

amphíbio

Seafront narrations ,memory and urban identity

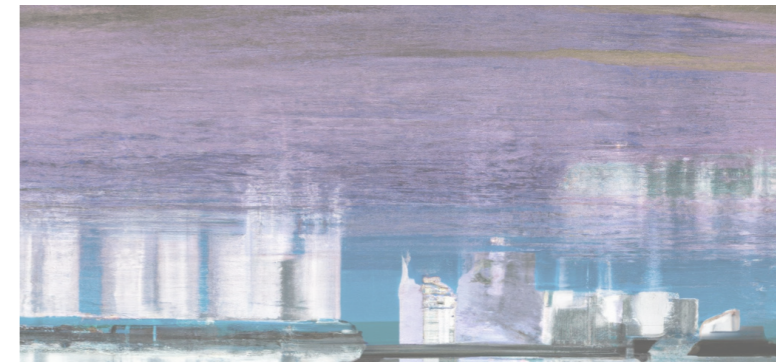
Student | Maria Kaltsa

Supervisor : Josep Maria Fort Mir

Master Degree in Advanced Studies in Design-Barcelona (MBDesign)

Specialization: Contemporary Design (CD)

Universitat Politècnica de Catalunya | Universitat de Barcelona
Escola Politècnica Superior d'Arquitectura de Barcelona
Barcelona | June 2023



What?

The current project is an experimental proposal about an amphibious system of objects. Amphibious architecture can serve as a metaphor for cultural changes since it challenges traditional notions of building design and the relationship between architecture and the environment. By incorporating both land and water-based elements, amphibious architecture demonstrates the importance of adapting to fluctuations. Therefore the aim of this project is to propose a new scenery and system, a materialised memory storage, a dwelling proposal for the unknown futures.

Why?

Port cities are distinctive and revealing sides of the global legacy of merchants, empires, and political conflict, which can be traced back centuries. Urban identity is a theme that encapsulates multiple contradictory global legacies and memory is the central medium through which identities are constituted. All these factors can form a narrative that protects waterfront identities by suggesting a new system.

How?

Through using System's Theory and methodologies supporting it, in order to recognise the different elements aparting a seafront urban system and their interconnections, *amphibio's* development will be divided in four different points: four different sites found vertically in the systems, embedding architectural objects.

Keywords:

Seafronts, Landscape, Topologies, Heritage, Amphibious, Narratives

abstract >

The preservation of port heritage is of paramount importance for coastal cities and countries, particularly in the Mediterranean region. However, with an aging population and shifting societal norms coupled with evolving sea routes, the traditions once centered around waterfronts, specifically port cities, are gradually eroding. This thesis aims to reassess human interaction with urban seafronts, exploring the potential for a novel museological approach that can facilitate the observation of cultural phenomena while preserving the collective memory and even providing a sanctuary within an **Object Oriented Ontology** framework.





σ υ ν ο ψ η

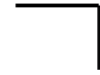


Η διατήρηση της βιομηχανικής κληρονομιάς των λιμένων ,αποτελεί προτεραιότητα για τις παράκτιες πόλλες και χώρες ειδικά στην ευρύτερη ζώνη της Μεσογείου. Παρ'όλα αυτά η γήρανση του πλυθησμού ,η συνεχόμενη εναλλαγή των κοινωνικών θεσμών σε συνδυασμό με τις εναλασσόμενες θαλάσσιες διαδρομές,οι παραδόσεις που είχαν ως επίκεντρο το υδάτινο μέτωπο και συγκεκριμένα τους λιμένες εκλείπουν. Αυτή η διατριβή αποσκοπεί στην ανατροφοδότηση της ανθρώπινης αλληλεπίδρασης με τα αστικά υδάτινα μέτωπα, προτείνοντας μια νέα μουσειολογική προσέγγιση για την παρατήρηση των πολιτισμικών φαινομένων. Αποσκοπά στη διατήρηση της συλλογικής μνήμης και παρέχει ακόμη ένα καταφύγιο. Αυτό πραγματοποιείται μέσα από το πρησμα της Αντικειμενοστραφούς Οντολογικής Ανάλυσης.

αμφίβιο < ancient Greek- amphibio
amphi + bios meaning dual life or survival

What the people of Stateless had in common: not merely the island itself, but the first-hand knowledge that they stood on rock which the founders had crystallized out of the ocean — and which was, forever, dissolving again, only enduring through a process of constant repair. Beneficent nature had nothing to do with it; conscious human effort, and cooperation, had built Stateless — the balance could be disturbed in a thousand ways . All that elaborate machinery had to be monitored, had to be understood. It had one undeniable advantage over all the contrived mythology of nationhood. It was true.

Greg Egan , Distress |



PROLOGUE



The following thesis project expands upon a previous research work conducted from 2019 to 2021 as part of my academic studies at the National Technical University of Athens. The focus of the study was centered on the concept of *Cultural Carrying Capacity* and hybrid residential systems. Through employing a multidisciplinary approach and utilizing visual language representation, the complexities of this topic were unraveled.

Drawing inspiration from the unique position of Barcelona in relation to the sea, a similar endeavor is undertaken to create a comprehensive framework capable of realistically describing, predicting, and proposing future scenarios. The structure of the project consists of four separate parts.

The initial chapter serves as a foundation by providing the necessary theoretical background, such as General Systems Theory and **Object Oriented Ontology**. These sections equip the reader with the cognitive tools needed to understand the upcoming research. This inquiry also encompasses other theoretical aspects, such as Ekistics and sociological considerations, while investigating their interconnectedness.

Subsequently, an investigation into the historical progression of seafront systems follows, with specific focus on their urban complexity, highlighting their spatial configuration.

Following this, a methodology is presented through reflections and logical management strategies concerning Object Oriented Ontology and the given spatial context. Special attention is given to the essential roles played by visual representations and spatial narratives in facilitating further exploration.

The project is completed by presenting the design proposal and its analysis context. The aim is to present through architecture a reflection on current cultural processes linked to the seafronts.

[INDEX]

[01] RESEARCH

- 1.1 CULTURAL CARRYING CAPACITY
- 1.2 SYSTEMS THEORY
- 1.3 OBJECT ORIENTED ONTOLOGY
- 1.4 EKISTICS
- 1.5 TOPOS

[03] THE IDEA

- 3.1 METHODOLOGY
- 3.2 INTERDISCIPLINARY RESEARCH
- 3.3 THE OBJECTS
- 3.4 NARRATIVES

[02] SEAFRONTS

- 2.1 WATERFRONTS (URBAN IDENTITY)
- 2.2 GLOBAL LEGACIES (MEMORY AND CULTURE)
- 2.3 SITE ANALYSIS
- 2.4 STUDY CASES

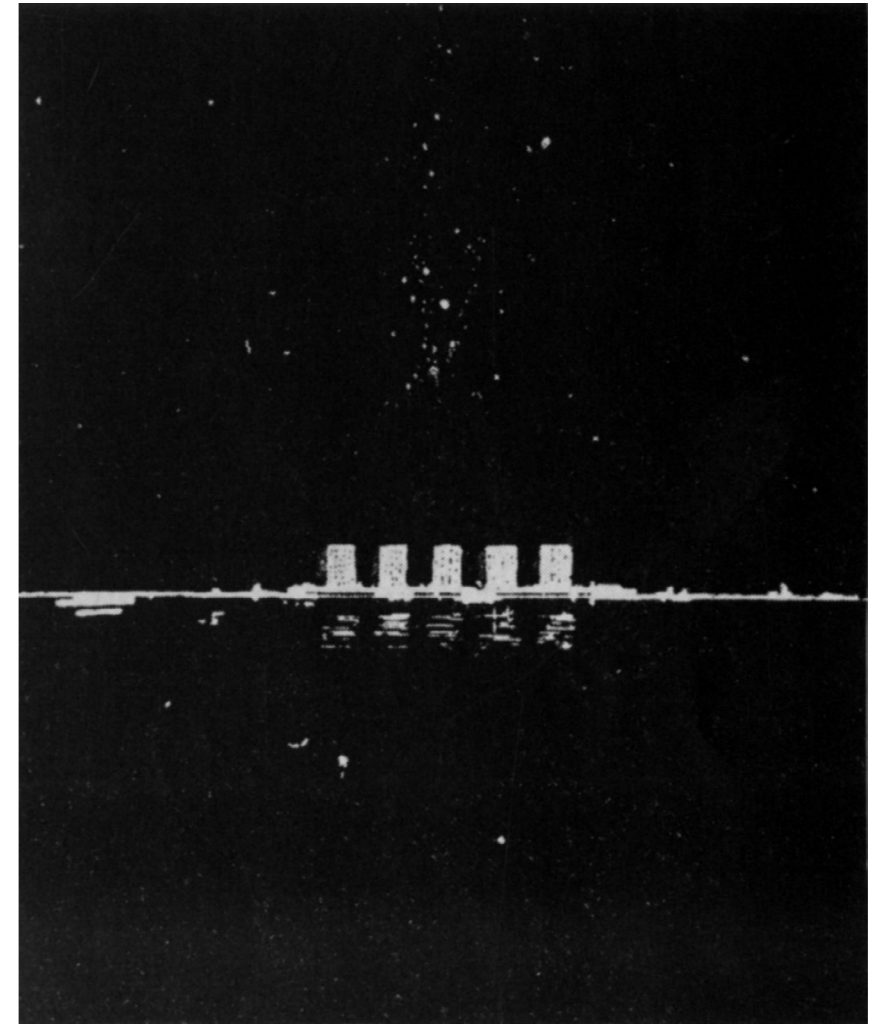
[04] PROPOSAL

- 4.1 HYPOTHESIS
- 4.2 ARCHITECTURAL ADAPTATION
- 4.3 CONCLUSIONS

[05] BIBLIOGRAPHY

[01]

RESEARCH



SCA. Le Corbusier en Buenos Aires 1929. Conferencias. Buenos Aires, 1979.

CULTURAL CARRYING CAPACITY > [C.C.C]

"At times, the landscape seems to be a theater of life for the residents ,full of nostalgia for the visitors and a curtain behind which play out the achievements and miseries of those who created it."

"D.Cosgrove (2008)"

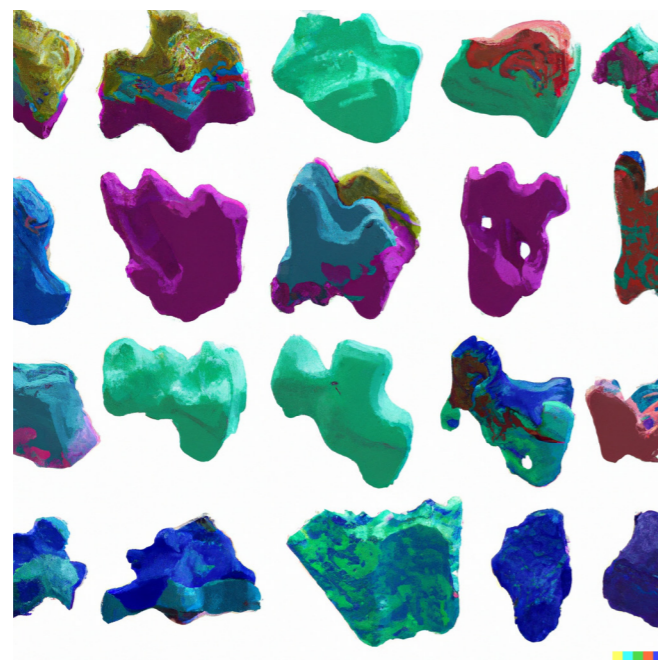
In a field of dynamic interaction, new concerns are constantly raised about the morphological course of idiomatic and residential systems in relation to the rapid development of modern technologies and urban structures. This fact makes essential ,more than ever, to approach new methods, relations and interactions that reshape the societal organization in the modern era.

Cultural Carrying Capacity is a new term introduced in the field of architecture and not only, contributing to the creation of new interdisciplinary methods of studying issues of spatial planning, landscape and socio-economic dimensions. It is a tool that facilitates the study of complex systems such as waterfronts in over-burdened urban landscapes.

The term «carrying capacity» can simply be defined as the maximum elements that can be supported or sustained by an ecosystem over time. CC could be explained as «the maximum stress or load that a system can ideally withstand before it collapses».

A system collapses when it can no longer cope with the pressure from the loads it receives. These stresses can be in the form of floods, droughts, famines, landslides, etc. According to Swarbrooke (1999) there are six types of carrying capacity:

- **The natural bearing capacity**
- **The environmental carrying capacity**
- **The financial carrying capacity**
- **The social-cultural carrying capacity**
- **The bearing capacity of an infrastructure**
- **The perceptual carrying capacity, which refers to the quality of the tourist experience.**



DALLE 2 "A collection of augmented objects resembling islands", June 18th 2023, <https://labs.openai.com/>



SYSTEMS THEORY



During 1940s, Bertalanffy developed the General Systems Theory (1968) aiming to cross the boundaries between a wide range of sciences: physics, chemistry, biology, psychology and the social sciences. His basic idea was that the systems that make up these different branches of learning share a number of characteristics that can and should be the subject of **a broader systems science**.

There are three general approaches to evaluate sub-systems. Some of them are also known to deal with the study of space, such as architecture.

- The **holistic** approach examines the system as an integrated functional unit.
- The **reductional** approach is developed top-down.
- The **functionalist** approach develops from the bottom-up.

All three approaches **recognize the existence of subsystems** that make up a larger system and provide a common method of studying social and taxonomic patterns.

A system can be considered to contain:

- A set of **objects**: central parts
- Their **characteristics** : e.g population
- **Connections** between objects : features such as location
- Connections between features : logic-numerical relationships
- **Interdependencies** between objects and characters constructs eg a hierarchy)

**All the contents of the systems make up a unique narrative each time.
In the following case this of a unique place.**



Image belongs to the author



Entropy, is a concept that has been used to describe the structure and behavior of different systems.

Systems can be closed or open. In a closed system, available energy is gradually dissipated until it reaches a state of maximum entropy, in which all traces of the individual hierarchy disappear: that is, the system dies. An open system, in contrast to a closed system, will reach a balance between the tendency to maximize entropy and the need for self-organization. This is known as a «steady state». Most centralized systems correspond to this model, and the individual ranking of their subsystems appears to remain the same over time (Berry and Parr 1988). However, the central system is only a part of the broader system. «There are many aspects of the economic and social organization of housing systems that are completely beyond the scope of centralization theory» (Berry and Parr 1988).

The spatial structure of the housing system emerges with **spatial entropy**, forming optimal levels of aggregation for different scales. In addition, the applications of spatial entropy are close to establishing «limits» in the hierarchy relationships that concern housing systems. These may soon prove to be of utmost importance for predicting phenomena that can seriously affect their functioning through calculations with specific variables.

Spatial entropy emerged from considerations related to the variability, mixing, and composition of space. An interesting approach to its function is what is defined as inverse spatial entropy. Specifically, it is the method by which the referred systems are decomposed into individual components, and the entropy of each is studied separately. This decomposition is hierarchical and follows specific qualitative boundaries, requiring alternative ways of approaching issues of spatial scale and form. Spatial entropy can be studied using numerical terms and percentages based on information sciences and data collection.

Social Entropy in English refers to the distribution of the population based on social variables such as wealth, technology, region, culture, and information. The term was introduced in sociology in 1990 by Kenneth D. Bailey in his work «Social Entropy Theory». Bailey defines social entropy as a correlation between the distribution of the population and social variables. Social entropy is at a minimum when correlations between variables are maximum. Like all systems, urban systems either produce energy within themselves (e.g. spatial regulations, reconstruction) or acquire external characteristics (e.g. immigration) to self-regulate. In this specific case, entropy can be interpreted as the level of resilience or adaptability of a social system to internal or external events.

The main systems interaction according to Amos Rapoport ((1969). House form and culture. Englewood Cliffs, N.J., Prentice-Hall.) are :

HUMAN



NATURE

Nature, aspirations of man, their social organization, their worldview, their socio-psychological needs, their resources, their personality, fashion, individual and group needs

Material needs that address the functional program of his daily life and his biological needs

Available techniques of the epoche

Material aspects such as climate, location and available materials, the laws of engineering

Visible aspects like landscape

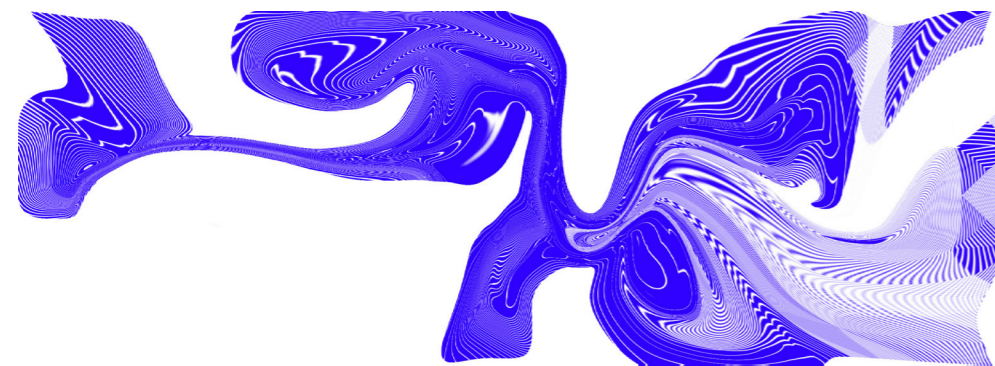


Image belongs to the author

As mentioned earlier, there are three general approaches to subsystem evaluation, which pertain to the study of space, including architecture and the overall perspective of the world.

The **holistic approach** enables the study of complexity, the intermediate state between order and chaos, and depends on the observer's chosen scale. On the other hand, the **reductionist (top-down)** approach is primarily based on Newtonian physics, asserting that every phenomenon *can be broken down and reduced to a whole by examining its individual elements*. However, it neglects the **factors of space and time** in which systems and subsystems operate and evolve. **The functionalist** approach is the third method and considers the subsystem's role in the larger whole, as well as how it emerged, by looking from the **bottom-up**.

The difference lies in how the idea and design production are formulated, describing the **architectural object** primarily in terms of arrangement, development, and formation, and their connection with information. Working within this research framework, designers and those responsible for creating residential systems are not seen as authorities who impose their decisions but rather as *controllers* of processes that facilitate the emergence of bottom-up processes, resulting in structural-constructive formations.

Neil Leach(: Digital Cities 2009) notes that the concept of **emergence**, frequently used in contemporary design, is best observed in everyday architecture, where each element

obeys the logic of its environment within a framework of «weak thinking,» where local relationships emerge with a relative ignorance of the whole. **Emergence** is the information the system provides if its operational rule changes.

Object-Oriented Ontology (OOO) and bottom-up analysis converge on the concept of emergence, fostering a robust understanding of complex systems. In the field of architecture OOO offers a more inclusive and holistic approach that considers the intrinsic qualities of materials, spaces, and the surrounding context, leading to designs that resonate with the diverse agencies within the built environment.

OBJECT ORIENTED ONTOLOGY

[0.0.0]



Object Oriented Ontology is a Heidegger-influenced philosophical movement that emerged in the early 21st century and has gained prominence in recent years. By focusing on the qualities and interrelationships of objects rather than hierarchical structures, OOO offers a novel philosophy of being that encourages a holistic understanding of the world. It is a type of **speculative realism* that seeks to move beyond the human-centric perspective of traditional philosophy and reorient philosophical inquiry towards a *consideration of objects themselves*. OOO posits that all objects, whether human or non-human, are equal in their ontological status and should be treated as such in a thinking inquiry. As one of the movement's founders, American University in Cairo philosophy professor Graham Harman, states: **"The world is not the world as manifest to humans; to think a reality beyond our thinking is not nonsense, but obligatory."**

OOO has been applied to a range of fields, including art, literature, ecology, and technology. In art and literature, it has been used to challenge traditional notions of subjectivity and representation, and to explore the agency of non-human objects in the creation of meaning.

In ecology, OOO has been used to rethink the relationship between humans and the natural world, and to develop new ways of conceptualizing *the complex interactions between living and non-living entities*.

OOO's rejection of hierarchical categories and emphasis on the autonomy of objects aligns with the bottom-up logic of morphogenesis. In this view, buildings and other architectural objects can be seen as complex **systems** *that emerge from the interactions of their components, such as materials, structure, and environmental conditions*.

Architects such as **Manuel DeLanda** have used OOO to explore the ways in which *self-organizing processes* in nature can inform architectural design, and how the built environment can be understood as a complex system of interacting objects and materials. Similarly, architects such as Andrew Kudless have used OOO to explore the potential of computational design tools to generate self-organizing structures that can adapt and respond to changing environmental conditions.

By emphasizing the autonomy and agency of these components, OOO and morphogenesis challenge the traditional view of architecture as a top-down design process imposed by the architect.

OOO offers a way to *re-conceptualize the relationship between humans, buildings, and other objects in the built environment*. Architectural objects can be analyzed and understood through their relationships with other objects, including humans, natural environments, and other built objects.

There are three core principles accompanying OOO:

[1] **Flat-ontology** against reductionism :

«This **[flat ontology]** is the idea that philosophy must begin by casting the widest possible net in aspiring to talk about everything. The chief enemy of flat ontology is the taxonomical prejudice which assumes in advance that the world must be divided up between a small number of radically different types of entities.»

[2] **Equality**

Every object is not equal in terms of qualities, but of importance. Humans are no exemption from that.

[3] **Synergistic**

Objects exist in *intricate relationships across different dimensions and scales*, encompassing physical, psychological, and temporal aspects.

OOO has seven fundamental rules :

(«Object-Oriented Ontology: A New Theory of Everything,» Graham Harman (2018, pp. 25-38)

1. All objects must be given equal attention, whether they be human, non-human, natural, cultural real or fictional.
2. Objects are not identical with their properties, and this very tension is responsible for all the change that occurs in the world.
3. Objects come in just two kinds: real objects exist whether or not they currently affect anything else, while sensual objects exist only in relation to some real object.
4. Real objects cannot relate to one another directly, but only indirectly, by means of a sensorial object.
5. The properties of objects also come in just two kinds: again, real and sensorial.
6. These two kinds of objects and two kinds of qualities lead to four basic permutations, which OOO treats as the root of time and space, as well as two closely related terms known as essence and "eidos".
7. Finally, OOO holds that philosophy generally has a closer relationship with aesthetics than with mathematics or natural science.

New materialism (NM) and object-oriented ontology (OOO) have gained significance in interdisciplinary fields like STS(SocioTechnical Systems). OOO, championed by Graham Harman, focuses on objects and their self-contained nature. **Speculative realism**, closely related to OOO, breaks away from Kantian correlationism to explore the noumenal and offers various methodological approaches, including **fiction**.

The concept of imaginary, as used in this context, acquires a sense of authenticity through the collective representations of shared futures .*It is believed that visual storytelling can effectively engage a wider audience.*

Fictive imaginaries play a crucial role in public engagement by shaping communities and collectives that envision future scenarios based on mythical ideas. In addition to using climate fiction to comprehend the ontological complexity of climate facts, it is valuable to closely examine film texts and their reception to understand how they capture the zeitgeist and sentiments of the public.

Arthouse films also depict Earth and natural resources as sources of animism and posthumanism. Films such as «Le Quattro Volte,» «Uncle Boonmee Who Can Recall His Past Lives,» and «The Tree of Life» explore themes of metempsychosis, non-human agency, and the vitality of the natural world. However, the potential for engaging wider audiences with Object-Oriented Ontology (OOO) and new materialism is often found in Hollywood blockbusters. Movies like «Avatar,» «Star Wars,» and «Interstellar» provide connections to OOO ideas that may be implicit and intangible within the subjective experiences of moviegoers. In these films, there is often a re-valorization of nature, but they can still uphold modernist assumptions about indigenous peoples and their connection to the land through non-human and posthuman agency. Studying the agency found in the storytelling of films does not imply that these objects are alive but rather examines how narratives can shape perceptions. For example, the Irish eco-village of Cloughjordan combines functional eco-futurism with mythic elements, adding to the existing history and imaginary of rural Ireland. Research opportunities exist in exploring how primitivism, spiritualism, animism, anthropomorphism, human/non-human relationism, and agential realism are expressed in *post-colonial and modernization projects*.

Sovacool references Jensen*:

"It is possible to learn from the interplay between "real" nature and "fictitious" nature by anticipating real and fictitious consequences of actions and policies that might shape imaginaries."

*B.K. Sovacool, Sociotechnical agendas: reviewing future directions for energy and climate research Energy Res Soc Sci, 70 (2020) <http://www.sciencedirect.com/recursos.biblioteca.upc.edu/science/article/pii/S2214629620301924>, 10.1016/j.erss.2020.101617

THE HYPEROBJECT

Timothy Morton, a post-ecological philosopher and English professor at Rice University, offers a post-human perspective in his work. He introduces the concept of «**hyperobjects**» in his book «The Ecological Thought» (2010, 130-35) as things that exist on a massive scale, *transcending human dimensions of time and space*.

Hyperobjects possess qualities such as viscosity, nonlocality, temporal undulation, phasing, and interobjectivity. They stick to and involve beings, manifesting in ways different from our familiar human-scale experiences. Morton's exploration of hyperobjects, exemplified by London, highlights their complex, **multi-dimensional** nature and their interrelationships with various objects.

«Think of a city. A city contains all kinds of paths and streets that one might have no idea of on a day-to-day basis. Yet even more so, you could live in a city such as London for fifty years and never fully grasp it in its scintillating, oppressive, joyful London-ness. The streets and parks of London, the people who live there, the trucks that drive through its streets, constitute London but are not reducible to it. London is not a whole that is greater than the sum of its parts. Nor is London reducible to those parts. London can't be «undermined» downward or upward. Likewise, London isn't just an effect of my mind, a human construct—London's history is its form. Form is memory... London is a photograph of its past. When you walk through the streets (it seems corny to put it this way, but it's not really) you are walking through history.»

Finally, London is interobjective. It is a mesh of interrelated objects of various dimensions, shapes, types and physicalities.

This understanding of hyperobjects provides a foundation for an Object-Oriented Design Ontology, emphasizing a holistic and inclusive approach to design. Morton's philosophy enables us to comprehend and address the temporal, conceptual, and structural aspects of objects in our world, guiding designers in being introduced to an holistic approach.

THE THING

Tristan Garcia, a French philosopher and novelist, presents his influential work «Form and Object: A Treatise on Things» in 2010. In this book, he offers a concise definition of a **thing**, *stating that it is the difference between what it contains and what contains it*. Garcia's concept of comprehension goes beyond mere understanding and includes aspects such as containment, understanding, and attention.

«Comprehending is having something, something inside itself. Comprehending is also comprehending an element by being a set; comprehending one quality by being a substrata of qualities; comprehending someone by appreciating or paying attention to this someone; assimilating a way of thinking or idea; having a part when one is a composite; or comprehending a temporal, historical or evolutionary moment in a longer timespan.» (Garcia, 2014, 107).

After defining the thing (pp. 19-74), what it is and not; nothing (pp. 47-49), and something (pp. 50-58), Garcia presents a comprehensive interpretation of some of the critical things:

Universe, Objects and Events, Time, Living Things, Animals, Humans, Representations, Arts and Rules, Culture, History, Economy of Objects, Values, Classes, Genders, Ages of Life and eventually, Death.

Garcia's approach can be seen as highly inclusive and encompassing because it doesn't discriminate based on categories like animate or inanimate, human or nonhuman, or possible and impossible.

Object-Oriented Ontology (OOO) Notions Summarized :

Object-Centered Approach: Object-oriented ontology holds that objects have their own existence regardless of human observation or cognition. They are not solely products of human consciousness.

Flat Ontology: It rejects hierarchical distinctions between objects based on their perceived importance or value. All objects, whether natural, cultural, physical, or abstract, are treated as equally real and significant. OOO emphasizes the interconnectedness and interdependence of objects.

Object Withdrawal: Objects have a withdrawn or inaccessible dimension that cannot be fully known or grasped by human perception. Object-oriented ontology posits that objects withdraw not only from human perception but also from the qualities they manifest in specific spatiotemporal contexts. Objects cannot be exhaustively understood through their relations with humans or other objects and retain a reality that exceeds those relations.

Tool of Analogy: OOO utilizes analogy as an analogical reasoning tool. For example Harman's theory of vicarious causation explains how withdrawn objects interact by positing that two hypothetical entities meet within a third entity and coexist until prompted to interact. This is based on employing analogical tools and hypothetical narrations to understand the different object qualities.

Non-Anthropocentrism: OOO moves away from human-centric perspectives and considers the agency and vitality of non-human entities. It encourages a shift in focus from human concerns to embracing the perspective and experiences of other objects, both animate and inanimate.

Speculative Realism: Speculative realism posits that reality exists independently of human thought and perception, and that we can gain knowledge of the world through indirect or «speculative» means. Harman, G. (2018). *Speculative Realism*. In Zalta, E. N. (Ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2018 Edition).



THE ARCHITECTURAL OBJECT



An architectural object is a broader term can refer to any physical element or component that is designed and constructed as part of a building or structure. This can include walls, floors, roofs, windows, doors, stairs, columns, beams, and other structural and decorative elements.

An architectural object is an **ontological** part of a wider system and itself possesses certain features. The relationship between the user and an architectural structure is *influenced by the concept of time* when the structure is positioned as an entity in the universe.

Through a single architectural object various experiences can emerge, some of which can be predicted by an expert architect and included in architectural knowledge, while others cannot due to randomness. The latter experiences create a void in architectural knowledge, but they present a different reality about the object.

In a speculative reality, an architectural object could take on a range of meanings and functions that go beyond their physical form. Architectural objects could be symbolic representations of abstract concepts or ideas, or they could be designed to facilitate communication or interaction between beings that exist in different dimensions or planes of existence. It could be either a symbol or a place that facilitates metaphysical experiences such as meditation places or a labyrinth. An architectural object can belong to a realistic topos but can also create one.

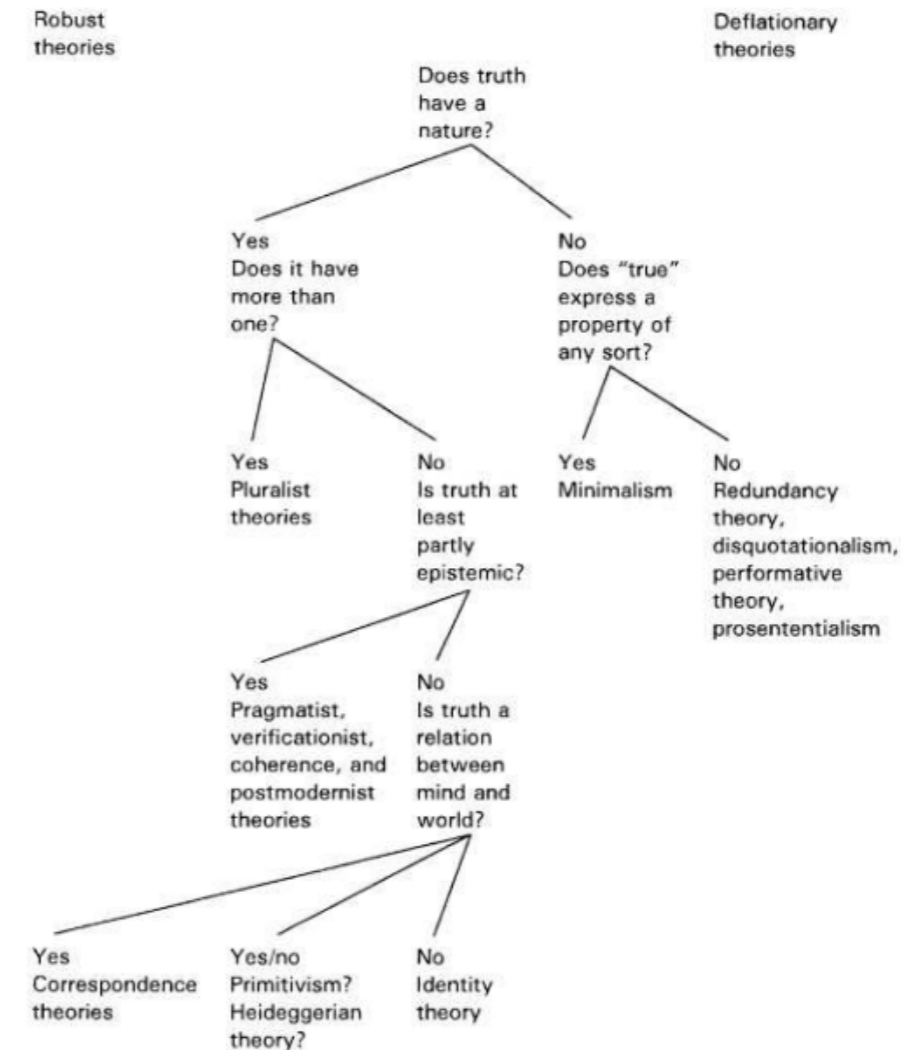
The Window

```

woodwoodwoodwoodwoodwoodwood
io                oo
no                ow
dd                wi
ow                on
wo                od
io                do
nd                ww
dw                oi
oo                on
wo                dd
id                wo
nw                ow
do                oi
oo                dn
wd                wd
iw                oo
nd                ww
do                oi
oo                on
woodwoodwoodwoodwoodwoodwood
dwoodwoodwoodwoodwoodwoodwoodw
odwoodwoodwoodwoodwoodwoodwoodwo

```

Derek Mahon The Window



Robust Theories and Deflationary Theories, according to Michael Lynch

connections



CCC and OOO

CCC refers to the maximum number of elements that a given culture or society can *sustainably support* without causing environmental degradation or cultural collapse.

OOO, on the other hand, is a philosophical framework that emphasizes the importance of objects and their relations to one another.

However, it is possible to draw connections between the two concepts. *For example, OOO can provide a theoretical basis for understanding how objects and material culture shape and are shaped by human societies and cultures.*

By examining the relationships between objects and their effects on human systems, OOO can provide insight into how cultural carrying capacity is influenced by material factors.

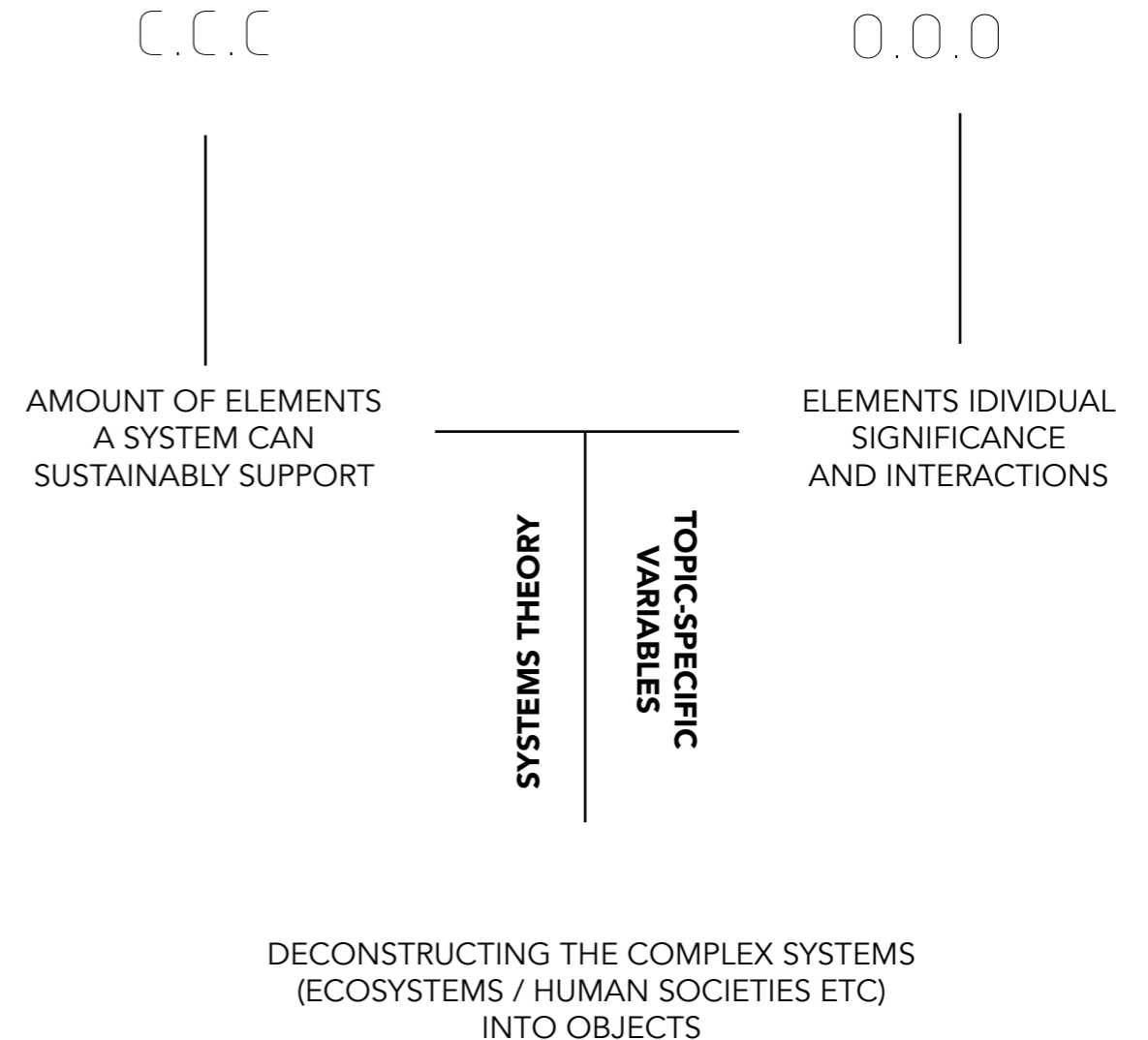
CCC - OOO in systems theory

Cultural Carrying Capacity can be understood as a *particular application of systems theory*, focused specifically on the relationship between human societies and their environment. CCC emphasizes the need for societies to live within their means and maintain a sustainable relationship with their environment.

Both OOO and systems theory are concerned with understanding the relationships between different elements of a system. OOO emphasizes the importance of objects as *entities in their own right*, while systems theory emphasizes the *interconnectedness of different elements of a system*.

OOO is primarily concerned with the ontological status of objects and how they **relate to one another**. Systems theory, on the other hand, is concerned with the relationships between different elements of a system and how they **function together**. Another difference is their approach to complexity. OOO emphasizes the complexity of individual objects and their *interactions*, while systems theory focuses on the complexity of systems as a *whole*.

CCC and OOO can operate in a complementary way by providing valuable insights into the complex dynamics between human culture, material objects, and ecologies.





Settlements of the Anthro-Cosmos are assembled evolutionarily and hierarchically in a **network** called **Ecumenopolis**.
 C. Doxiadis' thought about the Ecumenopolis was that it is the inevitable next phase of human civilization because science in combination to industrialization changed multiple conditions and facts. This change will gradually shift from **ecological to residential** over a few generations. Almost all of us are turning the Cosmos into our own Ecumenopolis.

Through personal reflection, I consider that the architectural system is the ultimate expression of man-made creation, which decisively affects the natural systems through their inbetween interaction.
 Thus, it simulates the natural function with the manmade ,creating new ecologies and cultural idioms.

The reason for presenting Doxiadis' analysis of Ekistics at this point is because it represents the ultimate expression and popularization of the human perspective on the functioning of human settlements. Including this aspect in the theoretical framework helps to comprehend the distinction between human-induced and non-human-induced characteristics.

«To gather the necessary knowledge and develop the science of human settlements, we must move away from an interdisciplinary approach and adopt a transdisciplinary approach to knowledge; simply making connections between disciplines is not enough. If we have an object, we need a science for it (Doxiadis 1970).»

In the last years of his life, Doxiadis created the model of **Anthropocosmos**, a term he first used in 1964 in the lecture «The Human Crust of the Earth» delivered at Swarthmore College. Up until that point, he had devoted four decades to the science of Urbanism. In 1944, he completed his book «Ekistics: An Introduction to the Science of Human Settlements» and in the 1960s, he authored its main book, titled «Introduction to the Science of Human Settlements.» The model of Anthropocosmos represents a standardized form of Ekistics theory, an organizational plan whose definitive formulation was recorded by Doxiadis himself in the text «The Thresholds of Ekistics.» For the formulation of Ekistics theory, Doxiadis employed the language of systems theory, which from 1937 to 1968 became a general thinking framework.

THE PRINCIPLES OF EKISTICS

During the formation of settlements, humans have always acted in accordance with the following five principles:

- [1] Maximizing the potential interactions of humans with elements of nature (such as water and trees), other people, and human-made structures (like buildings and roads). This is essentially a functional definition of personal human freedom.
- [2] Minimizing the effort required to achieve real and potential human interactions. It always emphasizes the structures or chooses the path that requires the least effort, regardless of whether it involves leveling the floor of a room or constructing a highway.
- [3] Optimizing the human protective space, which means choosing a distance from other individuals, animals, or objects that allows maintaining contacts with them (first principle) without any sensory or psychological discomfort. This should apply at all times and in all locations, whether temporary or permanent, regardless of whether the person is alone or part of a group. The walls of houses or fortifications around cities are other expressions of this third principle.
- [4] Optimizing the quality of the relationship between humans and their environment, which includes nature, society, structures (buildings and houses of all kinds), and networks (ranging from roads to telecommunications). This is the principle that leads to order, both in a physiological and aesthetic sense, and influences architecture and, in many ways, art.

- [5] Humans organize their settlements in an attempt to achieve the optimal composition of the other four principles, and this optimization depends on time, space, real conditions, and the ability of humans to create a composition. When humans have achieved this by creating a system of floors, walls, ceilings, doors, and windows that allow them to maximize their potential contacts (first principle), minimize the energy expended (second principle), simultaneously separate themselves from others (third principle), and maintain the desired relationship with their environment (fourth principle), we speak of «successful human settlements.» This means that settlements have achieved a balance between humans and the human-made environment, conforming to all five principles.

According to Doxiadis, the Human Habitat is the unified system, the unity of all systems that each of us can recognize. We live within it, but also act dynamically upon it - thus there is an absolute interdependence. Doxiadis (1974) defined the structure of the Anthropocosmos as «a complex system of five elements»:

1. Natural (Nature and Man)
2. Social (Society)
3. Anthropogenic (Shell and Networks)

He considered that these elements could be studied in various ways: economic, social, political, technological, and cultural and also proposed a framework for organizing knowledge in three directions:

- A horizontal system of complementary layers of knowledge, each representing a simple science (e.g., biology, geography, astronomy) that concerns a simple object (e.g., animals, Earth, universe).
- A vertical system that connects sets of simple sciences into complex sciences (e.g., ecology, urbanism) that concern complex objects (e.g., ecosystems, human settlements).
- A third system representing methods and values.

The term «Anthropocosmos» is now an accepted term, but its meaning is still not clear because human settlements are the most complex systems on our planet. According to the classification by Sir Julian Huxley, they are two levels higher than our cells and one level higher than our bodies, but they have a much higher degree of complexity than the parts that comprise them. They are also more primitive than our bodies and even more so than our cells. However, the real reason for the confusion is that we have not systematically studied them to find their similarities and differences in order to correlate the characteristics of settlements with the problems they have.

The **COBE** (COsmic Background Explorer) studies in 1992 confirmed that the evolutionary stages and complexity of the systems are in the same direction. Thus, we can speak of a stratigraphy of the Anthropocosm: an arrangement of the planes of existence according to their stages of evolution. However, based on the general type of information storage and transmission system, they are grouped into four layers:

Natural : the evolution of physical systems has practically ended on the surface of the earth, yet the hierarchy of matter remains constant: quarks- atoms- molecules- all bodies in the atmosphere, of the hydrosphere and lithosphere, incl and those modified by human intervention

Genetics: they control the information of the forms in which matter evolves

Neurological: the «society» phenomenon has a neurological basis (Fiske, 1993)

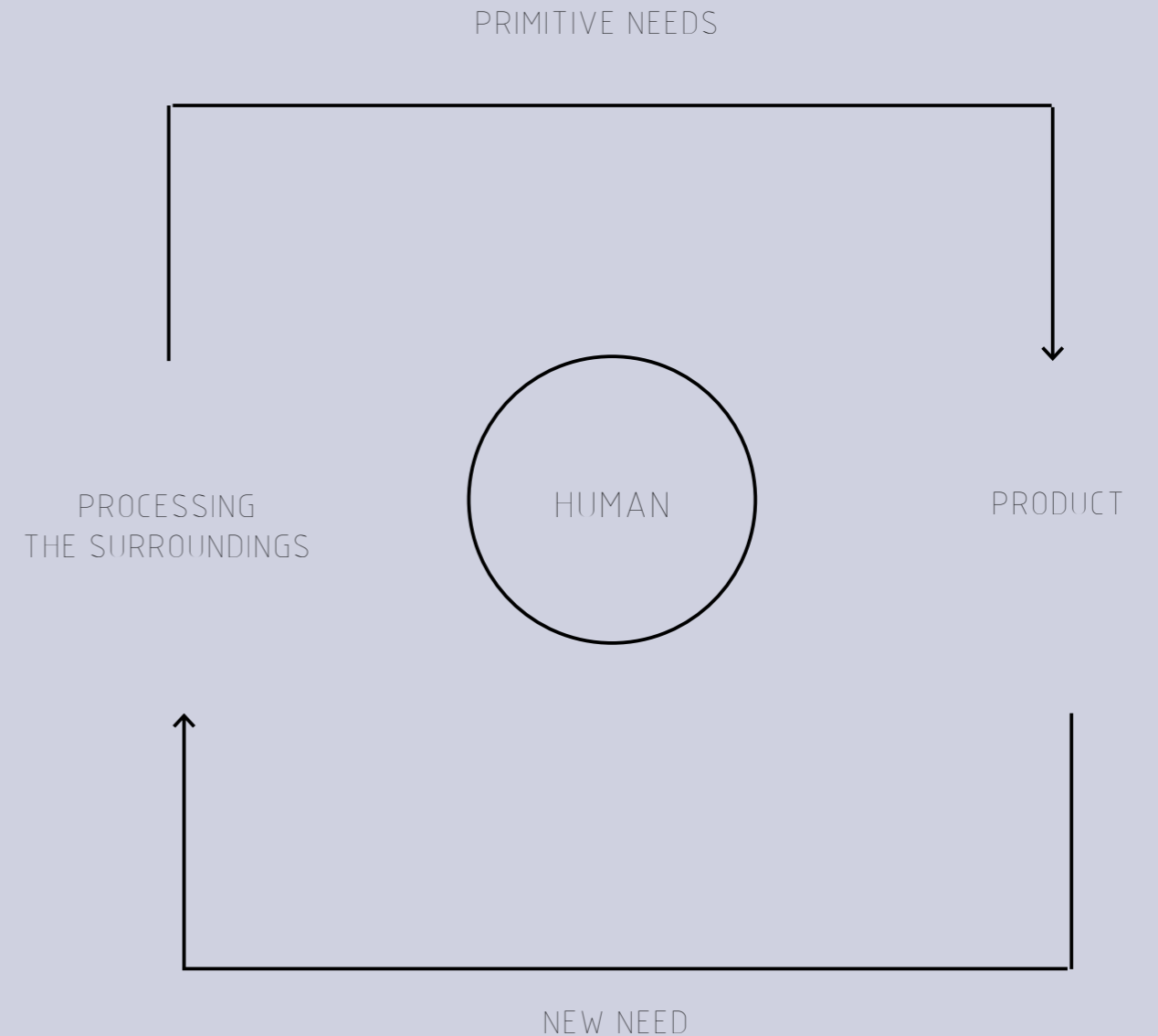
Culturally: the high speed of evolution of cultural elements does not allow normal neurological adaptation to social conditions, which explains the chaotic perception we have of our societies and settlements. So society is now a complex man-made one system.

In the **natural**, although evolution of natural systems has practically ended on the surface of the earth, the entities of the planet that maintain their material organization due to the interactions between subatomic particles are included.

Genetics involves the emergence and evolution of a form of organization of matter, which we call life. **Neurological** refers to the creation of neural circuits that gradually formed the brain in which programs and data transmitted by genetically determined signals are registered. Methods and values also fall under this layer.

The **cultural** takes over the association of meanings and neurological signals. Such systems are ideas, beliefs, values, knowledge as well as skills.

ANTHROPO-COSMOS



THE TÓPOS >

The term «tópos» directly refers to the word “place”. However, all the places that are attributed the characterization of a tópos have undergone a cultural - societal shifts. The perception, interpretation and shaping of the tópos are linked to important social practices. The interest of these places, however, is connected to a variety of activities with an environmental interest. Culture means to use the forces of nature as terms that can transform a place. Through culture, man comes into direct connection with the place in which they belong and enforces interactions.

First there are the utopias. Utopias are sites with no real place. They are sites that have a general relation of direct or inverted analogy with the real space of Society. They present society itself in a perfected form, or else society turned upside down, but in any case these utopias are fundamentally unreal spaces.

As for the heterotopias as such, how can they be described? What meaning do they have?

As a sort of simultaneously mythic and real contestation of the space in which we live, this description could be called heterotopology.

Through architecture and construction, man gives substance to the meanings and idioms of a place and visualizes life in it as a whole. According to Foucault their early principle is that each society creates heterotopias different from each other. The second is that a society, in its historical development, can make an already existing heterotopia, which never disappeared, function in a completely different way. The third is that heterotopia has the ability to juxtapose multiple spaces in one real place. According to the fourth principle, they are connected to parts of time, that is, they open to heterochronisms.

Heterotopias are fully functional when people are in a kind of total rupture with their traditional time as is the case with museums. The fifth principle is the most basic as it states that heterotopias always presuppose the existence of a system of opening and closing which isolates them and at the same time makes them accessible. Finally, the sixth and last characteristic of heterotopias is that they have a special function in relation to the rest of the space.

Maybe they create a space of illusions.



Brothels and colonies are two extreme types of heterotopia, and if we think, after all, that the boat is a floating piece of space, a place without a place, that exists by itself, that is closed in on itself and at the same time is given over to the infinity of the sea and that, from port to port, from tack to tack, from brothel to brothel, it goes as far as the colonies in search of the most precious treasures they conceal in their gardens, you will understand why the boat has not only been for our civilization, from the sixteenth century until the present, the great instrument of economic development, but has been simultaneously the greatest reserve of the imagination. The ship is the heterotopia par excellence. In civilizations without boats, dreams dry up, espionage takes the place of adventure, and the police take the place of pirates.

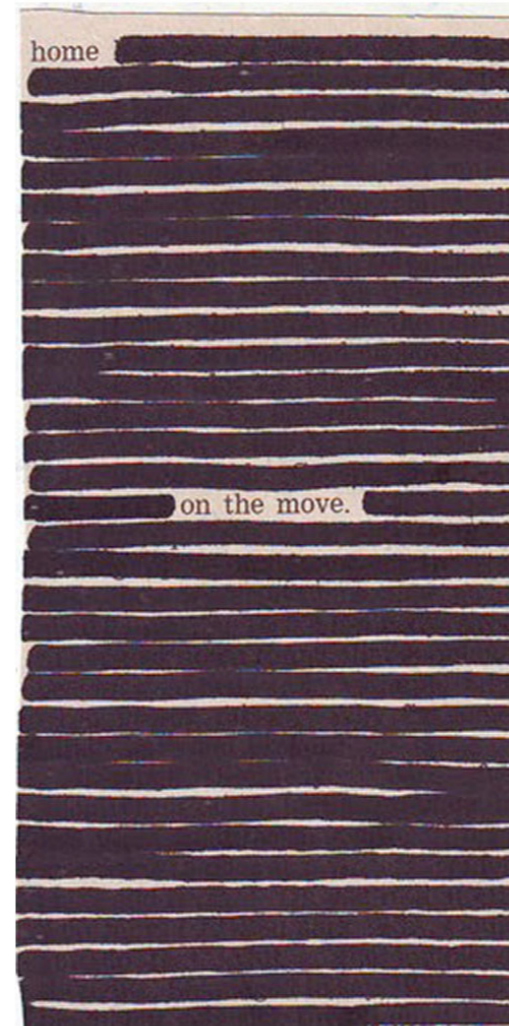


Foucault, M. (1984). Of Other Spaces: Utopias and Heterotopias. In *Aesthetics, Method, and Epistemology* (pp. 1-9). New York: New Press.

Image belongs to the author

[02]

SEAFRONTS





PORT CITIES



The Enigma of the Arrival and the Afternoon
Giorgio de Chirico, 1912

Port cities are distinctive and revealing sides of the global legacy of merchants, empire, and political conflict, which can be traced back centuries. Urban identity is a theme that encapsulates multiple contradictory global legacies. Urban identity reflects different social groups and interests and is fragmented and contested, rather than unified. Memory is the epicenter to the constitution of identities. Pierre Nora's (1989) concept of sites of memory is useful for thinking about the relationship between urban space, memory, and identity.

Port cities lie at the edge between black and blue. Black represents the reality of crime, violence, poverty, and social exclusion, while blue represents the imagination of cosmopolitanism, vibrant cultural exchange, longing, and dreaming. These contrasting representations provide methodological insights for researching port cities.

Media portrayals and cultural presentations of cities have a crucial impact on how cities are imagined politically as places to live, work, and visit. The act of imagining places connects deeply with collective memory, identities, meanings, and values.



Port cities have long been recognized as spaces that possess a distinct identity. This identity is shaped by a complex interplay between global economic forces and local cultural dynamics, which converge within the port city to create a unique sense of place that is reflective of the various cultural influences that have shaped it over time.

The concept of the port city as a hybrid space has been explored by scholars such as Liam Quinn in his article «The Port-City as a Hybrid Space: The Case of Liverpool.» Quinn argues that the port city is a space where global economic and cultural flows converge, creating a unique cultural identity that reflects the interplay between local and global dynamics. **However, the liminal nature of the port city also makes it challenging to construct a cohesive collective identity.**

Kevin Fox Gotham's article «The Social Construction of Urban Identity: The Case of Marseille» emphasizes the complexity of port cities, which are neither fully urban nor fully maritime, but rather a complex amalgam of both. Port cities are often marked by profound social, economic, and cultural inequalities that further complicate the construction of a collective identity.

In their article «The Port City as a Zone of Hybridity: Social and Cultural Transformations in Lisbon,» José Mapril and Luís Mendes explore the concept of the port city as a space of hybridity. They argue that the port city is a space where different cultural, social, and economic forces converge, creating a unique sense of place that reflects the ongoing interplay between these forces.

While the liminal nature of the port city presents challenges in constructing a cohesive collective identity, the unique sense of place that emerges from this interplay is crucial to understanding the role that port cities play in the global economy. Further research is needed to explore the complexity of port cities and their evolving collective identities. Regardless port cities' identity is aparted from the following features :

1. **A connection to the sea:** Port cities have a strong connection to the sea, and their identity is often tied to the maritime activities that take place there.
2. **Cultural diversity:** Port cities are often home to a mix of different cultures and ethnicities, which can create a vibrant and dynamic identity.
3. **Economic activity:** Port cities are centers of economic activity, with industries ranging from shipping and logistics to tourism and hospitality.
4. **Historical roots:** Port cities often have a rich and storied history, which can be reflected in their architecture, cultural traditions, and local landmarks.

The collective identity of a port city is made up of various elements that are shared by its inhabitants and stakeholders. These elements include:

1. **The city's history and heritage:** The collective identity of a port city is often shaped by its history and heritage, including its role in trade and commerce, its cultural traditions, and its local landmarks.
2. **The city's physical environment:** The physical environment of a port city, including its waterfront and maritime infrastructure, can also contribute to its collective identity.
3. **The city's economy and industry:** A port city's collective identity is also shaped by its economy and industry, including the types of businesses and jobs that are prevalent in the city.
4. **The city's culture and community:** The collective identity of a port city is also influenced by its culture and community, including the diversity of its inhabitants, its local customs and traditions, and the values and beliefs that are shared by its residents.
5. **The city's relationships with other places:** Finally, the collective identity of a port city is influenced by its relationships with other places, including other port cities, neighboring communities, and the wider world.

Overall, the collective identity of a port city is a complex and multifaceted concept that is shaped by a range of social, cultural, economic, and environmental factors.

The basic premise for Waterfront architecture has always been the water. Therefore a cultural recording should be maintained. Waterfront is a living ,everchanging museum of habitation since humans' relationship with the land is preserved from prehistoric times to the present day.

Marshall, Richard. «Waterfronts in Post-Industrial Cities.»
Taylor & Francis, 1999.



Waterfront regeneration projects are becoming increasingly popular as they present unique opportunities for urban planning and redevelopment. The context of the waterfront offers a remarkable laboratory for interventions in existing areas, providing a wide range of recovery possibilities. The industrial areas and port zones that define the waterfront present new urban qualities and propose new additions to the city. Waterfronts are a leading force in the future of urban planning, and their redevelopment is a phenomenon that is already observable and has recurrent features through variations and unusual features linked to individual sites and local traditions.

Urban Complexity:

The co-presence of numerous activities, which combined give life to new pieces of the city, characterizes the waterfront regeneration projects. This complexity is the result of a partial operation from one sector rather than years of planning. This kind of complexity often refers to historical layers, highlighting the importance of historical urban fabrics in waterfront regeneration projects.

Historical Urban Fabrics:

The waterfront work outlines the themes of innovation in old places marked by historical memory or producing flat monotonous landscapes, worn-out replicas of operations conceived and developed elsewhere. The historical urban fabrics are critical in waterfront regeneration projects as they provide a sense of identity and history to the area.

Factors:

1] *The plurality of functions assigned to the area in relation to both its regeneration and its relationship with the rest of the city:* The waterfront has different but complementary rules and acts as a border zone between the city and the sea. It spreads development to distant peripheral areas, redefining the urban border and the waterfront.

2] *Multiple activities of redeveloped zones:* The mixed functions of the waterfront demand a significant number of activities linked to the previous and original use with the purpose of keeping the memory alive. The arrangement of productive activities compatible with the renewed context ensures diversification in the zone's economy. This may require using housing, and residence-associated activities, creating a composite heterogeneous fabric, avoiding a vast picturesque and artificial zone.

3] *Copresence of public and private:* Public administrations and private organizations must work together to reorganize the abandoned areas and reintroduce them as an urban play.

The Aura of the City:

The waterfront bears witness and often takes the brunt of the ebbs and flows of the city's energy and prosperity. It maintains some inherent and unalterable stability for the city. There is a long-term to be regained, and it should not be dangerous for short-term riches. A living city is a dwelling city, with mixed-use urban living. Globalization poses a threat to the city's identity and uniqueness, leading to homogenization and a loss of identity.

Waterfront regeneration projects present unique opportunities for urban planning and redevelopment. The complexity of the area and its historical urban fabrics provide a sense of identity and history to the waterfront. Multiple activities and a copresence of public and private organizations are critical in redeveloping the abandoned areas. The waterfront's aura bears witness to the city's ebbs and flows and maintains some inherent and unalterable stability for the city. A living city is a dwelling city, and waterfront regeneration projects must ensure mixed-use urban living, avoiding the homogenization and loss of identity caused by globalization.

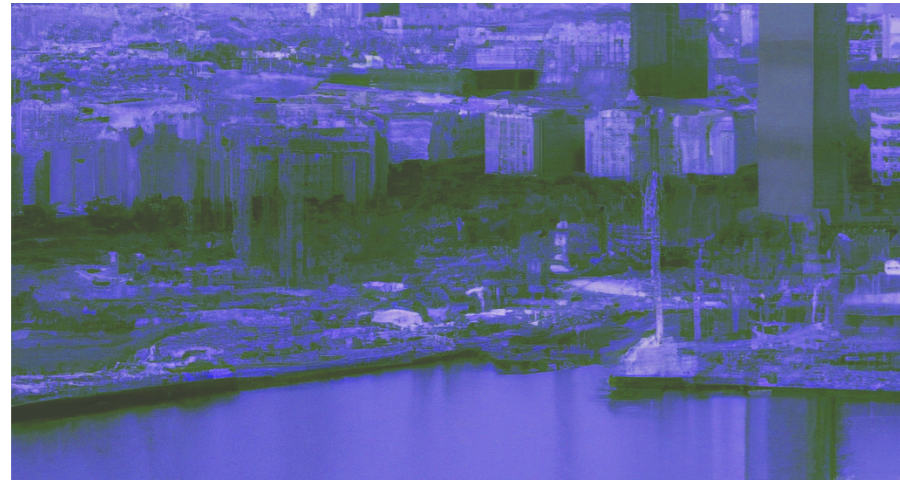


Image belongs to the author

Port cities are often described as *liminal spaces where the blue of the sea and sky meets the black of the urban landscape*, creating a unique and exotic atmosphere that fosters cosmopolitanism and cultural exchange. This dichotomy of black and blue has been used by writers for centuries to capture the contradictory representations of urban identity in port cities. While blue is associated with eternity, dreams, and loneliness, black represents crime, violence, poverty, and social exclusion. These colors have been used in popular culture to symbolize the contrast between reality and imagination, life and death, and night and day. The colors black and blue can offer a *lens through which to examine the complex social, economic, and cultural dynamics of port cities*. Furthermore, media portrayals and cultural presentations of these cities can have a profound impact on how they are imagined politically as places to live, work, and visit.

The relationship between black and blue is particularly relevant to port cities in the Mediterranean region. «Le Noir et le Bleu Un Reve» was an exhibition at the Museum of European and Mediterranean Civilisations in Marseille that opened in June 2013. The exhibition aimed to explore the contrasting themes of black and blue in the context of the Mediterranean, juxtaposing light against darkness, civilization against barbarism, and collective dreams against social conflict. It highlighted the impact of media portrayals and cultural presentations of cities, particularly port cities, on how they are imagined politically as places to live, work, and visit.

In a field guild to getting lost the culture historian Rebecca Solnit reflect some blue as the color of edges:

“The world is blue at its edges and its depths. This blue is the light that God loves. Light of the blue end of the spectrum does not travel the whole distance from the sun to us. It disperses among the molecules of the air and it scatters in the water. For many years I have been moved by the blue of the fights of what can be seen the color of horizons of remote mountain ranges of anything far away. The color of the distance, the color of an emotion, the color of solitude, end of the desire the color of their scene from here, the color of where you are not. And the color of where you can never go.”

While the color black is often associated with negative connotations, it can also be a powerful tool for reclaiming marginalized identities and providing a lens through which to examine the complexities of urban life. The color blue, on the other hand, can represent the longing for the infinite and the unknown, offering a poetic space for imagining possibilities beyond the urban landscape.

SITE ANALYSIS



Historical References and Typologies

According to Timothy Morton's theory on hyperobjects, Barcelona's seafront can be considered as one such hyperobject due to its multidimensional nature and the interconnectedness of various objects within it. It presents a scenery that humans cannot fully comprehend, with different dimensions, styles, types, and physicalities. This project focuses on the sections of the seafront that comprise the port area. To fulfill the objectives of the thesis, a classification should be conducted based on their characteristics, functions, and interrelationships.

It is important to highlight that these sections, with their distinct forms and typologies, have cultural impacts on the city and serve as a boundary between the broader hyper-urban territory of Barcelona and nature. In this way, they sustain a certain ecological balance.

Port of Barcelona (Port de Barcelona):

The main commercial and passenger port of Barcelona, handling a significant amount of maritime traffic, including cargo ships, cruise ships, and ferries.
Character : **Commercial Port**

Port Vell:

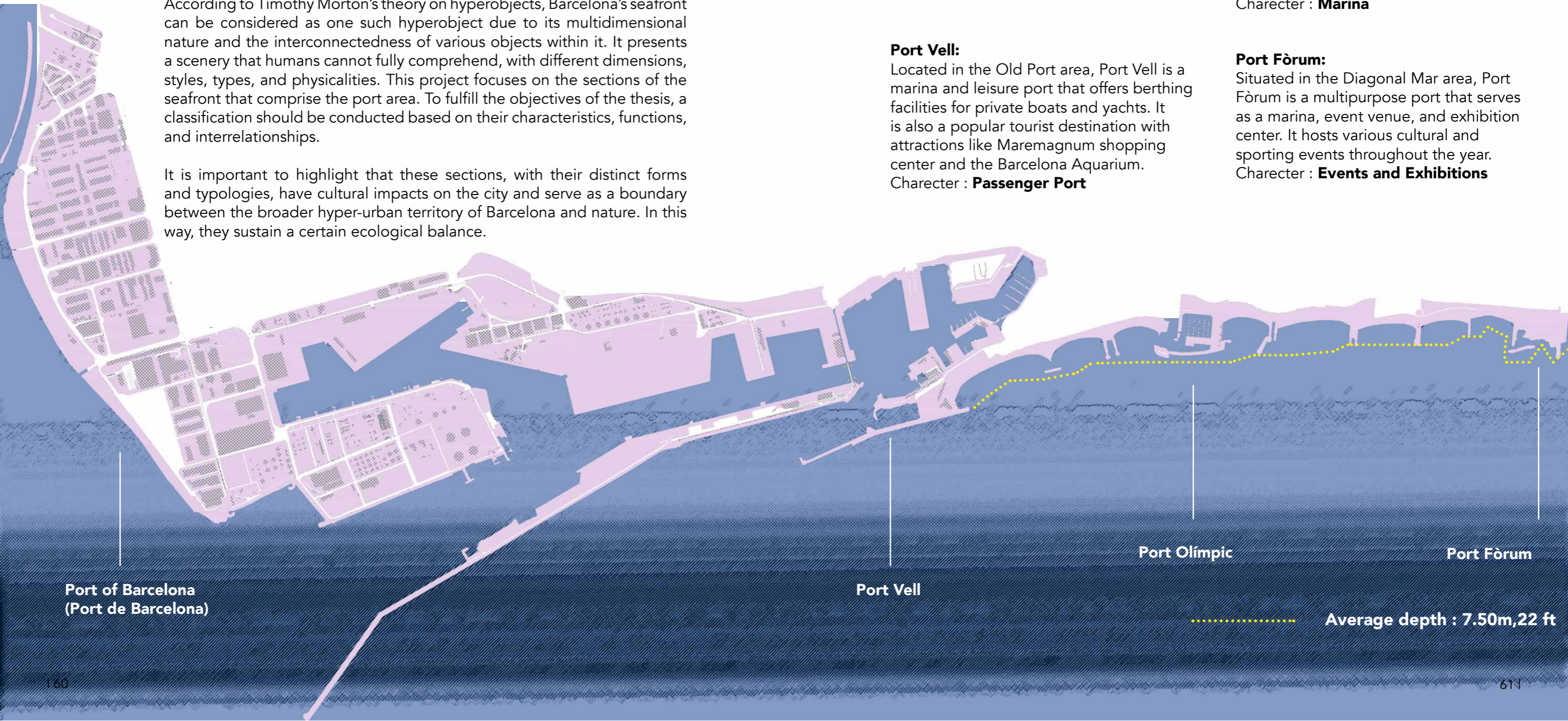
Located in the Old Port area, Port Vell is a marina and leisure port that offers berthing facilities for private boats and yachts. It is also a popular tourist destination with attractions like Maremagnum shopping center and the Barcelona Aquarium.
Character : **Passenger Port**

Port Olímpic:

Constructed for the 1992 Olympic Games, Port Olímpic is a marina that caters to recreational boating and sailing activities. It is surrounded by a vibrant promenade with restaurants, bars, and nightlife options.
Character : **Marina**

Port Fòrum:

Situated in the Diagonal Mar area, Port Fòrum is a multipurpose port that serves as a marina, event venue, and exhibition center. It hosts various cultural and sporting events throughout the year.
Character : **Events and Exhibitions**



Port of Barcelona
(Port de Barcelona)

Port Vell

Port Olímpic

Port Fòrum

Average depth : 7.50m, 22 ft

Various urban regeneration projects worldwide have employed diverse strategies and opportunities to achieve an 'urban renaissance' by establishing new central areas (Porter & Shaw, 2009). These approaches include the implementation of **creative cities** (Evans, 2009), **culture-led initiatives** (Gainza, 2016), **iconic megaprojects** (del Cerro Santamaría, 2013; Nagel & Satoh, 2019), **mega-events** (Boycoff, 2014), **Disneyfication** (Choi, 2011), and **tertiarisation** (Grubbauer, 2014), among others. Undeniably Barcelona is intended as a "global city" and especially the city's seafront is the vitrine showcasing this fact.

In order to understand Barcelona's seafront its history should be briefly referred. Through observation it is clear that the most public parts are among Port Vell and Port Olympic, and then between Port Olympic and Port Forum. Nevertheless these areas, e.g. Poble Nou, were recently undergone through processes of materialization, abandonment, and regeneration. Urban renewal and regeneration projects have been used to create areas of new centrality. Urban planning, while serving both financial interests and the idea of providing the «Right to the City (Lefebvre H., 1968)», faces contradictions. The construction of new central areas in global cities often prioritizes market profitability over the needs of the community and Barcelona is such a prototype.

Pedro Duran i Farrell, in 1965 stated about Barcelona after its prior industrialization: **"a city which can't keep living with its back to the sea"** meaning that its development and urban focus were oriented away from the coastline. This situation changed with the implementation of the Ribera Plan, also known as the Modification Project of the Sub-regional Plan of Barcelona affecting the Eastern Maritime Sector. The plan was presented as a means to revitalize the neighborhood and promote urban renewal. However, it primarily served the interests of speculators, who sought to displace the working class and capitalize on the land use change for financial gain. The plan aimed to overcome the asphyxiating effects of railway installations and the prevalence of dreary industrial applications along the coastline. Ultimately, in February 1971, it was proposed to redevelop the land occupied by large industrial and railway properties into intensive and luxurious housing and commercial areas.



The Ribera Plan, 1971

In summary, the implementation of the Ribera Plan aimed to shift the city's orientation towards the sea by transforming industrial and railway areas into lucrative residential and commercial spaces, primarily benefiting the bourgeoisie and capital interests.

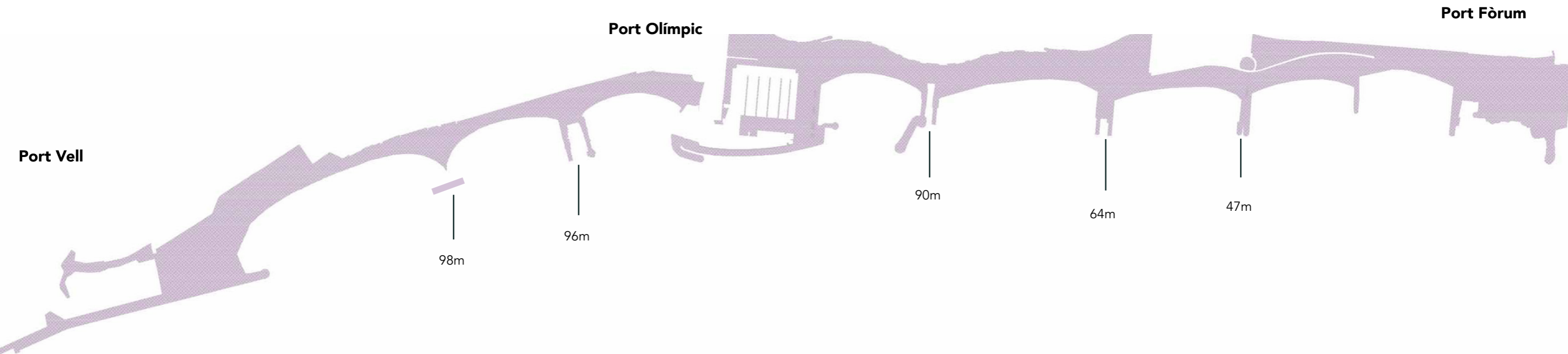
The urban transformations in the Poble Nou area of Barcelona from the late 1980s to the early 2000s are represented by two case studies: Vila Olímpica and Diagonal Mar. These projects realized the long-delayed Ribera Plan and marked the beginning of the «Model Barcelona» from 1973 to 2004. Vila Olímpica involved the redevelopment of Nova Icària, aiming to create a modern neighborhood by the sea for the 1992 Olympic Games. The project resulted in the loss of industrial heritage and the displacement of existing residents. The case of Vila Olímpica exemplified the dispossession of the city's previous inhabitants and urban environment.

Diagonal Mar, on the other hand, transformed former industrial properties into a new urban district with star-system architects' designs. The 2004 Universal Forum of Cultures and Poble Nou's Central Park further reshaped the area. The Universal Forum of Cultures converted old industrial urban texture into eclectic buildings, marking the end of the Model Barcelona. Poble Nou's Central Park, part of the 22@ Plan, replaced industrial-residential blocks but faced challenges during implementation and ongoing issues with user interaction and traffic congestion. The preservation of the Oliva Artés Factory became a symbol of the neighborhood's industrial identity.

The analysis of Poble Nou's industrial and railway properties reveals a three-phase transformation. Initially, Poble Nou was a thriving industrial neighborhood, representing the industrial city during the first and second industrialization phases. However, a strategy to extract value through real estate development emerged, supported by both the dictatorship and democratic governments, leading to the neighborhood's transformation into a central zone of the city.

In the third phase, urban transformation focused on creating high-quality areas for international economic competitiveness, often disregarding public interests and local needs. This resulted in the redevelopment of a perceived urban void, accompanied by the development of new public spaces. However, this process also led to the loss of the neighborhood's historical character and the displacement of its original residents.

Back to today it is clearly observed that Barceloneta's area until Port Olímpic is oversaturated. The **"international style"**, was adopted by the Marina's construction, and in combination with hospitality and touristic businesses shifting towards a "generic" globally recognizable branding, contributed to the loss of locality and identity. The coastline's rapid change was complemented by Poble Nou's regeneration. Nevertheless the current phase offers fertile grounds for architectural insight.



Along the coastline, the presence of **groynes** disrupts the uninterrupted seafront, exhibiting varying dimensions, materials, and morphology. Through onsite observations, it has become evident that these structures tend to attract specific groups of individuals seeking different activities. Their primary objective is to obtain an alternative perspective of the seafront, distinct from the view provided by the coast itself. Consequently, the experience on the groynes markedly differs from that of standing on the coast.

The primary purpose of groynes as **objects** along the coastline is to manage coastal erosion and maintain or stabilize beaches. Groynes are coastal structures constructed perpendicular to the shoreline, typically extending into the water. They are designed to interrupt the longshore transport of sediment, which is the movement of sand and other materials along the coast caused by waves and currents. Groynes can also contribute to the formation of natural habitats and provide opportunities for recreational activities, as mentioned earlier.

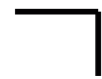
An intake of the significance of groynes reveals their ability *as single objects to generate a variety of habitats, thus contributing to ecological niches*. The historical context of the broader area, combined with the aforementioned significance of groynes, prompts the consideration of design possibilities. *Can a floating extension of a groyne be devised to enhance its functions from both human and ecological perspectives?* To explore this question, a comprehensive strategy will be developed to assess the topic and propose a design initiative.

There are recognised sets of systems:

Man-made system : groynes, human activities

Natural systems : sea, biodiversity

From a **Synergetics** perspective, groynes facilitate a harmonious integration of human activities and the need for coastal protection, while also offering potential shelter for other organisms. In terms of **Equality**, all components of the system work together as interconnected entities, where none can be deemed more significant than the other. The groyne acts as a medium that enables this interconnectedness. In the context of a **[flat ontology]**, these elements are inseparable and collectively form a unified entity. Consequently, the current site exemplifies the principles of **OOO** (Object-Oriented Ontology) by embodying the integration and cooperation of these interdependent elements.



STUDY CASES



The following case studies serve this thesis, prioritizing both the water fronts themselves and their respective elements (society, ecology, nature, archaeology, etc.). There are five different systems:

- 1) The "Islas Flotantes de los uros" a self-organized islandic system
- 2) The ancient city of Seuthopolis and the innovative proposal for its recovery.
- 3) The failed innovation of Dome House in Florida.
- 4) An interspecies experiment by The Architectural Ecologies Lab
- 5) The scenery of T. Angelopoulos' film at Lake Kerkini.

The analysis initiates from an already existing and evolving *tópos*, continues to a strategical plan to recover a city lost inside the water. Furthermore there is an important reference to one of the many times that people tried to mimic nature whilst not taking into account that they are surrounded by it. Finally it is presented how a narrative and a *tópos* can be created from scratch, when nature meets human

AN ISLANDIC SYSTEM'S EVOLUTION

A WATERFRONT INNOVATION

AN ASPIRING PLAN

AN NON-ANTHROPOCENTRIC EXPERIMENT

A WATER NARRATION

Islas Flotantes de los uros, Peru



The Uros islands, located 6 km from the city of Puno, Peru, have withstood the test of time on islands made of totora, an entirely handcrafted artificial landscape. Their construction technology has become a tradition that has allowed the permanence of a floating, adaptable and renewable community.

The Uros people are an indigenous group living on approximately 80 man-made islands constructed from totora reeds on Lake Titicaca in Peru. The Uros have been living on these islands for about 300 years and have developed a complex system of small-scale infrastructure and activities, including schools, restaurants, and a church, all constructed using totora. The totora plant is used for everything from building homes to providing food and clothing. The root of the plant, known as kilhi, is essential to the foundation of the islands and can only be found once a year, typically in the summer.

To construct the islands, the Uros use a tool called kiniña to cut the totora reeds, leaving 30 cm from the root so that the plant can regrow. The roots are then used to create blocks of kilhi, which are attached using stakes and cords to form larger blocks. Eucalyptus logs are used as anchors to hold the blocks in place, and layers of dry totora are placed on top until the islands are about 1.3 meters thick. The Uros constantly work to maintain the islands by adding more layers of totora every one or two months to prevent them from disintegrating, as they sink about 50-70 cm each year.

The building typology is based on the archetypal unknymous architecture of triangular rooftops based on 4 walls with minimal door and windows openings.



Enzo Vergara. «Suelos blandos: tradición constructiva de las islas flotantes de los Uros» 21 mar 2022. ArchDaily en Español. Accedido el 22 Jun 2023. <<https://www.archdaily.cl/cl/02-345104/suelos-blandos-tradicion-constructiva-de-las-islas-flotantes-de-los-uros>> ISSN 0719-8914

SEUTHPOLIS , KAZANLAK BULGARIA

city reclamation project by arch. Jeko Tilev

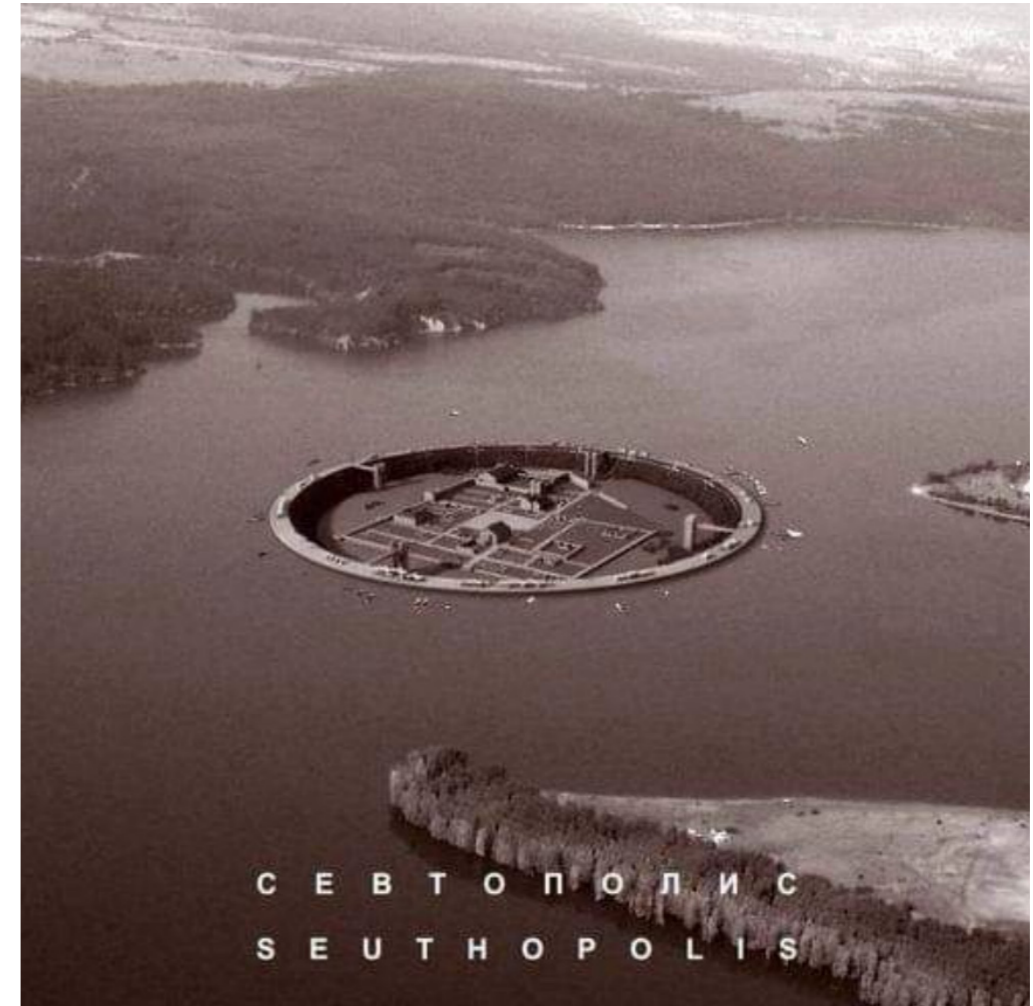


Seuthopolis, the ancient city of the Thracian king Seuthes III and capital of the ancient state of Odrissia, was discovered and explored during the construction of the Koprinka dam in 1948-1954. Regrettably, after the dam was filled with water, Seuthopolis remained submerged as the first and best-preserved Thracian city in modern-day Bulgaria. Today, Seuthopolis can be reknowned as a world cultural heritage through a project that allows for the uncovering, preservation, and partial reconstruction of the city while making it publicly accessible.

The project proposes a unique architectural structure in the natural environment that realizes the exceptional historical, educational, cultural, and tourist value of Seuthopolis. The circular dam wall, resembling a well, takes the ancient city back from the water and presents the historical epic of Seuthopolis as if on a stage. Approaching the surrounding ring by boat, Seuthopolis remains hidden from view, but the view from the wall is breathtaking. From the height of 20 meters, visitors can perceive the entirety of Seuthopolis, an exceptional possibility for excavations of this scale.

The neutral circular form of the ring surrounding wall with an outside diameter of 420 meters separates and integrates Seuthopolis with the surrounding environment in a new architectural synthesis. The ring is a pier for boats and small ships, a park, and a panoramic walkway. It will be filled with many programmatic elements and facilities. The unique way of exhibiting the only well-preserved Thracian city will turn it into the culmination of the cultural and historical routes in the valley of Kazanlak. At night, the shining aureole visible from the shores on the background of the water, surrounding mountains, and sky will show that the city of Seuthopolis is reborn, present with us and the Cosmos.

Such a project conceived and designed by the bulgarian architect Jeko Tilev remains conceptual and there is no plan for it to be executed in the proximate years to come. Nevertheless it remains an extraordinary proposal for preserving such archeological relics.



Pictures right and left Source : The Project's official page
http://www.sevtopolis.suhranibulgarskoto.org/en_proekt.php

Dome House , Marco Island , Florida 1981, Bob Lee



The dome homes were built in the 1980s, located in Marco Island, Florida, present an intriguing case study .In light of increasing natural disasters and the need for alternative housing options, Dome House can be considered as a failed experiment which sheds light in the trans-humanist era ecological architecture.

Lee built the homes to be self-sufficient and eco-friendly.The use of geodesic design elements reduces the amount of building materials required, resulting in a lower carbon footprint. The use of natural lighting and ventilation, facilitated by the dome's design, further reduces the need for electricity and artificial lighting.The dome-shaped roofs were to direct rainwater into troughs that would then be collected for showering and dishwater.

After selling the homes in 1984, Lee repossessed them in 1987 and lived in them with his family until Hurricane Andrew damaged the interiors in 1992, forcing them to leave the property two years later. (NBC2 News., 2021)

John Tosto bought the Dome Homes property in 2005 with plans to renovate and move them away from the water, but Hurricane Wilma damaged them. He was required to demolish the structure due to safety concerns, but it remained abandoned and accrued fines. In 2016, Tosto proposed to sink the domes and turn them into an artificial reef, but the project failed to raise enough money,in 2018, the fate of the domes was handed over to the state of Florida. However, erosion has moved them offshore, and their future remains uncertain, with many fearing that another hurricane will submerge them. Currently, the houses function to serve marine life while facing the inevitable realities of deterioration and an unknown future.



The Buoyant Ecologies Float Lab

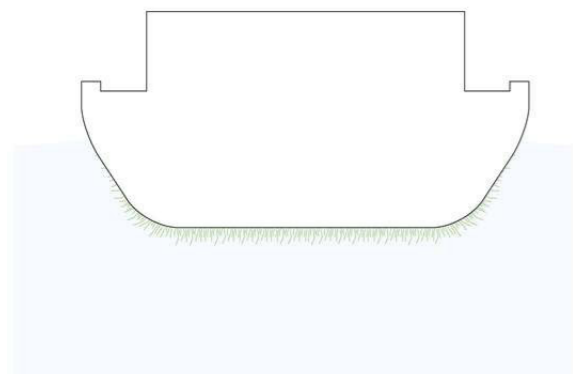
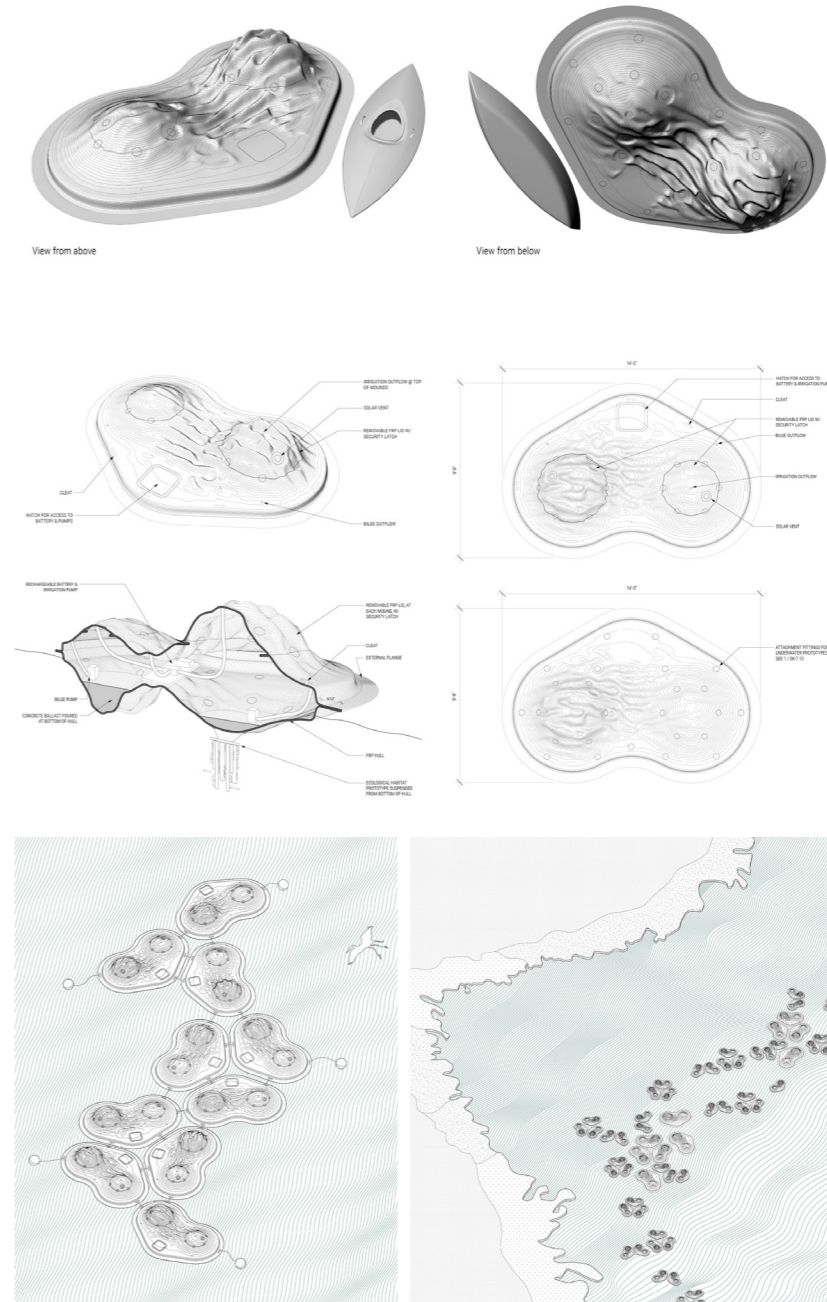


Architectural Ecologies Lab

The Buoyant Ecologies Float Lab is an innovative prototype that combines design expertise, advanced digital fabrication, and marine ecology to create resilient coastal infrastructure. This floating architecture envisions a future where human-made structures harmoniously coexist with the surrounding environment.

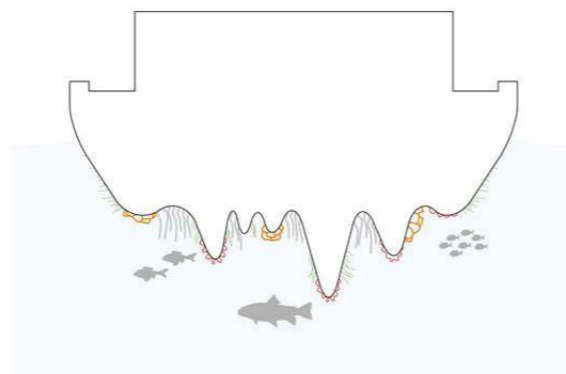
The prototype is the result of five years of research at the California College of the Arts. It features a floating breakwater structure that incorporates an ecologically optimized fiber-reinforced polymer composite substrate with variable topographies. The top surface is designed to collect rainwater and create pools for intertidal or terrestrial habitats, while the underwater section consists of peaks and valleys of varying sizes that provide habitats for different invertebrate species. This underwater landscape facilitates the flow of water, bringing nutrients and promoting ecological diversity. Additionally, the biological growth on the substrate helps attenuate waves and mitigate coastal erosion, a significant consequence of climate change and rising sea levels. The vessel also includes attachment fittings underneath to accommodate future prototypes and further explore the wave attenuation potential of the optimized substrate.

Deployed in San Francisco Bay in August 2019, the prototype is currently moored at the Port of Oakland's Middle Harbor Shoreline Park. It serves as a research platform for developing ecologically optimized substrates for wave attenuation and acts as an environmental demonstration project. It also engages in public education and community involvement initiatives sponsored by the Port of Oakland.



FLAT BOAT BOTTOM

- Fouling communities are uniform and homogeneous, typically consisting of the most dominant invasive species.
- Fouling communities are often seen as a nuisance for boats and other waterfront structures, requiring regular cleaning and maintenance.



OPTIMIZED UPSIDE-DOWN BENTHOS

- Increased surface area provides more "real estate" for fouling communities to thrive.
- The fouling communities are more diverse, as smaller valleys provide refuge from predators for smaller species.
- Greater ecological diversity supports the food chain and enhances the broader ecology.
- Controlled growth of invertebrates could potentially perform as wave-attenuating "sponges," reducing the effects of waves and flooding on the coast.

Figure 2. Architectural Ecologies Lab
<https://architecturalecologies.cca.edu/>

THE WEEPING MEADOW

Greek: Το λιβάδι που δακρύζει

Directed by Theodoros Angelopoulos

Greece, 2004



The Weeping Meadow is a 2004 Greek historical drama film written and directed by Theo Angelopoulos. It narrates Greek history through the sufferings of one family. The story starts in 1919, with some Greek refugees from Odessa, Ukraine, arriving somewhere near Thessaloniki, Greece. The refugees build a small village, near a river, and the movie unfolds as their lives continue until 1949. However, times of dictatorship and war are coming.

Lake Kerkini is a significant location in «The Weeping Meadow,» and it serves as the setting for several key scenes in the film. Lake Kerkini is a man-made lake located in northern Greece, near the Bulgarian border. It was created in the 1930s when a dam was built on the Strymonas River, and it has since become an important wildlife sanctuary and tourist destination.

For the needs of the film, a village was constructed inside Lake Kerkini, at a point where the abandoned settlement of “Ano Manitari” used to be, in late 2001. The village, which was called by the local residents «Angelochori,» consisted of a total of 92 buildings, constructed in the traditional Macedonian way, at a time when the water level was low and then naturally sank into the waters of the lake.

Lake Kerkini is a large artificial reservoir located in northern Greece, near the border with Bulgaria. It was created in 1932 by the construction of a dam on the Strymon River, and it covers an area of about 72 square kilometers. Overall regarding the scenography, Theo Angelopoulos created a timeline following the lake’s natural drainage cycle.

In the film, the lake serves as a symbol of the characters’ search for a sense of home and belonging. The lake’s calm waters and peaceful surroundings contrast with the chaos and upheaval of the outside world, creating a sense of refuge and sanctuary. As the film progresses the village gradually is absorbed by the water as it was planned since it was created. The main characters have again to readapt in the new conditions innovating ways to transport themselves inside the lake and maintain their everyday life. Throughout the film many floating structures suggesting different activities are manufactured.



[03]

THE IDEA





METHODOLOGY >

Seafronts are habitats that have a significant impact on culture and collective memory. The way people interact with the landscape can influence their perception of a place.

Narrative is a very special lens used to represent and observe architectural approaches. It is a way not only to tell a story about the past, but also to describe the present and predict the future. By selecting and synthesizing various elements, qualities, and staging of public life, it is possible to create a more comprehensive picture of the waterfront's social character and the social relations that develop within it.

The selection of «**points**» for investigation and visualization is based on both academical research and empirical observations, which capture the constant and rapid changes in the waterfront's character. The narrative will have numerous parts and each one will represent an «**episode**». Each «**episode**» provides a unique perspective on the social life of the seafront, contributing to a broader understanding of its cultural significance.

By documenting these episodes, we can gain insight into the complex interplay between urban development, ecology, and culture and their impact on collective memory.

According to the Theoretical Framework each System is divided into multiple elements. The interactions and connections between them are of great importance. A waterfront is not only a physical location where land meets water, but also a poetic and social space that embodies a city's cultural and historical identity. Therefore it is a complex system and will be examined as such in order to identify the focal points that can synthesize the narrative. The Methodology will be based on Systems' Theory and will be represented grafically. The summary of the inbetween interaction can lead to the final design proposal and be articulated through a collection of **architectural objects**.

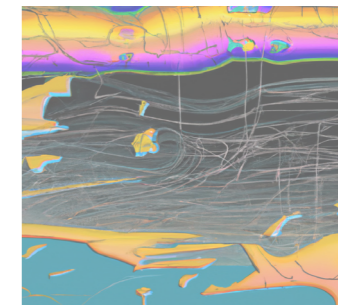
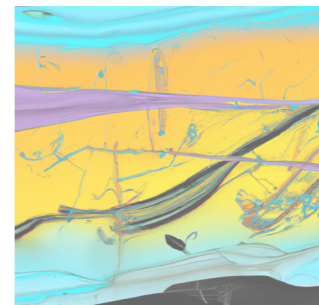
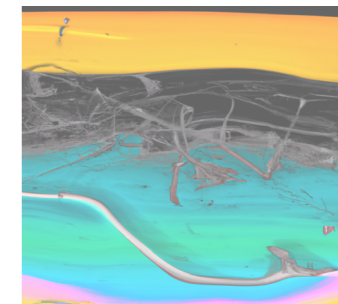
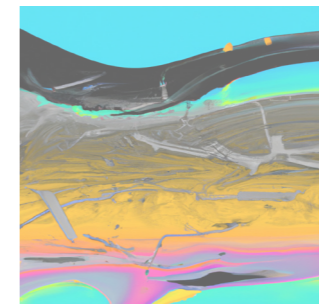


Image belongs to the author

The methodology is based on Object-Oriented Ontology (OOO) principles. This methodology can be delineated as follows:

Object Analysis: The methodology initiates with a comprehensive and meticulous analysis of the archetypal architectural objects. By focusing on the objects as discrete ontological entities and their formal characteristics (material composition, spatial attributes, and relational potentials), this analysis underscores their significance within the project.

Object Relations Mapping: It identifies key elements, maps their relationships, considers contextual factors, visualizes the connections, and analyzes the implications. This process provides a comprehensive understanding of how the objects interact and forms design decisions. It encompasses not only the objects and their interconnectness but also considers their interactions present within the contextual environment (land, water, atmosphere, human elements, other objects). References can be incorporated.

Systems Thinking: This involves adopting a holistic perspective that regards the seafront urban system as a complex, interconnected network. By considering the system as an open-ended entity, the study continues in a broader term beyond the objects.

Emergence Exploration: This phase involves analyzing how the architecture responds to environmental fluctuations and cultural factors. By examining the emergent properties and behaviors that arise from integrating land and water-based elements, the methodology aims to uncover the project's transformative potential. This is essentially achieved through observing the objects in different states, utilities and scenarios.

Non-Anthropocentric Perspective: By transcending human-centered perspectives, the potential for new narratives, identities, and cultural transformations emerges forming a building program and a work hypothesis.

Architectural Adaptation and Evolution: Employs an iterative design process that facilitates the ongoing adaptation and evolution of the system designed. Drawing insights from object analysis, object relations mapping, emergence exploration, systems thinking, and non-anthropocentric perspectives, this iterative approach allows for continuous refinement and self-organisation consisting the system as open. Adaptive design systems ensure that the infrastructure can serve its goal in a certain timeline.



THE OBJECTS >

Multiple repetitions of a housing unit create clusters, they form a new level, that of organized settlements.

Residential systems, as often mentioned in the theoretical framework, are the most complex that have existed over time. Architecture emerges directly from the place - in both form and material - and is experienced as an essential part of the entity that hosts it. (R. Lava 2019) .

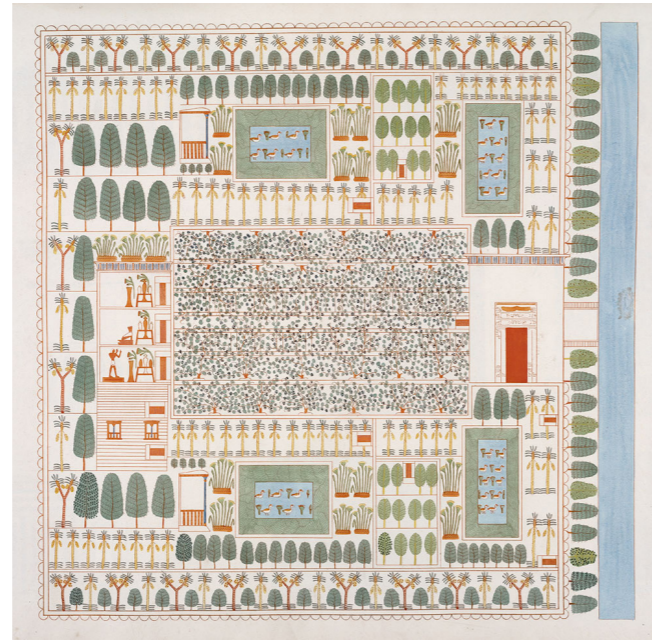
The greek architect Aris Konstantinidis considered houses as «vessels of life», where each thing finds its place according to its purpose, and where, according to the architect's view for the building and life, all people can live in it «comfortably, simply, soberly, wisely, and solitary». **M. Heidegger defines as a place of dwelling any site that contains the four elements of his fourfold: earth, sky, divinities ('the godhead'), and mortals ('man')**" . (HEIDEGGER, 1971b, p.217)

In the current thesis project the mean used to design a new scenery will be based on the dwelling archetypal typologies. Archetypal architectural objects are fundamental and universally recognized forms or models of buildings or structures that embody certain essential qualities or characteristics .Each part will be conducted as an element of both symbolic value and with the purpose to be dwelled. The goal is to create a collection of architectural objects referring to a reflection of the waterfront urban complexity and unknown futures.



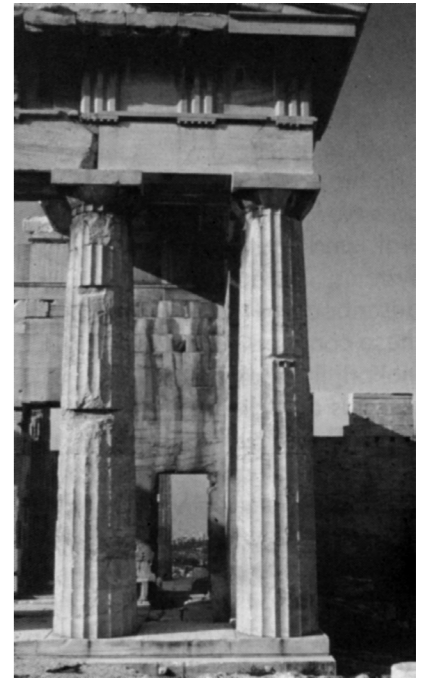
Ettore Sottsass Casa molto normale

[1] THE COURTYARD / ATRIUM



Sennefer's Garden 1410 BC - 1829 AC

[3] THE COLUMN



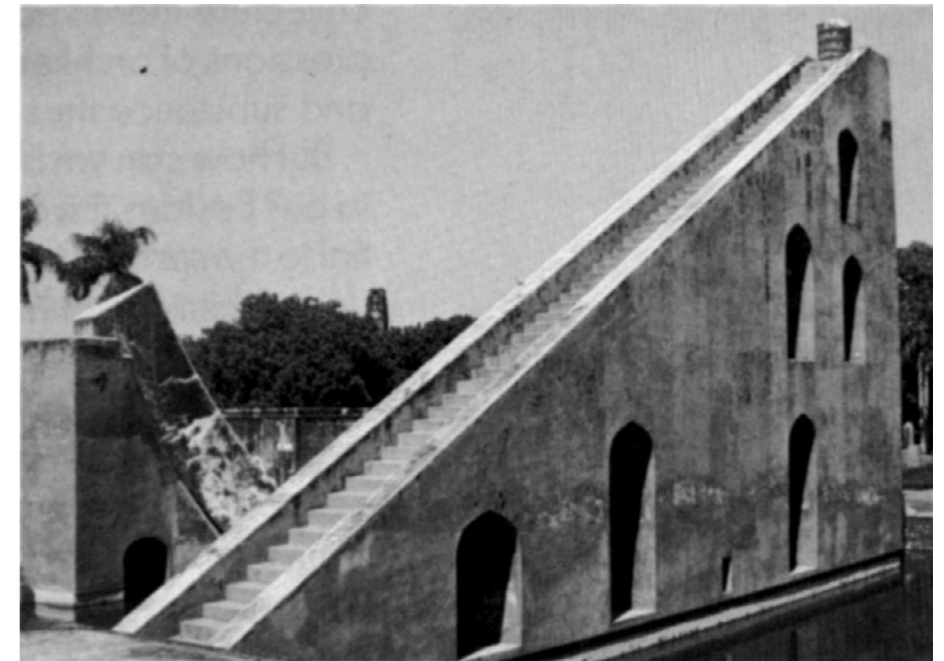
Parthenon, Propylea 4th century

[2] THE ARCH



Francesco del Cossa 1400s

[4] THE STAIRCASE



Jantar Mantar, New Delhi, 1724

OBJECT RELATIONS MAPPING

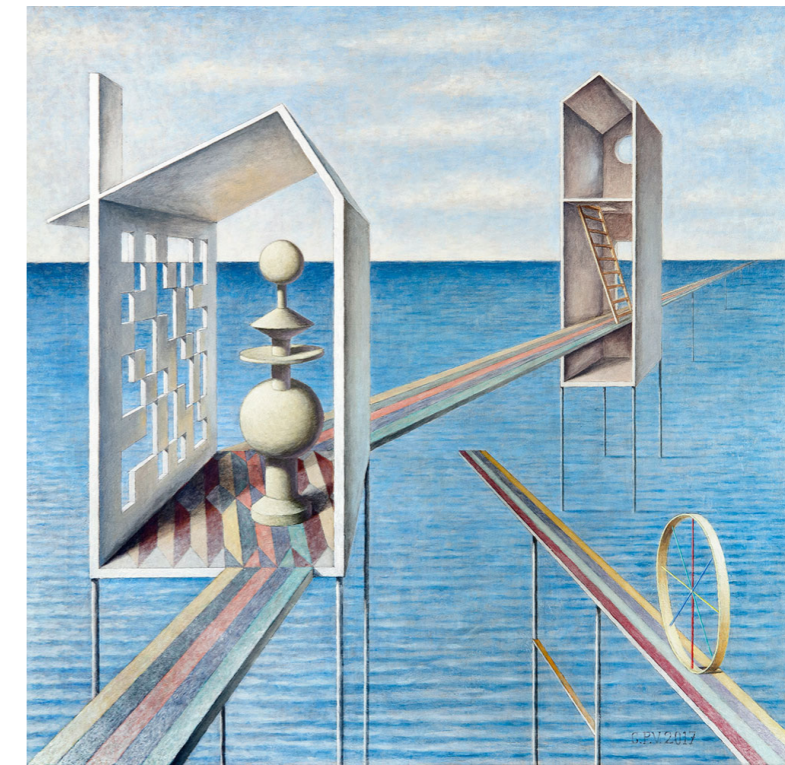


REFERENCES

Guillermo Pérez Villalta Paintings 2010s

Guillermo Pérez Villalta, a Spanish painter, was part of the «la Movida Madrileña» during the 1980s. Later, Pérez Villalta returned to his native south of Spain and developed a painting approach he calls «clasicidad» or «classicity». Unlike Zeitgeist, which refers to the spirit of the time, Classicity emphasizes the enduring qualities of art such as calm, reflection, clarity, and memory.

In his recent works, Pérez Villalta focuses on geometry and composition. He begins by creating preliminary drawings where he simplifies his ideas to the most essential forms. His paintings tend to exclude nature and instead emphasize architecture, which he uses to create atmospheres of underlying mysticism by playing with light and shadows.



Hansjörg Voth Voot aus Stein 1978-81

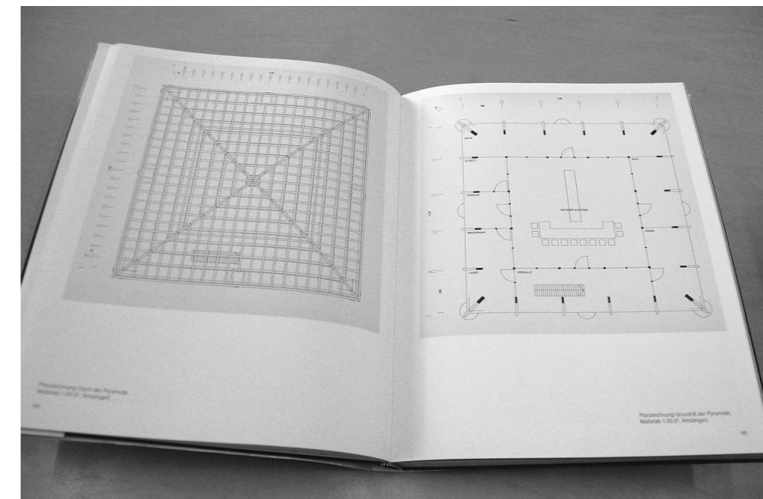
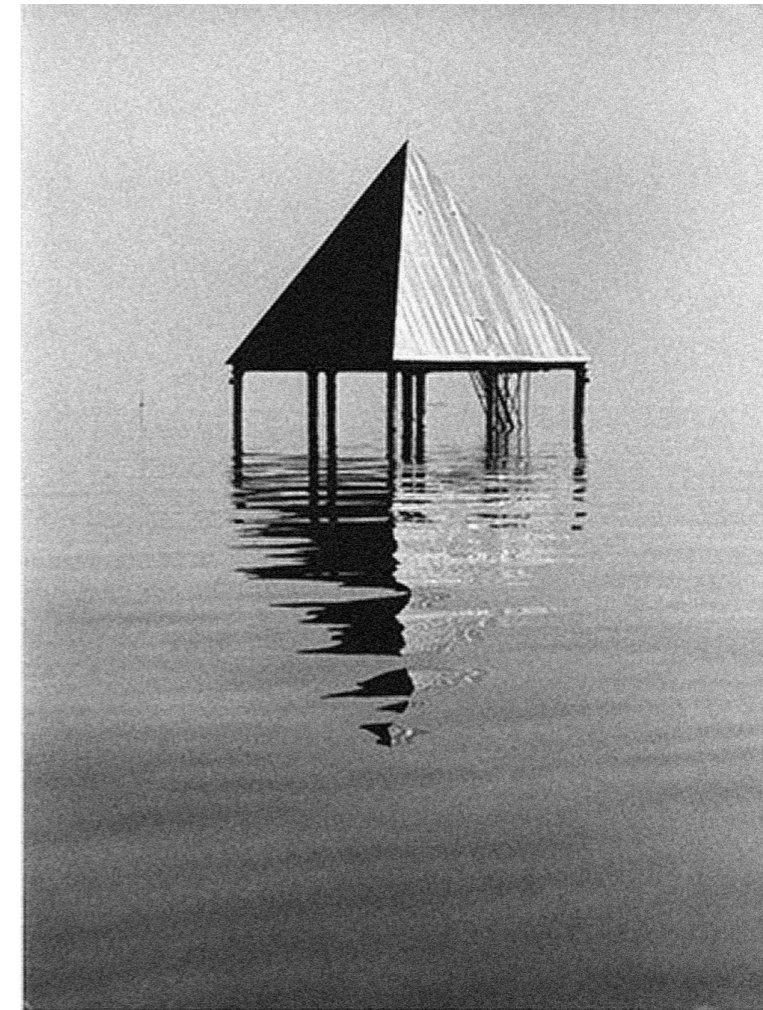
In the early 80s, German artist Hansjörg Voth built himself a temporary home on the sea. A wooden pyramid of 12m of height stood on a platform of 14x14m raised 3,5m above the sea level. Nine pillars attached it to the earth below the water. The construction could only be reached by boat, and a metallic staircase led the visitors in.

Inside the pyramid, a series of private rooms and services surrounded one larger, 8x8 meters square shaped space in the middle. In that space stood a piece of stone measuring 70x100x400cm. The artist spent one whole year living inside the pyramid, chiselling a boat out of the stone. Once a month, he would invite guests

for a meal. They cooked all together and ate in a U-shaped table next to the boat-in-progress.

Photographer Ingrid Amslinger, who is also Voth's wife, captured the whole process, from its construction to the intimacy of the daily life. The resulting images, along with plans, drawings and texts were published in a monographic book in 1983.

Helmut Schneider then wrote: «The pyramid with the stone boat, in its proportions of Cartesian clarity, radiated something that can best be described as Franciscan. The work heralded the possibility of a life in which it is not the having but the being that determines.»



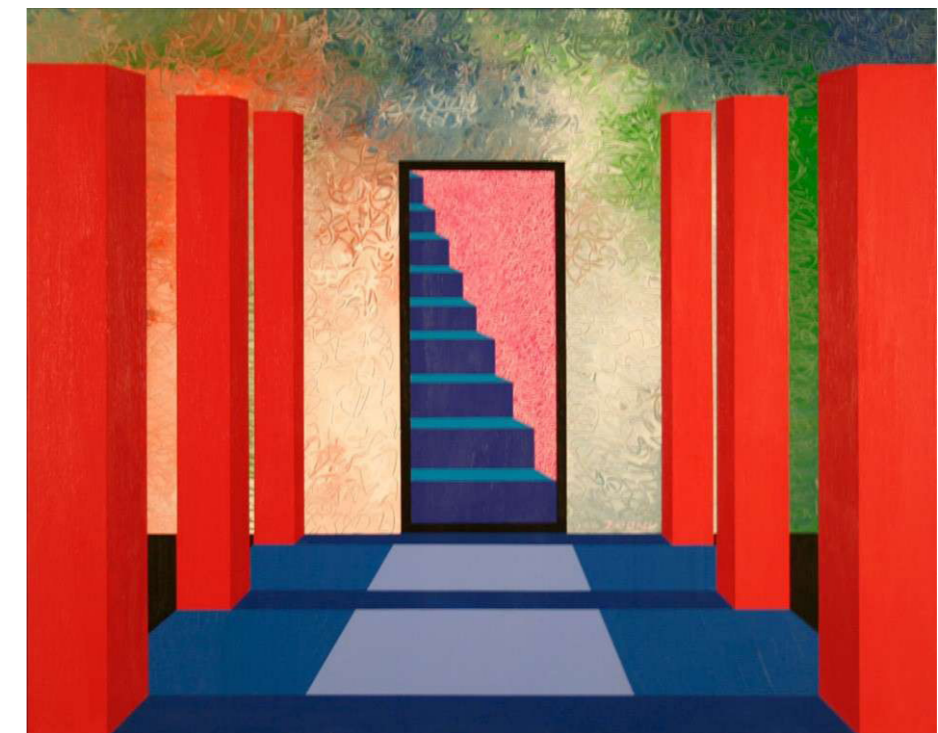
Source: <https://aseriesofrooms.com/>

Opy Zouni , 1941-2008

Opy Zouni (1941-2008) herself was interested in the «Psychoanalysis of Shapes,» extracting formations and patterns from the material world into the spiritual realm. Opy Zouni reproduces her own «Archetypal Dysfunctional Shapes,» while these very shapes continue to evolve, enrich, and expand within space and time.

«When art begins to codify itself, to repeat, it loses all its spontaneity; it cannot easily fit into the laws of strict geometry. It is the constant clash between reason and logic, and the sensation of emotion. My artistic expression is completed through the free and methodical approach to my work. I work with coincidences, chance, elements that give new

impetus to my imagination, enabling it to function and lead to new forms of expression, to new ideas. Thus, I embrace the accidental, but also guide it simultaneously. In nature, stratifications, symmetries take shape, change, and accumulate in an irregular manner and rhythm. The rhythm inevitably creates repetitions. Repetitions create symmetries. I think that this process is also followed by the artist as a researcher. Likewise, I discover, support repetitions through designs, and then through color. Color can emphasize a symmetry in the design or dissolve it, make it disappear. I often work with different colors, but in the same tone, aiming to achieve balance and support the design.»





ANALYSIS



Systems Thinking

[A] Central Parts/Main Systems (bottom-up):

1. Underground/Seabed
2. Relief
3. Human
4. Built stock
5. Atmosphere (e.g. wind) Possible subsystems:
6. Protection/need, opportunity/production (related to the indigenous population)
7. Natural alterations/self-regulation (regarding the macroscopic system)
8. Economy/tourism/migration (in relation to the indigenous and general population)

[B] Characteristics: heritage/morphology/materiality/typology/driving forces

[C] Interconnections between systems: Interconnections between systems are considered memory fossils or alterations, that is a function of subsystem properties and time.

[D] Interconnections between characteristics: Human-generated subsystems in relation to time.

[E] Interdependencies-Hierarchy (proposal)

BOTTOM-UP

- Underground
- Sea
- Natural alterations
- Materiality
- Humans as beings
- Anthropogenic biological/cultural genetic desires and needs

- Anthropogenic alterations
- Built stock
- Anthropogenic interconnected housing and economic systems
- Natural alterations of atmosphere
- Sky/atmosphere

We identify two sets of systems, **natural and man-made.**

As architects, we often create more stories than buildings. We have reached a point where the main criterion for the success of a design is a compelling idea, manifested through design storytelling.

This story can be a research project that examines architectural aspects, narrative structures and methods. This is achieved through architectural investigation and control, in collusion **with the visual culture of each tópos.**

Each place is considered to be an active entity very different from what we define alive. This implies that it is the result of interaction of physical-biological-social systems.

NARRATIVES



Emergence Exploration

By shifting the format, the research work takes on a narrative dimension. The ensuing section focuses on a possible transition to a future context, shedding light on the assumptions made earlier.

This concept aims to provoke thought, although it is acknowledged that realistically proposing or predicting such a scenario is unfeasible. Instead, it takes the form of a fictional story that may never come to pass. Consequently, a narrative is presented that serves as a bridge between two contrasting facets: the prosperity of the post-human era and the distractions stemming from human influence.

The future remains uncertain, making it impossible to predict where chaos may prevail. Nevertheless, the possibility of a significant upheaval, whether imminent or remote, merits consideration.

While the prevailing thoughts of envisioning the future as a theme park through a linear perspective, this project diverges by exploring the intriguing concept of distortion and the dissolution of clear distinctions between prosperity and failure. Within contemporary culture, straying from the expected path is often met with negative consequences. The story under scrutiny examines both the narrative structure and the behavioral patterns that arise from an objective viewpoint commonly known as the «third person» perspective.

The fundamental difference highlighted here lies in the concept of incorporating information and culture in a new way, rather than simply repeating known forms from the past or portraying static permanence. It is proposed an emergence of a new kind—a synergy between architecture and storytelling.

What if a person suddenly woke up in a rather stranger place, without any memory?

It is a story of an unknown territory, serving as a metaphor for all the memory lost. Their story is separated in five episodes.

*****Feedback** “essentially refers to the information we obtain from a system when its operational rules change (**emergent procedures**). It encompasses both microscopic and macroscopic aspects and introduces new behaviors into the systems. It maintains coherence among subsystems and their modes of interaction, recognizing time as a vital factor in shaping their dynamics.

The Invitation

Welcome to the prosperous metropolis.

Unaffected by global warming and unthreatened by rising sea levels, it does not belong to the category of cities that will be lost due to nature’s unpredictability. If any of you read books, a rarity for most of us, you surely know what a **true city** was like. Afterwards, it became an **island**, and rarely does anyone recall what an island is. Unfortunately, a significant decline of the city for inexplicable reasons led to the collapse of its center in 2080.

Whether for better or worse, the former seafront suburbs and ports, succumbed to climate change in 2040. After the earthquake, only three areas remained, the highest ones, the ones that ones were referred to as mountains or hills. Unfortunately, due to an emerging rift, three separate islands emerged in their place, divided by two rivers. The transportation networks were destroyed; nevertheless, the owners decided to rebuild the area where we find ourselves today.

Thanks to technology, we have *heterotopia*, as many scientists like to call it, **the prosperous metropolis**—a state-of-the-art «**boat**» impossible to destroy, fully simulating what people in 1994 saw on the news and wanted to visit. Our **island**, therefore, is informed by a new way of thinking, a new wisdom, a new understanding of humanity and its position in the new ecologies. A new kind of architecture has emerged, with its own intelligence that can evolve and adapt as needed, imposed by our artificial nature and the intricacies of information.

Forget bricks and think of whole objects—objects that can reshape and reconnect in different ways, according to their own internal intelligence. A new Ecumenopolis, our own and yours, a mere Anthropocosmos.

[1] Identity

Amidst the expanse of the sea a lone figure emerged . He finds himself adrift, on a hovering non-land, on a detached from any moornings non-boat , among humans and him unsure of his own identity. Time within those depths seemed indefinite, stretching beyond comprehension. "WHO AM I" , he thought in his head. In his pocket he finds an undefined object. He could not name it nor himself. *Identity must have an ephermal nature here.*

[2] Objects and Humans

He attempted to discern on the surfaces that 4th dimension known as time. The object belonged to someone or somewhere, that could be anywhere and anyone in the world. A stranger amidst strangers, he began following the few people around him. Each person carried an object, utilizing it in a manner that seemed significant. *Everything they did mattered.* They meandered through a complex of walls emerging from the structure, assembling their objects. Intrigued, he continued to observe their actions, realizing that behind every wall lays a collection of these objects forming altogether *a space constantly in flux.* These micro-spaces were different due to their context of objects but also because of their proximity to the water . Perhaps by following the others, he would uncover the whereabouts of his own object or himself.

[3] Locations and ownership

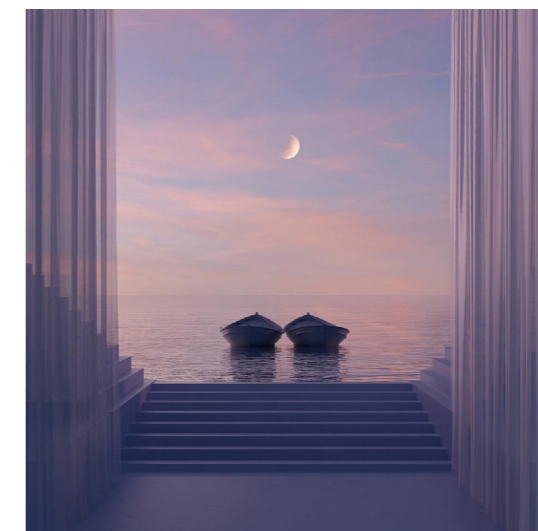
Wherever there is time, a location emerges—a site where energy flows. Tracing the footsteps of others, he stumbled upon an enclosed space that stirred a sense of familiarity. Inside, small vessels rested, some in their finished state, while others were under construction. The presence of these vessels implied that he, too, must have arrived on one. Curious, he approached the individuals sitting around the vessels, inquiring if they owned them. Their response was negative; they had no knowledge of the owners. Seeking further insight, he questioned how they themselves arrived at this site. It became evident that their connection was forged through a collective journey by sea. Bound by a shared journey and purpose, he understood that the vessels represented more than mere possessions. They symbolized a collective ownership of experiences and memories.

[4] Networks

Upon further exploration of the site, he observed that everything was fragmented into smaller pieces that seemed impossible to be stably joined together. However, these fragmented elements were interconnected within a unified network of movement, creating a surreal and unique landscape. The key factor that held everything together was the constant and fluid movement ,present throughout. *If this movement network were to cease or change, the entire site would undergo a significant transformation or collapse entirely.*

[5] Dwelling

An impossible landscape where he fails to identify anything. He can only observe, create stories and wait for something to happen. Time feels distorted, with tangible objects scattered randomly, telling a tale of a new community and its pathways. This community consists of people who have lost their memories, living in a limitless space. Unexpected monumental structures rise from the sea, capturing his attention. Unexpected monumental structures emerge from the sea. He steps into one of them. Finds himself in a place on earth ,among mortals under the sky and the divinities of nature who allow to this place to exist. He feels safe ready to rest and make himself at home.



Six N. Five Studio @sixnfive

[04] PROPOSAL

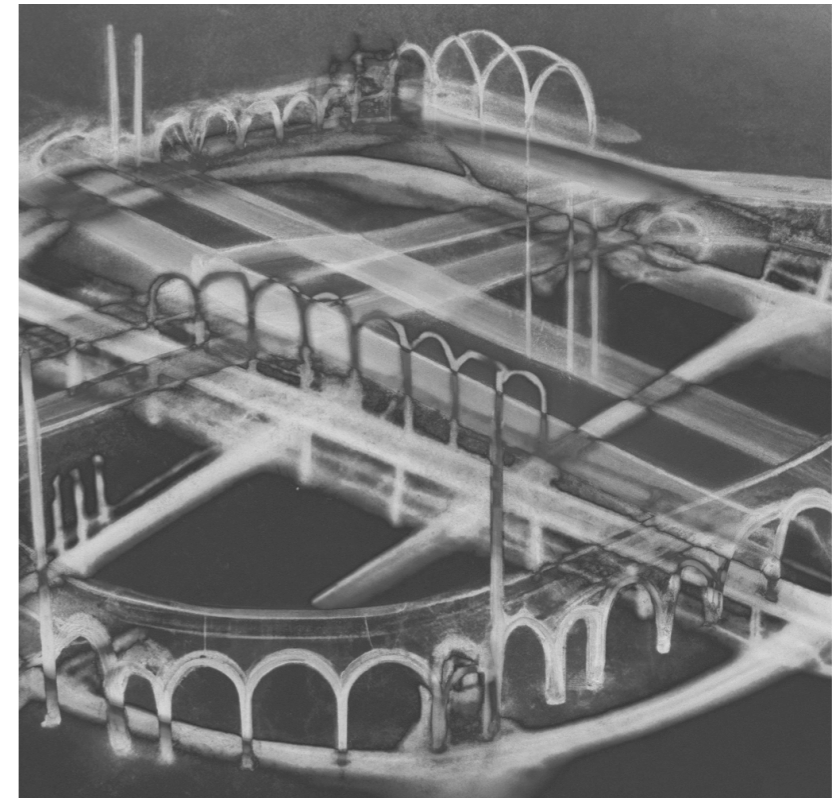


Image belongs to the author



Midjourney "A realistic picture in pastel colors of archetypal architectural arches inside the water", June 19th 2023, available on Midjourney Bot ,Discord

| HYPOTHESIS >

Taking as an initiative the complexity of Barcelona's coastline regeneration and by imposing interdisciplinary methods in architectural research further questions arise regarding design thinking .From this point of view a single object can introduce a mesh of different qualities ,scales,sensories and radically change the seafront or suggest a future .

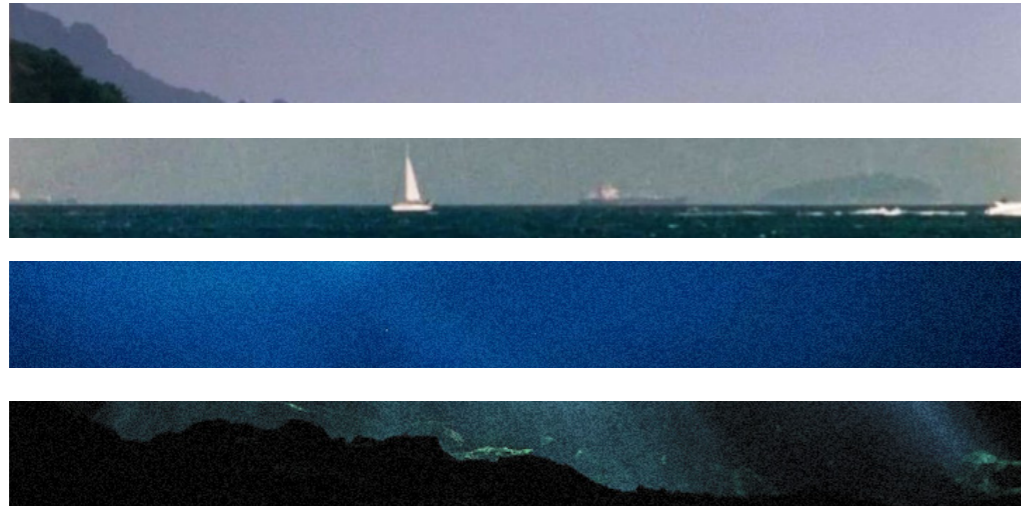
This object should be aparted of two open source systems : a horizontal one of complementary **knowledge layers** representing the basic sciences (Biology, Geography,Cultural Information) and a vertical that connects sets of basic sciences into **composite disciplines** (Ecology, Urbanism).

The objective of this thesis is to propose a modular infrastructure capable of catering to both anthropocentric and non-anthropocentric perspectives. The inquiry will explore whether a single object can effectively address both aspects, or if the inclusion of a secondary alternative is necessary.

A secondary objective of this study is to examine the potential futuristic connection between the two perspectives and investigate the correlations existing between them.



SITE



Following the Systems Thinking Analysis and after recognising the interconnections and objects' emergent properties in the broader context of a seafront, the site of intervention can be expanded vertically in four parts:

Seabed

Water

Water Surface

Atmosphere

The intervention is developed at Barcelona's Seafront. The average depth of the area is 7,50 m. The proposal will be planned in 4 levels therefore the overall in expansion bottom-up, can be 10 -14 m.

BUILDING PROGRAM



Each object seeks a feedback from stagnant debates within the architectural field. By originating from speculative architectural concepts and incorporating innovative theoretical ideas, these objects ultimately engage in a critical dialogue. Typically in **Object Oriented Design Ontology**, conventional architectural parameters such as scale, rooms and habitation are intentionally disregarded, giving way to an emphasis on the sensorial aspects of space and form.

Theoretical and philosophical reflections are inherently intertwined within these design products. They challenge the conventional notions of architectural identity, exploring their limitations as merely a facilitator of space. Instead, space itself becomes the catalyst for stimulating new approaches in form, technology, and discourse. Their dynamic aesthetics push the boundaries and provoke transformative thinking.

Due to these factors for the purposes of the current thesis project, the building program will be analysed:

[1] Typical anthropocentric approaches, explaining scale and habitation .

[2] Non-anthropocentric emphasizing in the object's essence according to the theoretical framework.

This implies that from an anthropocentric approach the design product will have certain boundaries and limitations while from the OOO approach it will inherently have a sensorial and morphogenic expression. Consequently both design products will be critically compared .

Anthropocentric Perspective

- Mooring platforms for floating vessels
- Outdoor incubators for the preservation of collective memory
- Exhibition multipurpose spaces
- Public entertainment spaces
- Shipyard
- Central atrium
- Dwelling unities

Description:

A floating system which promotes collective thinking and action. The vertical components of the structure function as a mechanism to highlight its ecological features (such as adjustable features such as bridging onto groynes or other structures in case of emergency) and integrate them within the urban context. On the other hand, the horizontal system serves as a platform to display the information and skills required for shared recollection and communal initiatives.

Non-Anthropocentric Perspective

A **Hyperobject** apart from the following :

[1] **Single objects**

[2] **Things** (suggesting new ecologies)

Description:

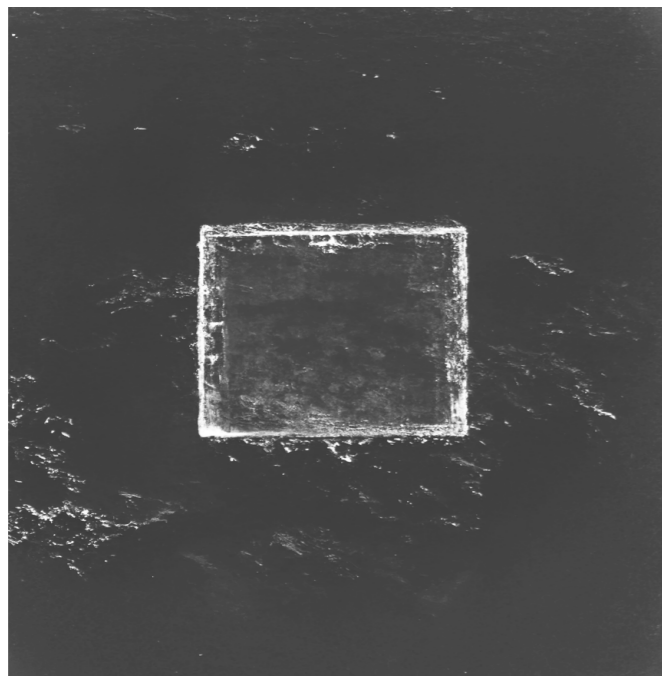
A floating system apart from objects that encourage interspecies dwelling and adapt to changes by creating new habitation clusters.



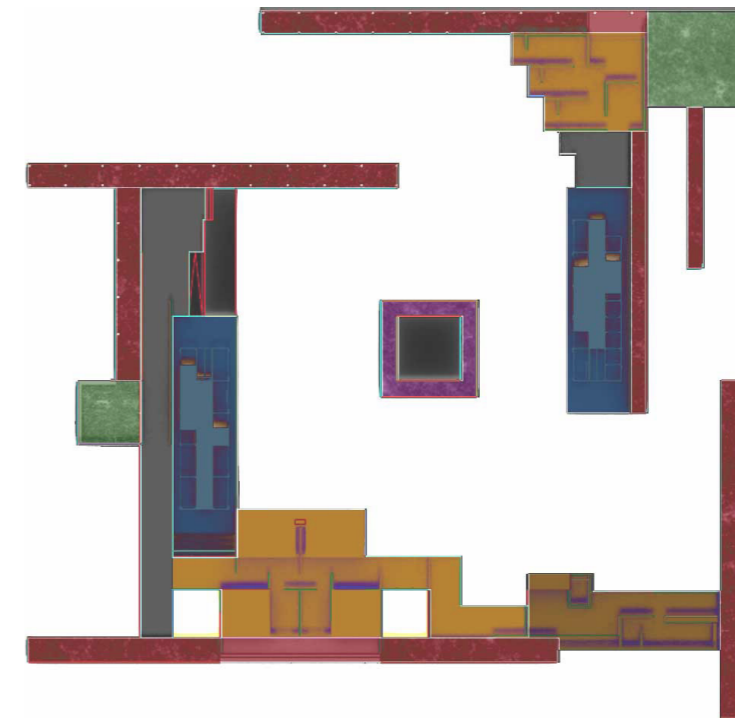
The project will be developed in order to create clusters through the combination or the different architectural object. The clusters will be eventually organized in layers developed vertically in a certain terrain. The archetypal classification in architecture will be followed :

Relationships: a) addition, b) permeation, c) division and d) 'space in a space'.

Spatial organization : centrality, axially and network

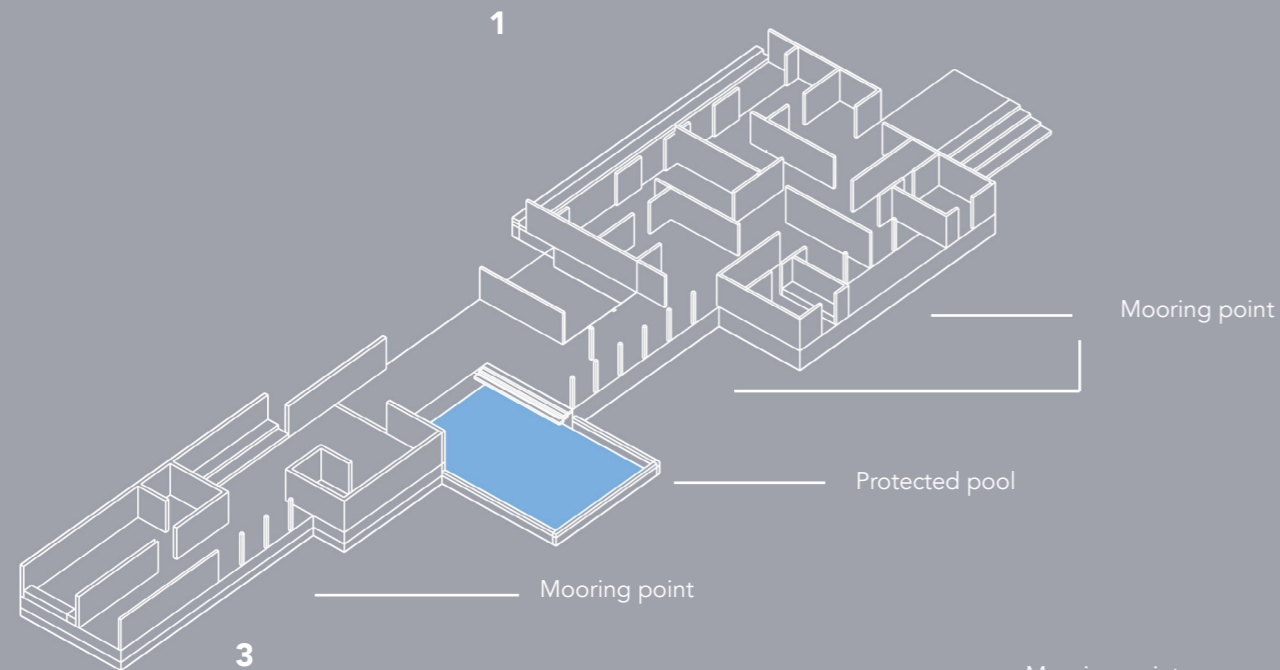


Midjourney "A realistic picture taken with a wide lens from a drone, of a floating rectangular infrastructure(...)", June 19th 2023, available on Midjourney Bot ,Discord



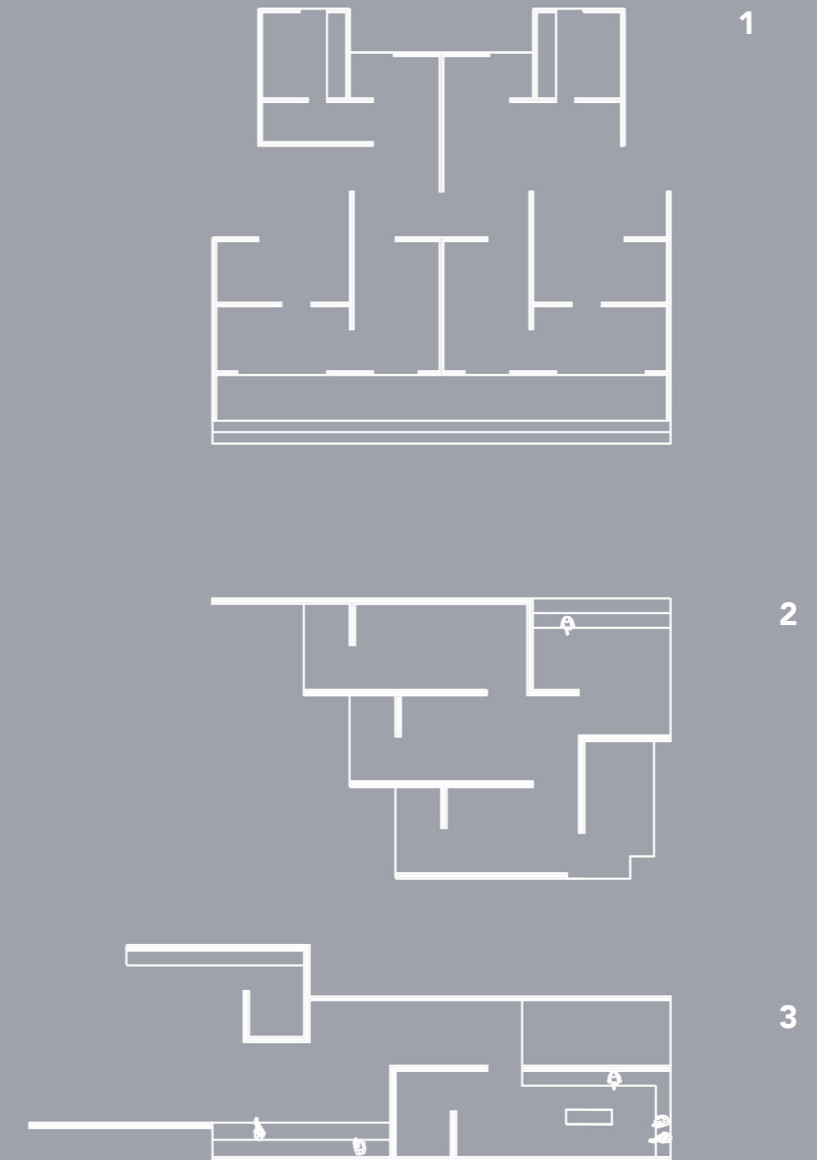
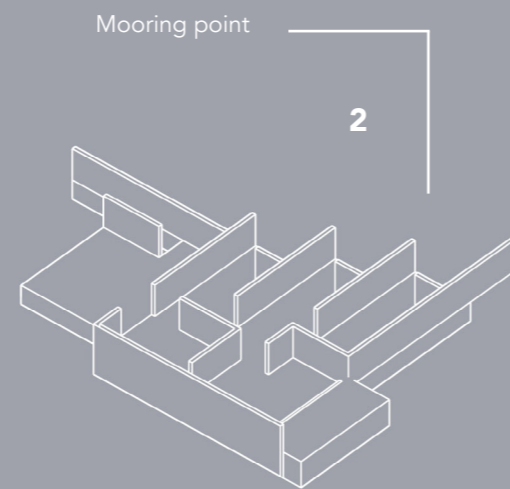
- Sliding platforms (modular multifunctional objects creating a network)
- Outdoor- multipurpose spaces (operating as structural and notional joints)
- Dwelling unities (*Modular scapes* and axial networks)
- Shipyards
- Central atrium (centrality)

Multipurpose Spaces



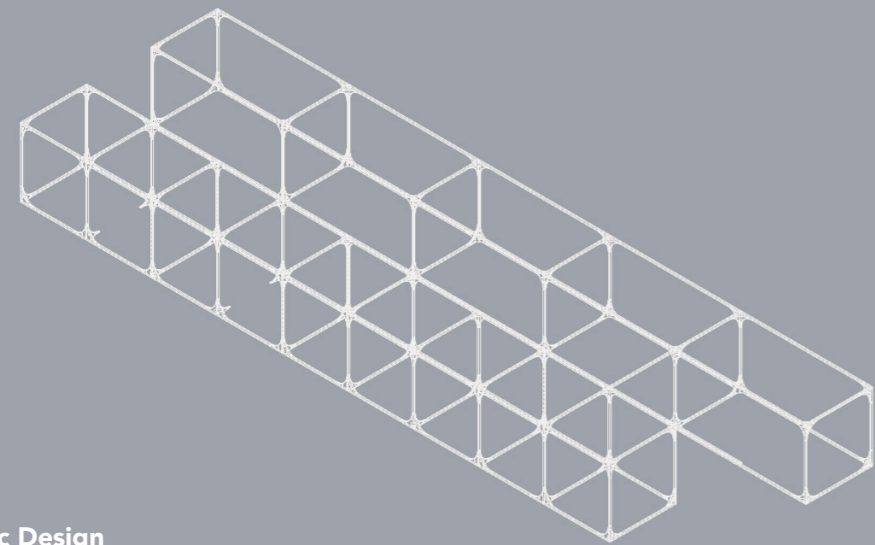
The structures afford direct sea access and serve as mooring points for smaller vessels. Their architectural form adheres to archetypal morphologies, characterized by low-rise structures with the potential for vertical expansion. While non-removable, they establish a stable foundation atop the main platform, accommodating future alterations. The design seeks to seamlessly integrate within a wider urban context, both in terms of geometric connectivity and the provision of residential units. Additionally services such as protected pools or built-in common spaces are added. From a museological perspective, the structures encourage users to engage in diverse routes and activities, fostering a dynamic spatial experience. The motion inside these spaces is not the typical museum flow without boundaries. This is intentional allowing time for reflection, observation and engagement into collective activities that might emerge.

Isometric Design

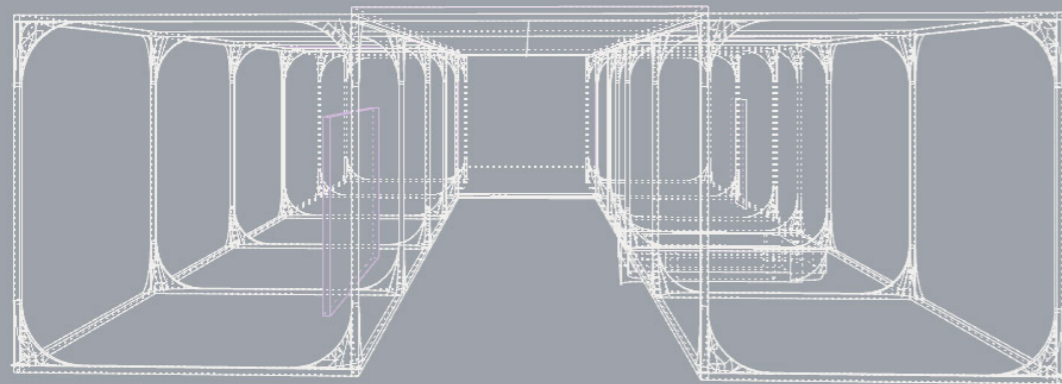


Typology Plans

Modular Dwelling unities

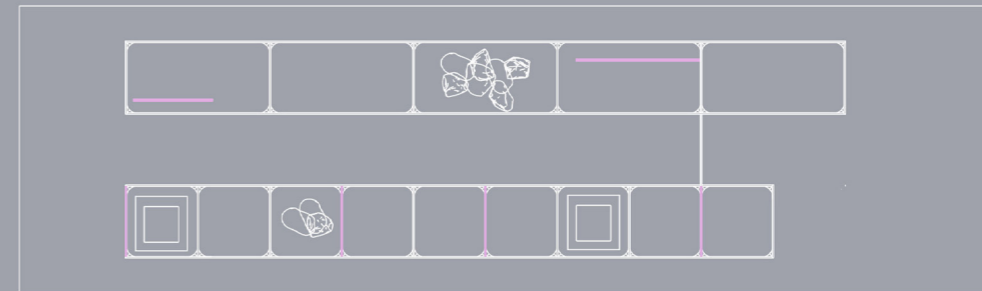


Isometric Design



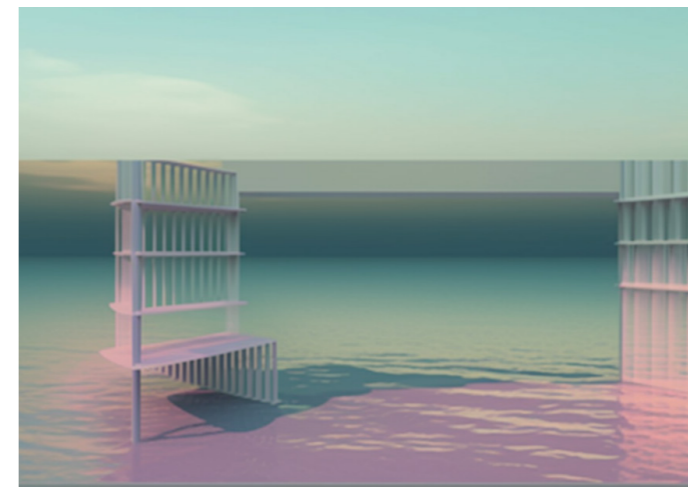
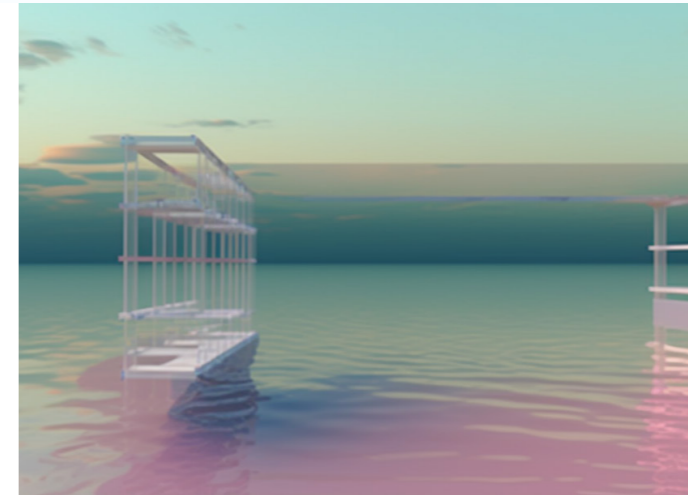
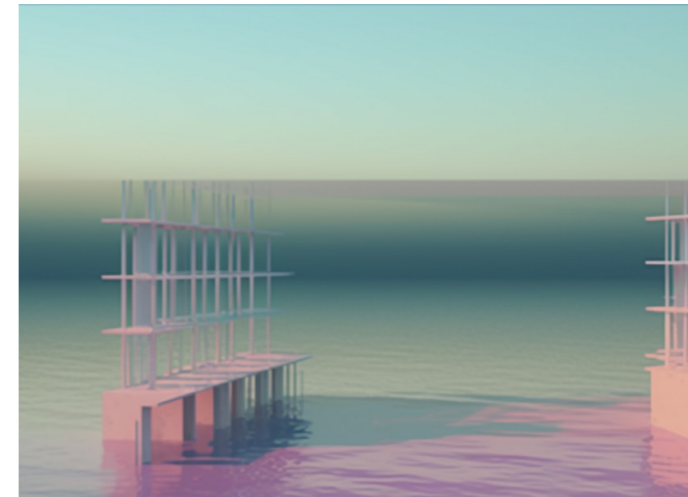
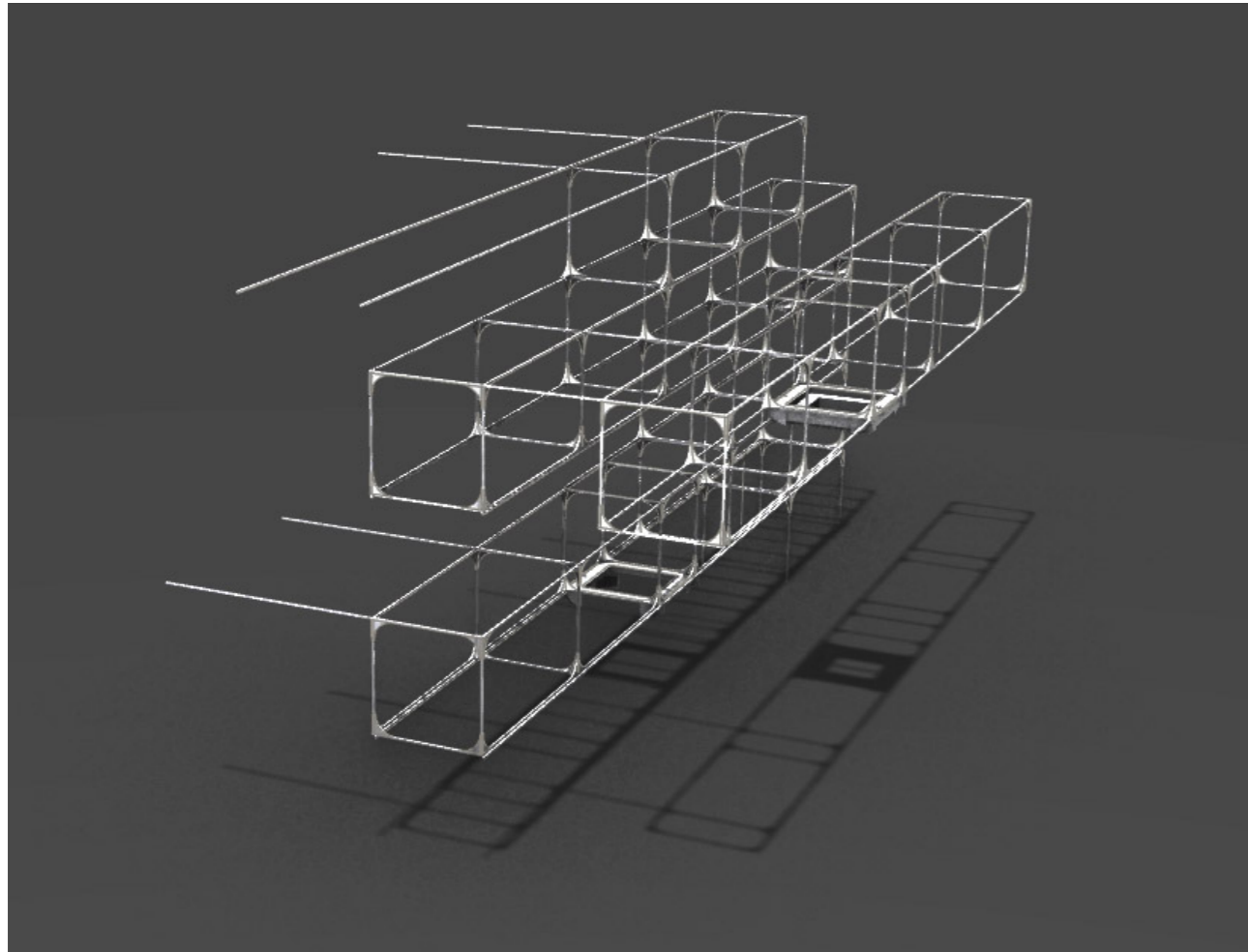
Two-Point Perspective

Typology PLans



The structures serve as museological entities, prioritizing the deposition of symbolic objects, such as stones, while also accommodating secondary functions. Their primary objective lies in the self-organizing arrangement of space, achieved through adaptable panels and furniture that facilitate spatial transformations. Comprising a fundamental metal framework, the structures offer both vertical expansion and continuous adaptability, owing to their inherently simplistic composition. They are modular in order to encourage dwelling and more intimate connections with the spaces created within.

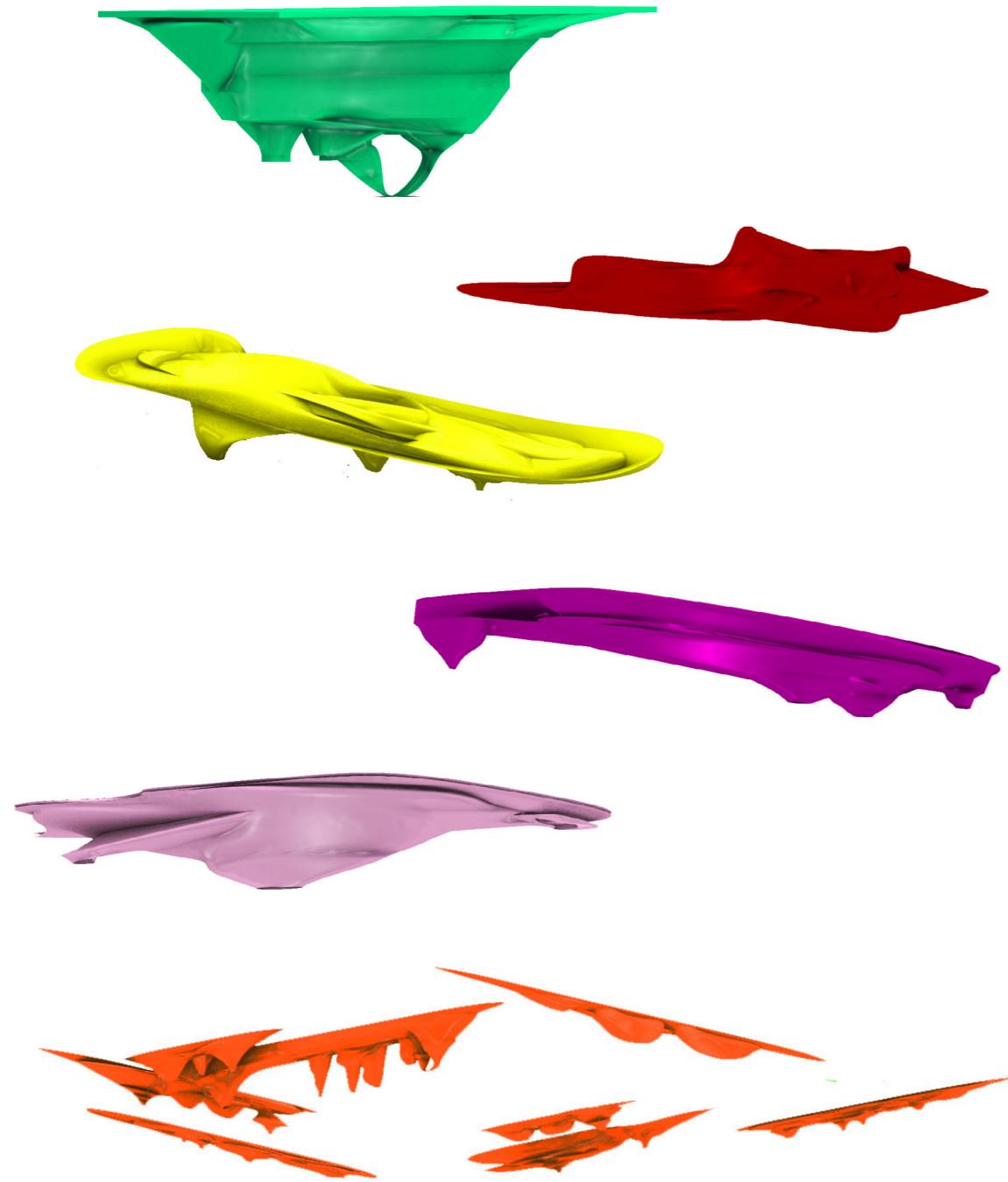
Possible Scenarios



Midjourney “_a_structure_floating_at_the_sea_.Realistic_picture_ (/w references of the isometrics as links)”, June 19th 2023, available on Midjourney Bot ,Discord

< Non -anthropocentric adapatation

The project will be developed in order to create clusters for non-human habitation through the . The clusters will be organized in layers developed vertically in a certain terrain. Their function is primarily to create a non-athropocentric place of dwelling and secondarily to support the previous anthropocentric construction. Its technology is based of buoyant and the general naval technology and is crucially inspired by the Architecture Eco Lab.

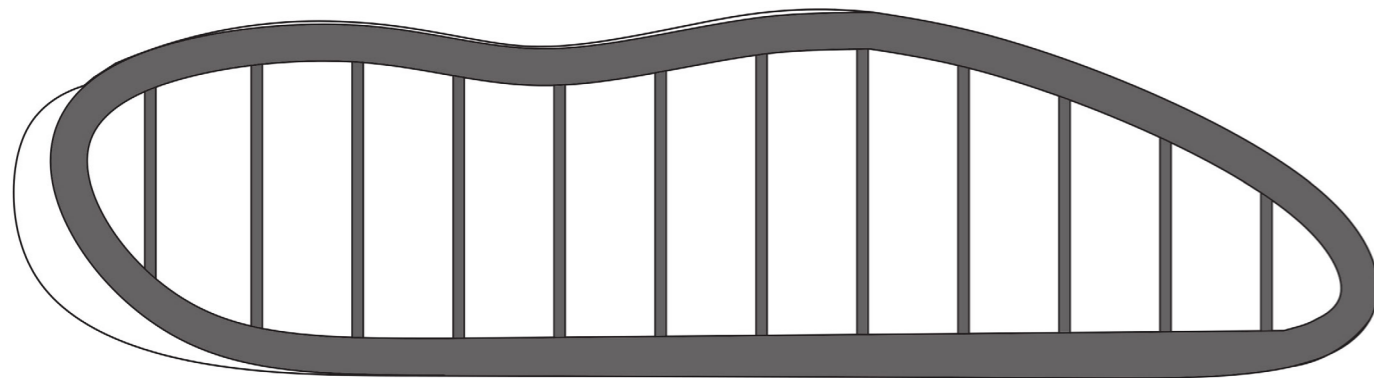


- Object 1
- Object 2
- Object 3
- Object 4
- Object 5
- Objects 6-15

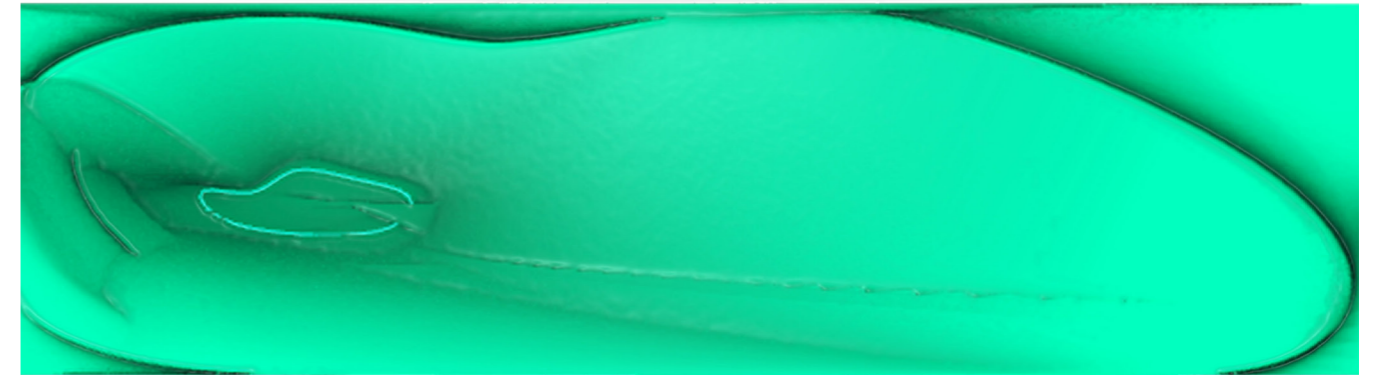
STUDY CASE : OBJECT 1

The engineering of the structure begins with a curved shell as its primary element, which is supported by a system of columns and beams. The curved shell forms the fundamental shape of the structure, while the columns provide vertical support and the beams distribute the load evenly. This combination of columns and beams creates a sturdy framework that ensures structural stability. The interplay between the curved shell and the supporting elements results in a visually complex but functional design.

The drawings depict a visionary concept of deploying floating breakwaters on a larger scale, aimed at mitigating coastal erosion and mitigating the effects of rising sea levels. This series of buoyant wave-absorbing structures presents a versatile and adaptable alternative to conventional fixed seawalls and barriers that are commonly relied upon for coastal resilience.



Structural Plan

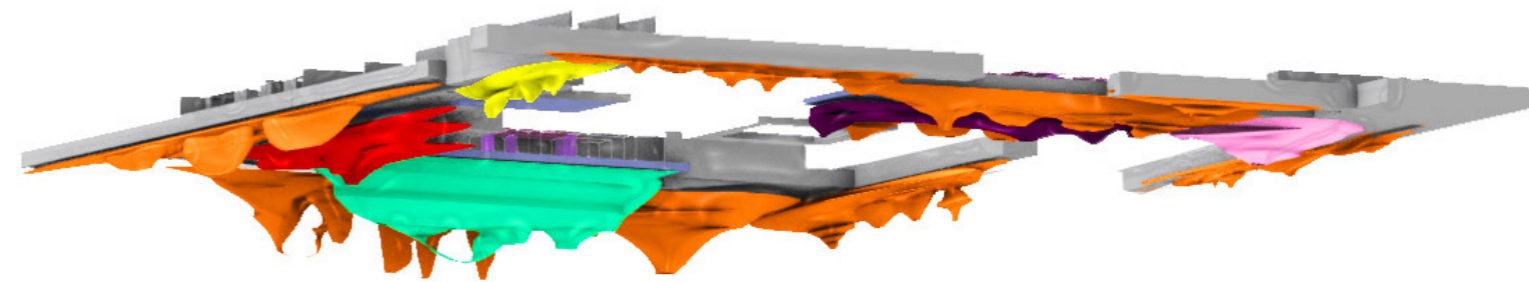
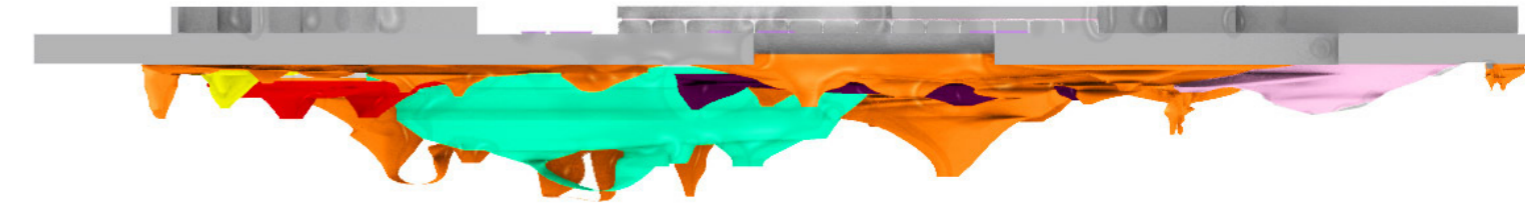
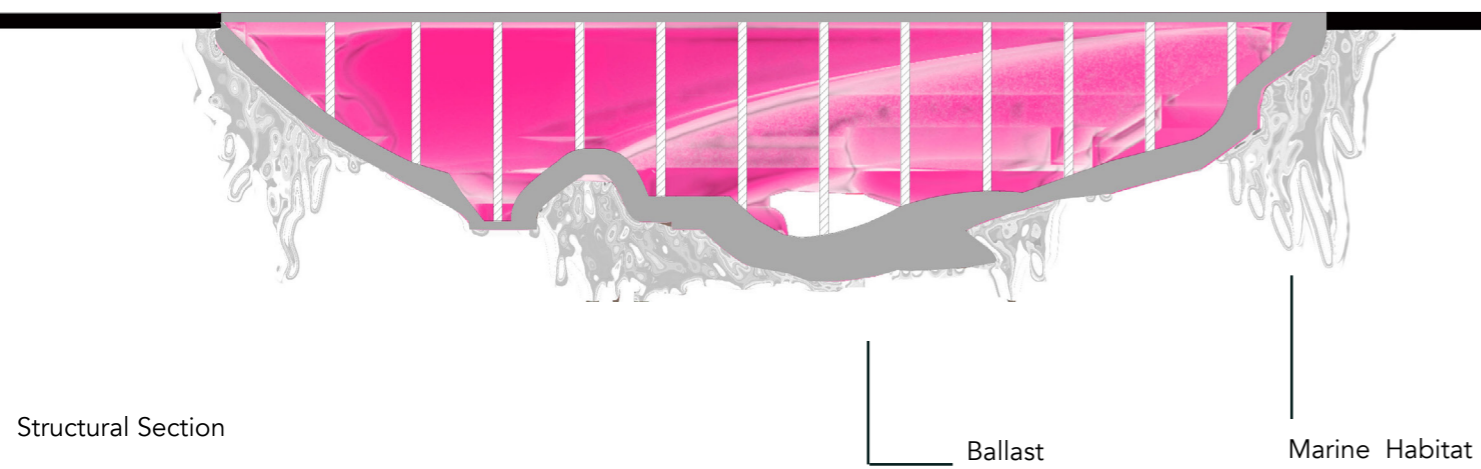


Top-down shell view



Bottom-up shell view

The project envisions a coastal ecosystem where humans and animals are interconnected in a symbiotic relationship. Unlike anthropocentric approaches to «resilience» that prioritize human survival, this aspect of the project presents an alternative strategy for human adaptation to ecological shifts. This strategy relies on and promotes the well-being and biodiversity of marine species, emphasizing a harmonious coexistence between humans and the natural environment.





CONCLUSIONS >

The primary objective of the first part was to provide the essential components for comprehending the synthesis process of the hybrid system, within the theoretical framework. The main element and connecting factor revolved around the study of Doxiadis' **Ekistics**. By combining preexisting visual morphes and linguistic narratives, a set of principles was applied to shape and enable the collective use of architectural objects.

This undertaking can be further explained through three distinct categories: **the diagram and the object**, which are introduced within the theoretical framework and adhere to a specific vocabulary; **the architectural design process** itself; and the subsequent modern **narrative** that follows the modeling.

It is evident that the world is undergoing rapid development driven by human-made systems. The prevailing trend seems to focus primarily on the expansion of residential systems in a vertical direction. Through field analysis, it becomes clear that the potential and inevitability of urban expansion into the sea may introduce a novel typology in urban planning. Nevertheless, it is crucial to recognize that nothing can remain unaltered or retain a fixed form similar to land-based architecture.

The human-made system, due to its inherent flexibility, is highly unpredictable. Nonetheless, it is possible to comprehend the factors that drive human interventions, and alteration within their systems and inspire new creations. Conversely, the natural systems are subjected to decay from the moment of their creation, as the processes creating them are inherently irreversible.

When integrated, the coexistence of multiple systems within a scene or composition can contribute to a novel representation of culture and identity. This argument underscores the significance of **Object Oriented Ontology**.

Architectural objects possess the capacity to embody and convey cultural identity. The conventional understanding of ideological abstraction as a mode of representation often lacks comprehensibility, particularly in relation to the creation of **meaningful places**. However, through their occupation and tangible presence, architectural objects can establish spaces of cultural significance.

Certain interactions between objects are favored over others from a human-centered perspective, which is referred to as synthesis. However, within an Object-Oriented Ontology (OOO) framework, all objects and organisms are considered equally significant. Thus, the aforementioned system not only holds cultural importance but also implies an ecological struggle. Non-human organisms engage in constant struggle, leading to adaptation and transformation. Similarly, in a world of mixed realities, objects themselves undergo similar processes. The primary focus is on how objects contend with their environment and exhibit adaptability to change.

This thesis emphasizes not how humans can manipulate their surroundings during challenging times, but rather how a structure can be constructed to embrace change, mirroring the adaptive nature of non-human organisms. The design product aims to be considered a **hyperobject** apart from **things** and to convey all the variables satisfying these terms.

Natural processes based on properties are irreversible and will continually repeat. In conclusion, regardless of the extent of human intervention in the structure of the hyperobject, its properties will tend to eliminate differences and the «apparent» order until there is no indication of imbalance between the systems.



BIBLIOGRAPHY >

Architectural Ecologies Lab , Buoyant Ecologies Interspecies Cooperation for Sea Level Rise Adaptation, <https://www.architectureecologies.cca.edu/>, 2014

Belitskaja, Aleksandra, et al. Iheartblob : Augmented Architectural Objects : A New Visual Language. Birkhauser, 2020.

Brassier, R. (2003). Nominalism, naturalism, and materialism: Sellars' critical ontology. *Radical philosophy*, 119, 22-38.

Bryant, L. R. (2011). The object-oriented thought of Gilles Deleuze: Kantian mannerism or onto-theological reversal?. *The southern journal of philosophy*, 49(S1), 167-190.

DeLanda, M. (2002). *Intensive science and virtual philosophy*. Continuum.

DeLanda, M. (2011). Deleuze and the use of the genetic algorithm in architecture *Architectural Design*, 81(1), 56-61.

Deleuze G. (2004): «Desert Islands and Other Texts 1953 - 1974», Semiotext, the MIT Press.

Doxiadis, C.A., *Ekistics, the Science of Human Settlements*. Science (1970). Doxiadis, C.A. , *The Formation of the Human Room*. Ekistics (1972).

Ekistics and the New Habitat , <https://www.ekisticsjournal.org/index.php/journal/index>

Eliot T.S. (1952): «The Complete Poems and Plays 1909- 1950» Harcourt, Brace & World Inc NY

Federico Camerin, From “Ribera Plan” to “Diagonal Mar”, passing through 1992 “Vila Olímpica”. How urban renewal took place as urban regeneration in Poblenou district (Barcelona), *Land Use Policy*, Volume 89, 2019, (<https://www.sciencedirect.com/science/article/pii/S0264837719306118>)

Foucault M. (2012): «Ετεροτοπίες και άλλα κείμενα», (μτφ Μπέτζελος Τ.) ,Publications Plethron, Athens

Girandoux J. H. 1922 «Suzanne et le Pacifique» Paris : Grasset

Harman, G. (2018). *Object-oriented ontology: A new theory of everything*. Pelican Books.

Leach, N. (2009). *Digital Cities*. Wiley.

Ludwig von Bertalanffy, University of Alberta (Edmonton) Canada, *General System Theory Foundations, Development, Applications*. (1968)

Maria Kaltsa, “Vertical Death” 2020, The National Technical University of Athens.

Padraig Murphy, Pat Brereton, Fiachra O’Brolchain, New materialism, object-oriented ontology and fictive imaginaries: new directions in energy research, *Energy Research & Social Science*, Volume 79, 2021, (<https://www.sciencedirect.com/science/article/pii/S2214629621002395>)