efstratiadi, Anna; Nielsen, Tom; Dragonas, Panos. "The impact of economic and demographic changes in the city of Athens during the inter-war period (1922-1940)". In Carola Hein (ed.) *International Planning History Society Proceedings*, 17th IPHS Conference, History-Urbanism- Resilience, TUDelft 17-21 July 2016, V.04 p.047, TUDelft Open, 2016

(9) Dina Vaiou, "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24 (2002): 219-220.

Conclusions

During the first period of Athens development the river functioned in two, contradictory, ways. From the one hand it was treated as a source of water and recreation. On the other hand, it formed a boundary for social segregation, distinguishing between "higher" and "lower" classes, and correspondingly between planned/formal and unplanned/uncontrolled processes of urban growth. As the city is accumulating, new and different urban environments originate, influenced by the natural structures of the landscape.

b. Phase b (1922-1945) - migration, accumulation



b. Phase b (1922-1945) - migration, accumulation

The normal growth of the city was interrupted in 1922, by the influx of a great number of refugees, following the destruction of Asia Minor.(10) *The problem of settling the refugees was enormous, at a time when the country was impoverished by war and faced with political instability* and resulted in the inevitable accumulation of the city towards its periphery.(11)

The social divisions, already developed following the structure of the natural landscape, were further intensified and expressed through two different types of urban growth, resulting in completely different urban environments. *On the one hand, the expansion process of the bourgeoisie followed the morphological model of "garden city". On the other hand, the rehabilitation of the refugees was realized under the pressure of the urgency of the situation and organized in an empirical and arbitrary manner.(12)*

(10) On September 9, 1922 the Turkish army entered Izmir, a city on the Aegean coast of Turkey with a flourishing Greek community, set fire to the whole city and fired against the British and American ships engaged in rescue work. All those who could get aboard any kind of vessel and cross the Aegean did so and sought refuge in Greece.

Dina Vaiou, "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24 (2002): 219-220

Picture 6. Informal, emergency refugee homes

Source: : Zisis Kotsionis, "Where is Athens?Visions on the topography of Attica

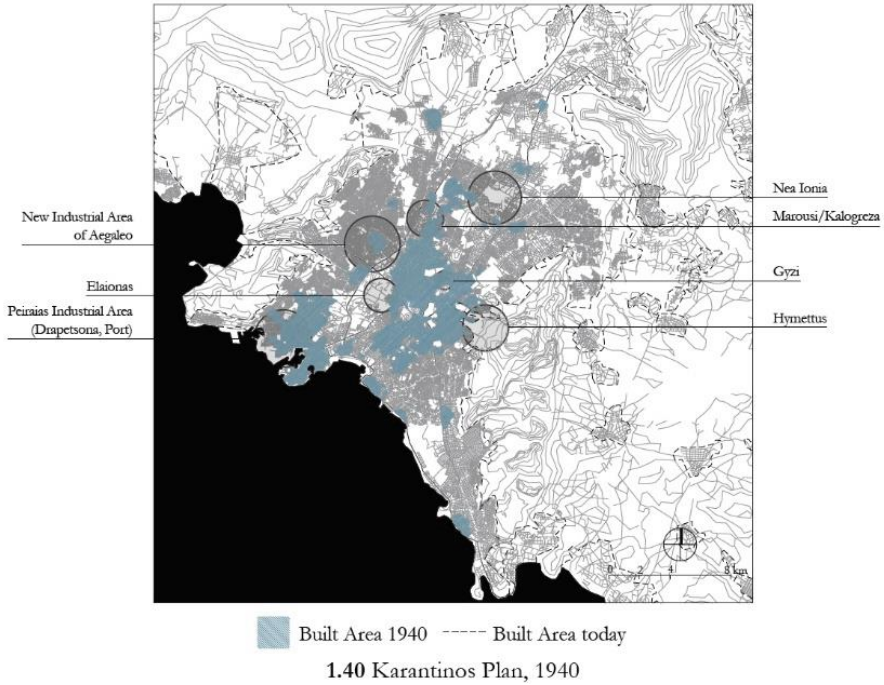
(11) In 1907 the urban complex of Athens numbered 250.000 inhabitants. In 1920, their number had surpassed the 450.000, while the census of 1928 showed 802.000 inhabitants. In 1940, moreover, the complex of the city exceeded the 1.2 million inhabitants. These impressive population increase, especially considering the rate and the short period of time at which it occurred, made it unbearable for the country's economy but also for the local communities to deal….

Ntonou Efstratiadi, Nielsen, Dragonas (2016)

(12)Ntonou Efstratiadi, Nielsen, Dragonas (2016)

The tension between the formal and the informal goes even deeper, when it comes to how the housing problem was addressed by the state. The formal plan located the refugee settlements in *satellite communities at least 4km distance from the center, segregating them from the city life.* However, this planned strategy failed, since already by 1925, shanty towns originated around the fringes of Athens and Peiraias, offering shelter to a great number of people.(13) Unable to control or even follow these processes, the refugee-rehabilitation policy had to be adjusted, *Illegal housing, and building in general, eventually was generalized and dominated as the most practical and effective tool for controlling the large-scale urbanization… (14)* This practice of semi-squatting resulted in the transformation of agricultural land into an assemblance of buildings without specific typology, street plan and hygiene conditions, *strengthening the regime of the unregulated and uncontrollable development.(15)*

(13) Eleni-Anna Kotsikou (2017) De-fragmenting Athens (available online) One of the noteworthy examples of the state's involvement *was the adoption of the law of horizontal property in 1929,* which encouraged illegal building on legally owned land. The extensive application of this legislative frame, without awareness of the implications, became one of the most decisive models for the future urban development of the city.



1.40 Karantinos Plan, 1940

Picture 7. The distribution and segregation of formal and informal settlements, with Kifissos being a line in the middle.

Source: : Platon Issaias, *Beyond the Informal City: Athens and the Possibility of an Urban Common*

(14) Panos Dragonas, *The birth of Polykatoikia, in:* http://www.mascontext.com/issues/21-repetition-spring-14/an-obituary-for-the-greek-city-of-repetition/

(15) Ntonou Efstratiadi, Nielsen, Dragonas (2016)

This unplanned expansion of the city towards the periphery was subsequently addressed through the design and construction of the necessary infrastructural works. The plans focused on addressing individual functional issues, with convenience being the main driving force, and did not work as coherent systems. Within this framework, instead of structuring urban growth, the expansion of the road network further encouraged the city's diffusion, pushing the degree of urban sprawl out of control. (16) On the contrary, the river, an existing, prevailing structure in the landscape, acts as a guiding line for spontaneous growth and informal accumulation processes. Along the river, arbitrary constructions originate and multiply, using it either as a source of water and as a dumpsite.

Furthermore, a larger extent of the olive groves was exploited, further intensifying processes of irrigation, to cover for the increased demand for water. To protect both settlements and agricultural land from flood, the lower and more exposed parts of the river system were technically elaborated. A manmade avulsion was generated at the river's southern part, while many of the natural edges were stabilized by hard engineering materials.

(16) Dina Vaiou, "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24 (2002): 219-220

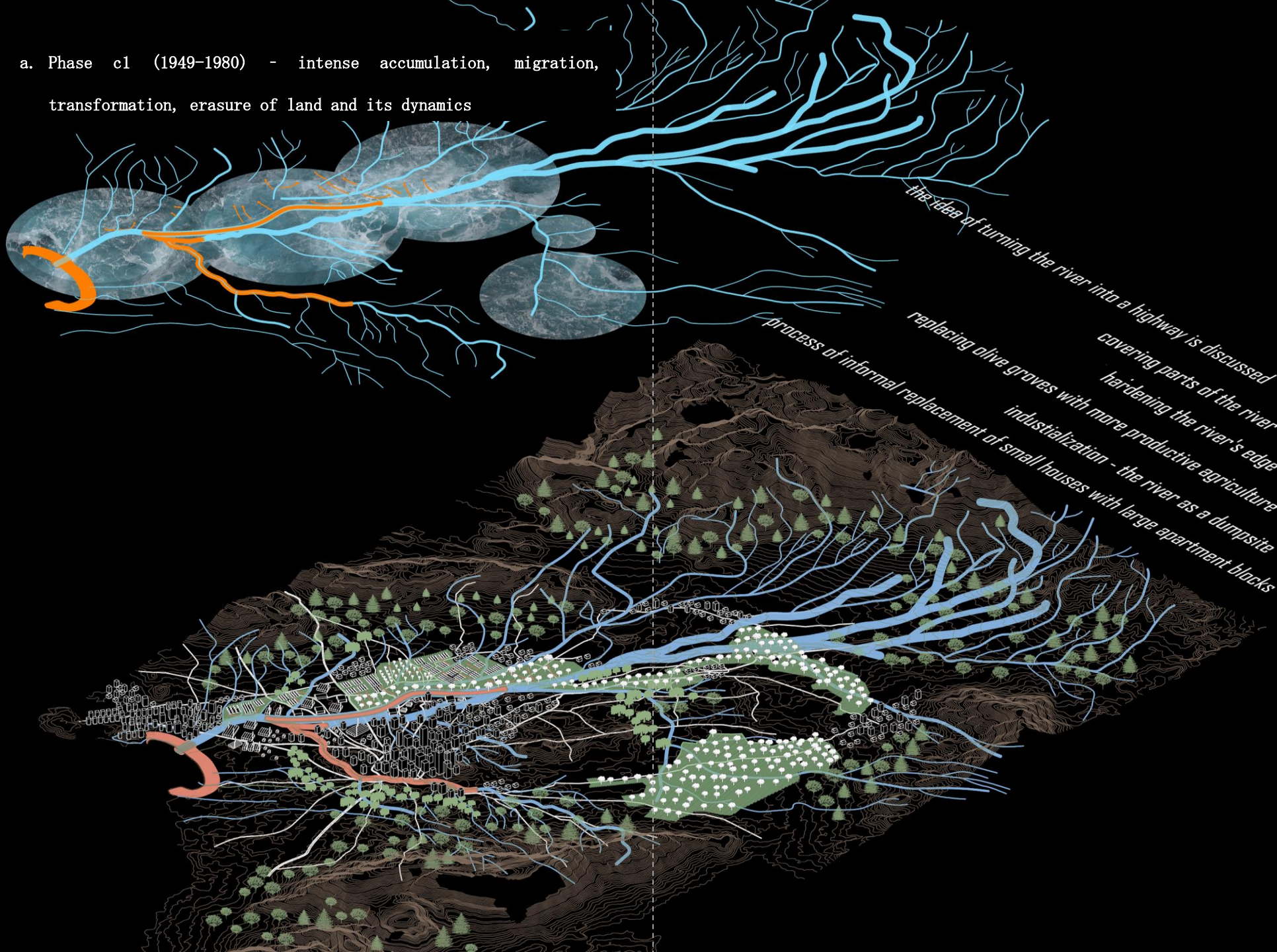
Picture 8. Informal, emergency refugee homes at the banks of a tributary - Nature as a source

Source: : http://www.lifo.gr/issues/view/498

Conclusions

While formal planning tools completely fail to address the complexities and urgencies of the situation, informal processes of accumulation find in the river both a structure for their organization and a source for their growth. However, the urgency of the situation changes the approach towards nature, which now is oriented towards its exploitation.

a. Phase c1 (1949-1980) - intense accumulation, migration, transformation, erasure of land and its dynamics

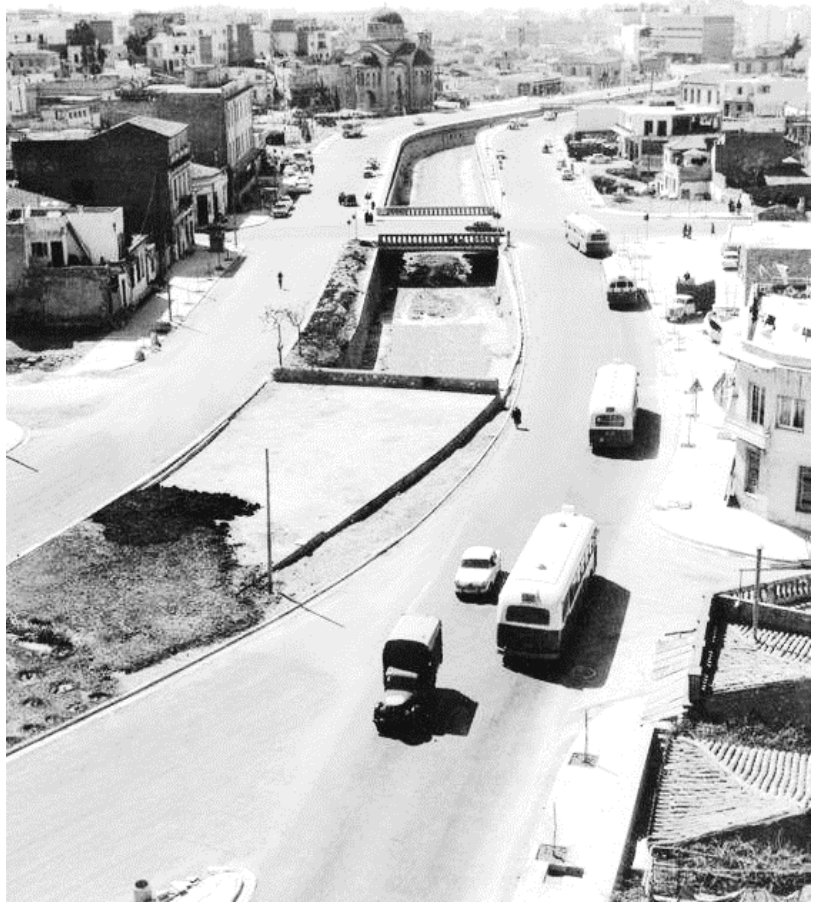


c. Phase c (1949-1980) - intense accumulation, migration, transformation, erasure of land and its dynamics

After the termination of the second world war and the subsequent civil war (1945-1949) a radical shift in the country's population took place, with new waves of people migrating to the capital. To address the increase demand in housing, a masterplan, which involved prominent figures of the post-war era, including K. Doxiadis was drown. However, while the plans were discussed and elaborated, *urban development in Athens was shaped by different forces, decisions and actions by individuals, groups and institutions.* Once again the relevance of formal planning tools was questioned by the urgency of the situation. (17) The extensive application of semi-squatting land, *a process already consolidated already in the 1920s,* increased land exploitation and consolidated the idea that every part of the city, and of the entire country for that matter, is a buildable plot. *Houses that were built defying environmental and planning regulations stood as a basis for extension and, eventually, intense development.(18)*

(17) In the years that followed the World War II, Athens was once again left behind, in terms of development, as compared to other western European countries. The funds that were provided to recover from the casualties of the war (the Marshal plan), instead of contributing to the reconstruction of the country's productive structures, were used for the subsequent civil world that socially and politically divided the country. *When the civil war ended, on 1949, reconstruction had to start practically without capital.*
Dina Vaiou, "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24 (2002): 219-220

(18) Dina Vaiou, "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24 (2002): 219-220



Picture 10. Ilissos canalized and combined with a highway, The idea of using the river space for road infrastructure

Source: : Αγριαντώνη, Χ. (2010) ¨Οι Απαρχές της Εκβιομηχάνισης στην Ελλάδα τον 19ο αιώνα

Picture 11. The canalization of Ilissos and informal housing on the river banks. Urbanization covers nature. Nature needs to be controlled to facilitate urban growth

Source: : Ευθυμιος- Σπθρίδων Γεωργίου - Η πολεοδομική ιστορία της Αθήνας στον 19ο και 20ο αιώνα

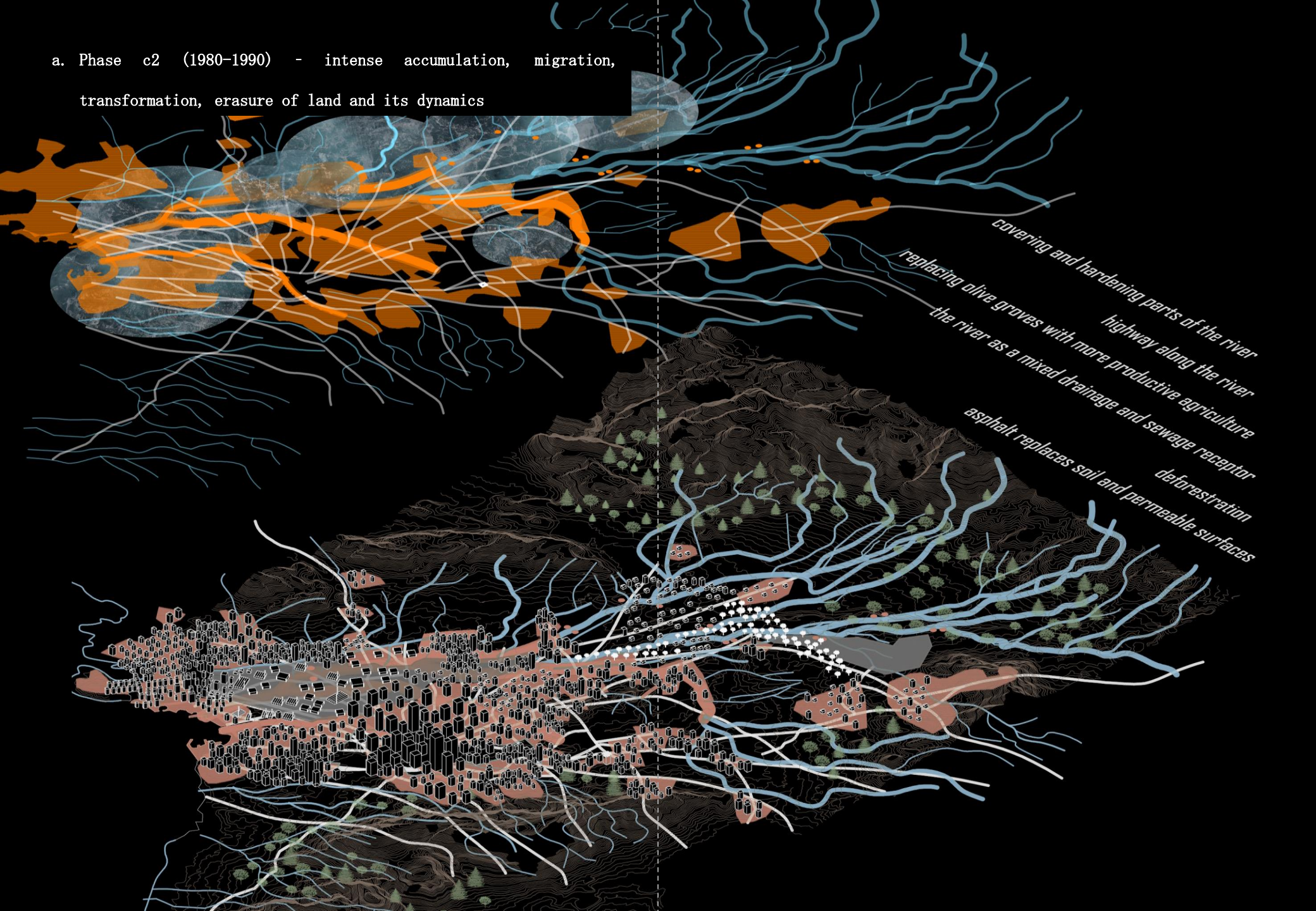
However, the vast expansion of the city, in combination with the car-based lifestyle and the consequent traffic, stressed the importance of changing the infrastructural network of the city, through a large scale, planned intervention. *In 1962 the first part of the national highway from Athens to Lamia was inaugurated. This highway was named Kifissos avenue, as it was running parallel to the existing main water body of the river.* The choice of this location took advantage of the long, almost undisrupted from urban development linear element of the river, as this area was avoided from processes of urbanization, it offered a cheap and convenient solution. (19) The highway developed into an element of central importance for the street network of the country, as it connected the city not only to the rest of the country, but also to the European street network. As a result, it developed into an attractor of industrial activity in diverse points along its axis. (20) These events gave rise to further accumulation processes, gradually transforming the inhospitable land of the alluvial plain into a productive urban landscape. Especially close to Peireos street, the existing line of industrial development, a number of both legal and illegal industries and warehouses started developing, replacing the olive grooves, treating the river as a dumpsite and contributing to the irreversible phenomenon of pollution.

Under these circumstances, the river -already in a condition of drought enhanced by the previous decade's intense irrigation- could no longer function as a source of water for the residents. A central part of the river, which was transformed into the main recipient of waste from both households and industries, was covered to ameliorate the living conditions of the settlements close to the river.

(19)file:///D:/tudelft/graduation%20studio/map%20research/flooding%20events%20and%20plans/Kifissos_flood%20event%20IMPORTANT.pdf

(20) Eleni-Anna Kotsikou (2017) De-fragmenting Athens (available online)

a. Phase c2 (1980-1990) - intense accumulation, migration, transformation, erasure of land and its dynamics



Conclusions

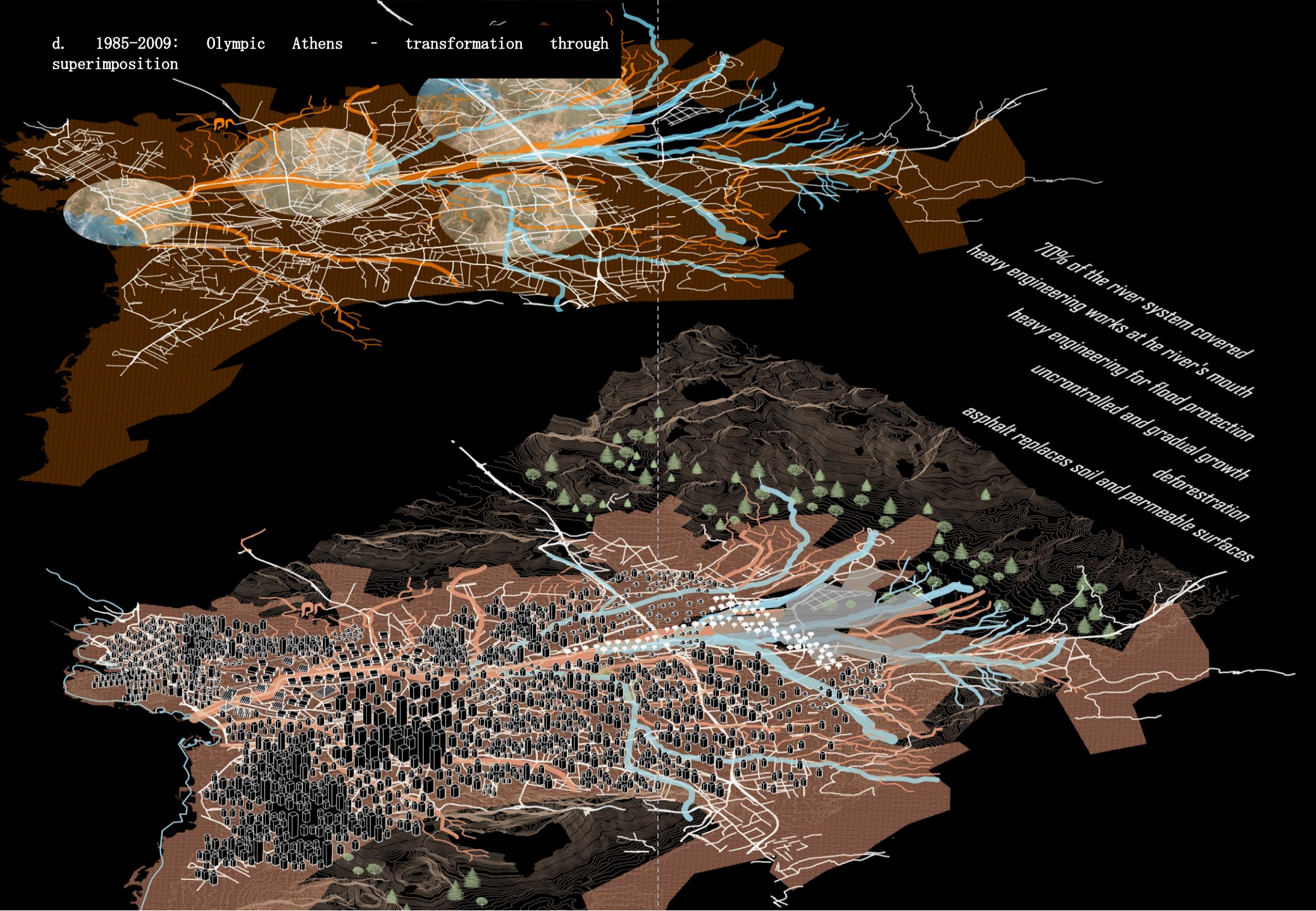
In the decades that followed the Second World War, small scale and convenient processes are being systematized by the government as an easy way to facilitate urban and financial development. As convenience becomes the order of the day, many of the natural streams of the river system are taken as part of the sewage and drainage network or turned into roads. The landscape’s natural structures become part of the city’s hard infrastructure without careful planning and consideration of the consequences. The river is no longer seen as a source and a space that can be occupied and used. The landscapes connected to it are treated more as convenient dumpsites or residual spaces, leftovers from the city’s growth.

Picture 13. Kifissos is essentially imited

Image before 2004, when the highway used to “flow” on the two sides of the river

Source:printscreen from Google earth

d. 1985-2009: Olympic Athens - transformation through superimposition



d. 1985-2009: Olympic Athens - transformation through superimposition

migration, transformation, erasure of land and its dynamics

This intense post-war construction activity, resulted in the erasure of any kind of open space, as every single piece of land that was possible to build on was built on. New urban blocks originated and accumulated on the sloppy surfaces while street infrastructure has covered the natural water network of Attica. (21) This intense development of the wider Athenian complex, led to the degradation of many of Kifissos tributary streams. Although the main stream of the river preserved its flow to the sea, it suffered a significant decrease in its width as a result of the arbitrary disposition of rubbles and solid waste.(22) Especially the southern part of the river is continually going through a large number of overlapped flood-prevention construction works as well as technically imposed avulsions, that disrupt its natural equilibrium processes. In many parts, the degree of pollution has made the covering of the river inevitable. The covering of the soft and diverse banks of the streams by homogenous hard surfaces creates the conditions for their transformation into elements of the traffic network.(23)

The river system was gradually replaced, covered and erased by the traffic system, with its natural processes essentially disrupted. Extensive use of asphalt reduces the soils capacity to absorb water, resulting in intense and increasing flood events during the rainy seasons. However, the erasure of the river's structure, made people less aware of its presence, and the danger of being exposed to its dynamics. As a result, accumulation was intensified on what used to be Kifissos wider space of influence. Looking at Athens from a bird eye view, one sees a homogenous constructed landscape in which the river floodplain is no longer distinguishable.

(21) Panos Dragonas, *The birth of Polykatoikia,* in: http://www.mascontext.com/issues/21-repetition-spring-14/an-obituary-for-the-greek-city-of-repetition/

*(22)*file:///D:/tudelft/graduation%20studio/map%20research/flooding%20events%20and%20plans/Kifissos_flood%20event%20IMPORTANT.pdf

(23) (*http://7gym-zograf.att.sch.gr/activities/2004-05/TELIKO/kifisos2.htm* , *2009*

Picture 15. Looking at Athens from a bird eye view, one sees a homogenous constructed landscape in which the river floodplain is no longer distinguishable.

Source: : http://www.localit.gr/wp-content/uploads/2011/12/12292231-athina1.jpg

The consolidation of uncontrolled growth and its consequences, was only put to the table in 1997, when Athens entered a preparation period for the upcoming Olympic games in 2004. *Olympic Athens was made up of major infrastructural projects, such as the new Athens International Airport, the Athens Metro, and the new Athens Ring Road.* Those large scale developments, instead of controlling urbanization and expansion, further intensified processes of accumulation, as *the new infrastructure allowed for the diffusion of the city into the rural periphery.(24)* As part of the construction on the Olympic traffic network, the last 10km of the river were covered, with the exception of the last part, where the highway is elevated, and the water strictly contained within an open concrete section. At the same time, hard engineering works take place at the river's mouth in order to address the increased and deadly flood events of the previous decades. Besides this measure, the issue of abusing the natural landscape of the river and its consequences was left out from the whole problematique of the Olympic masterplan. Nature is seen as a threat and an obstacle to development. Within this framework, it is addressed by measures of over-control, resulting in heavy engineering works that further intensify the opposition between natural and urban processes.

Picture 16. The planned interventions for the Olympic games
Their distribution within the Athenian basin resulted in the city's diffusion
Source:www.archisearch.gr/student-works/faliro-bay-thesis-by-kelissa-cartier/

(24)The Olympic program was not structured around a main "game site", unlike most of the other Olympic cities, but evolved around the development of three main activity nodes along the axis of the Olympic road… It has been argued that the dispersed sitting of these facilities and of the accompanying large-scale development of activity centers in the Athens metropolitan region is expected to negatively influence the locational patterning of Athens by further promoting its current sprawling pattern. (Polychronopoulos) The tension on the territory along the new infrastructural axis is proved by the transformation of the areas around it from 1987 until 2007 and also by comparing the fires put in the territory during the same period.

Panos Dragonas, *The birth of Polykatoikia, in:* http://www.mascontext.com/issues/21-repetition-spring-14/an-obituary-for-the-greek-city-of-repetition/

The large-scale interventions that are superimposed on the ever-expanding layer of polykatoikias form the initial step towards an infrastructural city, one based on urban networks and neither on architecture.(25) nor on the existing landscape structures and the processes they involve. *The implantation of infrastructure in the city and the landscape results in a random, awkward or even conflicting coexistence. New "transitional" landscapes are formed; they are either inaccessible leftovers between networks or pieces of landscape that are produced by building over road and rail tunnels.(26)*

Conclusion

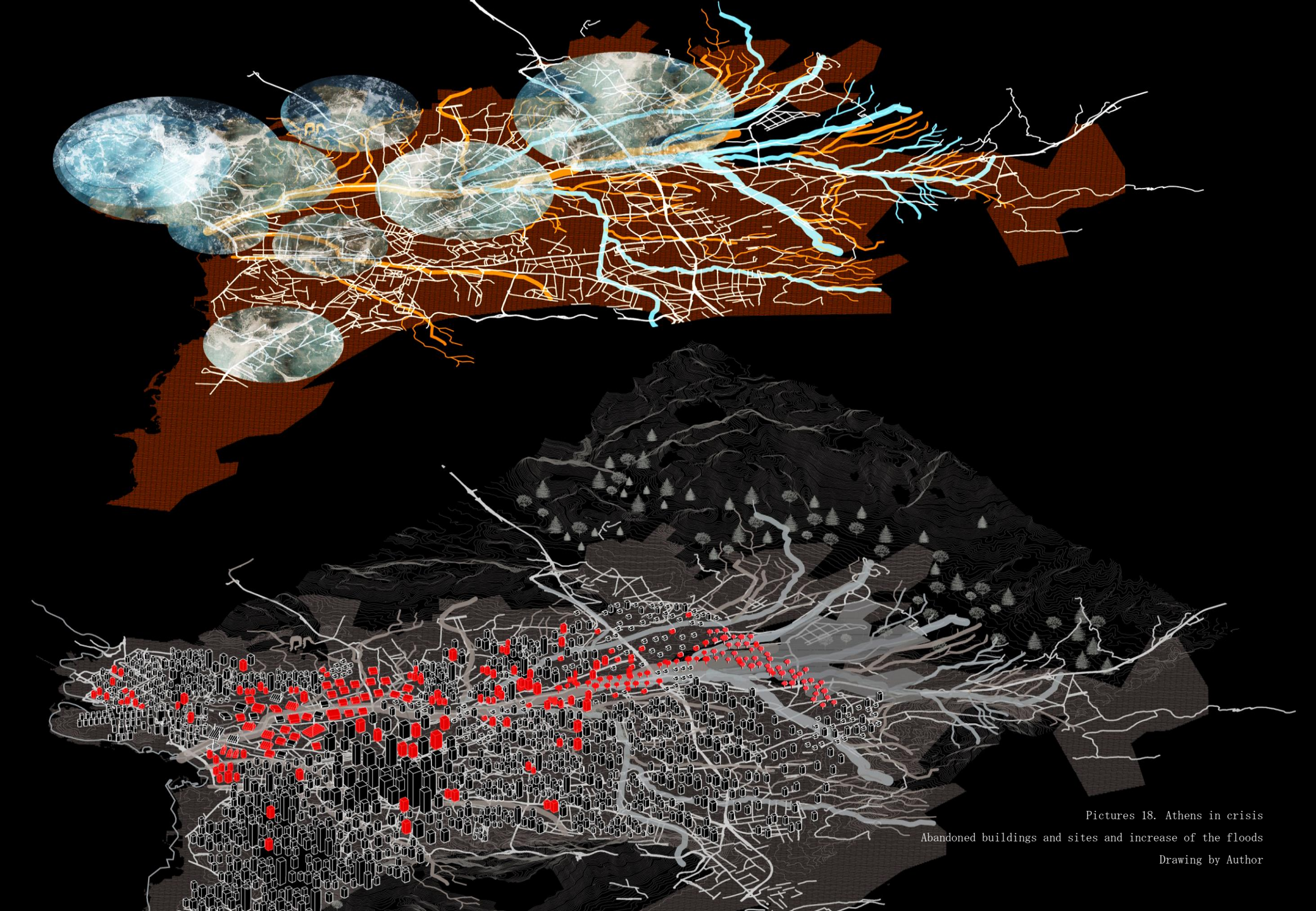
As the elements of the formal and the informal city come into conflict, creating residual, intermediate spatial categories, the nature of the river, strictly controlled and retained in concrete casings/ envelopes and left out, intentionally separated from the processes that form the city.

(25) On Conflict, Platon Issaias (January 2016) Generic and the Informal: the Greek Case, in: http://thecityasaproject.org/2015/12/war-within-four-walls-familiar-horror-and-domestic-architecture-in-athens/) (*part of Platon's PhD dissertation titled* Beyond the Informal City: Athens and the possibility of an Urban Common (TU Delft, 2014).

(26)Platon Issaias (2016)

Picture 17. The paradox between the over-controlled river and uncontrolled urban growth

Source: printscreen from google earth



Pictures 18. Athens in crisis

Abandoned buildings and sites and increase of the floods

Drawing by Author

e. Phase e) 2009-today: Athens in crisis - development of erasure processes

Today the city is going through a different shift, from the industrial to the post-industrial and informational era, addressing at the same time the consequences of a severe financial crisis. The conditions of development of the city of repetition have expired; the mechanisms of production have been cancelled, and its social structure is under threat.

Winter 2008 was a moment of violent awakening for Athens… The consequences of the financial crisis and the prolonged economic austerity measures are reflected in the urban space of Athens… The limited demand for new housing has left thousands of newly constructed apartments empty…The porosity of the building blocks has been cancelled, as another way of living takes place just a few meters away at the thresholds of the polykatoikias, where the homeless people spend their nights quietly.(27)

(27) Panos Dragonas, *The birth of Polykatoikia, in:* http://www.mascontext.com/issues/21-repetition-spring-14/an-obituary-for-the-greek-city-of-repetition/

Picture 19. Process of erasure - Abandoned construction site in Athens

Manolis Baboussis, *Construction Site*.

Source: Athens: 1985 -1996, M. Baboussis personal archive.

While the social consequences of the crisis escalate, leaving their traces in the city's public space, the consequences of over-controlling nature are becoming more and more evident. Only recently, extremely serious and deadly flood events in western suburbs of Athens, at the margins of what used to be the river's space od influence, suggest that partially addressing the problem in one part of the river system -by strictly stabilizing the streams in fixed concrete containers, only enhances the danger it initially tried to address. The covered and erased natural dynamics of the river look for ways to transgress the imposed systems of over-control.

At the same time the imposition of large scale plans, for the Olympic Athens, has disrupted the patterns of informal urban growth that have developed through the years. (28) The structural lines of these plans, instead of limiting uncontrolled expansion, act like spines for the city's diffusion. The city extends horizontally, while simultaneously buildings and plots at the more central areas are abandoned.

When it comes to the tension between the natural and the engineered, as well as between the formal and the informal, structures of control have proven to be inadequate. Informal practices, instead of their problems, have proven to be more valuable in dealing with urgent problems and creating conditions for adaption and social interaction.

Picture 20. The failure of formal plans - Abandonment of Olympic facilities

Conclusions

As a result, the identity of Kifissos is related to a paradox of control, where a heavily engineered river cuts though a wild forest of expanding polykatoikias.

(28) Dina Vaiou, "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24 (2002): 219-220

3. Identification of the extracts

a. The potential of a hybrid situation: between formal and informal growth.

The transgression of formal ways of planning through bottom-up processes of accumulation, repeated through the history of the city, indicates the difficulty of the Greek mentality to follow pre-determined rules. However crude these processes may seem, they illustrate an ability for adaptation, for overcoming radical and unexpected shifts in the orderly development of a city, through the development of a flexible and self-operating system of urbanization. As D. Vaiou confirms, the strong involvement of individuals and weak state intervention have resulted in "notorious" urban problems. However, this imbalance has *also left "gaps" where mechanisms of social integration could and have developed, mainly through informal arrangements at various forms and levels of significance.(29)* The lack of control has resulted in an interesting patchwork of diverse urban fragments and singular entities. This complex mix in land use, social groups, cultures, ages, types of housing, modes of everyday life has led to strange combination of spatial, social, morphological, programmatic and urban "categories" which we often see as opposites.

(29) Dina Vaiou, "Milestones in the urban history of Athens," *Treballs de la Societat Catalana de Geografia* 53-24 (2002): 219-220

ai. The “polykatoikia” typology as a hybrid of formal and informal

The flexibility of the “polykatoikia” typology - the potential of architectural apparatuses

As we have already mentioned, the coexistence of incompatible things creates the image of a chaotic, highly complex environment, However, this seemingly chaotic nature, is the result of the repetition of a very simple and highly flexible architectural model which can accommodate and enhance this diversity, The architectural element of the *polykatoikia, … Defined as a “necessity” in the aftermath of the 1944-49 Civil War and executed as a seemingly unplanned, informal strategy, became the point where the opposing camps of the conflict met,* defining a common ground between legal and illegal building practices, private and public, different social groups and incompatible programs. (30) *The simplicity and flexibility of its plan allowed for the accommodation of a variety of programs. Most small-scale businesses and services were established among the residential apartments. Street life has been extended through the arcades and the shops, which are usually located on the ground floors, and the rest of the public programs dispersed on the upper floors. At the same time, many domestic activities take place outdoors on the balconies, extending private life over the public street.(31)*

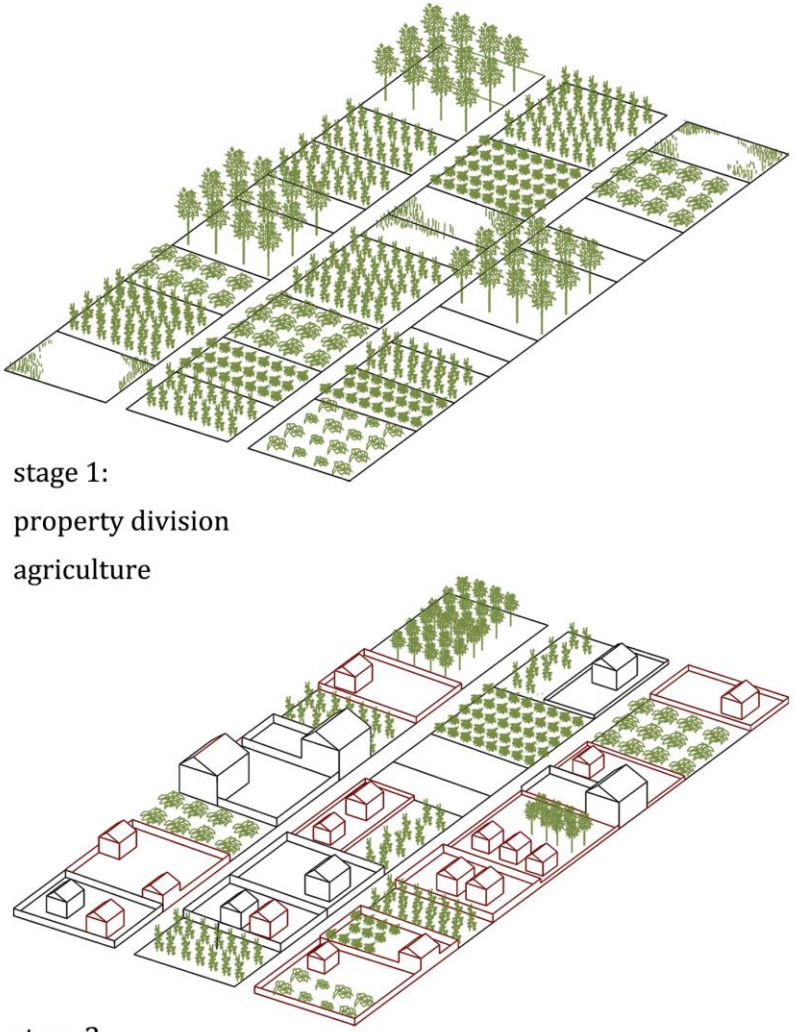
In contrast to the new towns that were built in post-war Europe, the mix of uses that was achieved in the “semipermeable” Athenian urban block has contributed to the creation of intimate, safe, and vibrant neighbourhoods. This “osmosis of private and public spheres” that takes place in a modern urban context has been the strongest output of the informal urban development in Greece. (31) The fact that a flexible architectural building type and its informal repetition managed to create conditions for the osmosis of different worlds, proves that architectural-spatial tools and typologies can be a great tool in dealing with contemporary urban problems, such as the creation of tangible or immaterial boundaries in space that separate opposing identities.

(30) On Conflict, Platon Issaias (January 2016) Generic and the Informal: the Greek Case, in: http://thecityasaproject.org/2015/12/war-within-four-walls-familiar-horror-and-domestic-architecture-in-athens/) (*part of Platon’s PhD dissertation titled* Beyond the Informal City: Athens and the possibility of an Urban Common (TU Delft, 2014).

(31) Panos Dragonas, *The birth of Polykatoikia, in:* http://www.mascontext.com/issues/21-repetition-spring-14/an-obituary-for-the-greek-city-of-repetition/

Could we extract the principles of the polykatoikia architectural typology that would enhance the hybridization of different identities, such as the highway and the river? In the polykatoikia, different groups and uses coexist between the same building by means of their vertical layering/stacking and juxtaposition in space. This principle of spatial layering-sliding one thing above the other, around an organizational structure, could thus be used as a conceptual tool to guide the hybridization process. The simple structure of polykatoikia, often compared to Le Corbusier's domino, results in a *design system with an inherent flexibility where parts can be added, removed, or rearranged accommodating a range of uses at different times.* If the post-industrial and post-infrastructural elements of the landscape are about to be reclaimed, they could incorporate such flexible systems that would allow for a diversity of different occupations in time, *from mass exhibitions and festivals one day to mobile homes and gardens the next.* (32)

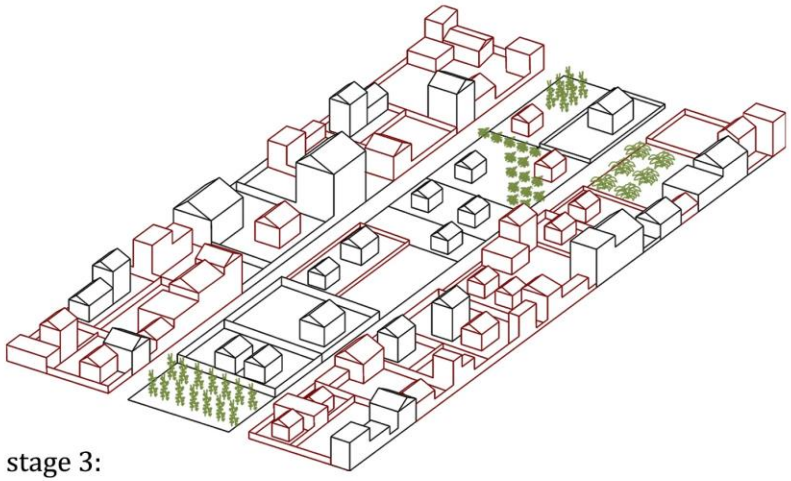
(32) Alex Wall, Programming the urban surface



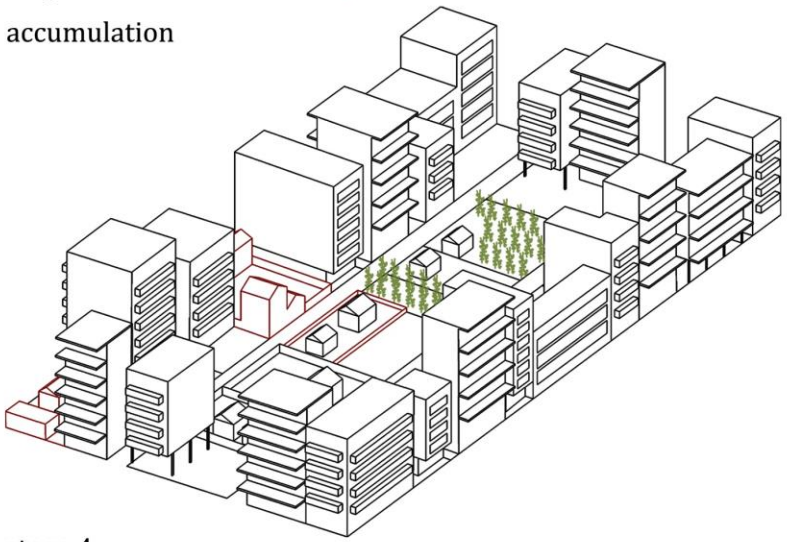
Pictures 21. The first two steps in the evolution of the "polykatoikia" block
Drawing by Author

One more point of interest lies in the interrelationships between different polykatoikias, which become part of a non-hierarchical network. As their relationship is not predetermined by strict rules, but rather occurs in time, as a result of self-organization processes.

Though this approach, an architectural typology is not approached as an object, but as a means of generating interrelationships in space and time. Emphasis is placed not on how the object looks like, or what it means, but on what it does in space and time.



stage 3:
accumulation



stage 4:
“antiparochi” - replacement
the formal “polykatoikia”

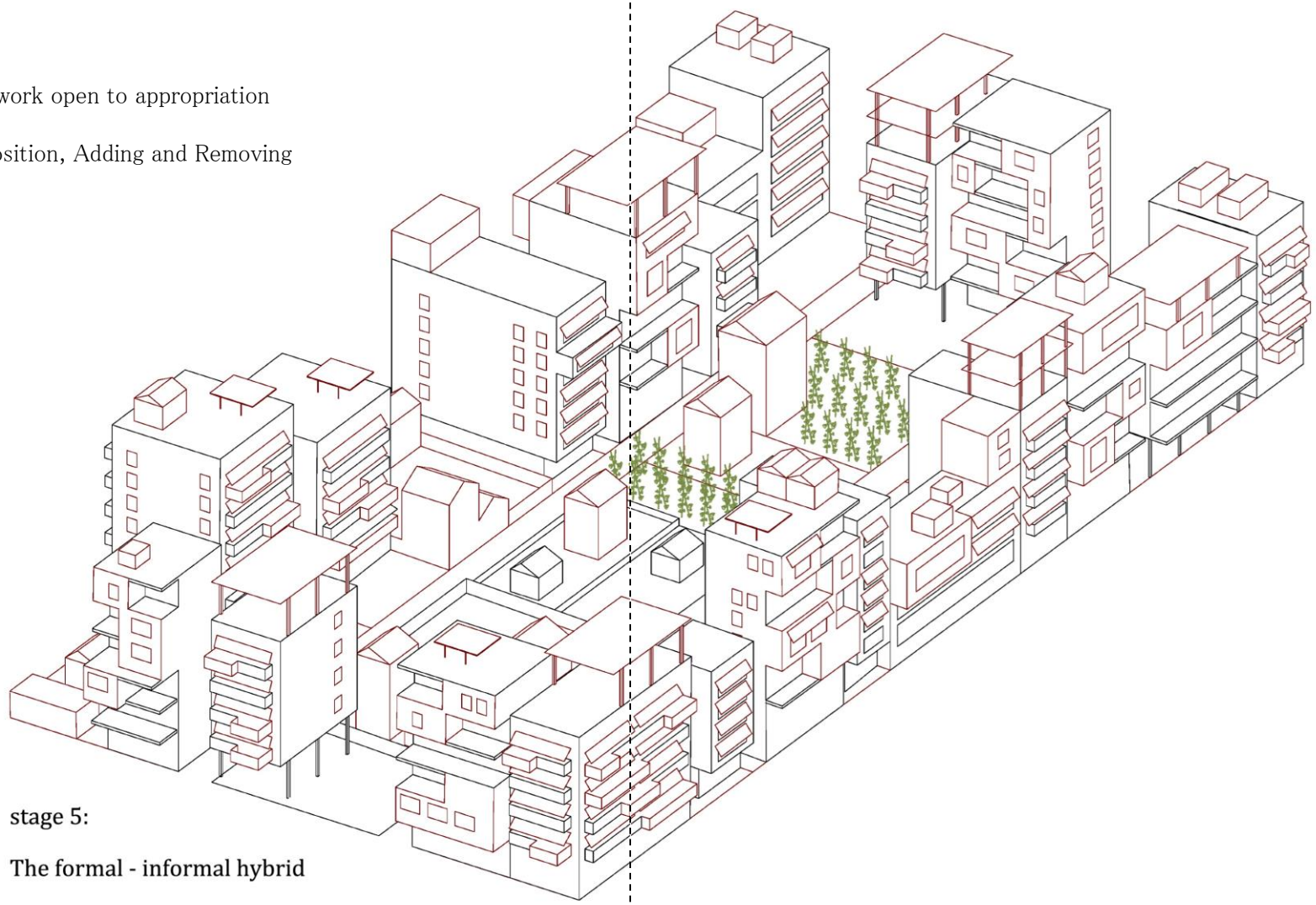
Picture 22. The second two stages in the evolution of the “polykatoikia” block

Drawing by author

Urban extract 1. Phase 5. Appropriation - The flexibility of “polykatoikia”

A flexible framework open to appropriation

Vertical Juxtaposition, Adding and Removing

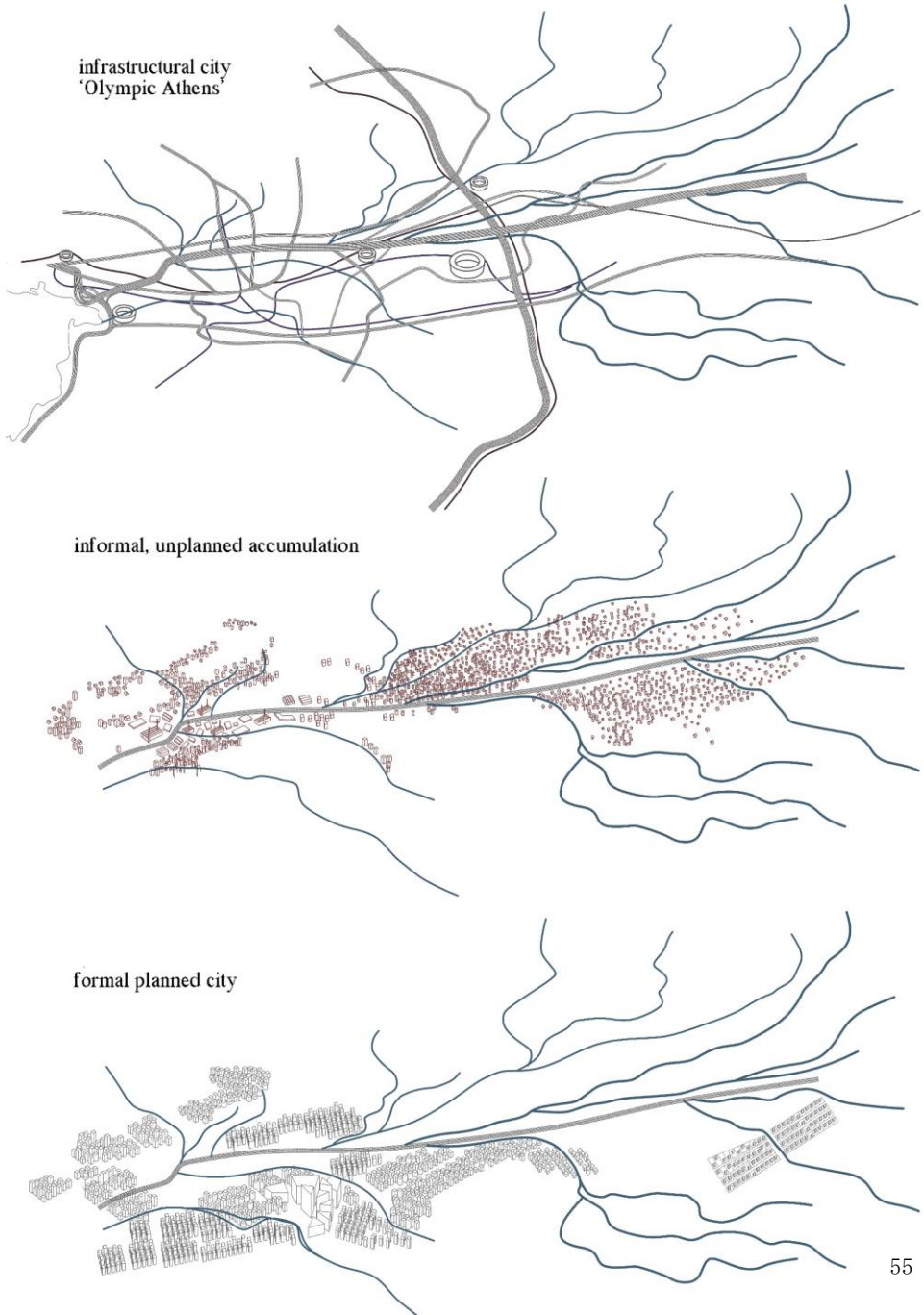


Pictures 23. The last stage in the evolution of the “polykatoikia” block
The process of appropriation
Drawing by Author

aii. Hybrid conditions - Where the formal, informal and infrastructural cities meet

Furthermore, what makes the complex urban environment even more interesting, is its juxtaposition with the clear lines of the designed infrastructural city. *Athens is a city in the making; it's a hybrid of the modern city of the polukatoikia and the new infrastructural city based on networks. It enhances exchange, supports the production of multiple identities and allows for the development of new, still unexplored, spatial and cultural patterns. (33)* It is exactly through this hybridization that ambiguous intermediate spaces in the city are created. Their inability to fit in a specific category, in sharp contrast to the clear opposition between the river and the highway, turns them into landscapes open to potential reclamation and to a variety of potential transformations. If the ambiguous character of a space, as a result of complex processes of hybridization, is what makes it open to transformation, it urges us to see in the concept of the hybrid, a potential tool to guide the design process.

(33) Yannis Aesopos, *Diffuse Athens: From Polykatoikia to networks*, in : "Princeton and Patras Mapping Athens in the 21st century-a summer workshop", (ed.) P. Tidwel, M. Clarke, E. Ramirez, J. Turnbull and I. Sunwoo, Princenton University School of Architecture



Picture 24. The elements of the city's hybridity

The infrastructural city, the informal city and the formal city

Drawing by author

Pictures 25. Hybrid Athens

Drawing by Author

b. The “cracks” the potential of residual spaces as intensities of hybridity

The hybrid identity becomes particularly evident at those empty, leftover spaces, in between different programs, landscapes, building types. From this point of view, leftover spaces are seen not as a problem but as a potential. *In those programmatic and morphological voids, traditional categories are dissolved and possibilities for alternatives emerge.(34)* Spaces such as empty lots and construction sites that were abandoned as a consequence of the crisis, bus and car parking stations arbitrary thrown into the landscape and the contaminated post-industrial sites are different forms of spaces which are not accessible at the current state, but remain open to reclamation. Consequently, the focus on these spaces and the potential scenarios of their transformation could be one of the potential way to approach the design and research objective, which is the elaboration of a wider space of influence, of the hybrid landscape of the river and the highway.

(34) T. Doxiadis (2001) *The Athenian Strip*, In: (ed.) Yiannis Aesopos, “Metapolis 2001, The contemporary (Greek) city”, Metapolis press, Athens

Picture 26. Mapping of the residual spaces around the river-highway flows

Indicating a wider space of interaction

Drawing by author

What is also interesting is that the initiation of these residual spaces is related and explained by the dual character of high connectivity elements of infrastructure, in our case, the national highway of Kifissos. *Even though trainlines and highways constitute links of the city with the rest of the country and the continent, yet they also construct boundaries/barriers in the neighborhood level.* In our case, these spaces are also characterized by poor conditions related to the exposure to the dynamics of the confined river and the instability of the fluvial soils. Interesting examples of how these processes work are a) the industrial area developed around Peireos street, where it intersects with Kifissos, as well as the neighborhood of Eleonas, the area where the olive groves use to be. These unsafe spaces were not favored by the accumulation of the city and thus turned into leftovers of urbanization. *However, they were later claimed by industrial activities or poor residential areas of immigrants.(35)*

(35) Eleni-Anna Kotsikou (2017) De-fragmenting Athens (available online)
This hypothesis is verified by the ministry of Planning ad the University of Athens which defined many of these areas as unwanted and thus subject to transformation, (source5)

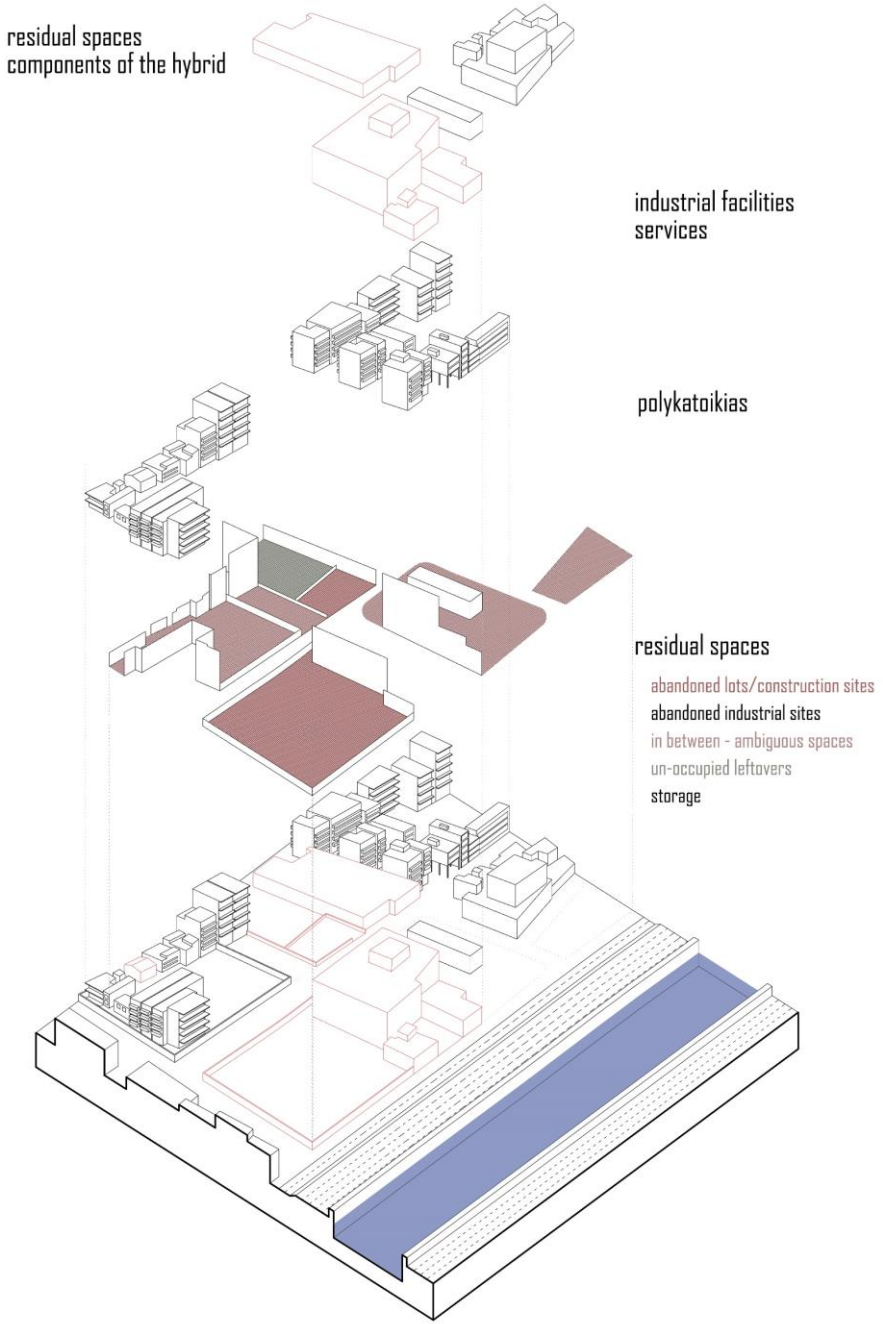
Picture 27. Mapping of the residual spaces around the river-highway flows

Indicating a wider space of interaction

Completely different qualities between the northern and the southern part of the flows

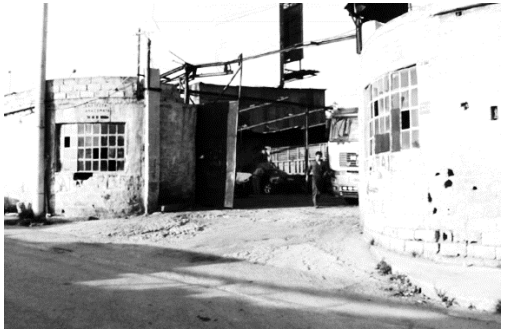
Drawing by author

After the crisis, while a number of abandoned factories were transformed into services or recreational activities, many of them remain empty, inaccessible but possibly open to new transformations. These spaces were both activated and abandoned due to the conditions of connection, on the one hand, and spatial separation, on the other that the infrastructural element of the highway created. Their current condition and their spatial transformations through history, suggest that this time, their elaboration could be the one that will generate the transformation of the highway into a more associative element, able to connect with the river and the surrounding space.



Picture 28. Residual spaces as the places that facilitate hybrid identities/processes of hybridization

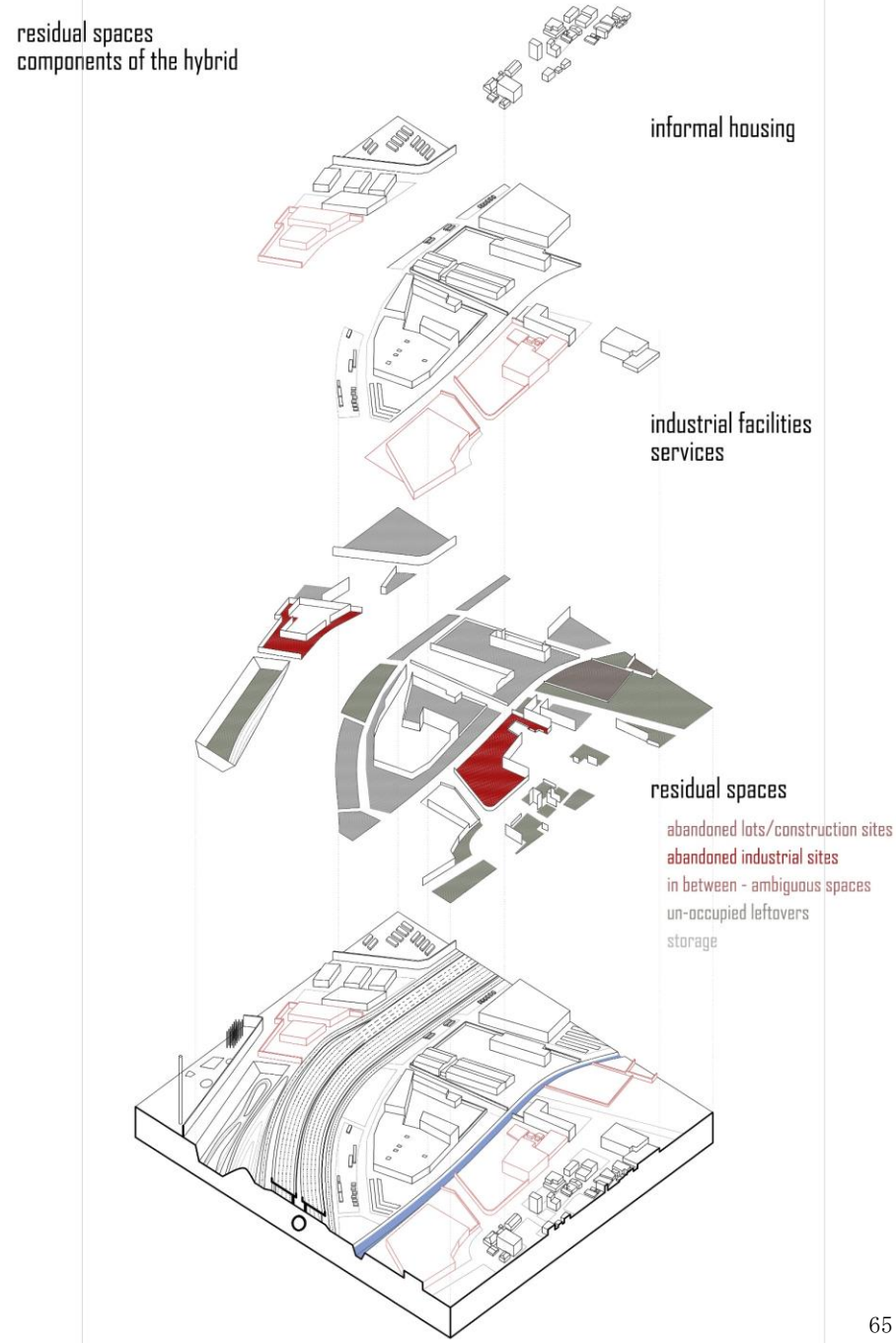
Drawing by author

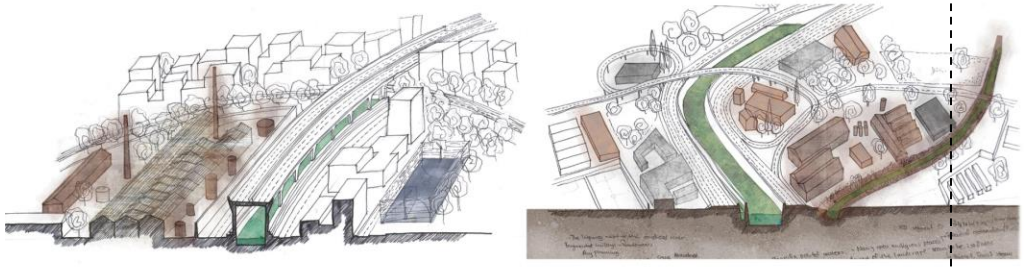


Picture 29.(opposite page) Residual spaces as the places that facilitate hybrid identities/processes of hybridization. Drawing by author

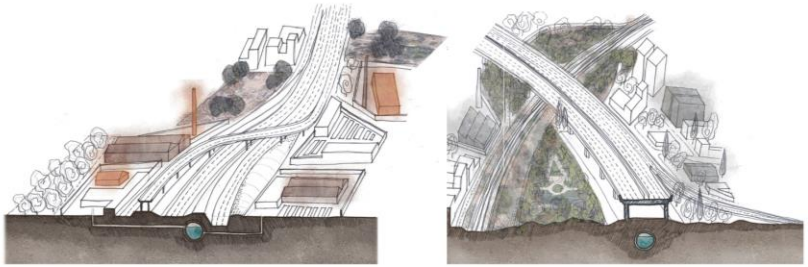
Picture 30. Residual spaces at the area of Eleionas

Source: https://issuu.com/emu_tu_delft/docs/eleanna_kotsikou_final_booklet

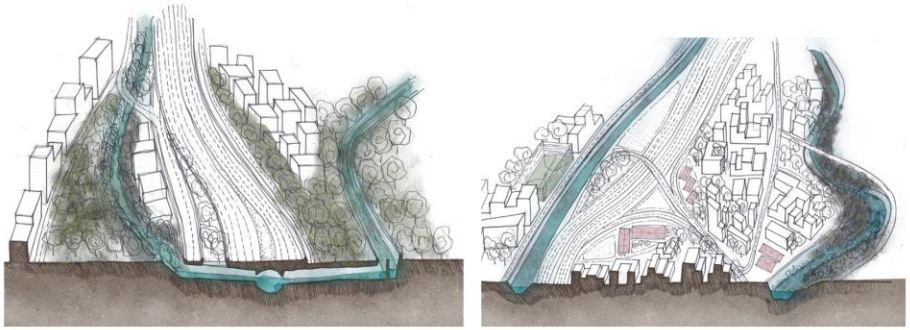




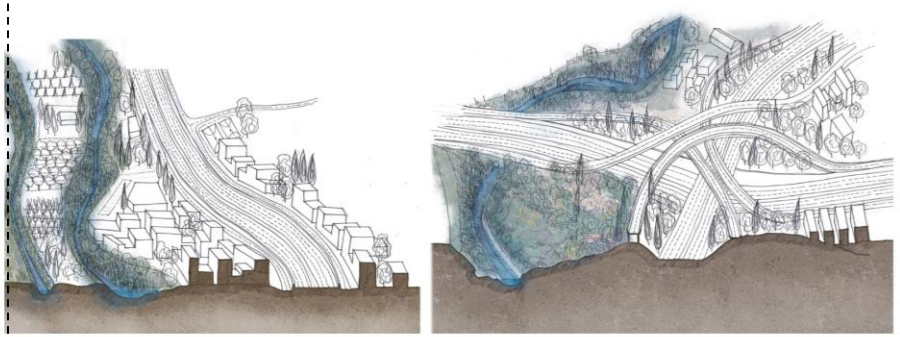
Segments a, b, c: between the residential and the post-industrial city



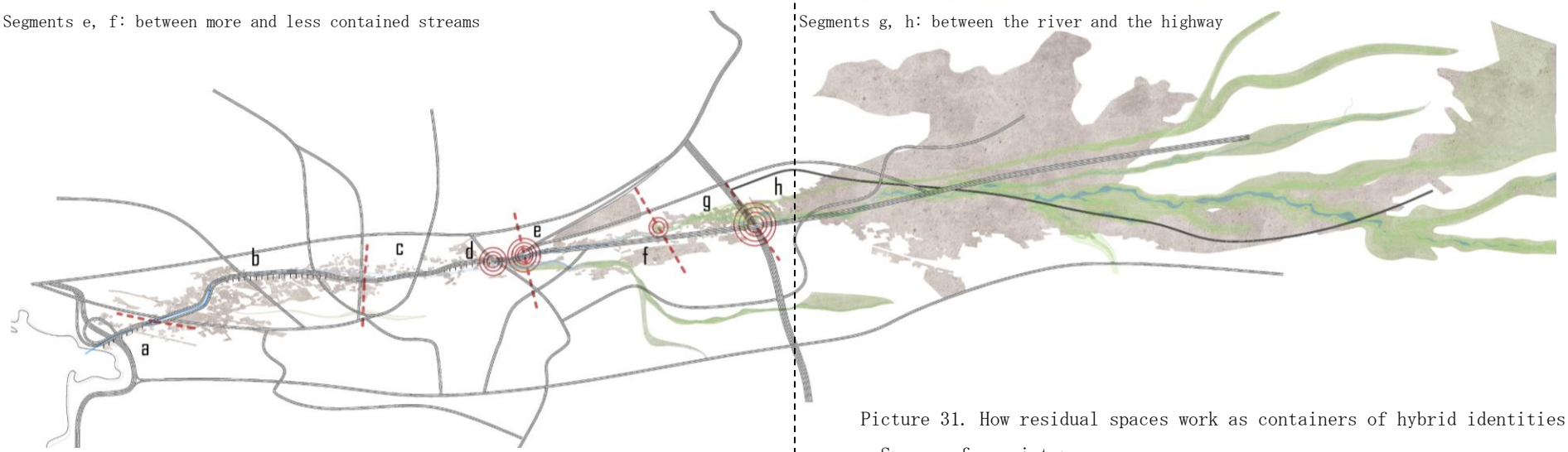
Segments b, c, d: between the infrastructural network and the city



Segments e, f: between more and less contained streams



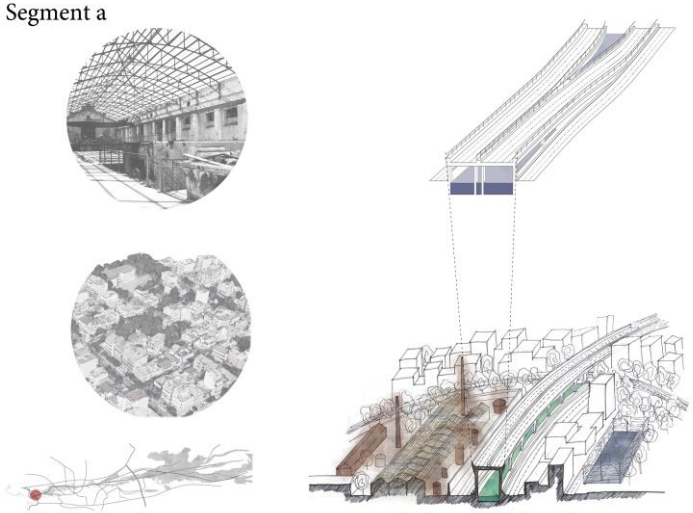
Segments g, h: between the river and the highway



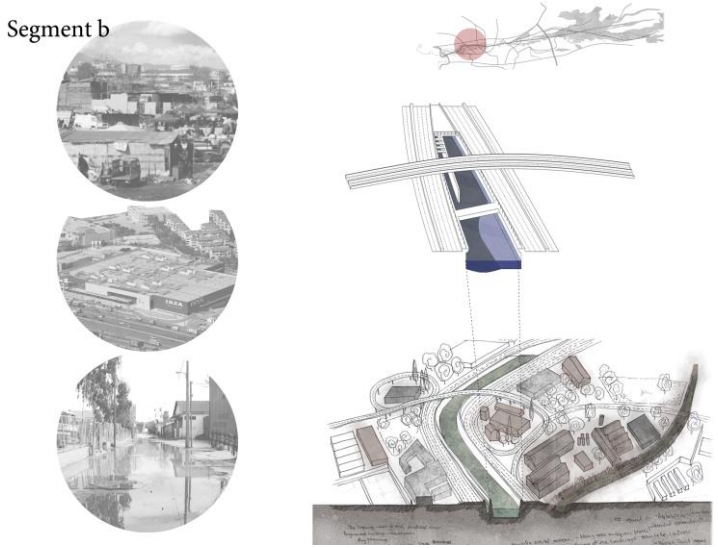
Picture 31. How residual spaces work as containers of hybrid identities - Spaces of coexistence

Different forms of hybridity that might require different tools for intervention

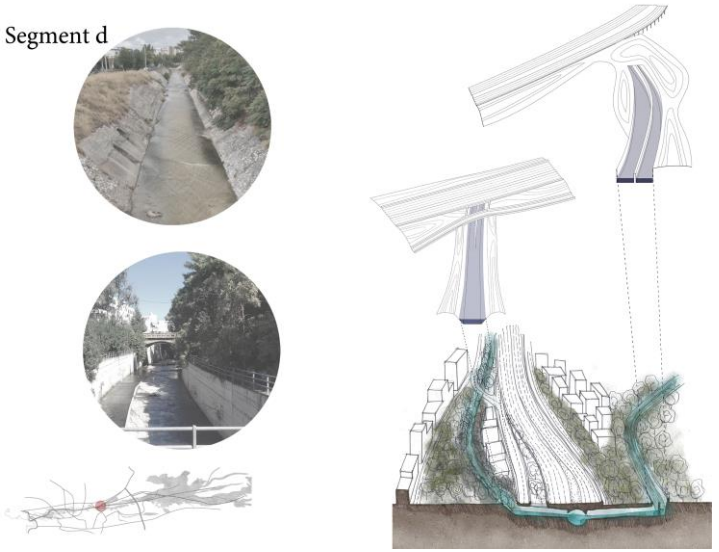
Segment a



Segment b



Segment d



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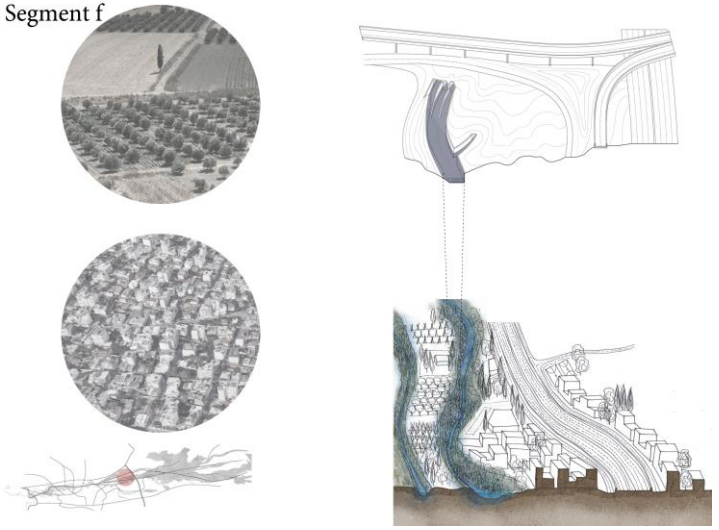

Conclusions

Within this framework, leftover spaces become the carriers of different situations of hybridity, which are so characteristic of the Athenian identity.

The same hybrid quality is incorporated in the architectural type of “polykatoikia”, a simple architectural structure that, appropriated by its residents through the years was transformed into an exceptionally complex structure. This complexity acts as a symbol of people’s right to transform the space the inhabit. In this way it exemplifies a dynamic balance between the formal and the informal, where the first acts as a framework for the second.

Could a new landscape in the city work in a similar way? This question will be addressed in the next chapter of this study.

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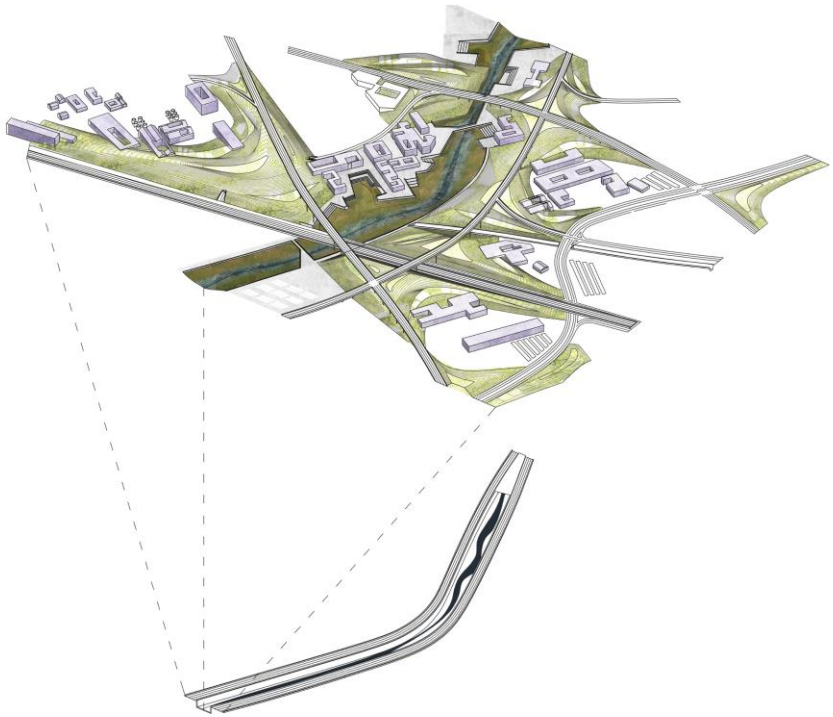
Wall Alex, Programming the urban surface

The oppositions of Kifissos

From static duality to dynamic coexistence



A topography of Affordances

The oppositions of Kifissos

From static duality to dynamic coexistence

A Topography of Affordances*

*(As to architectural theory, affordances can be used as a conceptual framework to understand the relationship between environments and occupants, especially with respect to form and function.
Jonathan R.A. Maier, 2009)

Eleni Chronopoulou
Mentors: Inge Bobbink, Esther Gramsbergen

Contents

12. Conclusions: Reflections on relevance

Introduction

The aim of this chapter is to illustrate the gradual movement of the design process, from a number of fragmented extracts, to a coherent concept that forms the ground for their interrelation.

The first part describes the thought process behind the concept and its relation to the analysis. Then it introduces the main design tools and principles that will be applied.

Sequentially, we will zoom in on a particular area of intervention, within the river-highway flow and see what makes it suitable for the testing of the design principles.

Then, a design strategy is formed on how to apply the design principles in the specific area chosen. The principles correspond to different levels of design.

The design is also tested on how it would work on an eye level perspective, including experiences of both drives and pedestrians.

Furthermore, there is thought on the implementation of the project, the involvement of the local population (both through volunteering and the offer of work), the gradual steps of the construction as well as their livability.

Finally the chapter concludes with a combined section of reflecting on the design, the process followed and the methods used, and the relevance to contemporary topics of discussion in spatial design principles.

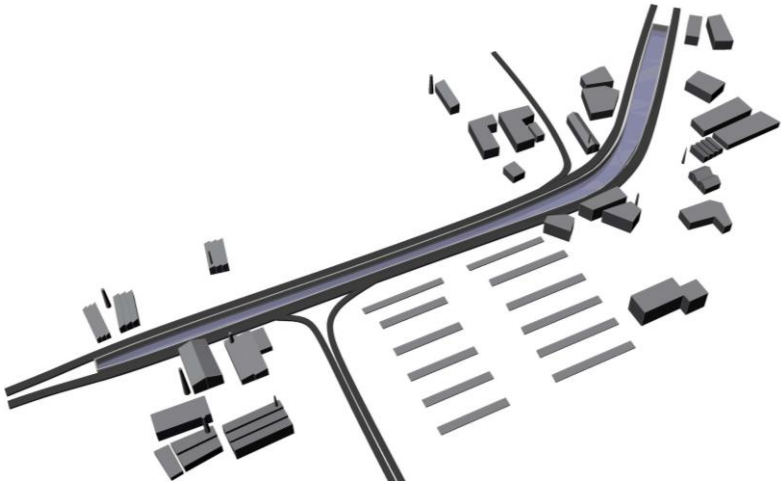
1. The story of two conflicting identities

This chapter starts with a story: the narrative of the two opposing identities of Kifissos.

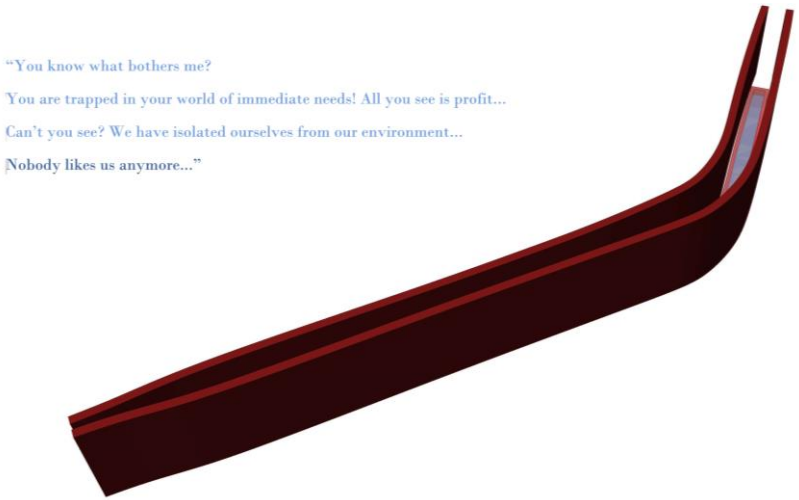
On the one hand Kifissos is a dynamic river that changes constantly, but smoothly and gradually, though time, in an inextricable relationship with its surroundings.

Kifissos is also described as an infrastructural network, of which the highway is part of, which mainly focuses on functionality and the effective establishment of profitable connections. It could be referred to as a pragmatic identity.

Picture 1. Studies on the natural morpho-dynamic processes of a changing river space
Note: all drawings without a source are made by the author



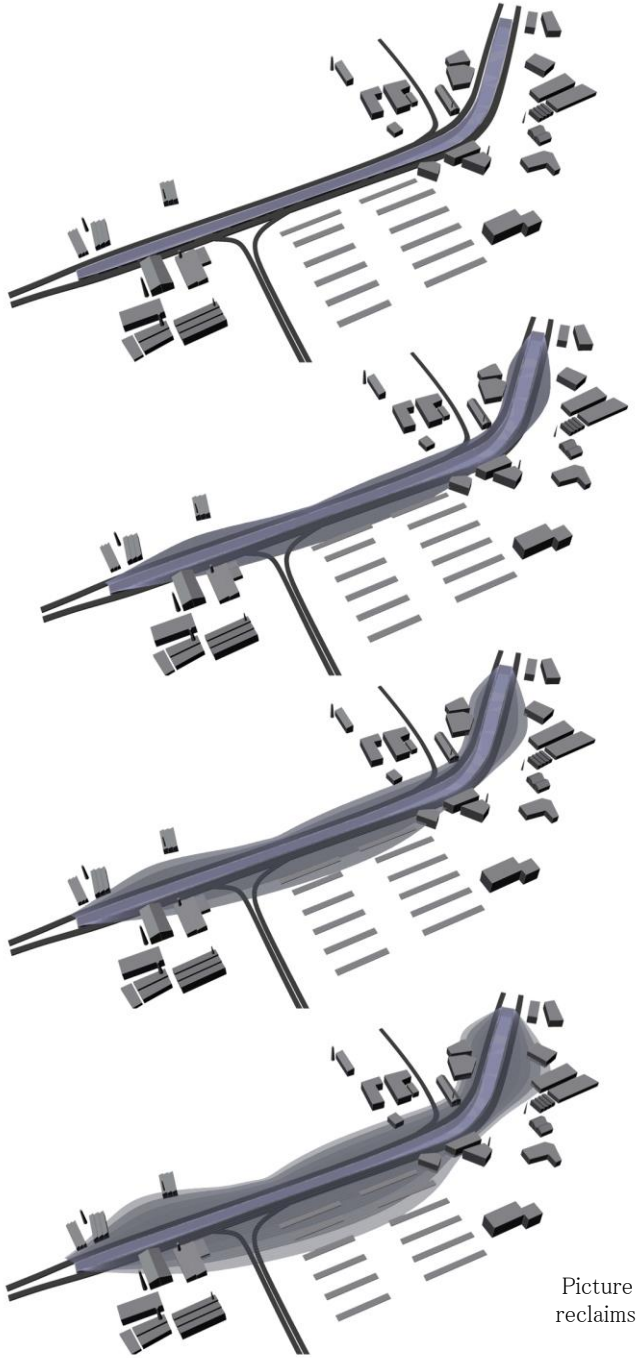
Picture 2. Kifissos as an infrastructural network - The highway, the contained river, functional connections with industrial units



Picture 3. Isolation – the dialogue starts from recognizing the problem of isolation

To make sure that these profitable connections will always work without unnecessary disruptions the pragmatic identity of Kifissos imposes strict boundaries on the river. The river reacts to the replacement of its soft porous banks with concrete walls. It violently reclaims the land that it once used to own and which is now completely covered by the city. These outbursts result in many catastrophic floods through the years.

To cope with this events and retain the functions of the city, the boundaries of overcontrol, that confine dynamic Kifissos, are further strengthened, resulting in the isolation of both the river and the highway from their environment.



Picture 4. The river reclaims its territory

2. The hybrid quality of “polykatoikia”
Towards a dynamic balance between formal and informal

But could the study of the neglected/ forgotten surrounding landscape provide us with clues on how to address the opposition of Kifissos. And how to redefine the relationship between the river, the highway and the city?

The surrounding environment, from which the two opposing systems have separated themselves, is rich in conditions of dynamic balance. An exemplary one is provided by the model of “polykatoikia”, the typical Athenian multi-story apartment block, which acts as a symbol of coexistence between things we often tend to see as opposites.(1)

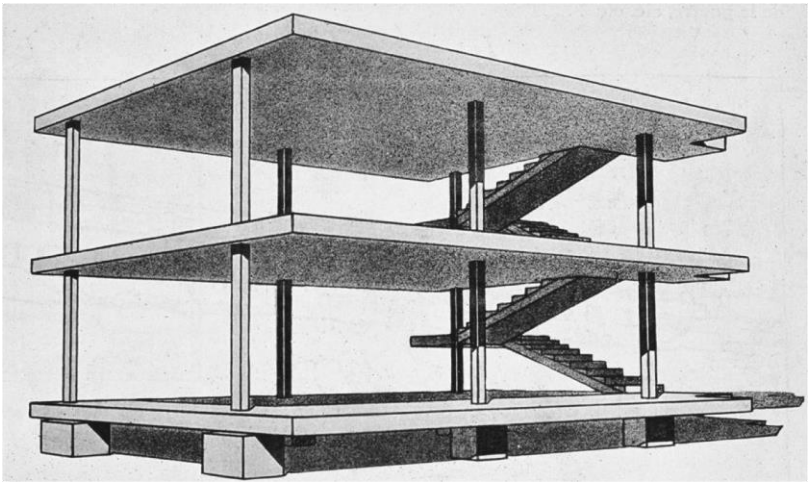
Despite her current complex appearance “polykatoikia” consist of a very simple, almost archetypal structure, which through the years has functioned as a flexible framework for various practices of appropriation from its inhabitants. Within this framework, “polykatoikia” functions as a hybrid of the formal and the informal. The designed and the unpredictable processual acts of inhabitation that transform it through the years.

Picture 5. “Polykatoikia” - a simple flexible framework
Source: Dimitris Philippides, Modern Architecture in Greece , Melissa, Athens 2001. Courtesy of Dimitris Philippidis Archive

(1) For more information about “polykatoikia” look at: “The oppositions of Kifissos, from Static Duality to Dynamic Coexistence, Urban Processes”, p. 47-53

In contrast to the new towns that were built in post-war Europe, the mix of uses that was achieved in the "semipermeable" Athenian urban block has contributed to the creation of intimate, safe, and vibrant neighbourhoods. This "osmosis of private and public spheres" that takes place in a modern urban context has been the strongest output of the informal urban development in Greece.

Panos Dragonas, "The birth of polykatoikia"



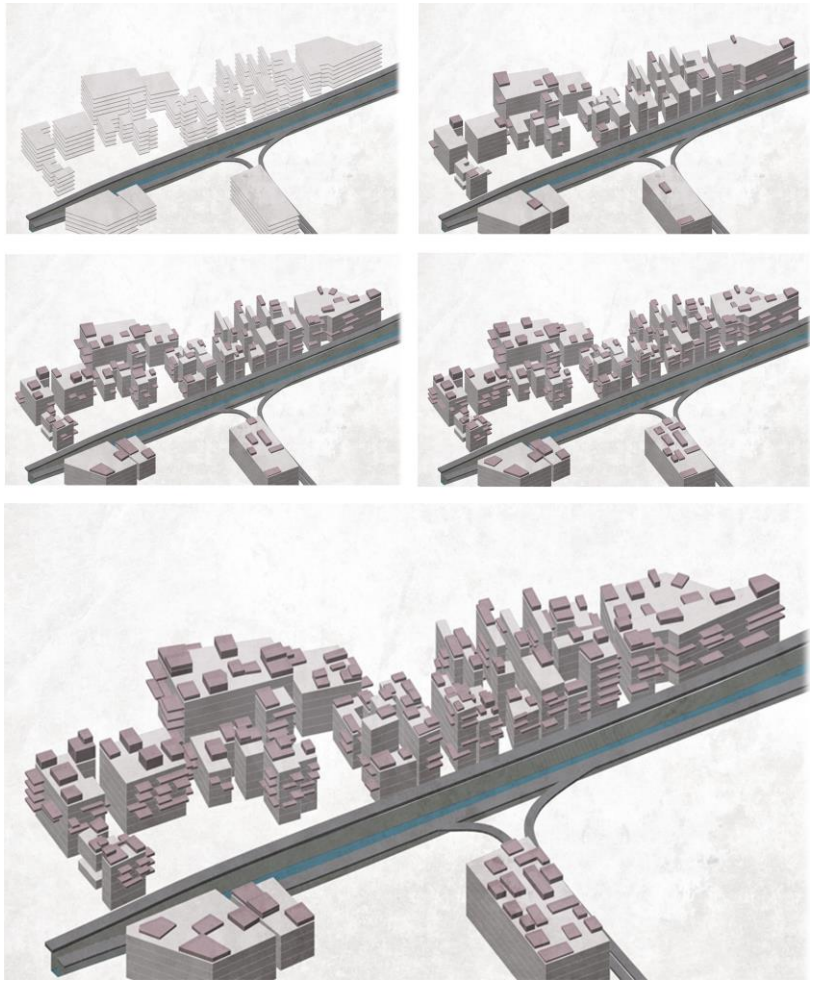
Picture 6. "Polykatoikia" is often related to Le Corbusier's Domino
Source:

3. A flexible designed landscape open both to natural processes and informal acts of appropriation

Inspired by the polykatoikia model, the current project aims to create a flexible framework that shares its principle quality and it ability for transformation. At the same time, it aims to adapt this quality to an approach which is more “landscape architectural”. This approach relates to the balance between the natural and the constructed.

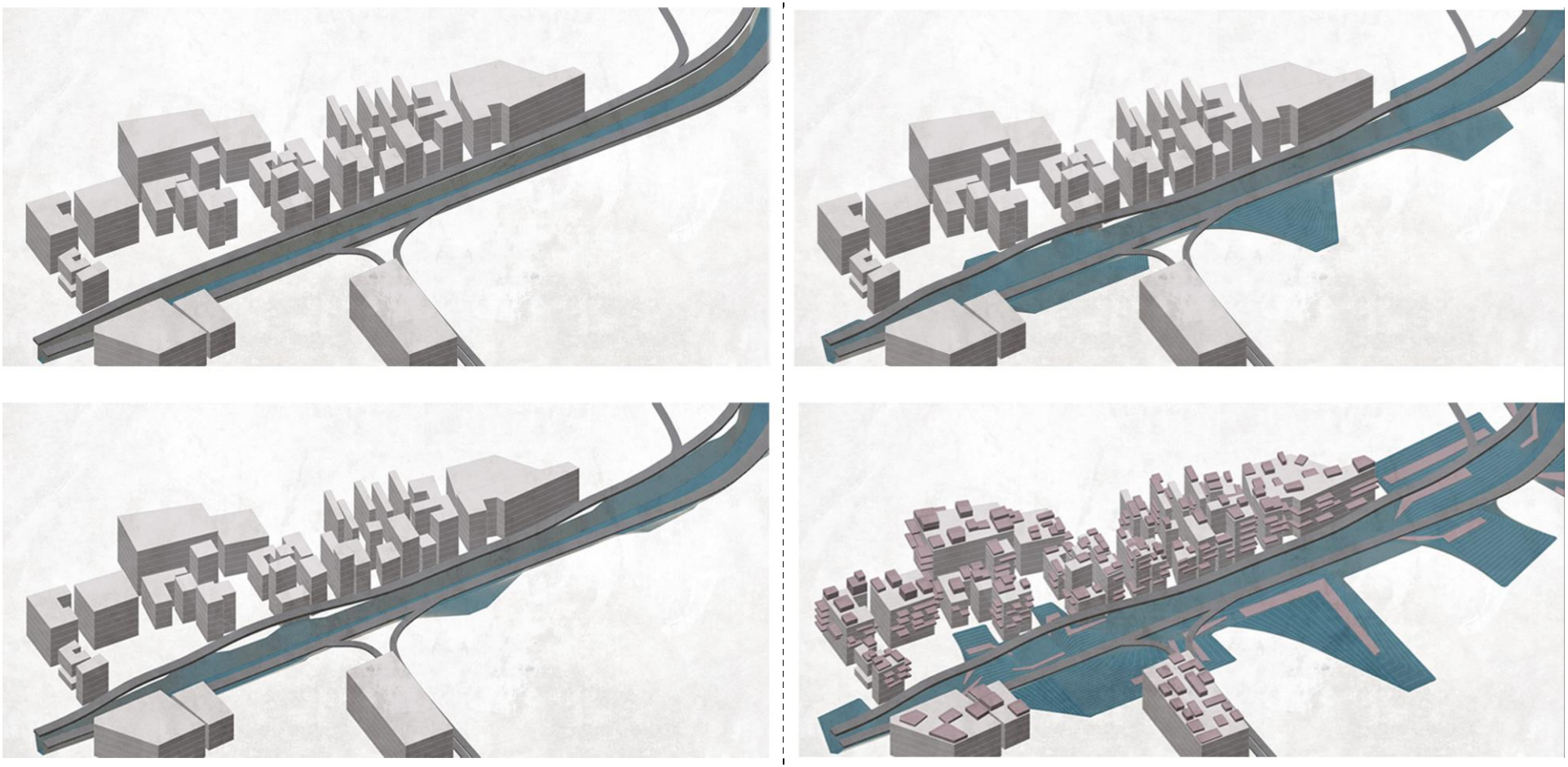
Within this framework the elaboration of the river-space, through design, acts as a framework for future transformations by the users of the area.

In our case this flexible framework is created by the expansion of the river space which follows the “avulsion of the highway” (2). The relocation of the the highway, both horizontally and vertically gives us the opportunity to open the river and expand its space to its initial extent.

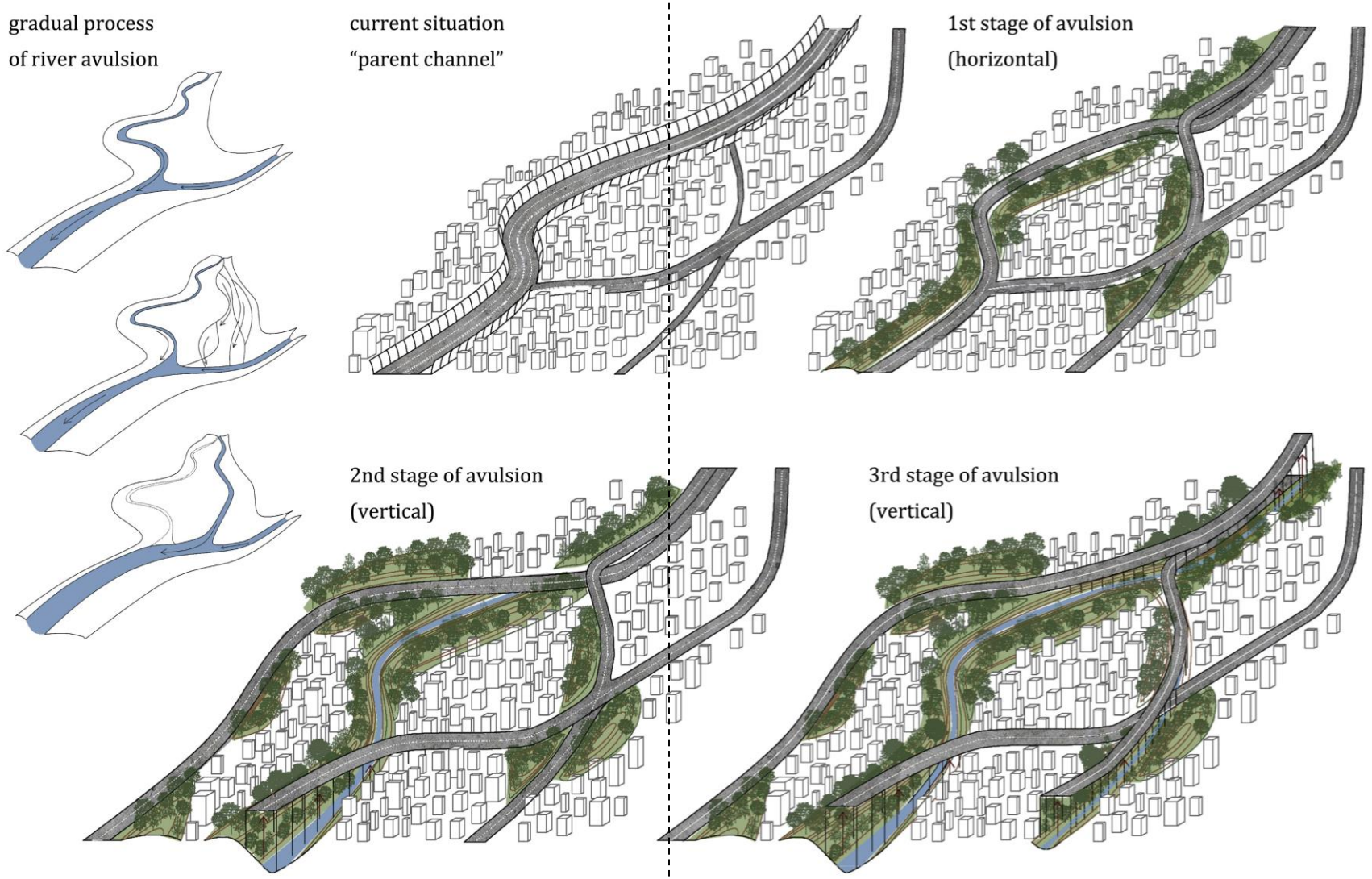


Picture 7. The changes in the form of poykatoikia through the years - accumulation of appropriation practices

(2) For more information about “the avulsion of the highway” look at: “The oppositions of Kifissos, from Static Duality to Dynamic Coexistence, Territorial processes”, p. 21-25



Picture 8. Creating the flexible framework



Picture 11. River and highway avulsion - Looking for ways to gradually make room for the river

Avulsion is a very common process in alluvial river plains. It is described as the diversion of a channel to a new location on the floodplain, leading to the abandonment of a channel belt and the initiation of a new one.

The idea is that this principle of relocation can also be applied on the highway. Thus the highway transforms from a congested single stream, to a number of smaller streams that run through the city, making the system more associative and less of an isolated element.

At the same time the relocation of the highway releases the territory of the river, the essential space of its influence. Naturally, this is the lower part of the Athenian plain, which should be more open to water dynamics, resulting in both a richer ecology and to a permeable flood protection zone.

As a result, applying the principle of avulsion not only makes increases the connective capacity of the highway, but also gives us the opportunity to open up the river space. In this way a continuous topography able to facilitate both natural and urban dynamics is created. From this point of view, the avulsion of the highway is the first step towards establishing a more dynamic balance between natural and engineered, formal ad informal.

5. From residual fragments to a continuous landscape

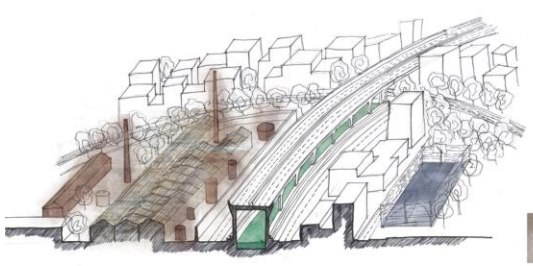
Leftover spaces have the capacity and the potential to generate future transformations, such as the creation of a new, more associative and related to the city, river–highway landscape. In the case of Kifissos these spaces become containers of hybrid identities, as they bring together seemingly incompatible elements, programs, uses and practices of space. Along the river highway flow, leftover spaces facilitate different kinds of junctions between the formal and the informal, the residential with the industrial, the old and the new, the lively with the abandoned, different urban densities, diverse elaborations of the rivers streams, different users. Within this framework, leftover spaces become the carriers of different situations of hybridity, which are so characteristic of the Athenian identity.

It is exactly these leftover and ambiguous containers of hybridity that are going to define the wider space of influence between the river, the highway and the city, or else, the river–highway pulse. As a result, we must look for ways to make these spaces work as generators of interrelations.

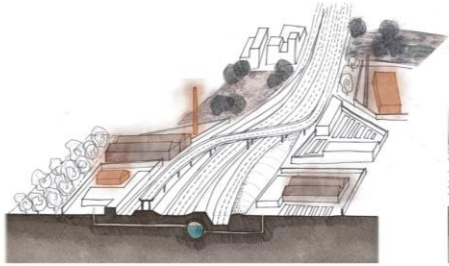
Furthermore, it is important not only to unlock them and make them accessible, but also to find a way to make them work as a landscape of its own; a continuous connective tissue that allows the dense city of Athens to breathe, while bringing together spaces, places and elements otherwise isolated.

Residual hybrid fragments

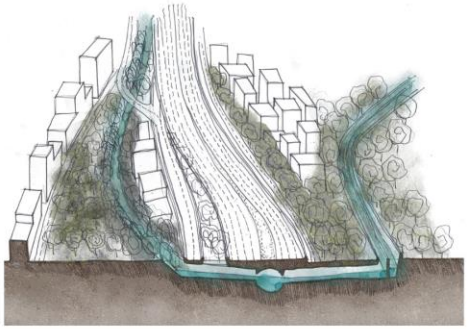
How leftover spaces bring together opposing identities

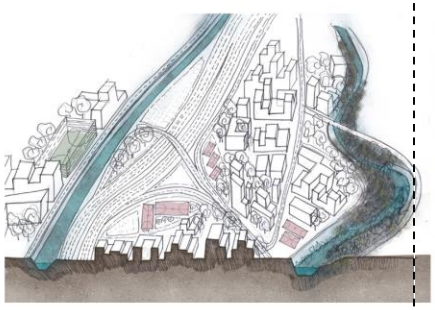


Segments a, b, c: between the residential and the post-industrial city

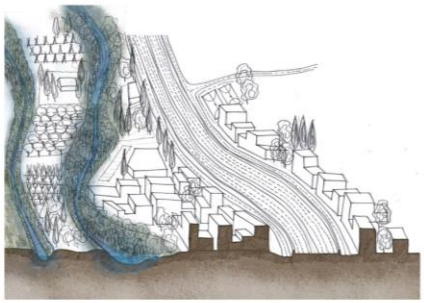


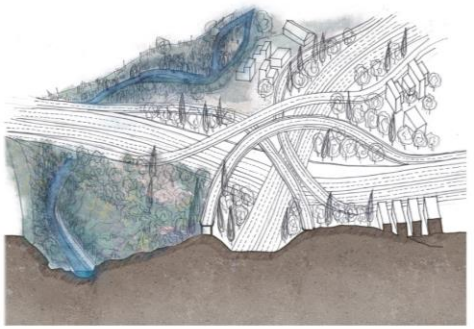
Segments b, c, d: between the infrastructural network and the city



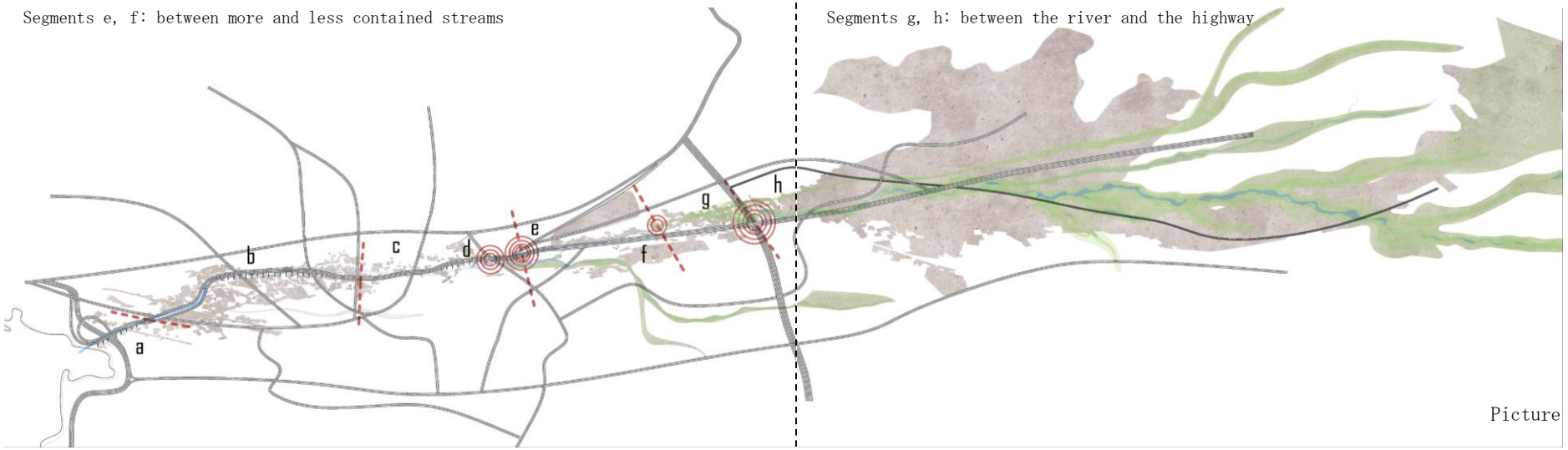


Segments e, f: between more and less contained streams





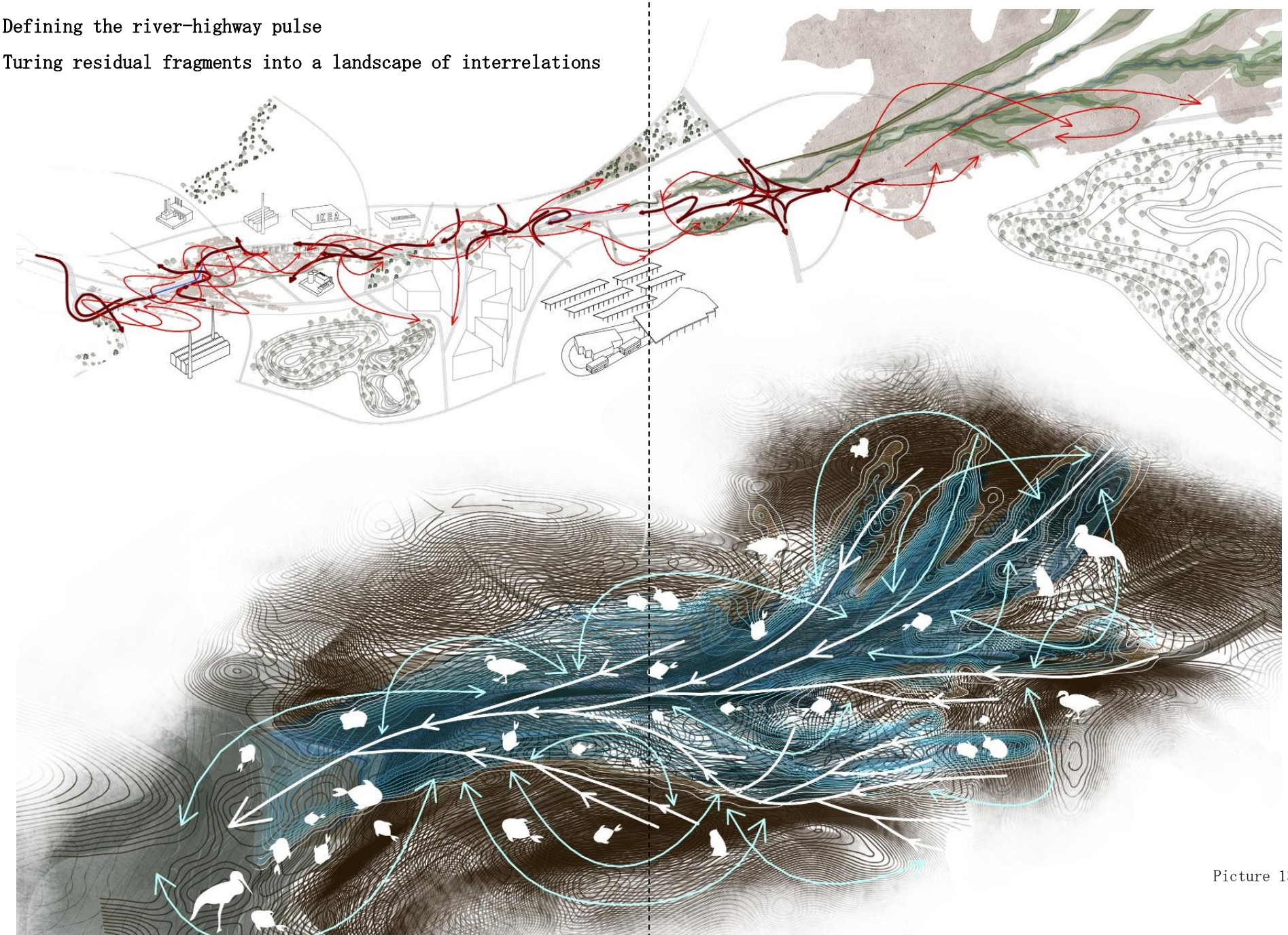
Segments g, h: between the river and the highway



Picture 12

Defining the river-highway pulse

Turing residual fragments into a landscape of interrelations



Picture 13

6. From the flexibility of “polykatoikia” to a topography of affordances.

The following question is how the fragmented and currently inactive leftover spaces, that define the river-highway pulse can be turned into a continuous space of flows?

In our case, a potential key might be provided by addressing a more practical issue. When opening-up and expanding the river space an important amount of soil is removed. If the left-over earth is placed on the left-over spaces, in a way that it works together with the spaces of the river and the highway, a new topography is created.

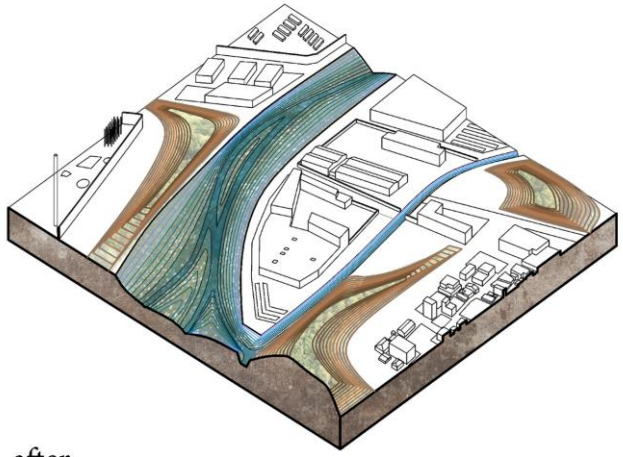
Within this framework, the principle of re-locating the land lead to the idea of a topography of affordances: a flexible framework that can afford a number of transformations as well as being utilized for a number of different purposes.

This elaborated topography establishes spatial connections between places otherwise isolated, it creates a continuous green network that serves both ecological and recreational purposes. Its 3-dimesionality also increases the actual green surface which is precious for a city as dense as Athens, and where almost every surface is built on.

At the same time, the shape, size and extent of this new topography, together with the location of the new highway arms is defined by the existing residual, abandoned and inactive places. Thus, the area of intervention will be specifically defined by their current location and their potential organization into a network.

Relocating the land

A new topography of affordances in the city



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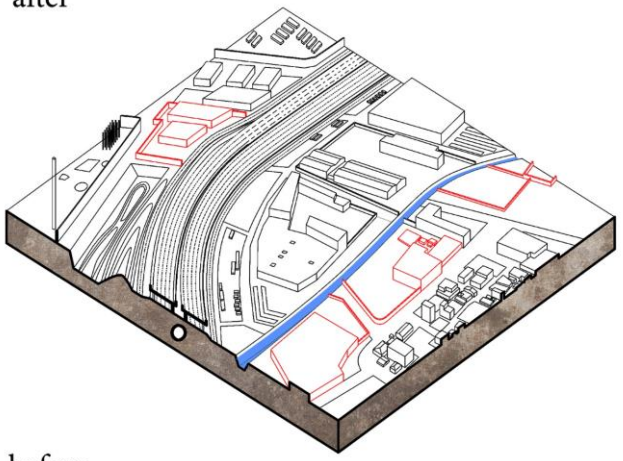

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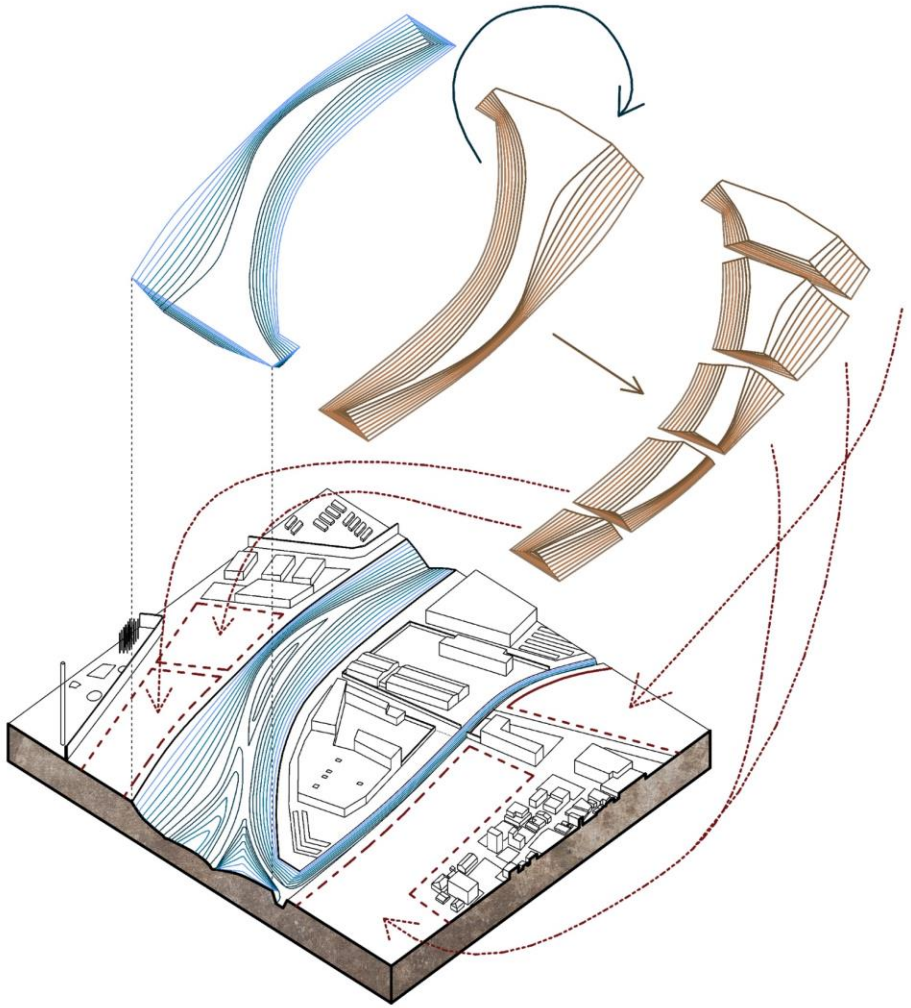
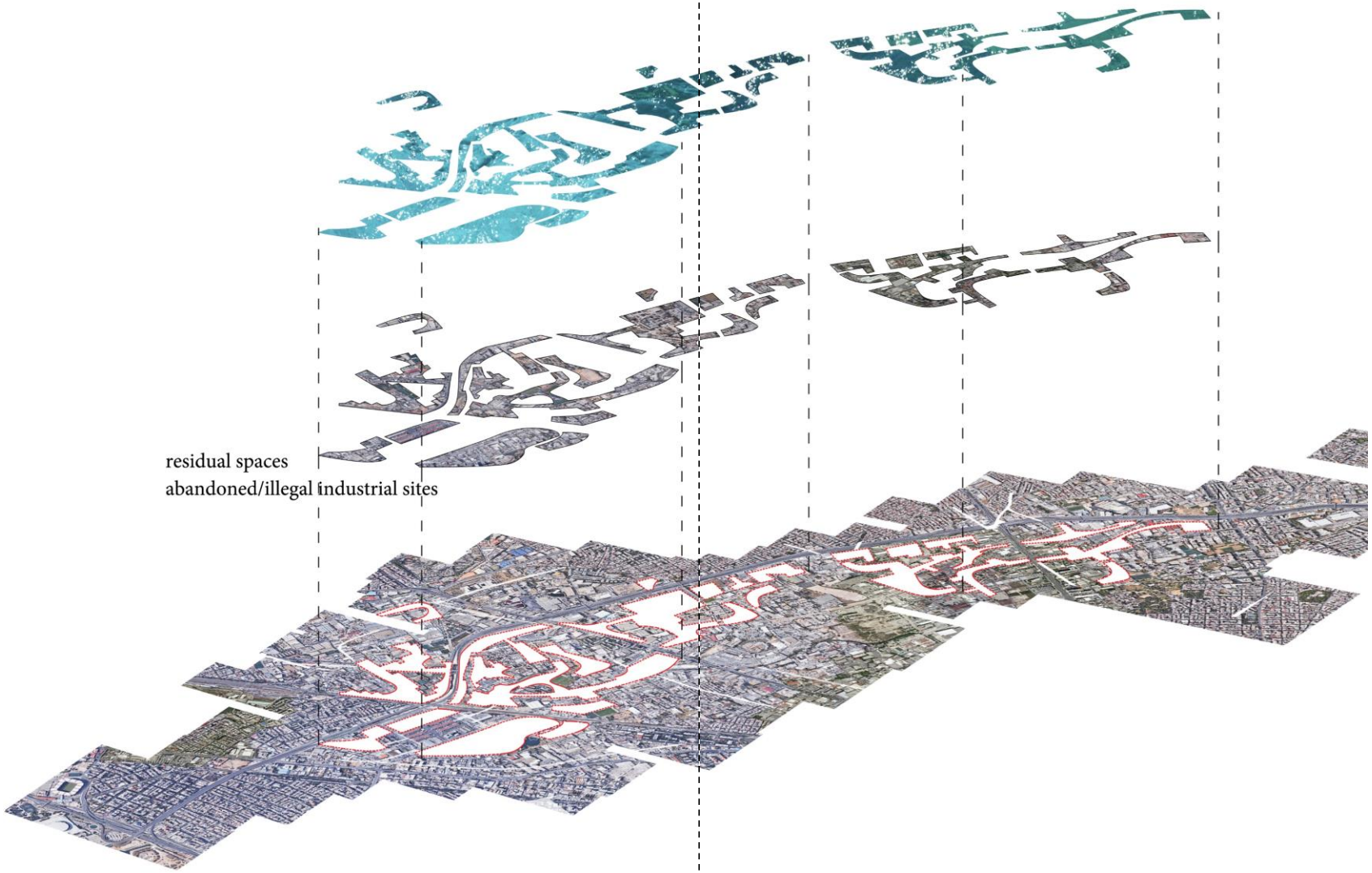


Picture 14

The existing leftover and abandoned spaces

define the area of intervention



Picture 15

7. Connective devices

Furthermore, the formed topography establishes a common ground, a milieu upon which smaller architectural connective devices and ideas for intervention can be interrelated and become part of a coherent whole.

These architectural apparatuses are intuitively related to the reading of the site, performed during the firsts steps of the research. They are also typical architectural elements that relate to the Greek, or even to the Mediterranean identity. Their aim is to establish connections that can be both actual and visual.

Such interventions can include:

a. Amphitheatrical spaces: Amphitheaters are defined as places for viewing. The consist of a number of escalating seats organized around a central space, a stage, or looking towards an important view. In contrast to the enormous spaces of ancient Greek and Roman theaters, that aim to host important venues, an amphitheater in a neighborhood scale can be a great place for social gathering and interaction.

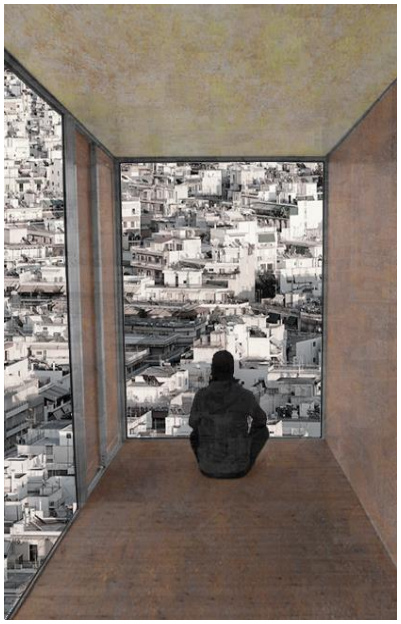
Picture 15. Amphitheatrical spaces - Generating both visual connections and social interaction

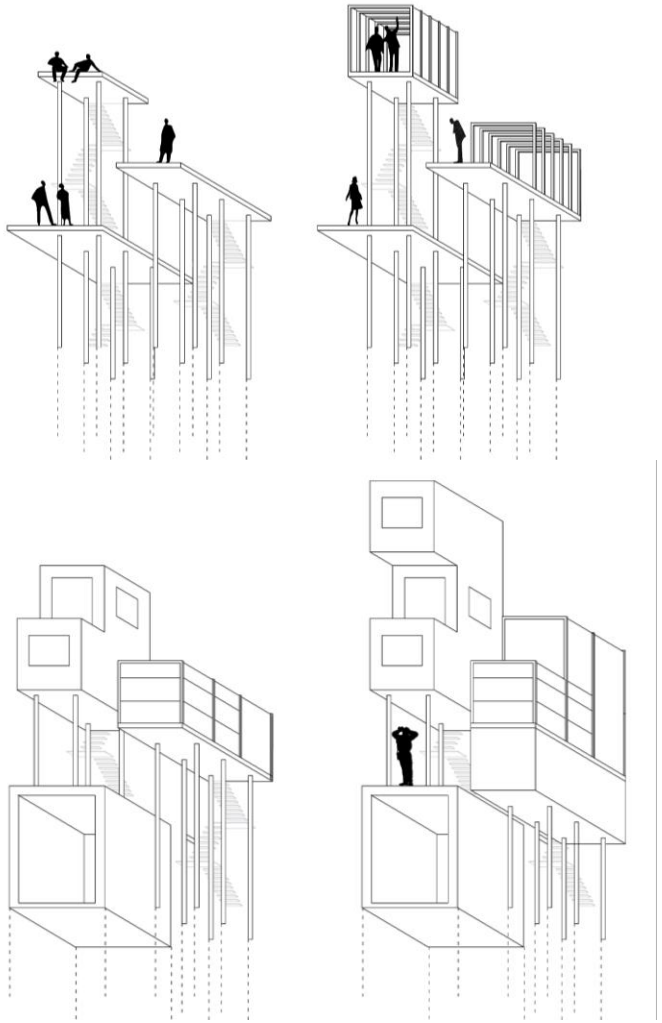
From the project: *Urban Hall:* spatial practices of creative activism - *ANTONAS Office*

Source: : http://www.aristideantonas.com/tag/athens/project/urban-hall/link/303

b. Adaptable observatories: Small scale structures of simple form and construction, such as elevated platforms. These spaces encourage activities such as “nature and city watching”, which make us more aware of our city, its qualities, its problems, its potential, of spaces that can work as meaningful gathering places and which we did not know they existed.

Their simple framework has the capacity to incorporate informal practices of transformation and appropriation in a coherent way. These places can be transformed into temporary shelters for emergency situations, similar to the arrival of the refugees from Asia Minnor, in 1922, as well as from Syria in the last few years.

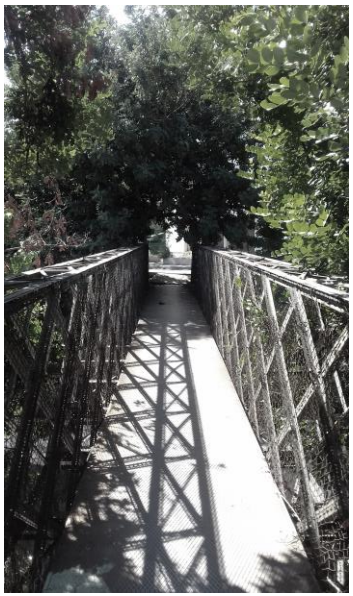


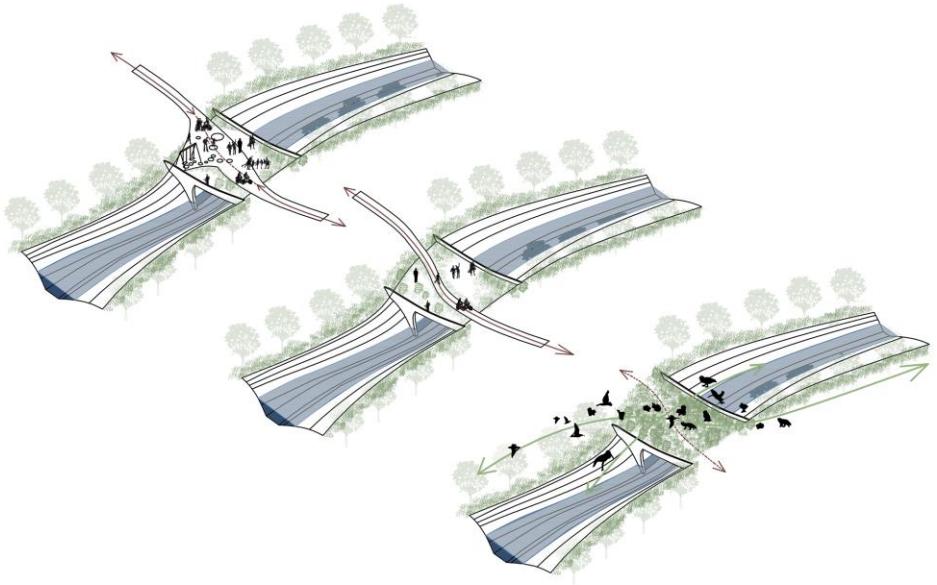


Picture 16, 17. Adaptable observatories
Nature and city watching
Flexibility and potential transformations

c. Bridges: Besides visual, actual connections are important. However the bridge is not seen as a mere crossing from A to B. It can also function as a place that offers dramatic views of the highway and the river. Within this framework the bridge can acquire additional functions.

Such places already exist on site. However many of them are badly maintained and in the verge of collapsing. One can take advantage of them, extend them, improve their connectivity, even to relocate them in order to relate them with the new topography.





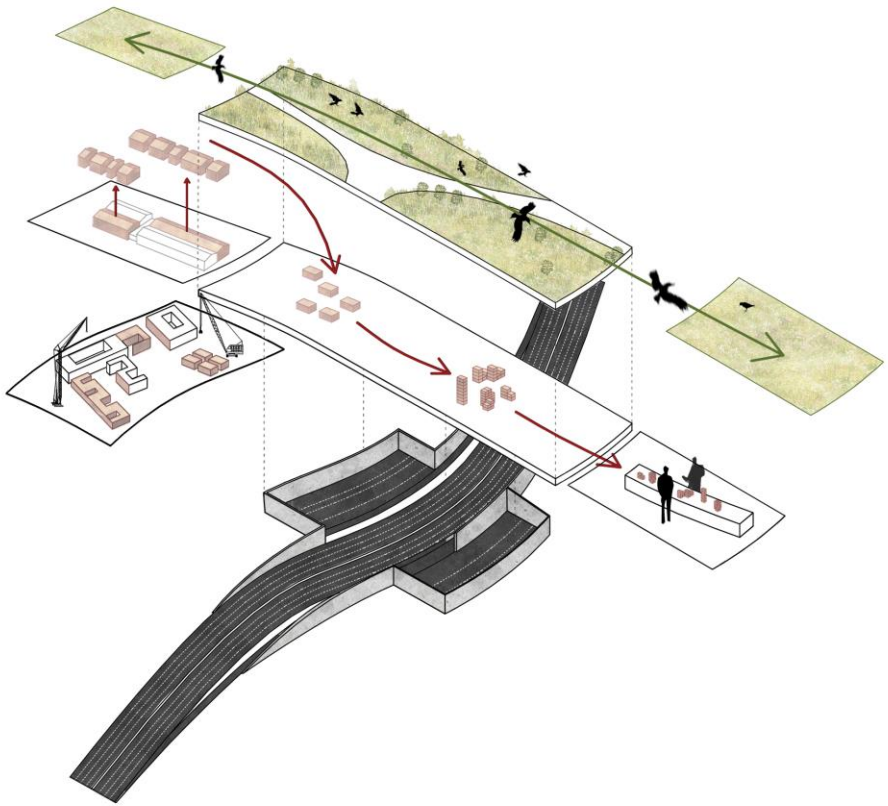
Picture 18. Existing bridges above the few remaining open streams functioning from narrow crossings to parking spaces

Picture 10. First imaginations for the transformation of open spaces, either by nature or thorough acts of appropriation (top: transformed, bottom: initial space)

d. Gradients of purification: Many of the open spaces along the river highway flow are heavily polluted, as a result of illegal practices of neighbouring industrial units. These spaces have to be purified before they can be occupied. Through time, a succession of different plants can radically improve their condition, so that they can re-open as green parks or public spaces. Until then they can function as empty, programmatically and spatially ambiguous green spaces; emphasizers of existing qualities and hybrid conditions.

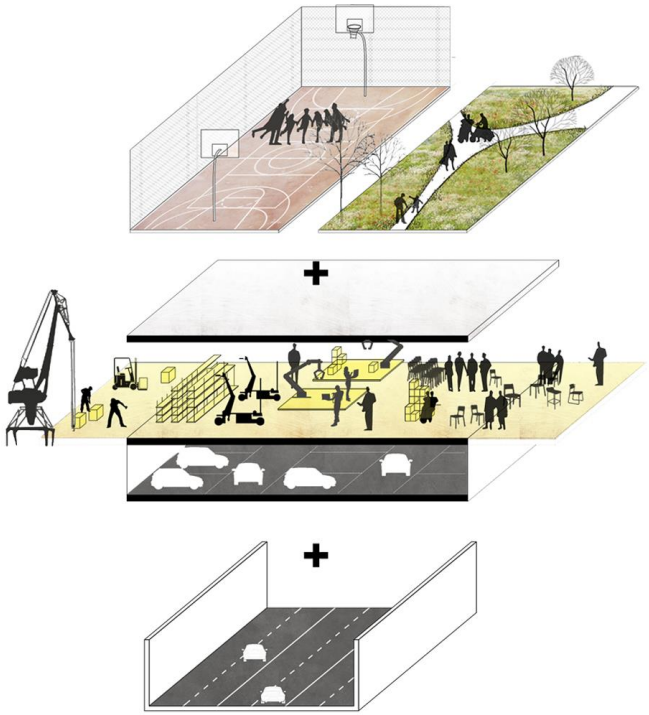
Picture 19. First experiments - the aesthetic impact of different purification plans

e. Material transformation: Creating places or taking advantage of abandoned industrial facilities for creating community workshops. There, the materials from abandoned buildings to be demolished can be transformed and used for various purposes, from material for new built structures to arts and crafts.



Picture 20. Material reuse and transformation as a practice integrated in the new landscape and its construction

By creating this bridge between "erasure" (demolition) and "origination" (new constructions), recycling of material is combined with social interaction.



Picture 21. Material reuse combined with social interaction. Integrated workshop spaces
Source: Drawing by author during internship in "de Urbanisten", for the project: "Over the Ring", Antwerp, June 2016

8. The area of study - The double residuality of "Elaionas" neighborhood

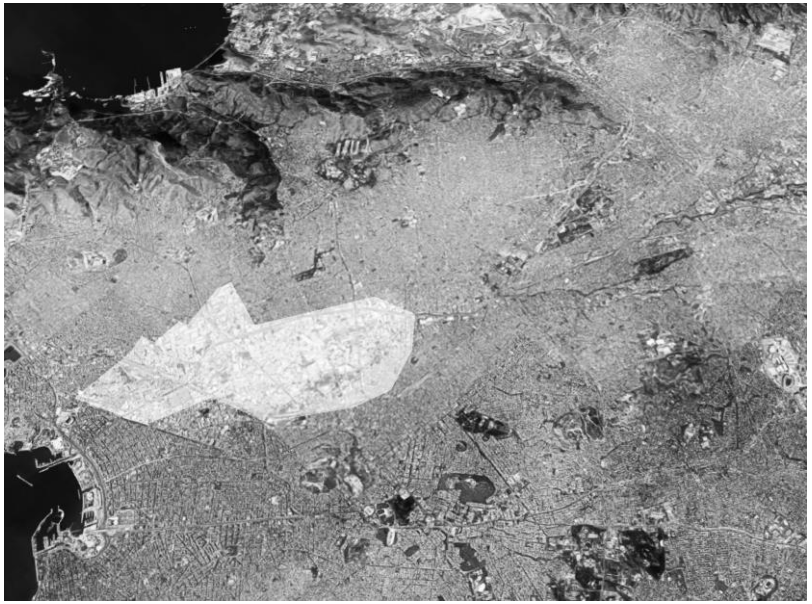
a, Description and history

The area of Elaionas is many times described as a black hole in the dense fabric of the city.(3) It could be described as a leftover area within the city, which also happens to have an abundance of ambiguous, unused residual spaces. It is in these spaces that the residential meets the industrial and the post-industrial city.

How did this condition came to being?

The area of Elaionas coincides with the olive plantation of ancient Athens. Due to its exposure to the dynamics of the river and the loose composition of its soil, the area was for many years avoided both by formal plans and informal practices of urbanization.

However, the construction of Kifissos highway during the 60's gave rise to accumulation processes, gradually transforming the inhospitable land of the alluvial plain into a productive urban landscape. Especially close to existing lines of industrial development, a number of both legal and illegal industries and warehouses started developing, treating the river as a dumpsite and contributing to the phenomenon of pollution.



Picture 22. The area of Elaionas - A residual gap in the dense fabric of the city

(3) Kandiloros K.(1996) Elaionas. Athen, Attica, Strategic planning for a Sustainable Development, ORSA, Athens, p.181

b. Disadvantages:

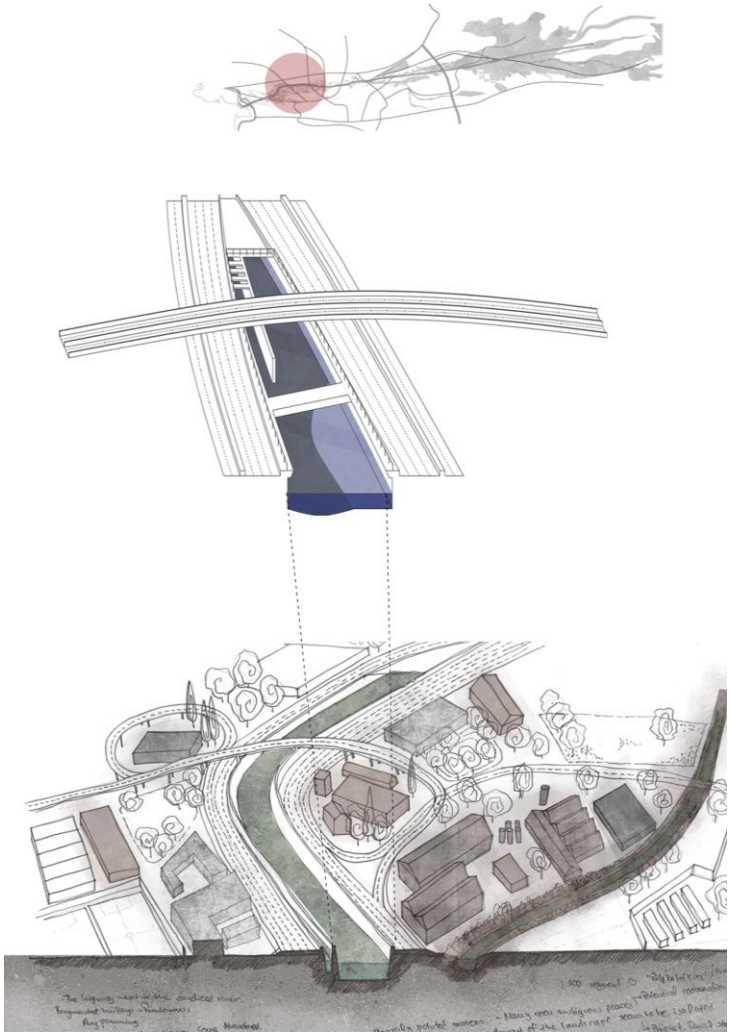
Having evolved informally the area is characterized by the lack of plan and any sort of hierarchy. It consists of factories in various scales and structures, warehouses, many of them no longer in use. Abandoned construction sites, mainly informally used for storage by currently active industries.

Scattered sportfields and informal housing can be found here and there. This loose area is defined by the dense boundaries of “polykatoikia” blocks, which turn it into an isolated and not easily accessible “urban interior”. Its isolation from the surrounding fabric, together with its overall sloppiness have turned the area into a ground for various illegal practices. The area which used to be avoided due to its exposure to the water has now been made inhospitable by the urban dynamics that led to its creation.

For all these reasons, many urban plans consider its total erasure and transformation into a metropolitan park.(4)

Picture 23. Aerial view - An area with lack of plan and hierarchy

(4) Analysis for the regional plan of Athens (2012) National Technical university of Athens



Picture 24. The condition of the river in Elaionas area - Open, but strictly contained

Picture 25-27. Characteristic images of inactive residual spaces

c. Advantages:

The loose spatial organization of the area together with the accumulation of marginal activities have made Elaionas an area of great uncertainty and constant change, which is many times considered as a threatening condition. However, it is exactly this situation of indeterminacy which makes the area open to potential transformation resulting from processes that reclaim this post-industrial landscape.

Could those spaces, where the consequences of abusing and erasing the existing natural ground layer appear in their most condensed form, work as the seeds for generating a reverse process, of bringing back, making evident, perceptible and explicit the natural processes of the landscape?

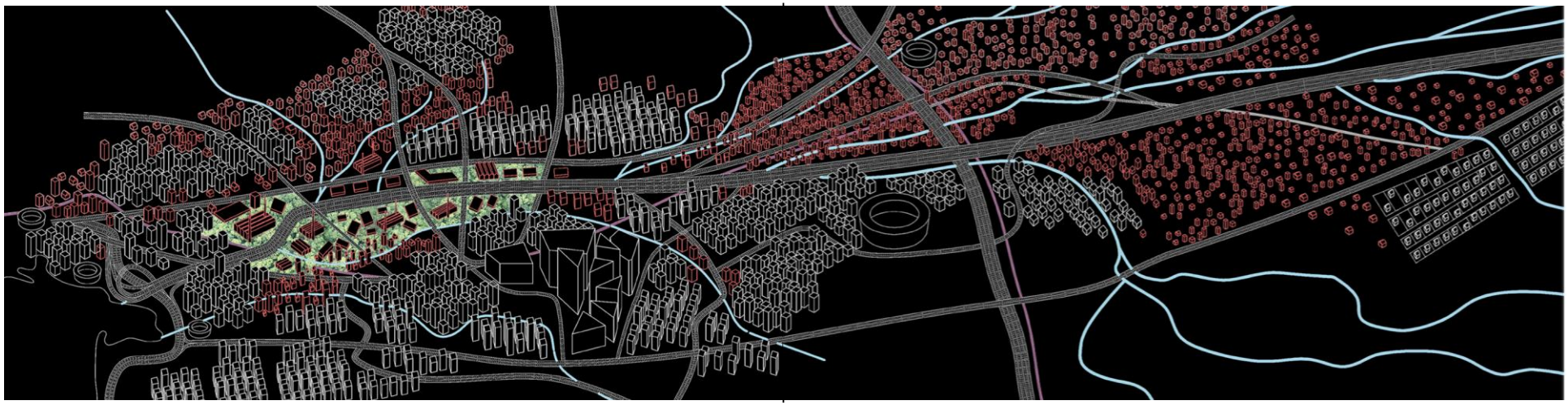
One more quality that opens up the chosen area to acts of transformation is the evident coexistence between the residential, the industrial and the post-industrial city. The hybrid condition gives birth to complex and ambiguous spaces that encourage acts of transformation. Furthermore, the abandonment of many industrial units as a result of the crisis, creates an opportunity for turning those spaces into "urban commons.(5)

(5) Urban commons are defined as common resources in the city. Any citizen can use them and benefit from them
From: Tom Avermaete, "Rethinking the urban commons" (lecture)

Picture 28. Elaionas as the Hybrid void - between industrial and residential, formal and informal.

Legend:

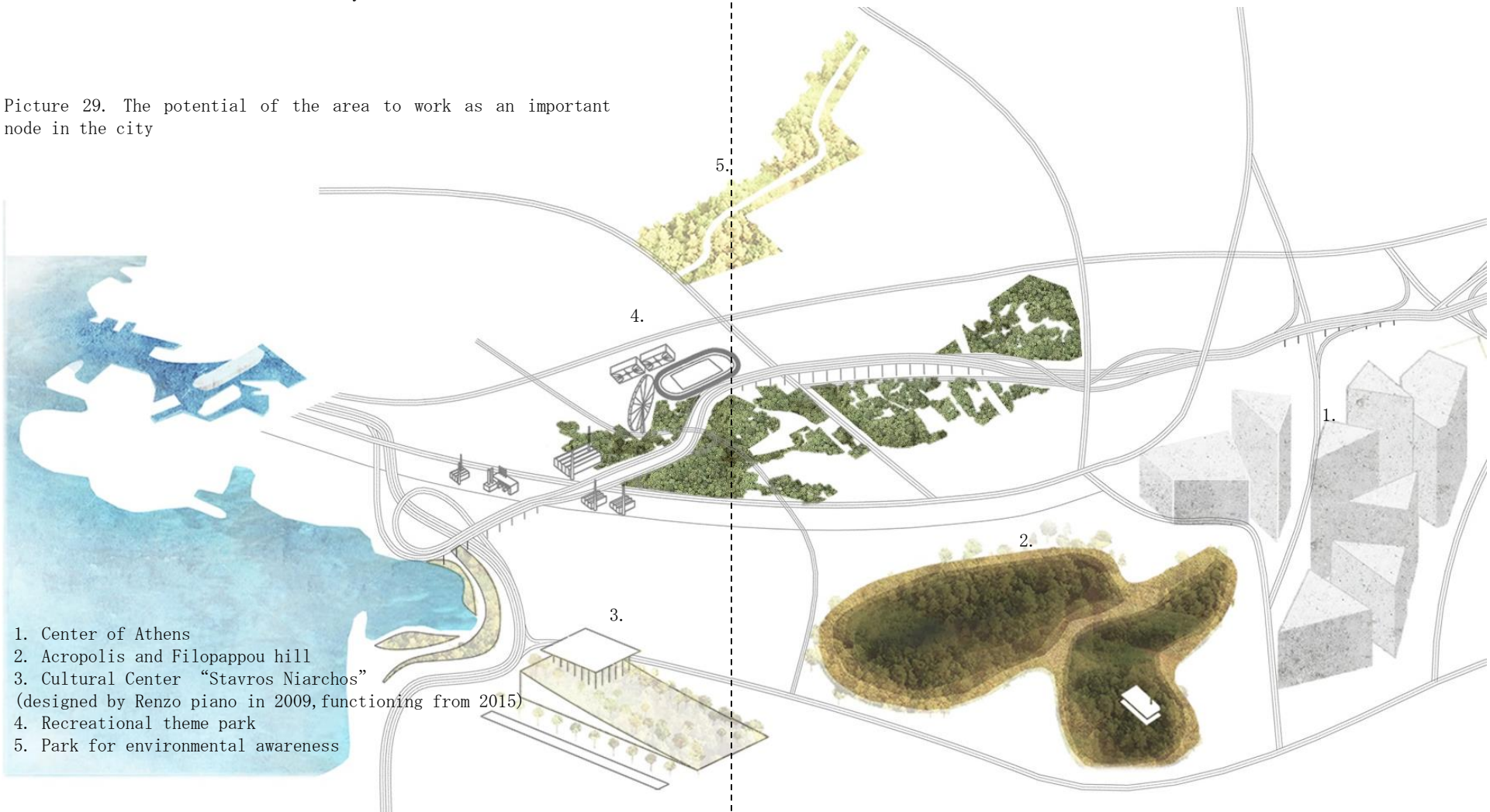
Informal city Formal city Abundance of leftover spaces



Besides the abundance of empty space open to transformation, one more benefit is derived from the nodal location of the neighborhood, only two kilometers away from the city center. If activated, it has the potential to become part of a network with other nodal elements of the city:

The “park for environmental awareness” to the north-west, the port to the south-west, the city center, Acropolis and Filopappou hill to the east, the new culture center, designed by Renzo piano, to the south-east and finally the recreational developments on the coast, at the south.

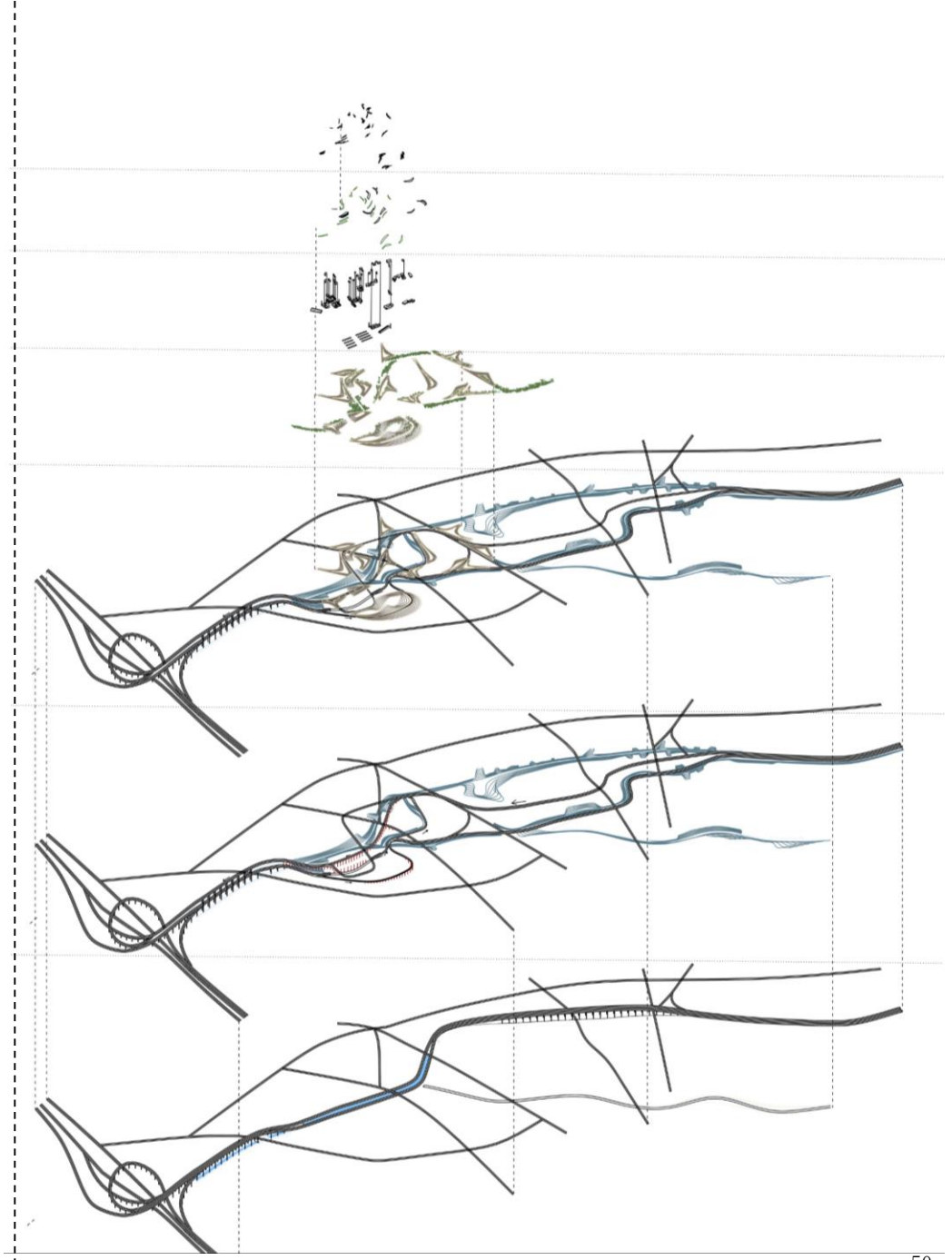
Picture 29. The potential of the area to work as an important node in the city



1. Center of Athens
2. Acropolis and Filopappou hill
3. Cultural Center “Stavros Niarchos” (designed by Renzo piano in 2009, functioning from 2015)
4. Recreational theme park
5. Park for environmental awareness

9. The gradual configuration of the connective topography - The levels of the design intervention

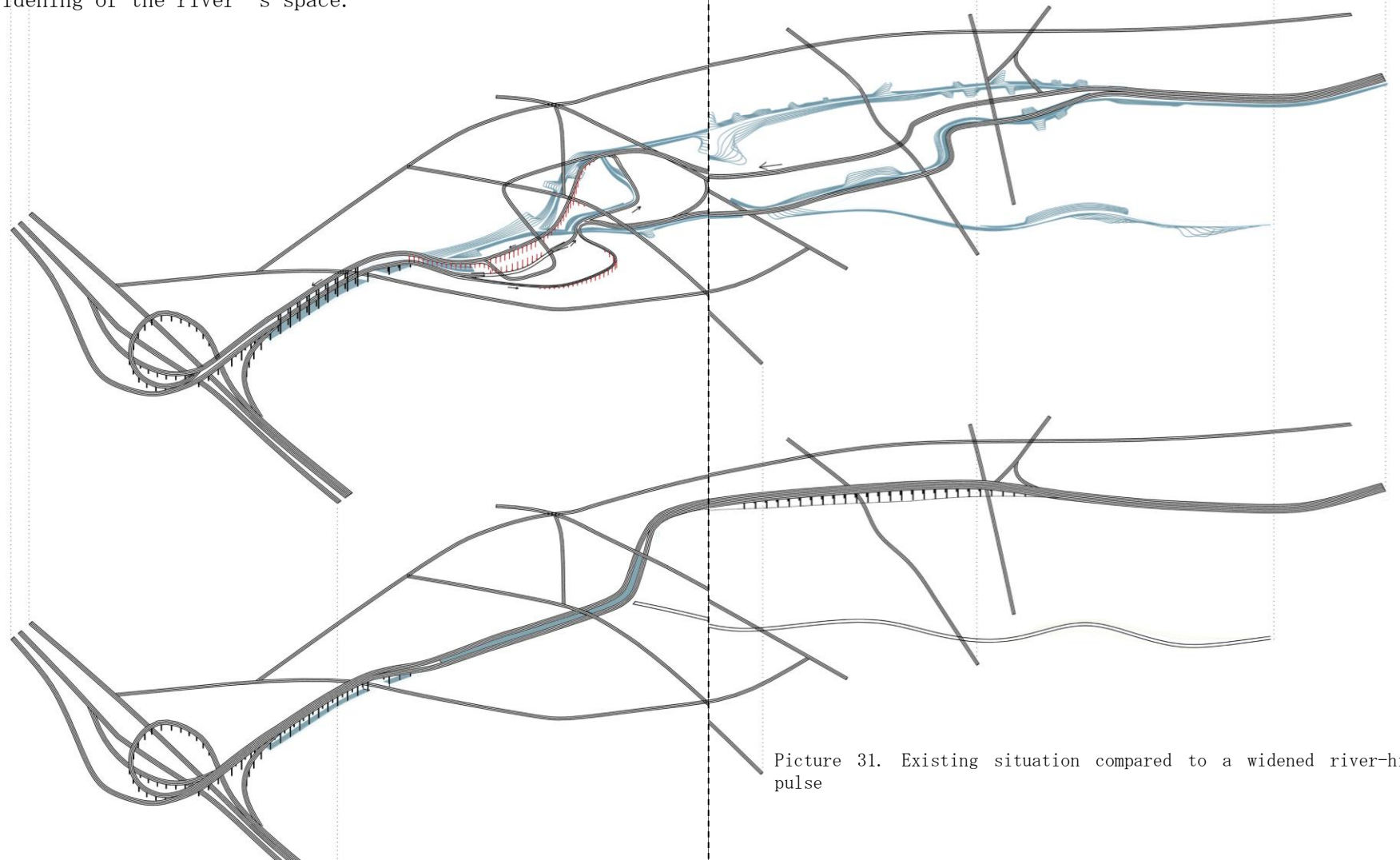
In order to be able to respond to the complexity of the existing condition and to incorporate a balance between formal and informal the design is staged through a number of (subsequent) layers of intervention. The layers involve interventions of different scale and complexity. The sequential order does not always imply sequence in time. For instance, during the implementation of the project, the function of the transformation labs can coincide with the relocation of the land, as two simultaneous transformation processes in time. The purpose of the layers is rather to simplify the design process, while at the same time placing the different kind of interventions into a field of multiple potential interrelations. Within this framework, layering allows us to facilitate potentially complex interrelations within a simple and flexible framework. Furthermore, to address the complexities of each layer individually, while being part of a coherent whole.



Picture 30. The layers of intervention

Layer 1: Highway avulsion, widening the river space

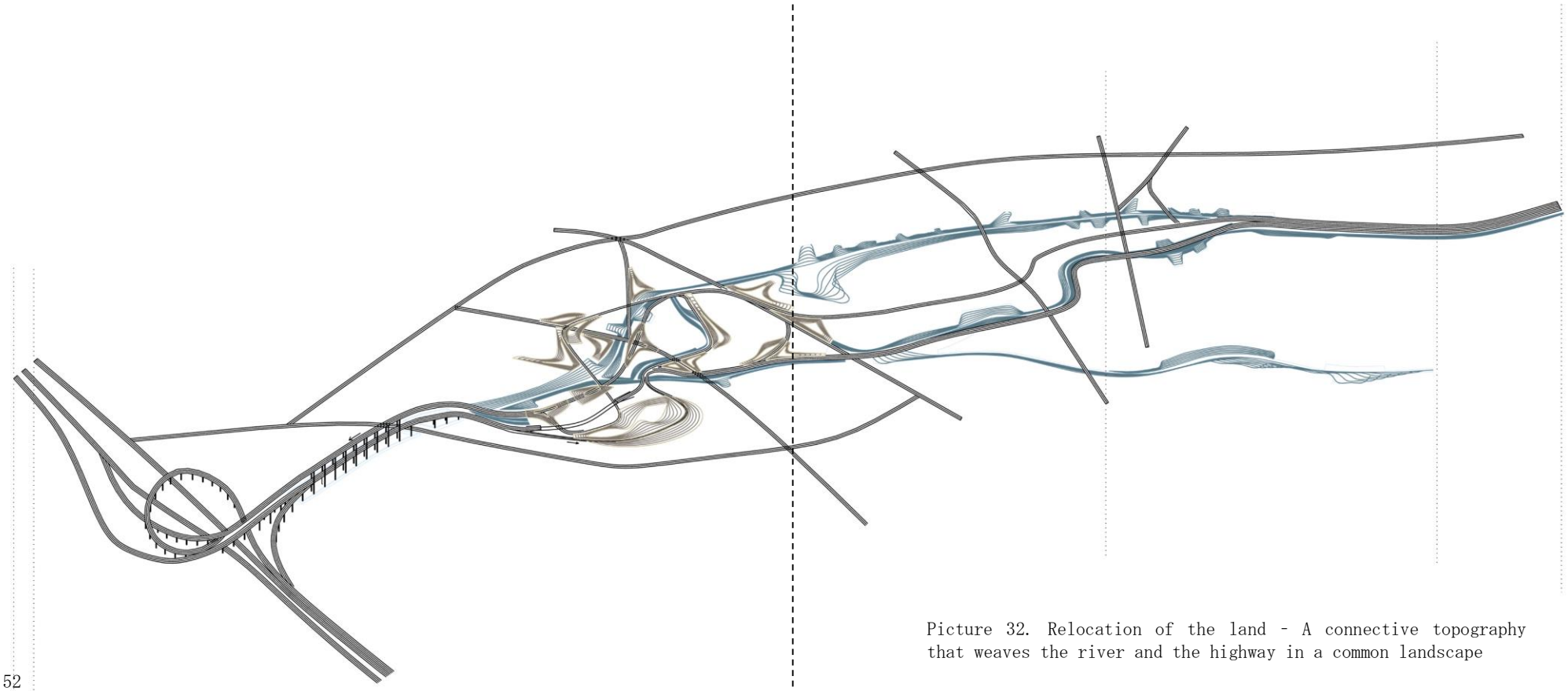
The first layer, following the identification of the river-highway pulse by the neighboring residual spaces, involves the avulsion of the highway and the widening of the river’s space.



Picture 31. Existing situation compared to a widened river-highway pulse

Layer 2: Relocation of the land

Through this step a topography of affordances is created. The topography acts as a common ground between the river, the highway and the city. It brings together different elements and softening the boundaries of strictly defined, opposing identities.

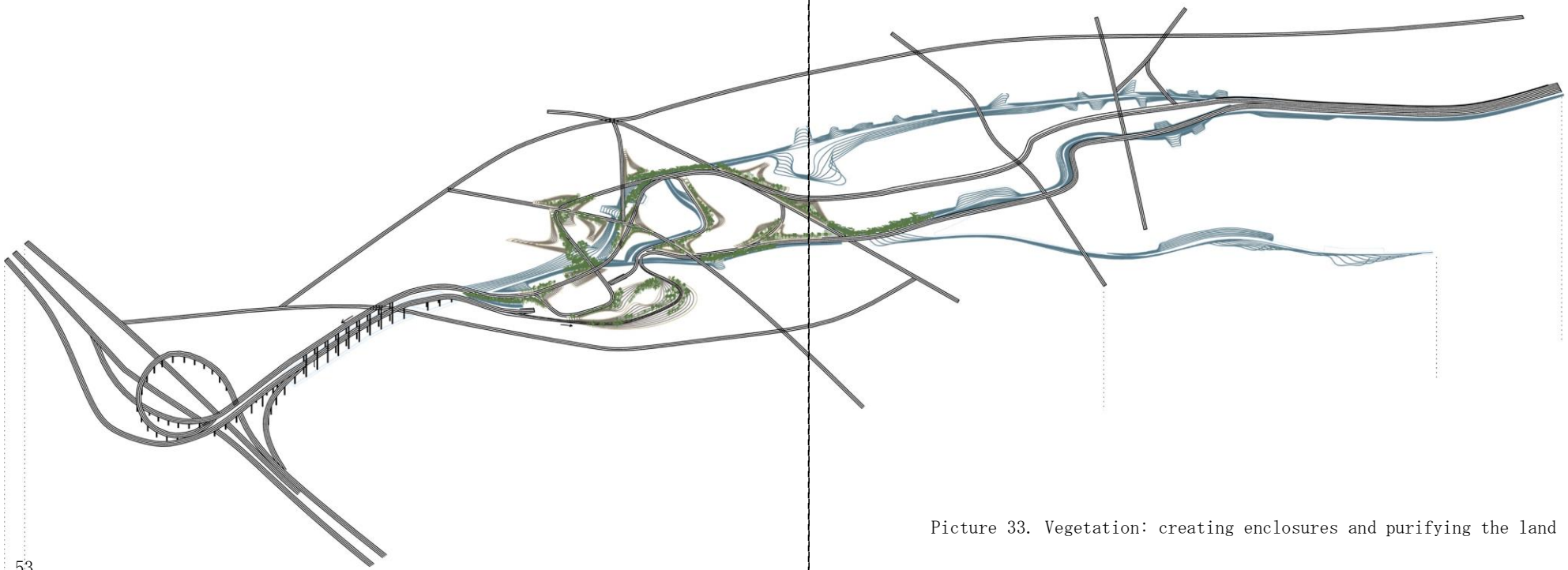


Picture 32. Relocation of the land - A connective topography that weaves the river and the highway in a common landscape

Layer 3: Vegetation. Boundaries and enclosures

The boundaries created by the green elements on the one hand create buffer zones and on the other define the areas open to appropriation.

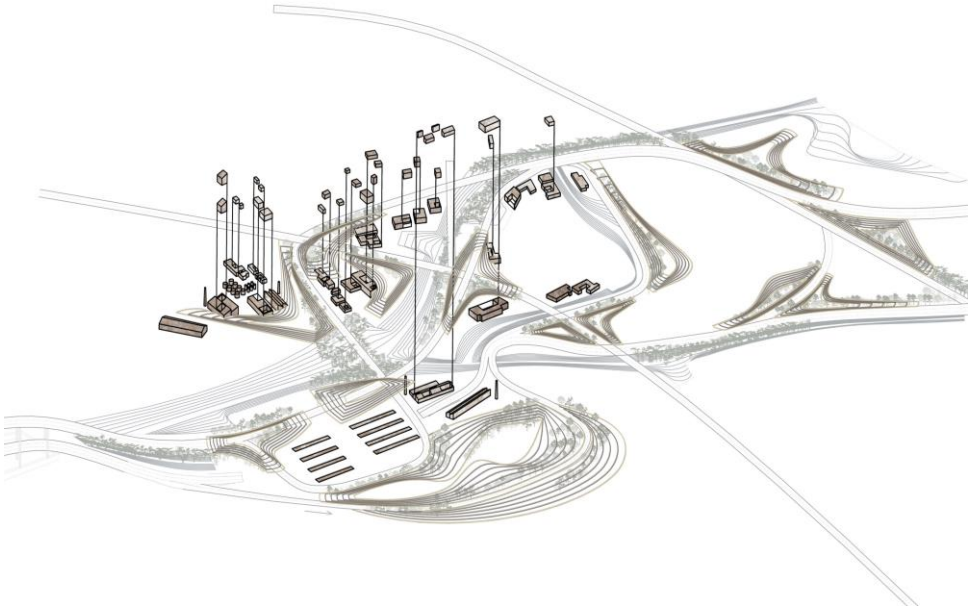
The areas less occupied by vegetation will create grounds for different types od informal interventions.
Furthermore, the densely planted areas contribute to the purification of both the soil and the air.



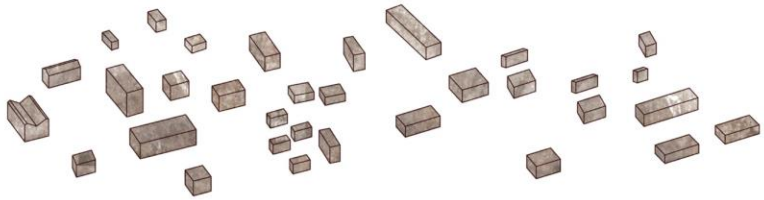
Picture 33. Vegetation: creating enclosures and purifying the land

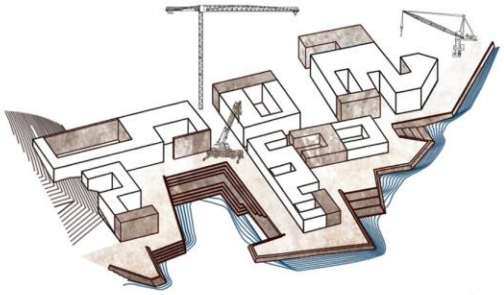
Layer 4: Transformation Laboratories

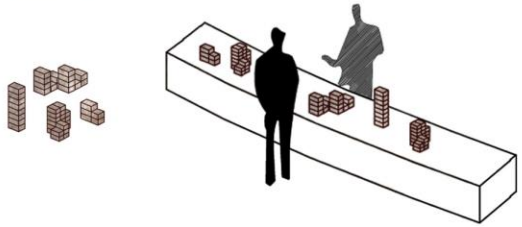
The fourth layer involves the re-activation of abandoned factories, which are turned into transformation labs. Their purpose is to recycle the material from the demolished structures and reuse it for the new interventions. The knowledge gained from this experiment will still be useful in the future. Even when all construction processes are finished, they can work as local workshops giving the area new program, meaning as well as financial opportunities.

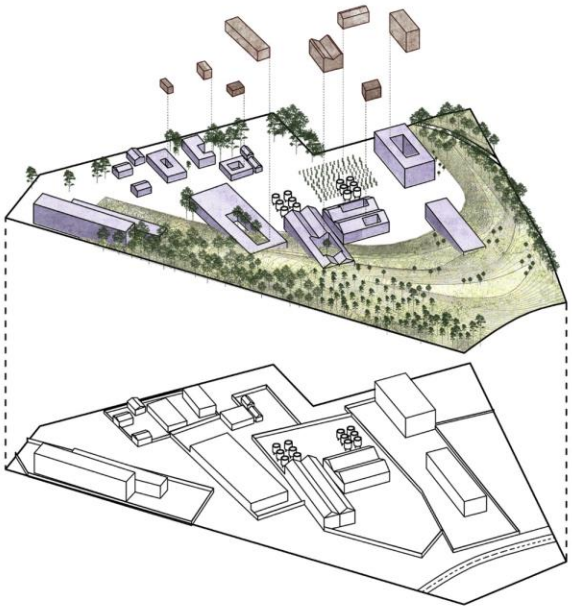


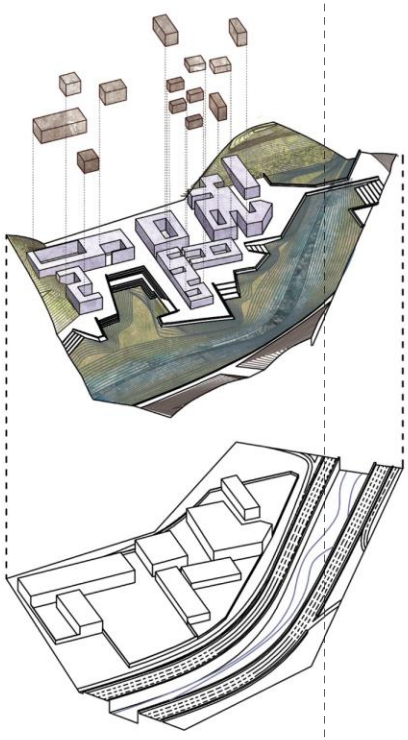
Picture 33-34(next pages) Transformation laboratories: Removing and reusing building material

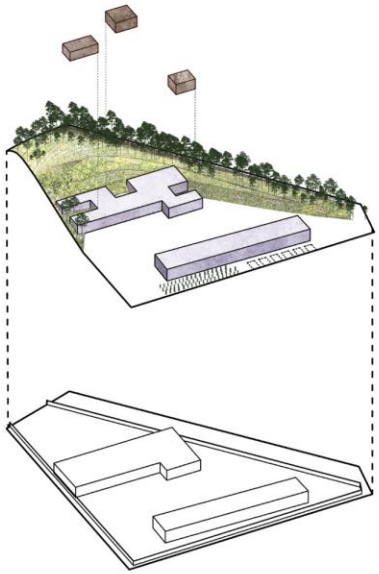


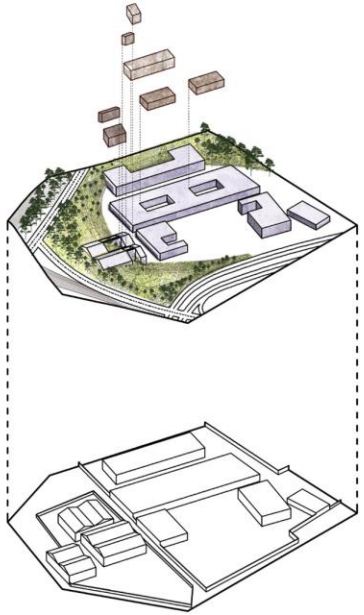








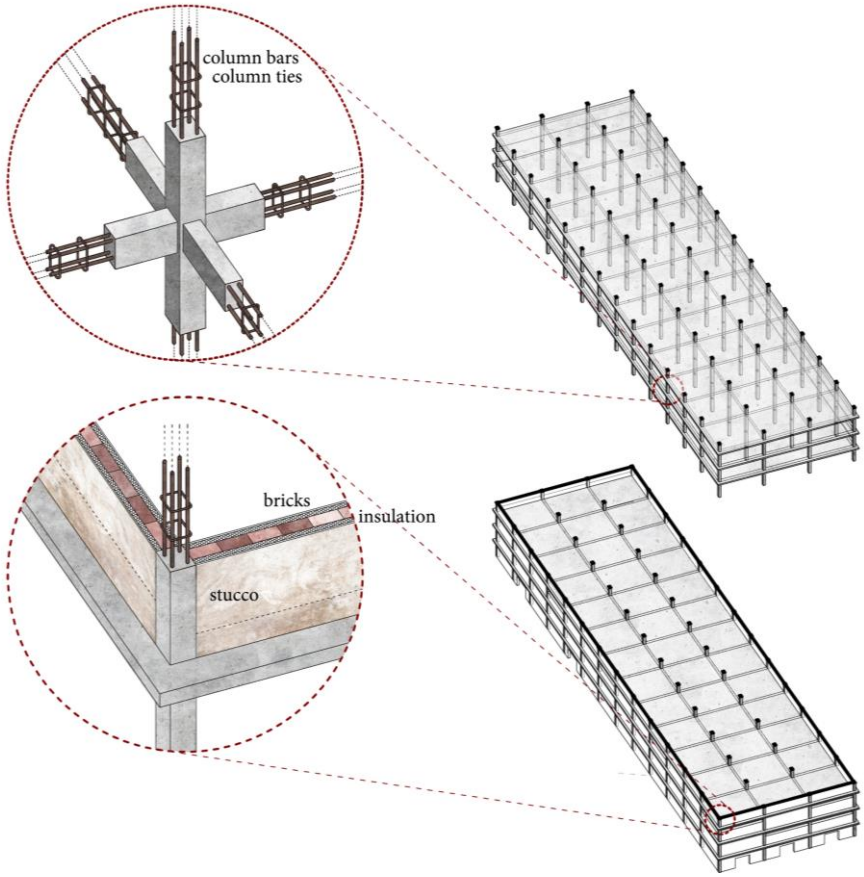




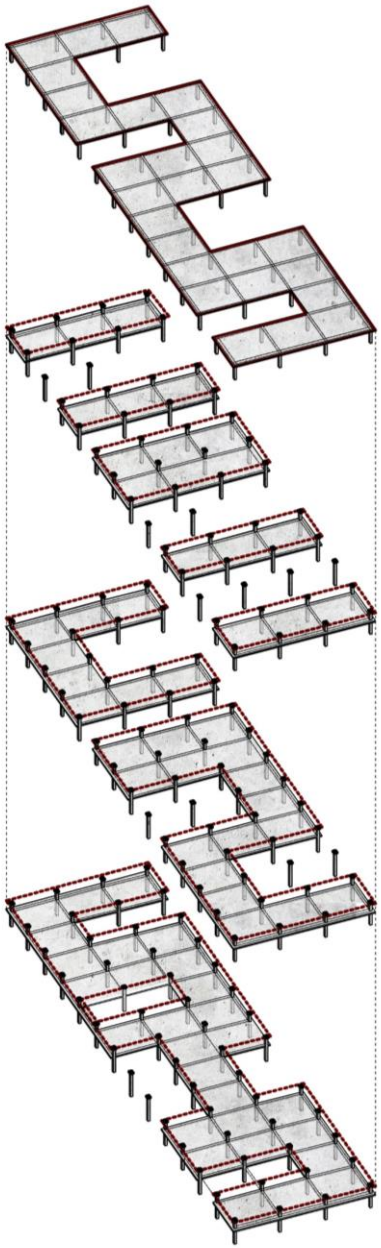
The way that the old laboratories are transform to facilitate new functions such as educational programs and experimental workshops is defined by the structural system of the existing buildings (more information about the program on pages:…)

In most of the buildings we find a grid structure of concrete columns supporting a number of planes. Wile their length can reach up to one hundred meters, their height reaches no more than twenty. One could suggest that the simplicity of their structure resembles the domino system of “polikatoikia”, in a different scale. This makes them flexible and easy to transform, allowing us to apply the concept of a framework open to appropriation on a second level.

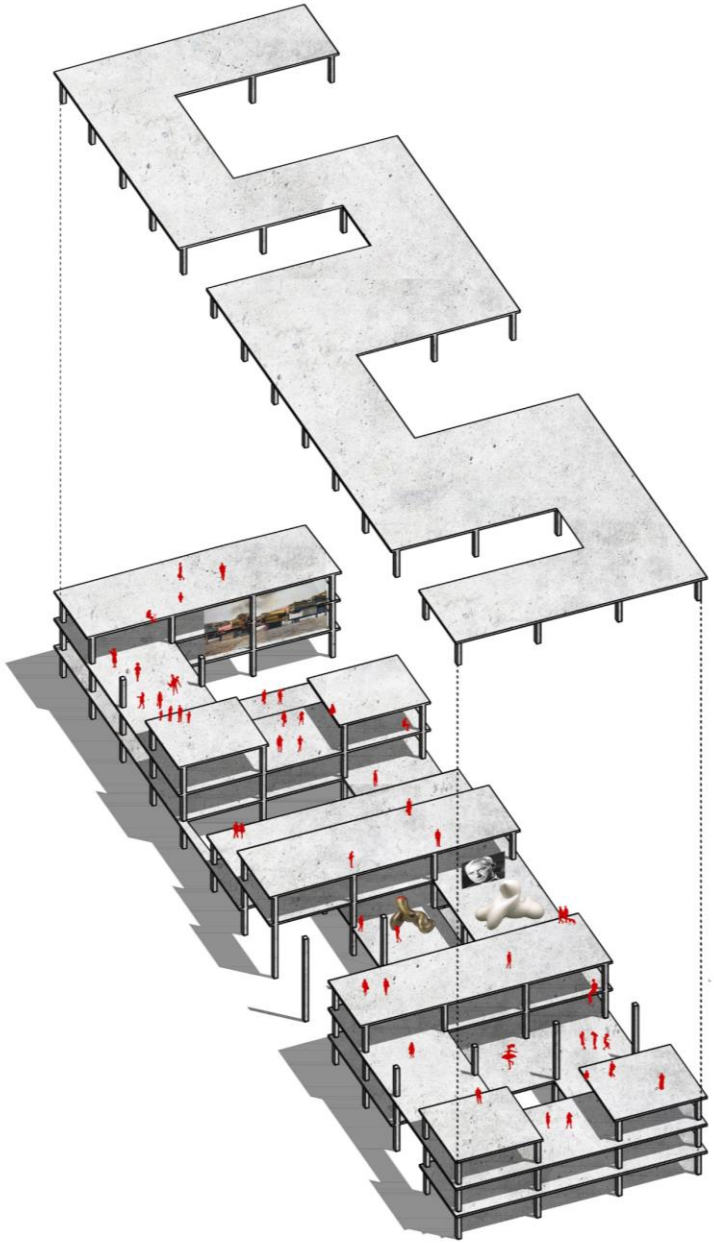
The buildings are quite massive. To make them more open holes are created on the horizontal planes following the existing grid of columns. The holes might be made on different places n each floor, creating an overlap that results in a potentially theatrical experience. This design gesture allows us to emphasize the spaces within the buildings that are more public.



Picture 35.The existing structural system and construction method of the abandoned fatories

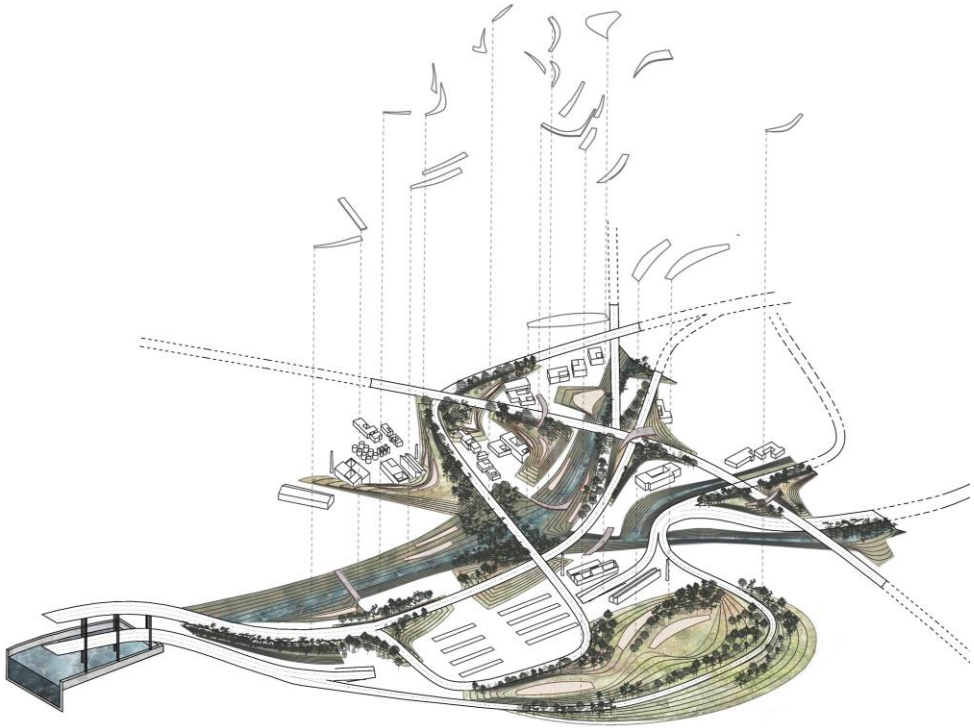


Picture 36. The principle for transforming the old factories - following the existing structural system

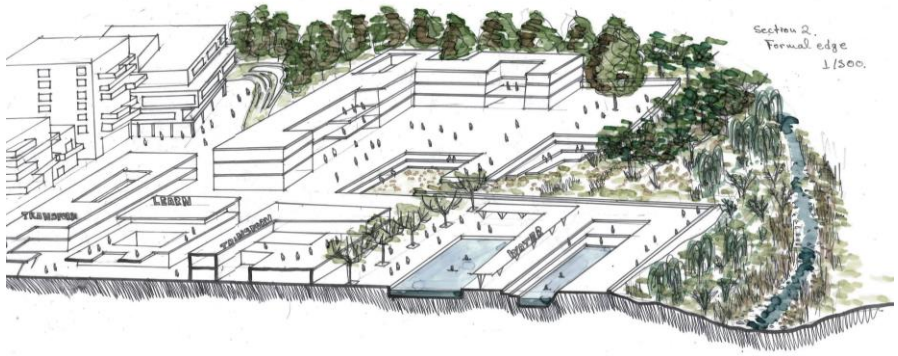


Layer 5: Connective devices - Enabling informal interventions

This layer involves the definition of some smaller scale places that are open to appropriation. These are the plateaus that theatrically refer to the river the highway and the city establishing various visual connections. Furthermore, connective devices are employed to make these spaces accessible, both actually and visually. These are already formulated in earlier stages of the research and they include bridges, amphitheaters and observatories.

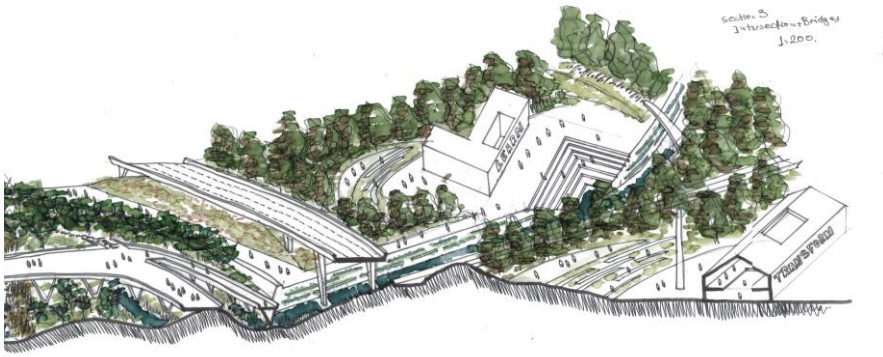


Picture 37. Bridges and connective devices constructed of recycled building material

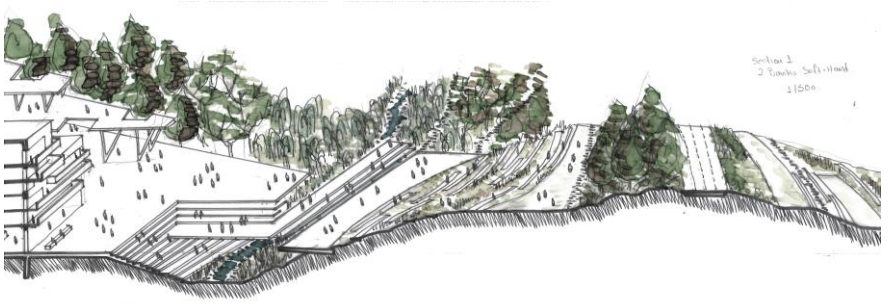


Picture 38. Initial image of transformation laboratories and a complex of amphitheater and pools that connects to the river space.

Picture 39. How the plateaus and amphitheatrical spaces turn the hills of the new topography into connective tissue.

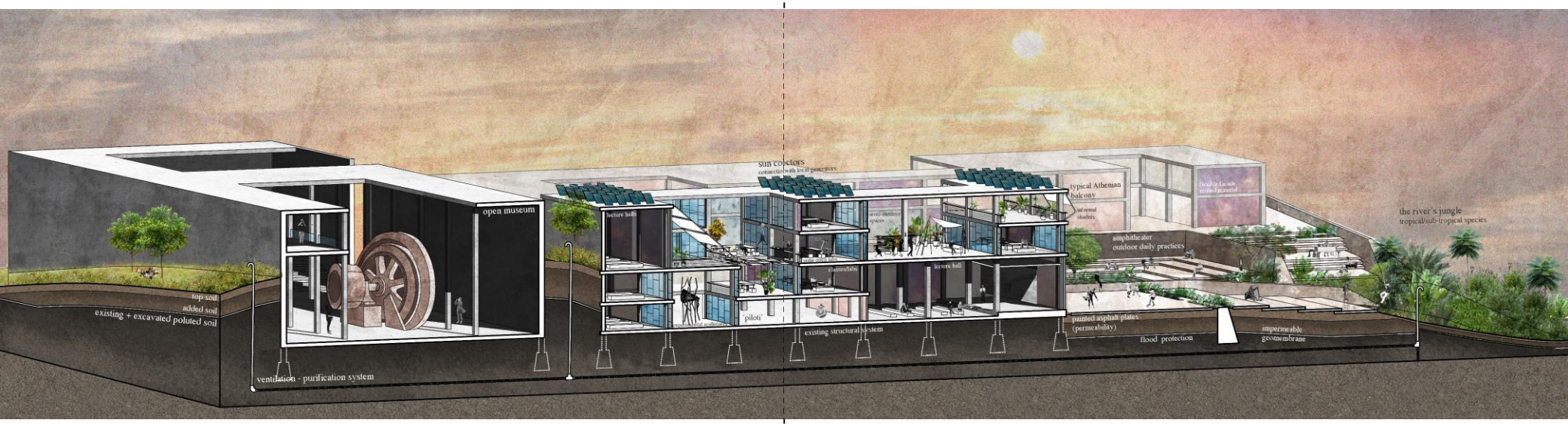


Picture 40. Initial image the river-highway overlap. A suggestion of how plateaus, amphitheaters and bridges coexist in space.



Picture 41. New topography and connective devices


The resulting masterplan



Picture 43. Cross section of the educational cluster illustrating the different kinds of transformation of the old factories and their relationship to the river bank
(for detailed version look at the end of this booklet)

In this plan one can see how the river and the highway no longer work as isolated systems. They become rather part of a new integrative landscape-topography. How the transformation laboratories become part of the landscape, how the connective architectural devices work ad how the elements f vegetation enclose the plateaus, the spaces open to appropriation.

What is not illustrated however is exactly what makes this plan different from a romantic formal intervention, solely focusing on form, structure composition and aesthetics.

What makes this plan different is the intention to involve people into appropriating this extensive green tissue - this topography of affordances.

(6) Kaplan R.& Kaplan S. 2005 Preference, restoration, and meaningful action in the context of nearby nature
As Kaplan and Kaplan suggest, the involvement of the residents in the transformation of their own neighborhood increases the bond with their everyday environment. The residents actively involved feel proud for their neighborhood and develop habits that contribute to its improvement.

10. Implementation of the strategy

Creating a new topography in the city while altering its transportation system is a large scale intervention that is not easy to implement. It involves engineering works that will have a considerable impact on the image of the city, its experience and the daily routines of the residents. Thus the construction process needs to be planed in a way that the spaces of the city are still livable.

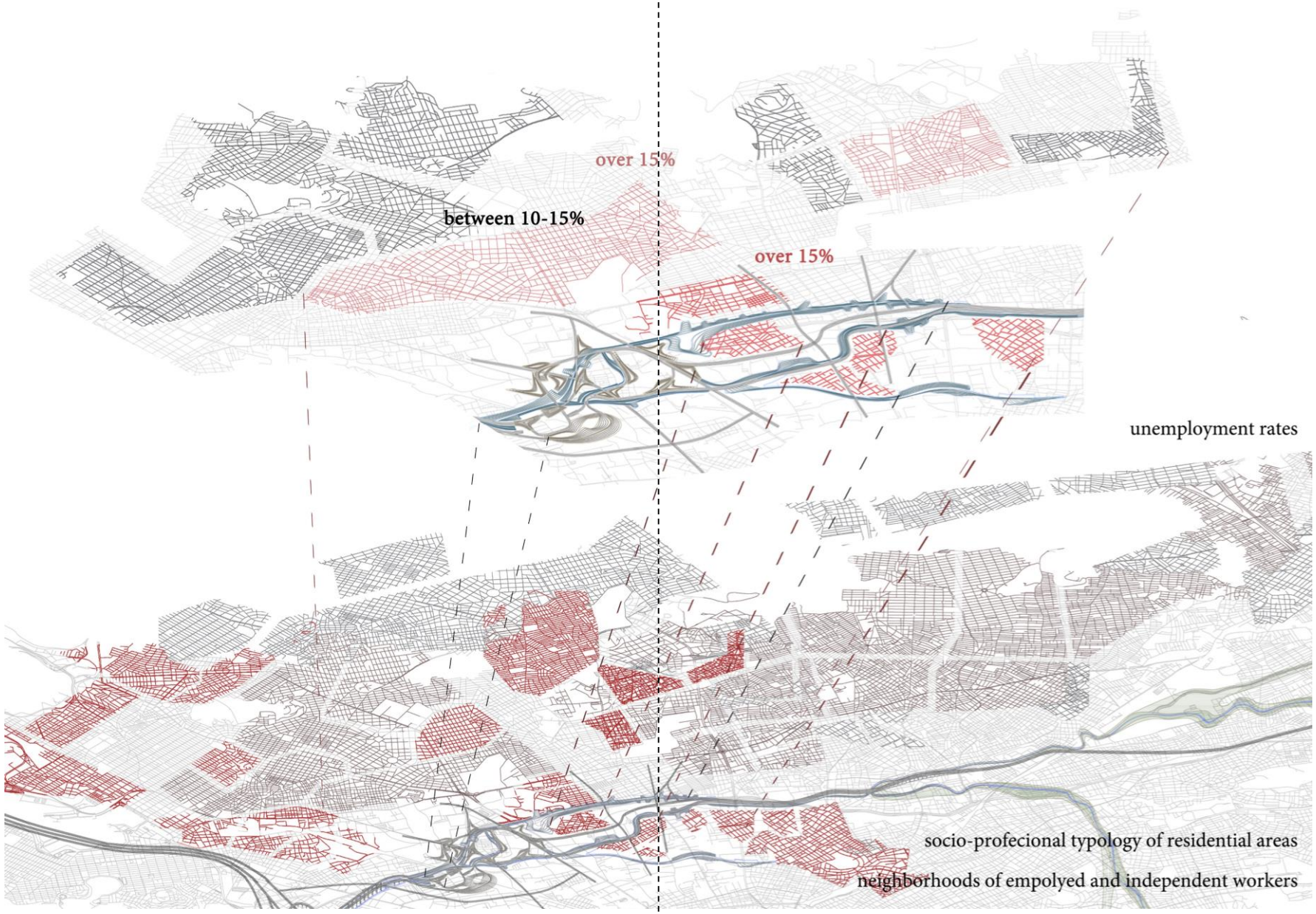
Furthermore, such large scale changes cause a number of inconveniences which the residents of the area and the frequent users of the infrastructural network are not always willing to accept. However, if people are somehow involved in the planning and construction process, they become themselves part of the change. In this way not only they can endure the difficulties it might cause, but also embrace them.(6)

a. Construction phasing - based on the existing socio-professional condition of the local population

The first step investigate how the formal plan, initiated by the city can involve into its construction the people from the surrounding neighborhoods. The formal plan includes the first layers of intervention: The avulsion of the highway, the excavation of the river space and the relocation of the removed soil. Can the local people be involved in these construction processes?

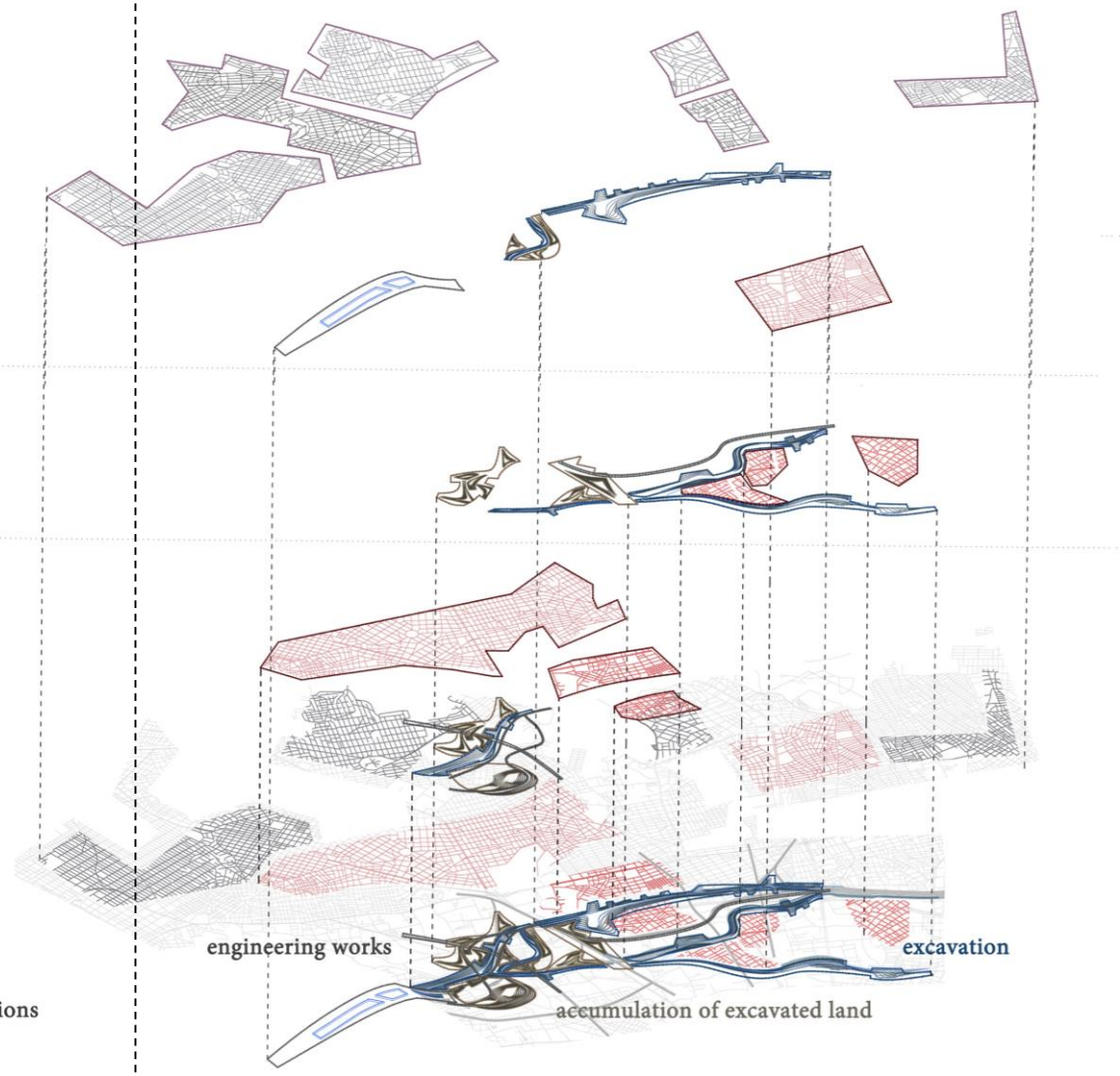
The planning of the construction process departs from the socio-professional analysis of the area. In the neighbourhoods of the western part of the city, (the river-highway flow runs through its centre) the majority of the population consists of independent and hired workers.

Thus in terms of human dynamic there are many people that can be involved in the project. Furthermore, in the neighbourhoods closer to the river-highway flow, we find high unemployment rates, which means that not only there are people available, but also people in need for work.



Picture 44. Socio-professional analysis of the area

Based on these facts a time phasing is planned. More specifically, the construction is divided in three operations: 1) engineering operations such as the construction of the new highway arms, 2)excavation and 3) relocation of the land. The construction is divided in 3 stages in time, which refer to 3 different parts of the plan and which combine the 3 different operations. In each construction phase different neighbourhoods are assigned, with priority given to those in need.



Picture 45. Construction phasing according to unemployment rates

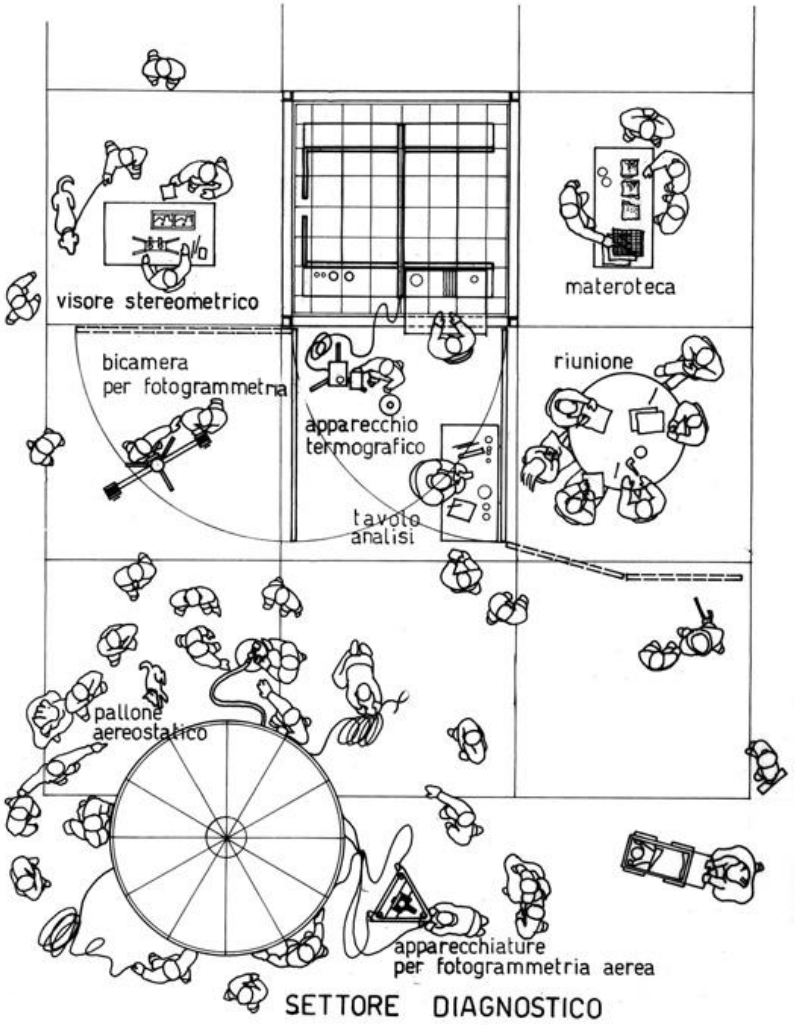
b. The function of the transformation laboratories

While in construction process for building the formal part of the plan, people are involved through job offerings, their participation in the activities hosted in the transformation laboratories is more complex. While some of the abandoned industries acquire are used during the construction process, other programs involved such as discussions, workshops and planning need volunteers.

The involvement of volunteers is highly influenced by the way the different functions are organized in space as well as by how easily accessible and well connected they are both to the neighbourhood and other areas of the city.

To investigate ways in which these laboratories can become part of the city's life, an important reference project is the Otranto mobile workshop, designed by Renzo Piano in 1969. The aim of the project is to involve the people of the city into the maintenance and restoration of their own houses. The pavilions take on different functions such as places for discussion, technical education and construction experiments. There is no need to mention that these places actively encourage social interaction.

The experiment in the end was to a great deal successful, suggesting that the involvement of people in the transformation of their living environments, even when it involves specialized construction activities, is not a futile romantic scenario.



Picture 46. Otranto mobile workshop: a typical pavilion and the different functions it can accommodate

Source: Toshio Nakamura, "Renzo Piano : building workshop, 1964-1988", Japan Architect Co., 1989

Pictures 47, 48. Renzo Piano, Otranto Mobile Workshop (1969)
An exemplary project of involving people in the transformation of the city.

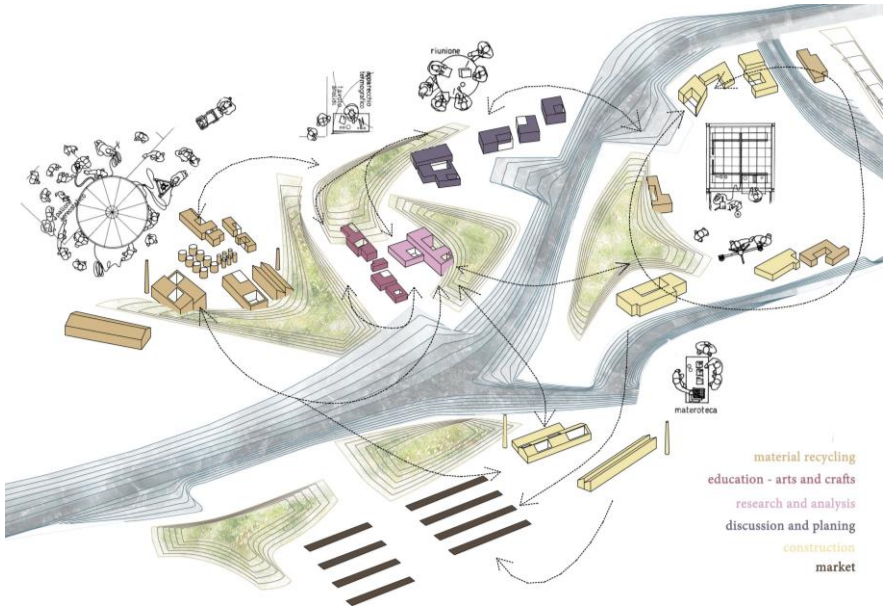
Source: Toshio Nakamura, “Renzo Piano : building workshop, 1964-1988”, Japan Architect Co., 1989

Otranto is a very old city with buildings that are difficult to maintain. The goal of this project is to provide the citizens of the city themselves with the means to maintain their homes. This involves various parameters, from equipment to education. The project addresses this goal by installing a number of mobile pavilions in the public spaces of the city. These take on different functions, working as places for discussion, technical education and construction experiments. There is no need to mention that these places actively encourage social interaction.

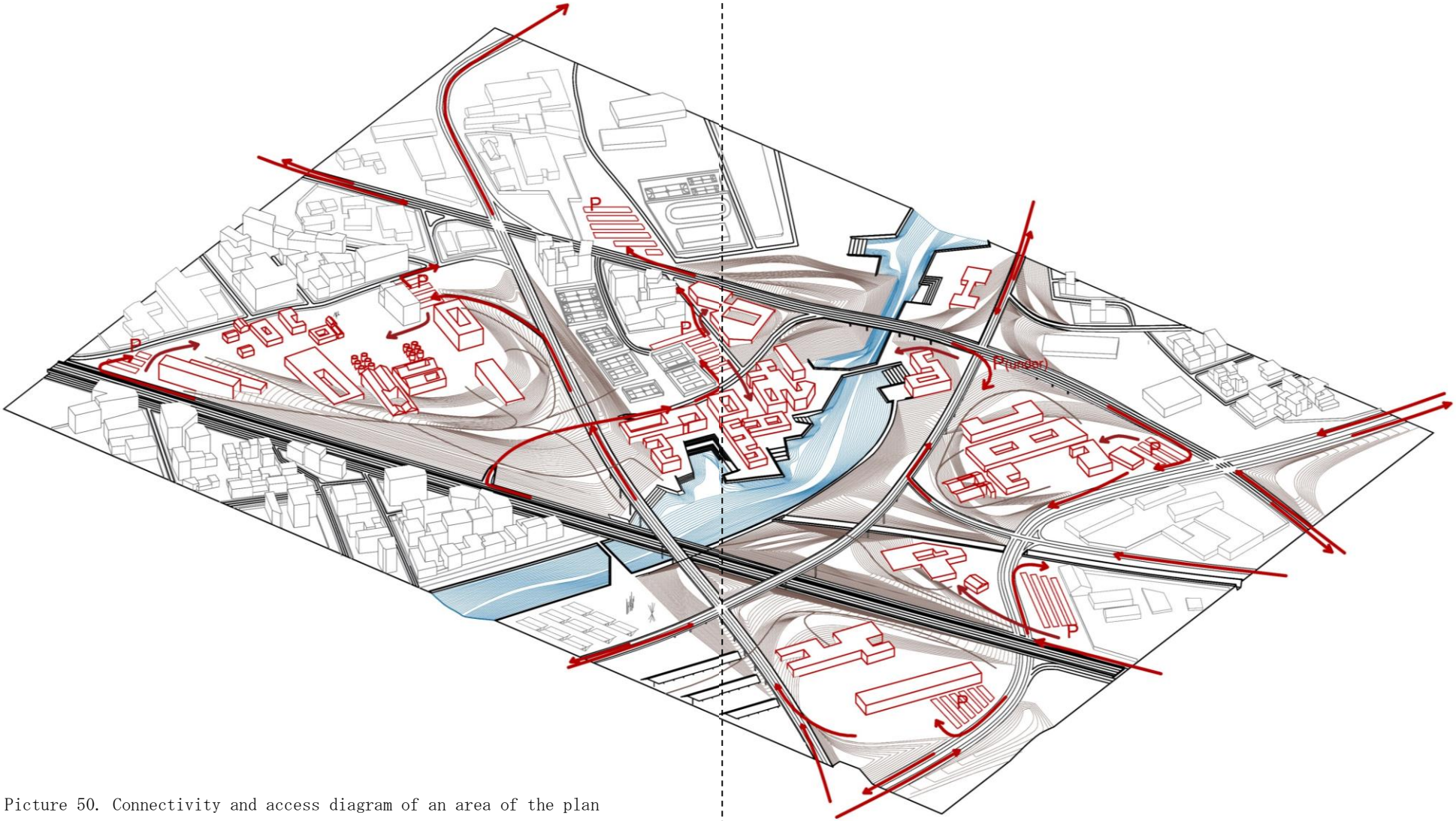
This circle of functions will be also present in the transformation labs. Various uses from education, arts and crafts, research and analysis, discussion and planning, recycling, construction and market for some small scale products are incorporated. In this way the reclaimed industrial sites become something much more than mere construction sites. They have a wider variety of programs that is more likely to attract different kinds of people to work together in the transformation of their city.

However, it is important that the clusters of different functions do not work as isolated fragments. Thus addressing the connectivity issues both among them, and with other areas of the city becomes a significant part of the design.

Furthermore, the functions of the transformation labs also change through time, through the different stages of the construction phase.



Picture 49. The various functions of the transformation labs. However we need to make sure these spaces are easily accessible and well connected.



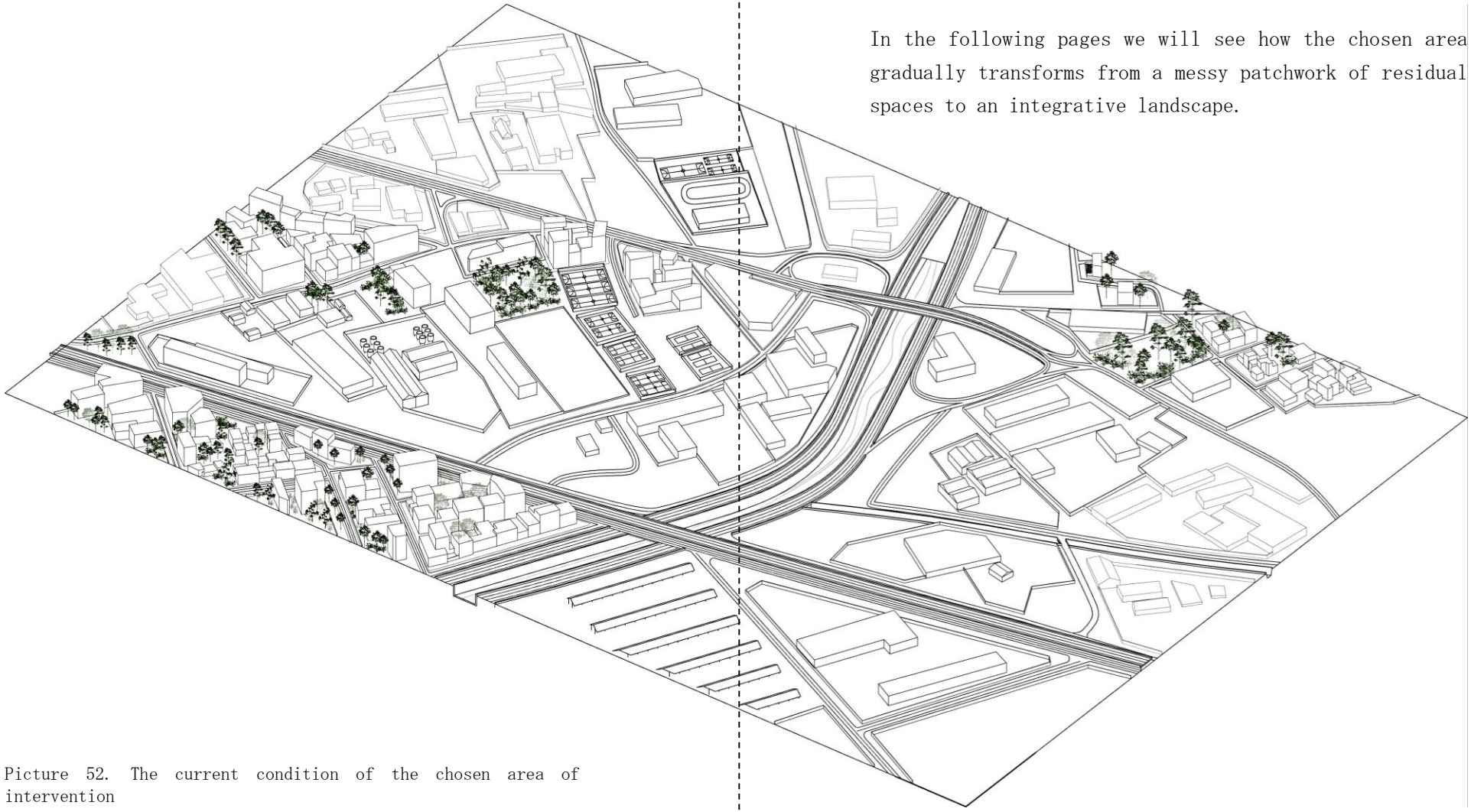
Picture 50. Connectivity and access diagram of an area of the plan


legend
parking stations
driving directions
highway- structural system
entrances
cut land

c. Gradual transformation: The image and liveability of the city during the construction phases

Besides the strategy for involving people in the construction process, both through employment and volunteering (transformation laboratories), the plan includes the gradual steps for the creation of the new topography in a smaller scale.

In the following pages we will see how the chosen area gradually transforms from a messy patchwork of residual spaces to an integrative landscape.



Picture 52. The current condition of the chosen area of intervention

The first phase for the implementation of the plan starts with the horizontal avulsion of the highway. The highway changes its course but is not yet elevated. The relocation of the highway gives the opportunity to create a public zone around the river. The zone is surrounded by previously abandoned factories which are now facilitate the necessary functions for the construction of the new landscape.

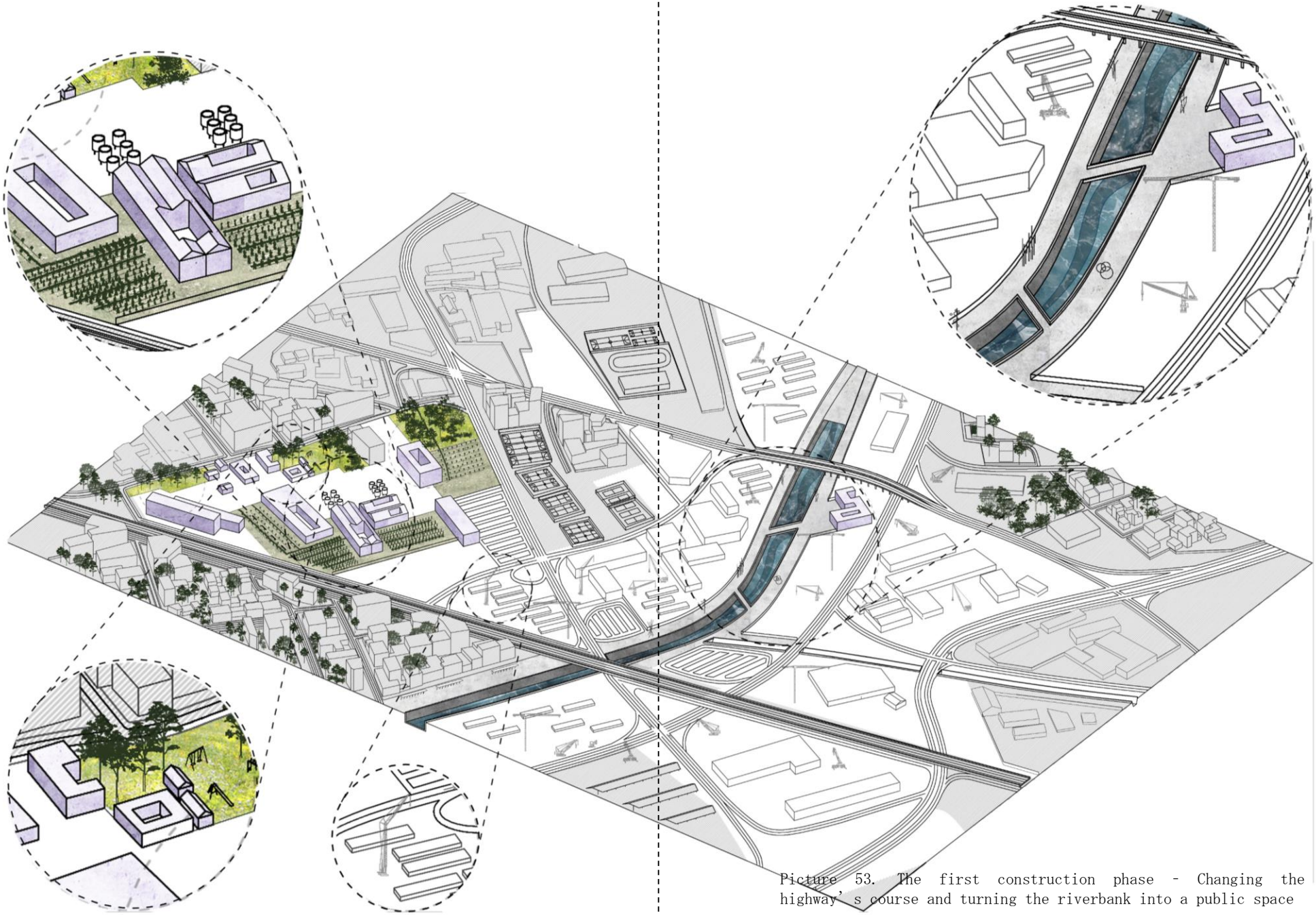
At the same time the first cluster of transformation laboratories starts working, involving functions such as experimental workshops, discussion and planning. The products of the workshop can be used as temporary sculptures on the public riverbank. The riverbank can also facilitate informal markets.

The free areas around the buildings can be used as cultivation sites. Some of the trees that grow there can be later relocated on the elevated hills.

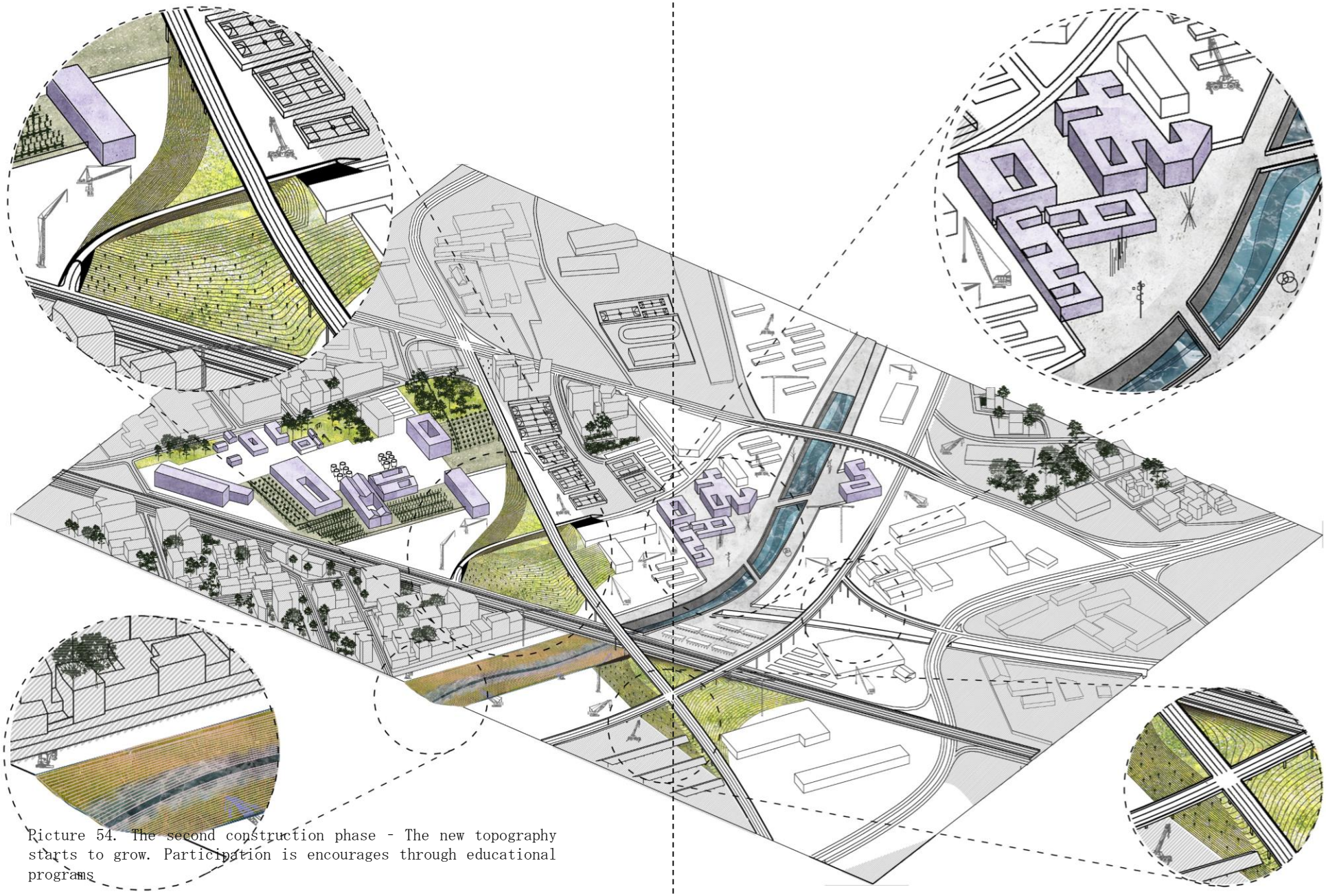
The second phase includes engineering works for the vertical avulsion of he highway, the excavation of the first part of the expanded river-space. The excavated space is not yet occupied until the first plants start to grow, making the ground more stable.

The relocation of the land results in the creation of the first hills. The first pine trees are planted.

The second transformation cluster, which is adjustment to the public bank is put in function. This cluster mainly involves educational programs to provide the citizens with the necessary knowledge to actively participate in the transformation of the neighbourhood.



Picture 53. The first construction phase - Changing the highway’s course and turning the riverbank into a public space



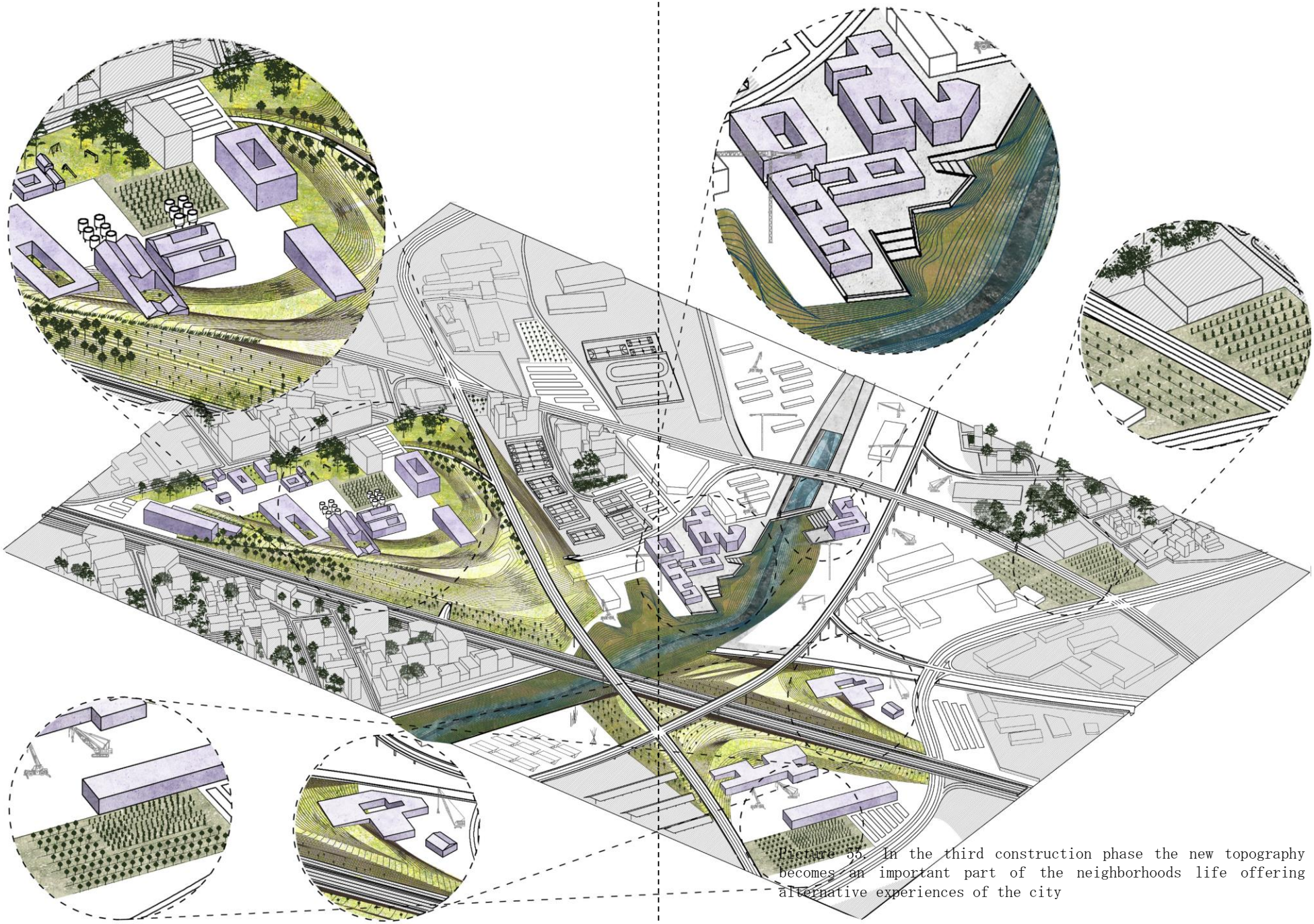
Picture 54. The second construction phase - The new topography starts to grow. Participation is encourages through educational programs

Until the completion of the third phase the topography has sufficiently grown. Paths run through it offering a different experience of the city. Many parts of the river bank are now completed and open to the public.

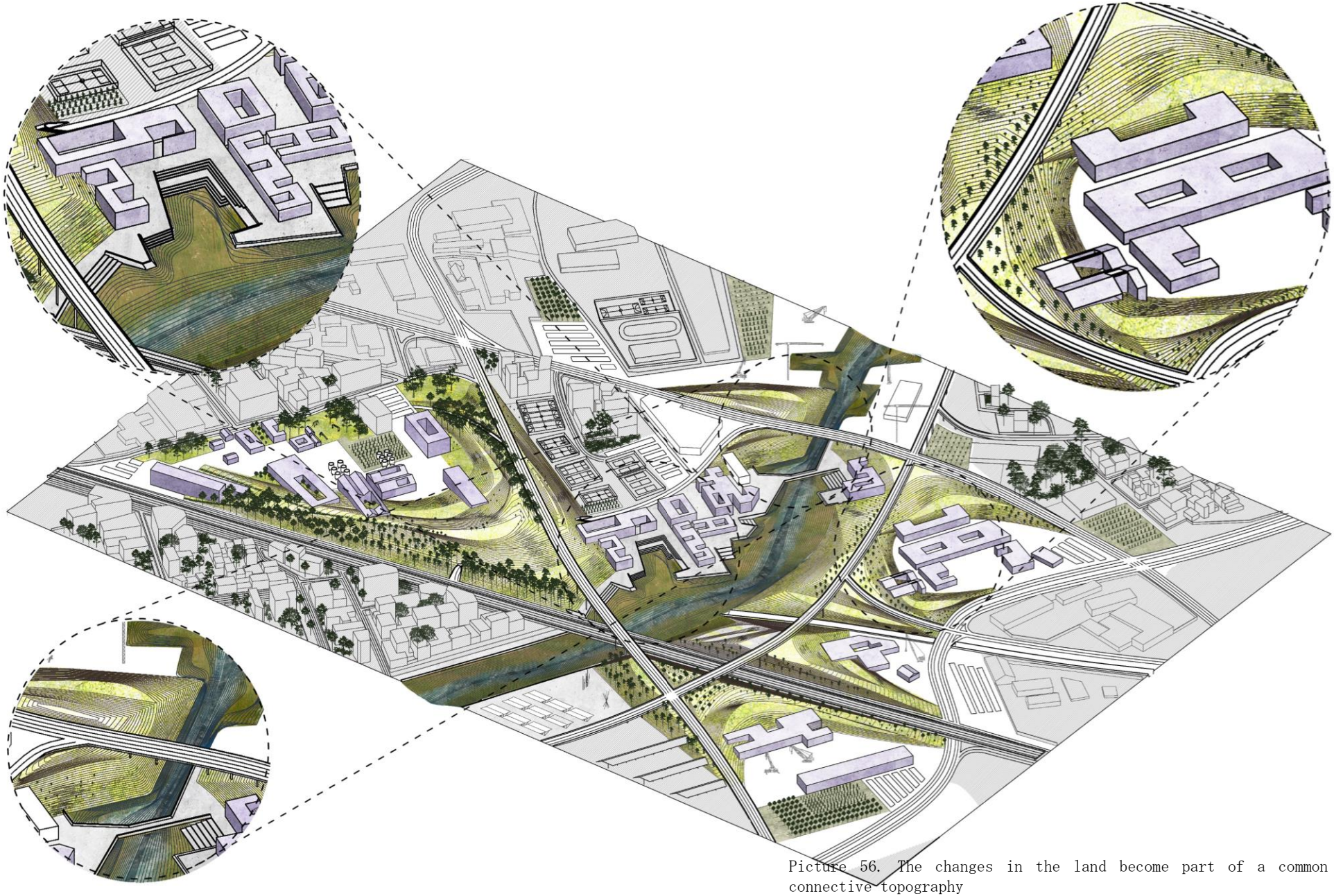
The transformation laboratories continue to grow, incorporating clusters oriented towards construction as well as more public uses such as a cafeteria and restaurant.

In the fourth phase, the topography grows even more developing a relationship of interpenetration with the city. We no longer see fragments of hills and widened parts of the river.

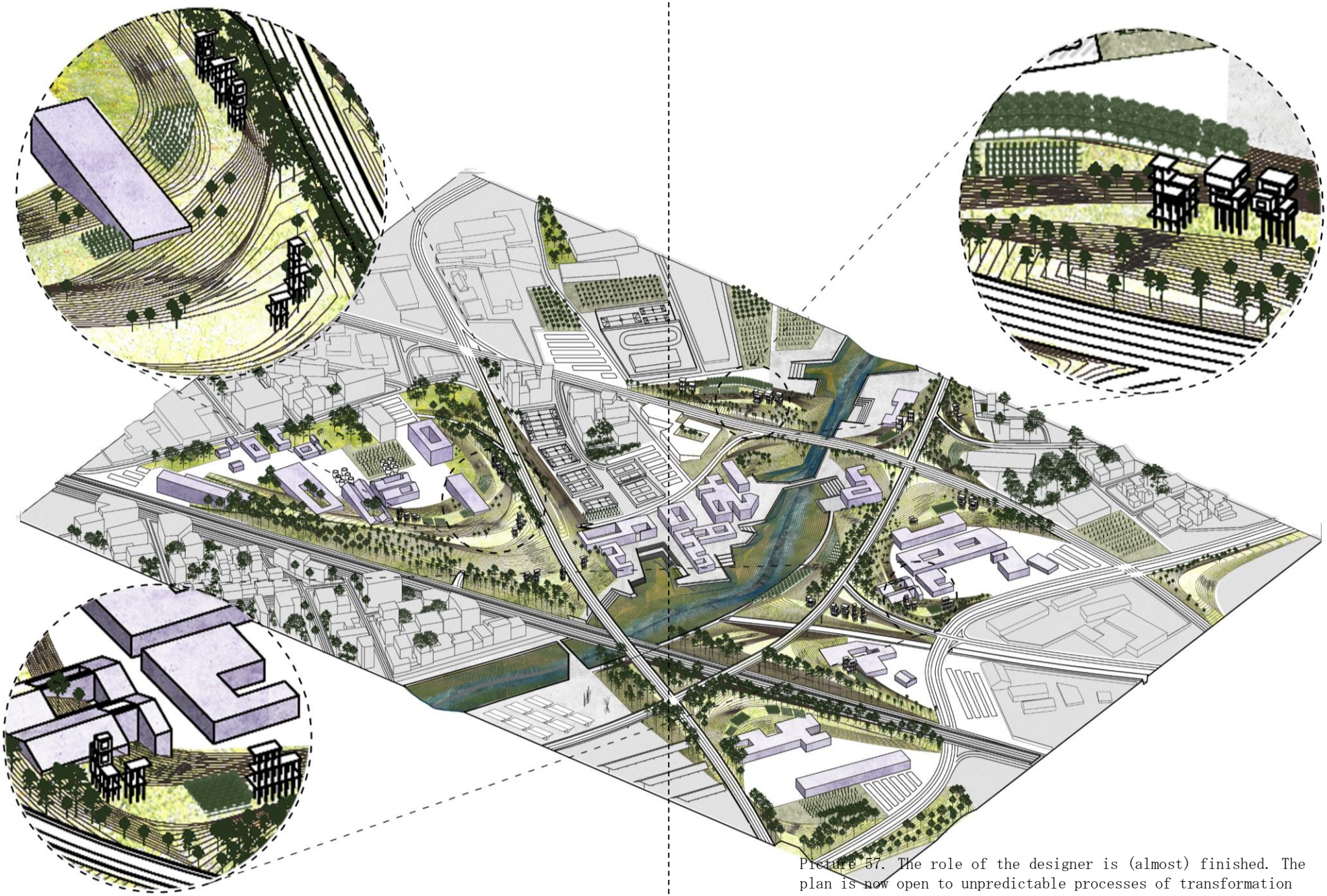
The interventions gradually through time, form a continuous green tissue that connects previously fragmented elements into a coherent story. The banks, the hills and the transformation laboratories become more evidently part of an integrative landscape.



Picture 55. In the third construction phase the new topography becomes an important part of the neighborhoods life offering alternative experiences of the city



Picture 56. The changes in the land become part of a common connective topography



Picture 57. The role of the designer is (almost) finished. The plan is now open to unpredictable processes of transformation

11. Back to aesthetics - The kinesthetic experience of the transformed landscape

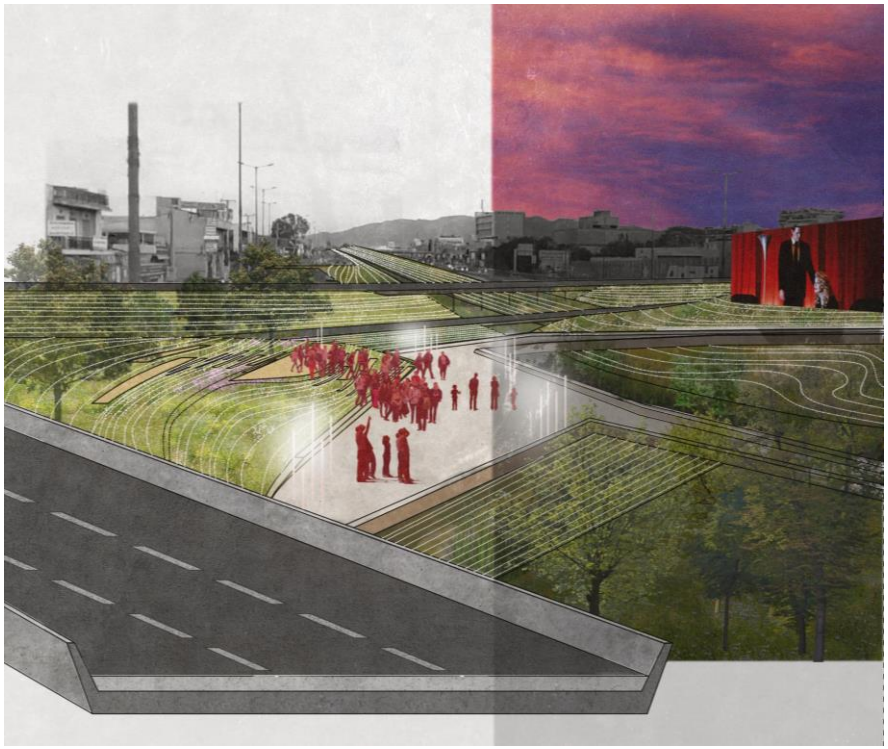
The driver’ s experience moving from north to south

The road goes up and down offering following the topography or intersecting with it, offering alternating views of the continuous green surface.

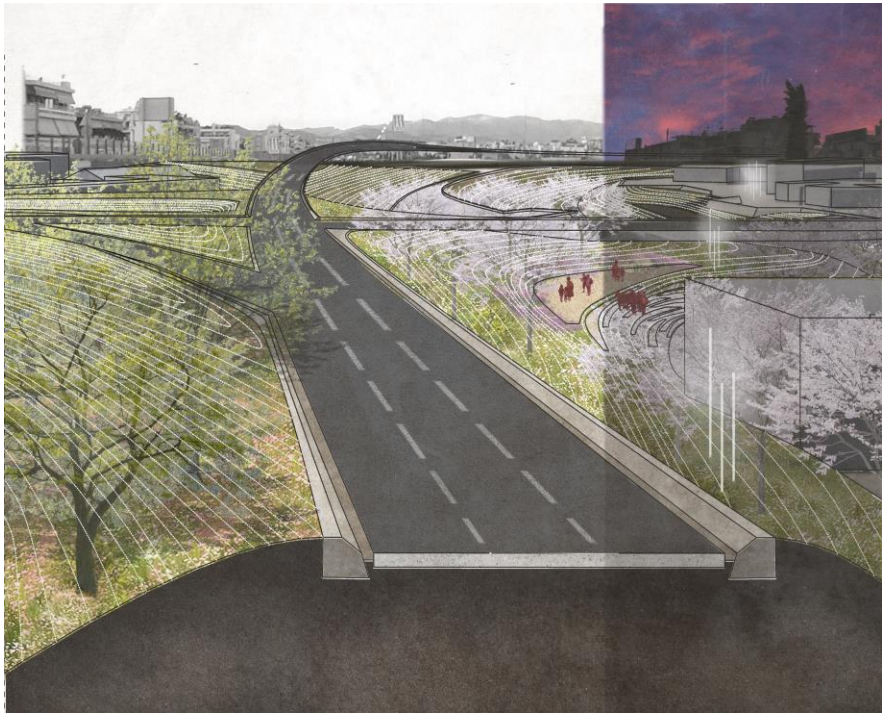
Picture 58. The nodal point from where the avulsion starts. The two highway arms follow different courses

Picture 59. The driver ascends towards the top of the first hill. Vegetation changes while he moves up

Picture 60. Moving higher one can see the depressed river valley and the bridges crossing it. A first view of the large plateaus.

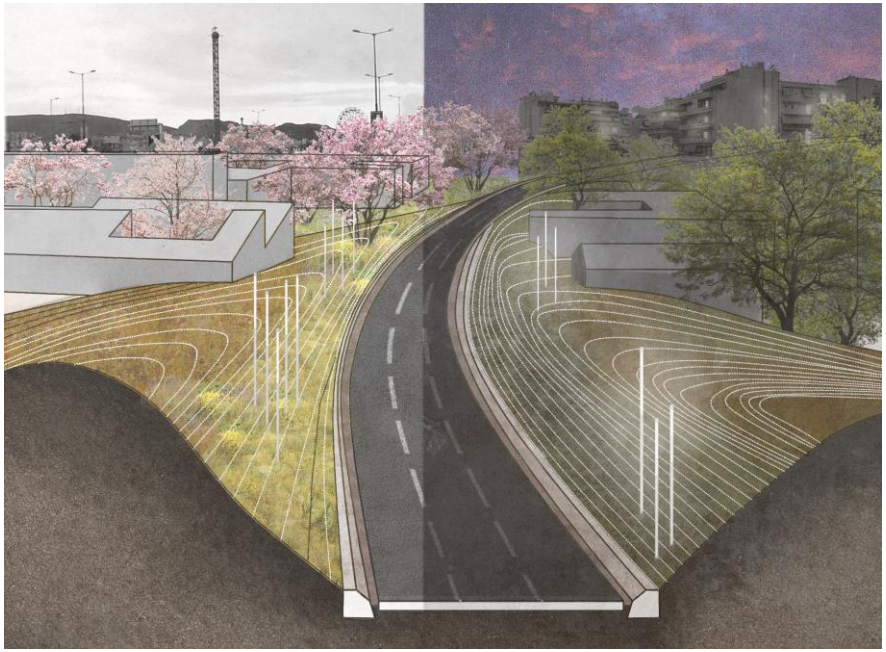


Picture 61. Views of the expanded river space - A space for nature and recreation - A place for the city to breathe - A nearby exoticism.



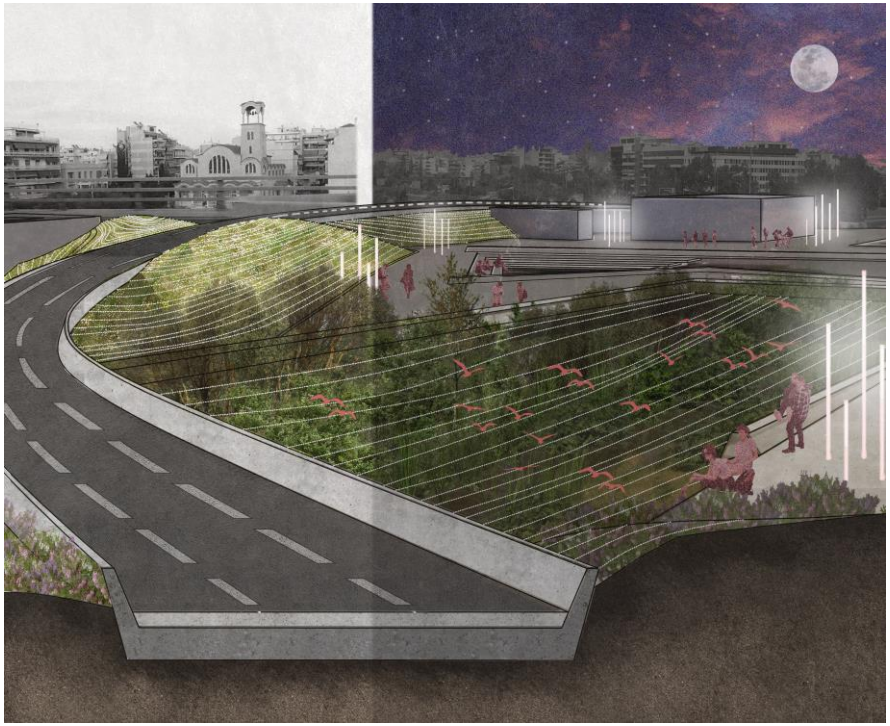
Picture 62. The elevated slopes frame the city. It is interesting how the incorporate different gradients of openness and enclosure.

Picture 62. The further up the dryer the vegetation. The pine clusters with the characteristic dense foliage and their tall trucks creating a permeable boundary.



Picture 63. Then the road goes down again and immerses in the topography. The buildings develop a relationship of interpenetration with the green slope.

Picture 64. Only to move up again



Picture 65. To offer more views of the reclaimed river space

Picture 66. A series of experience very different from the monotonous flow of movement it used to be

The experience of the pedestrian

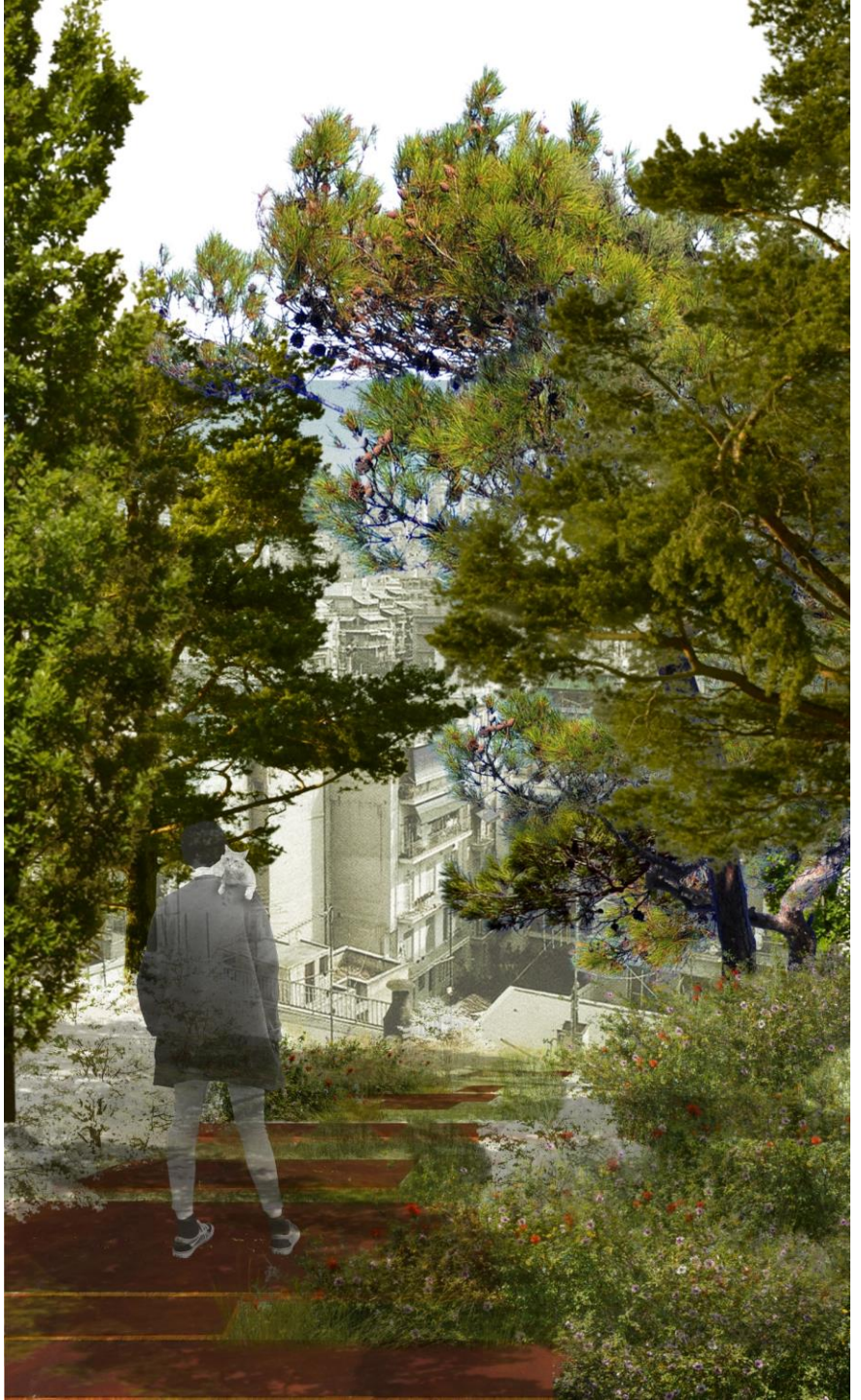
The way the pedestrian moves produces a completely different experience. Here one can feel less the continuity of the flow and more the transitions between different types of spaces.

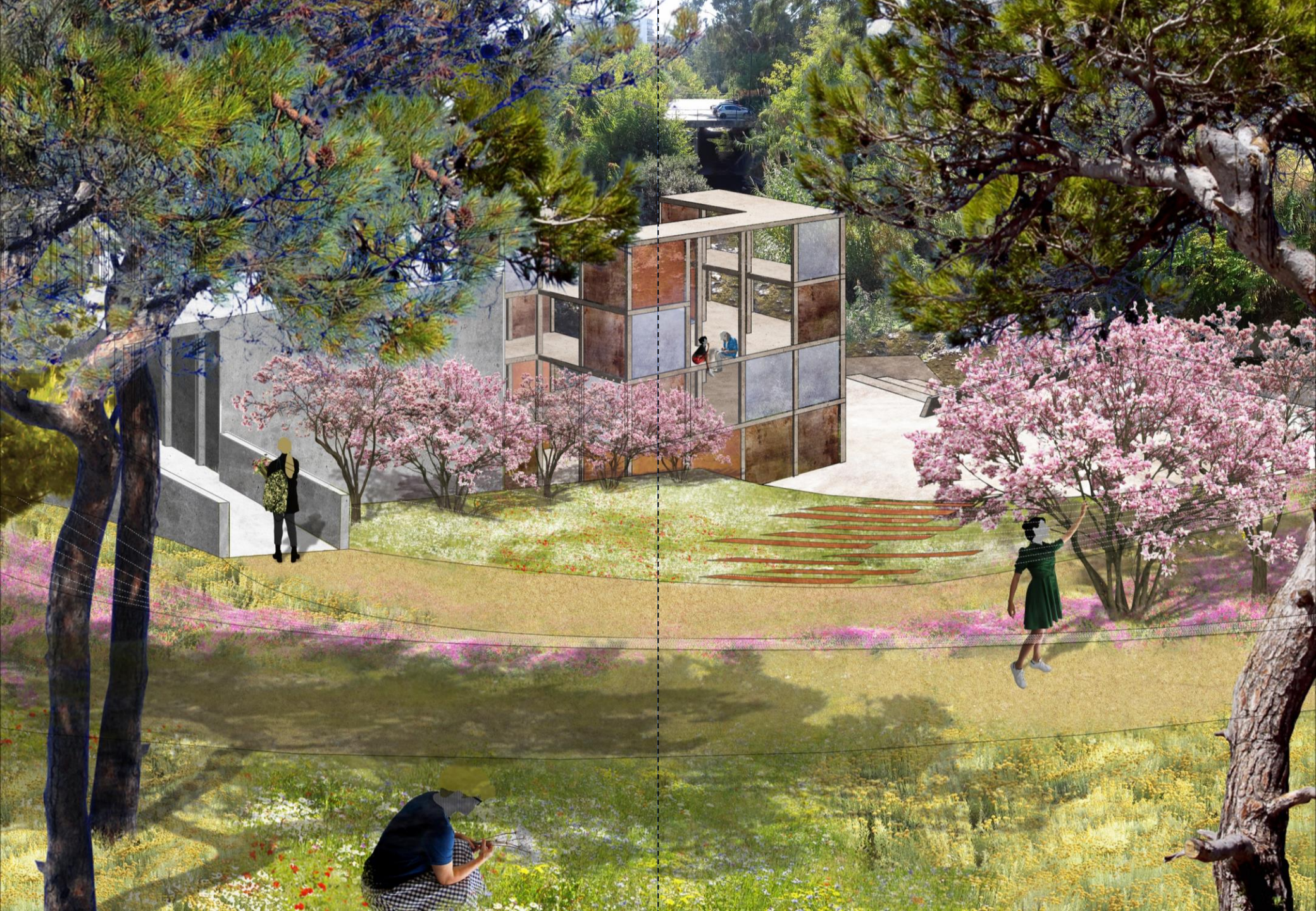
Wandering around the topography of Kifissos, one can find subtle transitions between open, enclosed and closed, between the buildings and the landscape. To experience different atmospheres between the dry pine forests, the open plateaus and the wet jungle like vegetation of the widened river-space. Furthermore to understand, through the experience of the body and by practicing everyday habits how this new landscape becomes and integrated part of Athens.

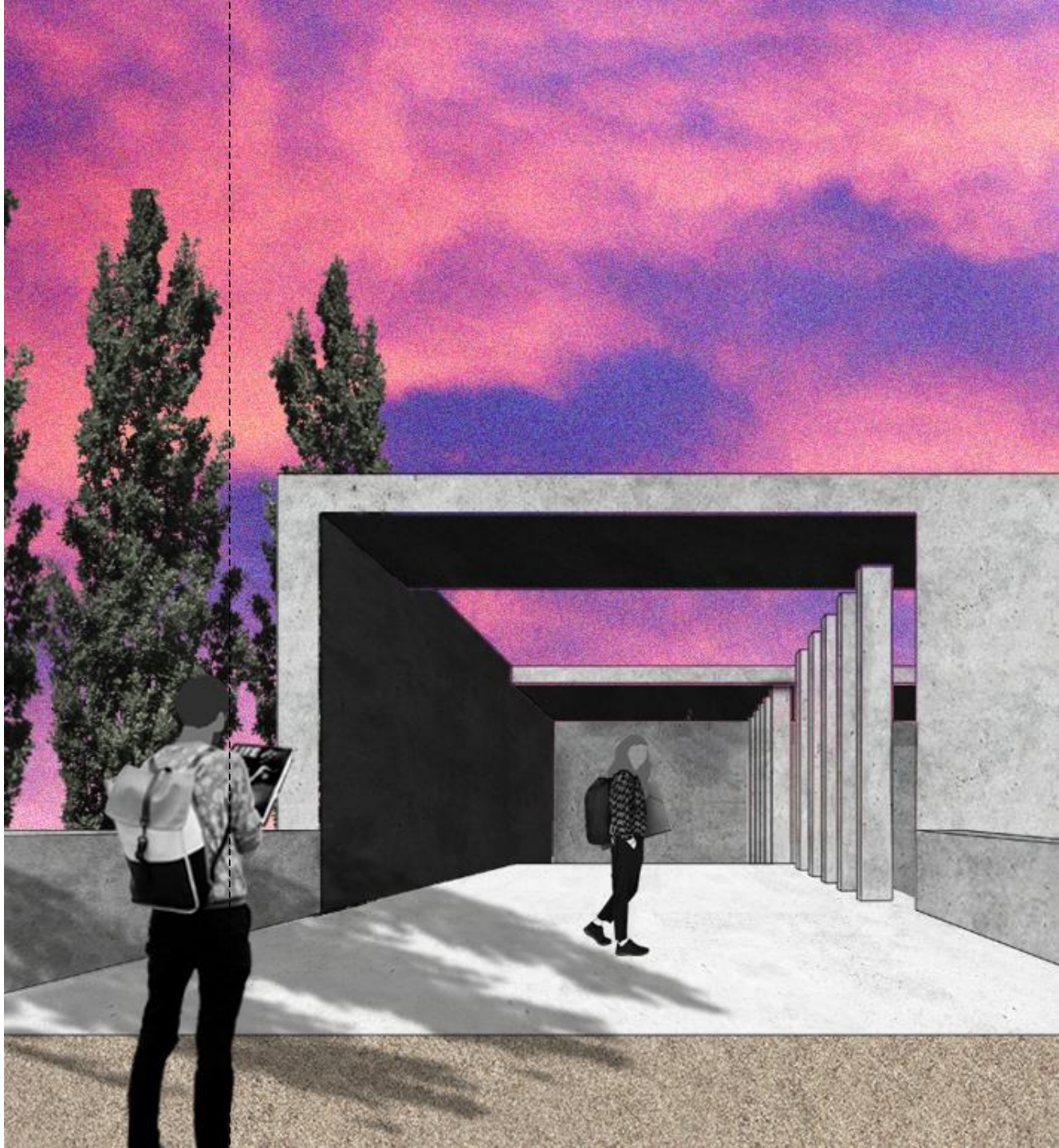
Picture 67. Moving on the hills. Discovering framed views of the forest of “polykatoikias” from above. These two experiences, which seem so different are now combined.

Picture 68. (next page) Moving down the hill, we get a first glimpse of the dense, jungle-like vegetation of the expanded river space. The plateau right in front of us gives us access to a bridge. The bridge seems to lead at a buildings interior.

The transformation laboratories at the back are quite colorful, covered by a variety of different reused materials. The result echoes the complexity of the city of Athens





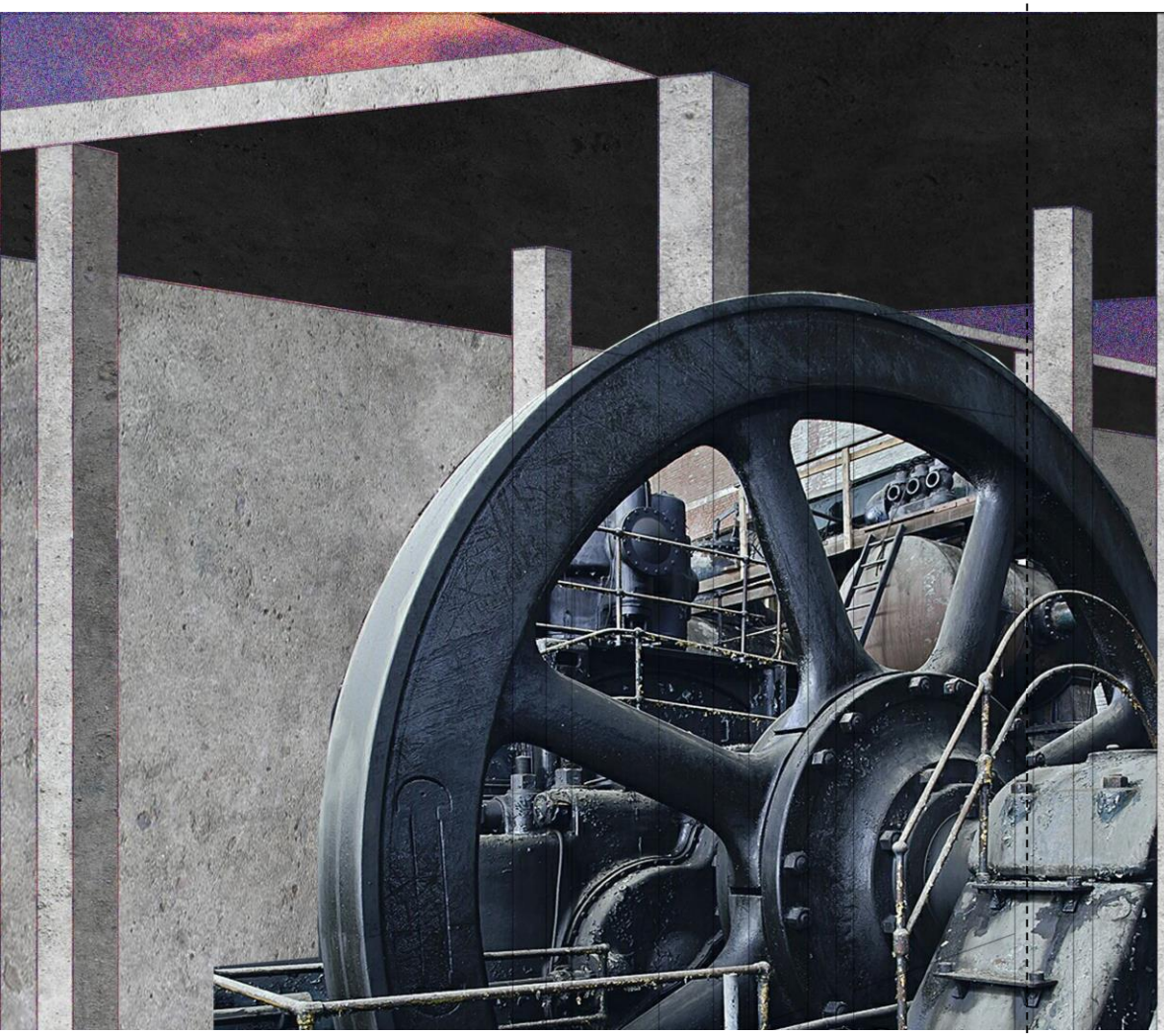


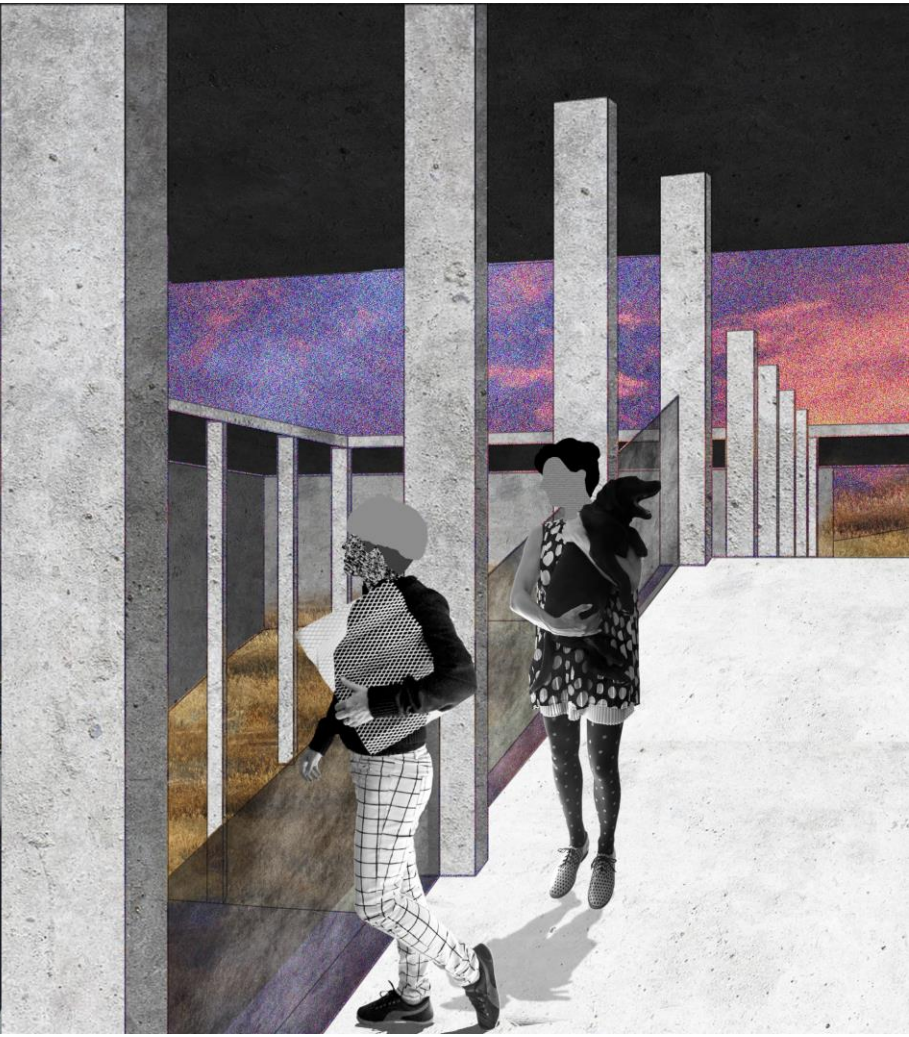
Picture 69. Indeed the bridge leads to the building’s interior. Must be a transformed old factory. One can tell by its structural system.

The change of experience is quite dramatic.

Picture 70. The building s a semi-open space. In the central patio we find a huge piece of the old factories machine. A memory from when this area was actively productive.

Picture 71. (next page)Exiting the building we find an amphitheater with the river being its stage. The dense vegetation purifies the water and the soil. The atmosphere is very different from the pine forests. Here one can experience a certain wetness, a natural wilderness within the city.



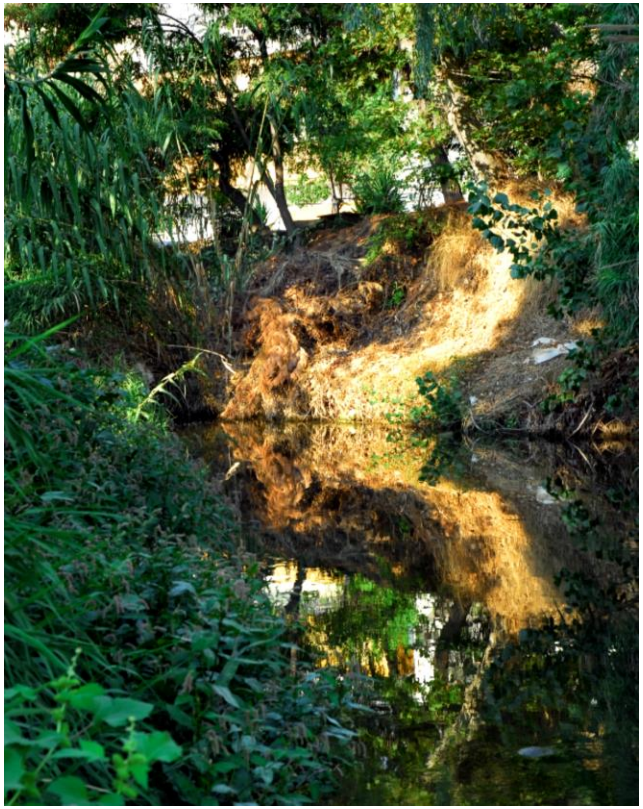


Picture 72. Returning home I look out from my balcony. Where there used to be abandoned buildings and leftover plots now stands the “experimental workshop cluster”.

People maintain almost everything themselves. They have been actively involved in many transformation acts. This experimental pattern on the ground they have made looks funny… Is it my idea or are there more people in their balconies observing the slow acts of transformation?

Maybe the returned experience of the river's nature has thought us to accept change not as a threat, but as an essential condition of our lives.

And that we should practice our right to participate in change as much as we can.



The created order (of any plan) *is everywhere punched and torn open by ellipses, drifts and leaks of meaning: It is a sieve-order.*

Michel de Certeau (1984) The Practice if Everyday Life

12. Conclusion: Reflections on relevance

Personal remark

Both as a person and as a researcher/designer I have the tendency to over-complexify things. I wanted this thesis to be a (final) **experiment on complexification**. In what follows I will try to indicate the layers of increased complexity that make this project different from a conventional problem-solving approach. Furthermore, I will reflect in what way the findings can be relevant within a wider range of contemporary design issues.

a. From a heavily urbanized river to a character torn by inner conflict

The current thesis departs from an intuitive attraction towards a specific place, the linear landscape of Kifissos. If we chose to examine this place through a problem-solving point of view, there would be and abundance of problems to address: Kifissos used to be a river. Today it serves as a sewage and drainage collector as well as a convenient dumpsite for the neighboring industries. Ever since its urbanization, the reduction of the river space to a concrete container and later to the size of a seven-meter diameter pipe has essentially reduced the rivers capacity to carry water, resulting in many deadly flood events. At the same time, Kifissou is a heavily congested avenue, associated to most Athenians with the sound of “angry” horns and the smell of gas fumes. Furthermore the highway spatially works as a concrete boundary, separating the city to a western and an eastern part.

Picture 73. Kifissos. A landscape full of problems

Source:
http://www.aktor.gr/hydraulic_projects/arthro/covering_of_the_kifissos_river-11732980/

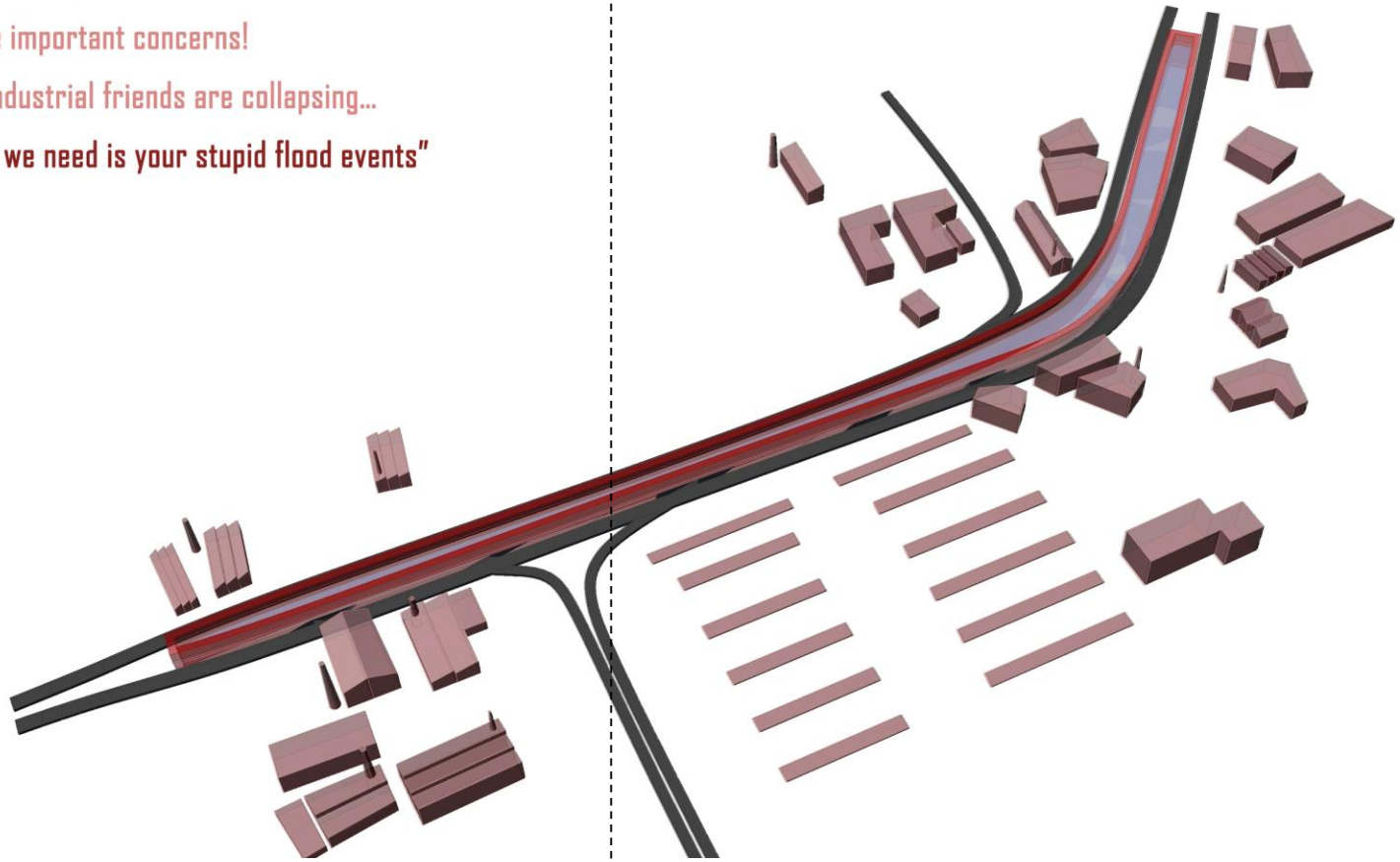
In spite of the evident significance the aforementioned problems, I started from a more theoretical/conceptual concern about the opposing identities of the river and the highway as well as their isolation from the surrounding environment. Furthermore, to see the problems as part of the conflict. **Within this framework, Kifissos is not only a heavily abused urban river. It becomes a landscape architectural element of a certain character, "torn" between two incompatible identities.**

"Leave your meaningless romantic outbursts for later!

We have more important concerns!

Many of our industrial friends are collapsing...

The last thing we need is your stupid flood events"



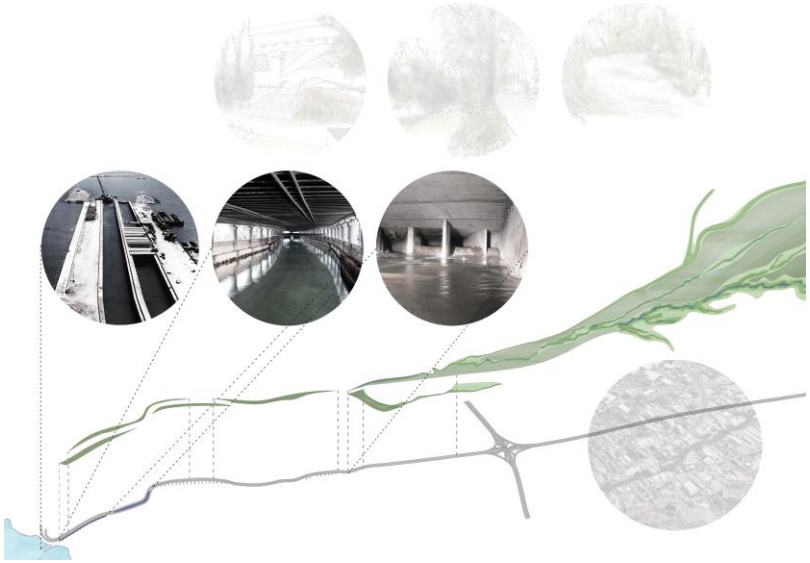
Picture 74. An imaginary inner conflict, "There is no time for your stupid flood events! We have more important concerns", pragmatic Kifissos (infrastructural network) complains about the floods

b. from softer river banks to the boundaries of over-control

If I would have chosen to focus on the theme of urbanized rivers, I would have supported my research through an already wide variety of inspiring literature on the need for a "softer" design approach. (8)

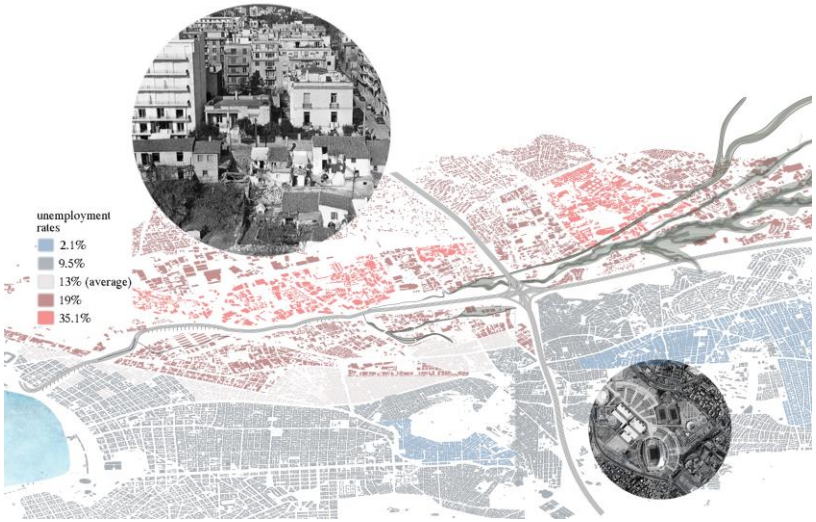
However, in what way could the issue of two conflicting identities fit within and contribute to a wider theoretical discourse?

Studying the way that the city of Athens has evolved through the years, I became aware that the Kifissos opposition becomes part of a wider conflict: the conceived opposition between "dynamic" and "fixed". In contemporary treatises of architecture, landscape architecture and urbanism, this tension is often expressed in terms of two different dualities. One is the conceived opposition between the natural and the engineered landscape, and the other between the formal, simplifying aspects of design, as opposed to the dynamic and highly complex processes of urbanization.



Picture 75. Over-control over the "threatening" forces of nature

(8) Important references include Martin Prominski's book "River Space Desing" (2017) as well as various papers from Kelly Shannon



Picture 76. Tension between formal and informal, controlled and uncontrolled growth

Both approaches agree that this imposition of highly determined structures on space, nature and people is driven by a conceived necessity to limit and control processes of change. Understanding change as a threat often leads to the condition of excessively controlled landscapes.

Consequently, the ambiguous linear landscape of Kifissos is seen as a case of over-control. In this way, by challenging the boundaries between the two strictly defined identities, challenges the very limits of over-control, in any design practices.

c. From a fetish of processes to processes as concepts. The conceptual scope of landscape architecture combined with site specificity

What kind of design is able to reverse the consequences of over-control, by creating conditions for a more dynamic coexistence between natural and engineered, formal and informal? What can be the contribution of landscape architecture in the development of a design approach different from distanced, idealized plans?

On that issue and against design approaches that try to strictly control processes of change, Martin Prominski writes: *With the acceptance of indeterminacy, the celebration of processes and the productive use of systemic relationships for design purposes... landscape architecture is able to deal with complex problems...(9)* Within this framework, thinking in terms of processes becomes an essential part of thinking about and practicing landscape architecture. However, it is often the case that process-driven design approaches totally reject "conventional" aspects of design such as form, structure and composition.

As David Harvey suggests, **while interventions that fetishize things are oppressively full, interventions that fetishize processes are empty.**(10) In this view, we need to search for a more dynamic balance, not only between natural and engineered, formal and informal, but also between form and process.

Towards this direction, processes are not seen through a scientific-ecological viewpoint. They rather work as conceptual frameworks that guide composition, form and structure. As James Corner writes: Today's renewed interest in landscape architecture is associated with *a deep concern with landscape's conceptual scope; with its capacity to theorize sites, territories, ecosystems, networks, and infrastructures, and to organized large urban fields.(11)*

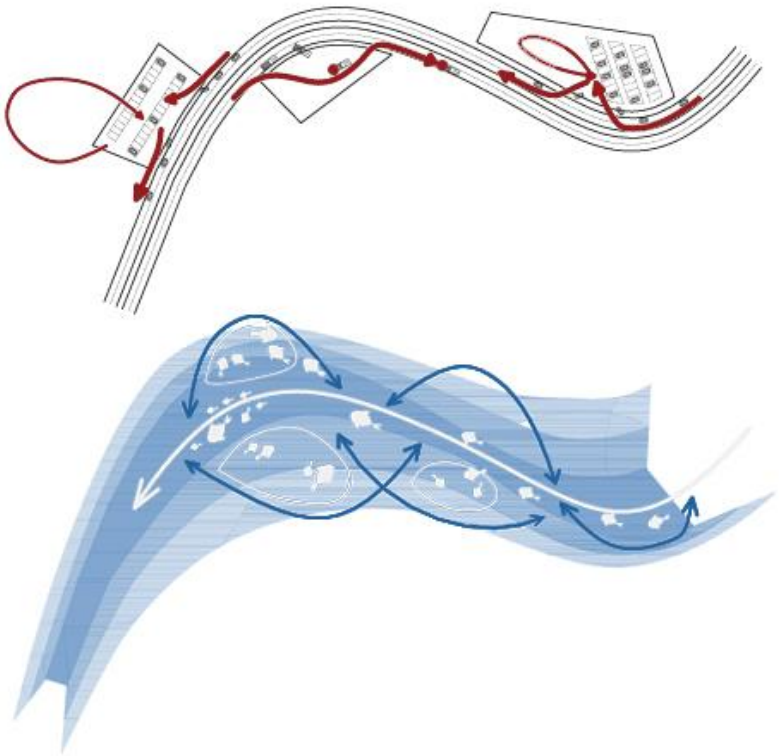
(9) Martin Prominski (2015) *Designing Landscapes as evolutionary systems*, p.30-32

(10) David Harvey (1996) Justice, nature and the geography of difference , p.435

(11) James Corner (1999) Terra Fluxus, p.30

The emphasis on the specific site and its particular processes makes these concepts more grounded.

In our case, **the confined space of interaction between the river and its surroundings and the erased process of avulsion, characteristics that are no longer visible in the landscape, are brought back as concepts.** These concepts contribute to open up the river-highway system to its urban environment as well as to establish a new forms of interactions between the two elements.



Picture 77. Latent processes that lead to the discovery common grounds

d. from analysis to rhizome

To make the search for potential design tools open and inclusive, I chose not to follow a strict hierarchical method with a more-or less predetermined set of steps and possible results. As von Seggern and Werner suggest, to read the existing site creatively, *an inventory should be open to interpretation: Flexible, general and inclusive and not too objective.(12)*

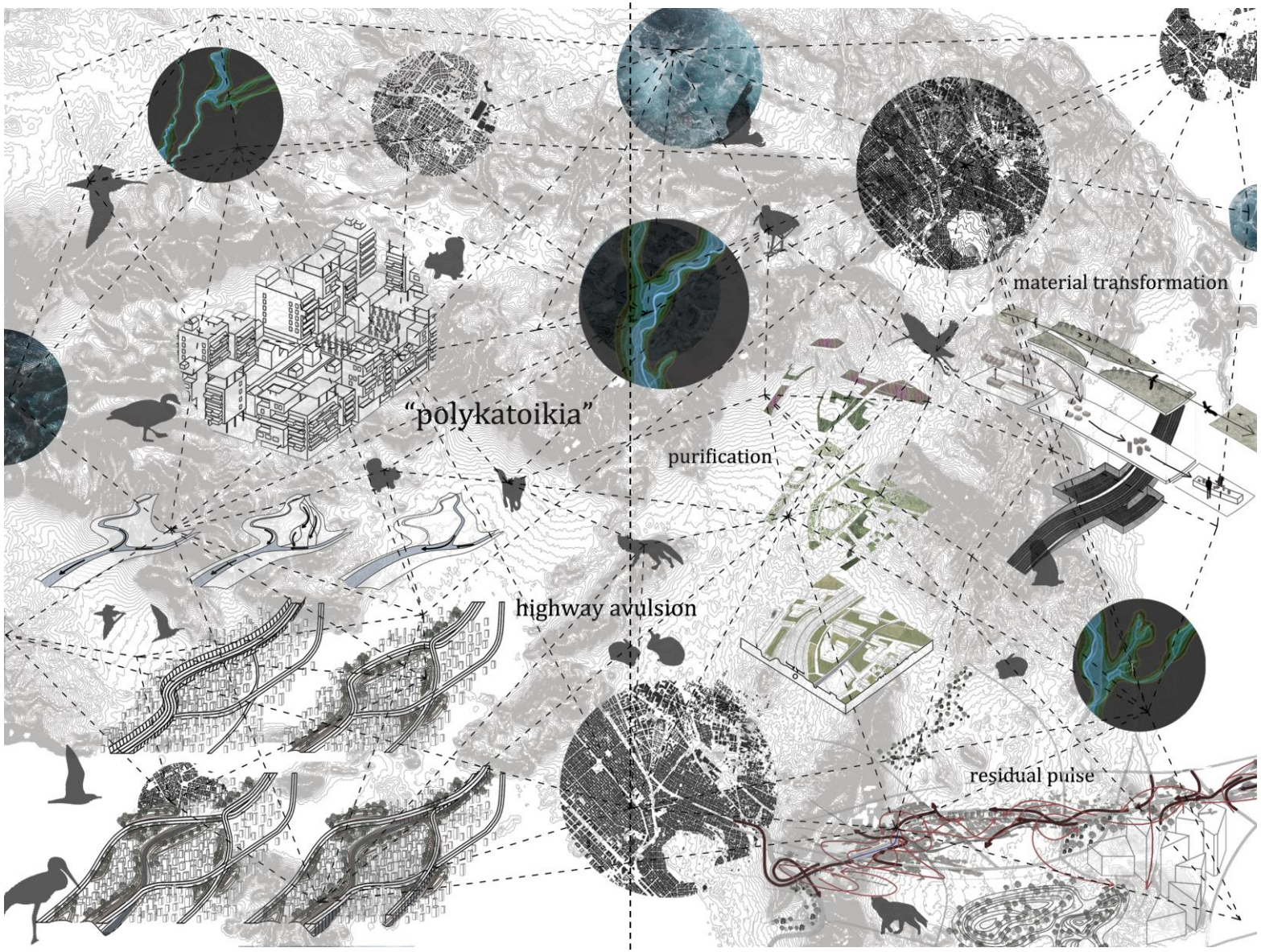
However, in every kind of research, even one deliberately over-complexifying, there needs to be a special guiding theme. In the case of Kifissos, I concentrated on **transformation processes**. I studied how the territory and the city have evolved through the years and tried to identify the main forces and behind their current form. By examining the territorial and the urban layer individually, I was able **to incorporate findings from diverse sources.** For instance, to interrelate scientific data on the geomorphology of the terrain with theoretical speculations on the everyday life of the city.

The diverse extracted qualities form a rhizomatic network of potential associations. The way that they are intertwined to formulate a coherent concept is mainly intuitive. In our case, **the resulting idea of using the transformed land as a flexible framework open to appropriation and change** -inspired by the adaptive quality of "polykatoikia"- **is not supported by objective means.** However, this is many times the case when it comes to **creative design processes.** According to Rainer M. Holm-Hadulla, every creative process involves a sense of being lost followed by the sudden and surprising appearance of an idea, as if it is self-evident.(13)

(12) von Seggern H., Werner J. (2008) "Urban landscapes, designing and innovation strategies." In: von Seggern H., Werner J. Grosse-Bachle L. (eds.) Creating Knowledge. *Innovation Strategies for designing urban landscapes*. Jovis-verlang, p. 172-213

(13) Holm-Hadulla Reiner M. (2007) *Kreativitat. Konzept und Lebensstil*, Gottingen

A rhizomatic network of potential associations between the extracted qualities of coexistance



Picture 78

e. From intuition to the landscapes synthetic capacity

The inability to accurately explain the origin of a creative idea, many times cause anxiety and confusion. Intuition is often *juxtaposed with rational, logical, methodical, analytical thinking since it is "unpredictable, immediate, not controllable, complex, skittish, non-linear and irrational.*(14) However, as Christopher Alexander claims, *design must be understood as interaction of the rational and the intuitive, of mind, body and emotion and thus including creative potential. The design must be practiced and propagated in its synthesizing capacity.*(15)

Could such synthesizing capacity be derived from "a landscape point of view"? Can the way landscape architects think about and practice their discipline bring together the subjective and the objective, the intuitive with the analytical towards the discovery of new knowledge?

According to James Corner landscape architecture, as a discipline, has the capacity to work as a synthetic and strategic art form that brings together diverse and competing forces into new creative assemblies. (16) In our case, this point of view allows us to see the congested highway as a river, the overflow of which results in changing its course. Furthermore, to translate the flexible and adaptive building typology of "polykatoikia" into an integrative landscape. In this way **landscape Architecture's capacity to work as a common ground for things conceived as opposites as well as to theorize and conceptualize sites is emphasized.**

(14) von Seggern H., Werner J. (2008) "Urban landscapes, designing and innovation strategies." In: von Seggern H., Werner J. Grosse-Bachle L. (eds.) Creating Knowledge. *Innovation Strategies for designing urban landscapes*. Jovis-verlang, p. 172-213

(15) Christopher Alexander (1973) Notes on the Synthesis of Form

(16) James Coner (1999) Introduction in: Recovering Landscapes, Essays in contemporary landscape architecture, p.2

f. From the picturesque to its decomposition

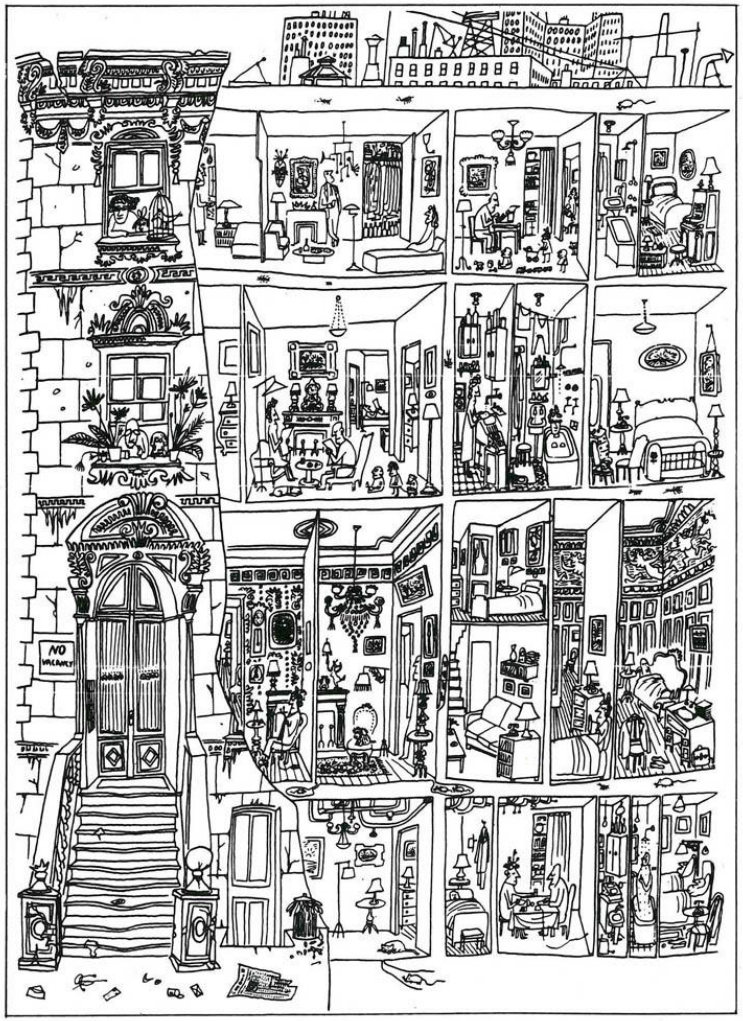
Moreover, the project addresses the conceived opposition between natural and urban. A superficial look at the plan might create the impression that it is associated with a romantic approach that sees nature as an antidote to urbanization. Extensive green spaces cover heavily contaminated sites, undoing the negative effects of industrialization. However, **the intention behind this extensive green tissue, is its gradual decomposition by unpredictable processes of change, including both natural and urban dynamics.** From this point of view, **the landscape is not seen as the opposite of urbanization, but rather a framework and a host for its complex and unpredictable processes.** This characteristic relates, once more, to the concept of the landscape as a synthetic common ground.

g. From imposed structures to the practices of everyday life

The societal relevance of the project lies in its departure from the social contribution of "polykatoikia", the "semi-permeable" Athenian urban block. "Polykatoikia" sums up an exemplary case of coexistence: A dynamic balance, not only between the formal and the informal, but also between groups of different cultural and social backgrounds. With its messy, complex appearance it celebrates diversity, change and peoples right into appropriating their own space.

Every designed plan is to a certain degree an imposition on people's everyday lives. There are plans however that can **sustain, incorporate and facilitate everyday practices of appropriation**: *the many ways of establishing a kind of reliability within the situations imposed on an individual, that is, of making it possible to live in them by reintroducing into them the plural mobility of goals and desires. (17)* "Polykatoikia" is characterized by this flexibility towards everyday practices.

(17) De Certeau M. (1984) The Practice of Everyday Life. University of California Press, Berkeley, p. xxii



Picture 79. R*aul Steinberg, The Art of Living*

Source: http://blogs.cornell.edu/exlibris/2014/05/14/la-vie-mode-demploi-de-georges-perec/

The importance of the element of change introduced by circumstances, calm or haste, sun or cold, dawn or dusk, the taste of strawberries or abandonment, the half-understood message, the front page of newspapers, the most anodyne conversation, the most anonymous man or woman, everything that speaks, makes noise, passes by, touches us lightly, meets us head on.

Michel de Certeau, The Practice of Everyday Life

The idea of “polykatoikia” is then adapted to a landscape architectural intervention of a larger scale, **a topography that functions as an open common ground.** Besides creating this topography, **people are provided with the means to intervene, to make a landscape of their own.** Could then this continuous green tissue afford, facilitate, and incorporate all the unpredictable diverse acts of appropriation, in a similar way to “polykatoikia”?

The current project does not provide with straightforward answers. It only derives from an intention to create a space that is open to informal transformation practices and embraces its potential deformation, deconstruction and degradation by them.
As de Certeau also suggests, *as one explores the terrain of these practices, something is constantly slipping away, something that can be neither said nor "taught" but it must be "practiced". (18)*

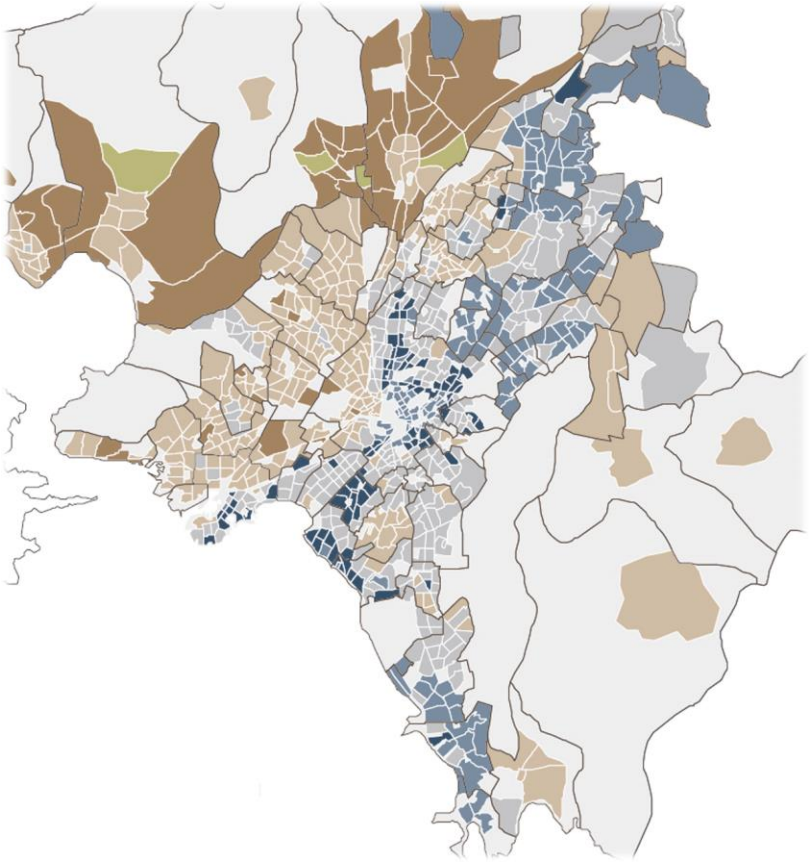
What it tries to predict however, is how each stage in the creation of this new landscape will affect the everyday lives of the residents, how it will encourage their involvement and how it will gradually and in depth of time change the image of the city.

(18) Ibid. p.77

h. From anxiety to participation and the experience of nature (UN goals 1,8,11,16)

The idea of an integrative landscape, working as a common surface between diverse groups can also help to soothe the effects of the financial, social and political crisis, which affect the country since 2008.

Although the condition of poverty in Greece cannot be compared with communities essentially deprived from their basic needs, the escalating consequences of the finical crisis have placed the country among the three poorest in the Eurozone. **Even though the crisis did not result in extreme cases of poverty and hunger, the politics of austerity have a considerable effect on the social cohesion of the country and the everyday lives of its people.** In Athens, which concentrates almost half of the country’s population, **cases of social discrimination and exclusion** are becoming more and more evident. Social segregation is reflected on the east-west spatial division of the city, evident in the maps illustrating the income and the unemployment rates in different Athenian neighborhoods. **The river-highway flow of Kifissos runs in the middle of this social division, currently acting as a boundary between “higher” and “lower” social groups.**



Picture 80. The east-west division as expressed by population's the different levels of education. In the gradient, blue represents the higher levels , while orange the lower.

Source: Athens Social Atlas
http://www.athenssocialatlas.gr/en/

The interaction between different groups is further discouraged by the mental condition of a society in crisis. Fear and anxiety caused by the financial, political and social instability of the country has become an integral part of the way people think, act and behave. **Growing uncertainty has contributed to the cultivation of a conservative way of thinking that excludes openness to diversity and experimentation.**

To address this situation, the creation of a new topography is combined with the function of the transformation laboratories: re-used old factories that combine educational, technical and social programs oriented towards the transformation of the post-industrial areas of the city, by recycling existing material. **The purpose of these places is to provide the residents of the surrounding neighborhoods with the necessary means to transform and appropriate the residual spaces of the area.** At the same time, the transformation laboratories are well connected and easily accessed through the transportation network, increasing the possibilities for the involvement of people from different areas of the city and encouraging in this way interaction.

The participation in the transformation of the city has a great potential to reduce the feeling of helplessness that the Greek society is experiencing in the last few years. As Kaplan and Kaplan suggest, *opportunities for exercising one's effectiveness serve as important examples of meaningful action… Participation in creating and sustaining a meaningful local resource can enhance personal identity and connectedness. Daily contact with such treasured local nature places can foster greater self-esteem, trust, and hope.*(19)

The same applies for the connection with nature. *The natural environment has a particularly strong restorative effect for many people. Nature places are often sought for respites, for regaining one's capacity to face demands.(20)* Thus, the experience of nature, provided by the new opportunities for strolls along the river and the planted hills, as well as by possible community activities of gardening on those newly available green surfaces can also help **to soften the stressful tension that characterizes the everyday lives of a considerable number of the Greek population.**

Picture 81. "argoscholoi Vrilissou" (The Idle of Vrilissos)- An active gardening movement at the northern suburbs of Athens
How combined participation and touch with nature helps unemployed people to deal with the difficulties of the crisis

Source: Athens Social Atlas
http://www.athenssocialatlas.gr/en/article/agroscholoi-vrilissou/

(19) Kaplan R.& Kaplan S. 2005 Preference, restoration, and meaningful action in the context of nearby nature

(20)Ibid

i. Learning as a practice of everyday life (UN goal 4)

Furthermore, the transformation laboratories address the goal for inclusive education by providing **an alterative model of learning through active participation and by incorporating input from the people.** Such a model does not include strict hierarchies and divisions between teacher and student. It rather forms **a common platform for the exchange of collective knowledge and technique.**

One could argue that there is no way to know if this alterative way of learning would work. However, the large number of people involved in self-organized social movements that informally and "from below" organize practices of activism suggest that informal organizations, outside of prominent hierarchies have a great potential in fighting the consequences of the crisis.(21) Furthermore, the importance of informal urban practices in the history of Athens, suggest that a less strictly organized, and more open model of education could be more compatible with the city and its population. The transformation laboratories could be included as an experiment towards this direction.

Picture 82. Aristeidis Antonas, Open Air Office
A common outdoor space for people to gather and work. Encouraging interaction and exchange of knowledge

Source: http://www.aristideantonas.com/tag/open-air/project/open-air-office/link/366

(21) Athina Arampatzi (2017) Contentious spatialities in an era of austerity: Everyday politics and 'struggle communities' in Athens, Greece, Political Geography 60 (2017)

j. Conclusions - How did the experiment work?

Ja. Openness to complexity - How a river revitalization project acquires multiple dimensions

The landscape of Kifissos is an exemplary case of an abused urban river. However, there is already a wide variety of very interesting projects on how to revitalize an urban river and re-introduce it in the life of the city.

The intention to look for more complex issues than the evident problems of the site has led the project in a different direction. It led to a research and design project more open and inclusive. The extensive, three-dimensional green tissue not only contributes to restoring biodiversity and natural dynamics in the city. Neither it focuses solely in producing a rich kinesthetic experience. It also looks forward to incorporate human dynamics, to its appropriation to be "spoiled" by unpredictable transformational acts.

In this way, the project acquires multiple dimensions, addressing simultaneously issues such as flood events, biodiversity, openness to change, equality, as well as to a more sustainable, alternative way of production, of both knowledge and material. Most importantly, the focus does not only lie in re-creating the river landscape within the city. The involvement and participation of people becomes an essential, instead of a complementary part of the project.

Picture 83. Some first thought on how the plan can be gradually "spoiled". From the initial stage (top) and after appropriation (bottom) with the addition of built structure and informal cultivations on

Jb. Open method and unexpected combinations - Against dualisms and emphasis on site

The decision to let my self be driven by an open conceptual and theoretical approach, rather by a definite hierarchical method, allowed me to open up my mind into unexpected combinations: such as the avulsion of the highway and the use of a new topography as a ground open to urban processes.

These unconventional combinations express the conceptual openness of the landscape and its capacity to bring together opposites. After all, to address over-control we must no longer think in terms of dualisms. Natural and engineered, formal and informal should not seen as forces in opposition. Rather as the participants in the creation of the urban commons.

Furthermore, they are born out of an emphasis on the site and an investigation of its hidden dynamics, which is also typical of a landscape architectural approach. As James Corner writes, the creative reading of the site, *may allow designers and planners not only to see certain possibilities in the complexity and contradiction of what already exists but also to actualize that potential. This instrumental function is particularly important in a world where it is becoming increasingly difficult to both imagine and actually to create anything outside of the normative.(22)*

As this thesis suggests, addressing the expressions of over-control is inextricably linked to the redefinition of the oppositions between formal and informal, natural and engineered.

As a result the conceptual tools that work against the odds of these oppositions suggest alternateness to over-controlling measures, purely formal or engineered.

What is interesting is that the tools of "undoing" design are the very tools of design themselves: form and composition.

A superficial look at the plan might create the impression that the plan is formal. However, if one looks, he/she might notice that there are no strict structures included in it. There is neither a specific hierarchy nor ideal geometries. The lines rather respond to the existing elements of the landscape: to the network of residual spaces, to the location and typology of the existing designed buildings. It is a plan highly influenced by the existing condition, both in its composition and the use of conceptual tools.

(22) Corner J. (1999) *The Agency of Mapping. Speculation, critique and Invention*

We are thus discussing a form conceptually born out of the processes of the site and open to its transformation by the transformational processes to come. This interweaving of designed and practices redefines the opposition between form and process.

The city is a place of transformations and appropriations, the object of various kinds of interference but also a subject that is constantly enriched by new attributes; it is simultaneously the machine and the hero of modernity.(23)

Every order in the end becomes subject to restless transformative acts. Every structures openness to transformation is the common ground, the simple and essential outcome behind the complexity of things.

(23) De Certeau M. (1984) The Practice of Everyday Life. University of California Press, Berkeley, p. 95

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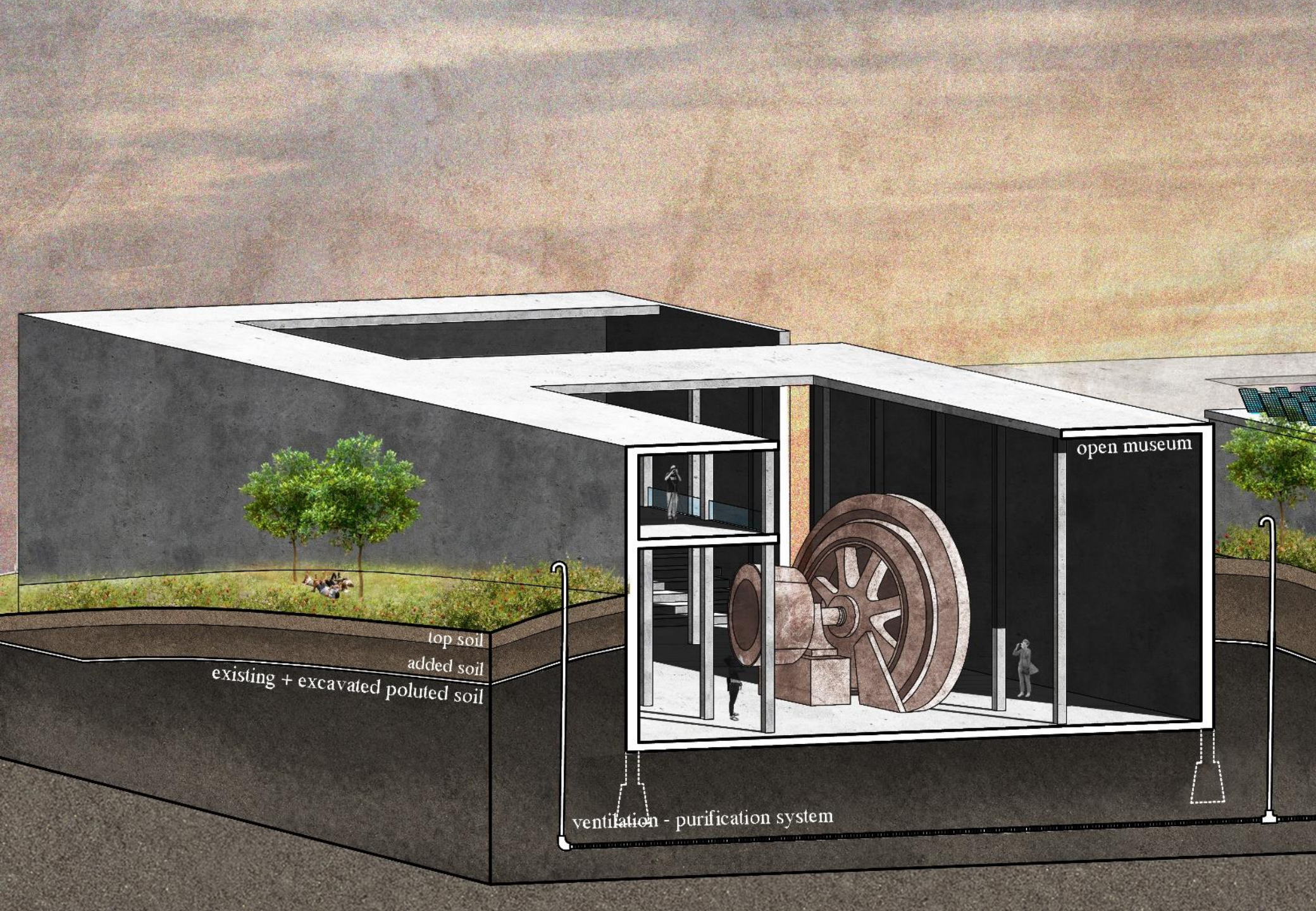
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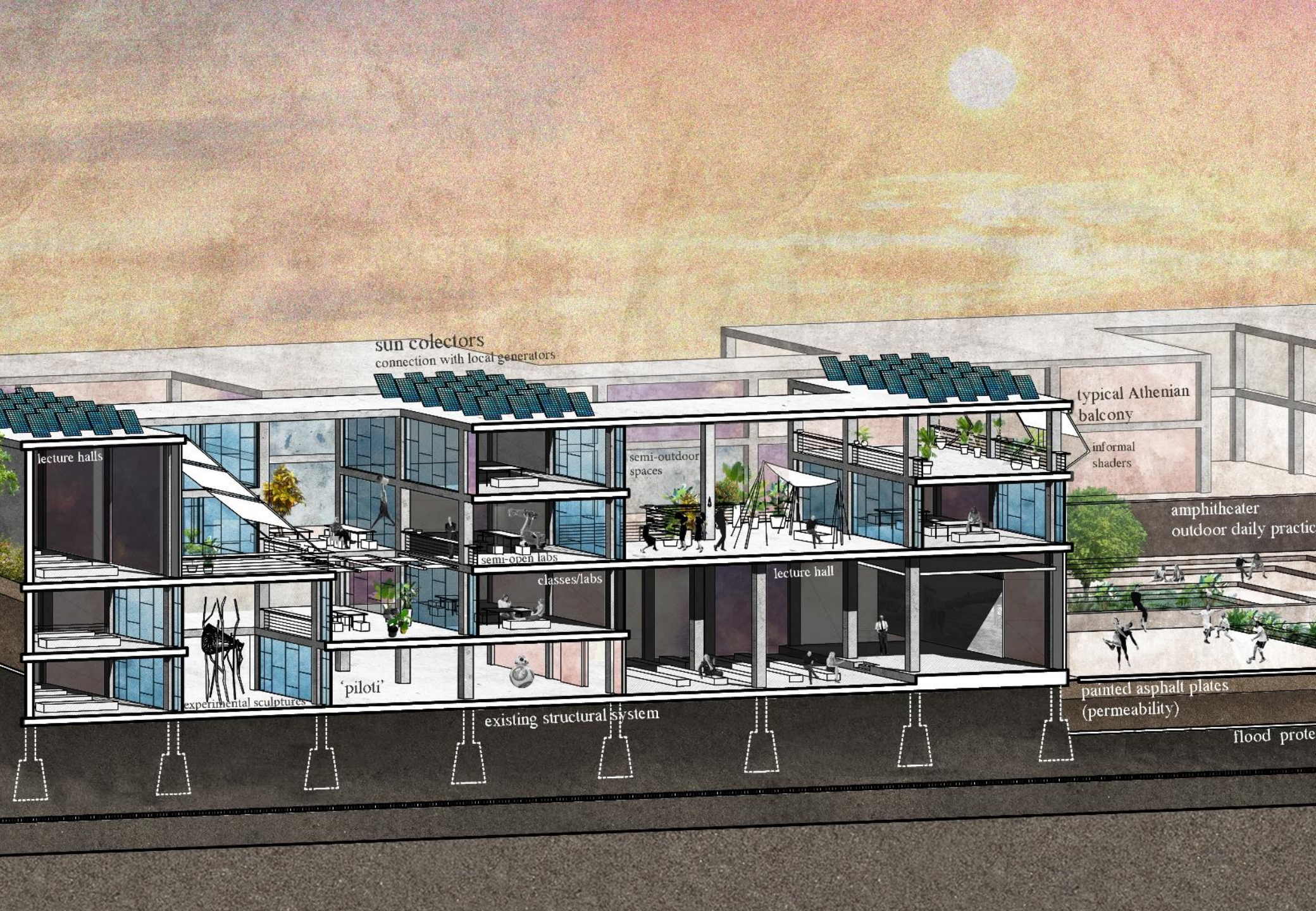
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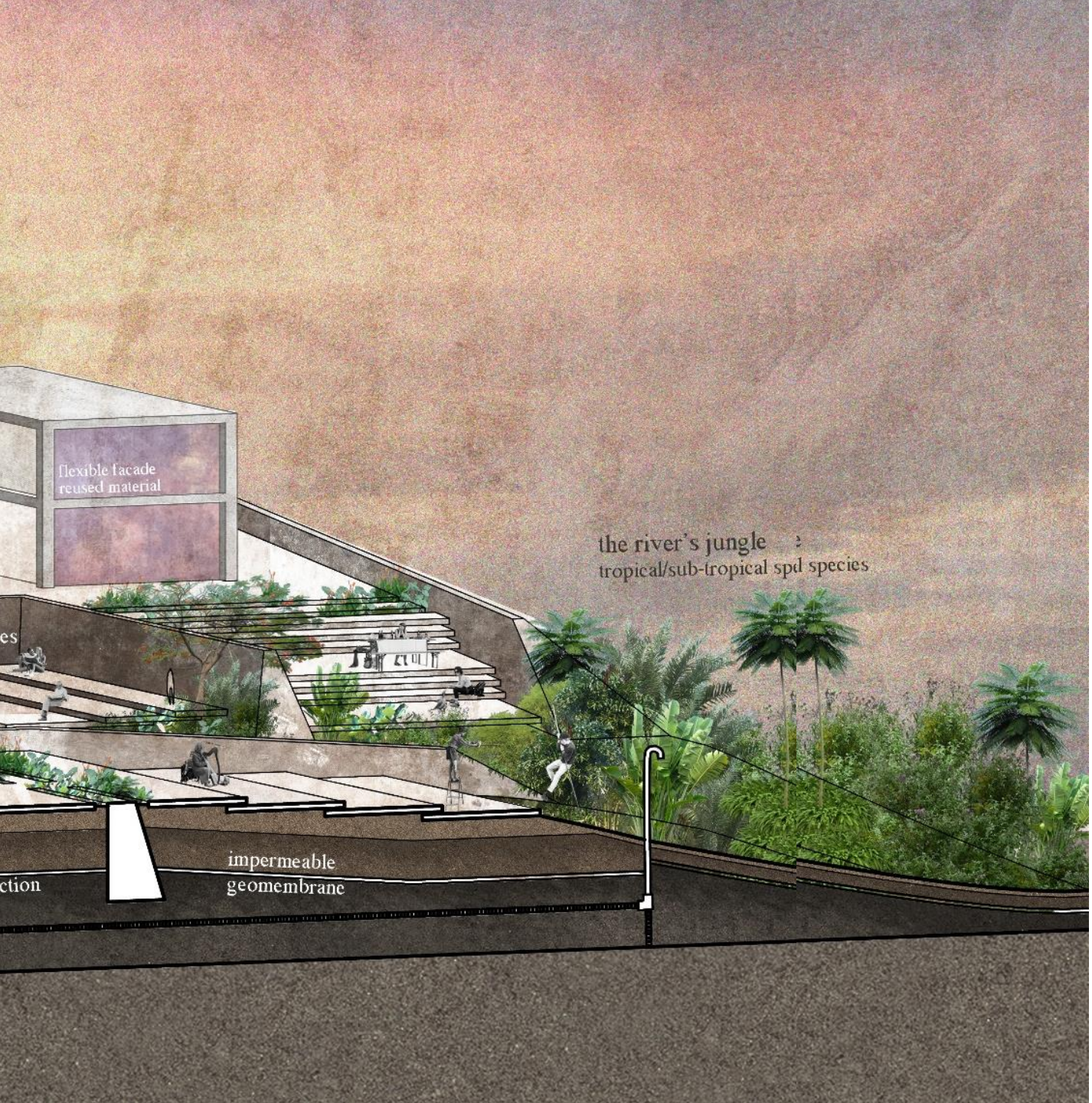
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Thank you