# Mediterranean Imaginaries

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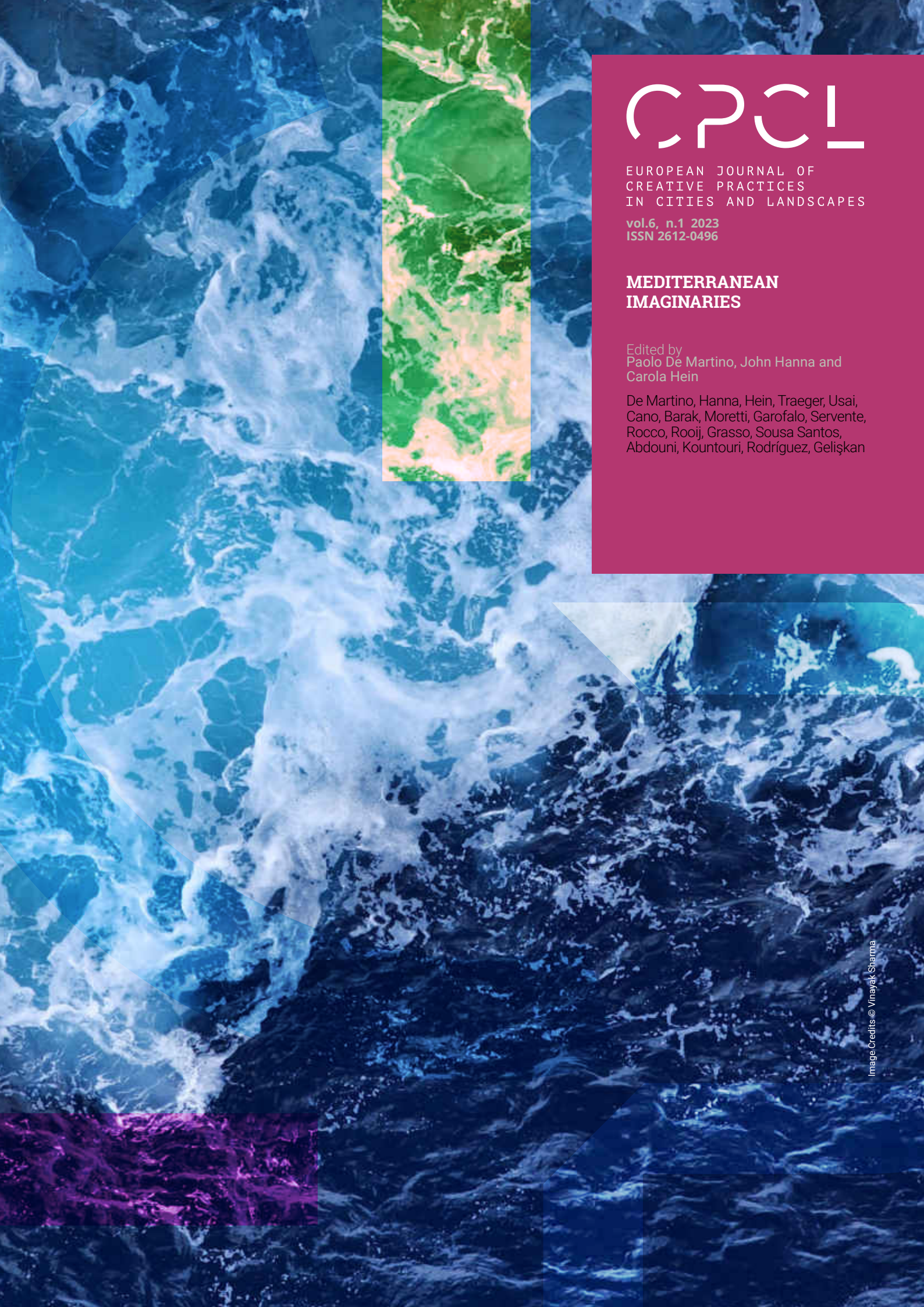

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Edited by
Paolo De Martino, John Hanna and Carola Hein

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EDITORIAL



MAIN SECTION



PRACTICES

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EDITORIAL

# Mediterranean Imaginaries

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## Introduction

The Mediterranean Sea has consistently served as a space for trade and migration, facilitating the cultural exchange among Europe, Africa and the Middle East. This fluid space, loosely defined by the sea and its coastlines, has undergone continual reinterpretation, redefinition, negotiation, and challenges. Writers, scholars, and politicians have acknowledged the Mediterranean as a distinctive realm that has served as the cradle of numerous ancient civilizations, such as that of the Greeks and Romans, but also as a border between Europe and Africa. For centuries, the Mediterranean was a major epicenter. The discovery of the Americas in 1492, however, led to an eclipse that only ended with the opening of the Suez Canal in 1869 and its role as infrastructural link between Europe and its colonies. Historian Fernand Braudel positioned the Mediterranean at the core of his analysis and exploration of the concept of temporality. His spatial

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comprehension of the long-durée temporal concept has significantly influenced historical and geographical methodologies for several decades.[1] During this time, the Mediterranean Sea and its surroundings have also changed, in terms of geography, planning, militarization and securitization, as well as narratives and perceptions.

Today, the Mediterranean Sea is home to a wide spectrum of activities and the focus of diverse interests, including logistics, energy production, tourism, and heritage preservation. It is also a space of migration and death. A growing number of scholars are focusing on the Mediterranean[2] and exploring its character as a newly contested space.[3] Simultaneously, some associations are pushing forward visions and strategies for the Mediterranean. MedCruise, MedPorts and MedCities are regional cooperative organizations that acknowledge the challenges of shared waters, coasts and hinterlands. Political initiatives also aim to connect the different shores of the Mediterranean. The Euro-Mediterranean Partnership led, in 2008, to the establishment of the Union for the Mediterranean (UfM), an intergovernmental organization that brings together 42 countries. The UfM shaped the UfM Strategic Urban Development Action Plan 2040 to provide an adaptive framework for sustainable development as a response to climate change.[4] Such collaborations around the Mediterranean require new critical modes of inquiry to fully analyze their historical path dependencies, underlying core discourses, power hierarchies and actual contributions for achieving a more just, inclusive and sustainable Mediterranean.[5]

Building upon the themes explored in special issues of CPCL 2019 and 2020, respectively on water and on port-city cultures, values, or maritime

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1 Fernand Braudel, Il Mediterraneo. *Lo spazio, la storia, gli uomini, le tradizioni*, trans. by E. D. Angeli (Bompiani, 2017).

2 See: Michael Herzfeld, "Practical Mediterraneanism: Excuses for Everything, from Epistemology to Eating," in *Rethinking the Mediterranean*, ed. William Vernon Harris (Oxford: Oxford University Press, 2005). And: Peregrine Horden, "Mediterranean Excuses: Historical Writing on the Mediterranean since Braudel," *History and Anthropology* 16, no. 1 (2005): 25–30.

3 Maurizio Molinari, *Mediterraneo conteso. Perché l'Occidente e i suoi rivali ne hanno bisogno* (Rizzoli editore, 2023).

4 Roberto Rocco, Carola Hein, and Remon Rooij, *The UfM Strategic Urban Development Action Plan 2040: For Sustainable, Resilient, and Inclusive Cities and Communities in the Mediterranean* (Barcelona: Union for the Mediterranean (UfM), 2021).

5 See: Federica Bicchi, "The Mediterranean, between Unity and Fault Line," Global Affairs 4, no. 2–3 (2018): 329–39. And: Amro Ali, "Re-Envisioning Civil Society and Social Movements in the Mediterranean in an Era of Techno-Fundamentalism," *PapersIEMed*, no. 25 (2020). And: Theo Notteboom, Peter De Langen, and Wouter Jacobs, "Institutional Plasticity and Path Dependence in Seaports: Interactions between Institutions, Port Governance Reforms and Port Authority Routines," *Journal of Transport Geography* 27 (2013): 26–35. And: Andre Sorensen, "Taking Path Dependence Seriously: An Historic Institutionalist Research Agenda in Planning History," *Planning Perspectives* 30, no. 1 (2015): 17-38.

mindsets,[6] this special issue on Mediterranean Imaginaries aims to expand the analysis. The response to the call yielded responses mostly from European authors, highlighting, once more, the need for African and Middle Eastern perspectives that can help question long-standing colonial relationships and contemporary asymmetries. The lack of such contributions underscores what has been constantly argued by Eastern- and Southern-Mediterranean scholars that such asymmetries are also reflected in uneven allocation of time and financial resources which are essential components for knowledge production within the existing academic culture.[7]

This special issue contends that an analysis of the Mediterranean Sea needs to start with water, taking into account the impact of shipping on the coasts, beyond national borders. It also posits that a focus on the sea includes a closer exploration of water as a system, from oceans to rivers, from groundwater to rain. Addressing the sea, and water systems, involves grappling with various challenges. It necessitates fighting climate change and adapting to shifting water conditions.[8] Engaging with the sea entails navigating global economies, considering that 90% of world trade crosses its waters. It delves into cultures and history, recognizing the sea and ports as crucibles for numerous civilizations, religions, languages and the water systems on which they thrived. Additionally, it requires addressing energy and climate challenges notably in (post-) industrial landscapes that are often linked to port city territories. Examining the sea means confronting migration, wars, and the geopolitical maneuvers of influential entities seeking control over the sea to dominate the world.

Such an approach requires theoretical and methodological innovation. It calls for a rethinking of water and land as porous spaces in order to generate adaptive and resilient strategies.[9] The special issue explores innovative experimentation in the urban disciplines, utilizing the sea as a framework to reconsider traditional models and interpretations of the territory alongside their socio-economic relationships, including concepts such as

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6 See: Carola Hein, Tino Mager, and Roberto Rocco, "Water Resilience: Creative Practices—Past, Present and Future," *European Journal of Creative Practices in Cities and Landscapes* 2, no. 1 (2019): 1-10. And: Carola Hein, Sabine Luning, and Paul van de Laar, "Port City Cultures, Values, and Maritime Mindsets: Defining What Makes Port Cities Special," *European Journal of Creative Practices in Cities and Landscapes* 4, no. 1 (2021): 7–20. And: Carola Hein, Sabine Luning, and Paul van de Laar, "Innovative Methods for Studying and Shaping Cultures in Port City Territories," *European Journal of Creative Practices in Cities and Landscapes* 4, no. 2 (2021): 7–15.

7 John Hanna, "Prospects: Towards an Enhanced Practice of International Design Studio Collaborations - John Hanna Interviewing Mona Harb," in *Design Pedagogies in Times of Crisis: Six Universities - Six Studios on Post-Blast Beirut Reconstruction*, eds. Carola Hein and John Hanna, CPCL Book Series (Rotterdam: SOAP | Stichting OpenAccess Platforms, 2023).

8 AIVP. "How to Adapt Port Cities to Climate Change: Challenges and Solutions." Accessed May 11, 2024. https://www.aivp.org/en/events/how-to-adapt-port-cities-to-climate-change-challenges-and-solutions/

9 Hein, Carola. "Port City Porosity: Boundaries, Flows, and Territories." *Urban Planning* 6, no. 3 (2021): 1-9.

planetary urbanization and urbanization of the sea.[10] With its 46000 kilometers of coastline and 450 million inhabitants, the Mediterranean Sea is a water basin shared by 24 countries that is currently facing numerous environmental, social and political challenges. The aim of this special issue is therefore to reexamine the Mediterranean from the seaside, focusing on diverse methodologies (such as archival, mapping/counter-mapping, visual tools, storytelling) while also inviting reflections on design proposals for new porous development and adaptive strategies.

This issue asks: How can a reconceptualization of the Mediterranean from the sea and through a maritime lens inspire novel theoretical and methodological approaches? How can this approach help in re-comprehending, re-considering, and re-envisioning the Mediterranean Sea, its islands, and the adjacent coastlines in response to the growing challenges posed by climate change, energy transition, supply chains, migration, and mobility?

In answering these questions, the special issue proposed six interconnected themes, environment and resilience, infrastructures and flows, digital history and heritage, education and capacity building, temporalities and porosities, and integrated governance. These themes do not claim to exhaust all possible topics and discourse, but we believe they are significant for better understanding the different layers related to water and its many representations. The theme of resilience requires us to look at the past and draw inspiration from established water-related practices, especially in relation to climate change. This pushes us to think in extremes. Similarly, Infrastructure today cuts across territories without a physical separation between land and water. Understanding the logic of flows in relation to water can tell us a lot about how territories have developed over time and how they will develop in the future. In the digital age, the preservation of historical and cultural water-related heritage takes on added importance. By digitizing and documenting this heritage, we not only preserve valuable knowledge and traditions but also gain insights into sustainable water management practices that have stood the test of time. Education plays a key role as a means to create more awareness, empowering communities to become stewards of their water resources. Education can activate research, and this is essential for generating new knowledge. Understanding the different temporalities of water and its multiple users is an important step to identifying porosities, and therefore opportunities for a more holistic approach to water. Finally, this leads us to governance. Water, and the Mediterranean in a particular way, is a space subject to pressures exerted by many stakeholders. We need therefore a shift in the way we understand, perceive and plan our coexistence with water and to create spaces where different actors can come together

10 See: Neil Brenner and Christian Schmid, "Planetary Urbanization," in *Implosions/Explosions* ed. Neil Brenner (Berlin, Boston: JOVIS Verlag GmbH, 2013), 160-163. And: Nancy Couling and Carola Hein, *The Urbanisation of the Sea. From Concepts and Analysis to Design* (Rotterdam: nai010 publisher, 2020).

to co-design (multiple) futures.

Authors in this special issue have contributed their own interpretation through ten articles, organized here along the lines of the call. Through diverse case studies, mostly from the Northern Mediterranean, the authors demonstrate the relevance of sea and water-based exploration, new methodologies, narratives and imaginaries for the reimagination of the Mediterranean.

When it comes to water, the short- and long-term impacts of climate change on Mediterranean coastal areas and port cities are particularly urgent and require new methodological and adaptive design approaches. **Environment and climate resilience** are key aspects in confronting the escalating challenges posed by climate change and sea level rise. Building resilience involves fortifying ecosystems, communities, and infrastructure to adapt to and rebound from environmental shocks. It necessitates sustainable practices, conservation efforts, and adaptive strategies that enhance a system's capacity to withstand disruptions. Climate resilience extends beyond natural systems to encompass social, economic, and technological dimensions. Effective climate resilience involves proactive measures, such as sustainable resource management, robust infrastructure planning, and community engagement. Building such resilience calls for a holistic approach that acknowledges the interconnectedness of environmental and human systems, fostering a sustainable and adaptable coexistence in the face of evolving climate realities. **Rosa Grasso**'s article emphasizes the urgent need to address the impacts of climate change and resilience, especially concerning shifting water dynamics. Focusing on the floodplain between Romagna and Lower Ferrara, which has been historically shaped by traditional reclamation methods, Grasso advocates for an exploration of hybrid land and water territories. These areas showcase a remarkable ability to adapt to changing water conditions while also meeting the future demands of the region. By investigating these territories, Grasso considers how communities can effectively respond to the challenges posed by climate change, highlighting the importance of resilience-building strategies in safeguarding against its impacts.

Different regimes of infrastructure have shaped the Mediterranean and regulated the flows of goods and people on and around the Mediterranean, its coasts and hinterlands for centuries. **Infrastructures and flows** are the lifeblood of interconnected societies, facilitating the movement of goods, services, and information. Physical infrastructures, such as transportation networks and communication systems, form the backbone of modern societies, enabling efficient connectivity.[11] Beyond tangible structures, digital infrastructures play a pivotal role in the seamless transmission of data, ideas and cultures. The concept of flows extends to

11 Dennis Rodgers and Bruce O'Neill, "Infrastructural Violence: Introduction to the Special Issue," *Ethnography* 13, no. 4 (2012): 401–12.

the dynamic movement of people, capital, and cultural influences across borders. Understanding and optimizing these infrastructural networks and flows are paramount for fostering economic development, cultural exchange, and global cooperation in our rapidly evolving world. New methods for land-sea integration are needed. **Beatrice Moretti**, **Francesco Garofalo**, and **Davide Servente** remind readers of the Atlantropa project and propose a reimagination of the Mediterranean through the lens of its infrastructures and flows. Rather than a static entity, the Mediterranean is depicted here as a dynamic network—a "solid sea" populated by diverse stakeholders with different purposes and timelines. The article advocates for innovative visions and tools in land-sea integrated planning, contributing to a reconceptualization of the contemporary Mediterranean through exemplary design and representation.

**Rafael Sousa Santos** uses a **digital history and heritage** perspective, to address the delicate balance between preserving urban heritage and adapting to external demands. Digital History and heritage can play a role in documenting and (re)defining Mediterranean architectural and cultural heritage. Digital history and heritage bring together technology and cultural preservation, revolutionizing how we explore and safeguard our past. The digitization of historical artifacts, documents, and monuments facilitates widespread access, breaking down geographical barriers. It allows for immersive experiences, interactive exhibits, and virtual reconstructions that breathe new life into heritage sites. Moreover, digital platforms empower collaborative storytelling and the democratization of historical narratives, ensuring diverse perspectives are acknowledged. While preserving traditional forms of heritage, digital history opens innovative avenues for education, research, and public engagement, shaping a more inclusive and dynamic understanding of our collective heritage in the digital age. The article by Santos holds significance for digital history and heritage as it pioneers an integrative approach that leverages digital tools and methodologies to explore the rich heritage of Mediterranean port cities. By incorporating digital references from humanities disciplines such as history, anthropology, and sociology, the article offers a multifaceted understanding of the digital heritage landscape. This approach not only enriches our understanding of the historical and cultural dimensions of these cities but also showcases the potential of digital technologies in preserving and disseminating heritage. Furthermore, by bridging traditional scholarship with digital methods, the article contributes to the evolving field of digital humanities and underscores the importance of interdisciplinary collaboration in uncovering and interpreting the past.

**Education and capacity building** go hand in hand with developing new concepts for understanding and (re)thinking Mediterranean connections as well as (re)designing its port cities and sea spaces. Capacity building goes beyond the transmission of information to nurturing critical thinking, creativity, and lifelong skills. Effective pedagogy adapts to diverse learn-

ing styles, fostering a dynamic and inclusive educational environment. It recognizes the individuality of learners and emphasizes active engagement, collaboration, and experiential learning. Rooted in research, pedagogy evolves with advancements in education technology and cognitive sciences to empower students not just with knowledge but also the ability to analyze, synthesize, and apply information in a constantly changing world. A focus on narratives and imaginary practices can promote critical (re)considerations of the Mediterranean in relation both to colonial histories and contemporary urgencies. Architectural education can help raise awareness among students about the unique needs of the Mediterranean, which is one of the goals of the course Adaptive Strategies [AR0110] at Delft University of Technology, explored in an article by **Paolo De Martino**, **John Hanna**, and **Carola Hein**. This article explores students' investigations of Beirut and Naples, two port cities of the Mediterranean Sea. **Isabella Traeger**'s article challenges the Eurocentric perspective historically dominant in narratives about Mediterranean life. By scrutinizing the Euro-Mediterranean Western region through the lens of six remote micro-islands and enclaves—Ceuta, Melilla, Gibraltar, Lampedusa, Linosa, and Pantelleria— Traeger provides a fresh analytical framework that encourages students and researchers to question conventional narratives. This shift in focus promotes a more inclusive and diverse understanding of Mediterranean cultures and histories, fostering critical thinking and cultural sensitivity among students and scholars.

Similarly, **Lynn Abdouni**'s article highlights the transformative power of narratives in reshaping perceptions of the Lebanese Beqaa Valley. Abdouni argues that while infrastructural and geopolitical developments in Beirut have often influenced the development of Beqaa, the built environment of the cities of Beqaa merits context-sensitive analytical models that capture its specificity, in disconnection from the dominant perceptions of order and chaos often produced in connection to Beirut. She offers a new approach to understanding overlooked cities in Beqaa.

When it comes to water and port cities, various temporal rhythms exist within the city and they have shaped the experiences and perceptions of spaces in and around the Mediterranean. Understanding **temporalities and porosities** is crucial in capturing evolving socio-cultural, economic, and environmental water landscapes, fostering resilience and responsiveness to change, while acknowledging the intricate relationships between time, space, and human experiences. The term temporalities refers to the diverse ways in which time is experienced and understood, acknowledging the multi-layered dimensions of past, present, and future.[12] Porosities, on the other hand, signify the degree of openness and materiality or per-

12 See: Carola Hein, "Temporalities of the Port, Waterfront, and the City." In *City on Water*, ed. G. Warsewa (Association of European Schools of Planning, 2016), 1-14. And: Robert N. Levine, *A Geography Of Time: On Tempo, Culture, And The Pace Of Life* (Basic Books, 2008).

meability within systems and/or boundaries.[13] Together, these concepts emphasize the fluid nature of time and spaces, emphasizing adaptability and interconnectedness. **Maria Pina Usai, Juan López Cano, and Avital Barak** engage in a philosophical exploration of temporalities and porosities, urging for a deeper examination of the ocean to unravel the complexities within our territory and address environmental challenges. The authors propose dynamic tools capable of evolving alongside reality, recognizing that our understanding of transformational phenomena must adapt as the intricate relationships between land, water, and human life unfold over time.

Various legal and governing regimes have shaped planning in Mediterranean port cities and regions. To overcome current governance systems that are based on separation, we need new approaches that promote transparency and shared responsibility. **Integrated governance** is needed that breaks down silos and fosters seamless communication to achieve common goals for the Mediterranean as a complex political terrain. **Roberto Rocco**, **Carola Hein**, and **Remon Rooij** speak to this topic as they introduce their work on the UfM Strategic Action Plan for Sustainable Urban Development, a transnational policy framework as an innovative strategy to transfer European Union policies to the Middle East and North Africa (MENA) region. The authors underscore the importance of collaboration across the Mediterranean Sea, emphasizing the need for new methodologies and shared visions to effectively address complex governance challenges in the region. By highlighting the necessity of coordinated efforts and inclusive approaches, the article contributes to advancing the principles of integrated governance in transnational policy development and implementation.

Alongside the eight articles featured in the main section, this special issue includes two additional sections. These sections, namely “Practices” and “Miscellanea”, will each contain one article.

**Georgia Kountouri** and **Noelia Rodríguez Rodríguez**, in the “Practices” section, present a distinctive approach termed as a “site vibration tool” for site analysis and engagement. Through their study, they critically assess Barcelona’s 1992 strategy using vibration analysis. Their findings reveal that despite the initial intention to maintain the city’s proximity to the water, the strategy ultimately led to Barcelona becoming disconnected from its maritime heritage, overlooking its rich historical significance. This underscores the importance of reevaluating urban planning strategies in light of historical context and community identity, offering valuable insights for practitioners seeking to develop holistic and culturally sensitive approaches to urban development. The article in the “Miscellanea” section provides additional depth to this special issue. **Nil Nadire Gelişkan**’s contribution

13 Hein, “Port City Porosity: Boundaries, Flows, and Territories.”

employs maps, drawings, and historical documents pertaining to railway and transportation advancements to narrate the significant milestones that have molded Izmir into the modern port city it is today. Through meticulous analysis, Gelişkan explores Izmir's historical evolution within the Ottoman framework, shedding light on its enduring influence throughout the centuries.

Paolo De Martino graduated in Architecture from the Department of Architecture of the University of Naples Federico II (DiARC). After graduating he worked as an architect in Naples, focusing mainly on the reuse of the existing architectural heritage and on urban regeneration. In 2014 he moved to Delft, the Netherlands, where he completed a PhD in a dual research program between Delft University of Technology (TU Delft) and University of Naples Federico II. His PhD research, entitled "Land in Limbo", investigates port cities from a spatial and governance perspective, analyzing the impact that actors have in shaping spatial development. The city of Naples is an emblematic case to question how to rethink the areas of land-sea interaction, at different scales, as opportunities for territorial regeneration. Since 2017 he has been teaching at the Department of Architecture of TU Delft where he is tutoring students in Design Studios such as "Architecture and Urbanism beyond oil", "Adaptive Strategies" and "Designing Public Spaces for Maritime Mindsets", coordinated by Carola Hein. Since 2021, in collaboration with TU Delft, he has been involved in teaching two MOOCs entitled: (Re) Imagining Port Cities: (Re)Imagining Port Cities: Understanding Space, Society and Culture and Water Works: Activating Heritage for Sustainable Development. Paolo De Martino is a member of the PortCityFutures research group and a member of the coordination group. Since 2022 he is a Post doc at the University IUAV of Venice, under the supervision of Prof. Francesco Musco, working on the theme of Maritime Spatial Planning.

John Hanna is an architect, lecturer and researcher. His research addresses the spatiality of urban conflicts with a focus on Paris and Beirut. John's wider research interests include Mediterranean and Red Sea port cities, quarantine spaces, architecture and literature, and urban histor(ies) of Africa and the Middle East, particularly in relation to colonialism and nationalism.

Carola Hein is Professor of the History of Architecture and Urban Planning at Delft University of Technology and director of the Leiden-Delft-Erasmus PortCityFutures Centre. She has published widely and received a Guggenheim and an Alexander von Humboldt fellowship as well as other major grants. Her books include Port City Atlas (2023), Oil Spaces (2020), The Urbanisation of the Sea (2020) Adaptive Strategies for Water Heritage (2019), The Routledge Planning History Handbook (2017), Uzō Nishiyama, Reflections on Urban, Regional and National Space (2017), Port Cities (2011), The Capital of Europe (2004), Rebuilding Urban Japan after 1945 (2003), and Cities, Autonomy and Decentralisation in Japan (2006), and Hauptstadt Berlin 1957-58 (1991).

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MAIN SECTION

# Land-Sea Spaces and Infrastructures: the Mediterranean as an Edge, a Continent, a Cluster

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ABSTRACT

Looking for new visions and tools for land-sea integrated planning, the article aims to reason on a reconceptualization of the contemporary Mediterranean through exceptional cases of design and representation. Whether they are utopian projects from the early twentieth century, such as *Atlantropa* (1928), or up-to-date critical mappings, such as Migrating *Mediterranean* (2022), they are works aimed at capturing the heterogeneity and at the same time compactness of this millennial water basin. If the utopian project of *Atlantropa* took the coastal edge of the Mediterranean as its main area of action, irreversibly modifying its morphology through new infrastructures, the critical map *Migrating Mediterranean* reverses the interpretation by focusing on the aquatic surface and, actually, on the multiple ways of settlement and circulation on and across the sea. Through these interpretations, the Mediterranean is seen time to time as an edge, a continent and a cluster. In the latter meaning – the Mediterranean as a cluster – its relational potential emerges proposing it as a key area for experimentation in the field of infrastructure and osmotic land-sea circulation. The perspective offered by the cluster regime turns the *Mare Nostrum* into a quintessential workspace for testing the new tactics offered by *spatial clustering*.

KEYWORDS

*Moving Edge, Migrating Landscape, Port Clusters, Solid Sea, Liquid Continent.*

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## Background: Three Narratives

Crossings and relationships, interests and mutual contaminations define the nature of the Mediterranean region. A medium terrae that, as Carmen Andriani argued, "is the medium through which different cultures and policies connect and clash; it is a space of relationships crossed by routes that mark a dense network of intangible traces. A median condition, suspended between the North and the South of the Earth, which identifies the Mediterranean proper, in the Euro-African context, but which is also found in Central America, at the Gulf of Mexico, and in South-East Asia, in the Sino-Malay Archipelago. These are geographic locations at similar latitudes, they are all close to the equatorial belt, at the gateway to the Earth's South. They balance opposing forces, ensure the resilience of the different cultures that inhabit them, they build an apparent unity for a context that is in fact fragmented, they hold together a society fractured into different communities often in conflict with each other."[1]

Building on this idea, we can consider the existence of a plurality of *Mediterraneans* that, spread across the globe, are topographical concepts even before being geographical places.

The idea of several Mediterraneans responds to specific requirements from which it derives peculiar aspects. Therefore, the Mediterranean can be conceived, for instance, as an infrastructure, or as a "solid sea" constantly crossed by different individuals with different purposes and times. The Mediterranean is a habitat populated by animals, and marine plants and crossed by the migratory routes of birds. Ultimately, this contribution supports and develops the idea that the Mediterranean is an *inverse continent*, a vast fluid surface bordered by lands. Overturning the long-established geographical definition of a "continent" (i.e., a large continuous and discrete mass of land, ideally separated by expanses of water),[2] the Mediterranean today appears to be a *liquid continent* defined, rather than by the lands that perimeter it, by the set of seas that compose it and by the different ways in which it is inhabited.

Looking for new tools for land-sea integrated studies, the article aims to reason on a reconceptualization of the contemporary Mediterranean presenting three interpretative narratives in terms of design and representation. Whether they are utopian projects from the early twentieth century, such as *Atlantropa* (1928), or up-to-date critical mappings, such as *Migrating Mediterranean* (2022), they are works aimed at capturing the heterogeneity and at the same time compactness of this millennial water basin. If the utopian project of *Atlantropa* took the coastal edge of the Mediterranean as its main area of action, irreversibly modifying its morphology

1 Carmen Andriani, "Mediterranei," in *MED.NET. IT.01 REPORT,* ed. Manuel Gausa, Mosè Ricci, Nicola Canessa, Mathilde Marengo, Emanuela Nan (Trento: LISt Lab, 2011): 70.

2 Martin W. Lewis and Kären E. Wigen, *The Myth of Continents: a Critique of Metageography* (Berkeley: University of California Press, 1997),

through new infrastructures, the critical map *Migrating Mediterranean* reverses the interpretation by focusing on the aquatic surface and, actually, on the multiple ways of settlement and circulation on and across the sea. Through these lenses, the Mediterranean is seen from time to time as a *moving edge* (I), a *migrating landscape* (II) and a *design cluster* (III). In the latter meaning—the Mediterranean as a design cluster—its relational potential emerges proposing it as a key area for experimentation in the field of osmotic land-sea circulation.

The recognition of the Mediterranean as a *liquid continent* allows designers to place the focus on the sea, on the ways in which it has influenced urban transformations and altered itself in the process. In conclusion, the article establishes analogical or opposing relationships between the three proposed narratives in order to derive tools for contemporary transformations of the Mediterranean basin. These tools are deduced from specific declinations of the water surfaces, assumed as the active material of the project.

## Moving Edge

In terms of ambition and size, Atlantropa[3] is the most visionary infrastructure plan envisioned for the Mediterranean. Proposed by Herman Sörgel[4] in 1928, the project aimed to connect Europe and Africa through a vast network of dams, bridges, ports, and tunnels. It was based on the construction of a colossal 35-kilometre-long dam on the Strait of Gibraltar, creating the world's largest power station with a capacity of 55,000 megawatts. Arranged in an arch to separate the Atlantic Ocean from the Mediterranean Sea and consisting of 2 to 5 billion cubic meters of concrete, the dam would be up to 300 meters high from the seabed thanks to a foundation with a section of half a kilometer. It was the most impressive infrastructure in the world, the construction of which would have taken 150 years and the employment of half a million workers.

Once the dam was completed, the level of the Mediterranean Sea would have been reduced by the natural effect of water evaporation and divided into two basins by two more dams to be erected between Tunisia and Italy: the western one with a 100-metre drop in water and the eastern one with a 200-metre drop. The land taken from the sea—almost 570,000 square kilometers of new soil—would thus have been used to expand coastal cities or exploited for agricultural and industrial purposes. Europe would thus have been united with Africa as well as Gibraltar, with a huge bridge extended between Tunisia and Sicily, supported by steel cables and crossed by road vehicles and suspended trains.

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3 Combination of the words "Atlantic" and "Europe".

4 Herman Sörgel (1885-1952) was a German architect belonging to the Expressionist movement. His production was mainly centered on the *Atlantropa* Project.

The production of electricity would also have been ensured by the construction of other energy infrastructures such as the power station in Tunis, the plants in the Strait of the Dardanelles and several hydroelectric establishments in Egypt. The latter, in particular, served to fill large reservoirs to irrigate the Sahara and the newly formed lands.

Originally named Panropa,[5] the project aimed to promote cooperation between communities, production, progress and the movement of people and goods. In the intentions Atlantropa was to change the political and commercial relations of Europe with neighbouring countries, contrasting the contemporary predispositions to expansion in an easterly direction, compared to that towards the south, which were dominant in German politics in the years before the Second World War. Atlantropa was conceived by Sörgel as a center of political power of global character, which could rival the two emerging continents, America, and Asia, becoming the leading power thanks to its infinite energy reserves.

Sörgel was convinced that in the past the Mediterranean was a land without water, thus justifying the exploitation of submerged lands. As geologist Kenneth J. Hsü demonstrated fifty years later,[6] at the end of the Miocene—that is, millions of years ago—the oceans underwent a glaciation that caused them to lower in altitude: the Mediterranean was actually transformed into an immense salt lake destined to slowly evaporate. Only later with the tectonic sliding of Africa towards Europe was the Strait of Gibraltar formed, again connecting the Atlantic with the Mediterranean.

It was clear that with Atlantropa many port cities would lose their role, but for Sörgel new settlements and infrastructure could be built on the new shores. The main issues were concentrated in Italy since the characteristic profile of its coasts would have been distorted: the Adriatic Sea reduced to less than a third of its surface area; Sicily unified with Calabria and Malta, Sardinia with Corsica; Genoa and Naples would lose their historical relationship with the water but acquire new surface area to expand over the sea. To remedy the drastic change suffered by the Lagoon of Venice, Sörgel had even imagined a dam 30 kilometers from the *Serenissima* to preserve its historical conformation and make it eternal.[7]

Although the project appeared utopian, Sörgel had managed to gain the support of many well-known architects, involving them in the development of specific projects within Atlantropa's grand vision. These included Peter Behrens who contributed to the publication of Atlantropa in 1932 by designing a 400-meter-high tower on the Gibraltar Dam. Erich Men-

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5 The name Panropa derives from the Pan-European Union founded by Richard Coudenhove-Kalergi in 1923. See Alexander Stumm, "Neo-colonial Continuities in the Mediterranean Infrastructure Projects of Atlantropa and Desertec," *Ardeth* 7 (2020): 128.

6 Kenneth Jinghwa Hsü, *The Mediterranean Was a Desert: A Voyage of the Glomar Challenger* (Princeton: Princeton University Press, 1987).

7 Giacinto Cerviere, "Atlantropa-Projekt," *Domus* 900 (2007): 77.

delsohn proposed an intervention to redefine the Palestinian coastline in relation to the imminent establishment of a new Jewish state. Sörgel also had the encouragement and input on specific projects from Cornelis van Eesteren, Wilhelm Kreis, Emil Fahrenkamp and even Hans Poelzig. Mies van der Rohe also showed interest in the project but never contributed directly.

Ideally bearing a message of peace and communion between different cultures, Atlantropa had a colonialist approach. Initially, the project involved Europe and North Africa, but Sörgel extended it to the entire African continent.[8] Three large freshwater lakes were planned. One north of Leopoldville (today's Kinshasa) which, thanks to a huge dam closing the basin of the Congo River, would have flooded the great plain surrounded by 500-meter-high mountains, thus creating a body of water of 900,000 square kilometers. The second further north, in Chad, served by a canal derived from the first. A third lake was planned in the area of present-day Zambia and Zimbabwe, fed by the waters of the Zambezi River. Sörgel's aim was to change the climate of the entire continent by bringing rain to the arid regions and thus being able to obtain extensive arable land.

When Hitler brought Nazism to power in 1933, the idea of universal brotherhood underlying Atlantropa collided with National Socialist totalitarianism. Sörgel's project was publicly mocked by propaganda in a documentary, raising serious questions about how the loss of the maritime economy for Mediterranean cities would cause irremediable social tensions. Stubbornly convinced of his vision, Sörgel continued to promote it by founding the Atlantropa Institute, which remained active until the late 1950s and published various essays and volumes. After the 1932 text *Atlantropa*, in 1938 the volume *Die drei großen 'A' Großdeutschland und italienisches Imperium, die Pfeiler Atlantropas*[9] was released. In 1943, the Ministry of Propaganda ordered Sörgel to end his promotional and essay-writing activities under threat of arrest. In 1945, when the war was over, Sörgel attempted to present Atlantropa to American military leaders, sensing the strategic interest of the United States in obtaining raw material extraction in Africa. However, with the development of atomic energy, the consequent decline of interest in hydroelectric power generation and Sörgel's sudden death in a car accident, the Atlantropa project finally fell into oblivion.[10]

The Atlantropa project considered the Mediterranean as a physical space, an unpredictable, manipulable surface, a territory with variable borders and traversable by a dense infrastructure network. The Mediterranean coast was interpreted as an edge that could be crossed, treated as a place

8 Stumm, "Neo-colonial Continuities," 132-133.

9 Herman Sörgel, *Die drei grossen "A": Großdeutschland und italienisches imperium die pfeiler atlantropas [Amerika Atlantropa Asien]* (München: Piloty & Loehle, 1938).

10 Cerviere, "Atlantropa-Projekt," 77.

of passage, as a means to go beyond. The political, economic, social, and environmental effects that Atlantropa would have generated can only be imagined. But undoubtedly, the creation of a vast artificial basin would have entailed a number of local climatic changes, including a decrease in the salinity of seawater and the alteration of the regime of winds and ocean currents, and a consequent substantial impact on marine fauna and flora. In addition, the management of the new artificial continent would have led to the difficult creation of new institutions and administrative structures in a region composed of different cultures and identities. In its powerful imaginative capacity, but also possible opportunities and probable failures, Atlantropa confirms the edge of the Mediterranean as a frontier. A edge intersected and altered by communication routes and attractive poles conceived as connectors of a solid sea, the Mediterranean Sea as a single territory together with Europe and Africa. Every intervention on the coast envisaged by Sörgel was part of an organic and complex system sustained by relationships that transcend the local. Conceived as a unitary project and the result of an intervention strategy based on the sharing and exploitation of a common territory, Atlantropa underlines how an overall vision of the Mediterranean coastal system is essential when approaching the design between land and water.


FIG. 1 *Atlantropa*. Credits: Deutsches Museum, München, Archiv CD 78659

## Migrating Landscape

The Mediterranean is known as a migratory geography par excellence, a sea where Europe, Asia and Africa meet and collide, a liquid territory, transitional for multiple migratory routes. Central to the migratory flows of

human beings, who cross it on their way to Northern Europe, the Mediterranean manifests itself in its tragic reality, when these routes are interrupted due to the multifold consequences of contradictory EU conservative policies. Although this contribution does not delve into the complexity of migration flows across the Mediterranean from the northern coasts of Africa to southern and northern European regions, the picture described here is obviously much broader and further exacerbated by non-European policies in which political, economic, and commercial interests crash. The Mediterranean is indeed a war zone.

At the same time, the Mediterranean is a privileged habitat for bluefin tuna (*Thunnus thynnus*), migrating from the Atlantic to the Mediterranean to spawn, and later return to the ocean. And its habitat offers *steppingstones* for trans-Saharan migratory birds in their long-range trajectories linking southern Sahara to northern European breeding grounds.

Cradle of millenary cultures, the so-called *Mare Nostrum* has witnessed the expansion of civilizations following the movement of the surface sea currents, which have marked paths of conquest, but also of exchange and trade. Its ports are destinations and logistic hubs of international relevance and, since 1869 with the opening of the Suez Canal, it became the maritime connection between the Indian and the Atlantic Ocean.

The Mediterranean offers opportunities and resources. As it used to be in the past, with the centuries-old tradition of red coral (*Corallium rubrum*) hunting and still is now, with the exploitation of gas and oil. Active salt marshes alternate with abandoned ones, many of which have been transformed into wildlife sanctuaries, and privileged areas, for the pink flamingo (*Phoenicopterus roseus*), among other species. Its seabed is crossed by intercontinental communications submarine cables and gas pipelines, at the forefront of the current geopolitical debate, whose trajectories describe systems of energy—and therefore political—dependency.

The *Mare Nostrum* is crossed by flows of different natures; here, variegated migratory patterns overlap and humans, resources, animals, and plant species trace lines that stand out against the watery background of the Mediterranean.

But landscapes as well are migrating. Indeed, if a traditional understanding of the migratory flow interprets a trajectory of movement in relation to a fixed background, a critical understanding of the context highlights how landscapes are unstable, not fixed. These, in continuous metamorphosis and under the effect of natural and anthropic accelerations and pressures, make the background in continuous movement. As Brett Milligan argues, "we know that environmental conditions are always changing, but we allow ourselves the fiction of background stability."[11]

11 Brett Milligan, "Landscape Migration. Environmental design in the Anthropocene," *Places Journal* (2015).

The sources of pressure, and the forces that make the Mediterranean dynamic and in motion are many; the different speeds of these movements, therefore the spatial/geographical implications and the temporal extension, vary from geological eras to the immediacy of instantaneous phenomena such as volcanic eruptions and earthquakes. Anthropic pressures are fundamental accelerators of such instability, and the complex consequences of climate change can be interpreted as further speed multipliers. The acidification of the sea, resulting from the transformation of atmospheric CO2 into carbonic acid, and the increase of water temperatures, profoundly modify the marine habitat, especially in the eastern Mediterranean. The Suez Canal and the release of ballast water from commercial ships are migratory vectors for alien organisms and microorganisms, which find in these new environmental conditions an optimal ecosystem for their propagation.

To fully understand the migratory phenomena, it emerges as fundamental not only the understanding of the *push and pull factors*, agencies of attraction and repulsion that activate occasional or periodic movements, but a broad and holistic vision of instability. Intrinsic dynamism and different speeds of change characterize and modify geography and politics seamlessly.

*Migrating Mediterranean* is the product of research and critical mapping, conducted by the Dutch-Italian firm Openfabric in 2022, which focuses on the representation of migrations of people but also of landscapes and extractive resources. The map delves into the Mediterranean space, identifying agents of instability to show that the contextual framework we traditionally think of as fixed, is in fact not. Resources, humans, animals, plant species, cultures, cultivations, literature, ecosystems, tectonics are all evolving, proving that the Mediterranean must be recognised as being in constant metamorphosis. Accelerated growth is changing these patterns at their very foundations.

*Migrating Mediterranean* is an instantaneous and timeless cartography: by definition, imperfect, and partial, requiring continuous redefinitions and additions. The enduring, layered, and conflicting palimpsest of the Mediterranean emerges in the graphic visualisation as a privileged vantage point from which to observe the extension of *planetary urbanisation*[12] underlying renewed migratory flows and extractive configurations, where only seemingly wild and remote territories are transformed due to the socio-ecological consequences of unlimited urbanisation.

Once the different flows, pressure forces, and episodical phenomena are depicted in one comprehensive mapping, not only the migratory nature of the Mediterranean clarifies, but a renewed centrality emerges. Being

12 Neil Brenner and Christian Schmidt, "Planetary urbanization," in *Urban Constellations*, ed. Matthew Gandy (Berlin: Jovis, 2012): 10-13.

at the crossroads of Africa, Asia and Europe, the Mediterranean stands out as an alternative to the geopolitical Atlantic centrality and as a relief to the continental winds of war coming in the current framework from the Russo-Ukrainian crisis.

As a matter of fact, the Mediterranean influence doesn't stop at its coastline, but its relational system of exchange, production/consumption and cultural influence deeply effects the solid continents, as opposed to the liquid one. Once the notion of limit is superseded in favour of dynamic spaces of exchange, not only the migratory nature of landscapes can be addressed, but new land-sea projective scenarios are possible. The coastline may be read as an articulated coast-land interface, conceptually shifting from line to space: a set of areas where traditional geographical and administrative borders are overridden by a system of measurable forces, where migratory scheme at large, and macropolitical dynamics render it a highly unstable and transient landscape.

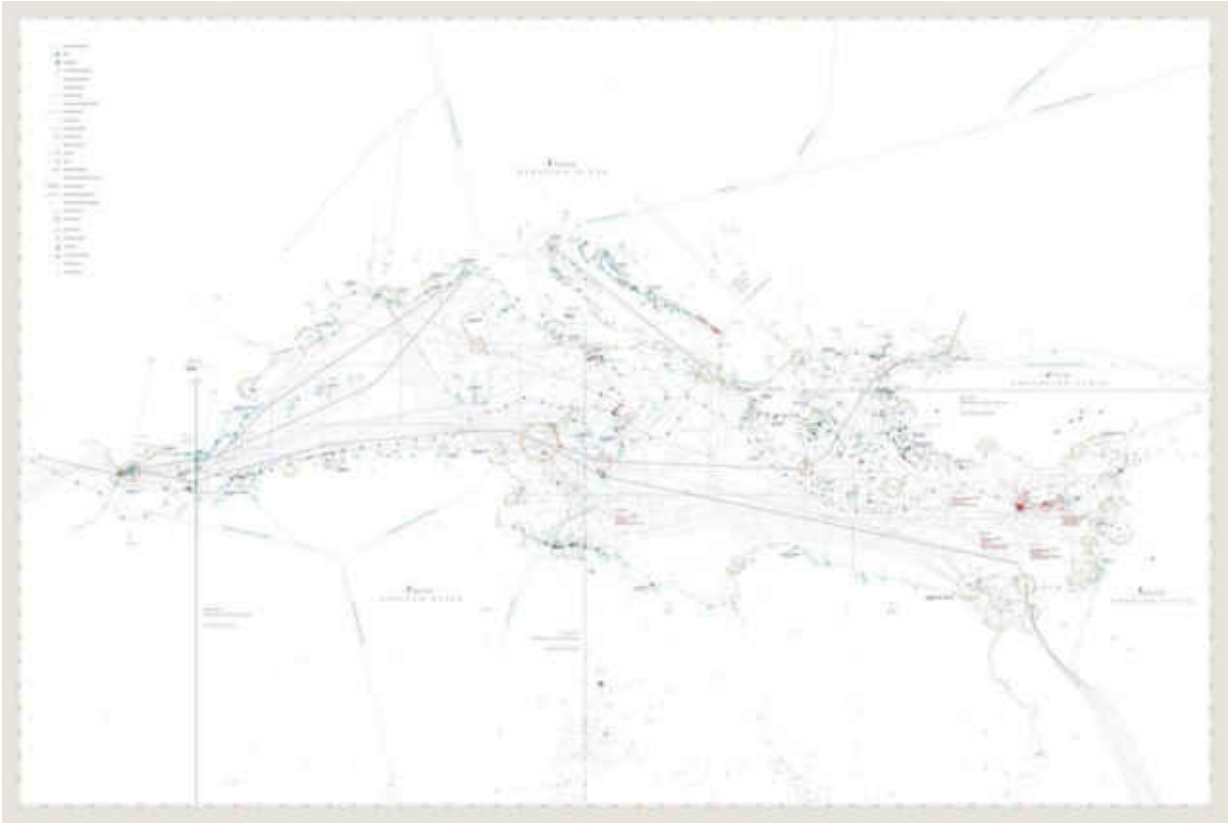

FIG. 2 *Migrating Mediterranean*. Credits: Openfabric (team: Francesco Garofalo, Konstantinos Venis, Enrico Mancadori, Luigi Ettore Ricchioni), 2022. Size: 2.5 million km². In exhibition: *International Architecture Biennale Rotterdam*: IABR. Rotterdam, 2022, NL and *Invisible Mediterranean*, La Biennale dello Stretto, Reggio Calabria, 2022, IT

## Design Cluster

Looking at the sea as an immense space of relationships, a consolidating approach specifically in the field of networked maritime analyses is

showing how the poles of the land-sea system (i.e., mainly ports) are progressively acquiring a regional influence in terms of scale and impact. It was first maritime economics, together with transport geography, that theorized the so-called Port Regionalization phenomenon. Through this fundamental conceptualisation, the economist Theo Notteboom and the geographer Jean-Paul Rodrigue have demonstrated how ports are moving beyond their maritime facilities and traditional operative perimeters by boosting the transport systems towards inland regions.[13] This complex set of economic, logistic, and commercial processes is not immaterial but has tangible impacts that spill over spaces.

As Peter De Langen argued back in 2004, ports can be considered "drivers of agglomeration" in the cities and territories that they serve and make functional:[14] i.e., they function as catalysts of services, infrastructures, settlements and clearly of interests in the several sectors of the maritime sphere and beyond. In the contemporary framework, though, the increasingly regional nature of these land-sea junctions has introduced not only the notion of port region,[15] already prompted by Notteboom and Rodrigue, but also the concept of port system, or rather, port *cluster*.[16]

Starting from the late 19th-century theorisations in the industrial sector to the more recent applications in economic geography, the notion of cluster has become increasingly interdisciplinary. The cluster is both an empirical and conceptual construct:[17] it is mainly used to describe conurbations, interconnected networks, concentrations of firms and service companies having a high degree of collaboration. Large-scale and cross-border projects[18] take clusters into account to talk about networks and innovative *milieux*, economic and geographical disciplines employ the notion of regional clusters to refer to a geographically close group of interconnected companies, associated institutions linked by commonalities and complementarities, in the context of ports and beyond. In the port sector, with Port Clusterisation phenomenon we can describe the administrative aggregation of two or more single ports that, active in the same region, have been institutionally merged to form port clusters. Nonetheless, the idea

13 Theo E. Notteboom and Jean-Paul Rodrigue, "Port Regionalization: Towards a New Phase in Port Development," *Maritime Policy and Management* 32 (2005): 297–313.

14 Peter de Langen, "Governance in Seaport Clusters," *Maritime Economics and Logistics*, 6, no. 2 (2004): 141-156. in Haralambides H. E. (2015). Port management. Palgrave Macmillan. Retrieved November 15 2023: 138.

15 Ibid.

16 The notion of cluster, as applied to ports, has been addressed by several scholars in maritime economics and geography in recent decades. Among others, reference is made here to Alexandra Kocsis, "The role of port clusters in theory and practice," *Regional and Business Studies,* 3(2 Suppl.) (2011): 51–60.

17 Tim Vorley, "The Geographic Cluster: A Historical Review," *Geography Compass* 2, no. 3 (2008): 790-813.

18 *Delta Metropool* is a Dutch association based in Rotterdam which brings together professionals, governments, business, knowledge institutions and other social actors with a mission: advocating for metropolitan development in the Netherlands and surroundings (www.deltametropool.nl).

of clusters seems for the time being to ignore space: in other words, its spatial implication and potential application in urban and territorial design still appear incomplete and overlooked. In addition, the implications (also and above all spatial) introduced by port systems or clusters influence not only the inland but also have inevitable repercussions on the seas which, as primary infrastructures, connect ports and coasts.

The notion of cluster is hence applied to land-sea territories, and it bears witness to a further rapidly consolidating process. Not only the substantial supplanting of administrative and political borders but an intense *spatial stretching,* i.e., a physical and relational expansion of coastal and marine spaces that, through these evolutions, become increasingly polycentric, interlinked, multidimensional, and pooled, both on land and sea. Implying a new kind of spatial engagement, this stretching generates new spatial patterns of functional relationships between the poles of the cluster and the spaces linking them which have potentialities to be addressed through design disciplines.

The rapid introduction of the cluster regime, which is more advanced in some major Nordic ports (e.g. the French ports of Paris, Rouen and Le Havre or the Danish-Swedish alliance of the ports of Copenhagen and Malmo) and still at an early stage in, for instance, Italy (where port systems were formalised only in 2016), offers unexplored horizons to the design of port operational spaces and infrastructures. Clusters, in this context, stand as new instruments for land-sea integrated planning and design.

Considered one of the *new logistical weirdnesses,* port clusters have unexpected potential for both solid and liquid spaces. Their relational strength and pervasiveness can be transferred to the territories and act, for instance, to optimise the use of spaces and resources that, in the clustering regime, can be pooled. The concrete optimisation impacts will then be to avoid duplication of large infrastructures along the same coast/river stretch, to produce benefits in land reclamation and port pollution. The renewed governance of port clusters can improve territorial inclusiveness among primary and secondary ports, using the advantages of proximity. A cohesive planning will deal with the new port-city-territory interfaces which are hinges and grafts between land and sea. Lastly, a redistribution and relocation of catalytic operative functions within extended port city territories, resulting in freeing up seafront areas or decommissioning abandoned artefacts.

A major application of the cluster is placing emphasis on water spaces. Even though for years the planning system has turned its back on the sea considering it as *another urban territory*,[19] the spatial dimension and the relational regime introduced by the clustering of ports may instead be

19 On this, refer to Milica Topalović, Hans Hortig and Stefanie Krautzig, *Architecture of the Territory. Sea Region. Singapore, Johor, Riau Archipelago* (Singapore: ETH Zurich DArch FCL Sin, 2014).

pivotal in addressing new challenges of the marine environment and the maritime sector. For centuries, in fact, the space of the sea has been understood, on the one hand, as an empty and blank place and, on the other as a politically reclaimable surface to occupy, a solid dryland. This has for decades produced the direct transfer of terrestrial space formation rules to marine spaces: in other words, settlements and architecture of the sea were conceived and realised according to land-based shaping principles. Looking today at the sea as an environment affected by a specific kind of urbanization[20] (think, for example, of offshore platforms, submarine telecommunications grids, networks for transporting supplies of energy sources, large dams, wind farms, etc.), though, activates a reversal of this common idea, leading to a vision able to re-signify the transformation of the liquid environment and its main settlements and architectures.

As Nancy Couling has stated,[21] the ocean requires the development of unconventional methods for its description and development: alternative perspectives "[…] which draw the ocean in as an active participant to urbanization processes". Alongside the design tools provided for instance by the Marine Spatial Planning approach,[22] the cluster can bridge the gap from a land-centred perspective to an approach targeting marine environments, i.e., developing spatial formation instruments specifically for sea-based artefacts. In this sense, design in marine spaces implies a tension between fixity and fluidity, highlighting a recurring quality of such spaces that Nancy Couling defines as the "lack of settlement". This lack triggers a scarcity of interaction with ocean space that, specifically, concerns water settlements and offshore infrastructures.

To make effective use of the cluster as a design tool, it needs to be underpinned by an equally powerful vision. The Mediterranean water basin, given its millenary history of maritime activities and its still crucial position in the context of oceanic routes, is a key area for clustering experimentation. This is confirmed, among many other aspects, by the continuity of its coasts dotted to the south and north by hundreds of ports of different sizes, the consolidated relations with the river trade and transport network in the internal territories, the system of tangible and intangible marine infrastructures that bind distant regions above and below the sea in mutual

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20 On this, refer to Nancy Couling and Carola Hein, *The Urbanisation of the Sea. From Concepts and Analysis to Design* (Rotterdam: nai010 publishers, 2020).

21 Nancy Couling, *The Role of Ocean Space in Contemporary Urbanization*, PhD Thesis - School of Architecture Civil and Environmental Engineering (ENAC). Lausanne: EPFL Ecole Polytechnique Fédérale de Lausanne (2015): 11

22 As stated by the *Intergovernmental Oceanographic Commission*, "Marine Spatial Planning (MSP) is a public process of analyzing and allocating the spatial and temporal distribution of human activities in marine areas to achieve ecological, economic and social objectives that have been specified through a political process. MSP is not an end in itself but a practical way to create and establish a more rational use of marine space and the interactions among its uses, to balance demands for development with the need to protect the environment, and to deliver social and economic outcomes in an open and planned way."
For more: https://www.ioc.unesco.org/en/marine-spatial-planning#:~:text=Marine%20Spatial%20Planning%20(MSP)%20is,specified%20through%20a%20political%20process.

exchanges and contaminations.

Moreover, the systemic and relational potential of the contemporary Mediterranean exceeds the coastal edge alone and spreads deep along river valleys, cross-border corridors, and oceanic routes—thus both towards land and sea—materialising in the systemic dimension of ports, logistic platforms, inland ports, hinterland, agglomeration economies, types of business cooperation and so on. On this, we can mention for instance the spatial impacts of the EU's trans-European transport network policy, integrated with the system of connections by sea via the "Motorways of the Sea".

In its liquid genetics, therefore, the Mediterranean is a cluster of cultures, knowledge and, more specifically, of networks, junctions, and large infrastructural complexes. The relational perspective[23] offered by the cluster regime turns it into a quintessential workspace for testing the new design tactics offered by *spatial clustering*.

## Conclusion: Tools for Water Surfaces

The three interpretative narratives proposed above constitute some of the myriad visions developed over the centuries to describe the characteristics of the Mediterranean. The trajectory they propose passes through a series of analogies or dissonances that can be deciphered. As stated in the introduction, the ultimate aim of this contribution is to draw the Mediterranean as a whole from the point of view of its seas and bodies of water, rather than the lands that delimit it, in order to pinpoint its transformative potential in the contemporary context.

While the utopian and intellectual project of *Atlantropa* (1928) took the coastal and infrastructural edge of the Mediterranean as its main area of action, expanding its ambit and irreversibly modifying its morphology through new infrastructures, the critical map *Migrating Mediterranean* (2022) reverses the interpretation by placing the focus on the aquatic surface and, actually, on the multiple ways of settlement and circulation on and across the sea. The latter reading interprets the Mediterranean as a passage (or rather, a set of landscapes) in motion.

One (the project) is applied on the continuous and narrow border at the hinge between land and sea—we can say between *ground* and *unground*—the other (the map) spreads over the fluid space of the sea, employing a maritime perspective and recording the flows that ply it on boats and transport networks, the ecological and climatic processes that alter it and, simultaneously, the human and non-human communities that inhabit it at all depths of the sea. Although very different in terms of time and purpose,

23 César Ducruet and Theo E. Notteboom, "Revisiting port systems delineation through an analysis of maritime interdependencies among seaports," *GeoJournal* 87, (2022): 1831–1859.

the project and the map share analogies and common grounds useful for outlining new perspectives to reconceptualise and reimagine the contemporary Mediterranean through the domains of space. Such visions, combined with that of the Mediterranean as a design cluster, corroborate the idea supported by the contribution of the Mediterranean Sea (much more than a sea, in fact) as a *liquid continent*.

Firstly, the three works consider the Mediterranean as a single element: a distinct inhabited body of water, a heterogeneous but compact overlapping of landscapes. It is no coincidence that, although produced more than a century apart in very different historical and cultural contexts, these interpretative frameworks assume the same geographical boundaries. This framing of the Mediterranean basin is a convention with very ancient roots: a homogeneous geographical space, an inland sea that was already being traversed back and forth to its remotest offshoots in the 4th century. "We stand around the shores of the sea like frogs or ants around a pond", was how Plato described it in the Phaedo, testifying to both the local and cosmopolitan dimension of this place.

In addition, the two works operate without predetermining or establishing a south and a north, an above and a below, an inside or an outside: despite the multiple nations and cities, peoples and cultures of Mediterranean identity, the reasoning pursued—one of a design character, the other of scientific and applied research—transcends administrative separations and proposes a de-bordered vision of land-sea spaces. On the other hand, as Ferrara has argued, with the process of bordering (literally the production of borders), borders have become devices of spatial differentiation embedded in a framework that is no longer immobile but in flux.[24]

Narratives of this kind are instrumental in defining new tools in the contemporary framework as of today. Such tools concern possible declinations of the vast water surface of the Mediterranean.

Starting from *Atlantropa*'s vision, water modifies its boundary with the land and, retracting to leave space for infrastructures and operational docks of the port, brings the maritime environment closer to the terrestrial one; in this declination, water is malleable design matter.

Taking its hint from the map *Migrating Mediterranean*, water is composed of a boundless set of landscapes, processes, flows and human and non-human migrations that populate it at different depths; in this declination, water is a vibrant habitat.

Finally, in the clustered declination of the Mediterranean, water is a great network of nodes and a hinge of exchange that links spatially distant places, bringing them together in a new aggregated and multi-centred dimension.

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24 Pasquale Ferrara, "Limes. Il confine nell'era postglobale," *Sophia* 3, no. 2 (2011): 183-194.

Since in maritime cultures the sea used to be seen *as the land* (such as, the source of livelihood, the space of everyday life and connections among people and settlements, which all gravitate toward it as the centre), we assume that these three different but complementary declinations of the water space of the sea provide strategic tools for the design of the Mediterranean *fluid continent*.

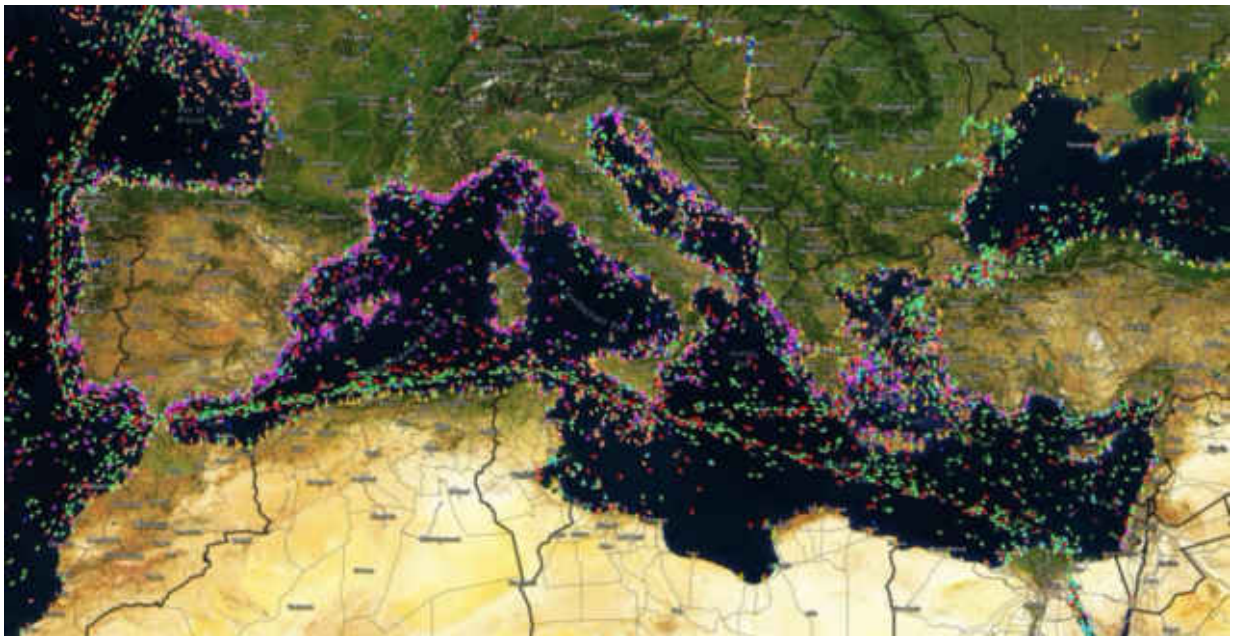

FIG. 3 *Sea routes and ports across the Mediterranean.* Credits: Marine Vessel Traffic (2023)

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MAIN SECTION

# Atlas of Mediterranean Liquidity: Immerse - A Submerged Map to Reveal Hidden Connections Between Water and Anthropic Life in Genoa

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ABSTRACT

The focus of the research carried out by Zones Portuaires and Corpi Idirici for the digital map of Genoa in the Atlas of Mediterranean Liquidity - is water. The map is broken down into the theme of the "immersed" with a dual meaning of "invisible - underground or underwater" due to it being submerged or forced, and of "invisible - unknown or hidden" as a result of it being abandoned or unused. The map tells the stories of a select number of noteworthy places along fresh and saltwater routes, land and maritime passages, stories made invisible by anthropogenic hyper-infrastructure and immersed in physical conditions that lack knowledge and accessibility. The phenomenon has been studied from a point of view that moves from the sea to the hinterland and vice versa using a transdisciplinary approach method of investigation and restitution that makes use of the hybridization between artistic practice and scientific research.

KEYWORDS

*Digital Map, Infrastructures, Landscapes, Genoa, Water.*

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## Introduction


FIG. 1 Snapshot of *Immerse*. Overview of the 10 stories represented on the map. Source: Corpi Idrici and Zones Portuaires Genova

In recent years, the exponential rate of oceanic, atmospheric, and terrestrial transformations and the ever more intense and visible effects imprinted on the most vulnerable landscapes such as coasts and seas, has prompted policy reflections to place a greater attention on the need to develop research and strategies useful for reversing the course that has led our planet to suffer the heavy impacts of the Anthropocene. Since the mid-2000s much of this attention has focused specifically on the oceans, sensorium of the earth transformations in its complex dynamics.[1]

In 2015, the United Nations dedicated an entire day of COP21 in Paris to the ocean, placing it at the center of an international debate at the United Nations Climate Change Conference; the same year the UN Agenda 2030 took up the theme of the management, protection and conservation of marine and coastal ecosystems, dedicating to it two points of Sustainable Development Goal 14 (14.2 and 14.5). In 2017, nearly fifty years after the establishment of the International Decade of Ocean Exploration by the United States, the United Nations proclaimed the Decade of Ocean Science for Sustainable Development 2021-2030, with the goal of mobilizing the scientific community, governments, and civil society around a common agenda of research and technological innovation for marine sustainability. The IPCC's latest report Climate Change 2022: Impacts, Adaptation, and Vulnerability again reiterated the specific vulnerability of coastal zones, emphasizing the need for less rigid design approaches. Despite the theoretical potential of these approaches, the implementa-

1 Daniela Zyman, *Oceans Rising. A Companion To Territorial Agency: Oceans In Transformation* (London: Sternberg Press, 2021).

tion processes proved to be ineffective in addressing the problems for which they were created and disregarded expectations. While the main impediments are competing interests, conflicting goals, power imbalances, entrenched advantages, exclusion and antagonism, and prioritization of economic growth goals over environmental protection and social development goals, part of the ineffectiveness is due to processes of only symbolic participation, lack of communication, and knowledge transfer.[2]

At the same time, science alone has also shown limited effectiveness in both influencing policy change and disseminating shared knowledge,[3] and this is also due to an increasing disillusionment in its capabilities on the part of the public.[4] As Visser argues, one of the limitations of research is the lack of relationship between the natural sciences and the humanities, so while scientific knowledge and understanding of the ecological components and dynamics of the seascape and coastal landscape is growing, there is not an equally deep knowledge of the direct or indirect anthropogenic impacts related to the values and meanings that the sea and coast hold for communities, so science attempts to inform society, but by itself is unable to affect its behaviors, and thus transform them.[5]

To do this, it is necessary to develop contextually new modes of inquiry and new narratives, capable of capturing aspects that escape the observation of approaches aimed at defining unambiguous and definitive solutions, because, as has been amply demonstrated, persistent problems affecting contemporary transformations do not respond to rules that determine when the answer has been found and the problem can be considered solved.[6] Radical thoughts need to be developed, and these can only develop if they are able to be free from sectional interests and instead approach reality with a holistic gaze, listen to multiple voices, transfer knowledge, and, at the same time, acquire knowledge.

In this sense, transdisciplinary research that promotes the observation of reality with a sea-based perspective through the hybridization of scientific and artistic research, community involvement, and cultural activism, can take shape as useful experimentations of new theoretical and method-

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2 Anthony R. Marshak et al., 'International Perceptions of an Integrated, Multi-Sectoral, Ecosystem Approach to Management', ed. Raúl Prellezo, *ICES Journal of Marine Science* 74, no. 1 (February 2017): 414–20, https://doi.org/10.1093/icesjms/fsw214; Christina Kelly, Geraint Ellis, and Wesley Flannery, 'Unravelling Persistent Problems to Transformative Marine Governance', *Frontiers in Marine Science* 6 (24 April 2019), https://doi.org/10.3389/fmars.2019.00213.

3 Shona K. Paterson et al., 'Examining the Potential of Art-Science Collaborations in the Anthropocene: A Case Study of Catching a Wave', *Frontiers in Marine Science* 7 (19 May 2020), https://doi.org/10.3389/fmars.2020.00340.

4 Mika G. Tosca et al., 'Reimagining Futures', *Elementa: Science of the Anthropocene* 9, no. 1 (9 August 2021), https://doi.org/10.1525/elementa.2021.00016.

5 Leontine E. Visser, 'Reflections on Transdisciplinarity, Integrated Coastal Development, and Governance', in *Challenging Coasts*, ed. Leontine E. Visser (Amsterdam: Amsterdam University Press, 2004), 23–48, https://doi.org/10.1017/9789048505319.003.

6 Svein Jentoft and Ratana Chuenpagdee, 'Fisheries and Coastal Governance as a Wicked Problem', *Marine Policy* 33, no. 4 (July 2009): 553–60, https://doi.org/10.1016/j.marpol.2008.12.002.

ological approaches.

This is the case with a number of projects that have led to our collection of situations in the Genoese water territories. One of them is *Liquid Violence,*[7] developed by a branch of the architectural practice Forensic Architecture. In *Liquid Violence,* Forensic oceanography depicts four stories, the reconstruction of different cases of migrant boats lost or shipwrecked in the mediterranean and the reconstruction of their relative savings or institutional abandonment. Dynamic maps and video reports are the final product of an investigation carried out by scholars in collaboration with museums or art institutions all around Europe. Also *Take Me to the River*,[8] an online exhibition which has gathered 15 stories of community resistance or activism against resource extraction, environmental abuse, and the violation of Indigenous communities' rights, all of them linked by the liquid resource, has been an important model to the construction of the *Immerse* map.

Next to them, precious archives like the *Ocean Archive*[9] or projects such as *Fluildicirculations*[10] or *Murmuring Water*[11] have served to explore transdisciplinary methodologies capable of producing knowledge deliverable to different kinds of public, even those less familiarized with scientific production and research.

It is in this context that the *Atlas of Mediterranean Liquidity* project fits, and, within it, the Immerse map.

## *Atlas of Mediterranean Liquidity*

*Atlas of Mediterranean Liquidity* is an ongoing project of interactive maps concerning water issues around the Mediterranean. The project was initiated by the Goethe Institute Israel and CDA Holon and it strives to create new ways of learning, thinking, and understanding different problems and perspectives regarding water in and around the Mediterranean.[12]

The Atlas was launched in late 2020, and since then presented a growing collection of maps devoted to different questions about the Mediterranean Liquidity: water use, people and culture around water sources, historical events of disasters and damage to the sea, future speculations about

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7 To know more about the *Forensic Oceanography* project, it is possible to visit the website at https://forensic-architecture.org/subdomain/forensic-oceanography.

8 "Take Me to the River." https://takemetotheriver.net/.

9 "Ocean Archive." https://ocean-archive.org/.

10 "Hydrofeminist Explorations." https://fluidcirculations.xyz/.

11 "Murmuring Matter - Jan van Eyck Academie." https://www.janvaneyck.nl/calendar/urgency-intensive-2023-murmuring-matter.

12 The *Atlas of Mediterranean Liquidity* is a project conceived by Carola Dürr (Goethe Institute Israel) and Udi Edelman (CDA Holon) and is developed by a multidisciplinary team consisting of: Avital Barak (research), Shual - Design Studio (digital product - design and research), Adam Kariv (web development), Shim Gil (production), Ruth Przybyla – Goethe Institute Israel (coordination).

changing sealines or drinking water shortages, the question of invasive species and various perspectives on the relationship of man and nature. The Atlas gathers stories of water from coastal regions and the entire geographical area of neighboring countries, including inland areas. The different maps were initiated and developed by artists and scientists from various countries around the Mediterranean. Some maps were created by artists or collectives of artists and designers; others are the outcome of invitations from the local Goethe Institute in those countries.

The concept behind the *Atlas of Mediterranean Liquidity* is to bring as many voices, perspectives, narratives, and agencies of people who live around the Mediterranean. Following the water streams, the Atlas reveals conflicts and collaborations in the region; the geography of water - crossing national borders, communities, and cultures, brings to the surface all the challenges and potentialities of the Mediterranean.

In doing so, the Atlas corresponds with a growing trend of alternative cartography manifested in different ways both in the critical geography departments in academia and in interdisciplinary projects of planning and design.[13] This trend is the outcome of the critical perspective that uses cartography tools for conceptual change and as a political action.

Following the understanding that mapping is not a neutral practice, it reveals the agenda of those who created the map, usually those in power, and the act of mapping itself is a political act that constructs reality; the Atlas offers an alternative cartography that undermines the official politics of the region, the power relations, and the regional distribution of resources.

However, the alternative approach is not only on the subject of the different maps but also in how it invites different fields of knowledge to engage in this form of alternative cartography. The Atlas point of departure is an artistic point of view, and as one, it brings different perspectives, practices, and motivations into the various maps. The common hierarchy of knowledge of our time is questioned, and the relationship between data and its representation is being challenged and constantly re-examined. The

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13 The thought of alternative cartography brings together spatial investigation, critical thinking on new technologies, and the rising presence of the camera (whether as surveillance or as a popular form of documentation). In her book *Close Up at a Distance - mapping, technology, and politics* (2013), Laura Kurgan brings together "claims and arguments about what the technologies of spatial representation have to do with the spaces they represent, beyond simply representing them." Laura Kurgan, *Close Up at a Distance: Mapping, Technology, and Politics* (Boston: MIT Press, 2013), 13, https://doi.org/10.2307/j.ctt14bs159.
Another interesting examples will be the research group *AntiAtlas* and its curatorial project Out. of.the.blue.map and the alternative map they developed (https://calypso3621.com/). Or *Terra Forma. A Book of Speculative Maps*, written by Fédérique Aït-Touati, historian of modern science, designed by the architects Alexandra Arènes and Axelle Grégoire, and with a foreword by the philosopher Bruno Latour. The book proposes an exploration of our world as if it were unknown to us, through a series of maps that invite us to explore what we think we know through new ways of representing the connections "between the biological physiology of living inhabitants and the physiology of the land", through a form of representation deliberately distant from georeferenced geographical models and admittedly not definitive. Frederique Ait-Touati, Alexandra Arenes, and Axelle Gregoire, T*erra Forma: A Book of Speculative Maps* (Boston: MIT Press, 2022).

critical approach and, as a continuation, the belief in multiple narratives and variations of living are at the heart of the invitation to contribute to the atlas and thus characterize the atlas as a whole and in it each map.

In Zygmunt Bauman's *Liquid Modernity,*[14] the liquid metaphor is used to understand modern life as an unstable, fluid, and dynamic nexus of global power relations. In the Atlas, the liquidity also represents the precarious time we are living in, the rapid changes, and the global effect on the Mediterranean environment and people, but also the interconnection between the different sections of the Atlas, the way water as a substance infiltrate and escape restrictions and above all, the challenge of holding the in-between state of the liquid. To keep the multiplicity of narratives, opinions, disciplines, and manifestations of the Mediterranean co-exist together without determining between them.

There are several main trajectories in the Atlas that interlace in different forms. Each trajectory functions as a category, while each map brings a distinct perspective and offers a zoom-in on a specific manifestation of the general theme. A thought-provoking example of this unfolding of a subject is the invasive species category. The map *Flow of Invasion* created by the scientist Dr. Yara Dahdal, and the artist Samah Sultan focuses on the roots and origins of several notorious invasive species in Israel, Palestine, and Jordan. The map uses the transboundary paradigm to explain ecological phenomena, which also functions as a metaphor for the shared present and future of the people in this region. A different perspective on that subject gives the map *On Seas, Parrots and Intruders,* created by the Argentinian collective Colectiva Ecoestéticas (Ana Laura Cantera, Gabriela Munguía, Mariela Yeregui). The opening declaration of the map is: "A Global South contribution for decolonizing the invasion ecologies approach." The global south perspective is crucial in understanding some of our time's cultural, economic, and ecological conflicts and crises, which originated in the Mediterranean.

The digital platform invites the use of mixed media: photography, video, sound, and text. Some maps tell the story of water only through sound, asking the user to submit to her sense of hearing and the audio experience. Other maps in the Atlas create a multi-sensory experience when combining sound and moving images in an interactive map that invites the user to create her own narrative by choosing each time a different path. The multi-sensory experience follows the intention of many of the maps to bring several perspectives simultaneously. Those perspectives can be of people or institutions but also of a place, for example, the two sides of the port - from the sea inland and from the coastline to the water.

Thus, the category in the Atlas dealing with port cities is an excellent example of a series of maps characterized by their multi perspectives,

14 Zygmunt Bauman, *Liquid Modernity* (Cambridge, UK: Polity, 2000).

multi-sensory, and interactivity features. As a category, it holds some of the most common DNA of the Mediterranean, the economic challenges of many port cities, and the various ecosystems developed around the port.

As a paradigmatic example of the spirit of the Atlas and its transdisciplinary character, the following parts of this article will focus on a specific case study from this category. The map *Immerse* concentrates on the two sides of the Genoa water system: the sea and the port and the rivers that flow towards the coastline. It is the outcome of a collaboration between two groups of artists, scholars, and architects invited by the Genova office of the Goethe Institute to develop a mutual map.

## *Immerse*

Genoa is a coastal city. In the long and narrow morphologically compressed space that runs between the Ligurian Apennines and the sea, water has been, since Roman times, the element that connects its natural borders and every aspect within, be it urban, social, economic, cultural, architectural and infrastructural. Water is a maritime element that has shaped the development of the city to make it into a port; water is a fluvial element that has shaped the development of the city in the valleys that link to the hinterland. It is a strategic hub between the main navigation routes of the Mediterranean and Europe. In the name of development, rights linked to water have been denied over time in some form or another: the right of public use of the sea was taken away due to the need to operate port machinery, which is increasingly linked to global interests rather than local ones. Bodies of water are forced into rigid levees, canals, and underground spillways so as to favor rampant construction on the surface.

Today, the effects of climate change on the fragile coastal landscape, which has visibly worsened, reveal themselves through water. The rise in temperature affects biodiversity and the delicate balance of ecosystems. Gradually rising sea levels along the man-made coastline are juxtaposed with sudden and violent atmospheric phenomena that radically alter increasingly the course of flowing water via the flooding of buildings and its impact on the safety of communal life. If we carefully immerse ourselves in studying the territory beyond the rigid infrastructures that try to rule over it, we discover that water finds its own space to evolve as an element involved in social and ecological forces, both human and non-human, that escapes the control of unnatural forces. Therefore, the focus of the research for the digital map of Genoa developed for the *Atlas of Mediterranean Liquidity* is the element of water. It is broken down into the theme of the "immersed," with a dual meaning of "invisible underground or underwater" due to it being submerged or forced, and of "invisible - unknown or hidden" as a result of it being abandoned or unused. The map tells the stories of a select number of noteworthy places along fresh and

saltwater routes, land and maritime passages, stories made invisible by anthropogenic hyper-infrastructure and immersed in physical conditions that lack knowledge and accessibility. The mapped places are waterways set within artificial embankments, harbor piers, maritime industrial buildings and residual spaces in the hinterland or along the coast that have unexpectedly become hospitable for small resistant communities, human and non-human, by virtue of their condition of invisibility.

The *Immerse* project started in Genoa following the meeting of two research projects from two different multidisciplinary collectives *Zones Portuaires* and *Corpi Idrici*.[15] Both have investigated the phenomenon from a point of view that moves from the sea to the hinterland and vice versa using a transdisciplinary approach method of investigation and restitution that makes use of the hybridization between artistic practice and scientific research.


FIG. 2 The text of Ponte Parodi/Hennebique displayed over one of the pictures that illustrate this story. Source: Corpi Idrici and Zones Portuaires Genova

15 The *Immerse* project, funded and promoted by the Goethe-Institut Israel as part of the *Atlas of Mediterranean Liquidity*, and coordinated by Ines Richter for the Goethe-Institut Genua, was developed by a group of researchers composed by: Juan Lopez Cano and Maria Pina Usai (curatorship and development), Silvia Badalotti, Gaia Cambiaggi, Anna Positano, and Nuvola Ravera (photography, video, and visual research), FiloQ, Ale Bavo, Raffaele Rebaudengo / Stellare, and Matteo Manzitti (sound research), Maria Elena Buslacchi and Anna Daneri (archival ethno-anthropological research and interviews), Matteo Casari and Annalisa Gatto (graphics and visual identity), Eli Krupitsky (design and web development).

## *Zone Portuaires*

Born as a film festival in Marseille between 2008 and 2010, declined as an interdisciplinary festival in Genoa since 2015, *Zones Portuaires* has gradually evolved into an art based action-research device, a long-term project articulated in different actions, involving port and city communities in the process of co-creating new cultural and design scenarios for the reconnection between port and city.[16] The project is developed annually in two phases: the first one is aimed at activating research projects developed through residencies, laboratories and workshops that bring together artists and researchers from different fields of discipline, and involve the port and urban communities; the second one opens up the port to the public with performances, installations, sea excursions and site visits led by port operators to discover its operational functioning, combined with conferences, exhibitions and informal encounters in the public spaces between city and port. Over the years, the Festival has progressively activated several connections with other port cities in the Mediterranean and Europe, involving public and private entities, research and cultural institutions. In 2019, *Zones Portuaires* received the patronage of the Association Internationale Villes et Ports (AIVP), which recognized how the objectives of the project were developed on the basis of the declination elaborated by the AIVP of the 2030 Agenda with respect to the specificity of port cities, and in particular with Goal 6, focused on culture and port identity, considered a strategic asset to establish a sustainable relationship between city and port. With the launch of the United Nations Decade of Marine Science for Sustainable Development 2021-2030, Zones Portuaires has reversed its research perspective and has begun to explore the specificity and complexity of the port city observing it from the sea. On the basis of this line of research in 2021 *Zones Portuaires* has created two artistic residencies aimed at developing processes of study and interpretation of marine and port sound geographies. The residencies, curated by Maria Pina Usai and realized together with the musicians/producers collective Stellare, involving several artists, take the title Stellare in The Sea and are realized in two places strongly evocative of the relationship between Genoa and the sea, the Galata Museo del Mare and the Acquario di Genova, open to interaction with museum visitors and passers-by. The musicians involved initially worked on a database of sounds recorded underwater and largely unknown to humans. Gradually the focus moves closer to the Genoese coastline, and the artists begin to record underwater sounds at some points that have long been the subject of investigation and intervention by *Zones Portuaires* actions. Among those points are the breakwater, the pier of the former ENEL power plant, the large pier awaiting new

16 "ZONES PORTUAIRES / Genova." http://www.zonesportuaires-genova.net/. See also Maria Elena Buslacchi and Maria Pina Usai, 'A Creative Approach to the Port-City Relationship: The Case of Zones Portuaires in Genoa', *European Journal of Creative Practices in Cities and Landscapes* 4, no. 2 (27 December 2021): 130–51, https://doi.org/10.6092/ISSN.2612-0496/12129.

functionalization Ponte Parodi, the Hennebique building, the dry dock of the Rimorchiatori Riuniti, and the former Porto Petroli offshore platform in front of the Multedo neighborhood. The act of studying these sounds and constructing sound mapping leads the musicians to create new pieces whose structure evokes, in the listener, the unknown geography of underwater space, and the possible connections between human communities and marine species. The sound research is juxtaposed with the visual research led by the photographer Silvia Badalotti, and the investigation is enriched with the data collection and archival materials carried out by the anthropologist Maria Elena Buslacchi. Most of the places mapped within the port are decommissioned, partially active or undergoing transformation and reuse, and this condition of suspended time of use allows for the discovery of new, existing or possible connections between human life and the unexpected colonies of marine and terrestrial biodiversity, which coexist in often unexpected ways within the dynamic coastal port landscape. The idea of the mapping is to return a hybrid narrative capable of attracting the interest of other researchers in the evolution of the project while simultaneously stimulating a shared design reflection on the value of port industrial archaeology, and the possibilities for functional reuse useful for the protection and implementation of coastal biodiversity. With this project *Zones Portuaires* initiates the experimentation of new ways to promote Ocean Literacy, with the aim of contributing to the dissemination of the direct interdependence between humans and the ocean, bringing to the attention of a wide audience, through the language of art, data, information and topics that are usually subject matters of scientific research. In 2022 the project's encounter with the *Corpi Idrici* collective led to evolving the narrative in the meeting of two observations of the coastline, from sea to land and from inland to sea, and the results merge together in the construction of the Immerse map.

## *Corpi Idrici*

*Corpi Idrici* is a research conducted around the city of Genoa and its natural surroundings by a heterodox collective of artists, musicians, dancers, researchers[17] and curated by Anna Daneri during the years 2020 and 2021. It started focusing on the organization of a performance commissioned by Fondazione Feltrinelli in Milan. Its main goal was doing a recognition of the Genoese body waters in collaboration with local collectives that fight to preserve them or to highlight the natural, animal, social or cultural heritage that gravitates around them.

> "It investigates the identity of underground water and discusses the conflicts of its use with video, photography, interviews, and archival research. This process of research and documentation

17 "Corpi Idrici." https://corpiidrici.it/.

> is an attempt to activate critical thinking on the identity of underground water and to address future planning. Moreover, this work aspires to build a possible collective imagery of underground explorations as well as to construct a resisting micro-geography of covered rivers, shedding light on the processes that have led to an increasingly serious environmental crisis." [18]

For achieving the aims just enunciated above, the group has walked the line traced by the old aqueducts that fed the city since roman times till the beginnings of the 20th century; wandered through the galleries that cover the bed of seasonal streams till founding the wild life thresholds that connect them to the sea; introduced and explored the big infrastructures for the evacuation of rain waters during the big flood that periodically hit the city; or taken a swim with the migrant communities that gather themselves in the river that flows between former sand caves of the inner land.

During the period that the research laboratory has taken place, the group organized several encounters with practitioners. The series of lectures have involved scholars from diverse disciplines with a deep focus in the river, coastal and infrastructural setting of the city and in their possible future transformations. One of the initiatives tackled the issue of the most recent floods suffered by the overflowing of Feregiano, Sturla and Bisagno riverbeds in 2011 and 2014. Professor and engineer Marco E. Colombini has traversed the events by explaining the collateral risks of a city built not considering the extreme variations of rainfall events that periodically hit the Ligurian capital. But also, the deficiencies of a hydraulic plan for the city in which the lack of public resources, plans and policies endanger the life of thousands of people during the high rainy seasons. With the Professor Giovanni Besio on its side, the collective traversed the political, military and economic interests that have shaped the Genoese coastline during the last two centuries. And how the new ecological risks and requests can be agents for a better human-nature coexistence in the years to come.

The work of the informal collective has led to the declaration of a *Charter of rights of the water bodies*,[19] a document written in collaboration with the lawyer Lucia Bergamaschi. The charter takes into account the juridical nature of the bodies of water and promotes their preservation, the restoration of their natural state - when and where possible - the liberation of the riverbed from illicit constructions and the access to them. The natural, cultural, ecological and global well-being value that could be achieved by preserving even the minor rivers could, according to the collective, con-

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18 Description of the art and research collective reported on its website. Various articles have been written to deepen in the contents created during the two years research. For example, the one written by Anna Daneri and Nuvola Ravera for *Roots & Routes* (https://www.roots-routes.org/corpi-idrici-a-cura-di-anna-daneri-e-nuvola-ravera/), or the one that the photographers Anna Positano, Gaia Cambiaggi and Nuvola Ravera published in *Anima Loci* (https://animaloci.org/water-bodies/).

19 It is possible to take a further reading of the chart by browsing the section "About" of the online website of the Immerse map. "Immerse." https://medliq.art/immerse/.

trast the hostile impacts that the continuous colonization is provoking in the human, animal and vegetal ecosystems that surround them.

Regarding to the ecological instances investigated by *Corpi Idrici* there is an important story linked to the disappearance of one of the last mouths of a stream, the *rio* Molinassi. Covered by the umpteenth infrastructuralization maneuver of the Genoese coast - the construction of a platform for repairing big cruises boats - an ecosystem of water plants and animals, wild vegetation and migrating birds has been cancelled. And covered by tons of concrete. At the center of this wilder end spot, an ancient boat becomes the narrative element of an experiment which sees the local artist Niccolò Servi developing a creative project on the free movement through water channels and fantastic vehicles to travel them. If we are not interpreting wrong Nico's intuitions, the way to traverse rivers and secondary streams of an inhabited habitat is the construction of a floating device, an airship or a blimp invented 170 years ago. But his reflection goes beyond the simple navigation of the urban watercourses for leisure purposes. It embodies cultural and political aspects of a planetary freedom of movement, the one that could serve to recognize and dignify hidden or forbidden ecosystems and to allow people with lack of resources or will of change to access to the places where their desires have been placed.

On the crossroad of migrations, watercourses, free time and social interactions, the story of the Val Varenna lakes, highlights how the natural heritage can be reinterpreted by the different communities that inhabit the Genoese area. More than a decade ago, groups of Dominicans, Colombians, Ecuadorians, Philippines residents of the city began to move during the weekend to the natural lakes of the Varenna river to spend their free time. Nowadays this action has become a summer tradition in the life of communities that, with water, have a lot in common. The fact that communities, mainly those with a migrant background, manned this natural spot, created a popular and media dissent. We do not know, by the way, if there were political instances - different to those of systemic racism - to blame these social gatherings, because any illegal or illicit practice is at the base of this nowadays tradition. Nevertheless, by participating in these gatherings, we had the opportunity to enjoy several refreshing and funny weekends and, to give back images of what a leisure and non-extractive use of the natural territories can improve the mental and physical health of the citizens of a determined urban realm.

Beyond these explorations, *Corpi Idrici* has made, in the stories remaining, a recognition of the ancient and newer infrastructures for providing and evacuating water in the city. A radiography of Genoa has been taken through the ten stories - *Corpi Idrici*'s and *Zones Portuaires*' ones - that illustrate the Immerse project.


FIG. 3 The "About" panel open and scrolled down to show the credits of the project. Source: Corpi Idrici and Zones Portuaires Genova

## Conclusion

In recent decades, the advancement of the debate on the Anthropocene has coincided with the return of attention to the Ocean by the scientific world and political agendas: as Bruno Latour points out, the Oceans in fact represent a crucial interpretive key of the new climate regime.[20]

In this context, the need to develop alternative modes of investigation, mapping, and communication to traditional tools is now very clear. We need research practices that derive from a holistic observation of context, that not only encompass human society but are capable of overcoming that forced dualism between humans and nature imposed by modern thinking mentioned by Latour,[21] in order to address the complex interrelationships between human activities and ecosystem components.[22] Modalities capable of accepting the uncertainty, complexity, and fluidity of contemporary transformations that are particularly legible in the oceans

20 Latour in Stefanie Hessler, *Prospecting Ocean* (Boston: MIT Press, 2019).

21 Bruno Latour, *Non siamo mai stati moderni*, trans. G. Lagomarsino and C. Milani (Milan: Elèuthera, 2018).

22 See Marshak et al., 'International Perceptions of an Integrated, Multi-Sectoral, Ecosystem Approach to Management'. And see Kelly, Ellis, and Flannery, 'Unravelling Persistent Problems to Transformative Marine Governance'.

and along the coasts, maps and atlases that are not rigid tools incapable of defining unstable landscapes, but rather rest on a flexible critical approach, capable of understanding transformational phenomena by evolving as reality evolves.

With the growing disillusionment on the part of the public with science and politics, reflection on the role of art precisely in relation to science and politics has accelerated, and contemporary art has assumed a preponderant role in the processes of investigation of global transformations, both for its contribution in understanding their dynamics and for its ability to convey knowledge and thus affect social behavior.

The simplest and most common mode of interaction between art and science is when artists support scientists in the dissemination and communication of research, in which case art facilitates public involvement by processing scientific data and results through its own language and serves as a vehicle for the dissemination of knowledge; in a second mode of collaboration, artists interact with scientists by using data and information as constituent elements of an artistic work, but without entering into the scientific specificity of the data or information.[23]

Then there is a third mode of collaboration, which has proven to be particularly relevant in the context of the Atlas and especially in the construction of the Immerse map, namely the bidirectional mode between artists and scientists, a mode that recognizes the inherent similarities in the practices of art and science and focuses on realizing the full knowledge growth potential of the interactions between these two intellectual cultures.[24] This mode of collaboration can take different forms, in each of which the method adopted is not predetermined but is elaborated on the basis of the nature of the research object, is the outcome of the confrontation between artists and researchers, who do not renounce their respective professionalism, skills and knowledge, but rather put them at the service of each other, opening themselves to the possibility of developing new ways of observing reality, experimenting with new approaches and formulating new questions, outside the predetermined patterns of the traditional scientific method.

It is this third mode of collaboration between curators, artists, and researchers that has characterized the research methodology that the *Zones Portuaires* and *Corpi Idrici* collectives have pursued, and which has led to materializing its outcome in the form of a map. A map conceived as a hybrid, multimedia, implementable dissemination tool, navigating within which the user is invited not only to lose his or her sense of geographic

23 Julia Jung et al., 'Doubling Down on Wicked Problems: Ocean ArtScience Collaborations for a Sustainable Future', *Frontiers in Marine Science* 9 (11 May 2022), https://doi.org/10.3389/fmars.2022.873990.

24 See Paterson et al., 'Examining the Potential of Art-Science Collaborations in the Anthropocene'. And see Jung et al., 'Doubling Down on Wicked Problems'.

orientation, but also to overturn his or her perspective on the human-nature relationship, to question what the ways of mutual evolution between humans and non-humans might be, starting from the places where this relationship already exists.

In a recent research held at national level and where the university of Genoa was one of the participants, the forest has been a subject of analysis and measure of the recent urban order. Or disorder. The project, still ongoing, is stimulating a debate in which natural elements are taken as a model for future developments of the infrastructuring of the land, construction of new inhabiting territories, residential housing, public spaces, work habitats, educational facilities. One of the seminars organized, the environmental historian Marco Armiero, professor at the Royal Institute of Technology of Stockholm and director of the Environmental humanities lab, referred to map as an "exercise of power." Nevertheless, he affirmed that maps change depending on who produces them, traverses them or inhabits them.[25]

To establish a collaborative way of mapping the Genoese territory, to traverse the stories that have shaped its urban and natural realms or to inhabit with the communities that everyday fight for finding a spatial definition of their daily needs has been an experience here we have tried to transmit. In 2018, on the occasion of the exhibition *The street. Where the world is made*,[26] Simone Ciglia has written that mapping, in the visual arts field, is expressed according to a prevalent interdisciplinary rationale. And moreover, that among the main strategies of the artistic approach to the universe of the street, walking is the simplest mapping tool.[27]

Of course, the field work conducted to elaborate the Immerse map is connotated by sensations we cannot hold and represent in it. An approach - beyond the digital experience - to the reading of the map is recommended: the promenade in the places that both collectives have summed up. This is the way to encounter, to implement, or to differ on what this article tells.

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25 Marco Armiero, *Wasteocene: Stories from the Global Dump* (Cambridge: Cambridge University Press, 2021), https://doi.org/10.1017/9781108920322.

26 The exhibition *The Street. Where The World Is Made* has been held in MAXXI Roma in 2018-19. Curated by Hou Hanru, the former artistic director, the show displayed more than 200 works of artists, architects and creatives where the street was represented as their sharing and innovation laboratory, just as a manifesto of the continuous mutations of daily life. See Hou Hanru, ed., *The Street. Where The World Is Made* (Macerata: Quodlibet, 2018).

27 Ibid.

Maria Pina Usai is a Ph.D. architect, independent researcher and curator. Her research deals with the dynamics of instability of sea-related landscapes and investigates the coast as a paradigm of contemporary transformations, with a transdisciplinary approach crossing art, science and community engagement. Founder of U-BOOT Lab and MEDSEA Foundation, she has collaborated with the Coastal Conservation Agency of Sardinia and is artistic director of Zones Portuaires Genova and Tunèa.

Juan López Cano is an art historian, architect and PhD graduate. He has been part of Orizzontale studio since 2010. He collaborated with One Works Milan and worked for Doctors Without Borders. He combines his professional activities with academic and publishing activities (vuoto.xyz). His first monograph, 'Urbanità Spontanee' was published by LIBRIA in 2020.

Avital Barak is an art curator and a scholar of movement and performance. Her curatorial work includes exhibitions based on research, public events, and leading transdisciplinary research groups. In the last decade, she curated solo exhibitions and group exhibitions based on research in Israel and abroad and published articles in prominent journals and publications in Hebrew and English. She is a member of the Atlas of Mediterranean Liquidity curatorial committee and the co-curator of the nomadic exhibition accompanying the project.

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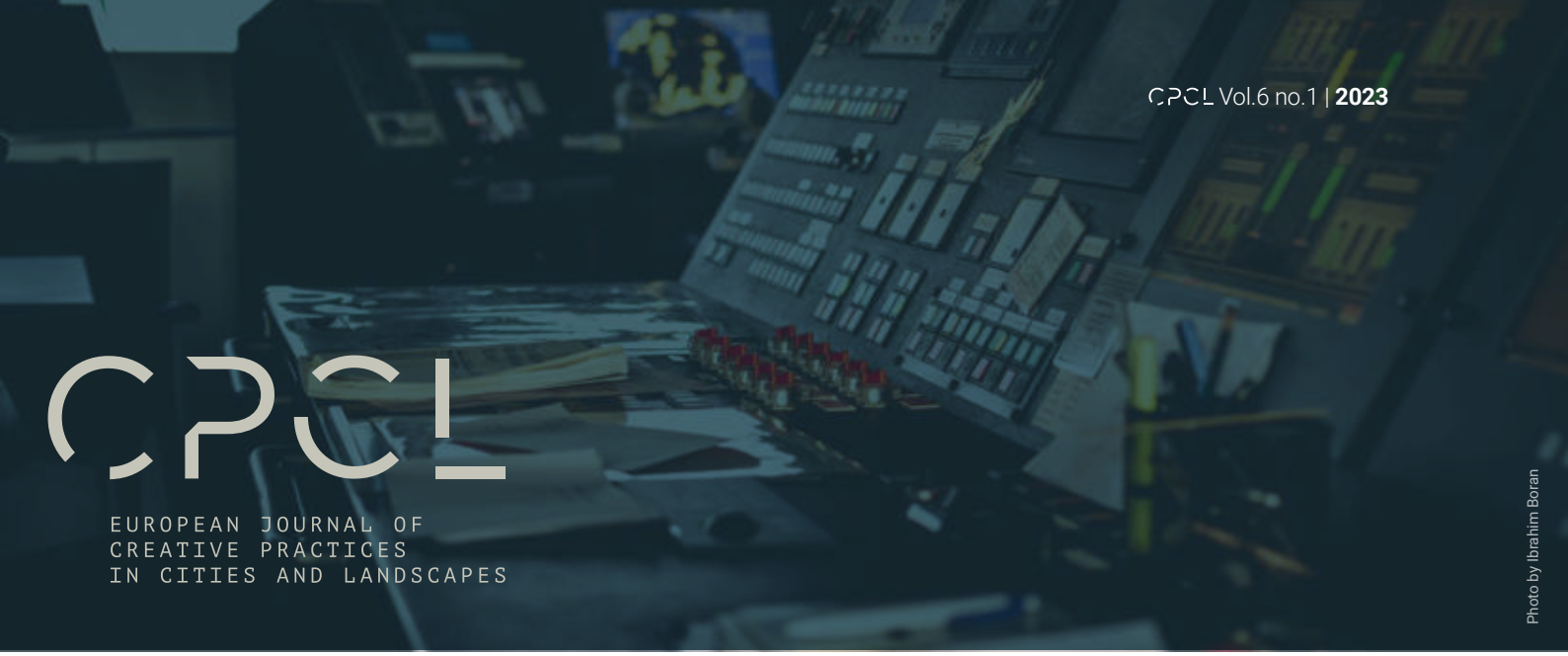

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Photo by Ibrahim Boran

MAIN SECTION

# Towards an Island-based Narrative of the Western Mediterranean Borderscape – Continental Islands as Condensers and Laboratories

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ABSTRACT

This article proposes to contribute towards this aims by analysing through a borderscaping approach the remote micro-islands and enclaves which constitute the Euro-mediterranean Southern border, namely Ceuta, Melilla, the Canary Islands, Gibraltar and the Pelagie islands. The article examines these territories as precursors and testing grounds in the implementation of 'Fortress Europe'; before focusing on their historical role as core of highly-integrated cross-border regions. It concludes on the potential of these territories as testing grounds of novel trans-Mediterranean narratives and political practices.

KEYWORDS

*Euro-Mediterranean Border; Mediterranean Islands; Re-bordering; Post-colonial.*

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## Introduction

*"Nothing reveals the destiny of the Mediterranean better than its islands."* [1]

Whether centred on (cultural, historical, identity) homogeneity or fracture, prevailing narratives of the Mediterranean tend to be prone to oversimplification and polarization, often betraying a Euro-centric mindset. A tendency that has been exacerbated in the past two decades by the rise of unwanted migration, and the ensuing intense and often-times violent re-bordering of the Mediterranean shores and sea. These narratives fail to capture the complexity and variability in time and space of both the described phenomena (re-bordering and de-bordering) and the setting (the Mediterranean Sea). There is a pressing need for a more nuanced, post-colonial narrative to emerge, able to embrace and dissect the complexity of this "cultural pluriverse."[2] This article proposes to contribute towards this aim by using a *borderscaping* and *island-based* approach to studying the bordering phenomena characterizing the Euro-mediterranean Western border. It uses as analytical framework six remote micro-islands and enclaves: Ceuta, Melilla, Gibraltar, Lampedusa, Linosa and Pantelleria.

Section 1 introduces the conceptual and analytical framework of the article. Section 2 defines and describes the common traits used to select the studied territories, grouped under the term "Continent Islands". Section 3 and 4 analyse – through the lens of Continental Islands – the development and overlap of trans-Mediterranean re-bordering and de-bordering phenomena. The final section concludes on the potential of these territories as testing grounds of novel trans-Mediterranean narratives and political practices.

## 1. Conceptual and analytical framework

### 1.1 Conceptual framework: Borderscaping

Borderscaping emerged in the 2010s in the field of border studies as a conceptual framework which focuses on the ideational dimension of borders. Namely, the way a border is enacted socially and spatially (*bordering*) varies in time and space, according notably to the way the border is perceived and experienced.[3] This explains why the current imaginary surrounding border spaces is dominated by narratives of border securitization and militarization, and the rise of an often-racialized discourse criminalizing immigrants (*re-bordering*). Conversely, it implies that everyday practices of border transcendence or resistance (*de-bordering*) contribute to creating alternative experiences and narratives of the border. The latter,

1 Predrag Matvejević, *Il Mediterraneao e l'Europa*, trans. G. Vulpius (Milan: Garzanti, 1998), 11.

2 Paolo Giaccaria and Claudio Minca. "The Mediterranean Alternative", *Progress in Human Geography* 35 (2011): 355.

3 See, amongst others, Chiara Brambilla, "Exploring the Critical Potential of the Borderscapes Concept", *Geopolitics* 20, no. 1 (2015).

in turn, can influence the way the border is enacted, beyond / in opposition to its separating function. *Borderscaping*, as a verb, expresses this transformative potential of human agency. This conceptual framework enables to better encompass and critically question the enactment of border processes, overcoming binary oppositions and polarized narratives.

### 1.2 Analytical framework: Western Mediterranean "Continental Islands"

Etymologically, *borderscaping* interweaves the human bordering processes and the physical space in which they occur.[4] Within the scope of the paper, the latter is the Western Mediterranean, where seascape and borderscape overlap. Traditional analytical frameworks tend to consider the sea space as a mere extension or projection of the land; a two-dimensional space of transit.[5] On the opposite, an island-based approach enables us to challenge this conceptualization, emphasizing the nature of sea spaces as densely *inhabited* and *urbanized* spaces.[6]

This article identifies six remote micro-islands and enclaves which constitute what Ferrer-Gallardo and Kramsh aptly refer to as the Euro-Mediterranean *archipelago frontier*, "a smattering of territorially heterogeneous segments and fragments."[7] These are Ceuta and Melilla (Spanish semi-enclaves in Morocco), Gibraltar (British semi-enclave in Spain), Lampedusa, Linosa, and Pantelleria (Italian micro-islands near the Tunisian coast). As explored in the next section, these territories can be described as "Continental Islands." Due to their proximity to the North African coast, these territories act as both *interfaces* and *outposts* in trans-Mediterranean relations, becoming *catalyzers* and *condensers* of contending de-bordering and re-bordering phenomena. This article uses Continental Islands as a *device* to condense, isolate, and examine these bordering practices.

## 2. Continental Islands – A Conceptual Definition

*"Continental islands are accidental, derived islands. They are separated from a continent, born of disarticulation, erosion, fracture; they survive the absorption of what once contained them."*[8]

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4 Elena dell'Agnese, "New Geo-graphies of Border(land)-scapes," in *Borderscaping: Imaginations and Practices of Border Making*, eds. Chiara Brambilla et al. (Farnham: Ashgate Publishing Limited, 2015), 53-63.

5 Ross Exo Adams, "Mare Magnum: Urbanisation of Land and Sea," in *Territory Beyond Terra*, eds. Kimberly Peters, Philip Steinberg, Elaine Stratford (London: Rowman and Littlefield, 2018).

6 For an in-depth analysis Nancy Couling and Carola Hein. *The Urbanisation of the Sea: From Concepts and Analysis to Design* (Rotterdam: nai010 publishers, 2020).

7 Xavier Ferrer Gallardo and Olivier Kramsch, Olivier. "Revisiting Al-Idrissi: The Eu and the (Euro)Mediterranean Archipelago Frontier," *Tijdschrift voor economische en sociale geografie* 107 (2016): 171.

8 Gilles Deleuze, "Desert Islands," in *Desert Islands and Other Texts* 1953—1974 (New York: Semiotexte, 2004), 9.

Borrowing Deleuze's oxymoron, the term 'Continental Island' (henceforth abbreviated as 'CI') has been used in literature to refer to the enclaves of Ceuta, Melilla and Gibraltar.[9] Munenzon[10] coins the term to define a specific typo-morphologic category of small and mostly autonomous territories, considerably remote from their mainland (exclaves or remote micro-islands), born from and shaped by economic and cultural transnational flows. In this article, the definition of the term is broadened, notably by implementing a borderscaping perspective; and its application is expanded to include Lampedusa, Linosa and Pantelleria. Despite the geopolitical diversity of these territories, they are linked by common historical and geopolitical traits derived from the projection of regional and global geopolitical stakes on small, remote and fragile territories,[11] as examined hereunder.

## 2.1 Historical overview: CIs as pawns in trans-Mediterranean (maritime) flows

The history of Mediterranean CIs is intrinsically intertwined with their role as hubs in trans-Mediterranean maritime flows. In a context where until the 19th century, maritime flows were far more developed than terrestrial ones,[12] their geopolitical influence by far exceeded their very limited size and resources. CIs were crucial both as stopovers in regional and global maritime routes, and as strongholds to ascertain military dominion over a stretch of sea. As such, Melilla, Ceuta and Gibraltar were and are crucial in the control of the Strait of Gibraltar, which is to this day the second most transited strait worldwide;[13] and the Pelagie islands in that of the Strait of Sicily. As such, they played a central role as both political catalyzers and military devices in the successive conflicts between colonial powers. During the Middle Ages, they acted as spearheads both in the Arab conquest of the Iberian Peninsula and Sicily, and in the ensuing Christian counter-offensive. With the acceleration of European global colonialism and its re-orientation towards the African continent, CIs became highly coveted pawns between the main colonial powers.[14].Ceuta and Melilla play a crucial role from the Reconquista onwards in the establishment and de-

9 Keller Easterling, *Enduring Innocence. Global Architecture and its Political Masquerades* (Cambridge (MA): the MIT Press, 2005), 60. Dalia Munenzon, Continental Islands: Ceuta and Gibraltar. A typological research into transactional and partially autonomous territories (MIT Master Thesis, 2016).

10 Ibid.

11 Joseph Martinetti, "Quel rôle aujourd'hui pour les grandes îles en Méditerranée? Une géopolitique «comparée» de l'insularité méditerranéenne," *Cahiers de la Méditerranée*, 89 (2014), 134.

12 Stefania Staniscia, *Islands* (Trento: LISt Lab, 2012), 69.

13 Jesús Rodríguez, "El Desafío del Estrecho". El País, March 20, 2015. www.elpais.com/especiales/ /2015/desafio-estrecho/relato.html.

14 Anne Brogini and Maria Ghazali, "Introduction," in *Des marges aux forntières. Les puissances et les îles en Méditerranée à l'époque moderne*, eds. Anne Brogini and Maria Ghazali (Paris: Classiques Garnier, 2010).

fence of the competing Spanish, Portuguese and later French dominions in Northern Africa. Gibraltar was conquered by the United Kingdom during the Napoleonic Wars, interrupting the Spanish hegemony over the Strait of Gibraltar. The Pelagic islands, for their part, are protagonists during the Italian conquest of Libya and Ethiopia during the Fascist regime.[15]

During the second half of the 20th century, as European colonial dominion retracted, these territories became detached fragments of what once was (at least legally) a border-less whole. In parallel, naval innovations enabled navigators to decrease the frequency of ship refuelling, and hence the need for intermediary ports, drastically remodelling maritime flows. These two concurring phenomena entailed the rapid wane of the geopolitical importance of CIs. No longer the anchor points of global networks of commercial, military and human flows, they found themselves for the first time largely relegated to the role of peripheries, both geographically and politically. As analysed in the following section, the reconfiguration of trans-Mediterranean relations since the start of the 21st century has upturned this situation, partially reviving the centrality of CIs, though within a much different geopolitical context.

To retain some of their appeal as maritime hubs and counterbalance the decrease of traditional income sources (port, fishing, agriculture), all the studied CIs have established advantageous fiscal and legal systems such as low taxes and freeport areas. This is evident in the cases of Melilla and Ceuta, which substantially function as points of entry of low-tax European products in the Moroccan market.[16]

The other main source of economic income is tourism. Taking advantage of their warm climate, beaches and low-cost flights, the studied CIs have (with varying success) rebranded themselves as exotic touristic destinations. As throughout the Mediterranean basin, intensive tourism has been linked with disruptive changes to these territories' fragile economy, built fabric, and (ultimately) identity, re-oriented towards the needs and expectations of tourists.[17]

15 Giacomo Orsini, Andrew Canessa and Luis G. Martinez del Campo. "Small Territories/ Big Borders: Gibraltar, Lampedusa, and Melilla," in *Barrier and Bridge: Spanish and Gibraltarian Perspectives on Their Border,* ed. Andrew Canessa (Sussex: Sussex Academic Press, 2018).

16 Xavier Ferrer-Gallardo and Ana Planet-Contreras, "Ceuta and Melilla: Euro-African Borderscapes", *Agora* 12, no. 4 (2012).

17 Staniscia, *Islands*, 52.

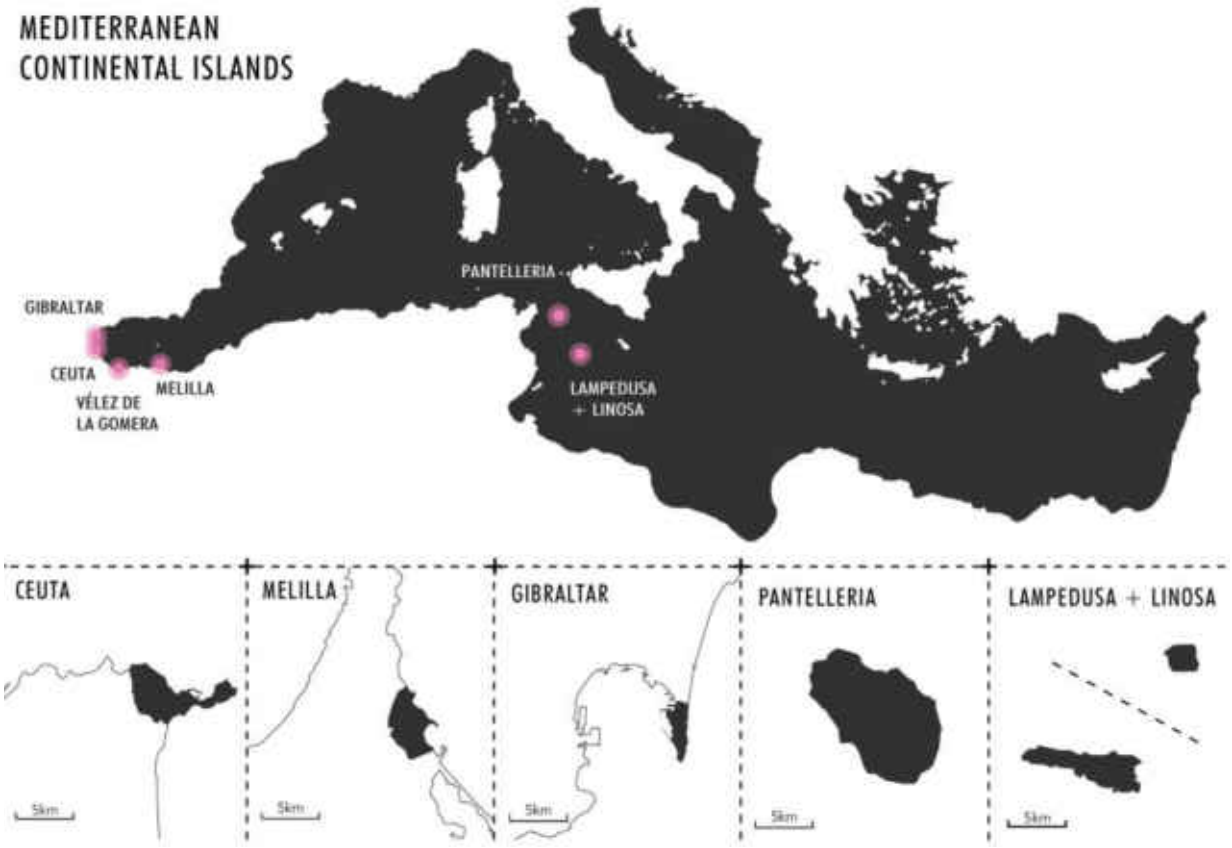


FIG. 1 Legend. Source: author's elaboration

## 2.2 Border imaginaries: Cis and identity-defining narratives

> *"As an island […] it is endowed with the indispensable elements for the construction of a mythology: it is small, it is threatened, it has to be protected, it is finite – an enclave – it is unique."*[18]

An intrinsic characteristic of isladness (as defined by Staniscia[19]) and its inherent introversion and isolation is the development of a strong identity, distinct from both its hinterland and its mainland. An identity which is often composed of a distinct language or dialect, identity-defining narratives and myths. The military disputes to which they gave rise, the feeling of David resisting against Goliath, has been a determining element in shaping CIs' self-narrative, and reinforcing their bond with the mainland. In this sense, Gibraltar is exemplary: in its recent history, it has overwhelmingly voted twice to stay under full British sovereignty, with 99.64% in 1967, and 98.97% in 2002.[20]

Yet, in the general narratives this individual identity is overshadowed by

18 Rem Koolhaas, "Singapore Songlines: Portrait of a Potemnkin Metropolis […] or Thirty years of Tabula Rasa". In *S M L XL*, ed. Rem Koolhaas, (Cologne: Taschen, 1995), 1008.

19 Staniscia, *Islands*, 40.

20 Peter Gold, *Gibraltar: British or Spanish?* (Oxford: Routledge, 2005).

the mainland's disproportionate projection of its own identity and national pride over CIs. Their fragility, military vulnerability and elevated exposition to international human flows turns them into easy footholds to (polarised) narratives on (threatened) borders, "race, national identity and strangers."[21] Though not a Mediterranean CI, the Falkland war should be referred to. Its importance was so overblown that the British Prime Minister Thatcher stated that its victory enabled the "Great" to be put back into "Great Britain."[22] To this day, the three studied semi-enclaves (Ceuta, Melilla and Gibraltar) are actively disputed between their mainland and their hinterland. Political tensions have more than once escalated to military interventions, most recently the short-lived Moroccan invasion of the Spanish Perejil island in 2002. As examined hereunder, within the contemporary Mediterranean context, these re-bordering dynamics are disproportionately projected on unwanted migratory flows.

## 3. Re-Bordering: Continental Islands as Theatres to "Fortress Europe" Enactment

Since the turn of the century, two main factors have come to drastically re-shape trans-Mediterranean relations. First, in the aftermath of 9/11 and the rise of jihadism in the Sahel region, the USA and NATO have re-instated their military presence in the Mediterranean, causing the specular militarization of the Moroccan coast.[23] Second, the exponential rise in unwanted migration has led border securitization to become the dominant aspect of Mediterranean geopolitics. Both these phenomena have revived the geopolitical centrality of CIs. This is illustrated notably by the active role that their military bases played during the intervention of NATO in Libya in 2011.[24]

### 3.1 CIs as principal theatre of the 'immigration crisis'

Within the context of unwanted migration, CIs have regained their role as hubs in trans-Mediterranean human flows. Their proximity to the North African coasts turns them into "extraterritorial gateways"[25] to Europe, more easily accessible points of entry in migration routes. The objective smallness and fragility of these territories means they are easily overwhelmed by relatively large flows of migrants, which they are not given the necessary resources to welcome. This, coupled with the increase in dramatic

21 Klaus Dodds and Stephen A. Royle, "The Historical Geography of Islands. Introduction: rethinking islands," *Journal of Historical Geography* 29, no.4 (2003): 492.

22 Ibid., 491.

23 Rodríguez, «El Desafío».

24 Martinetti, «Grandes îles,» 11.

25 Munenzon, *Continental Islands*, 52.

causalities caused by the re-bordering process, has turned CIs into the sadly perfect stage for "sexy, crisis-riddled media topics, such as boat arrivals and shipwrecks."[26] These images are easily manipulated to illustrate polarized and inflated narratives on immigration, particularly ones which present a Europe overwhelmed (if not invaded) by huge flows of unwanted immigrants. Elevated to the role of "monument to the margins of the nation,"[27] CIs have unwittingly become the highly publicized symbol of the 'migration crisis' brought to its paroxysm; the backdrop to the too often deadly confrontation between hegemonic border enforcement and counter-hegemonic border transcendence. The iconic status of CIs was confirmed by the visit of Pope Francis to Lampedusa in 2013, a visit especially meaningful considering it was the first since he ascended to the throne.[28]

The case of Gibraltar differs from the other studied CIs, since its asylum system is separate from the UK. Hence, Gibraltar does not function as extraterritorial gateway towards the UK. Furthermore, the peninsula is very difficult to be reached using illegal boats, since most of its littoral is made of cliffs. Instead, the way Gibraltar is used in migration routes, is as access point towards Spain: having obtained a tourist Visa, illegal migrants reach Gibraltar by ferry or plane, before being smuggled into Spain.[29]

CIs further condense the paradoxical and cynical juxtaposition between unwanted migratory flows and touristic ones which have come to characterize the Mediterranean borderscape. Considering the vital importance of tourism, locals have quickly learnt how to orchestrate these two human flows to minimize overlap.[30] Nevertheless, these processes do not prevent the spontaneous sprouting of local solidarity networks throughout CIs. Lampedusa is iconic in this regard: its population's engagement in sea rescues and first aid was crowned by numerous awards, including a nomination for the Nobel Peace Prize in 2014.[31]

## 3.2 CIs as testing grounds in the construction of "fortress Europe"

Mediterranean CIs served as precursors and testing grounds for the implementation of several of EU's tangible and intangible border filtering mechanisms commonly referred to as "Fortress Europe." The sadly iconic twin wired fences which run along the terrestrial border of Ceuta and

26 Alison Mountz, "Invisibility and Securitization of Migration, Shaping Publics through Border Enforcement Islands," *Cultural Politics* 11, 2 (2015): 158.

27 Munenzon, *Continental Islands*, 50.

28 Marxiano Melotti, "The Mediterranean Refugee Crisis: Heritage, Tourism, and Migration," *New England Journal of Public Policy* 30, no. 2 (2018): 13.

29 Royal Gibraltar Police, "Joint RGP Policia Nacional Operation dismantles Migrant Smuggling Organised Crime Group". January 14, 2020 www.police.gi/news/joint-rgp-policia-nacional-operation-dismantles-migrant-smuggling-organised-crime-group-297.

30 Melotti, "Refugee Crisis", 14.

31 Ibid, 12.

Melilla, built in the early 90s, are the precursors of the border fences built by seven member states in Eastern Europe.[32] Likewise, Ceuta and Melilla were among the first places where the Spanish SIVE (Sistema Integrado de Vigilancia Exterior) was implemented, a remote detection system aimed at controlling territorial waters. The SIVE was later extended to great lengths of the Spanish Southern coast, and served as model for the EU-wide EUROSUR (European Border Surveillance System).[33] Likewise, FRONTEX naval border protection operations were deployed to replace and expand geographically Italy's Mare Nostrum, a sea rescue mission launched in 2013 following a dramatic shipwreck off the Lampedusian coast.[34]

Even more alarming, CIs are the stages of systematic violence and breaches to migrant human rights. Though this is a recurring phenomenon throughout Europe, CIs are particularly susceptible to these breaches, first because of the sheer quantity of flows, and second because States take advantage of the remoteness from public scrutiny. Thanks to bilateral agreements, in Ceuta, Melilla and the Pelagie islands, migrants are repatriated en masse before being registered (also called hot push-back), violating national and international law.[35]

## 3.3 CIs as territory-scaled 'limboscapes'

Mediterranean re-bordering practices confront migrants with "several processes of physical, political, mediatic, and aspirational stillness and interruption."[36] These take a physical, territorial dimension in CIs. In the past two decades, CIs have become "buffer zones" where migrants undergo the lengthy (sometimes year-long) European in/exclusion screening process far away from the public eye. This mechanism well testifies Europe's strategy of invisibilization of migration, and its progressive externalisation to the periphery of and outside Europe. CIs thus become what Ferrer-Gallardo and Albet-Mas, referring to Ceuta, have dubbed territorial-scale limboscapes: "a transitional zone, a threshold or midway territory between two different borders, where the migrants' trajectories towards the 'European-EU' are spatially and temporally suspended, confined."[37] It is in this context that CIs geopolitical ambiguity is most violently expressed: migrants are geographically, legally and psychologically in a territory-scaled

32 Greece, Bulgaria, Hungary, Slovenia, Austria, Croatia and Lithuania. Migreurop, *Atlas des Migrants en Europe*. 3rd ed. (Paris: Armand Colin, 2017), 107.

33 Ibid., 86.

34 Ibid., 113.

35 Ibid, 68.

36 Laura Lo Presti, "Like a Map Over Troubled Water: (Un)mapping the Mediterranean Sea's Terraqueous Necropolitics," *E-flux journal* (2020): 4.

37 Xavier Ferrer-Gallardo, Abel Albet-Mas, and Keina Espiñeira, "Euro-African Invisibilisations in the Border(land)scape of Punta Tarifa". In *Borderscaping: Imaginations and Practices of Border Making*. eds. Chiara Brambilla, et al. (Farnham: Ashgate Publishing Limited, 2015): 528.

grey zone, neither fully in, nor out of Europe. CIs hence become one further gradient in Fortress Europe's multi-scalar system of borders: buffer zones of the coastal mainlands, which in turn act as buffers to the interior EU States.

In this regard, in 2021, the (immediately withdrawn) proposition by the British Home Secretary Priti Patel to send migrants to Gibraltar or the Channel Islands while their asylum demands are being processed[38], resonates as a bleak proof of the role Europe would gladly assign to its CIs in migration management. A model inspired by the Australian and American use of extraterritorial and/or remote islands to detain migrants.[39]

Hence, CIs can be read as the tangible manifestation of a complex web of re-bordering processes which have turned the Mediterranean into a vast and legally opaque border space. This has not succeeded in reducing flows, but rather in making the trans-Mediterranean journey more dangerous and dominated by human trafficking networks, turning the Mediterranean and its shores into what Lo Presti's describes as a *terraqueous necropolis.*[40]

## 3.4 CIs as Foucauldian mirrors

CIs historically emerges as the projection of a State where it would otherwise be absent. A projection of its sphere of influence, a form of extraterritorial sovereignty. This legislative, and (more importantly) ideational projection can be read through the metaphor of the Foucauldian mirror. In his article "of Other Spaces," Foucault describes the mirror, as "a form of utopia, in that it is the non-place of a place. In the mirror, I see myself in a place where I am not,"[41] a description which well resonates with CIs. The mirror metaphor is particularly meaningful if applied to the type of attitudes and narratives which too often dominate trans-Mediterranean geopolitics. Attitudes based on EU's "chronic inability to see the 'Other' other than as a reflection of the European Same."[42]

Once again, CIs act as condensers of these dynamics. The reticence of Spanish authorities to give citizenship to Muslim Ceutans and Melillans until the mid-1980s is telling. Similarly, it is no surprise that the increasing share of Muslim inhabitants in Ceuta is considered as a threat to local and

38 Peter Walker, "UK Considers Sending Asylum Seekers Abroad to be Processed," *The Guardian*. March 18, 2021. www.theguardian.com/uk-news/2021/mar/18/asylum-seekers-could-be-sent-abroad-by-uk-to-be-processed.

39 Mountz, "Invisibility and Securitization," 178.

40 Lo Presti, "Terraqueous Necropolitics."

41 Michel Foucault, "Of Other Spaces," *Diacritics* 16, 1 (1986): 23.

42 Ferrer Gallardo and Kramsch, "Revisiting Al-Idrissi," 156.

national identity by many inside and outside the city.[43] This phenomenon is not limited to the Spanish enclaves: Gibraltar's Moroccan population faces severe difficulties in obtaining local citizenship and equal treatment, despite the territory's self-narrative of tolerance and inclusivity.[44]

Yet, CIs aren't (nor were historically) solely spaces of re-bordering. On the contrary, as analysed in the next chapter, they were historically at the core of highly integrated cross-border regions.

## 4. De-Bordering: Continental Islands as Imperfect Interfaces

### 4.1 CIs as cores of virtually borderless regions during the 20th century

What makes Mediterranean CIs specific within the wider panorama of trans-Mediterranean interaction, is that they have been in the very recent past the core of cross-border regions, where – given European colonialism in Northern Africa – the border was very porous, and cross-border interaction and integration was strong. For most of the last century, the analysed CIs were spaces of exchange, active co-habitation, and interface with the neighbouring North African hinterland. Cross-border living was common, as were cross-border families, creating cultural, identity and family ties. This situation was drastically modified with the entrance of CIs in the Schengen area and the ensuing re-bordering. The most integrated regions were (and continue to be) the ones orbiting around Ceuta and Melilla. Indeed, from 1912 to 1956 (Morocco's independence), Northern Morocco was part of the Spanish protectorate of Morocco, and the border between the enclaves and their respective hinterland was extremely porous. This was a period of intense migration and integration, from which Ceuta's and Melilla's vast Moroccan communities mainly originate. Even after Morocco's independence, the border continued to be porous. It was drastically re-established in 1985, when Spain joined the EU. Many Moroccan residents who didn't have Spanish citizenship and couldn't prove that they had been long-term living in Spanish territory were forced to leave, causing uprisings.[45] Notwithstanding the borders' successive hyper-militarization, both regions continue to be highly integrated.

The Strait of Sicily islands (Lampedusa, Linosa, and Pantelleria) also enjoyed a virtually inexistent border with Tunisia from 1868 to World War II, under the Trade and Negotiation Agreement. Sicilian fishermen could freely fish in the waters of Tunisia and use its ports and beaches. Many fisher-

43 Xavier Ferrer-Gallardo, "Territorial (Dis)Continuity Dynamics Between Ceuta and Morocco: Conflictual Fortification Vis-à-vis Co-operative Interaction at the EU Border in Africa," *Tijdschrift voor economische en sociale geografie* 102 (2011), 28.

44 Giles Tremlett, "Between the Rock and a Hard place," *The Guardian,* March 28, 2009. www.theguardian.com/money/2009/mar/28/work-discrimination-gibraltar-morroco.

45 Xavier Ferrer-Gallardo, "Territorial (Dis)Continuity," 28.

men would migrate seasonally to Tunisia, others permanently. Cross-border interaction slowed down following the decrease of fishing in favour of the tourism industry in the 1980s. The border was reinstated when Italy joined the Schengen area in 1990 and heavily deployed security forces in the following decade. Today, cross-border interaction is reduced to the minimum, though cross-border fishing persists (despite its being illegal).[46] If Gibraltar's cross-border integration with Spain is more evident, the one with Morocco is far from being uninfluential. During World War II, when the Gibraltarian civilian population was evacuated, 13,500 Gibraltarians were initially sent to Morocco (then a French protectorate), before being displaced when France surrendered to Germany. Following the closure of the border with Spain in 1969, ca. 2,600 Moroccan workers emigrated to Gibraltar to compensate for the loss of the Spanish workforce.[47] If many have returned to Morocco following the border re-opening in 1982, others have stayed, and today 1.6% of Gibraltar's residents are Moroccan.

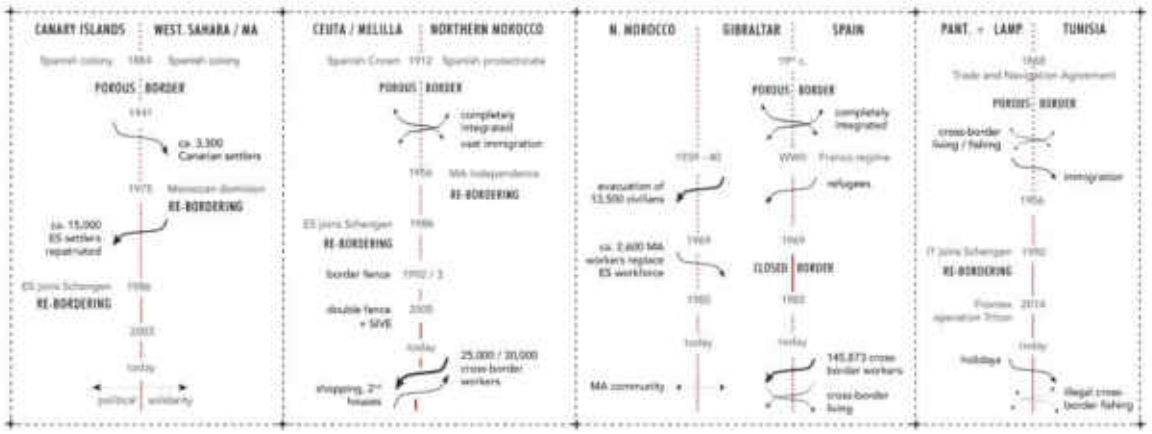


FIG. 2 Legend. Source: author's elaboration

## 4.2 CIs as imperfect interfaces

Today, despite three decades of re-bordering practices, some cross-border interaction inherited from the past century has persisted, not the least because CIs are dependent on cross-border flows and workforce. Thus, CIs embody the paradoxical tension between border securitization and permeabilization. Despite being selective and unbalanced, these human and economic flows engender nonetheless cross-border integration transcending (in)tangible borders. Ferrer-Gallardo[48] identifies four interlinked forms of integration: labour, economic, co-operative and social. Workwise, despite sometimes high unemployment rates, the analysed CIs tend to have a stronger economy than their hinterland, and a high demand for unqualified labour, creating an attractive cross-border labour market.

46 Orsini, Canessa and Martinez del Campo, "Small Territories/Big Borders," 38.

47 Gold, *Gibraltar*, 185.

48 Ferrer Gallardo, "Territorial (dis)continuity".

Economically, reciprocal advantage creates legal and illegal cross-border flows from which, to some extent, both sides of the border profit. Politically, despite geopolitical skirmishes, national and local authorities are forced to co-operate on everyday matters ranging from tax payment and healthcare provision for cross-border workers (in the case of the three enclaves) to cross-border infrastructure. Socially, cross-border living, marriages, and media inevitably lead to reciprocal contamination and the deconstruction of some cultural barriers and othering narratives.

What is of particular interest from the borderscape perspective, is how this integration is made possible by the emergence of mainly bottom-up border-specific solutions and realities, which resist or ignore wider political tensions. This confirms the role of CIs' as incubators of alternative, counter-hegemonic practices and imaginaries. Morocco's collaboration in securing the Melillan and Ceutan border, and its tolerance of cross-border flows, is in this sense telling, considering that it officially doesn't even recognize these borders.[49]

## Conclusion: CIs as Fertile Terrain for the Creation of an Alternative Mediterranean Narrative

Continental Islands emerge as a trans-Mediterranean contact zones, which – despite the exponential increase in military, geopolitical and ideological re-bordering – have retained part of their historical role as interfaces. Analysing local cross-border practices enables to give a more nuanced narrative of the region's borderscape, providing a fertile terrain for the creation of novel imaginaries. They act as laboratories proving the feasibility of basing trans-Mediterranean relations on pragmatic co-operation and co-habitation, rather than solely on uneven and Euro-centric politics centred on border securitization. Naturally, this by no means excludes socio-political and cultural discontinuities, but puts them in perspective. Whilst beyond the scope of this article, this theme would deserve further study, analysing best case practices and policies frameworks.

In this regard, CIs have the potential to fulfil the role which Ferrer-Gallardo and Kramsch yearn for the Southern Mediterranean archipelago-frontier: a "space of […]dialogue with Europe's extra-territorial Other,"[50] "less as an object to be acted upon by an external power (be it the EU or any other hegemon), less as a border between sovereign geopolitical blocs, than as a frontier made up of islands, an archipelago-frontier capable of assimilating forces and energies from either side without being reduced to them in any singularity."[51]

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49 Ibid., 29.

50 Ferrer Gallardo and Kramsch, "Revisiting Al-Idrissi," 172.

51 Ibid., 167-168.

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MAIN SECTION

# Convergence and Divergence in Mediterranean Port Cities

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ABSTRACT

The history of the Mediterranean region and its port cities is crucial in understanding the origin and development of many modern societies. These cities have always been characterized by their interdependent relationships, forming an essential part of a system of crucial regional and international routes, made possible and enriched by the sea. Simultaneously, these cities have been able to preserve their urban values while continuously adapting to new requirements and circumstances, making them ideal case studies of urban resilience. Despite their decisive role in the emergence of the global economic system, these cities have received little attention from the humanities and social sciences. This article aims to consider the Mediterranean port cities in relation to their historical context, their urban model, and their intrinsic and shared conditions. For this purpose, a narrative literature review is developed, with reference authors on this topic. Additionally, fiction resources are explored as a complementary research method based on the intersections between description and invention in three projects focused on the Mediterranean region and its port cities.

KEYWORDS

*Port Cities; Fiction; Mediterranean; Urban Resilience; Urban Values*

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## Introduction

According to Kären Wigen,[1] the history of the Mediterranean region, and particularly its port cities, is essential to understanding the origin and development of many modern societies. Since ancient times, these cities have been characterized by their interdependent relationships, made possible and enhanced by the sea, as part of a larger system of urban centres, important regional and international routes, nodal points, and lines of force.[2] They have also been characterized by their ability to find a balance between the preservation of their urban values and the adaptation to external requirements and influences,[3] making them paradigmatic case studies of urban resilience in recent processes of globalization.[4] Despite their pivotal role in the emergence of the global economic system and their status as significant examples of urban resilience, these cities have received limited attention from the humanities and social sciences.[5]

The objective of this article is to investigate Mediterranean port cities in terms of their history, what defines them as an urban model, and their inherent, shared characteristics. To achieve this, we aim to adopt an exploratory and multidisciplinary approach, combining references from the humanities, particularly history and urban history, with fields such as anthropology and sociology. We'll also draw from the realm of fiction, as we believe that this cross-pollination of diverse perspectives will yield a more comprehensive and nuanced analysis.

In the first part, we present a narrative literature review that encompasses references from authors from various academic backgrounds and disciplines. In this part, we delve into the port city model and its intricate relationship with the sea. We also examine the ship's dual nature as both a cultural artifact and architecture. In the second part, we explore the potential of fiction as a complementary research tool, underscoring the capacity for interdisciplinary interaction between science and art in the comprehension and representation of these subjects. The article then takes shape by examining three fictional precedents, three journeys centered around the Mediterranean. These narratives allow us to view these cities from a relational perspective, considering their connection with the sea and their interplay among various urban settlements, where the port serves as a pivotal intermediary.

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1 Jerry H. Bentley, Renate Bridenthal and Kären Wigen. ***Seascapes: Maritime Histories, Littoral Cultures, and Transoceanic Exchanges*** (University of Hawaii Press, 2007).

2 Fernand Braudel, ***The Mediterranean and the Mediterranean World in the Age of Philip II*** (New York: Harper & Row, 1972).

3 Henk Driessen, "Mediterranean Port Cities: Cosmopolitanism Reconsidered," ***History and Anthropology 16, no. 1 (2005):*** 129-141.

4 Fortuna De Rosa and Maria Di Palma, "Historic Urban Landscape Approach and Port Cities Regeneration: Naples between Identity and Outlook," ***Sustainability*** 5, no. 10 (2013): 4268-4287.

5 Driessen, "Mediterranean Port Cities".

## The white middle sea

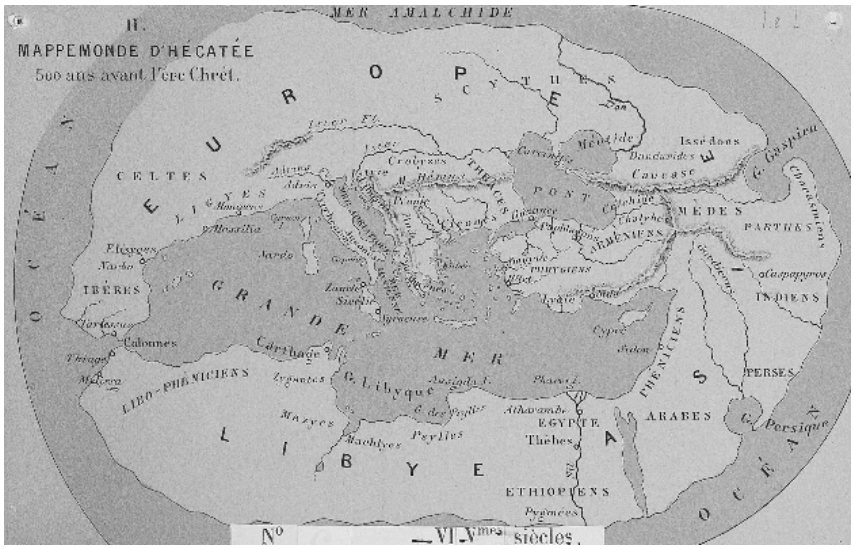


FIG. 1 Vivien de Saint-Martin, Reconstruction of Hecataeus' World Map 500BC. Source: https://blog.bge-geneve.ch/musee-cartographique/

*Dame el mazál e ecame a la mar*
[Wish me good luck and throw me into the sea]
Ladino saying

*Al-Bahr al-al-Abyad Mutawassit* is the Arabic name for the Mediterranean, which literally means "the Middle White Sea." This body of water has had a long-standing historical significance in connecting the three ancient continents. Positioned at the very heart of the known world, this centrality is exemplified by Hecataeus' map dating back to 500 BC (Fig.1). During the archaic period, the Mediterranean played a central role in shaping social dynamics and world relations, associated with civilization itself. In the words of Michel Gras: "the closer someone is to the sea, the closer they are to the heart of civilization".[6]

Several urban centres have developed around it through commercial exchanges as well as the circulation of people and ideas. In the case of the western Mediterranean, as Braudel mentions,[7] it is clear that the major cities were all located by the sea, the most important route of all. It is in these interdependent relationships, which have progressively intensified, that the richness of the Mediterranean lies, and which will have consequences in all fields of social, religious, and economic life in the region.[8] Braudel discusses a human unity of the Mediterranean,[9] resulting from a network of land and sea routes, urban centres, and communication lines.

6 Michel Gras, ***El Mediterráneo Arcaico*** (Madrid: Alderabán, 1999), 7.

7 Braudel, ***Mediterranean.***

8 Gras, ***Mediterráneo Arcaico.***

9 Braudel, ***Mediterranean.***

However, the sea that connects also separates. According to Henk Driessen,[10] the accelerated process of European Community integration, the abolition of internal borders, and the reinforcement of external borders have accentuated the division of these populations. A political and economic abyss has formed on its margins, as well as an ideological barrier, perceived by the contrast between democracy and totalitarianism, between secularism and a political-religious model, which has boosted a growing exodus from south to north.

## Mediterranean port cities

FIG. 2 Izmir quay, Turkey c.1920. Source: https://www.loc.gov/item/2009633138/

There has been a historical trend towards the concentration of people, power, and social and cultural capital in port cities, a process that still occurs today.[11] Port cities such as Izmir, Alexandria, Athens, Algiers, Beirut, Tel Aviv, Naples, Genoa, Marseille, or Barcelona are places where land use is very intense and where important regional, national, and international communication networks intersect. The subsistence of these cities has always depended not only on controlling the physical space where these networks are located, but also on their continuous adaptation and transformation in relation to new circumstances.[12]

Until the 19th century, the technology for loading and unloading ships remained the same as that used since the beginning of modern times,

10 Henk Driessen and Mireia Bofill Abelló, "La puerta trasera de Europa. Notas etnograficas sobre la frontera húmeda entre españa y marruecos," ***Historia y Fuente Oral***, no. 12 (1994).

11 Driessen, "Mediterranean port cities".

12 Braudel, ***Mediterranean.***

which allowed the persistence of the port city model. As Dirk Schubert points out,[13] it was not about "cities with ports," but rather a particular model of symbiosis between the sea, the port, and the urban settlement.

However, with the advent of the 20th century, the rapid growth of commerce and industry required significant expansion of these port cities. Towards the end of the 19th and into the 20th century, larger ports underwent reconstruction, introducing linear docks to accommodate steamships, warehouses, and railway terminals. The pressures of commercial and industrial growth drove these ports to extend beyond the confines of densely populated urban areas, where space was limited and tightly hemmed in by the sea and mountainous terrain. The period from 1960 to the 1980s marked an additional phase of separation between the port and the city due to emerging technologies such as containerization and roll-on/roll-off facilities. These innovations required more space for storage and, at the same time, less labour, intensified the separation between port and city.[14]

Since 1970, there has been a process of urban renewal in the areas of the old ports in the largest port cities of the Mediterranean. Cases like Valencia, Barcelona, or Marseille are successful examples of overcoming the post-industrial crisis and reactivating relations between port and city, demonstrating great capacity for adaptation and resilience.[15] The challenge lies in achieving a delicate equilibrium between urban and economic development, often referred to as regeneration, and the safeguarding and enhancement of the distinctive local characteristics. This process has also paved the way for new avenues of development in contemporary cities, as exemplified by the work of De Rosa and Di Palma.[16]

Despite the role that port cities, particularly Mediterranean ones, have played in the emergence of the global economic system,[17] it is notable that they have received relatively scant attention from the fields of humanities and social sciences, as highlighted by.[18] This oversight is somewhat surprising, given that these port cities have served as essential hubs in networks vital for connecting diverse regions for over two millennia.

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13 Dirk Schubert, "Transformation Processes on Waterfronts in Seaport Cities: Causes and Trends between Divergence and Convergence," in *Port Cities as Areas of Transition: Ethnographic Perspectives*, ed. Waltraud Kokot, Mijal Gandelsman-Trier, Kathrin Wildner and Astrid Wonneberger (Bielefeld: Verlag, 2015).

14 Driessen, "Mediterranean port cities".

15 De Rosa and Di Palma, "Historic Urban Landscape".

16 De Rosa and Di Palma, "Historic Urban Landscape".

17 Bentley, Bridenthal and Wigen. *Seascapes*.

18 Driessen, "Mediterranean port cities".

## Conditions of vitality

What specific attributes distinguish these cities as exemplary instances of urban resilience? By delving into the works of Fernand Braudel,[19] Dirk Schubert,[20] and Henk Driessen,[21] [22] we aim to formulate a hypothesis based on three essential attributes, which we have termed "conditions of vitality." These attributes appear to have played a pivotal role in shaping the extended historical existence and ongoing adaptability of these coastal urban settlements.

**Transience.** According to Fernand Braudel,[23] the first condition of Mediterranean port cities is their structural mobility, their contact with a network of interdependencies between the coast and the interior, in which the port plays a pivotal role.

Braudel emphasizes that if there is any unity in the Mediterranean, it is a unity defined by human activities and the connections formed among people. The Mediterranean should then be seen as a complex network, where the most vital movements occur by sea but complemented by important land routes extending into the continent. It's precisely at the juncture of these two routes that port cities emerge, functioning as key nodes along these channels. Matvejevic even proposes a unique bond among port cities, conceivably more potent than their ties to their respective countries.[24]

These channels facilitate the flow of diverse elements such as trends, conflicts, technologies, epidemics, and trade goods through these cities, factors that not only influenced social and cultural dynamics but also contribute to the configuration of urban landscapes.[25] As Braudel observes, these cities have historically served as conduits for a wide range of commodities, individuals, and information, forming what François Ascher[26] terms the BIP mobility system—mobility of goods, information, and people—operating on regional, national, and international scales.

**Plurality.** Port cities have been the culmination of economic, social, and cultural innovations, due in part to their plurality.[27] They are places of contrasts, where poverty and wealth, tradition, and modernity, the foreign and the familiar, the local and the exotic meet. Schubert characterizes these urban centres as meeting grounds for interactions with foreign cultures, encompassing arrivals, departures, and residents. Those who choose to

19 Braudel, *Mediterranean.*

20 Schubert, "Transformation Processes on Waterfronts in Seaport Cities".

21 Driessen and Abelló, "La puerta trasera de Europa".

22 Driessen, "Mediterranean port cities".

23 Braudel, *Mediterranean.*

24 Predrag Matvejevic, *Mediterranean: A cultural landscape* (Berkeley: University of California Press, 1999).

25 Braudel, *Mediterranean.*

26 François Ascher, *Les nouveaux principes de l'urbanisme* (Avignon: Editions de l'Aube, 2001).

27 Schubert, "Transformation Processes on Waterfronts in Seaport Cities".

settle often retain their distinct identities, finding their place in a multifaceted social framework where opposites coexist.

A clear case is that of ethnic plurality, visible in the enclaves of Jews, Greeks, and Armenians, who for many generations have lived in these cities, acting as intermediaries in long-distance trade, "which opened opportunities for the development of ethnic economies".[28] In many Mediterranean ports, these ethnical communities introduced their unique lifestyles, culinary traditions, work practices, and housing arrangements, while they were often perceived as exotic in the surrounding inland regions.

The port districts were often stigmatized as unsafe and morally questionable, but simultaneously they provided newcomers with a crucible for informal adaptation processes and the development of ethnic economies, as referred by Schubert.[29] Multilingualism was a common feature among the residents of these cities, with many individuals fluently speaking in at least three languages, a clear indication of the extensive cultural connections these cities fostered.

**Porosity.** The idea of porosity[30] refers to the capacity of these cities to absorb certain external influences and make them their own, without losing their initial form. Porous materials absorb external elements they encounter, retaining some while rejecting others, all the while maintaining their original form. Similar processes occur within urban settlements, particularly in these port cities. Chambers[31] emphasizes this quality in the history of Naples in a chapter named A Porous Modernity. As she notes, in Piazza Bellini, you can see both the ancient Greek walls and the prevalence of Baroque architecture, along with the aging and irregular paving of historic streets and alleys, "with its violent mixture of antiquated street customs and global design capitalism".[32]

Another illustration of this porosity is provided by Malte Fuhrmann,[33] who discusses the ability of cities from the former Ottoman Empire, such as Thessaloniki and Izmir, to quickly adapt and embrace predominantly Western references after the empire's collapse. These cities, where the primary *raison d'être* was their role as commercial intermediaries for an extended period, began to incorporate aesthetic concerns, such as urban landscapes with elements of symmetry and regularity. Such shifts were accompanied by changes in lifestyle, such as the recreational use of the city, seaside promenades, and cultural influences such as fashion, clothing, opera, theatre, and the introduction of beer as a consuming habit.

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28 Schubert, "Transformation Processes on Waterfronts in Seaport Cities," 27.

29 Schubert, "Transformation Processes on Waterfronts in Seaport Cities"

30 Driessen, "Mediterranean port cities".

31 Iain Chambers, *Mediterranean Crossings: The Politics of an Interrupted* (London: Duke University Press, 2008).

32 Chambers, *Mediterranean Crossings*, 73.

33 Malte Fuhrmann, *Port Cities of the Eastern Mediterranean: Urban Culture in the Late Ottoman Empire* (Cambridge: Cambridge University Press, 2020).

## The ship as a city

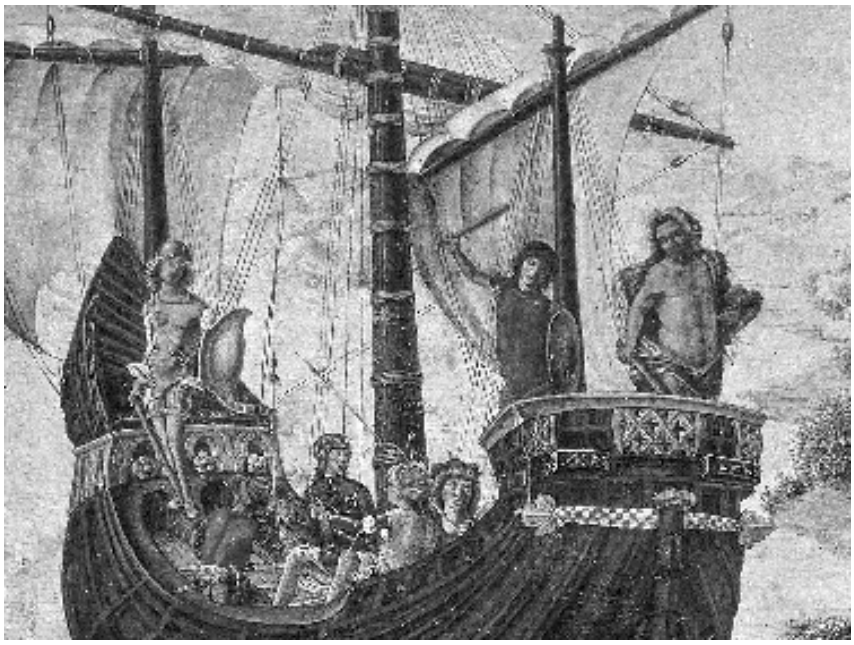

FIG. 3 Lorenzo Costa, The Argonauts (detail), 1488. Source: http://arte.cini.it/Opere/236087

Kären Wigen[34] discusses how in maritime ethnographic and archaeological studies, the ship has always had great relevance, understood as a complex cultural artifact, representing specific maritime traditions and regional variations. In Lorenzo Costa's painting, *The Argonauts* (Fig.3), we can see the meticulous representation of the ship, adorned with opulent golden embellishments mirroring the attire of the crew. This portrayal serves as an expression of a culture deeply rooted in a specific space and time.

Conversely, *Pequod,* the unique ship of *Moby Dick*,[35] is a paradigmatic example of the composite nature of vessels, and how they transform and assimilate elements as needed. In Melville's description,[36] *Pequod* had three masts "made somewhere on the coast of Japan, where the originals were lost in a gale, "and coated with materials and devices so peculiar that they could only be compared to the carved buckler of Thorkill-hake".

In the archaic Mediterranean, between the 8th and 6th centuries BC, where mobility was the norm, the ship was already a central element of the Greeks' mental images, an object of fascination and a means of contact with the unknown.[37] In a famous allegory—*The Ship of State*—commented on by the philosopher Heraclitus of Ephesus, the ship is identified

34 Bentley, Bridenthal and Wigen. *Seascapes.*

35 Herman Melville, *Moby Dick or The Whale* (New York: Penguin Classics, 2002 [First edition: 1851]).

36 Melville, *Moby Dick*, 68.

37 Gras, *Mediterráneo Arcaico.*

with the city (polis). Its flanks and hull are compared to the walls, which "resist storms in the same way as the city, threatened by tyranny, suffers social and political crises." The pilot, who controls the ship "as the governor controls the city, and the sailor, in the face of the gale, establishes himself as the combatant who defends his city".[38]

Similarly, Michel Foucault[39] identifies the ship as an example of heterotopia, a space with its own socio-cultural characteristics, a world within the world, and a reflection of society and its intrinsic logic. The notion of the ship as a self-contained universe is pushed to its limits in *Livro Grande de Tebas, Navio e Mariana,*[40] when the ship's captain suggests to the protagonist an expedition beyond the ship's "known zone."

Delving into the inner depths of the vessel, the explorers descend via elevators and staircases, crossing through endless labyrinthine tunnels. In these uncharted regions, they come across entire cities, districts inhabited by people from the East who entered but could never depart, where feral dogs roam. Among the eerie discoveries are the remnants of a past explorer, an expansive lake without visible shores, and curious beaches of metal shavings and debris. In the distance, they spot the stranded hull of a boat, still equipped with its mast and tattered rigging. This expedition into the ship's interior becomes an integral part of the protagonist's own odyssey, marked by its enigmatic, fantastical, and perilous nature.

## The resources of fiction

However, the way of seeing the sea seems to be associated with the nature of the observer. As Wigen[41] points out, while social scientists tend to view the sea as an area of conflict, focusing on issues such as commercial privileges and resource rights, humanists prefer to explore the indescribable contours of the oceanic imaginary, map, and metaphor, from the perspectives of cinema and literature. This duality between science and art is also highlighted by Gras, who explains how, since the archaic period, observers have perceived the Mediterranean, juxtaposing "the way of seeing of philosophers and geographers to that of poets".[42]

The interaction between description and invention, reality and fiction, has been abundant and varied, starting with Homer's *Odyssey.*[43] The question of the truthfulness of travel accounts is often debated, as seen in the case of Gemelli Careri (1651–1725) and his work *Giro del Mondo*, written after an extensive global voyage with a specific focus on Latin America. For a

38 Gras, *Mediterráneo Arcaico,* 33.

39 Michel Foucault "Des espaces autres," *Architecture, Mouvement, Continuité*, no. 5 (1984).

40 Mário de Carvalho, *O Livro Grande de Tebas, Navio e Mariana* (Porto: Porto Editora, 2017 [First edition: 1982]).

41 Bentley, Bridenthal and Wigen. *Seascapes*.

42 Gras, *Mediterráneo Arcaico,* 19.

43 Gras, *Mediterráneo Arcaico.*

long time, its authenticity was challenged, and the materials presented, including maps of several indigenous communities South America, were considered counterfeit.

Interestingly, eighteen years later, in the famous *Gulliver's Travels*,[44] a narrative about the remarkable journeys of a mariner who ends up in Lisbon aboard a Portuguese vessel, the author frequently blurs the lines between these two dimensions. This work combines real locations with imaginary geographies while providing detailed technical information regarding navigation. The book begins with a letter from the character Lemuel Gulliver to a cousin, expressing his concerns about the alterations made to his narrative, where essential sections were removed, casting doubt on the veracity of his testimony. Gulliver asserts his sincere intention to remain true to the facts, unlike many travel accounts of his era that were considered unreliable.

In another case, *Moby Dick*,[45] while clearly a novel, is also an expression of prolonged experience of the sea and navigation, resulting from the numerous voyages made by Herman Melville as a cabin boy in the merchant navy.[46] Moreover, there is an almost scientific component in the book's portrayal of whaling, accurately describing life on board, its dynamics and rituals, and the taxonomy of different types of whales.

In the 20th century, authors such as Jorge Luis Borges or Italo Calvino also explored this duality, resorting to fiction to address central themes of architecture, urbanism, ways of living, and the imaginary around the distant and the unknown. The same can be seen in Mário de Carvalho's *O Livro Grande de Tebas, Navio e Mariana*,[47] a contemporary odyssey around the Mediterranean, in which the protagonist sails on ships as intriguing as his strange passages through Tunisia, Syria, or Turkey. The desolation of the real, which is often hostile and incomprehensible, intersects with the marvellous and the dreamlike, which is a fundamental part of the Mediterranean imaginary.[48]

## Description and invention

According to Braudel,[49] understanding the port cities of the Mediterranean implies considering their relationship with the network of maritime routes, their origin and engine of development. In fact, Schubert[50] underlines the particularities of each of these cities, largely determined by the type

44 Jonathan Swift, *Gulliver's Travels* (Norwalk: Easton Press, 2011 [First edition: 1726]).

45 Melville, *Moby Dick*.

46 Melville, *Moby Dick*.

47 de Carvalho, *O Livro Grande de Tebas, Navio e Mariana*.

48 Matvejevic, *Mediterranean: A cultural landscape*.

49 Braudel, *Mediterranean*.

50 Schubert, "Transformation Processes on Waterfronts in Seaport Cities".

of port, its contact with the sea, and the relationship between port and urban space. For this purpose, fiction can be a valuable complementary resource, whether as an introduction to the themes and experience of navigation, the relationship between the sea and the port, or contact with the diversity of "Mediterranean voices".[51]

To further our research, we've analysed three fictional precedents. These precedents involve different maritime routes associated with specific types of journeys: exploratory (1), formative (2), and recreational (3). Our selection was guided by three specific criteria. First, irrespective of their starting and ending points, all three journeys are centred on the Mediterranean region, encompassing both the sea itself and the urban and natural environments along its shores. Second, each of these journeys predominantly employs ships as the primary mode of transportation, with different types of vessels used in each case. This highlights the central role played by ships, especially the experiences of life on board, where a substantial portion of the journey takes place. Lastly, in all three cases, there is a latent interplay between reality and fiction, contributing to the reimagining and reconstruction of the navigation experience.

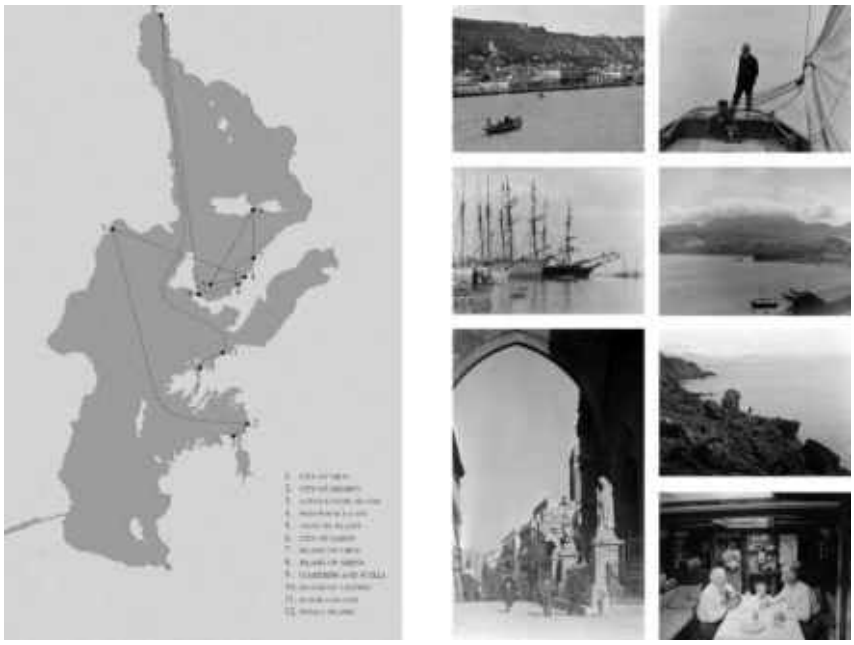

FIG. 4 In the footsteps of Ulysses, itinerary and photographs 1912. Source: Figure by the author.

**In the Footsteps of Ulysses.** In 1912, the geographer and translator Victor Bérard embarked on a long and daring journey around the Mediterranean with photographer Fred Boissonnas, with the goal of proving his theory about the descriptive component of Homer's writings. According to Bérard, the *Iliad* and the *Odyssey* were not merely literary works, but rather

51 Braudel, *Mediterranean.*

a detailed record of the Mediterranean in Phoenician times.[52] Using various types of vessels, including skimmers, steamers, and small fishing boats, they followed in the footsteps of Ulysses from Troy to Ithaca, passing through Turkey, Tunisia, Italy, Gibraltar, and Greece. This is an illustration of the attribute of transience, one of the proposed conditions of vitality, and how they collectively form a network of interconnected points through the sea, serving as a relational platform. We also see how the boat, in its various types, scales, and technologies, plays a crucial role in the context of the Mediterranean, simultaneously serving as a means of transportation, a working tool, and a space for living. Although his hypothesis was not confirmed, the enterprise of Bérard and Boissonnas was not in vain. The photographs and written records they produced during their trip proved to be unique documents about life in the Mediterranean on the eve of the First World War.[53] The discovery of this unpublished material led to the creation of the research project *The Odyssey,* from *Myth to Photography* by the *Département de Géographie et Environnement de l'Université de Genève*, with the aim of reconsidering the artistic, scientific, and political value of this significant photographic project and the possibilities of interconnection between geography and fiction.

FIG. 5 Flying Clipper, itinerary and frames 1962. Source: Figure by the author.

**Flying Clipper.** *Mediterranean Holiday* or *Flying Clipper* is a fictional documentary that was presented at the 3rd Moscow International Film Festival in 1963. The film was made by Austrian directors Hermann Leitner and Rudolf Nussgruber, and it follows the journey of a Swedish merchant

52 Sohier Estelle, "Ré-imaginer la Méditerranée avec l'Odyssée, la carte et la photographie. Victor Bérard, un géographe sur les traces d'Ulysse," *Annales de géographie* 3, no. 709-710 (2016).

53 Estelle, "Ré-imaginer la Méditerranée avec l'Odyssée"

marine ship, a schooner with three masts, its captain, and its crew of twenty young cadets to the Mediterranean. The trip served as both an educational and recreational experience, as a reward for the cadets who spent the year sailing in the North Sea. Although the film's somewhat touristic nature is evident, with a series of "postcards" from each country, and unnecessary references to the military importance of the United States as a guarantor of order, such as when one of the cadets is taken to an American aircraft carrier due to appendicitis, it provides a rare perspective on the relationship of each of the cities visited with the sea, the layout of the ports, life on board, and the dynamics of navigation in the Mediterranean. Some records of local ways of life are also valuable documents, such as the first stop they make in Nazaré, where they replenish fresh water and connect with fishermen on the Portuguese coast. As they journey through cities, we notice a somewhat artificial attempt to highlight the distinctive features of each community. This is evident through various means, including religious rites as the Catholic procession in Spain, civic celebrations featuring traditional songs and dances in Sicily, military parades witnessed on the island of Rhodes, and even picturesque events like camel fights in Turkey. At the same time, signs of significant diversity—or plurality—are often observed, such as the contrast between the dynamics of the port area of Port Said and the profound rural life experienced further inland.

FIG. 6 A talking picture, itinerary and frames 2003. Source: Figure by the author.

**A Talking Picture.** A mother travels with her daughter on a Mediterranean cruise to meet her husband who is waiting for them in Mumbai. This is the starting point of the famous film by Manoel de Oliveira, released in 2003. A history teacher, the mother takes advantage of the trip to show

her daughter the places "sanctified or mythologized"[54] in the history of the West, passing by the *Castel dell'Ovo*, the ruins of Pompeii, the Acropolis, Hagia Sophia or the Sphinx. In the stories that the mother tells her daughter, the idea of multicultural contact and assimilation—or porosity—of these cities is always present. This includes the encounters of the Greeks with Marseille and Naples, the complex layers of Christian and later Muslim occupation in Turkey, and France's presence in Egypt during the Napoleonic wars. This happens in the first part of the film, in which the action takes place almost entirely on land, in the port cities and their surroundings. However, except for a brief stop in Aden, the second part is completely focused on what happens on the ship itself. This change happens after crossing the Suez Canal, as highlighted by João Bénard da Costa: "only when passing the Mediterranean we can see the inside of the ship; […] it is no longer a means of travel, but the purpose of the journey itself".[55] The ship becomes the stage for the action, no longer just for the mother and daughter, but also for the characters who embark and disembark at various ports, including renowned stars like Catherine Deneuve, Stefania Sandrelli, and Irene Papas. They engage in casual conversations at the captain's table, where languages such as Italian, French, Greek, and English coexist without blending. From this moment onwards, everything unfolds within the ship and its different compartments. As this is a fiction film, the boundary between description and invention is not always clear. Examples of this are certain mundane situations and characters, such as the fish seller in Marseille, the Orthodox priest in Athens, or the Portuguese actor Luís Miguel Cintra in Cairo, playing himself.

## Conclusion

This article sought to establish a broad perspective on the port cities of the Mediterranean, considering both the complexity of their context and history, as well as the particularities of their model. Such an exploration is relevant because, as highlighted by De Rosa and Di Palma,[56] port cities provide ideal case studies for investigating urban resilience, the delicate equilibrium between local identity and global influences. This balance involves preserving their distinctive characteristics and core values while continuously adapting to evolving economic, cultural, and technological demands. Moreover, these port cities serve as valuable insights into the ongoing processes of urban transformation, shedding light on new pathways for the development of contemporary urban areas.

To achieve this, an exploratory and multidisciplinary approach was followed, combining insights from the humanities and social sciences, which, until now, had not been extensively explored in the case of Mediterranean

54 Bénard da Costa, *Manoel de Oliveira (*Lisbon: Cinemateca Portuguesa, 1981).

55 da Costa, *Manoel de Oliveira,* 7.

56 De Rosa and Di Palma, "Historic Urban Landscape".

port cities.[57] The heuristic nature of this approach, through the intersection of different methods and worldviews, is valuable for the construction of a nuanced yet general and introductory perspective on these urban settlements.

The intersection of these two disciplinary families led to the formulation of a hypothesis, an interpretation of some attributes for the urban resilience of these port cities, which we named as "conditions of vitality." These attributes, encompassing transience, plurality, and porosity, have been drawn from the works of prominent scholars such as Fernand Braudel,[58] Dirk Schubert,[59] and Henk Driessen,[60] [61] respectively. This synthesis represents an initial step towards future research, as it aims to consolidate the diverse perspectives offered by various disciplines across different time periods.

Additionally, we sought to link this literature review with fiction and its resources as a complementary research method. As observed, this aspect has consistently played a central role in the history and imagination of the Mediterranean, where the sea, navigation, and encounters with the unknown have been pivotal. In our analysis of the three selected cases, the potential of connecting description and invention as a privileged means of gaining experiential insights becomes apparent. In this context, we examine the experience of traveling through the Mediterranean, exploring the various cities in the region, their ways of life, the connections between urban centres and the sea, and the dynamics of navigation itself. This appears to be a crucial area for further exploration within the realms of architecture and urbanism. By doing so, we can blend the precision and rigor of analytical processes and their communication with a dimension rooted in sensitivity and intuition.

57 Driessen, "Mediterranean port cities".

58 Braudel, *Mediterranean.*

59 Schubert, "Transformation Processes on Waterfronts in Seaport Cities".

60 Driessen and Abelló, "La puerta trasera de Europa".

61 Driessen, "Mediterranean port cities".

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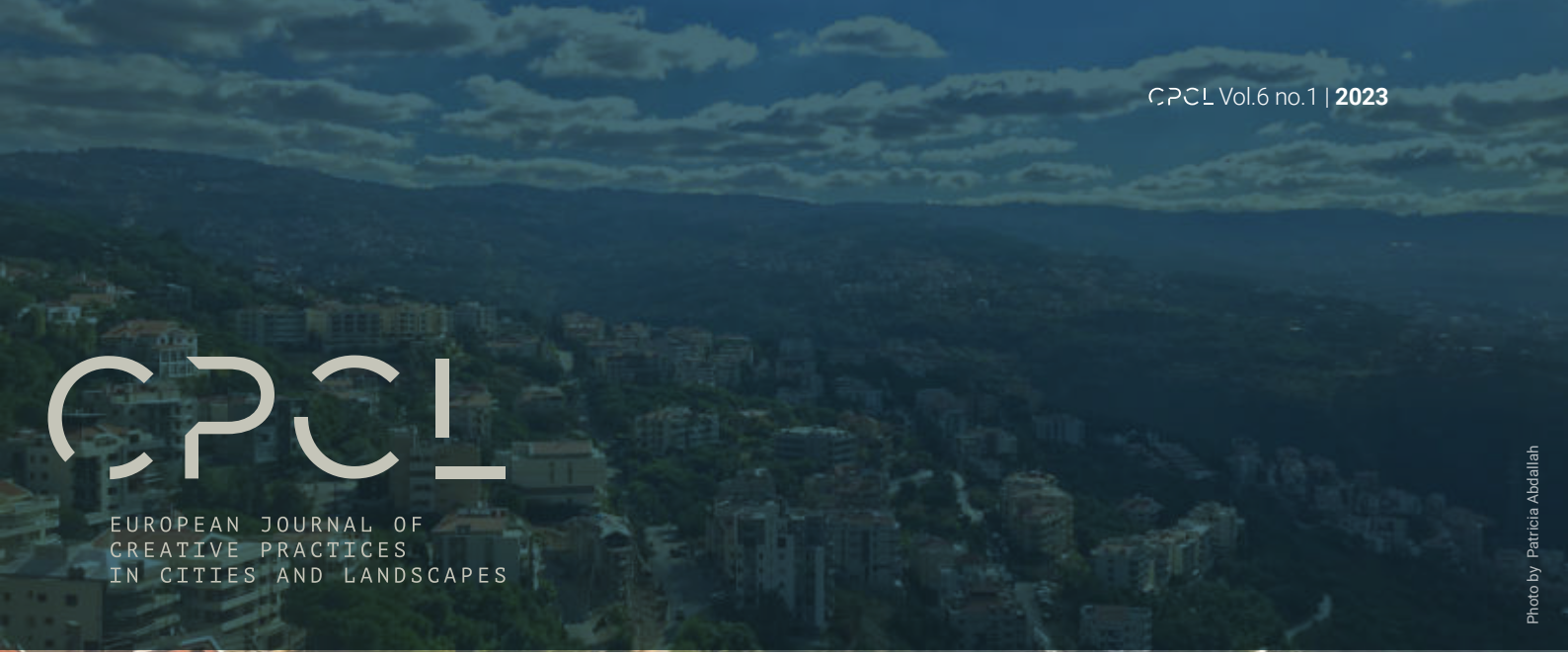

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MAIN SECTION

# Bridging the Gap: Morphological Mapping of the Beqaa's Vernacular Built Environment

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ABSTRACT

Located 30 km inland from Lebanon's coast, The Beqaa Valley (or Beqaa Plains) is considered the agricultural backbone of the country. The Beqaa's built geographies were shaped by the political and economic hierarchies established by the Roman and Ottoman Empires and revised by the French Mandate. Local and regional economic hardships in the last six decades have led the Beqaa to cycle through periods of decline and recovery, with quick introductions of infrastructural technologies, spurts of loosely regulated building development, and hasty innovations in industrial activity. In this vein, 'reflexive realism' concepts of risk regime, logic of production, topographical fragmentation, and internal connectivity 1, are useful to examine how towns and cities in the Beqaa developed, deteriorated, and adjusted. However, spatial evidence that would inform such inquiries in Rayak, Beqaa, is far from similar to evidence observed in Beirut. Urban morphology research techniques combined with the concept of vernacular architecture can help decode the layers and uses of the built environment. This article introduces a mapping workflow that typologizes built fabrics using five morphological criteria (streets, density, open space, architectural character, and land use) to construct a spatial narrative that can begin characterizing the nature of the Beqaa's cities and towns.

KEYWORDS
*Spatial Data; Urban Morphology; Vernacular Architecture; Beqaa Valley; Mediterranean Imaginaries*

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## 1. Introduction

Lebanon's strategic significance in the Mediterranean region is historically linked to its coastal cities, particularly Beirut, Tripoli, and Sidon, which have thrived as port cities since the Phoenician era.[1] The Beqaa Valley, situated between two mountain ranges that run from the northeast to the southwest (refer to Fig. 1), represents a region characterized by agricultural and natural landscapes. This area is framed by two major cities, Baalbeck and Zahlé, along with numerous smaller towns and villages. The Ottoman empire and French mandate solidified the Beqaa's regional role as an agricultural and natural resources provider,[2,3] and began developing its strategic role as a commercial and industrial hub through the Beirut-Damascus rail line in 1891. The rail ushered the development of Rayyak, a Beqaa'i town, as a dry port, with access to an airport in the early 1900's. It was further transformed into a hub for parts manufacturing and engineering education. The second line installed in Lebanon connected Rayyak to Baalbek in 1902, and coastal lines were installed in later years. The Beirut-Damascus rail line shaped the growth patterns of towns that hosted train stations in Jdita, Mrejat, Saadnayel, Maallaka, Rayyak, and Yahfoufa.[4] These rail towns are characterized by networks of narrow organic streets bordered by an intricate arrangement of buildings and small courtyards centered around train stations. Rail ridership for leisure, education, and commerce peaked in the late 1960s, then began declining.[5] This may have been due in part to increased ownership of personal vehicles, that provided a faster commute to and from Beirut. Nevertheless, the train ceased to operate with the beginning of the 1975- 1990 civil war.[6] That same civil war brought a tangible increase in rapid urbanization from citizens fleeing conflict-ridden Beirut and turning to the Beqaa for hastily developed new dwellings. Naturally, deteriorating security conditions and weakened governance in Lebanon had a cascading effect on the rail. Gradual deterioration was further compounded by issues of encroachment and looting. The rail was never reinstated since then. War and post-war urbanization in the Beqaa took a different form with wider streets and larger apartment buildings adorning the affronts of the Beirut-Damascus road. Post-war infrastructural investments led the Beqaa into a period of economic development, but the rapid changes in land use, formalized in spurts of

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1 William W. Harris, *Lebanon: A History, 600-2011* (New York: Oxford University Press, 2012),

2 Mehmet Narsullah, Mehmet Eshref and Mehmet Rushdi, *Mukemmel Ve Mufassal Atlas = Complete and Detailed Atlas* (Istanbul: Istanbul, 1909),

3 Zadiq Khanzadian, *Atlas De Géographie Économique De Syrie Et Du Liban* (Paris: Chez L. De Bertalot, 1926),

4 Eddy Choueiry and Elias B. Maalouf, *Liban Sur Rail / Lebanon on Rail /* لبنان على السكة (Beirut: Biblioteque Improbable du Pinacle, 2013),

5 Regional Projects Department, *Appraisal of Highway Project in Lebanon*, (1973): https://documents1.worldbank.org/curated/en/763811468263990879/pdf/multi-page.pdf (accessed Nov 1, 2023).

6 Choueiry and Maalouf, *Liban SurRail*,

urban growth, destabilized existing land use patterns while reinforcing the clientelist political system in Lebanon.[7]

The national and regional value of the Beqaa was – and continues to be – closely tied to its ability to bolster the economic and political power of the cities it serves. In government or academic efforts investigating the Beqaa, the subject focus typically addresses economic development,[8,9] the health of agricultural and natural resources,[10,11,12] the Syrian refugee crisis, [13,14,15] and some historic preservation. While these investigated issues are pressing and essential to the Beqaa's current and future condition, research initiatives are often content with critiquing the built environments, describing them as haphazard growth contributing to resource depletion.[16] The built environment is rarely examined beyond this narrative.

This article aims to delve into the functions and physical characteristics of the built environment in the Beqaa through urban morphology, and it will concentrate on villages in central and west Beqaa, especially the towns along main or arterial roads.

In subsequent sections, the article frames the built environment as a blend of vernacular and informal elements, advocating for the application of urban morphology as an analytical approach. It then puts forward a practical classification system that can be seamlessly integrated into Lebanon's existing governmental mapping frameworks.

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7 Karen Sweid, *The Politcal Economy of Patronage in Lebanon - the Case of the Council of Development and Reconstruction* (Thesis Dissertation: 2021),

8 McKinsey & Company, *Lebanon Economic Vision,* (2018), https://www.economy.gov.lb/media/11893/20181022-1228full-report-en.pdf

9 Rabih Mohamad Kamleh, *Study of Cows' Milk Quality in Two Regions in the Bekaa and its Effect on Baladi Cheese Quality* (Thesis Dissertation: 2002),

10 Ghida El Dirany, *Sustainability of Family Farming in the Bekaa and the Inclusion of Youth: Damask Rose Vs. Small Ruminant Production* (Thesis Disseration, 2022),

11 Elsy Sakr, *Can Sustainable Pasture Management Improve the Ecosystem Services for Small Ruminant Farmers and Rural Communities? A Case Study from West Bekaa, Lebanon* (Thesis Dissertation: 2023),

12 Rami Sami Assaf, *The Waste Management Value Chain in West Bekaa: Contributions to Labor Markets and Rural Development* (Thesis Dissertation: 2018),

13 Katrin Hermanek, *A Micro-Perspective on Governance in Informal Tented Settlements* (Thesis Dissertation: 2016),

14 Loubna Milad Abi Khalil, *Syrian Refugees and Lebanese Christians, Together Against the Turmoil.* (c2015) (Thesis Dissertation: 2016),

15 Nour Antoine Nashef, *Linking Household Food Insecurity with Food Safety Knowledge and Practices of Syrian Refugee Mothers: Findings from a Pilot Study in the Bekaa Region, Lebanon* (Thesis Dissertation, 2018),

16 Eric Verdeil, Ghaleb Faour and Sébastien Velut, "Changes in Land use," in *Atlas Du Liban* (Beirut: Presses de Ifpo, 2012), 91-116.


FIG. 1 The Beqaa in its regional context. Data was collected from the indicated study area. Source: map was produced by author using ArcGIS pro, underlying imagery and labels were contributions from ESRI, OpenStreetMap, HERE, Garmin, FAO, NOAA, USGS, Earthstar Geographics.

## 1.1 Informal, Vernacular, Formal: Conceptual and Spatial Boundaries

The 'vernacular' architecture is the built habitat constructed without the intervention of a trained architect or a specialist designer,[17,18] retaining some of the urban and architectural historic heritage while aspiring to modernity. It negotiates with the technological and resource limitations imposed by the environment.[19] There is a considerable overlap – conceptual and methodological – between 'traditional' and 'vernacular' built environments, where the 'vernacular' built environment is considered a

17 Paul Oliver, *Built to Meet Needs: Cultural Issues in Vernacular Architecture* (Jordan Hill: Routledge, 2006),

18 Henry Glassie, "Architects, Vernacular Traditions, and Society," T*raditional Dwellings and Settlements Review* 1, no. 2 (1990): 9-21,

19 Jean-Paul Bourdier and Nezar Al Sayyad, *Dwellings, Settlements and Tradition - Cross-Cultural Perspectives* (Lanham: University Press of America, 1989),

subset of the 'traditional' environment.[20] Distinctions between the two – traditional and vernacular – can shed light on the socio-cultural context that produced these built environments [21,22] and how both traditional and vernacular architectures reflect changes in the identity of their dwellers' communities.[23] This paper does not aim to contribute to this distinction, but is striving to expand the disciplinary and spatial boundaries of what is considered research on the 'vernacular' built environment.[24,25] The aim is to utilize any and all documentation methods deployed for built forms considered antithetical to the 'formal', the 'planned', and the 'designed' built environment. In this article, the term 'vernacular' here encompasses 'traditional', 'indigenous', 'folk' and 'vernacular' architecture.

In the same vein, the agency of the dweller in the production of the built environment creates common grounds between the 'vernacular' and the 'informal' architecture. In both cases – vernacular and informal – the dweller is also often the builder. The builder adopts community-based or traditional construction techniques to create a habitat that negotiates with material/economic/environmental limitations and constraints and aspires to modernity – be it architectural or technological.[26,27] The intermingling of vernacular and informal can be observed in the shape and distribution of public spaces, construction material, and building façades.[28] It can also be observed in emerging transportation networks and the built environment's response to those networks.[29] Assemblages of temporality and permanence evident in built and agricultural environments,[30] and the juxtaposition of land uses and architectural characteristics[31] are also illustrations of the vernacular and the informal built environment.

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20 Nezar AlSayyad, *Traditions: The "Real", the Hyper, and the Virtual in the Built Environment* (London: Routledge, 2014),

21 Mariana R. Correia, Paulo B. Lourenco and Humberto Varum, *Seismic Retrofitting: Learning from Vernacular Architecture* (London: CRC Press, 2015),

22 Hesam Kamalipour and Mostafa Zaroudi, "Sociocultural Context and Vernacular Housing Morphology: A Case Study," *Current Urban Studies* 2, no. 3 (2014): 220-232

23 Jani Vibhavari, *Diversity in Design: Perspectives from the Non-Western World* (New York: Bloomsbury Publishing, 2011),

24 Adrian Green, "Confining the Vernacular: The Seventeenth-Century Origins of a Mode of Study," *Vernacular Architecture* 38, no. 1 (2007): 1-7

25 Daniel Maudlin, "Crossing Boundaries: Revisiting the Thresholds of Vernacular Architecture," *Vernacular Architecture* 41, no. 1 (2010): 10-14

26 John F. C. Turner, *Freedom to Build* (New York: Macmillan, 1972),

27 Thomas Hubka, "Just Folks Designing," *Journal of Architectural Education* (1984) 32, no. 3 (Feb 1, 1979): 27-29

28 Hesam Kamalipour and Kim Dovey, "Mapping the Visibility of Informal Setlements," *Habitat International* 85 (2019): 63-75

29 Petra Samaha and Amer Mohtar, "Decoding an Urban Myth: An Inquiry into the Van Line 4 System in Beirut, Lebanon," *Journal of Transport Geography* 85 (2020),

30 Baohui Chai and Karen C. Seto, "Conceptualizing and Characterizing Micro-Urbanization: A New Perspective Applied to Africa," *Landscape and Urban Planning* 190 (2019),

31 Fatema Meher Khan, Elek Pafka and Kim Dovey, "Understanding Informal Functional Mix: Morphogenic Mapping of Old Dhaka," *Journal of Urbanism* 16, no. 3 (2023): 267-285

## 1.2 Making the Case for Urban Morphology for Mapping Vernacular Built Environments

Urban morphology is the study of the built fabric, and the processes and people shaping it.[32] The motivations of the founding schools of thought (Conzenian, Muratorian, and French) can be housed under two foci: focus on the object of study, which is to understand the complexities of the built form; and focus on the manner and purpose of study, which is the analysis of the evolution of the built city, or morphogenesis and the distilling of normative modalities that guide future planning goals.[33, 34]

Deploying urban morphology to produce maps is a developing research avenue: in their work 'Mapping Urbanities', Dovey, Pafka and Ristic[35] delve into the connection between the spatiality and the sociality of the of the city through assemblage theory, which promotes the practice of looking at relationships, synergies, and symbioses characterizing and communicating the representation of the city.

Urban morphology relies on field visits to capture the specificities of the built environment and on the value of comparative study. This positions it as a reliable research method for understanding and planning for the futures of cities and regions.[36, 37, 38]

Functionally, the study of the urban form examines buildings, streets, and the spaces in between them. Urban morphological research often relies on these spatial elements and their scale as organizing denominators, especially in typo-morphological analysis and the typological process.[39] The process of identifying objects and scales – spatial and temporal – for comparison and the levels of distinction can provide grounds upon which a cognitive inquiry and/or a grounded theory[40] is constructed. In the same vein, Kropf highlights the necessity of avoiding the normative impulse to conform the case study to existing notions of what the built environment

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32 International Seminar of Urban Forum, "Glossary," https://urbanform.org/glossary/

33 Anne Vernez Moudon, "Urban Morphology as an Emerging Interdisciplinary Field," *Urban Morphology* 1, no. 1 (1997): 3-10

34 Stephen Marshall and Olgu Çalişkan, "A Joint Framework for Urban Morphology and Design," *Built Environment* (London. 1978) 37, no. 4 (2011): 409-426

35 Kim Dovey, Elek Pafka and Mirjana Ristic, *Mapping Urbanities: Morphologies, Flows, Possibilities* (New York: Taylor & Francis, 2017),

36 Brenda Case Scheer, "Urban Morphology as a Research Method," in *Planning Knowledge and Research*, ed. Thomas W. Sanchez (New York: Routledge, 2018), 167-181.

37 Davide Ponzini, "The Unwarranted Boundaries between Urban Planning and Design in Theory, Practice and Research," in *Planning Knowledge and Research*, ed. Thomas W. Sanchez (Abingdon: Routledge, 2018), 182-195.

38 Robert Beauregard and Laura Lieto, "Towards an Object-Oriented Case Methodology for Planners," in *Planning Knowledge and Research*, ed. Thomas W. Sanchez (Abingdon: Routledge, 2018), 153-166.

39 Gianfranco Caniggia and Gian Luigi Maffei, *Interpreting Basic Building* (Firenze: Alinea, 2001),

40 Vítor Oliveira, *Urban Morphology: An Introduction to the Study of the Physical Form of Cities* (Cham: Springer International Publishing, 2016),

ought to be.[41]

Dell Upton defined studies of traditional and vernacular architecture under five avenues: the object-oriented studies, concerned with the built environment and how they were constructed; socially oriented studies, where the built environment is examined as evidence for the past; culturally oriented studies, which explores the cultural implications and constructions of the built environment; symbolically oriented studies, which delve into the symbolic dimension of architecture; and design-oriented studies that are concerned with affirming regional identity.[42]

With commonalities of the theoretical and motivations between vernacular architecture research and urban morphological research, using morphological approaches to study the vernacular built environment is intuitive if not warranted.

## 2. Methodology: Morphological Cartography

Historically, there are few examples of research addressing the nature of the Beqaa's built environment. The Doxiadis national housing plan for Lebanon is one of these examples. In 1957, Constantinos Doxiadis, an internationally known urban and regional planner, and his team conducted a national assessment of cities and towns at the Lebanese Government's behest to develop housing plans and policy recommendations. Due to the time pressure placed by the Lebanese government on Doxiadis and the lack of census and cartographic data, he and his team resorted to creating their own dataset. They divided Lebanon and 1680 locales (cities, towns and villages) into distinct regions. The team them visited each locale, collecting photos and diagrams of the town's centers and commercial streets, and conducting informal conversations with town dwellers and local government officials to contextualize their findings.[43] The work composed a thorough portrait of the built environment in Lebanon via maps, photos, and supporting material illustrating not only how it was constructed, but also lived. The government did not implement the team's recommendations for housing policies and model villages due to the 1958 civil war and a change in government and national priorities. Yet, to the Beqaa, the Doxiadis study was arguably the first examination of the built environment that overturned the extractive lens that has dictated the Beqaa's status as no more than an agricultural and natural resource to the country.

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41 Karl Kropf, *The Handbook of Urban Morphology* (New York: Wiley, 2008),

42 Dell Upton, "The Power of Things: Recent Studies in American Vernacular Architecture," *American Quarterly* 35, no. 3 (1983): 262-279

43 Hashem Sarkis, *Circa 1958: Lebanon in the Pictures and Plans of Constantinos Doxiadis = Le Liban À Travers Les Photos Et Plans De Constantinos Doxiadis* (Beirut: Dar El Nahar, 2003),

Ekistics is a term Doxiadis coined and developed throughout his career as an urban planner. It perceives built environments or human settlements as living organisms with their own laws and evolution patterns, and promotes the necessity for an interdisciplinary approach to solve its problems.[44] While there are evident theoretical intersections between Ekistics and urban morphology, this article refrains from delving into them. Doxiadis' work in Lebanon is relevant to this article from a methodological standpoint: the team in 1957 set a precedent for utilizing urban morphology techniques without explicitly addressing these theoretical commonalities (see Fig. 2). The team documented everyday artefacts such as electricity transformers, water canals, construction sites, trash bins, and produced diagrams and maps to assess the distribution of forms, activities and resources in multiple Lebanese towns. The exploration of the intersection between urban morphology and ekistics could provide exciting avenues for future research.

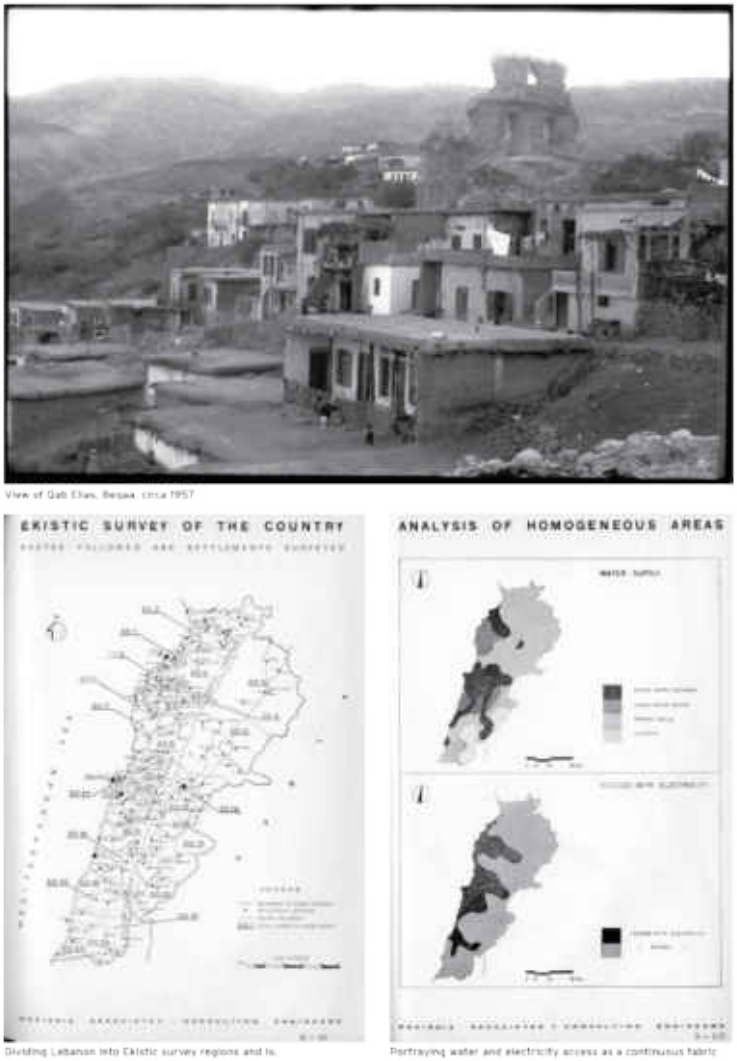


FIG. 2 Surveying documents from the Doxiadis team 1957-1958. Source: Constantinos Doxiadis Archives.

44 Costantinos Apostolou Doxiadis, "Ekistics, the Science of Human Setlements," *Ekistics* 33, no. 197 (1972): 237-247

To summarize, urban morphology is not a novel discipline, its focus continues to be the analysis of the city and its evolution to distill normative modalities for future planning. However, recent scholars begin leveraging urban morphology as a research method that integrates multiple data sources with site observations. The systemization of general processes combine on-site and on-screen analyses[45] to categorize built forms, paths, and landscapes that compose the built fabric.[46] This intends to suspend the planner's normative impulse long enough to compare different fabrics and components and examine the essence of the built environment.[47] This combined process can easily be the foundation for a mapping workflow is informed by urban morphology.[48] The article proposes a workflow that builds upon these techniques (see Fig. 3).

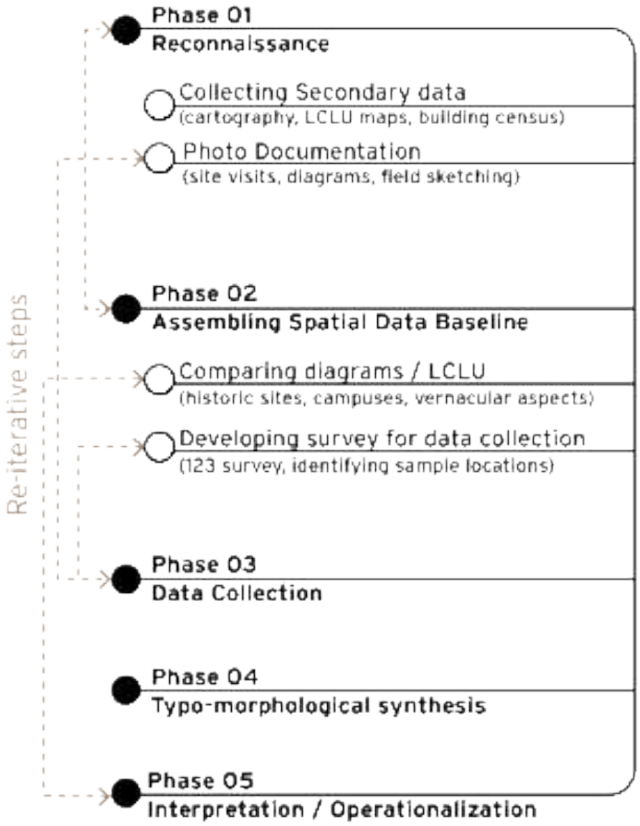


FIG. 3 Morphological mapping workflow. Source: produced by author.

**Phase 01: Reconnaissance.** Initial data collection included harvesting spatial and archival data (Geographic Information Systems (GIS) layers, cartography, building census etc.), of which the most significant was the Land Cover Land Use (LCLU) classification set produced by the National

45 Kropf, *Handbook Urban Morphology*, 50-173.

46 Scheer, "Urban Morphology," 167-181.

47 Kropf, *Handbook of Urban Morphology*, 8-17.

48 Dovey, Pafka and Ristic, *Mapping Urbanities*,

Remote Sensing Center in Lebanon. Due to the lack of spatial data specific to the Beqaa's built environment, the LCLU map is the best possible 'baseline' for this research. This phase also included preliminary field observations (diagrams, photographs, informal conversations with residents).

**Phase 02: Gap Identification.** This included an examination of the classification system used for the LCLU map in the Beqaa valley, with special emphasis on the classes representing the built environment. Upon comparing the diagrams and photos collected in the field with the Land Cover Land Use (LCLU) classes used to classify the built environment, a significant disconnect emerged, highlighting a clear semantic gap between spatial knowledge and the actual physical environment detailed in Fig. 4. Notable built environments or aspects of the built environment were extracted from the diagrams, photos, and secondary dataset collected in Phase 01. This preliminary analysis informed the design of a morphological survey on ArcGIS Survey 123.

**Phase 03: Data Collection.** 500 data points were collected from a sample of the built, agricultural, and natural landscapes in Central and West Beqaa. Sampling was conducted either from the center of a town or village moving outwards to the agricultural or natural fringes, or moving inwards from a main road (Beirut-Damascus Main road, Zahle – Baalbeck) to the center of the town or village. Additional photographs and notes for points collected in the built environment (n=170) were attached for further detail. The collected points were uploaded to the ArcGIS Survey 123 online database for download and analysis.

**Phase 04: Typo-Morphological Synthesis.** A comparison of photos from the sample locations revealed an assemblage of materials and styles in the construction of buildings, street grids, land uses, and shape of open spaces. To compare these different aspects of these built environments, data points were visually assessed into a matrix with five distinct criteria: 1) density; 2) street grid; 3) architectural style; 4) land use; 5) open space type.

**Phase 05: Interpretation/Operationalization.** This final phase explored avenues where these typologies can inform actionable spatial knowledge for planning. Much like previous steps, this phase is especially iterative. A spatial projection of the typo-morphological matrix began to demonstrate the distribution of the assessed criteria in the Beqaa and how the composition of the built fabric changes by function of space type, use, and character (see Fig. 10 to 14). This phase also begins to explore how classification typologies could be used for existing mapping systems in Lebanon.

# 3. Results: Morphological Cartography

## 3.1 Phase 01 and 02: Assembling Spatial Data Baseline

The Land Use Classification System crafted by the National Center for Remote Sensing Center (NCRS) for the Beqaa Valley in Lebanon is hierarchical with 4 levels ranging in coarseness to render it amenable to different scales and study requirements. In this process, the classes used to describe the built environment were the most relevant. 23 built environment classes were identified (See Fig. 4). Concurrently, field documentation of these classes begins to elucidate the coincidence – or lack of – between spatial information of the place and the actual place. This phase also shed light on the temporal aspects and densities that would elude a rigid classification.

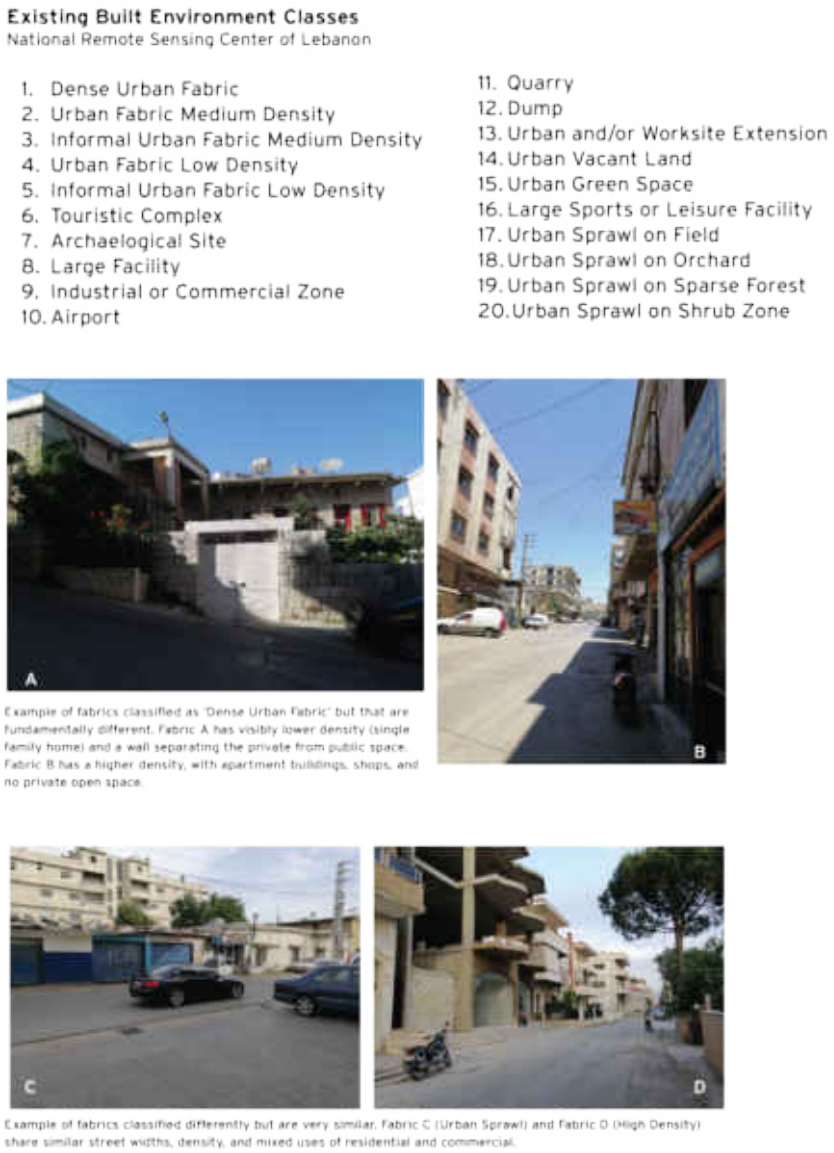


FIG. 4 Semantic gap between classification descriptors and space. Source: photos captured by author.

## 3.2 Phase 03: Data Collection

ESRI Survey 123, a smartphone application, was utilized to collect locations, land uses, and photos from the built, natural, and agricultural landscapes in the area. The collection method populates a Geographic Information Systems (GIS) tabular dataset, where each point would have longitude and latitude attributes in addition to a set of qualitative attributes that includes land use type, land cover, number of floors in the building if any,  availability of open space, and site observations.

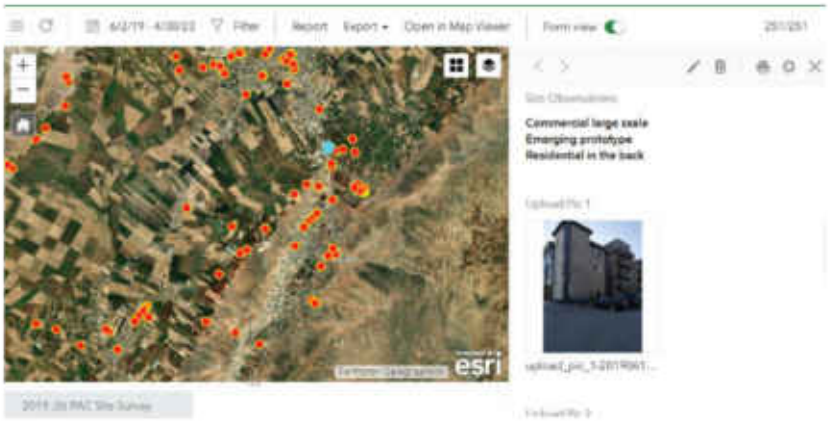


FIG. 5 Snapshot of ESRI survey123 data collection. Source: the survey and portrayed data points are designed and collected by author. The app platform is an ESRI product.

## 3.3 Phase 04: Synthesis of Typo-Morphological Matrix

In line with the elements observed in urban morphological studies, photographs and aerial views of building and adjacent open spaces, street grid, and fabric character were considered. The field documentation was compared to what could be discerned from aerial imagery through the ESRI ArcGIS online platform, which is supplied by more than one provider including Maxar, Earthstar, and GeoEye. This was particularly important as any future classification would ideally require high-resolution satellite imagery, ideally at a 1 meter/pixel resolution or higher (75 cm/p or 50 cm/p). The following criteria were distilled from this analysis (see Fig. 6):

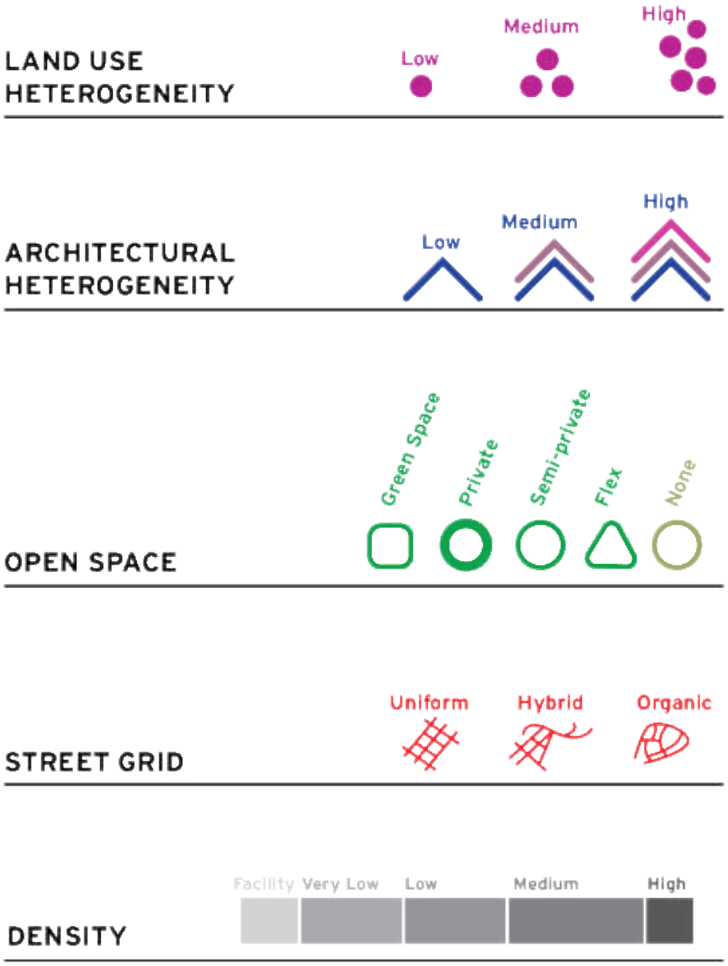


FIG. 6 Synthesized Typo-Morphological Categories. Source: produced by author.

**A. Density:** There are four categories for density, informed by the number of floors per building, and its proximity to other buildings. This was restricted to data points collected in the built environment. To that effect and considering that the Beqaa overall remains less dense than some of the coastal cities such as Beirut, Tripoli, and Sidon, the number of floors were only used to distinguish medium density from high density. High density was only recorded in a few locations in the study. The rest of the fabric was medium density. Low density designates built environments (mostly apartment buildings) interlaced with agricultural or natural landscapes, and very low density is used to characterize villas (which house one family) and small dispersed houses (Fig. 7). In case the landscape considered is a facility or a campus, then the term "facility" as a type of density would be used to omit confusion.

**B. Street Grid:** The street is an essential element in urban morphological analysis, especially the character, width, and enclosure.[49, 50] Street grids

49 Brenda Case Scheer, "The Epistemology of Urban Morphology," *Urban Morphology* 20, no. 1 (2015): 5-17

50 Joan Busquets, Dingliang Yang and Michael Keller, *Urban Grids: Handbook for Regular City Design* (Harvard: ORO Editions, 2019),

in the Beqaa were categorized under three typologies: Organic, Uniform, and Hybrid. The organic street grid was mostly visible in older parts of the towns and on slopes, which dictated that roads proceed with switch-backs and attention to changes in elevation. Uniform grids are mostly observed on flat terrain with newer and larger apartment buildings. Hybrid grids were visible near rivers or large curves in main roads with old and new buildings

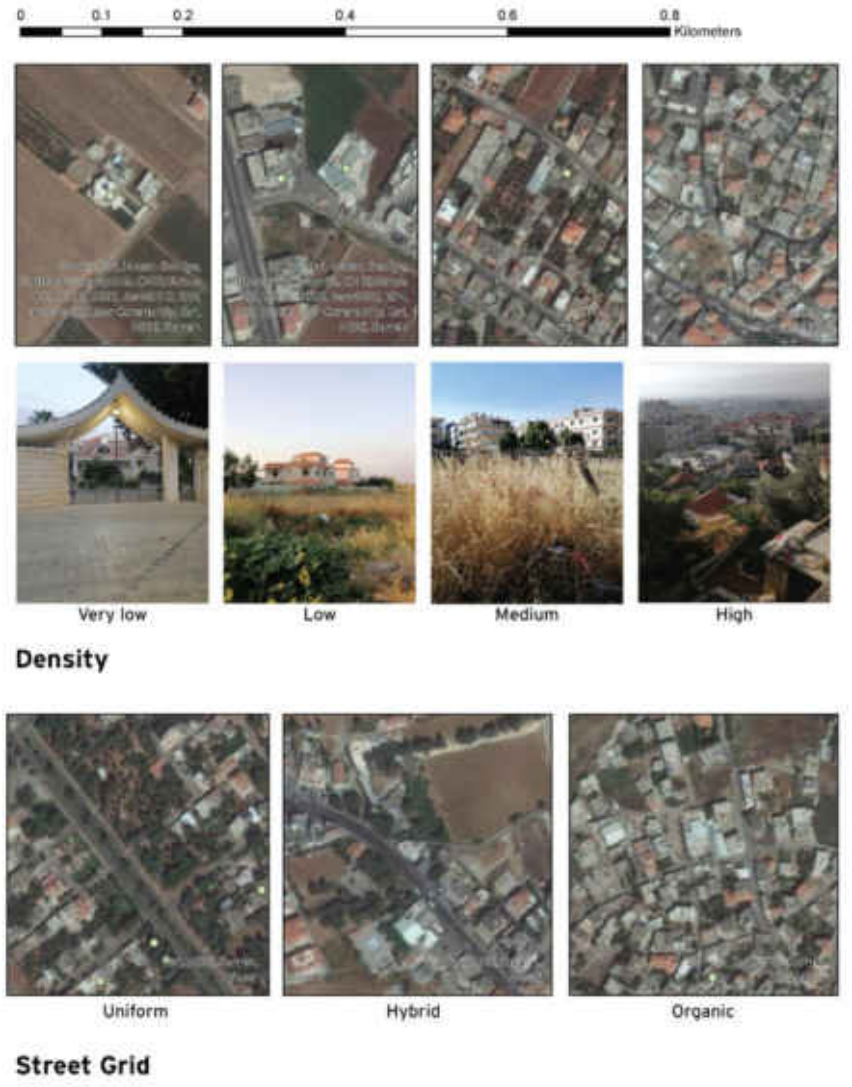


FIG. 7 Density and Street Grids. Source: photos by author, aerial views extracted from ArcGIS online. Imagery contributions from ESRI, HERE, Garmin, and Maxar technologies.

**C. Open Space:** The nature of the open spaces between buildings dictates much about the character and the function of the town. Considering the shortage of non commercial public spaces in the Beqaa, small areas between buildings become 'flex' spaces that can accommodate parking, informal commercial activity, or leisure. They could also be repurposed as programmed public spaces using simple interventions such as seating areas and shading structures (see Fig. 8).

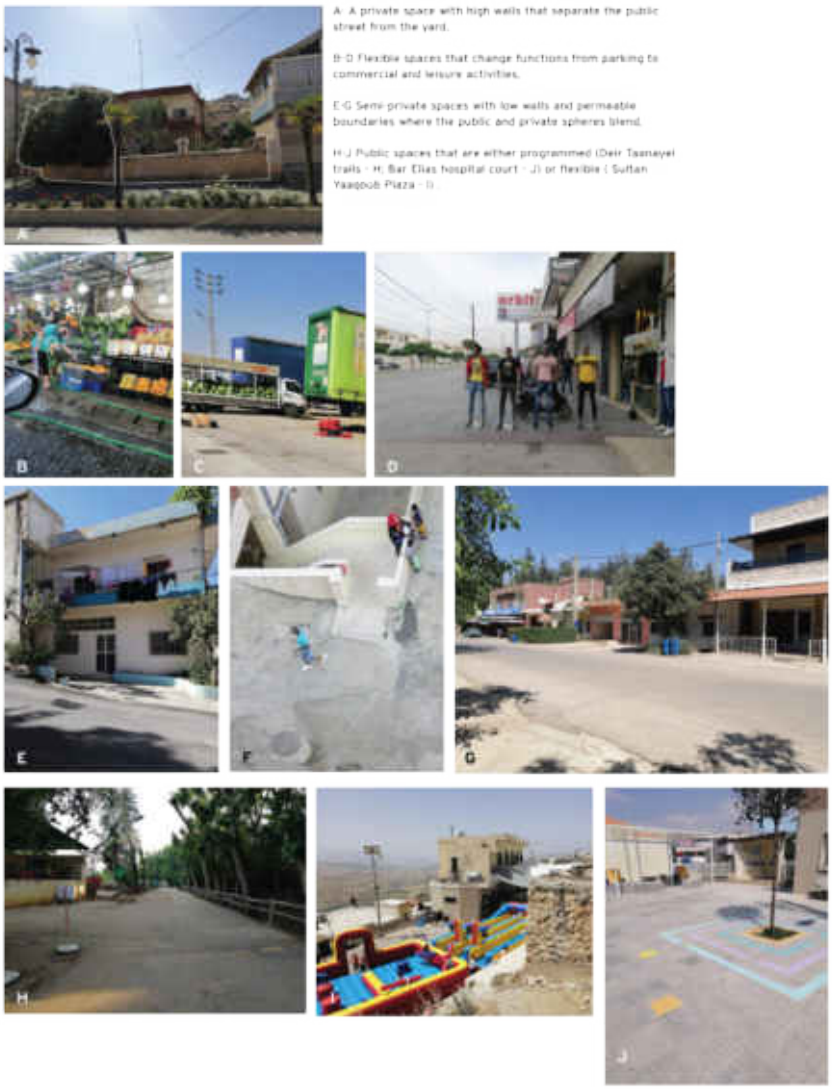


FIG. 8 Open space typologies. Source: photos captured by author.

Private spaces can be separated from the public realm by shorter walls, providing permeability and a balance of seclusion and openness. Villas were often surrounded with private landscaped yards, separated from the public by taller walls (2 to 3 meters). Open spaces were classified under five categories: Private for walled-in yards; Semi-private for spaces and patios that are separated by a grade change or by a permeable wall; Flex Space for an open space that blends with the street; and Green Space for parks, commercial landscaped areas, school yards and hospital open spaces. Buildings that had no distinctive open spaces were classified as having "none" open space. In central and western Beqaa, it is uncommon to find a dominant type of open space typical of a single neighborhood or town (see Fig. 12). Instead, what we often observe are combinations of various open spaces working in harmony. This dynamic interplay creates a multifaceted boundary, marked by a range of permeabilities, between the private and public spheres within the built environment.

The assessment of morphological characteristics for both formal and informal environments suggests the need for site-specific criteria that don't fit into rigid categories, but rather permit some variability, much like a spectrum.[51, 52] the remaining two criteria "Land Use Heterogeneity" and "Architectural Heterogeneity" were distilled along this thought. Land uses and architectural styles were considered as hard to extricate, seeing how the built fabric combines different architectural styles and various land uses in interlaced spaces, and the scale of the study does not consider individual buildings but rather fabrics. There was no attempt to identify individual land uses or architectural styles. Instead, following the idea of "functional mix" concept, heterogeneity considers a gradient of mixes without attempting to discern which places are work, live, or play/visit. Then the criteria measured not the function but the mixes found within the data point area. To further elaborate:

**D. Land Use Heterogeneity:** This would measure how heterogeneous a land use mix would be in any group of buildings. A category of 'low' would be used to describe industrial areas or residential villas. A category of 'medium' would include residential, commercial, and/or entertainment. A category of 'high' would include residential, commercial, and/or entertainment, in addition to civic and religious institutions or industrial. These categories were delineated for the purpose of facilitating the analysis, but the gradient of low heterogeneity – high heterogeneity can be categorized under different criteria (See Fig. 9).

**E. Architectural Heterogeneity:** Based on the nature of the vernacular and the informal, how the urban fabric is constructed is at best unpredictable and at worst illegible. For these reasons, a category 'low' would mean that all the buildings and their adjacent spaces follow the same or similar construction material, proportions, and architectural style. A category 'medium' would be buildings that are generally constructed with similar design parameters but that show some variations such as roof structure, size, patio space, etc. A 'high' category would be very different buildings (old construction, apartment buildings, unfinished inhabited structure) juxtaposed together (See Fig. 9).

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51 Kim Dovey and Hesam Kamalipour, "Informal/Formal Morphologies," in *Mapping Urbanities*, ed. Kim Dovey, Elek Oafka, Mirjana Ristic (New York: Routledge, 2018): 223-248

52 Ananya Roy and Nezar AlSayyad, *Urban Informality: Transnational Perspectives from the Middle East, Latin America, and South Asia*, (Lanham, Boulder, New York, Toronto and Oxford: Lexington Books, 2004), viii


FIG. 9 Land use and Architecture heretogeneity. Source: photos by author, aerial views extracted from ArcGIS online. Imagery contributions from ESRI, Maxar Geolye, Earthstar Geographics, CNES/Airbus DS, USDA, AeroGRID, IGN, HERE, Garmin.

## 3.4 Phase 05: Interpretation/Operationalization

Organized by morphological criteria (Street Grid, Density, Open Space, Land Use Heterogeneity, and Architectural Heterogeneity), the "Built Environment" data points were classified and spatially projected as seen in Figs. 10 through 14. The resulting portrait begins to construct the distribution of morphological characteristics across the Beqaa's built environment, in turn shedding light on the relationships between densities, architectural styles, and mixes of activities. Some of these distributions are predictable: most town centers contain the highest densities and architectural heterogeneity, with little to no open space (see Fig. 10 and 12); Street grids tend to be organic near older town centers and uniform further out (see Fig. 11). Semi-private spaces are prevalent regardless of the density, land use, and architectural heterogeneity (see Fig. 12). Of the many ramifications this could have, two direct repercussions become evident: 1) In typologizing the character of the Beqaa, the porosity of the boundaries

emerges as a driving characteristic of the architectural vernacular, much like brick tile roofs and triple arches in traditional Lebanese architecture; 2) In planning for the future of the Beqaa, connecting semi-private, public and flex via multi-use street networks could improve the circulation of the built environment and promote commercial and leisure activity. This projection of morphological characteristics brings some other insights. Aside from facilities – which would naturally have one distinct use such as industrial, health or educational – there are few fabrics that sport low land use heterogeneity and low architectural heterogeneity. The built fabric in the Beqaa tends towards diversifying land uses even at its lowest density. If one assumes that fabrics with lower architectural heterogeneity tend to be more recently constructed, then buildings on the fringe of the Beirut-Damascus road and the upcoming Arab Autostrad are newer. A comparison between Fig. 13 and Fig. 14 shows that buildings in these main road affronts also tend to have higher land use heterogeneity, but also connect town centers (high architectural heterogeneity, medium land use heterogeneity) with a growing commercial corridor. This, too begins to set a stage for how this connection could be used for transportation planning – perhaps a revival of the commuter train – and dweller-oriented experiences. On an operationalization front, other trends become evident:

**1. Expressing Densities:** The element of density was a foundational element in distinguishing between different built environments, and this study considered typical number of floors and space between buildings as indicators of density. Very low densities are expressed as 'villas' or 'settlements'. Neighborhoods and functional mixes of low to medium density can be categorized under 'town', and 'urban' is used to express high density. The terms "low density" or "medium density" are only retained at Level 04 for fabrics that are still developing (See Developing Fabric below).

**2. Facilities:** The baseline LCLU system included a facilities class encompassing leisure and sports centers. In the sample, there were other observed facilities such as markets, hotels, eco-lodges, resorts, and education centers. This list is not immune to temporal impacts, especially with the growing scales of development. This list could include new types of facilities such as office parks, or convention centers.

**3. The residential-only typology:** There are 3 types of typologies where only one land use occurs, which are the nomadic settlements, refugee settlements, and villas. The distinguishing difference between nomadic and refugee settlements is the street grid. The nomadic grows incrementally on organic grids with fluid boundaries whereas the refugee settlements are more planned, on uniform and hybrid grids with designated land parcels. The difference between the nomadic / refugee settlement and the villa is the typology of the open space. Where villas have private green spaces such as yards, the settlements either have no open space or some flex space.

**4. Developing Fabric:** Field notes showed that some fabrics can be interpreted as on the cusp of growth. Those typically include low (1-2 floor buildings) to medium densities (2-4 floor buildings) adjacent to vacant lots, defunct agricultural lands, or construction sites. While characterizing this as "changing" or "developing" does delve into the predictive aspect of mapping, which arguably falls outside the scope of this study, it is important to make that distinction because the nature of the imminent construction would decide the eventual typology of the fabric. For example, a low-density neighborhood (buildings 1-4 floors) with vacant lots can become a medium density neighborhood if more of the same buildings are installed in the empty lots, whereas it could become a functional mix fabric if larger buildings with commercial services are installed. In the unlikely event of the vacant lot becoming a green space, then it would be anchored as a low-density neighborhood.

**5. Historic versus modern fabric:** Phases 01 and 02 of the study revealed the need to discern between different aspects the of architectural vernacular. The overarching pre-car / post-car trend adopted to assess the street grid and the land use heterogeneity is applicable here: dwellings constructed prior to the commercialization of the car tended to house less families (1 to 2), presented aspects of traditional 'Lebanese' architecture, including the red tile roofs, arched windows and doors, and walls dressed with natural stone. Dwellings constructed post car commercialization tended to house more families on multiple apartment floors, and either reduce or remove expensive construction material such as natural stone in favor of concrete and paint. This rule is not consistent across all post-car commercialization construction: many buildings constructed after the civil war are of low density (such as villas) and establishments such as restaurants and eco-lodges retained aspects of traditional architecture.

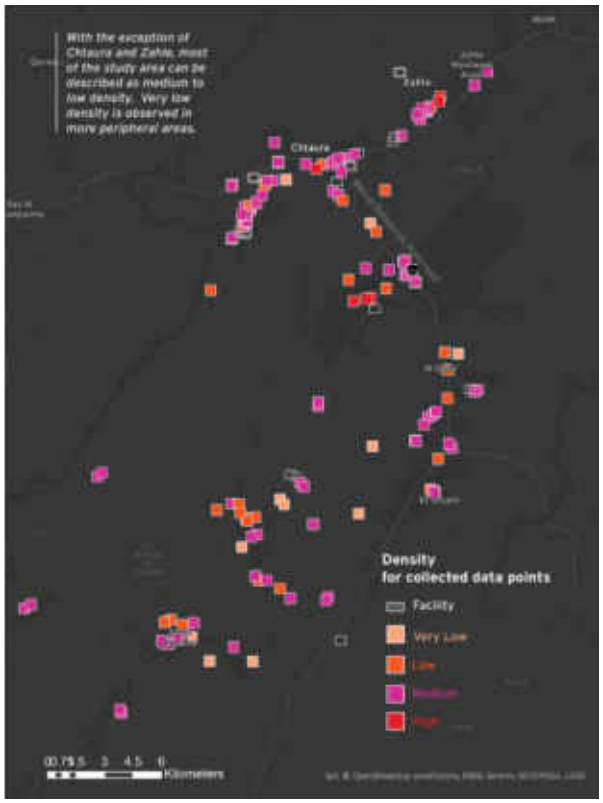


FIG. 10 Distibution of Densities in the Beqaa Built Environment. Source: Data points collected by author. Underlying basemap contributions by ESRI, OpenStreetMap, HERE, Garmin, NASA, USGS.

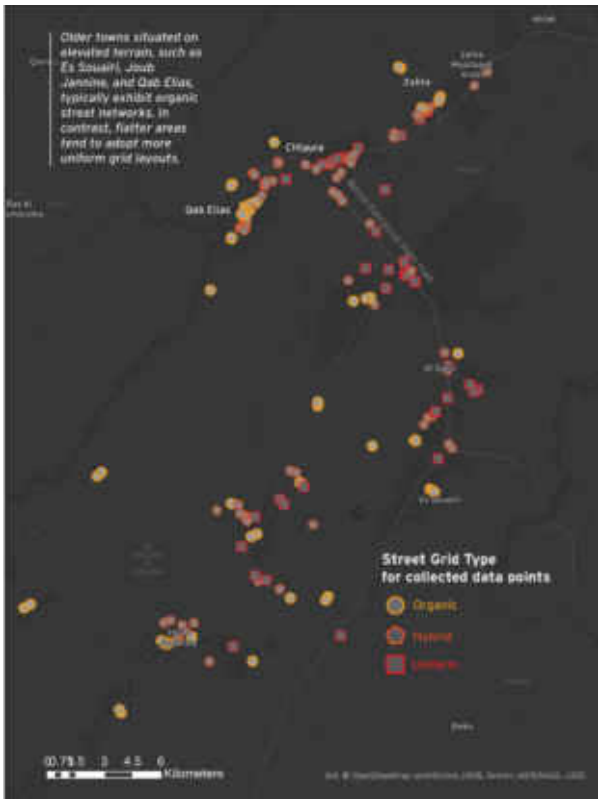


FIG. 11 Distribution of Street Grid in the Beqaa Built Environment. Source: Data points collected by author. Underlying basemap contributions by ESRI, OpenStreetMap, HERE, Garmin, NASA, USGS.


FIG. 12 Distribution of Open Space in the Beqaa Built Environment. Source: Data points collected by author. Underlying basemap contributions by ESRI, OpenStreetMap, HERE, Garmin, NASA, USGS.


FIG. 13 Distribution of Architectural Heterogeneity in the Beqaa Built Environment. Source: Data points collected by author. Underlying basemap contributions by ESRI, OpenStreetMap, HERE, Garmin, NASA, USGS.

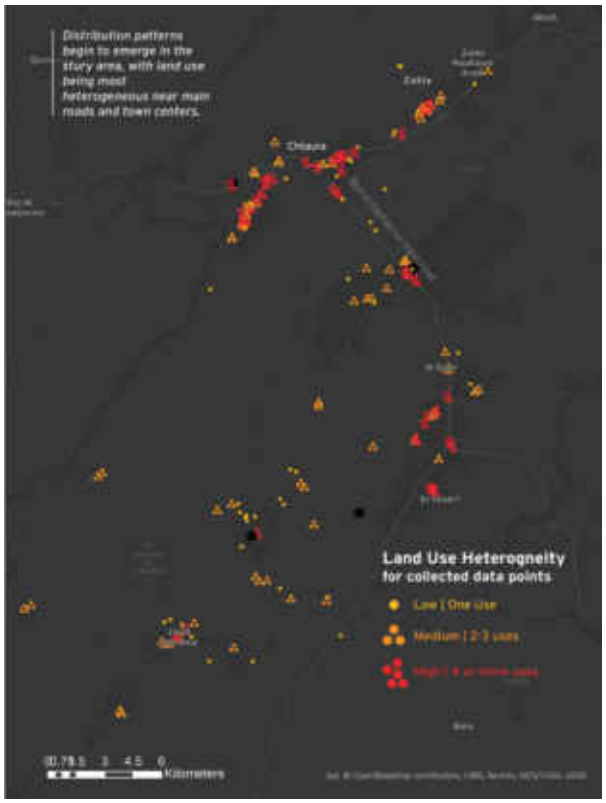


FIG. 14 Distribution of Land Use Heterogeneity in the Beqaa Built Environment. Source: Data points collected by author. Underlying basemap contributions by ESRI, OpenStreetMap, HERE, Garmin, NASA, USGS.

To address the question of how morphological mapping can contribute to regional or national spatial systems, the typo-morphological synthesis (Fig. 6) can be used to synthesize an alternative set of classes to be incorporated into the existing LCLU classification system in use by the National Remote Sensing Center in Lebanon. Fig. 15 delineates how these characteristics can begin to synthesize classes to that goal. The synthesis process and the nomenclature are iterative and easily impacted by participatory planning and the intent driving the production of spatial knowledge. Nevertheless, there is a distinct value in utilizing descriptors that go beyond density, formality and informality (refer to Fig. 4) to bridge the semantic gap between spatial knowledge and actual place.

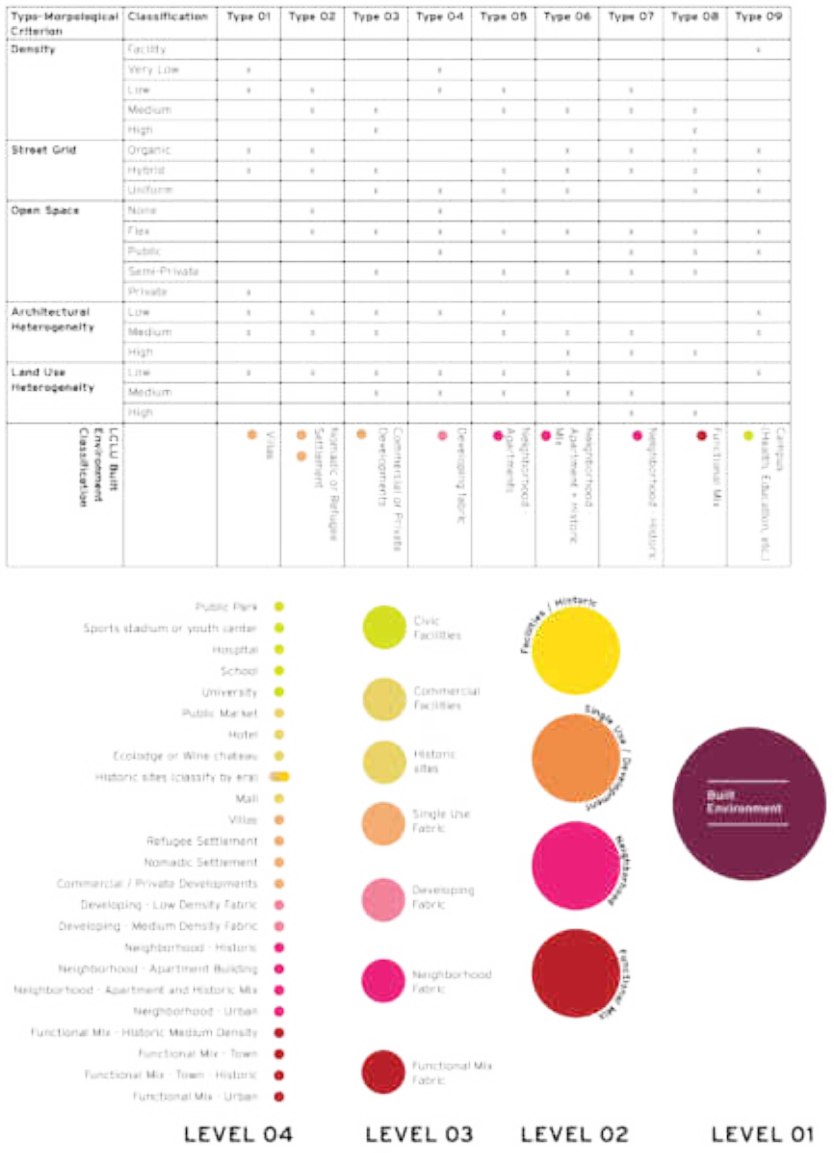


FIG. 15 From Typo-morphological matrix to built environment classification. Source: produced by author.

## 4. Discussion

The main goal of this research can be summarized as a proposed mapping workflow that translates the built environment into actionable spatial knowledge. It focuses on deconstructing and understanding the commonplace, or vernacular, architecture of the urban environment, which is the outcome of human actions and behaviors.[53] This deconstruction distills criteria of the built environment that are used to identify typologies that can then inform actionable spatial knowledge. Fig. 15 begins to synthesize a classification system that could be used to revise the exiting LCLU system, although more iterations would be needed to finally arrive at a classification system that could be used for Lebanon.

While the proposed workflow in this article was developed for the Beqaa,

53 Thomas Carter and Elizabeth Collins Cromley, *Invitation to Vernacular Architecture: A Guide to the Study of Ordinary Buildings and Landscapes, Vol. 20* (Portland: Ringgold, Inc, 2005),

it is easily transferable to other rural or small-town regions in the Middle East especially if the built environment is described as 'informal' or 'vernacular'. When the built environment is weaved from community-based and traditional construction techniques and is barely hindered by a stringent regulatory framework, it is a testament to the dwellers' adaptability in negotiating material, economic, and environmental constraints to meet their aesthetic and cultural desires. This proposed workflow would inform a mapping process where the 'vernacular' language is transformed into spatial knowledge.

The five phases of this iterative workflow (reconnaissance, establishing a baseline, data collection, synthesis, interpretation) permit the researcher to suspend their normative urge and interrogate the built environment from a site-specific lens that could challenge existing preconceptions on the region. In the case of Lebanon, this would question the perceived role of the Beqaa as an agricultural resource, thus inviting a more complex and equitable frame. In this vein, the value of spatial knowledge and its production is directly tied to its ability to reconceptualize the narrative of place from 'regional value' to 'places of the everyday' while building agency for the built language – the vernacular – and the dwellers who have constructed it. To further build on this, participatory input can easily be integrated in this workflow. Crowdsourced data combined with dweller observations can serve as a foundation for public workshops aimed at pinpointing the key elements of the built environment that hold cultural significance and for devising typologies that orchestrate a form of spatial identity capturing both similarities and distinctions.

This workflow can also be integrated into existing spatial knowledge systems to reflect the complexities of the built environment, thus closing the semantic gap between place and spatial representation. In this case, the established spatial knowledge baseline is the Land Cover Land Use dataset. The same process could be followed to remap a neighborhood, town, city using multiple scales such as buildings, building blocks, or others.

## 5. Limitations

The stratified random sampling strategy of data points for this study were collected from Central Beqaa and some parts of West Beqaa. Data collected from all of the Beqaa, and perhaps from all of Lebanon, would alter the resulting classes or categories and would be more readily integrated into national GIS classification systems. The question of scale would also be relevant to refine the study's outcomes. While this iteration began to distill density, architectural and land use heterogeneity, open space, and street type composition of each fabric, future iterations could integrate neighborhood boundaries and parcel level data to identify areas more distinctly. Continuing this workflow with other geospatial methods such as classification efforts using remote sensing data can also expedite the

process to attach typo-morphological values to fabric footprints rather than individual points.

Finally, broadening the application of this method, whether by incorporating remote sensing data or by acquiring additional field data points, could provide more precise insights into the interconnectivity of towns and neighborhoods. This can shed light on various aspects such as transportation networks, land use patterns, and the socio-spatial relationships within the Beqaa region.

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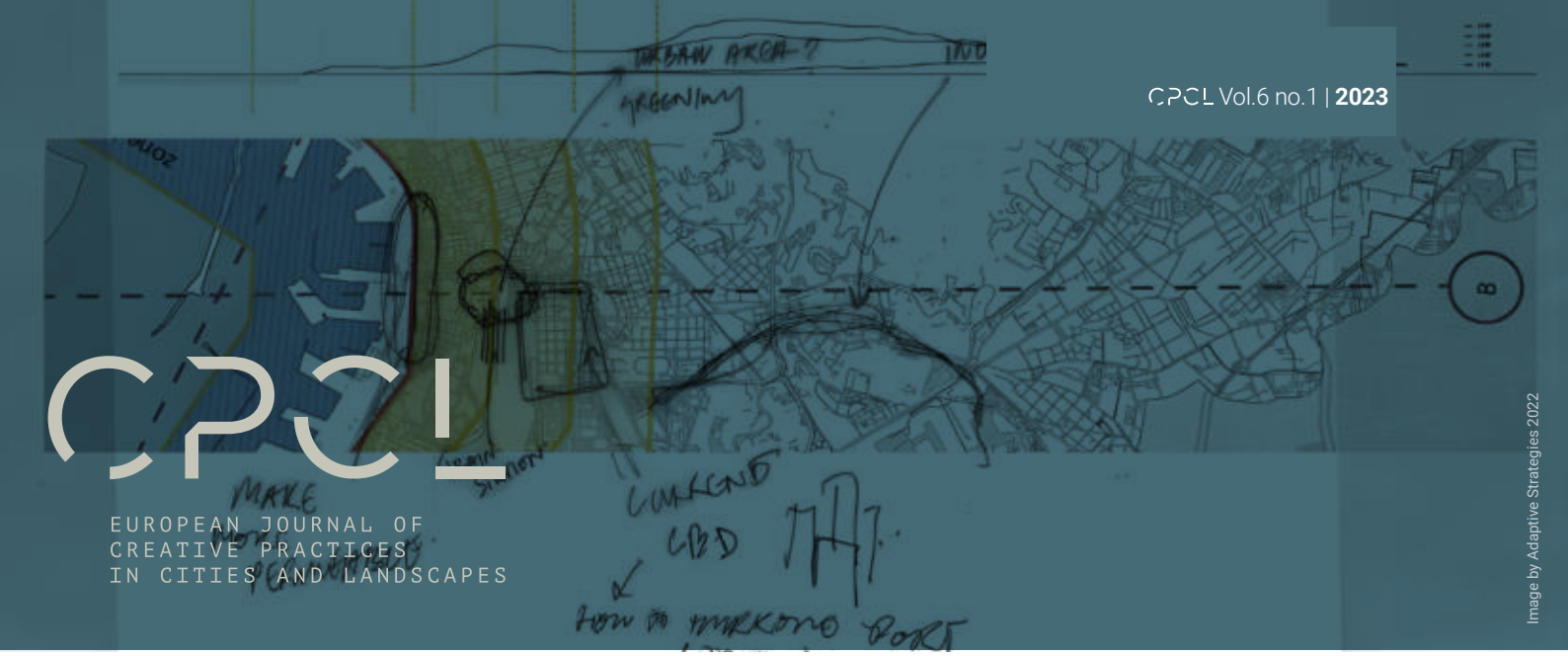

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Image by Adaptive Strategies 2022

MAIN SECTION

# Adaptive Strategies in Naples and Beirut: Methodology, Scenario Thinking and Design Fiction

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ABSTRACT

Port cities are places at the edge of sea and land, where flows of goods and people create unique spaces, institutions and cultures, often over long periods of time. History matters when it comes to understanding and designing the future of port cities such as the two ancient Mediterranean cities of Beirut and Naples, where institutions and spaces are the result of longue durée histories. Long-standing spatial and institutional frameworks in these cities have influenced recent plans. In the Italian city of Naples, historic spaces and practices have impeded transformation, because port and city authorities are pursuing divergent and historically established goals while many industrial sites, including areas used by oil industry, await redevelopment. In Beirut, reconstruction following the tragic explosion of 2020, which significantly damaged both port and city, shaping and perhaps limiting the present and future of the city. This article analyses the historic development and the opportunities for future planning of Naples and Beirut through the lens of the Adaptive Strategies course, a master-level course coordinated by Carola Hein and co-taught with Paolo De Martino and John Hanna at TU Delft in 2022. Students, through imaginative methods, rethought the relationship between land and water, port and city, questioning current planning models and imagining new resilient and adaptive processes.

KEYWORDS
*Port Cities, Landscape, Water, Adaptive Strategies, Naples, Beirut.*

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## Introduction

Port cities, located at the edge of land and sea, are landscapes in transition.[1] They lie at the forefront of many urgent contemporary questions including those related to climate change, changing water conditions, digitalization and migration, and for centuries they have been paradigms of energy transition, societal change and cultural innovation.[2] Port cities are more than ports. With their longue durée history, cultures and architectures, port cities are a mirror of society, its economic and political models and technological development. Examples include the changes introduced by the oil revolution at the beginning of the 20th century.[3] Similarly, beginning in the 1960s, containerization has triggered changes in the city and regional economy and therefore in society, resulting in ports that have progressively moved away from cities.[4] Understanding and addressing these challenges is key to the development of adaptive strategies and long-term perspectives.[5] Developing adaptive strategies requires more than technical intervention; it requires rethinking and redesigning basic spatial and socio-cultural paradigms.

This article analyses two port cities - Naples and Beirut - that serve as examples of the challenges Mediterranean port cities face now and into the future. The article explores these territories through the experience of the second-level master-level course Adaptive Strategies [AR0110]

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1 Enrico Formato and Michelangelo Russo, "Re-Use/Re-Cycle Territories: A Retroactive Conceptualisation for East Naples," *TeMA-Journal of Land Use, Mobility and Environment*, 2014.
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De Martino, Paolo. "Naples: A City Away from Water." *Planning Perspectives* (2023): 1-16.

2 Carola Hein, *Port Cities: Dynamic Landscapes and Global Networks* (Abingdon, Oxon; New York: Routledge, 2011); Carola Hein, "Port Cities and Urban Wealth: Between Global Networks and Local Transformations," *International Journal of Global Environmental Issues* 13, no. 2/3/4 (2014): 339, https://doi.org/10.1504/IJGENVI.2014.064510; Carola Hein, "Port City Porosity: Boundaries, Flows, and Territories," *Urban Planning* 6, no. 3 (2021): 1–9; Carola Hein et al., "Changing Minds: Towards Water-Based Architecture and Public Space for the Future Urban Archipelago," November 2023, https://www.portcityfutures.nl/news/changing-minds-towards-water-based-architecture-and-public-space-for-the-future-urban; Carola Hein, Sabine Luning, and Paul Van De Laar, "Port City Cultures, Values, and Maritime Mindsets: Defining What Makes Port Cities Special," *European Journal of Creative Practices in Cities and Landscapes* Vol. 4 No. 1 (2021): 7-20 Pages, https://doi.org/10.6092/ISSN.2612-0496/13378.

3 Paolo De Martino, Carola Hein, and Michelangelo Russo, "Naples beyond Oil: New Design Approaches in the Era of Retiring Landscapes," *Portus* (Online), no. 37 (2019); Carola Hein, "Oil Spaces: The Global Petroleumscape in the Rotterdam/The Hague Area," *Journal of Urban History* 44, no. 5 (2018): 887–929, https://doi.org/10.1177/0096144217752460.

4 Carola Hein and Dirk Schubert, "Resilience and Path Dependence: A Comparative Study of the Port Cities of London, Hamburg, and Philadelphia," *Journal of Urban History* 47, no. 2 (March 2021): 389–419, https://doi.org/10.1177/0096144220925098.

5 Carola Hein, *Adaptive Strategies for Water Heritage: Past, Present and Future* (Springer Nature, 2020).

at TU Delft, coordinated by Professor Carola Hein, with teachers Paolo De Martino and John Hanna. The course emphasises the importance of understanding the past to plan for the future. Learning about a place, its evolution and the people who shaped it are fundamental steps to addressing contemporary challenges and opportunities. The learning takes place through the exploration and mapping of these cities over time. The course posits that we need to establish adaptive strategies that recognize the impact of long-term developments past present and future that we need to develop strategic steps needed to reach them and to assure that diverse actions are aligned to achieve them. The course thus goes beyond the concept of a pure masterplan and instead proposes evolving strategies that are aligned with narratives and design fictions. Students proposed possibilities and images, which leave room for uncertainty. These traces and signs are also the result of a stratigraphy of stories and sometimes legends that can bring different stakeholders together.

## Adaptive Strategies: Methodology, Scenario Thinking and Design Fiction

The 10-week course, Adaptive Strategies, starts from the assumption that design needs more than a single plan to capture the future. We argue that designers need to develop long-term pathways that acknowledge different challenges and opportunities along the way. The goal is thus not only to build a project but to continuously reflect on the impact of an intervention and its meaning for the future. To understand how to turn challenges into potential adaptive interventions, one part of this approach is to acknowledge the relevance of time and the different temporalities of transforming space, society and culture over time. It takes into account the fact that space, institutions, societies and economies all change in different ways and with different rhythms and at different scales and with different processes.

Working on scenarios, as a tool to activate adaptive strategies, enables participants to critically reflect on the evolutionary history of places and the communities that inhabit them; this is the first step in establishing a relationship with the city. Scenarios are a part of the design process of searching for long-term futures while also responding to short-term intervention through timelines towards the future. The course promotes scenarios as an interpretative and unconventional tool for the formulation of new narratives, pushing students to consider long-term developments and extreme solutions. Design adaptive strategies in the course have looked at the theme of recycling, urban regeneration, reclamation, conservation and enhancement of the industrial heritage. Scenarios do not propose final outcomes, rather they can help with imagining new forms and with recognizing urban potential. Scenarios suggest a process of speculation in which everything is possible and at the same time everything

is questioned. New (provocative) scenarios can initiate conversations among local stakeholders and help a new generation to engage with the critical relationship between land and water. Therefore, scenarios do not claim to plan everything. The scenario becomes an image capable of tracing a direction in a context made up of differences, complexities, conflicts and uncertainties. More than assertive projects, the scenario indicates possible new narratives, interpretative models and cultural approaches for living with water.

The construction of the scenario requires thinking the interconnection of some crucial themes:

The course is set up with a three-step approach: understanding, (re)interpreting and (re)designing port cities in line with the methodological exploration introduced with the recently published Port City Atlas by Carola Hein.[6] For each of these steps the students were asked to reflect analytically through sketches, maps, texts and collages to reimagine the future of Naples and Beirut in light of environmental transitions. Addressing these challenges posed by the multiple transitions requires a profound reorganisation of the territorial hierarchies, rethinking relationships between energy and nature, economy and environment, infrastructure and water, and culture and history in ways and with temporalities still to be understood.

The course focused on Naples and Beirut, two port cities joined together by the Mediterranean Sea, serve as examples of the role of adaptive histories that take into account a longue durée history. They illustrate the weight of path dependencies established over time in space and in institutions, and the need for long-term, adaptive strategies that create a new equilibrium among diverse actors. These strategies can help achieve new spatial configurations that go beyond fragmentation, new collaborations at the scale of the city and the region and a profound shift in the governance structure and mindset of the authorities of port, city and territory.

The course worked on future imaginaries for the two Mediterranean cities through a scenario-thinking approach as an enabler of adaptive interventions.[7] Port authorities and municipalities in these port cities, in different ways and at different scales, face the challenge of having to rethink entire parts of the territory at the edge of the port and within the port itself. The results, in their diversity, highlight the need for a profound paradigm shift

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6 Hein, C., I. van Mil, and L. Ažman-Momirski. *Port City Atlas.* Nai010 Publishers, 2023.

7 Grace Abou Jaoude, Olaf Mumm, and Vanessa Miriam Carlow, "An Overview of Scenario Approaches: A Guide for Urban Design and Planning," *Journal of Planning Literature* 37, no. 3 (2022): 467–87, https://doi.org/10.1177/08854122221083546; Carola Hein and Elise Van Dooren, "Teaching History for Design at TU Delft: Exploring Types of Student Learning and Perceived Relevance of History for the Architecture Profession," *International Journal of Technology and Design Education* 30, no. 5 (2020): 849–65, https://doi.org/10.1007/s10798-019-09533-5; David Sarpong and Mairi Maclean, "Scenario Thinking: A Practice-Based Approach for the Identification of Opportunities for Innovation," *Futures* 43, no. 10 (2011): 1154–63, https://doi.org/10.1016/j.futures.2011.07.013.

in the definition of solutions as well as the tools to realise them.[8]

The course starts with research on relevant socio-economic, cultural and morphological aspects; the objective of the final design was to synthesise the findings and develop scenarios that could build on the synthesis and address the following questions: What role can the port and the development of its surrounding neighbourhoods play in understanding, re-imagining and re-designing the contested identity of the city? Which actors can be involved in this transformation process, and how? What is the story that emerges from this synthesis? What adaptive strategies do students propose to alter this story? The outcome of the final project took the format of schematic plans, collages, visualisations and illustrated narratives.

## Positioning Naples and Beirut: two Mediterranean port cities in time and space

The course touched upon two different case studies, Naples and Beirut, each with unique challenges, united here through a shared location on the Mediterranean, a shared position as port cities, and a shared approach of teaching adaptive strategies. Naples is a city in constant search of its coastline, a city away from water. In the eastern area of the city, the port has always worked as an insurmountable barrier. Beirut has experienced many periods of urbanization, destruction, reconstruction and regeneration, which have contributed to the complex nature of its settlements and populations. This paper explores the findings and design results of each of the cities to showcase the opportunities of this particular pedagogical approach.

## Naples: a city away from water

Naples, a millenary port city along the Mediterranean coast in Southern Italy, is facing multiple spatial, social and environmental challenges. Seen from the sea, the port merges with the city, becoming a unique entity with the landscape and Mount Vesuvius. The latter acts as a fascinating backdrop, but also represents one of the greater risks for the coastline and the regional territory (Fig. 1).

8 Carola Hein, Yvonne van Mil, and Lucija Ažman Momirski, *Port City Atlas: Mapping European Port City Territories: From Understanding to Design* (Rotterdam: nai010 publishers, 2023).

FIG. 1 The port of Naples from the sea. Source: Paolo De Martino

With its strategic location at the centre of the Mediterranean Sea, Naples lies at the intersection of flows of various natures and scales: oil flows, commercial and touristic routes and migration[9] (Fig. 2). To better understand the challenges that port and city face today, the city of Naples requires exploration on a regional scale in line with the concept of port city territories outlined in the Port City Atlas by Hein.

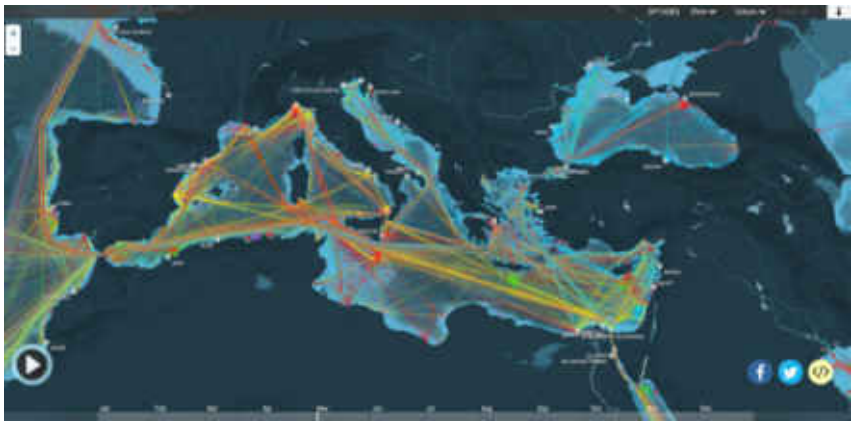

FIG. 2 System of flows crossing the Mediterranean Sea. Source: https://www.shipmap.org/

In Naples, like many other port cities around the world, beginning in the 20th century, the spaces and temporalities of port and city became increasingly separate. Port activities and related infrastructure started

9 De Martino, Paolo. 2021. "Land in Limbo: Understanding Path dependencies at the Intersection of the Port and city of Naples". *A+BE | Architecture and the Built Environment* 11 (09):1-288. https://doi.org/10.7480/abe.2021.09.5813.
De Martino, Paolo. "Naples: A City Away from Water." *Planning Perspectives* 39, no. 1 (2024/01/02 2024): 179-94.
Pugliano, Giuseppina, Guido Benassai, and Edoardo Benassai. "Integrating Urban and Port Planning Policies in a Sustainable Perspective: The Case Study of Naples Historic Harbour Area." *Planning Perspectives* 34 (04/03 2018): 1-21.

to separate the area between land and sea, cutting citizens off from the coast. Since the beginning of the 21st century, the growing scale of ships and the increase in trade has pushed the port authority of Naples to make significant investments in port infrastructures, with tangible impacts on spatial development on the land side. Hundreds of trucks moving in and out of the port everyday generate water, air and noise pollution and damage the urban and historical environment, creating social and cultural frictions.

FIG. 3 East Naples. Source: Paolo De Martino

East Naples, a focus of the course Adaptive Strategies, is an emblematic study area of many conflicts, including conflicts that are spatial, social and environmental. East Naples is part of an articulated and complex system of flows and infrastructures spread throughout the region (Fig. 3). Examples include the railway that separates the city from the sea, commercial flows entering the port in the Vigliena area and the power plant. The infrastructures also generate many marginal spaces and undefined buffer zones with a lack of public space. Examples include the abandoned building of Corradini and the historical fort of Vigliena. From a design perspective, those in-between spaces and architectures can play an important role as a resource. This complexity was the starting point for the students in the course, who have been challenged to critically reflect on the historical development of the city, to identify key moments of change in the political sphere and to understand the role the port has played in recent history and the effects of maritime activities and shipping flows on the city's culture today.

The group headed by Giacomo Pimpini aimed to understand the complexity of the Neapolitan territory by looking at the history of its transformation from a small merchant city to an important regional port (Fig. 4). The group has also tried to map the actors involved in port-city transformations and their conflicting interests (Fig. 5). This research highlighted the need to work on overlapping areas between these actors and identify solutions that reduce the pressure from port activities on the city and its sea.

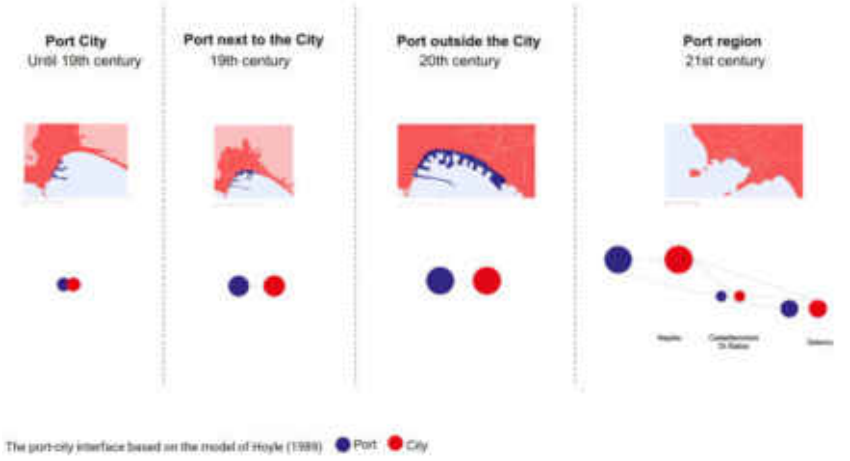


FIG. 4 Naples' spatial development in history, by Giacomo Pimpini, Meng Chen, Matilda Hoffmann and Jiacheng Xu. Source: Adaptive Strategies 2022

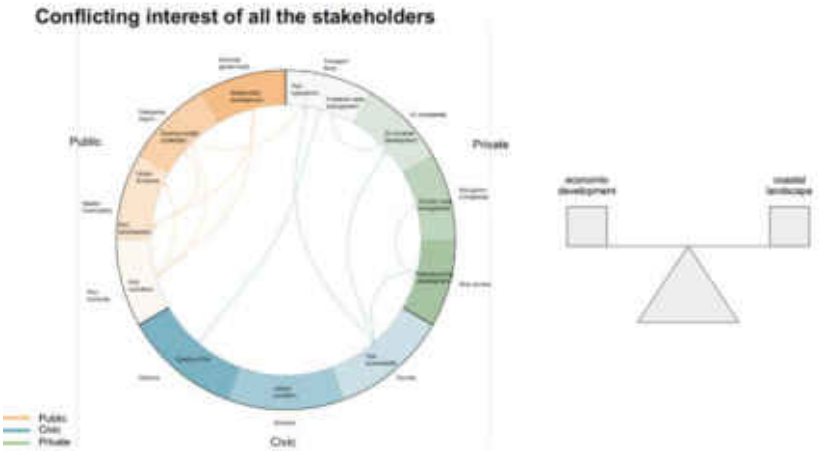


FIG. 5 Port city actors, by Giacomo Pimpini, Meng Chen, Matilda Hoffmann and Jiacheng Xu. Source: Adaptive Strategies 2022

A second group, headed by Ifrah Ariff, identified governance and conflicting uses along the coast as one of the city's biggest problems (Fig. 6).

The mapping process explored spatial relationships, existing uses, and land ownership. It also highlighted the often-negative impacts of the port on the territory and landscape.

For students, thinking in terms of adaptive strategies has meant challenges into opportunities by looking at the possibilities of densifying innovative port activities in some areas of the port to reduce the general pressure of the port on the city.

It is precisely the places on the edge of the old industrialization that become, for students, the object of design interventions. These landscapes have been (re)interpreted by students as a resource and as new possible environmental infrastructures.

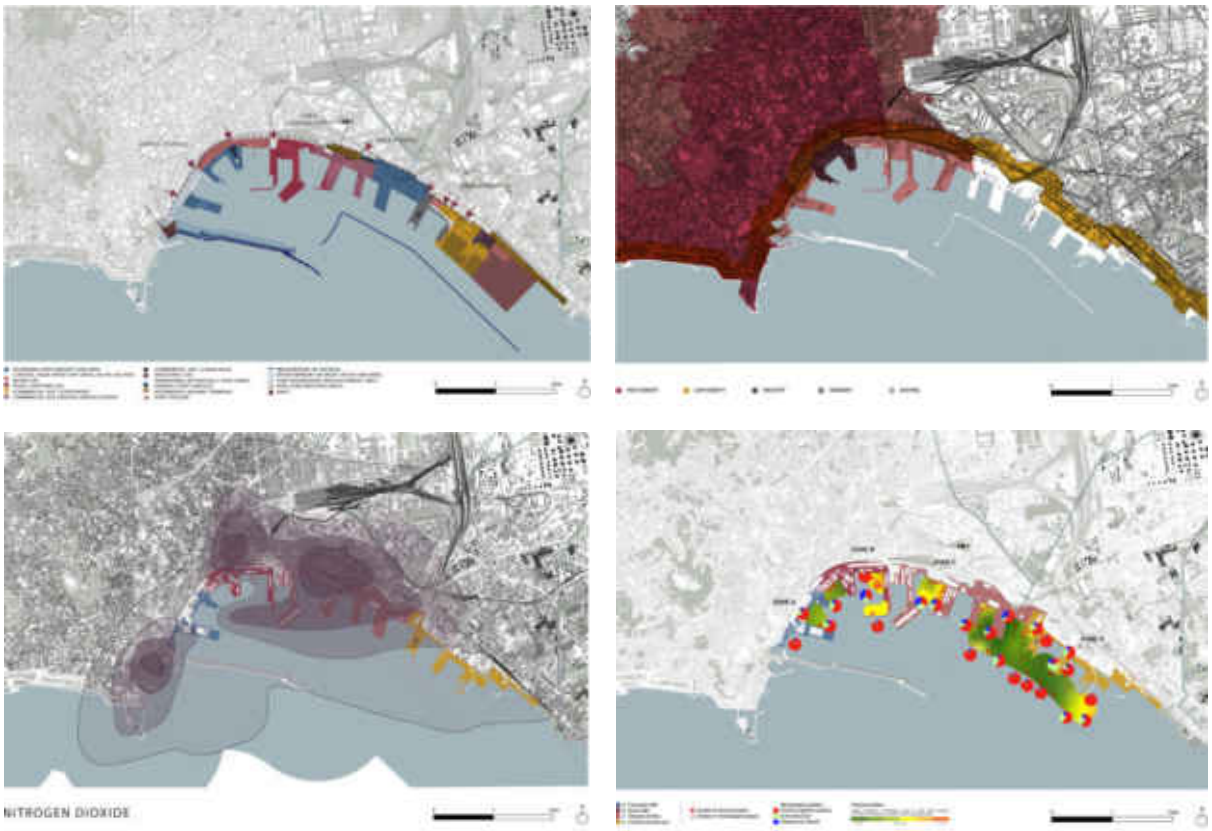


FIG. 6 Maps showing the impacts and pressures on city and sea from port activities, by Artem Alexandrov, Ifrah Ariff, Romée Lems, Luisa Martíns, Zuzanna Murzyn and Zuzanna Sliwinska. Source: Adaptive Strategies 2022

## Reconceptualization

The reconceptualisation processes start with how we look at the territory. New insights can lead to new relationships and also leave us disoriented. This was the case with the analysis carried out by the group headed by Ifrah Arif, who, by rotating the map of Naples, highlighted the need for a new perspective (Fig. 7).

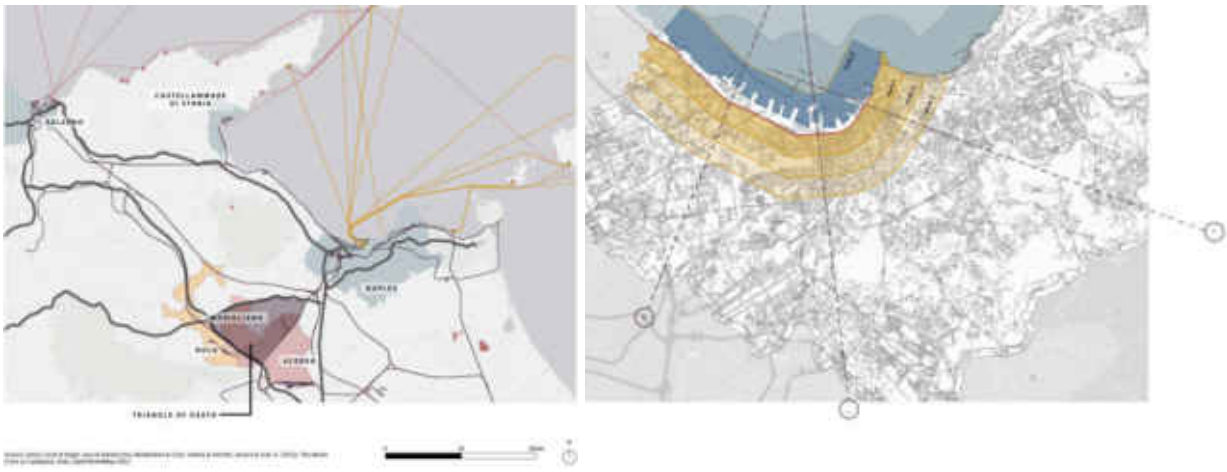

FIG. 7 A rotated map by Artem Alexandrov, Ifrah Ariff, Romée Lems, Luisa Martíns, Zuzanna Murzyn and Zuzanna Sliwinska. Source: Adaptive Strategies 2022

A transect approach allowed students to identify three different relationships between port and city. For each of these areas, conflicts and potential were identified, as students sought ways of bringing the coastline closer to the city (Fig. 8).

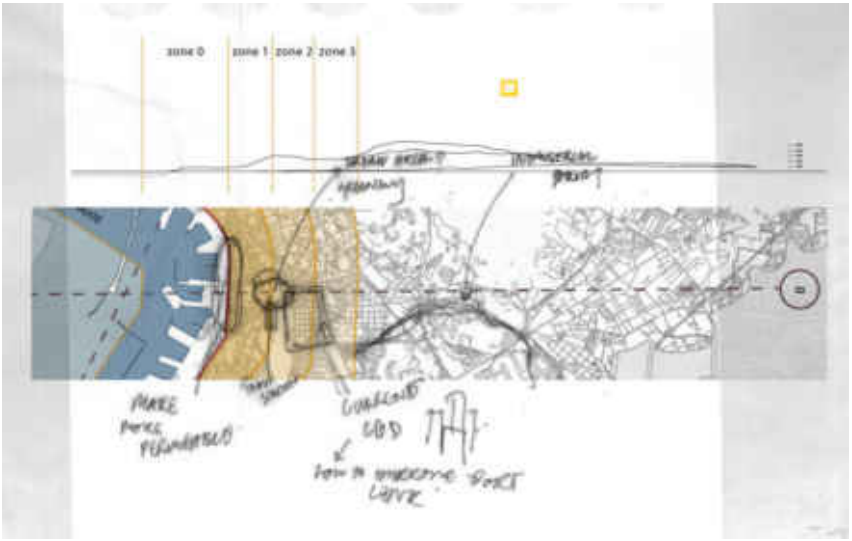

FIG. 8 A transect approach by Artem Alexandrov, Ifrah Ariff, Romée Lems, Luisa Martíns, Zuzanna Murzyn and Zuzanna Sliwinska. Source: Adaptive Strategies 2022

This differentiated approach to the city can help reconstruct the system of relations, which, from water, extends towards the land and from land extends towards water by reconceptualizing the edges between land and water and new urban spaces.

The second group, headed by Giacomo Pimpini, focused on the theme of the sea and its ability to configure itself as a mythological landscape. The Greco-Roman past and the myth of Parthenope are just a few examples. These elements from history and mythology contribute to the construction of the image of the city we experience today, a city that is made up of different materials. There is a) the sea as an urban landscape populated by different flows; b) the city as a collage of different fragments: residential areas, industry and port spaces; and c) the city with its functional enclaves (Fig. 9).

FIG. 9 "The city and its elements" From left to right: a, b and c, by Giacomo Pimpini, Meng Chen, Matilda Hoffmann and Jiacheng Xu. Source: Adaptive Strategies 2022

The students translated the concept vision into a reconnection of the fragments of the territory through new paths, re-appropriating some of the spaces between land and sea (Fig. 10).

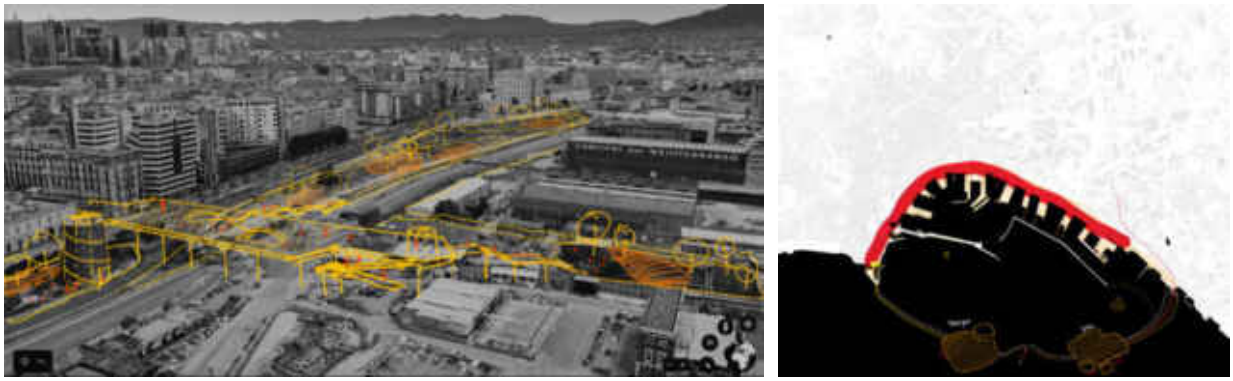

FIG. 10 First concept vision. Reconnecting city fragments by Giacomo Pimpini, Meng Chen, Matilda Hoffmann and Jiacheng Xu. Source: Adaptive Strategies 2022

In addition, the scenario envisions an overall rethinking of the structure of the port so that it can be relocated in the water, thus imagining new possibilities of living with water (Fig. 11).

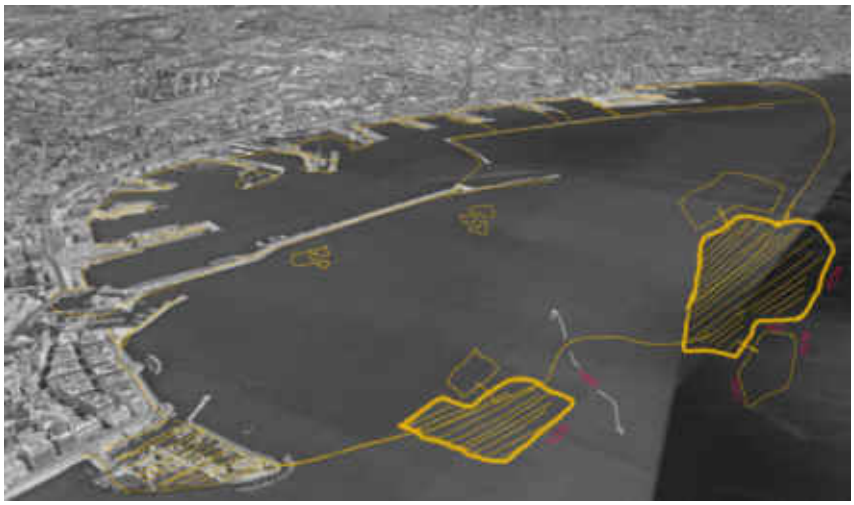

FIG. 11 "A New Urbanization of the Sea" by Giacomo Pimpini, Meng Chen, Matilda Hoffmann and Jiacheng Xu. Source: Adaptive Strategies 2022

## (RE)designing Naples

What do adaptive strategies mean for port cities like Naples? This section of the article deals with the theme of design and the role that the scenario has in the production of new knowledge.

The eastern area of Naples today still hosts fragments of an industrial past, such as the Corradini building and the Q8 oil refinery, which closed in the 1980s. There are oil fields still functioning not far from the historic centre of Naples. Here, authorities are called to rethink these relationships in the light of a new form of living. The territories left between ports and cities need to be recovered and redesigned to make room for more sustainable futures. This raises some questions: How will these places work

in the future? How much space will the transition need? What role can culture play in all of this? To answer these questions, it is necessary to rethink the nature of the port and its relationship with cities and regional territories. This requires new tools and approaches to planning.

## Floating fiction for the port city of Naples

FIG. 12 "Floating Fiction" by Giacomo Pimpini, Jiacheng Xu, Matilda Hoffmann, Meng Chen and Sora Kaito. Source: Adaptive Strategies 2022

In the dungeons of Castel dell'Ovo sits a magic egg. If this egg were to break, the castle and the whole city of Naples would collapse. As sea-level rise and other challenges threaten the stability of the magic egg and of the city, how can we imagine resilient visions for the port city of Naples that will allow it to adapt to future conditions?

In recent decades, the port city of Naples has been trying to solve the problems at the intersection of its cultural identity, urban and social structure, port footprint and network, industrial and energy sector and ecology. Having analysed all these layers of the city, we decided to propose a design fiction. By asking what-if questions, a design fiction allows us to free our minds from present-day constraints to construct a vision that upholds values fundamental to the future of Naples.

Current transformations and future forecasts help us identify some plausible future trends and respond to them. The most critical is sea-level rise. The future is uncertain, but the most pessimistic scenarios predict that the entire port and large areas in the central part of the city will be below sea level by 2100. The city needs to be prepared, mentally and physically, to face this possibility. Secondly, the ongoing energy transition will determine the obsolescence of important stakeholders and large-scale infrastructure across the port city. We must envision which actors will replace them and which alternative energy sources Naples can invest in.

As a result of this analysis, the students proposed some amendments to

the current stakeholder model, which identifies public, private and civic actors. According to the students, designers must think more about more than human stakeholders. Marine life needs to be taken into account when envisioning the future of Naples. In the design fiction they proposed, renewable energy will replace the oil industry and educational stakeholders will be more integrated in port-city development (Fig. 13).

FIG. 13 Old and new stakeholders in "Floating Fiction" by Giacomo Pimpini, Jiacheng Xu, Matilda Hoffmann, Meng Chen and Sora Kaito. Source: Adaptive Strategies 2022

The vision for 2100 is a floating and adaptive port city. It will develop in a series of steps (2050 and 2075), which start with more realistic interventions and move towards more imaginative futures. A floating structure will be gradually put in place, mirroring the morphology of the existing waterfront. The new floating city is composed of two elements. First, a continuous publicly accessible path. Transversal to this path are the transhipment units, which allow goods and people to be transferred from large ships to smaller ships that can reach the mainland.

One of the main goals of this proposal was to free the coastline from the monofunctional and inaccessible port in order to make the coast more accessible and to make it possible to relocate the port before its flooding. This will allow a new ecological area in the central part of Naples to provide fertile ground for biodiversity, while connecting the western and eastern neighbourhoods with more efficient mobility. Parts of the existing port will be transformed, allowing it to welcome new functions adapted to the rising water and other aspects of future scenarios.

A new educational network can expand across water and land to support marine and port research and educate for social awareness and scientific excellence. Existing industries will be transformed to meet future needs. Energy will be produced by exploiting the submarine geothermal and the wave-energy potential, supplying energy for the regional port network. Naples will become the prototype for a strategy that can spread throughout the Mediterranean. The floating port is composed of modular

elements. Thus, the port can grow or shrink, and parts can travel to other ports where they are most needed (Fig. 14 and 15)

FIG. 14 New port city development that addresses sea-level rise in "Floating Fiction" by Giacomo Pimpini, Jiacheng Xu, Matilda Hoffmann, Meng Chen and Sora Kaito. Adaptive Strategies 2022

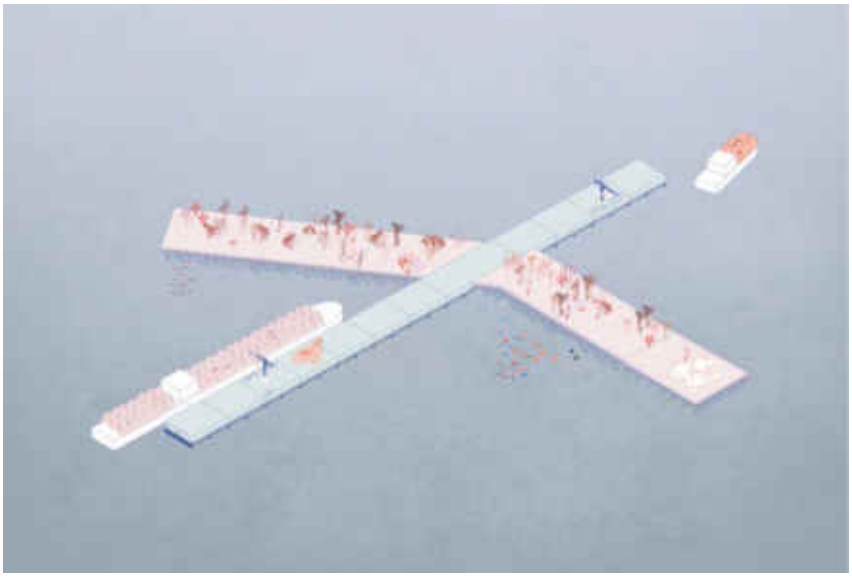

FIG. 15 Floating port module in "Floating Fiction" by Giacomo Pimpini, Jiacheng Xu, Matilda Hoffmann, Meng Chen and Sora Kaito. Adaptive Strategies 2022

## Port Pressure: Densifying the Port to Relieve the City

The intersection between the port and city of Naples presents numerous opportunities to consider the conditions and particularities that constrain urban planning in such water territories. It requires us to think of connections on the regional scale—as goods move from the port towards the

Campania hinterland - while carefully assessing the implications of the wider picture on the microscale. As investigated throughout this course, the port of Naples faces a series of discussions regarding its governance structure expansion plans—which are detrimental not only to the port itself—which is unable to evolve and modernize—but also to the urban context in which it is located (Fig. 16).

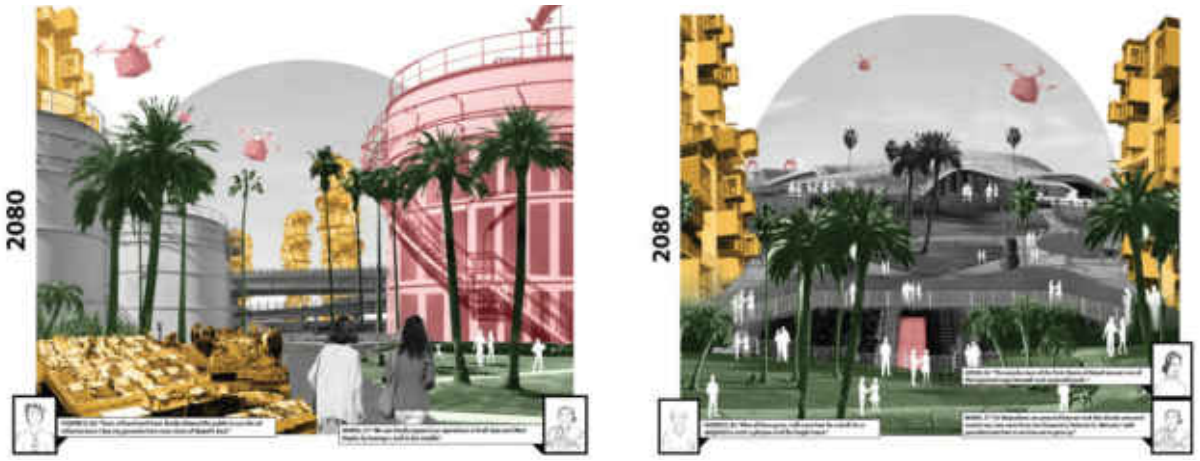


FIG. 16 "Port Pressure" by Artem Alexandrov, Ifrah Ariff, Romée Lems, Luísa Martins and Zuzanna Murzyn. Source: Adaptive Strategies 2022

This condition observed in the port has been adding pressure on the city - mobility, sustainability and social cohesion are some of the aspects which take a toll. The lack of consensus between the different stakeholders hinders development, not only within the port limits but also on the scale of the city, perpetuating and aggravating the separation between port and city and between the eastern and western parts of the city. The students' proposal supports the idea that Naples is a port city, but also emphasizes that Naples is a coastal city,[10] and that the port should be seen therefore as a part of the city and not as an antagonist to it. Furthermore, Naples' port and mercantile vocation dates back to the early 18th century, which makes it a pillar of the 'Italian' and 'modern' development of Naples.

The port activity can and should add value to the city as a whole, by generating revenue but also through the knowledge economy. A port with such outstanding importance in the Mediterranean Sea, and in the Tyrrhenian Sea particularly, can instigate research activity, promote employment and add both financial and immaterial value to the city. It is fundamental to look at coastal port cities through the lens of time, because the observation of current trends indicates that there are a few variables that will impact territory of this sort. Some examples are climate change, leading to rising sea levels; energy transition, with a slow but definite switch from oil to renewable energy sources; and more specifically, changes in

10 The perception of Naples as a coastal city was one that we were not fully aware of until it was brought to our attention through the answers we received on our Google Forms questionnaire, which was answered by Neapolitans and other people living in the city.

the mode of freight transport and an investment choice in an economic sector of the port itself, with a reduction in the use of containers. In this regard, we look at the territory and at the proposed strategies in the present, in 2030, in 2050, and, more speculatively, beyond 2050. In this way, not only can we ensure the resilience of the proposed strategies in relation to the variables, but we can also discuss phasing strategies which add feasibility to the proposal.

Thus, the general strategy for the proposal is to compact port activity, relieving pressure on the urban context by densifying the Darsena Granili dock, reducing the extent of the horizontal footprint of the port and consequently the obstruction of coastal landscape between the city and the sea. The proposal also envisions a new intermodal hub adjacent to the Via Argine axis, a strategic location in the port-hinterland connection, but also a hinge between East and West Naples.

Transitioning to a smaller scale, the proposal tackles three areas of intervention: the Mercato area in the West and, in the East, the area of San Giovanni a Teduccio (Fig. 17) and what students have referred to as Porto Nuovo - connected to the Via Argine axis - where the proposal establishes a new centrality for port activity, emphasising the port landscape. For each of these three areas, students envision different vocations. They envision different configurations of what the new sea-city relationship could be and various ways the territory where these interventions are situated could benefit from the new configurations.

FIG. 17 On the left is the market area and, on the right, in San Giovanni a Teduccio, a new promenade, as proposed by Artem Alexandrov, Ifrah Ariff, Romée Lems, Luísa Martins and Zuzanna Murzyn. Adaptive Strategies 2022

The Porto Nuovo-Via Argine axis intervention focuses on the densification of the port and the strengthening of connections for the flow of goods to and from the hinterland, breaking the rule that there is an inevitable contradiction between logistics and liveability. In that regard, the project proposed an elevated park over the railway, bridging the Ex-Feltrinelli plot and the surroundings of the San Giovanni a Teduccio station areas that, over the course of the next decades, might undergo mixed-use redevelopment

– particularly in the upcoming realm of mixed-use/industrial zones (Fig. 18, righthand side).


FIG. 18 "Porto Nuovo" by Artem Alexandrov, Ifrah Ariff, Romée Lems, Luísa Martins and Zuzanna Murzyn. Source: Adaptive Strategies 2022

The strategy of densifying and compacting the majority of the port-related infrastructure aims to provide relief for the city, first on a physical dimension, which should later aid the social dimension, clearing ground for more public spaces, providing more access to educational opportunities, including by leveraging the technology and logistics that employment offers. The project envisions such "relief" to gain strength throughout the coming decades, with changes in the modus operandi of ports and perhaps in the energy matrix, all of which are anticipated with the Porto Nuovo hub, facilitating additional opportunities to reclaim the city.

## Beirut

In recent decades, Beirut, the east Mediterranean port city and the capital of Lebanon, has regularly been a topic of discussion among architects and planners because of its controversial post-conflict urbanism. The tragic port explosion on August 4th, 2020, brought yet another troubling layer to the city's trajectory of urban development.

The enormous explosion among the grain silos, on the one hand, highlighted the need to work on security and once more the urgency to plan more adaptively the coexistence between functional ports and cities, especially when ports are close to urban centers.[11] On the other hand, the catastrophic event also highlighted the profound need to work on the resilience and diversification of the economy of the port to avoid economic crises and

11 Asma Mehan and Maurice Jansen, "Beirut Blast: A Port City in Crisis," 2020.

the collapse of the urban metabolic system. All these issues have profound spatial and governance repercussions. Students used those challenges as planning opportunities, questioning the current operating models of the port of Beirut, and thinking about alternative and adaptive methods that can allow the port to better coexist with the larger region and its inhabitants. Beirut's relationship with water is complex. Looking from the Mediterranean at the city, Beirut's coastline is characterized today by very dense post-civil war developments that include a large number of high-rise buildings, which bring a particular sense of heavy urban density and obstruct the view from the central districts. Although the post-civil war developments are especially visible, Beirut was hardly static before the civil war. The role of Beirut as a port city has shifted frequently over the past 200 years, often about local and regional unrest. Recently, it has lost some of its functions as a main passenger port for the pilgrimage population flows to Mecca and Jerusalem. Its role as a transit point between European trade flows and the Syrian hinterland has also experienced some decline. Such shifts have had various impacts on the relationship between the city and the port. The port, which had occupied a very central position within the city, became partially disconnected in the 1930s and 1940s, when the city started to develop an inward orientation. The port district became disconnected from the other parts of the city as the result of a wide avenue introduced to connect the city to the highway. The centrality of the port to Beirut's job market has also experienced some change. In 2004 the port invested heavily in hosting trans-shipment functions. Trans-shipment activities represent 40% of the total volume of port trade. Yet, they bring very little added value for people. In terms of job opportunities, this shift has been estimated to have created 500 permanent jobs and 150 subcontracted jobs. Nevertheless, the port remains important in Lebanese trade and the flow of goods. In 2019 almost 70% of Lebanese imports and exports were transported through the port. Port activities were estimated to represent around 20% of the overall Lebanese GDP. Unlike many Western European port cities, which have spread across vast areas of unused surrounding agricultural land, the port of Beirut is almost surrounded by physical boundaries and dense urban development. The main port activities take place in very close proximity to the centre of Beirut. The port occupies almost half of the northern coast of the city, limiting access to the waterfront and posing many challenges to the city's liveability.

The multiplicity of the actors, conflicting interests, and the complicated set-up of state institutions and involved foreign stakeholders complicates the governance of the port and any opportunities for co-planning with the city. Our attempt to address the modern history of Beirut is not driven by mere curiosity. The contested history of Beirut is nested in its contemporary arrangement, and it becomes imperative for any proposal to consider historical factors when envisioning future developments.

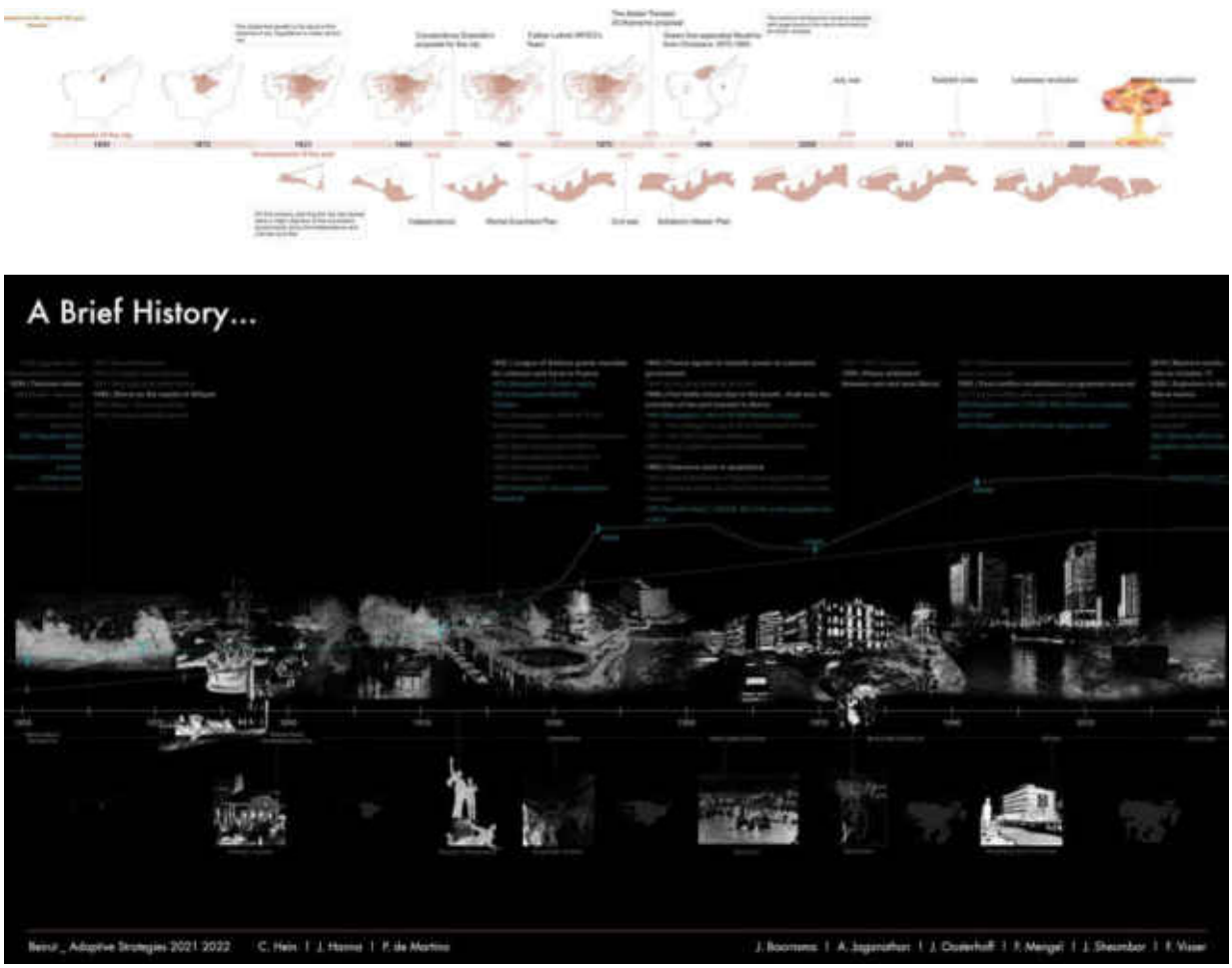


FIG. 19 A historical timeline, by J. Boornsma, A. Jaganathan, J. Oosterhoff, F. Mengel, J. Sheombar and F. Visser. Source: Adaptive Strategies 2022

Looking at Beirut, the student groups explored various frictions within the city – particularly about the port and waterfront. One group of students (Picking up the Pieces) was able to identify two main frictions that start around the port and the coast and extend to the rest of the city, namely those concerning borders and waste management. The students identified a very complex situation of borders within the city. Their analysis looked at three types of borders: 1) around the waterfront of Beirut, 2) the borders of the port and 3) the physical and mental borders of Beirut's residential neighbourhoods. Concerning the waterfront, the students studied a report produced by Dictaphone (a Lebanese group of artists/activists), which provides a detailed mapping of Beirut's coast. Because of security functions and private real estate development, many parts of the waterfront remain inaccessible to many citizens of Beirut. Next, the students looked at the borders between neighbourhoods. The students argued that following the war tensions, and also as an outcome of post-war reconstruction, physical and mental borders have impeded social exchange between the neighbourhoods. Finally, the students studied the borders of the port complex. Despite its proximity to the centre of Beirut, the students argued that the physical boundaries of the port, as well as the boundaries created by transport and infrastructure, separate the

port from the city. The port has become a foreign and inaccessible space. The second friction which the students identified involves the city's dysfunctional system of waste management. Between 2014 and 2016, the failure of waste management led to a garbage collection crisis, when many streets of the city contained large piles of garbage. This problem was even more concentrated around the port in the former quarantine area, where several waste management facilities are located. Due to the nature of the area as underdeveloped with a few vacant plots (in comparison to the rest of Beirut, which is extremely dense), the involved actors started to collect garbage there, creating a small mountain of trash.

FIG. 20 "Frictions" by J. Boornsma, A. Jaganathan, J. Oosterhoff, F. Mengel, J. Sheombar and F. Visser. Source: Adaptive Strategies 2022

While a lack of inclusivity and connectivity were common elements in a number of the analyses produced by the student groups, one group (Re-writing Beirut), showed a particular interest in the issue of identity. Their analyses argued for a long-disappeared maritime identity and its recognition[12] (Fig. 21).

12 Hein and Schubert, "Resilience and Path Dependence"; Melcher Ruhkopf, "Globalization, Nautical Nostalgia and Maritime Identity Politics. A Case Study on Boundary Objects in the Future German Port Museum," *European Journal of Creative Practices in Cities and Landscapes* Vol. 4 No. 1 (2021): 113-132, https://doi.org/10.6092/ISSN.2612-0496/12127; Hilde Sennema et al., "The Maritime Mindset: A Conceptual and Practical Exploration of Mapping Port Cities," *European Journal of Creative Practices in Cities and Landscapes* Vol. 4 No. 2 (2021): 152-163, https://doi.org/10.6092/ISSN.2612-0496/14141.

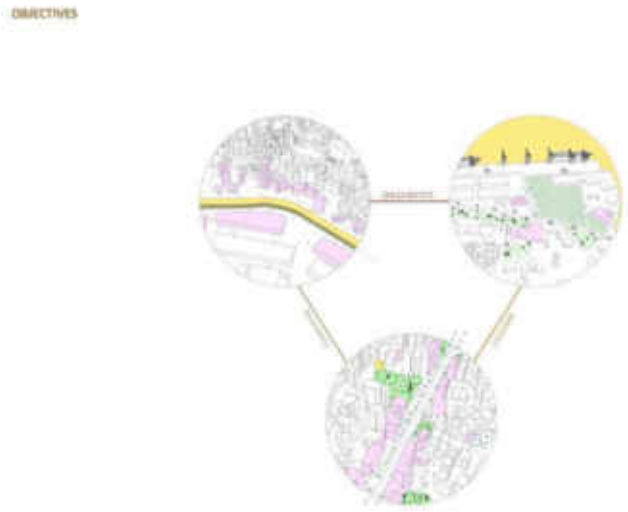

FIG. 21 "Rewriting Beirut" by Mohamed Moussa, Reem Al-Muraikhi, Alaa Hendi, Samir Memovic, Randy Rocha and Diana Alkateb. Source: Adaptive Strategies 2022

## Beirut: Designing
### Picking up the Pieces

The quasi-futuristic adaptive strategy of the "Picking up the Pieces" group proposed multiple approaches to building new connections within the city itself, and between the city and the extended maritime flows that connect Beirut to many other locations around the Mediterranean (Fig. 22). The strategy works on different levels and scales. Starting from the neighbourhood scale, the group proposed establishing small waste collection hubs at the borders of the neighbourhoods to create new nodes that serve both sides of the border and challenge the existing divisions. These hubs are seen as providing various social functions that evolve around the culture of recycling and include different age and social groups. Together, the established hubs form a new system for waste management and collection around the city that is citizen-centred, with incentives that include a reward system. This system connects to a bigger node around the port where more sophisticated systems for garbage management exists. The situation of the node around the port is to connect to the port functions and provide a new source of national income through exporting recycled and treated material. Through the use of smart systems, the proposal attempts to create a certain level of transparency regarding port functions. With the adoption of these systems, city residents can access information about the different port functions and flows. These systems will be used to regulate the port activities with those of the city to minimize many of the negative externalities of the port. For example, by connecting the two worlds of the port and the city, heavy traffic can be regulated in a way that increases safety.

The "Picking up the Pieces" proposal culminates in its masterpiece: a new agora that opens the centre of the city to the port. The agora will develop

around social and cultural activities that bring residents of Beirut together. It is located at the corner of the port to bring both visual and physical access to port activities. The agora is designed at the end of a longer passage that includes Martyrs' Square, the centre of Beirut that has experienced a complete deterioration of its social function as result of post-war reconstructions.

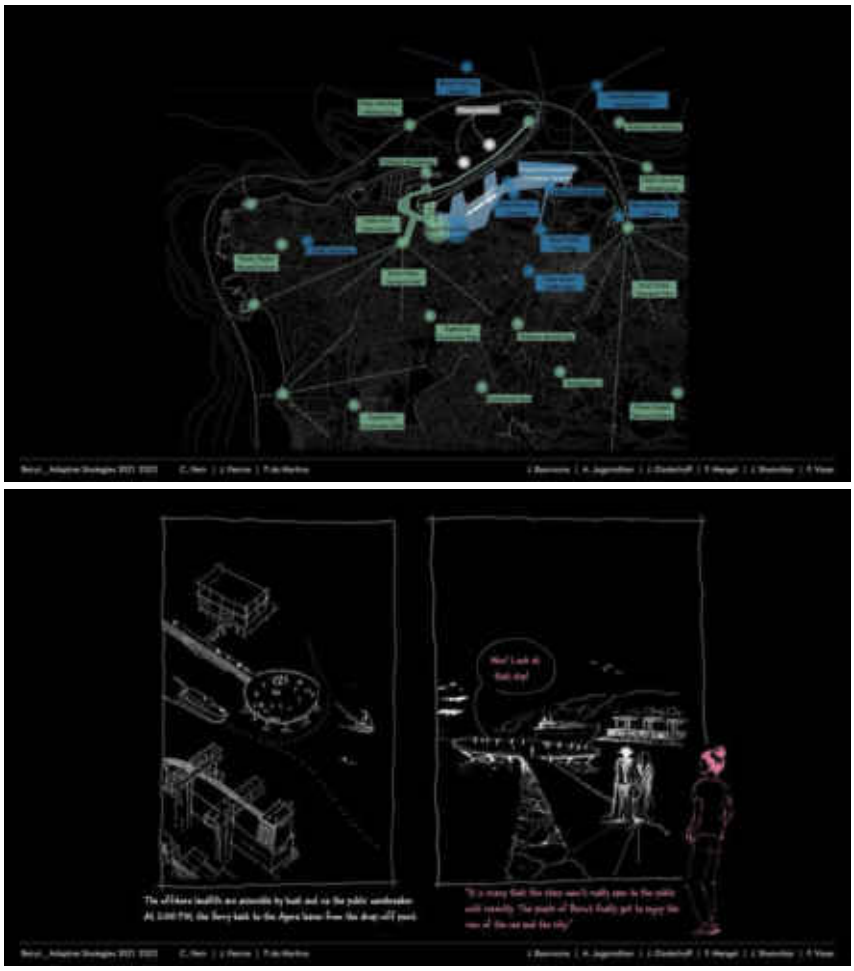

FIG. 22 "Picking up the Pieces" by J. Boornsma, A. Jaganathan, J. Oosterhoff, F. Mengel, J. Sheombar and F. Visser. Adaptive Startegies 2022

"Re-Writing Beirut" (Fig. 23) introduced a strategy focused on reactivating the city's maritime mindset. This strategy aimed to strike a balance between port functions, maritime mindset and quality of life. It acknowledged the economic importance of the port and proposed a further expansion to the east. The climate impact of the port is to be balanced through the introduction of algae farms on the port grounds, which will serve as a clean source of energy. Along the same lines, "Re-Writing Beirut" proposes increasing green areas in Beirut. By connecting the main pine forest of Beirut with graveyards, small neighbourhood gardens and vacant spaces, the proposal aims to create a bold green axis that extends all the way from south to north. Attempting to underscore the maritime history of Beirut, "Re-Writing Beirut" proposes an adaptive reuse plan for maritime-related structures and the areas surrounding them. The old lighthouse of Beirut, currently hidden behind high-rise buildings located around the western side of

the city, will be adapted to new social functions. The idea is to connect the lighthouses around the corniche of West Beirut to create new social meanings around the identity of the port.


FIG. 23 "Re-writing Beirut" by Mohamed Moussa, Reem Al-Muraikhi, Alaa Hendi, Samir Memovic, Randy Rocha and Diana Alkateb. Source: Adaptive Strategies 2022

## Conclusion

This article has analysed the experience of the master-level course Adaptive Strategies [AR0110] at TU Delft arguing that history matters, especially when it comes to designing the future of port cities. Looking at the past, at the evolutionary history of spaces and institutions and mapping the permanencies as well as the porosities within the territories is a fundamental step to understanding space to better transform it. The course has supported the reflective practice underlying the design. It has trained students to undertake multi-disciplinary research to identify and address the challenges and prospects that cities face in developing adaptive strategies for creating and sustaining just and liveable communities.

Students were encouraged to test formats for identifying challenges and urgencies that can best lead to the identification of adaptive strategies in which short- and long-term interventions at various scales intertwine to achieve the desired impact. To better adapt port cities to future challenges, the course proposed a scenario-thinking approach—which is inherently adaptive—as a tool to (re)design port-city relationships. Naples—with its urban palimpsest—is a city that has hardly adapted to the dynamics and rhythms of the port. At the same time, the port does not seem to always align with the relative slowness that characterizes the city and its inhabitants. In Beirut, the post-war reconstruction plans seem to have paid very little attention to the port. The real estate model of reconstruction focused on deriving maximum profit from the Western and central waterfront, but

that effort came to a complete stop at the border of the port, leaving it and the surrounding Karantina area in a state of uncertainty.

The (re)interpreting step looked at opportunities to build a new relationship between port and city, land and water. In Naples, this meant looking at the system of abandoned industrial areas as new porosities to be regenerated and transformed into new environmental infrastructures between land and water. In Beirut, the recent explosion in the port area was the starting point to completely rethinking the nature of the port in the city.

All of these reflections led students towards the final phase, which was about (re)designing through adaptive interventions. In the case of Naples, some students imagined repopulating the areas at the edge of the port and thus reducing the pressure of the port on the city. Others imagined that the port, detached from the city, could become a flexible and adaptive machine with respect to the times and needs of the city behind it.

The students' projects for redesigning the Port of Beirut focused on developing a new narrative, where the port gets to play a bigger role in the city's image. Whether by bringing access to the port and reclaiming some of its spaces for public functions, or by expanding its activities and introducing a new green approach, the students imagined the port as the driving force of a new chapter in the city's urban history.

Students have learned how to synthesize relevant information about the past and present into knowledge that can inform the exercise of elaborating adaptive strategies with which to steer future development. The focus is placed on experimenting with innovative methods for spatializing and visualizing historically informed analyses, thus allowing hidden knowledge to be uncovered. The idea was to use such knowledge as a force for shifting the design from one preoccupied with solving problems of the present to one geared at opening new possibilities based on a better understanding of the past and steering change into (im)possible futures.

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Image by Rosa Grasso

MAIN SECTION

# Designing a Waterspace in a Sea of Land. The Basso Ferrarese: a Territory Poised Between Reclamations and Sea Level Rising

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ABSTRACT

The text discusses the tangible impacts of climate change in the floodplain between Romagna and Lower Ferrara, where rising sea levels and frequent floods challenge traditional reclamation efforts. Despite attempts to control nature through drainage and embankments, the economic and practical feasibility of these measures is diminishing, emphasizing the need for a new approach. The essay advocates for a paradigm shift in perceiving these areas as potential water spaces, envisioning a future where they coexist with water. The rising sea in Lower Ferrara is deemed unstoppable, urging a proactive design strategy that embraces a "land sea" concept, acknowledging the fluidity of landscapes in the face of climate change. The contribution suggests exploring future maps and projections to understand evolving needs. Three exploration journeys focus on analyzing future water boundaries, offering insights into the changing territory. The narrative then transitions to the present, emphasizing the importance of creating experiential landscapes adaptable to future changes. By integrating architecture and water relationships, the floodplain can transform into a continuous park, fostering coexistence between humans, nature, and future waters across multiple levels. Ultimately, the essay advocates for a forward-looking design that navigates the challenges posed by climate change and envisions a harmonious future for these evolving territories.

KEYWORDS

*Water Space, Flood Architecture, Experience Landscape, Architecture Adaptation, Terraqueous Territories.*

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# Designing a Waterspace in a Sea of Land. The Basso Ferrarese: a Territory Poised Between Reclamations and Sea Level Rising

> "Today a large part of the planet is poised between water and land and on the verge of catastrophe. The Basso Ferrarese has always been. This world of borders and polykenos[1] has always been extreme. And it is an extreme outpost. The climate disaster pushes us to meet the ghosts of our territory, makes us aware of them, gives us opportunities to question them. Bewilderment and the absence of models can allow potential elsewhere unthinkable to be expressed. The landscape can be an instrument of inspiration and knowledge: the geography and history of a territory where water and earth have been struggling for millennia can feed knowledge useful for living and fighting within the climate crisis. The new climate activism can treasure this."[2]

The situation in the Basso Ferrarese[3] could not be better summarized than with the words used by Moira dal Sito: a territory on the borderline between land and water, depopulation and tourist attraction, reclamation and rising sea levels. Its history is linked by a continuous struggle against water. A battle that continues, silently, but which becomes increasingly difficult, costly and complex. A perfect field of investigation for those theories related to coexistence with nature and water, in a place where water, at present, is often not there or cannot be seen.

This poignant struggle between man and territory, symbolized by the great reclamation works which over the centuries have wrestled space from the Mediterranean Sea, today leave a sea of land, cultivated and indefinite. The local population is fleeing, estranged from the artificial nature of the place and the lack of work perspectives caused by industrial crops, leaving a situation of disentanglement that seems to be an insurmountable caesura in this territory.

No less there is the raising of the sea, which hangs over its future, increasing its character of instability and uncertainty.

Firstly, the Basso Ferrarese is therefore a territory to be understood, in a story that is inextricably mixed with water and its incessant change. Secondly, it is a territory to be re-imagined and reinvented to guarantee its future development. An answer must therefore be given to the question: what are those design actions that can match the need to re-appropriate water spaces to resolve the disentanglement between the population and its own territory and at the same time protect themselves from it and its

1 From Byzantine Greek: many voids

2 Moira Dal Sito, *Quando qui sarà tornato il mare. Storie dal clima che ci attende,* ed. Wu Ming 1 (Roma: Edizioni Alegre, 2020), 35–36.

3 The territory largely below sea level (*basso*) in the province of Ferrara (*ferrarese*) located in the Po River delta.

catastrophic rising?

To answer this question, it was first of all necessary to explore the Basso Ferrarese through historical maps, testimonies, vintage images of reclamation and flooding, making journeys and exploring the water boundaries of this territory by hand. Exploring the edges of the future sea, those flooded areas viewable on the map through forecasts, which today are lands reclaimed from the sea.

It is necessary to immerse ourselves in the future Archipelago of historical centers that will be the Basso Ferrarese, to try to identify possible solutions for the design of the future landscape.

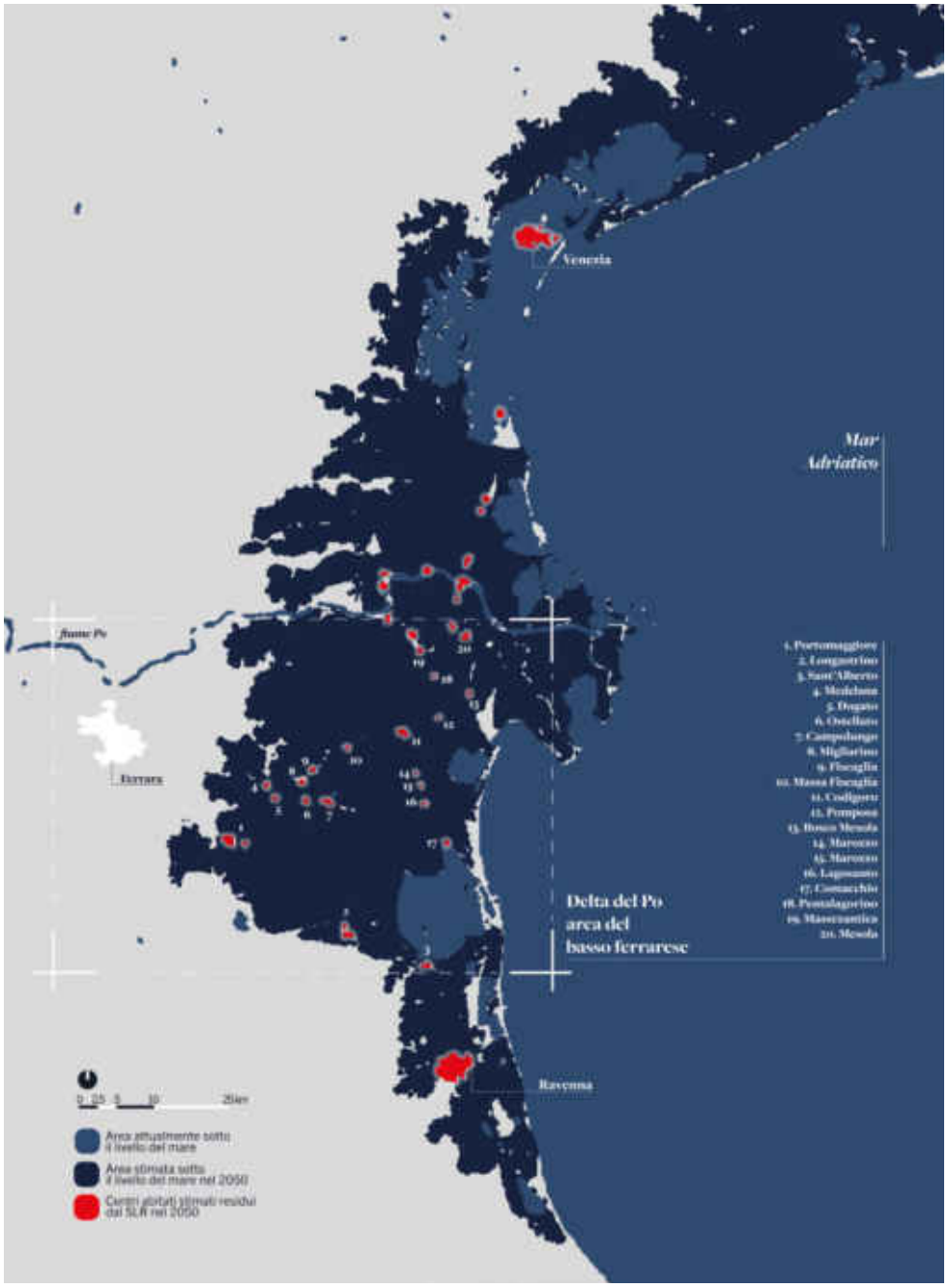


FIG. 1 Map of the northern Adriatic in 2050 according to the forecasts provided by Climat Centraal. Graphics by Rosa Grasso

## History of a fight against water

The Delta is a marginal territory not only to be "reinvented" because it is subject to depopulation, but also because it will face the challenge of climate change and at the same time, as a delta territory, its history tells of water fluctuations and re-adaptation.

The instability of the area is due both to its intrinsic characteristics linked to the Po Delta (the Po in fact derives its name from *Bodinkòs* or *Bodenkùs*, from an Indo-European root (*bhedh-/*bhodh-) which means "to dig", or "make deep", the same root from which the Italian terms "*fossa*"- pit - or "*fossato*" – moat - derive), and for the conditions of global variation. Suffice it to say that in Roman times this area was defined as the *Padusa*, a huge marshy area that extended from the then coastline to beyond Modena. An area that has therefore seen continuous changes in its territory over the centuries and whose construction speaks of the relationship between architecture and water. At the same time, the delta area is also called Polesine, from the Byzantine Greek *polykenos*, meaning land with many voids. Perhaps today this is the definition that best suits her: the sea of water in which the first settlements and hillocks arose is today replaced by a sea of land, one of the areas with the lowest population density in the entire national territory.


FIG. 2 Conformation of the ancient Padusa. Credits: Gaetano Baldini

From the analysis of the historical cartography, it emerged that there are two overlapping settlement systems in the area: a first linked to a settlement logic according to the morphological structure of the territory, with the settlements that follow the emerging parts with respect to the sea level, or that are relocated according to calamitous events. An example is

the displacement of the town of Codigoro, after the advent of the only tsunami from inland waters verified in the Adriatic. Testimony of how a part of the inhabited area has already faced the challenge of water and brings with it the experience of past centuries.

The second settlement system found is that of reclamation, which instead testifies to the other attitude of morphological colonization through the anthropic modeling of the territory. A system made mainly of water and land, of small sprawl phenomena and designed cities. Just think that today the territory of the lower Ferrara area is reclaimed from the water thanks to a network of 4191 km of canals, with 78 drainage pumping plants for 1510 million cubic meters of water lifted annually.[4] These are all managed by the consortium of Reclamation of the Ferrara plain. This huge network is not only a recent work but is the result of continuous human work that began in the 16th century and continues today.

The first reclamations were carried out by natural drainage by the Estensi. Right from the start this need to regulate the water against its natural structure proved to be counterproductive: in 1526, under pressure from the city of Bologna, the dukes of Ferrara accepted the Reno to be introduced into the Po of Ferrara, clogging it irreparably, producing numerous breakages which flooded the territory south of the city. Despite this, the reclamations continued with the Grande Bonifica Estense between 1564 and 1580. What happened to it? It flooded again due to the cold climate which tended to close the mouths of the canals, a phenomenon increased by the Breakage of Porto Viro (1599-1604) carried out by the Venetians to divert the Po Grande towards the Ferrara coast.

In the mid-1800s the climate change had significant impacts on plain with frequent flooding. From 1872, with the new dewatering pumps, its drainage began, until 1950 when the great reclamation of the Mezzano was carried out, leading to the current layout of a large territory of 256,733 hectares, of which 130,000 hectares below sea level, with an area valley of 14,145 ha (5.5% of the entire area), with an urbanization of less than 3%, of about 7400 ha.[5]

4 Alessandro Bondesan, 'La gestione dell'acqua, risorsa a rischio', *Annuario socio-economico ferrarese 2022*, 2022, 266.

5 Ibid., 267.

FIG. 3 Chart of the Ferrara Ducatu, 1571. Credits: Galleria delle Carte Geografiche in Vaticano

Looking at the Charter of the Ferrara Ducatu of 1571, i.e. coinciding with the first reclamation operations by gravity, and the current altimetric one provided by the Reclamation Basin, it can be seen how in fact the system of dewatering pumps and canals allows to eliminate the part of cannot be eliminated by gravity, creating a continuous artificial landscape. The work of the Reclamation Basin is a silent work which is often not known to those who live in or pass through the area. However, it is certain that this work is not a foregone conclusion, and indeed the data from Bondesan's publication speak precisely of the problems that this ongoing struggle is facing and which it will increasingly have to face. With what costs and with what prospects is this artificial landscape maintained?


FIG. 4 Burana-Volano Basin altimetry map. Credits: Consorzio di Bonifica Pianura di Ferrara

In addition to the sea that rises, the Ferrara area lowers, both for natural phenomena and for artificial reasons. The methane gas extraction

actions between 1930 and 1950 caused about 30 cm of subsidence per year. Understood the phenomenon, the extractions were stopped in 1964, and today the subsidence is around 8-10 mm per year.

Meanwhile, the tide gauge active in Porto Garibaldi for 12 years, recorded a variation of +9.4 cm during its period of operation, including eustatism and subsidence. Almost 10 cm in 12 years. This means that the 78 plants constantly in operation thanks to the use of huge electricity, will have to work more and more and very often beyond the limits of the function for which they were designed.

The dewatering systems will be able to operate for a further 10 cm of difference and if in 2022 the cost of energy stood at 6.6 million euros, if the water level differed by 10 cm, the cost would increase by 1.5 million of Euro. The IPCC 2013 scenario foresees a variation of 97 cm between now and 2100, the Ramshtorf 2007 scenario of 140 cm. The system does not seem to be able to hold in the future, even more so if we consider that many plants date back to the 1800s and are already working with one meter more than their project prevalence.[6]

What would happen if the dewatering plants were turned off today? It is not difficult to imagine, since on 18 August 1979 a heavy storm caused a blackout in a large part of the lower Ferrara area and thirty-one thousand hectares of land were submerged. Today those fields that are kept out of water with great economic and energy effort are mainly used for large crops worked with industrial machinery in large plots, mostly dedicated to the cultivation of corn.

The conversion of the land from water to land was one of the causes of the depopulation of the area: the transition from a micro-economy made up of fishing and marsh reed processing to large industrial holdings caused a decrease in the need for manpower and job opportunities. Even the history of sugar mills has run its course, many of which remain large empty skeletons in the landscape. The perception of this detachment is clear going into the internal areas of the lower Ferrara area, where abandoned houses alternate with fields. Is the threat of the return of water so a threat? Or could it be an opportunity for a new rebirth in the Po delta?

6 Ibid., 277–79.

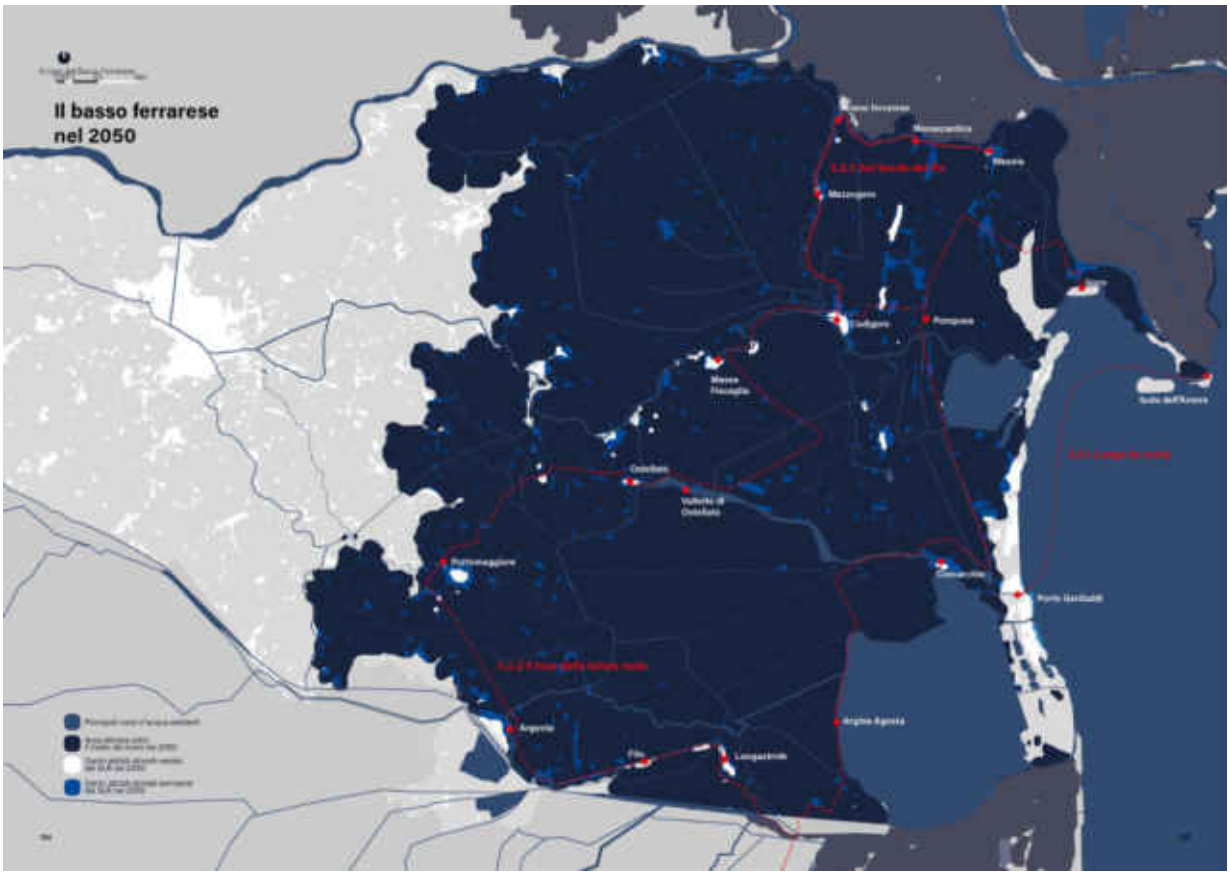


FIG. 5 Map of the Basso Ferrarese in 2050 SLR Forecasts and routes of exploration. Graphics by Rosa Grasso

## Exploration of future edges

To try to better understand this relationship between the Basso Ferrarese area, the water and the situation of disentanglement, three journey were made within the area. Each was made considering both the historical maps and the projection that is made on the area regarding the rising sea level. Observing the map proposed by Climat Centraal, where it shows the emerged areas according to the altimetric model projecting to 2050, there will be a part of the coast that will remain like the current layout, while the reclamation area will once again be invaded by water.

The trips therefore intend to document the map of the future, looking at the territory and trying to understand what its configuration would look like. Furthermore, each part carries with it the traces of the past, those ghosts that have previously been mentioned return and can guide the design.

The first trip was made by sea, starting by boat from Porto Garibaldi to reach the Isle of Amore with its lighthouse. An inspection that makes understand the link with the historic water of this place, in a landscape that recalls that of the Padusa.

The second journey was on the edge of the Po, starting from Mesola up

to Ariano Ferrarese, to then move away reaching Codigoro. A place where one understands how the great river is a looming but distant space and where the water appears only through the artificial canals.

The third and last trip was a grand tour of the future archipelago, following the series of islands and historical centers that will remain. An inspection among the land seas of reclamation, where the water always appears extremely regulated and with geometric edges, where you can see the traces of ancient, closed canals and a city of water immersed in industrial crops.

## Along the coast

The coast of the Basso Ferrarese is the most lived-in and built-up place: there are seven shores that are the center of tourism in the area, making this place extremely popular during the summer season. At the same time, it is possible to experience what the historical landscape of the delta looked like at the time.

Leaving Porto Garibaldi by ship (Fig. 6) the horizon is marked by a series of buildings that rise in the middle of what remains of the pine forest. Porto Garibaldi is the oldest of the seven shores and was born with the function of a port, then the tourist expansion led to a change in the landscape.

FIG. 6 Porto Garibaldi seen from the sea. Credits: Rosa Grasso

The coast is then punctuated by the pine forest and bathing facilities, which protrude towards the sea with piers, to then become characterized only by the pine forest (Fig. 7).

FIG. 7 The coast of Lidi Ferraresi seen from the sea. Credits: Rosa Grasso

The sea is extremely populated: between solar panels, poles to mark the routes, mussel crops, signs, small buildings, it gives the idea of an organized and lived-in landscape. The closer you get to the junction between the Po and the Adriatic Sea, the more the landscape is lost in the water, dividing the land into sandbars, small islands that the river creates by accumulating debris. The real landscape of the delta, made up of small shrubs and reeds, on which the economy was based before the reclamations. The Faro di Goro stands out among these small, dispersed islands (Fig. 8).

FIG. 8 Goro Lighthouse seen from the sea. Credits: Rosa Grasso

The delta is populated through light interventions: small floating piers, connection bridges and paths among the reeds. Inland from the coast, returning towards Ravenna, there is the Punta Alberete reserve: a wetland reserve of 190 hectares which is one of the last examples in Southern

Europe of swampy forest, typical of the Po Valley. In the forest, a hygrophilous wood alternates between the stables (the highest parts) and the low areas, submerged grasslands, and more open spaces. One of the last places where it is possible to see the geomorphology of the Delta before the arrival of human work.

## On the edge of the Po

Mesola means "media insula" and is built on one of those lands that were part of the reclamation of the Este family. Mesola Castle is a few meters from Corso del Po di Goro. A very close proximity that is not perceived, however, in the town itself.

The Po is in fact separated by a high embankment (Fig. 9), which runs alongside the built-up area, at times almost incorporating it inside. From the castle of Mesola to see the Po you must go up to the top floors. In what from the map might appear to be a river town, the relationship with it is completely precluded.

FIG. 9 Mesola castle seen from the embankment. Credits: Rosa Grasso

Going up the embankment you can see how the river level is higher than the first floors of the town. The river is almost felt as an impending threat, without the possibility of experiencing it. Suffice it to say that the great flood of Polesine, which occurred 70 years ago, is still present in the memory of the inhabitants.

On November 14, 1951, a large part of the province of Rovigo was invaded by water, causing hundreds of victims and more than 180,000 homeless people, many of whom never returned to their homes. The river began to overflow in several places, eroding the embankment body and

then breaking it. Until November 15, the waters remained uncontrolled, submerging almost 100,000 hectares and inundating more than 5,600 homes.[7] "*To return to a desolate and excruciating normality, six months will not be enough and at that point many of the displaced will never go back, convinced they have lost their war with the river forever.*"[8]

The images of the Polesine flood can still be seen today through the documentaries of the Istituto Luce, which show the recovery of displaced persons waiting from the windowsills of their homes (Fig. 10). A catastrophic and symbolic memory of how this place is held in the balance only thanks to the artificiality of human work.

FIG. 10 Polesine flooding of 1951. Credits: Fioravante Bucco

Moving away from Mesola and continuing towards Messezzantica, the Po embankment remains alongside the route, always blocking the view of the river, as well as its space. The Bianco canal takes up its space, forming part of the water regime.

The city of Messezantica does not even relate to this: passing through the town, one does not have the perception of being close to the water, which remains hidden in the back of the houses (Fig. 11), surprisingly at a lower level even than the level of the canal water.

7 Gian Antonio Cibotto, *Cronache dell'alluvione. Polesine 1951* (Milano: La nave di Teseo, 2021).

8 Ibid., 11.

FIG. 11 Messezantica embankment. Credits: Rosa Grasso

The landscape between one inhabited center and other alternates between abandoned houses in the midst of large cultivated plots and canals flanked by extremely constant plantings of trees, both the result of hyper-anthropization. An extremely artificial landscape that does not seem to be lived in or welcomed by the local population, a large place dictated more by economic interests rather than by the needs of the community.

In Ariano Ferrarese it seems for the first time that the town is looking for a certain relationship with water, perhaps also revealed by the passage of a bridge that connects the two banks of the Bianco canal. Alongside the bridge a house expands leaning over the water, on the other side different types of quays and small gardens allow access by small boats.

The general feeling that is perceived in this space is that of abandonment and non-use. The vegetation abounds uncontrolled, the backs of the houses are not maintained.

The only sign that suggests that this space could be used in some ways are the large fishing nets or rods that emerge from the houses, ready to be used (Fig. 12).

FIG. 12 Bianco canal in Ariano Ferrarese. Credits: Rosa Grasso

All these places are born from the subtraction of land from the water, and it seems that here the landscape is suspended, in search of a form of acceptance by the people who inhabit it.

Moving away from the places below the Po, at the limits of the Basso Ferrarese, and entering more inland, we find Mezzogoro. Here too the water is always at the back of the town, but it can be perceived between one volume and another even when passing from the main street (Fig. 13).

The small stairs, the gates and the backs are always abandoned, even if in the houses there seem to be signs of life such as hanging sheets, flowerpots with some plants. The space on the canal that passes through Mezzogoro is a large space that could be lived in, but for which local interest is not found.

FIG. 13 Huse backyards at the canal in Mezzogoro. Credits: Rosa Grasso

Finally, in Codigoro, there is the Po di Volano, which cuts the town in two with its course. Here it seems that the city has become aware of the river and wants to dialogue with it. Both shores are lived in and open onto the water space. If you look at the map in 2050, this is the only space that will remain highlighted among those visited on this trip. the built-up area that has historically faced water will continue to do so (Fig. 14). Moving away into the newly expanded area, this relationship changes again, presenting high defense walls to prevent the river from overflowing, again going to distance itself from it.

FIG. 14 Po in Codigoro. Credits: Rosa Grasso

## Future islands tour

The last part of the territory that therefore remained to be explored was that of the great reclamation: a territory that has always lived with water, but from which it has been deprived. The 2050 map defines a series of future islands, places that could find their image in a post-anthropocentric landscape.

With this last trip to the lower Ferrara area, we therefore wanted to understand how these edges and the edges of the other "islands" are made, which will remain if the water actually rises again, almost always coinciding with that historical settlement with which the first populations started populating the area.

Arriving in Longastrino, one immediately realizes how that limit between land and future water is marked by a very pronounced hillock, the houses are built on completely different floors (Fig. 15).

FIG. 15 Longastrino hillock between land and reclamation. Credits: Rosa Grasso

The entire road of that "isthmus" that goes from Filo to Longastrino is placed on a large hillock that rises above the level cultivated today. Looking at the historical maps, this has always been the natural condition: these two small poles were born on a strip of land that extended into the valley spaces, so much so that in the ancient maps it was defined as the Filo Riviera. That margin, once so clear between water and land, is now colonized and occupied. An occupation of the space taken up by the water that took place in various ways along the "riviera" of Filo.

In Fig. 15 a small bridge connects the road to the house, in other cases a small descent leads to low ground, or a series of single-family buildings expand the floor below the level by joining the house with the street level via a small patio (Fig. 16).

FIG. 16 Filo houses in the reclamation área. Credits: Rosa Grasso

Of particular interest is how this edge has been colonized, re-appropriating a space that used to be water. If water returns here one day, how will this place be able to live with it again? Is there the possibility of implementing a decolonization of the future by activating relations with the water of the future today?

Continuing, in Argenta the space of a historic canal has been closed and a high rise divides the city from the railway. The map also marks it as the limit of future water, making Argenta a peninsula protruding into the sea. Today the closed canal is a pedestrian path, an urban park used by the inhabitants (Fig. 7).

FIG. 17 Argenta closed canal. Credits: Rosa Grasso

In Portomaggiore, which seems to conform as a real island, the edges are formed by fields with scattered houses, often abandoned or in ruins. (Fig. 18) It seems that the water will submerge all the ground floors, making these buildings small islands in the sea through which it will then be possible to reach the center of Portomaggiore, free from rising water.

FIG. 18 Portamaggiore “future Island” edges. Credits: Rosa Grasso

The Vallette di Ostellato are a naturalistic oasis, testimony of the valley landscape. This large body of water is connected to the rest of the canal system. Going up the embankment it is interesting to see how different levels of water coexist a few meters away (Fig. 19).

FIG. 19 Vallette di Ostellato. Rosa Grasso

On reaching Comacchio, the most alienating perception one has is that of arriving in a city of water surrounded by a sea of land. In fact, Comacchio only minimally preserves its original conformation made up of small islands. Within the town of Comacchio you can find different types of relationship and variation between the edge of the water and the water itself. Closed or open walls, doors, small bridges, overhangs. Of particular interest is the wall that frames the entrance to the Church in via del Rosario: the internal volumes emerge from the building, giving shape to the space around the water (Fig. 20).

FIG. 20 Comacchio Church canal edge. Credits: Rosa Grasso

The journey then concluded with the August bank, a symbolic place of the differences in the landscape before and after the reclamation. In Fig. 21 it is possible to see the Comacchio Valley on the left and the reclamation of the Mezzano on the right. If on the one hand the water reflects the sky making the limits of the horizon disappear, on the other there is that sea of land of reclamation and large plots of land.

FIG. 21 Argine Agosta at sunset. Credits: Rosa Grasso

## Designing the future Basso Ferrarese

The space in the Basso Ferrarese is a space to be repopulated, through water scenarios that can connect land and sea, present and future. Considering the looming sea to create new experiential landscapes of the existing. It is therefore necessary to understand how to act, which elements to incorporate to imagine new design actions. Unlike what is done for large metropolitan areas, where the phenomenon of rising sea levels produces extremely costly protection actions, it is instead necessary to identify, for marginal territories, actions of coexistence. Light works, which

can involve the community, without creating barriers, but which can allow scenarios of coexistence with water.

Before the reclamation, the history of the territory itself speaks of a colonization of the territory according to nature, following the possibilities of what the morphology allowed. In line with what ecological theories claim today. As Henk Ovink also argues, we must develop theories that lead to the adaptation of the existing to future scenarios through its metamorphosis. We must define those grafts that can allow the existing to be adapted, through new hybrid forms of the inhabited.

In Clement's idea of a planetary garden,[9] not defining edges, but working through the existing and its paradigms. By creating a weak metropolis, like the one theorized by Branzi,[10] where the territory functions as a system of small but interconnected elements. The need is to create scenarios of metamorphosis, as Didier Faustino argues, which we will then go to inhabit.

To design a future of coexistence with water, we need to understand how the existing infrastructure relates to it. By analyzing the relationships that water has with the built environment through the examination of publications and projects, as well as elements identified during the tour of the Po Delta, four different types of relationships can be identified:

**Spatial relationships:** series of relationships between architectural volumes and water space such as floating, stilt house, quay, distance, overhang, edge, inside, underwater

**Functional relationships:** typological elements of water space usage such as wharf, canal, reservoir, bridge, lighthouse, dam, dock

**Formal relationships:** Water as a formal compositional element divided in geometric, informal, interacting.

**Perceptive relationships:** Water as a perceptual physical phenomenon such as variation, reflection, color, sound, mutation.

The result of this subdivision is an abacus of elements for the composition of the water space, a small vocabulary to highlight the main points. This part of the general analysis was extremely useful to then carry forward the design experimentation phase on the Basso Ferrarese.

9 Gilles Clément, *Giardini, paesaggio e genio naturale*, trans. Giuseppe Lucchesini (Macerata: Quodlibet, 2013).

10 Andrea Branzi, 'For a Post-Environmentalism: Seven Suggestions for a "New Athens Charter"', *Ecological Urbanism*, 2010, 110–11.

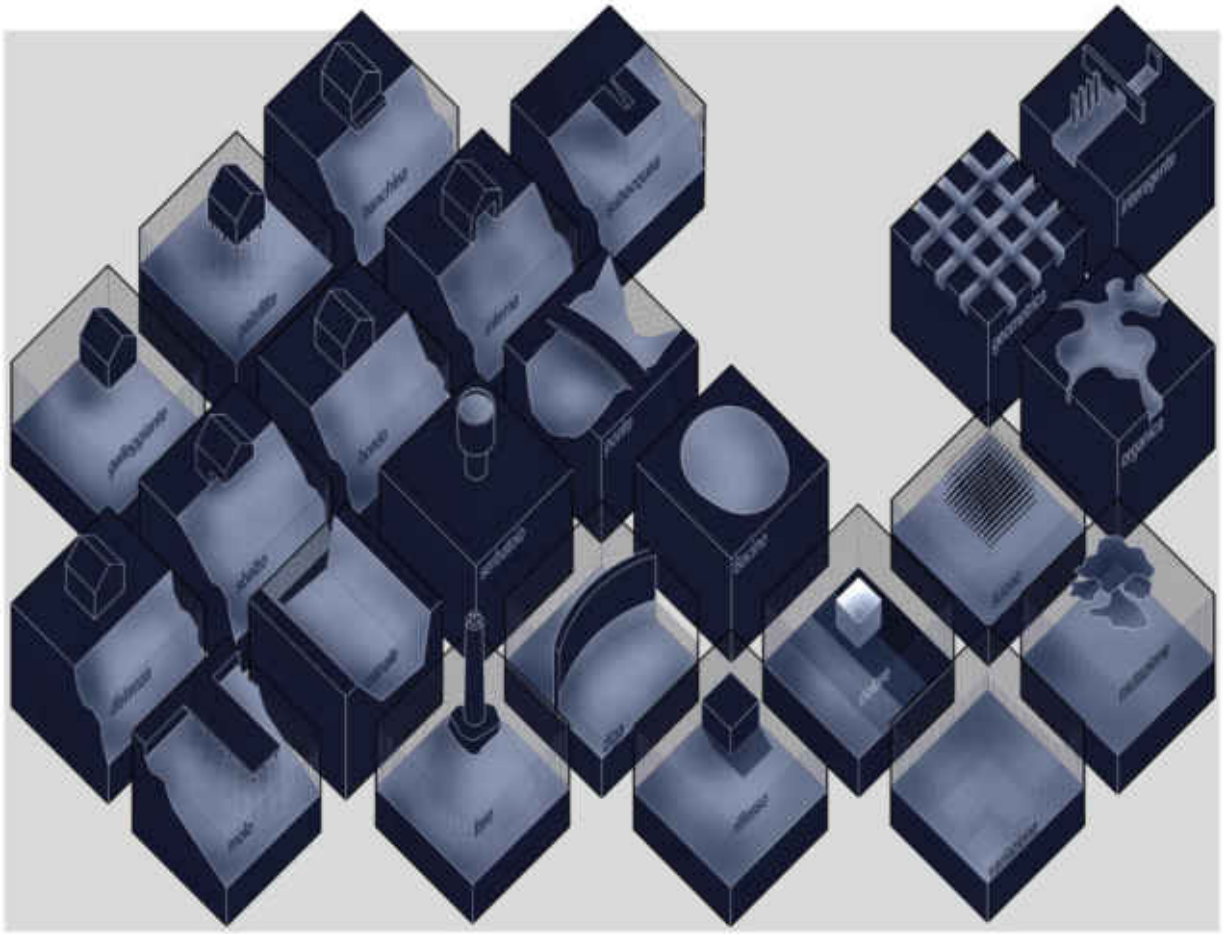

FIG. 22 Abacus of the elements of the water space. Credits: Rosa Grasso

In this relational panorama, the spatial relationships (float, stilt house, quay, distance, cantilever, edge, internal, underwater) are the ones that mostly intervene in the definition of the relationship between water and architecture in the landscape, the most changeable and adaptive as they are unrelated to purely functional or perceptive aspects, but constitute the punctual relational definition. During inspections in the Delta area, all spatial relationships are present and can be found in the previously mentioned descriptions and photographs. The large buildings rising like stilts in the landscape, the boats floating in the canals and along the banks, the fronts projecting out, embracing or shaping the water, and so on. Other types of relationships also characterize the Po Delta: lighthouses and signaling elements are widespread, water is regulated in different parts, creating a regular geometric pattern that defines the entire area. Similarly, physical variations change its landscape, where fog is one of the elements that significantly influences its perception. If we want to discuss the adaptation of existing structures to sea level rise, as mentioned earlier, it is the relationship with the built environment that must take center stage in the debate and help understand the possibilities for future development.

How can we start from the characteristic elements of the delta and its relationships with water to create an imagined future? Eight examples have been developed, each carrying with it eight possible actions. The

result is an idea of a continuous landscape, where the land sea and the future water sea coincide, bringing with them a concept of landscape that permeates the inhabited areas, colonizing them and defining amphibious spaces for coexistence.

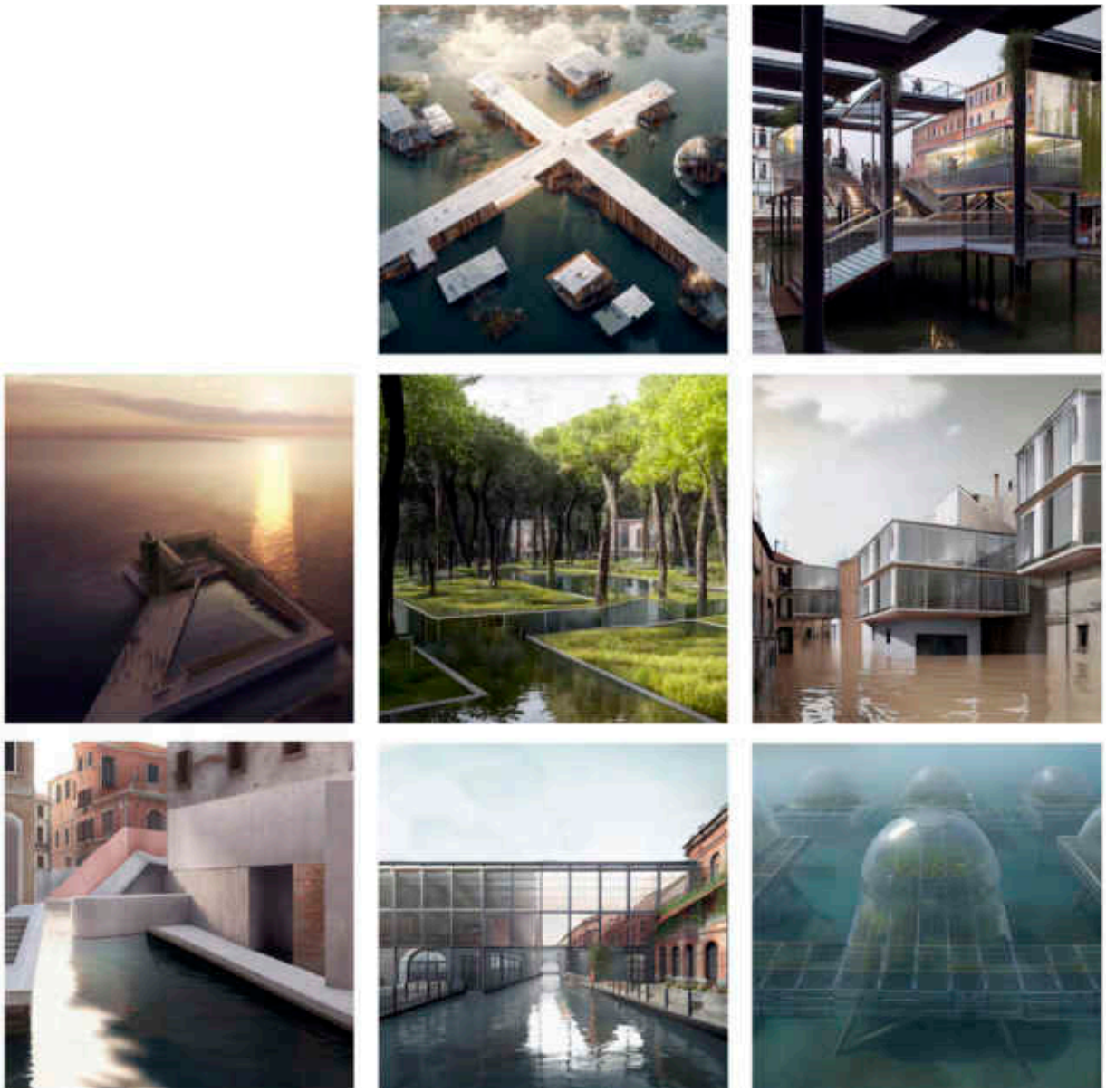

FIG. 23 Imaginary for the future Po river Delta. Credits: Rosa Grasso

## Floating


FIG. 24 Imaginary of floating. Credits: Rosa Grasso

The small pole system needs, both today and in the future, a networked system to ensure shared services among different administrations. The canal system connects almost all the poles in the area, creating an interconnected waterway system. Floating buildings today embody the concept of 'scarless architecture' and 'city apps': architecture that leaves no permanent marks and can become shared infrastructure. Public functions of a large metropolis can be distributed to small poles, allowing services such as cinemas, theaters, museums, or specialized clinics and school classrooms, which a small municipality might not afford, to be shared and managed by multiple administrative entities simultaneously. This concept, reminiscent of the floating mills in the Delta area, allows for the efficient and shared use of services. A warehouse-mole, connected to the existing canal network, can serve as a collection point for shared services, becoming an additional new hub within the system.

## Stilt


FIG. 25 Imaginary of stilt. Credits: Rosa Grasso

The stilt house proves to be the most versatile action in designing water space. Its ability to easily create vertical space is highly useful, serving as a connection between parts, a balcony, or a significant pathway in the landscape. Often overlooked is its ability to rhythmically shape space beneath its supporting plane, introducing elements at different levels and heights. Delta squares, like Ostellato's, subject to future fluctuations, could be rhythmically enhanced and discover new urban dimensions through its use. In the Delta, stilt houses are represented today by 'padelloni,' structures on stilts once used for fishing. Now more than a productive function, padelloni serve tourist, convivial, and meeting purposes. These places, typically used by small groups, could become part of public space, three-dimensionally defining future aquatic spaces in the inhabited environment.

## Quay


FIG. 26 Imaginary of quay. Credits: Rosa Grasso

The base can elevate new buildings, creating a division between land and enjoyed space, defining compact and elevated pathways. In delta regions, it can protect 'monument islands,' guiding floodwaters to a collective basin, akin to the pavement around Ravenna's monuments. This avoids enclosing buildings in high fences, instead forming a scenic platform within the landscape. Examining Pomposa, for instance, a base could reinforce its existing morphology. Water could immediately find a new space to reflect monuments, potentially becoming a future catchment basin. Additionally, the base can serve as a container for spaces, expanding the informational offerings of the defined area.

## Distance

FIG. 27 Imaginary of distance. Credits: Rosa Grasso

In this case, the distance from the water's edge is considered a fluctuation zone for the sea. This distance space can transform into a wetland capable of managing water level changes. Wetlands were historical landscapes in the lower Ferrara area, characterized by alternating trees and small pools. The petrified forest of Punta Alberete is one of the few remaining examples, featuring a mix of hygrophilous woodland and submerged meadows at different levels, creating denser forest sections alternating with more open spaces. This alternation can become a design theme in areas where water might sporadically arrive due to fluctuations. As proposed in the Argenta metaproject, trees can act as a mitigation system against the force of currents and tides. This suggests planning peripheral areas of poles with a series of green belts, large floodable parks, protecting settlements and mitigating water force while revitalizing parts of the territory with an image of the original landscape.

## Overhang

FIG. 28 Imaginary of overhang. Credits: Rosa Grasso

The projection of small volumes attached to the main building is a characteristic of historic structures. Extending these projections over water could create a continuous vertical public space, simultaneously expanding living spaces. Water prompts a reevaluation of roof space, forming connections between different volumes that may serve as bridges or suspended walkways. While vertical growth is considered in resilience plans, horizontal expansion fosters new urban relationships, connecting volumes and establishing a shared common space, compensating for the loss of ground-level space. During surveys in the lower Ferrara area, cantilevered structures with glass elements were encountered, enhancing the building's interior with greater interaction with the water, creating intermediate spaces between the interior and exterior.

## Edge


FIG. 29 Imaginary of edge. Credits: Rosa Grasso

The water's edges often require resistance practices to protect them from rising waters. Examining the settlement of Comacchio, these edges can take various forms, creating diverse spaces over water. In Comacchio, water edges manifest as walls, small bridges, convex elements, recesses, and different openings, offering varied ways of interacting with and reaching the water. The plasticity and articulation of the edge can define aesthetic defense and barrier practices, contributing to the creation of experiential landscapes, even in cases where low fronts are closed off. Areas currently shielded by high protective walls could be redefined through plastic elements, allowing interaction with the water while maintaining their protective function. Protruding elements, concavities, varying heights, steps, and openings can all contribute to shaping the volume of a protective wall, defining new water landscapes that adapt to changing conditions.

## Inside

FIG. 30 Imaginary of inside. Credits: Rosa Grasso

External-internal transition passages between water and land serve as dynamic interfaces that blend aquatic and terrestrial realms. These passages, observed in Comacchio's urban fabric, take diverse forms such as bridges, walkways, and openings, facilitating fluid movement and interaction. Comprising walls, small bridges, and recesses, they create varying ways to engage with water, showcasing adaptability. Their plasticity defines both aesthetic defenses against rising waters and barriers, contributing to diverse water landscapes. In areas currently shielded by protective walls, redefined through plastic elements, these passages enable ongoing interaction with water while maintaining their protective role. Protruding elements, concavities, and different heights can shape protective walls, forming novel water landscapes that harmonize with changing conditions, emphasizing the potential for aesthetic, functional, and resilient integration.

## Under

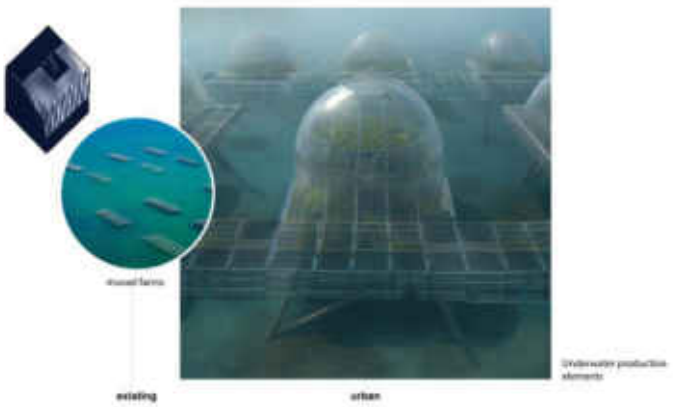

FIG. 31 Imaginary of under. Credits: Rosa Grasso

The underwater world of the Delta is intricately tied to production, whether it's mussel farming or extensive pipelines bringing resources from the sea to land. Near the coast, the sea is densely populated with structures that rhythmically shape the landscape, creating a productive seascape. In a scenario where land is reclaimed by the sea, what form of production might this space adopt? Experimental projects like Nemo's Garden use underwater cultivation systems, leveraging underwater constants for plant growth.

Reclaimed lands are currently dedicated to agriculture, mainly corn cultivation. In the face of rising sea levels, these lands become uncultivable. Ongoing studies may define new underwater space occupations, replacing current production. What could the underwater environment look like, and what employment opportunities might it offer?

## Conclusion

The experience of exploring the territory according to the silent edges of the catastrophe has allowed to look at the area with a different gaze, fully understanding the problems of abandonment, depopulation and disentanglement. The strong contrast between history, present and future, of which the present is probably the most alienating part, marks the possibility of a different approach to this territory.

The objective that the internal area of the lower Ferrara area has given itself is to build canals and bridges, while through the aim was to pursue the possibility of building water spaces where there is no water yet. This point of view can make it possible to identify otherwise invisible places and connections, planning unexpected interventions on the existing and its relationships.

The possibility that forecasting tools give us today to explore the future is certainly interesting and can provide new fields of exploration for architectural research, previously impossible to explore.

The Basso Ferrarese has proven to be a territory which, in its marginality, allows the creation of new landscapes of exploration. The idea of comparing the current and future seas may lead to conceiving the landscape as a unified entity, erasing distinctions between full and empty spaces and transcending the very definition of territory.

Envisaging a continuous amphibious space allows the territory to both reimagine itself and prepare for future challenges. For instance, the recent flood in Romagna, an area adjacent and historically prone to flooding like the Lower Ferrara, underscores the pressing theme of adaptation.

Flooded areas have always been identified as at risk, but human activity has often ignored this, persisting in construction as if this risk did not exist. Instead, considering the possibility of flooding could define a new

coexistence landscape, fostering fresh relationships today and safeguarding against water in the future. A continuous park, an amphibious landscape for a flood-prone territory.

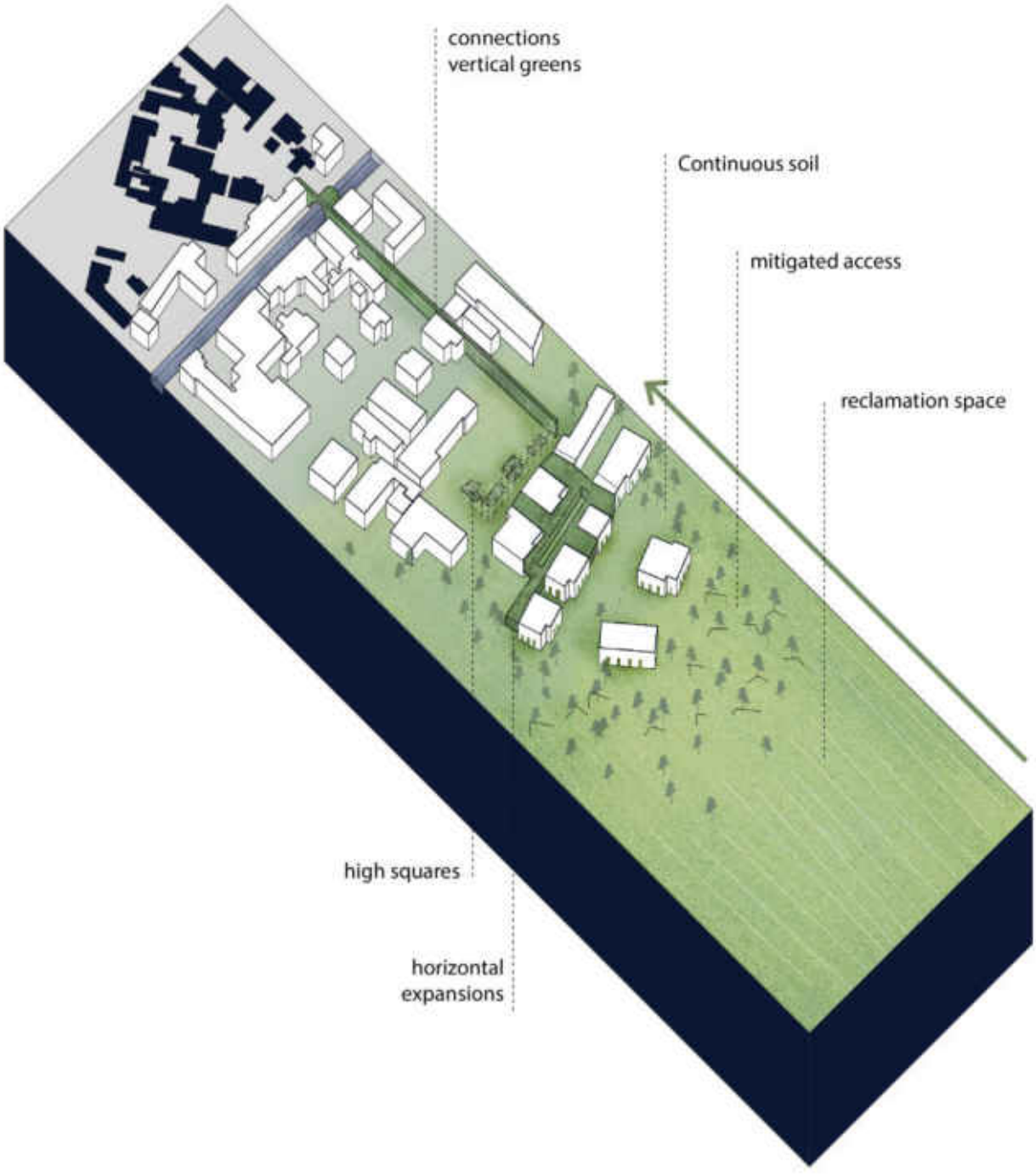


FIG. 32 Continuous Amphibious Landscape Park Concept. Credits: Rosa Grasso

Rosa Grasso is specialized in architecture composition addressing territorial, social, and climatic challenges. Her interests developed through different experiences such as her thesis on rural house reinterpretation, “Lille et l’eau” design workshop, internships, personal projects, and active involvement in the Atelier Appennini Association. She has also been deeply involved in the management of the crisis from the May 2023 flood in Romagna as Assessor of Modigliana Municipality. Since 2018, her research has focused on Architecture and Water, particularly peripheral areas adaptation to rising sea levels, providing compositional solutions for climate change. She has a Ph.D in Architecture and Design Cultures, has collaborated with TuDelft’s Port City Futures research group and has presented at conferences and publications.

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MAIN SECTION

# An Action Plan for the Mediterranean: a Case of EU Policy Transfer to the Mediterranean Basin

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ABSTRACT

Although for millennia the Mediterranean has facilitated the exchange of goods and people, in recent decades, it has been treated as a border between continents, nations and supranational institutions, with the European Union on one side and MENA region on the other. Yet pressing issues related to migration, climate change and pollution reveal problems with the border approach. In 1995, the Barcelona Process culminated in the creation of the Union for the Mediterranean (UfM) and the UfM Urban Agenda in an attempt to better connect countries around the Mediterranean. To concretise this agenda, TU Delft and the authors of this text were invited to work with DG-Regio, UNESCO, the EIB (European Investment Bank), and the ministries in charge of spatial planning in Member States, to draft the UfM Strategic Action Plan for Sustainable Urban Development. The goal of the Action Plan is to enhance the strategic and integrative value of spatial planning interventions in each country. Based on the personal reflections of the authors and the detailed communication with the institutions involved in the making of the plan, the article presents the history and the conceptual framework of the making of the UfM Strategic Action Plan. It concludes by highlighting the hurdles that the UfM Strategic Action Plan faces as a new transnational policy framework for the transfer of policy from the European Union to the MENA region (Middle East and the North of Africa). Such challenges are not only based on content, but they are also related to the frames and structures within which policy is developed and exchanged.

KEYWORDS

*Policy Transfer; New Institutionalism; Transnational Policy Framework; International Relations; Mediterranean Integration; EU Neighbourhood Policy; Integrated Urban Development.*

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## Introduction

Migration, shipping, and climate change are just a few of the reasons the Mediterranean Sea has become a focus of contemporary debates. Political and economic interests in facilitating shipping, governing water change, and controlling pollution require reconnecting the shores of the Mediterranean – North and South, East and West. This dialogue has been triggered by pragmatic concerns about security and resources, but the shared Mediterranean heritage in all its facets also plays a key role in integration efforts. A comprehensive approach to connecting the multiple countries around the Mediterranean and the tools to facilitate exchange have been emerging in recent decades. The creation of the Union for the Mediterranean (UfM) in 1995, resulting from the Barcelona Process, provides an instrument promoting coordination, integration, and convergence in urbanisation standards. The UfM Urban Agenda served as the foundation for developing the UfM Strategic Action Plan for Sustainable Urban Development, which is aimed at enhancing the strategic and integrative value of spatial planning interventions in each country.

Following a brief history of the Barcelona Process and the creation of the Union for the Mediterranean, this article explains the structure of the UfM and the mandate to create a Strategic Action Plan for Sustainable Development in the Mediterranean (henceforth, the Action Plan). It then explores how the UfM Urban Agenda came to be and analyses its contents and its role in the UfM Urban Agenda and other transnational frameworks. The authors of this article have worked on the Union for the Mediterranean Strategic Action Plan for Sustainable Urbanisation[1] as an instrument aimed at providing a platform for integration and collaboration in a wide variety of national realities. The article explores the two-year-long process of drafting and reviewing the Strategic Action Plan drawing on desk research and based on the detailed communication between the authors and DG-Regio, UNESCO, the EIB (European Investment Bank) and the ministries in charge of spatial planning in the Member States. Establishing a transnational policy framework requires an understanding of the varying degrees of coordination capacities and the diverse planning cultures in the European Union and the MENA region (the Middle East and the North of Africa).

In this article, we reflect on the UfM Action Plan as an example of metagovernance[2] and constructivist institutionalism.[3] Both dimensions play a role in how we understand the institutions involved in this endeavour, how

1 Rocco, Hein, and Rooij, *Union for the Mediterranean Strategic Action Plan for Sustainable Urbanisation in the Mediterranean*.

2 Louis Meuleman, *Metagovernance for Sustainability: A Framework for Implementing the Sustainable Development Goals* (London: Routledge, 2020).

3 Colin Hay, "Constructivist Institutionalism," in *The Oxford Handbook of Political Institutions*, ed. Sarah A. Binder, R. A. W. Rhodes, and Bert A. Rockman (Oxford: Oxford University Press, 2008).

the policy is conceived and how the legitimacy of the policy is construed. By analysing these aspects, we hope to provide the reader with an understanding of how political discourses expressing values shape the UfM and its mission, how consensus around norms and values guiding the institution developed, and how policy has been conceived, transferred and translated. We conclude by considering the foreseeable hurdles involved in implementing the UfM Action Plan and ensuring compliance. We also ponder policy translation challenges and opportunities.

## Institutional values and objectives: The Barcelona Process and the creation of the Union for the Mediterranean

The Union for the Mediterranean (UfM) is an attempt to better connect countries around the Mediterranean by building on shared values with the goals of initiating a long-term process of cooperation, promoting democracy, good governance, and human rights, and achieving mutually satisfactory trading terms for the region's partners. Its creation has followed a lengthy process of political and economic articulation between European countries and their southern Mediterranean neighbours in view of their shared geography, history, and heritage, as well as their common challenges, interests, and objectives, resulting in the EU's Global Mediterranean policy (1972–1992) and the Renovated Mediterranean Policy (1992–1995). These policies might appear unidirectional and reproducing colonial patterns, since it is European countries that are setting the tone of the dialogue (which they very much do). There is also eagerness from MENA countries to access knowledge, expertise, and funding from the EU and to strengthen planning capacity in the region. It is important to recognise the profound imbalance in levels of development and capacity that characterises the opposite shores of the Mediterranean.

The UfM institutional environment is shaped by its historical context, political and economic issues outside the institution. This context includes an evolution of European interests and the European Neighbourhood Policy (ENP), the shifting interests of Member States, and to the crises that have galvanised political action, including the conflict between Greece and Turkey over Cyprus, the Arab Israeli conflict, the Arab Spring, the civil war in Syria, the refugee crisis and the COVID-19 pandemic. Political scientist Federica Bicchi aptly asks: "Why, how and when does an issue become a European interest and a European priority?"[4] There is no simple answer to this question. Maria Elena Guasconi, international relations scholar, points out that "two of the founding members of the European Community, France and Italy, both Mediterranean countries, for the his-

4 "Defining European Interests in Foreign Policy: Insights from the Mediterranean Case, Arena Working Paper 13," UiO, 2003, accessed 10 September, 2020, https://www.sv.uio.no/arena/english/research/publications/arena-working-papers/2001-2010/2003/03_13.html.

torical and military legacy of their colonial past, have always looked at the Mediterranean basin as an area in which to exert their influence. She notes that, according to a well-known thesis, "it was a crisis which broke out in the Mediterranean in 1956, the Suez Canal crisis, which gave new impetus to the last phase of negotiations, leading to the signature of the Treaties of Rome in March 1957".[5] Both Bicchi and Guasconi implicitly recognise Europe's protagonist role in this process. In other words, it has been Europe that has dictated the agenda. However, as we shall see, its southern neighbours have a myriad of reasons to be just as enthusiastic about Mediterranean integration.

During the 1960s, the European Economic Community (EEC) established a series of bilateral agreements with countries South and East of the Mediterranean. Still, these agreements did not respond to a common logic or policy.[6] The beginning of the 1970s saw the realisation of the need to work towards regional stability and on strengthening the European position in the region in view of the continuing tensions triggered by the Cold War. The "Global Mediterranean Policy" was launched at the Paris Summit of 1972 and for the first time addressed the Mediterranean countries as a region within a single policy framework. The Euro-Arab Dialogue, launched after the Yom Kippur War of 1973, involved the members of the Arab League, and was developed in the newly established framework of European Political Cooperation. Guasconi estimates that, from a European perspective, the Mediterranean represented "a link with the Middle East and North Africa, a link to the oil and raw materials that were fundamental for [Europe's] stability and their energy security"[7] and further lists the threat of terrorism, transatlantic disagreements over the Middle East and the leading role of France, a Mediterranean country, in European institutions as driving European attention to the region.

The UfM was created in response to various challenges that concern the emergence of the European Union (EU), its extensions—notably to the East—and its relationship with former colonies and other nations around the Mediterranean. The UfM emerged in 1995 as a result of the Conference of Euro-Mediterranean Ministers of Foreign Affairs held in Barcelona on 27 and 28 November of that year, under the Spanish presidency of the EU, with its mission "to enhance regional cooperation, dialogue and the implementation of projects and initiatives with tangible impact on our citizens, with an emphasis on young people and women, in order to address the three strategic objectives of the region: stability, human development

5 Maria Eleonora Guasconi, "Europe and the Mediterranean in the 1970s: The Setting Up of the Euro-Arab Dialogue," *Les Cahiers Irice* 1, no. 10 (2013): 163.

6 Bicchi, "Defining European Interests in Foreign Policy: Insights from the Mediterranean Case, Arena Working Paper 13."

7 Guasconi, "Europe and the Mediterranean in the 1970s: The Setting Up of the Euro-Arab Dialogue," 165.

and integration".[8] As an intergovernmental Euro-Mediterranean organisation, it brings together 43 countries from all sides of the Mediterranean. Along with the 27 EU Member States and the UK, 15 Southern Mediterranean countries are members of the UfM: Albania, Algeria, Bosnia and Herzegovina, Egypt, Israel, Jordan, Lebanon, Mauritania, Monaco, Montenegro, Morocco, Palestine, Syria (suspended), Tunisia and Turkey. Libya is an observer.

In the Barcelona Declaration (1995), the aim of the Barcelona processes was summarised as: "turning the Mediterranean basin into an area of dialogue, exchange and cooperation, guaranteeing peace, stability, and prosperity".[9] Three main objectives were established for the new partnership, namely the definition of a shared area of peace and stability through the strengthening of political and security dialogue; the construction of a zone of shared prosperity through an economic and financial partnership and the gradual establishment of a free-trade area; and the rapprochement of peoples through a social, cultural, and human partnership aimed at encouraging understanding between cultures and fostering exchanges between civil societies. Interestingly, in 1995, the idea of a "clash of civilisations" between a liberal democratic West and an insurgent Islamic Middle East was taking shape, thanks in part to American political scientist Samuel P. Huntington. In a 1992 lecture at the American Enterprise Institute and in a 1993 *Foreign Affairs* article titled "The Clash of Civilizations?" that future wars would be fought not between countries, but between cultures. This "clash of civilizations" was mentioned by Javier Solana, then Spain's minister of Foreign Affairs, in his opening statements at the conference at which the Barcelona Declaration was adopted. Solana referred to the clash as something to be overcome.

More specifically, the Barcelona Process aimed to promote security and stability in the Mediterranean; to reach an agreement on shared values; to begin a long-term process of cooperation in the Mediterranean; to encourage democracy, good governance and human rights; to achieve mutually satisfactory trading terms for the region's partners (the "region" consisting of the countries that participated); and to establish a policy that would complement the United States' presence in the Mediterranean.[10] In 2005, the 10th anniversary of the Barcelona Process was celebrated with a new Euro-Mediterranean summit held in Barcelona, where the original intentions of the Barcelona process were re-affirmed and updated. However, the process was criticised at the time as too dependent on the Eu-

8 "How does the UfM contribute to regional stability, human development and integration?," UfM, 2020, accessed 10 September, 2020, https://ufmsecretariat.org/who-we-are/.

9 "Barcelona Declaration," European Commission, 1995, accessed 8 September, 2020, http://www.eeas.europa.eu/archives/docs/euromed/docs/bd_en.pdf. n.p.

10 European Commission, "Barcelona Declaration."

ropean Commission and the Arab-Israeli conflict.[11] According to Youngs, "Despite many well-meaning policies and some islands of achievement in Euro-Mediterranean relations, on most vectors conditions in the southern Mediterranean have worsened since 1995. Relations between Europe and Arab states, Turkey and Israel have become more fractious."[12] Youngs does note some progress in economic agreements and heritage preservation measures.

In 2007, the countries involved in the Barcelona process embarked in a new round of negotiations that aimed to revive the process with the proposal for a "Mediterranean Union," an idea defended by then candidate to the French Presidency, Nicolas Sarkozy. For Sarkozy, the aim of this Union was to relaunch cooperation among the countries of the Mediterranean, outside the framework of the EU. "In the opinion of the then candidate for the Elysée, it was about the Mediterranean countries taking the initiative and, on the basis of cooperation in specific areas, advancing at a quicker pace towards the goals of peace, security and prosperity".[13] Lecha reports that this was once a "star project" of the Sarkozy presidency,[14] which speaks to France's historic role in the region as a colonizer, its deep connections to several southern Mediterranean countries, and its envisioned leadership in the region.

Despite receiving support from several countries, the project faced hard opposition from Turkey and the European Commission itself. Turkey feared that a Mediterranean Union would be a poor substitute for the country's envisaged EU membership. For the European Commission, with Germany as its most vocal member, instead of building a new entity alongside the EU, countries in the region should try to build upon existing institutional structures[15] to avoid duplicating institutions and legislation. Due to widespread criticism, France began to shift its position from a "Mediterranean Union" to a "Union for the Mediterranean" that would complement the EU's policies in the Barcelona Process, and later on, the ENP.[16]

At the Paris Summit for the Mediterranean in 2008, 43 heads of State

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11 "Euro-Mediterranean Partnership: from the Barcelona Process to the Union for the Mediterranean," Ministério de Asuntos Exteriores, Unión Europea y Cooperación, 2018, accessed 10 September, 2020, http://www.exteriores.gob.es/Portal/en/PoliticaExteriorCooperacion/Mediterraneo/Paginas/Asociación-Euro-Mediterránea.aspx.

12 "20 Years of the Euro-Mediterranean Partnership," Carnegie Europe, 2015, accessed 10 September, 2020, https://carnegieeurope.eu/2015/05/18/20-years-of-euro-mediterranean-partnership-pub-60337. n.p.

13 Eduard Soler i Lecha, "Barcelona Process: Union for the Mediterranean. Genesis, evolution and implications for Spain's Mediterranean Policy," *Observatorio de Politica Exterior Española* Doc. de Trabajo 28/2008 (2008), https://www.files.ethz.ch/isn/92408/Barcelona%20Process.pdf. p.7.

14 Lecha, "Barcelona Process: Union for the Mediterranean. Genesis, evolution and implications for Spain's Mediterranean Policy." p.5.

15 "Merkel criticises Sarkozy's Mediterranean Union plans, EU Observer," EU Observer, 2007, accessed 5 August, 2020, https://euobserver.com/news/25284.

16 "European Neighbourhood Policy (ENP)," EU, 2016, accessed 10 September, 2020, https://eeas.europa.eu/diplomatic-network/european-neighbourhood-policy-enp/330/european-neighbourhood-policy-enp_en.

from the Euro-Mediterranean region launched the "Barcelona Process: Union for the Mediterranean", which aimed "to enhance multilateral relations, increase co-ownership of the [Barcelona] process, set governance on the basis of equal footing and translate it into concrete projects visible to citizens".[17] At the Marseille Euro-Mediterranean Conference of Foreign Affairs held in November 2008[18] and attended by all member countries' foreign affairs ministers, it was decided to shorten the name of the initiative from "Barcelona Process: Union for the Mediterranean" to "Union for the Mediterranean". This meeting concluded with a new joint declaration, which complemented the Paris Declaration by defining the organisational structure and the principles on which the UfM would run. A rotating co-presidency was set up, held jointly by one EU member country and one non-EU Mediterranean partner. France and Egypt were the first countries to hold this co-presidency. The presence of the Arab League was established in the rules of the new organisation to boost its legitimacy among Arab members. A secretariat with a separate legal status and its own statutes was created and its headquarters were established in Barcelona.

The Union for the Mediterranean was therefore launched as a new phase of the Euro-Mediterranean Partnership and a continuation of the Barcelona process. The four chapters of cooperation developed in the framework of the Barcelona Process remained valid for thirteen years and were re-named "fields of cooperation", namely, political and security dialogue, maritime safety, economic and financial partnership, and social human and cultural cooperation. The Economic and Financial Partnership has been fleshed out in the Marseille Declaration[19] as including many areas of cooperation, including energy, transport, agriculture, urban development, water, the environment, the information society, and tourism. This should lead to the establishment of a Euro-Mediterranean Free Trade Area, increased economic dialogue and industrial cooperation.

The Marseille Declaration[20] is at the origin of the "Union for the Mediterranean Urban Agenda".[21] The item concerning urban development specifically recognises shared needs for sustainable metropolitan and urban development, stating that

> Sustainable Metropolitan and Urban Development are at the heart

17 "Joint declaration of the Paris Summit for the Mediterranean, Council of Europe, Paris, 13 July 2008," EC, 2008, accessed 5 August, 2020, https://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/er/101847.pdf.

18 "Final Statement, Union for the Mediterranean Foreign Affairs Summit, Marseille, 3-4 November 2008," UfM, 2008, accessed 8 August, 2020, https://ufmsecretariat.org/wp-content/uploads/2012/09/dec-final-Marseille-UfM.pdf.

19 UfM, "Final Statement, Union for the Mediterranean Foreign Affairs Summit, Marseille, 3-4 November 2008," 10.

20 UfM, "Final Statement, Union for the Mediterranean Foreign Affairs Summit, Marseille, 3-4 November 2008."

21 UfM, "*Union for the Mediterranean Urban Agenda": Second Ministerial Conference of the Union for the Mediterranean (UfM) on Sustainable Urban Development*, ed. UfM (Cairo: Union for the Mediterranean, 2017).

> of the major issues of the Mediterranean. Population growth and uncontrolled urban sprawl, concentrated mainly on the coasts, are significant and have a negative impact on the Mediterranean region's development. Sustainable Urban Development implies that governments, developers, and financiers to better anticipate future urban growth, need to better meet the basic needs of populations (housing, transportation, access to water, electricity and telecommunications) and integrate environmental constraints. This challenge implies the involvement of regional authorities to define appropriate planning through an integrated approach.[22]

Recognising the different interests, powers, and planning tools set up with and for the UfM sets the stage for spatial planning and shared policymaking, including for the UfM Urban Agenda.

## The UfM Urban Agenda and the Making of the UfM Action Plan

On 21 and 22 May 2017, during the second UfM Ministerial Conference on Sustainable Urban Development held in Cairo, Egypt, the ministers in charge of sustainable urban development of UfM member countries ratified an Urban Agenda for the Mediterranean.[23] This ratification followed to the New Urban Agenda[24] and the Urban Agenda for the EU, also known as the Pact of Amsterdam.[25] The UfM Urban Agenda specifically aims to be

> [...] a coherent set of actions of its Members States in coordination with other Mediterranean key actors. It is a form of multilevel cooperation where Member States' representatives in charge of urban matters, the European Commission, the European External Action Service, the Union's Advisory Bodies (CoR, EESC), the Euro-Mediterranean Regional and Local Assembly, the EIB, EBRD and other relevant institutions work in thematic working groups in the context of the UfM Regional Platform on Sustainable Urban Development.[26]

The UfM Urban Agenda aimed at "addressing the multi-faceted challenges of the region, both at local and regional levels, through an integrated and holistic approach, as well as at ensuring urban sustainability and re-

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22 UfM, "Final Statement, Union for the Mediterranean Foreign Affairs Summit, Marseille, 3-4 November 2008," 10.

23 UfM, *"Union for the Mediterranean Urban Agenda": Second Ministerial Conference of the Union for the Mediterranean (UfM) on Sustainable Urban Development.*

24 UN-Habitat, New Urban Agenda, UN-Habitat (Nairobi, 2016), http://habitat3.org/the-new-urban-agenda/.

25 "Urban Agenda for the EU: Pact of Amsterdam," European Commission, 2016, accessed 20 November, 2019, https://ec.europa.eu/regional_policy/sources/policy/themes/urban-development/agenda/pact-of-amsterdam.pdf.

26 UfM, *"Union for the Mediterranean Urban Agenda": Second Ministerial Conference of the Union for the Mediterranean (UfM) on Sustainable Urban Development,* 9.

silience with a greater socio-economic impact on the ground, thus improving the quality of life of the peoples of the Mediterranean region". It builds upon a number of international and regional policy frameworks, including the 2030 Agenda for Sustainable Development, highlighting the UN Sustainable Development Goals (SDGs) SDG 11, the UN-Habitat New Urban Agenda, the Addis Ababa Action Agenda, the Sendai Framework for Disaster Risk Reduction, the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean.

The UfM Urban Agenda aims to "enable urban authorities to work in a more systematic and coherent way towards achieving overarching goals".[27] Furthermore, it established policy priorities, including a focus on urban rules and regulations, accompanied by a reiteration of the role of urban planning, underscoring balanced urban and territorial development, and the relationship between rapidly urbanising coastal areas and rural hinterlands affected by depopulation. The document addresses the environment, and climate in particular, with an emphasis on urban resilience and green infrastructures. The document also refers to means of implementation that include several measures concerning capacity building, financing, data collection and management.

To activate the UfM Urban Agenda, the UfM leadership called on TU Delft and the authors of this article to lead a two-year iterative process of research, drafting, editing and review of the Action Plan, coordinated by UfM and DG Regio, and a number of stakeholders: various Directorate Generals in the European Commission, UNESCO, the European Committee for the Regions, the European Investment Bank, other financing institutions, public interest groups, universities, NGOs and most crucially, the ministries in charge of spatial planning in each member country. Several rounds of reviews meant that stakeholders had the opportunity to influence the text considerably. Assigning leadership to university partners from outside the Mediterranean reflects both the need for independent, science-led advice and the desire to bring the full knowledge of European spatial planning to the fore for shared development of the urban spaces of the Mediterranean.

The UfM Strategic Action Plan for Sustainable Development as imagined by the authors and developed in collaboration with all partners turns the declarative intentions expressed in Urban Agenda for the Mediterranean into coordinated actions that aim to enhance the strategic and integrative value of spatial planning interventions in each country. The UfM Action Plan is a transnational policy framework that is not legally binding, but its force resides in voluntary adherence. Adherence depends upon several factors connected to the procedural make-up of the plan and the institutional framework in which it is conceived. A clear mandate to put the

27 UfM, *"Union for the Mediterranean Urban Agenda": Second Ministerial Conference of the Union for the Mediterranean (UfM) on Sustainable Urban Development.*

Action Plan together, resulting from a long process of supranational engagement and negotiation in the Barcelona Process, and engagement of a broad range of stakeholders in conceptualising and drafting the Action Plan aims to give it legitimacy and to increase compliance in the implementation phase. This institutional environment is shaped by diverse values and worldviews among the very large number of institutions and national authorities that regulate how stakeholders interact, how decisions are made and how formal and informal rules and procedures influence the process of transnational policy formation.

The UfM Strategic Action Plan for Sustainable Development was kicked off at a meeting in Brussels in September 2019. It was initially conceived as a document to promote urban regeneration, but rapidly evolved to become a more comprehensive document dealing with sustainable urbanisation, with the understanding that the resources and time employed to conceive an action plan for urban regeneration would be better employed in a document with a wider scope and a more strategic approach to integrated urban development. As a result of this strategic integrated approach, it was also decided to develop a UfM Strategic Plan for Housing alongside the main Action Plan and laid out in a separate action plan.

The UfM Action Plan operationalises the directions established by the UfM Urban Agenda for the Mediterranean (discussed in the previous section). It sets up a strategic action agenda for the period 2020-2040, promoting policy that follows three principal directives. Policy designed under the aegis of the Action Plan should be integrative, bringing together several sectors of urban development in coherent long-term visions; it should be evidence-based and science-led, making ample use of local and international knowledge partnerships, with a marked role for universities and research institutes; and finally, it must be participatory, with a focus on citizen engagement.

While these policy directions may seem generic, they follow a number of international and European policy frameworks that guide the more specific actions proposed in the Action Plan, including notably the European Commission Better Regulation Framework,[28] the Charter for Multilevel Governance in Europe[29] and EU Cohesion Policy,[30] all European frameworks for good governance. These and many other frameworks used in the UfM Action Plan reveal a European bias in international policy making

28 "Commission Staff Working Document: Better Regulation Guidelines," EC, 2017, accessed 20 March, 2020, https://ec.europa.eu/transparency/regdoc/rep/10102/2017/EN/SWD-2017-350-F1-EN-MAIN-PART-1.PDF; "Better Regulation: taking stock and sustaining our commitment," European Commission, 2019, accessed 10 December, 2019, https://ec.europa.eu/info/sites/info/files/better-regulation-taking-stock_en_0.pdf.

29 "Charter for Multilevel governance in Europe," EU, 2014, accessed 10 January, 2020, https://portal.cor.europa.eu/mlgcharter/Pages/MLG-charter.aspx.

30 "Cohesion Policy 2014-2020: Integrated Sustainable Urban Development," European Commission, 2014, accessed 12 December, 2019, https://ec.europa.eu/regional_policy/sources/docgener/informat/2014/urban_en.pdf.

that is underscored by the sheer strength of the European Union as an organisation that has invested heavily in understanding how it can improve all levels of governance in its jurisdiction.

Even if the degree of European coordination is arguably not ideal, the EU has produced a vast array of tools to improve and enhance territorial coordination. Integrated territorial investment is one of the main instruments for European integration.[31] These notions were integrated in the Action Plan, although the lack of specific investment mechanisms (these are connected to donors and to the EU) makes this Action Plan fundamentally different from the European Cohesion Policy structured around several sectoral investment funds (the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD), and the European Maritime and Fisheries Fund (EMFF)). Cohesion Policy is an exercise in metagovernance, a concept we explore further, in which coordination, integration and rationalised results are guaranteed through a series of steps in which objectives are set by Member States in shared management with the European Commission. Member States also establish implementation and oversight mechanisms, involving a huge number of stakeholders at various levels and sectors, fueling a process of multi-level governance that combines elements of market governance, networked governance and hierarchic governance[32] with concrete territorial outcomes.

Despite a lack of direct financial mechanisms, the Action Plan seeks to bring about the convergence of territorial development values and standards around the Mediterranean by using urbanisation as a motor for action, in line with SDG 11. It does so through a spatial planning perspective, complemented by the adoption of common definitions and vocabulary (alongside local definitions), collection of comparable data, common efforts in capacity building and education and the formulation of comparable policy frameworks at national (National Urban Plans) and local levels (Integrated City Development Strategies), with respect for national trajectories, traditions, and path dependencies. However, the idea of convergence itself is controversial. Despite some shared history, the countries in the Mediterranean have markedly distinct levels of economic and human development and a history of colonisation by European powers that makes any effort to "converge" be seen with caution.

The notion of convergence used to draft the Action Plan is well explained in the momentous report by the World Bank aptly titled "Convergence: Five Critical Steps toward Integrating Lagging and Leading Areas in the Middle

31 "Integrated Territorial Investments as an effective tool of the Cohesion Policy," European Parliament, Policy Department D for Budgetary Affairs, 2019, accessed 10 January, 2020, https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/636472/IPOL_IDA(2019)636472_EN.pdf.

32 Meuleman, *Metagovernance for Sustainability: A Framework for Implementing the Sustainable Development Goals*.

East and North Africa".[33] This powerful and eloquent document advances the idea that territorial convergence counteracts rising spatial disparities and that "governments can take the lead by tackling the economic and institutional causes of spatial exclusion", claiming that "opportunities for your citizens are shaped by accidents of where they were born—much more so than in any other part of the world". Territorial convergence here means integrating lagging and leading areas of the region, both nationally and regionally, and making opportunities more widely available for citizens. The report proposes a set of five actions that would engender a "convergence machine" in the MENA region: strengthening coordination complementarities across sectoral interventions; redistributing roles and responsibilities across tiers of government; enabling greater mobility of people between lagging and leading areas; building dense and connected cities; and finally enhancing market access for lagging areas, nationally and regionally.[34]

The notion of convergence is supported in the Action Plan by the adoption of principles of territorial metagovernance, inspired by work by Louis Meuleman,[35] policy and governance advisor for the European Commission and member of the UN Committee of Experts on Public Administration (CEPA), described by economist Predrag Bejakovic as

> Metagovernance or the governing of governing is a means by which a society attempts to establish some degree of coordinated governance. The goal is to achieve the best possible outcome from the viewpoint of those responsible for the performance of public sector organisations. The intention is to establish values in such a way that they become accepted norms. The fact that norms can be established at any level and can then be used to form the governance process as a whole means that metagovernance is part of both the input and the output of the governing system.[36]

For Meuleman, metagovernance means a situational, context-specific, and dynamic coordination of three different styles of governance taking place in different sectors and across scales: hierarchic governance, networked governance, and market governance. These three "styles" of governance are more or less common in different countries and cultural contexts, and more or less effective in different sectors, but are all useful and necessary for integrated territorial development.

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33 World Bank, "Convergence: Five Critical Steps toward Integrating Lagging and Leading Areas in the Middle East and North Africa."

34 World Bank, "Convergence: Five Critical Steps toward Integrating Lagging and Leading Areas in the Middle East and North Africa," 18.

35 Meuleman, *Metagovernance for Sustainability: A Framework for Implementing the Sustainable Development Goals*.

36 Predrag Bejakovic, "Book Review of Metagovernance for Sustainability: A Framework for Implementing the Sustainable Development Goals, by Louis Meuleman," *Public Sector Economics* 43, no. 1 (2019): 110.

Meuleman reminds us that "Governance is not the content of policies (what to do?) or about the vision behind policies (why do it?) but concentrates on how to achieve objectives. [...] Governance therefore includes polity (the institutions and instruments) and politics (the processes)".[37] These ideas are central for the UfM Action Plan, a governance framework that addresses the realities of so many different countries with varying degrees of economic development, public sector capacity and degrees of civic engagement. The actions proposed in the Action Plan are therefore not focused on specific policies, which ought to be formulated at the national level, but focused on creating the conditions for the coordination and convergence of capacities, values, and visions, in hopes of creating territorial cohesion via increased cooperation and institutional learning.

These ideas are expressed in the mechanics of the plan through the interaction of six mutually reinforcing actions happening simultaneously (Fig. 1), relatively independently and organised according to local capacity and political culture.


FIG. 1 Action Wheel, UfM Strategic Action Plan for Sustainable Urbanisation. Credits: the Authors.

The Action Plan adopts the concept of metagovernance and expands it to "territorial metagovernance", in which networked multi-level governance is connected to spatial planning to create the conditions for the adop-

37 Meuleman, *Metagovernance for Sustainability: A Framework for Implementing the Sustainable Development Goals*, 22.

tion of common values and norms both within countries and across the Mediterranean. In other words, the Action Plan is conceptualized from the point of view of spatial planning, in which different governance styles are combined in an explicit spatial perspective. The objective is to create conditions for cities, regions, and countries to converge in terms of development objectives, indicators and actions. It seems self-evident to us that such convergence, if carried out with respect and regard for national traditions and historical path dependencies, might prove beneficial in helping the MENA region to move towards sustainable, democratic, inclusive urban and regional development, addressing the UN SDGs and the specific objectives of the UfM and its Urban Agenda.

Beyond the UfM Urban Agenda, the Action Plan builds upon several policy frameworks. A non-exhaustive list of 45 main frameworks, declarations and pacts were used in the making of the plan (see annex 1), from a total of roughly 125 policy documents used in the drafting process. These documents underscored, structured and justified parts of the text. From the 45 documents, 21 (47%) are global in scope, 14 (31%) are European in scope, 6 (13,5%) are transnational/ regional (Mediterranean) and only three (6,5%) originate in the MENA region or have it as the main object. The sources of most global scope documents are the UN, UN-Habitat, OECD, and UNESCO (see Annex 1). European documents are mostly conceived by the European Commission. The Commission and UfM itself are the sources of most documents with a transnational or regional scope. The documents originating in the MENA are the Cairo Declaration on Housing and Sustainable Urban Development,[38] a second Cairo Declaration: Development Challenges and Population Dynamics in a Changing Arab World[39] and the Arab Strategy for Housing and Sustainable Urban Development 2030.[40]

There is a notable prevalence of European frameworks that are central to the Action Plan, such as the ENP,[41] the Charter for Multilevel Governance for Europe,[42] European Framework for Action on Cultural Heritage,[43] the EC "Better Regulation Framework" included in the document "Better Regulation: taking stock and sustaining our commitment" and the European Green Deal. This prevalence is due to several intertwining factors, including most notably the influential role of Europe in innovative policymak-

38 "Cairo Declaration On Housing, and Sustainable Urban Development," UN-Habitat, 2015, accessed 10 July, 2020, https://www.hlrn.org/img/documents/Cairo%20declaration_EN.pdf.

39 "Cairo Declaration: Development Challenges and Population Dynamics in a Changing Arab World," UNFPA, 2013, accessed 15 July, 2020, https://www.unfpa.org/sites/default/files/event-pdf/Cairo_Declaration_English.pdf.

40 "Arab Strategy for Housing and Sustainable Urban Development 2030," League of Arab States, 2017, accessed 15 July, 2020, https://unhabitat.org/sites/default/files/2017/05/Arab-Strategy-English.pdf.

41 European Commission, "European Neighbourhood Policy (ENP)."

42 European Committee of the Regions (CoR), "Charter for Multilevel governance in Europe."

43 "European Framework for Action on Cultural Heritage," EC, 2019, accessed 10 March, 2020, https://ec.europa.eu/culture/content/european-framework-action-cultural-heritage_en.

ing. We can list a wealth of policy frameworks created by the European Commission, including strategic frameworks that are ground-breaking and unique, such as the European Pillar of Social Rights,[44] the Better Regulation Toolbox[45] and the Just Transition Mechanism.[46] These and other frameworks are exceptional because of their innovative focus and scope, and because they strongly incorporate notions of social sustainability and social justice. This is a welcome shift away from policy focused on growth and competitiveness or on environmental preservation in a way that is disconnected from social sustainability. We cannot discount the authors' own cultural biases and linguistic limitations.

Although documents in French and Spanish were used in the making of the Plan, the list of 44 main policy frameworks contains only documents that are available in English, even if some of them were originally written in other languages. Further study is necessary to assess the effects of linguistic bias in policy making. Marc-Lluís Vives, M. Aparici, and Albert Costa[47] discuss how language affects decision-making, but there seems to be little written about the effects of a language domain in policy formation. This is different from studies of the predominance of Anglo-Saxon literature in planning and policy making and the influence of culture on decision-making. Most policy frameworks used in the SAP are the result of multi-state engagement, but we cannot discount bias resulting from a lack of knowledge of Arabic, for instance. In fact, the language landscape may have had may have had a considerable effect on policy formation. In addition, UNESCO had a significant role in the drafting of the plan, as a vocal partner in the drafting and review process. It has made sure the 2011 UNESCO Recommendation on the Historic Urban Landscape[48] and other UNESCO frameworks permeate several aspects of the plan. An updated version of the Leipzig Charter[49] has had an impact as well.

The UfM Action Plan inscribes itself in the recently increasing number of policy frameworks, which have also influenced the writing of the UfM Action Plan. Sixteen documents (35.5%) were published in 2019-2020 and 35 (77.5%) were published in the period 2015-2020). The only two doc-

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44 "European Pillar of Social Rights," European Commission, 2017, accessed 20 January, 2020, https://ec.europa.eu/commission/publications/european-pillar-social-rights-booklet_en.

45 "Better Regulation Toolbox," EC, 2019, accessed 15 July, 2020, https://ec.europa.eu/info/law/law-making-process/planning-and-proposing-law/better-regulation-why-and-how/better-regulation-guidelines-and-toolbox/better-regulation-toolbox_en.

46 "The Just Transition Mechanism: Making Sure No One Is Left Behind," EC, 2020, accessed 10 June, 2020, https://ec.europa.eu/commission/presscorner/detail/en/fs_20_39.

47 Marc Lluís Vives, Melina Aparici, and Albert Costa, "The limits of the foreign language effect on decision-making: The case of the outcome bias and the representativeness heuristic," *PLoS ONE* 13, no. 9 (2018).

48 "Recommendation on the Historic Urban Landscape," UNESCO, 2011, accessed 1 January, 2019, https://whc.unesco.org/uploads/activities/documents/activity-638-98.pdf.

49 "The New Leipzig Charter: The transformative power of cities for the common good," Bundesministerium des Innern, für Bau und Heimat, 2020, accessed 10 March, 2021, https://ec.europa.eu/regional_policy/sources/docgener/brochure/new_leipzig_charter/new_leipzig_charter_en.pdf.

uments published in the 20th century are the 1972 UNESCO Convention Concerning the Protection of the World Natural and Cultural Heritage[50] and the Barcelona Declaration[51] is the trigger document for the whole process leading to the Action Plan. The degree to which such policy frameworks have impact in the diverse nations around the Mediterranean remains to be seen. Even though the plan benefitted from scientific knowledge and carries scientific authority, that has not necessarily made it possible to translate into political action. Challenges in translating recommendations into action result from the particular structure of the UfM as an intergovernmental organization with a mission to promote dialogue and cooperation, but without concrete political power.

## Challenges in implementing the Action Plan

Internal contradictions and challenges involved in implementing the UfM Action Plan and ensuring compliance are connected to the Eurocentric nature of many of the frameworks used in the Plan. Factors not efficiently addressed include the following: the divergent planning traditions and capacities that make it unlikely that countries will be able to implement measures consistently, the impact of informal institutions that vary widely across the countries of the Mediterranean, and the lack of a financial mechanism underscoring the actions of the Plan, which make it somewhat "toothless" and reliant on voluntary adhesion and compliance. Here, the notion of metagovernance is crucial because it presumes flexibility and adaptability to local conditions and local governance styles, which means that a further step must be taken by Member States to translate the principles of the Plan to local contexts and local capacities. Below we list the hurdles systematically.

## Eurocentrism

We have addressed some of the causes of the prevalence of European policy frameworks in the Strategic Action Plan. The effects of this prevalence are less clear. These policy frameworks rely on the existence of stable liberal democracies, with strong rule of law, strong institutions, and active civil societies. Several countries in the MENA region struggle with weak democratic institutions and several have autocratic or repressive regimes, where the rule of law is weak and where civil society organisations are commonly suppressed.

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50 "Convention Concerning the Protection of the World Cultural and Natural Heritage," 7th Session UNESCO General Conference UNESCO, 1972, accessed November, 2019, https://whc.unesco.org/archive/convention-en.pdf.

51 European Commission, "Barcelona Declaration."

## Divergent planning traditions

Urban and regional planning traditions[52] diverge in important ways in the region, with anecdotal evidence suggesting the prevalence of an "urbanism/design" tradition around the Mediterranean basin. The French École des Ponts et Chaussées technical/design approach to urbanism has influenced many of the countries in the MENA region, while the UK's policy-based tradition has influenced others. Several countries exhibit strong market-based approaches, and several countries have very weak capacity for coordinated territorial planning and design.

## The lack of financial incentives

At UfM's inception, Member States ministers agreed to set a structured framework for cooperation, through the creation of a UfM Regional Platform on Sustainable Urban Development, its thematic platforms and working groups, as well as through the organization of the UfM-IFIs (International Financial Institutions) Urban Development Project Committee Meetings. This resulted in enhanced policy dialogue among UfM Member States, financial institutions, regional organisations and stakeholders from both the public and private sectors, and it resulted in several concrete projects and initiatives.[53] Along with the UfM Regional Platform, the UfM Secretariat organises the UfM-IFIs Urban Project Committee, which is aimed at exchanging views with the IFIs and key partners of the UfM region concerning the funding of the labelled and potential projects for future labelling in the field of urban development, particularly by exploring innovative, coordinated financing approaches and mechanisms, as well as cooperative multi-donor strategies and partnerships at the regional level. Nonetheless, the financial mechanisms underscoring most proposals in the SAP are unclear and are the object of further negotiation. Implementation of the SAP can become difficult if no structural funds are associated with it.[54]

## The need for thematic approaches

The UfM Action Plan has been refined through an axis on housing. Other specific axes are needed, such as a focus on the shared challenges of sea and land, and of ports, port cities and their forelands and hinterlands around the Mediterranean. This is particularly important as water sites, port and industrial areas lack multi-level and multi-stakeholder public

52 Nadin, V., & Stead, D. (2008). European Spatial Planning Systems, Social Models and Learning. *disP: The Planning Review*, 44(172), 35-47.

53 "The UfM launches the First Platform on Sustainable Urban Development," UfM, 2017, accessed 10 September, 2020, https://ufmsecretariat.org/first-platform-sustainable-urban-development/.

54 UfM, "The UfM launches the First Platform on Sustainable Urban Development."

representation and are often determined by select corporate and public actors.[55] The Action Plan needs to recognize existing initiatives of the EU to establish ports as engines of growth[56] and to develop policy recommendations for the integration of urban nodes in European transportation networks.[57] The Action Plan should recognize the importance of infrastructural connectivity; it also should focus on sea-land intersection and emphasize port-city integration, fore-and hinterland connection and the role that ports can play in sustainable and just development.

## The bearing of informal institutions

The ensemble of relationships and interactions that define planning practice can only exist in legal (formal) frameworks, in which laws, regulations, rules and contracts are established. Formal rules and regulations define forms of policymaking and policy performance; forms of association and cooperation between public, private and civic actors; forms of attribution of responsibility, accountability and control. However, there is another realm that must be considered next to formal rules: informal institutions and practices.

North[58] claims that one reason colonisers failed to implement significant societal change in the direction they desired when they sought simply to change existing institutions or to establish new institutions in colonised societies was their "disregard of conventions, norms, mores and traditions commonly followed by members of these societies".[59] "Formulated differently: the informal institutions prevalent in a society might constitute a binding constraint on attempts to reform a society's formal institutions".[60] In other words, it is not just formal institutions that matter in policy transfer: informal institutions matter too, as they can have an enormous bearing on governance arrangements. Furthermore, informal institutions interact with formal institutions in a myriad of ways, and not always to the detriment of change.

Informal institutions influence policy goals and tools, as well as the procedures and outcomes of planning practice. This is relevant because Informal institutions are likely to have a strong bearing on governance arrangements and might influence any attempt of coordination, increasing transaction costs and disrupting implementation. These informal institutions and practices are rather interwoven with formal practices, with

55 "European ports: an engine for growth," 2020, https://ec.europa.eu/transport/modes/maritime/infographics_en.

56 EU Commission, "European ports: an engine for growth."

57 "Methodology," 2020, https://vitalnodes.eu/.

58 D. North, *Institutions, Institutional Change and Economic Performance* (Cambridge, MA: Cambridge University Press, 1990).

59 Stefan Voigt, "How to measure informal institutions," *Journal of Institutional Economics* 14, no. 1 (2018): 1.

60 Ibid.

which they establish relationships of collaboration and conflict, action, and reaction, with expected and unexpected outcomes. Formal rules and regulations are therefore important in terms of what relationships they encourage or discourage. Formal rules also define the conditions and forums of discussion and negotiation between different actors, but they do not always define how actors interact. It is obviously not possible to map and describe all informal institutions having an impact on governance failure or success around the Mediterranean, but it is crucial to acknowledge that informal institutions vary across countries in the region, with informal arrangements ranging from religion-based organisation to traditionally organised social networks. Examples of informal arrangements and institutions are not confined to the MENA region, but have a significant bearing on Europe as well, with challenges to successful policy transfer arising on both shores of the Mediterranean Sea. Informal institutions are notoriously difficult to map and characterise, which puts even more emphasis on a governance style that is adaptive and locally bound and that can negotiate differences. Again, and at the risk of repeating ourselves, a further translation step is necessary when implementing a transnational policy framework to adapt it to local conditions and local governance environments.

The UfM Strategic Action Plan is a clear example of a transnational policy framework that demands national translation. It is important to highlight that a policy framework is not a policy, but a governance instrument. This is a case of policy diffusion or policy innovation, as conceptualised by Dolowitz and Marsh,[61] encompassing "both 'voluntary' and 'coercive' forms of practice, noting that the latter can occur when 'one government or supra-national institution [is] pushing, or even forcing another' to adopt a set of policy innovations".[62] While UfM action in the Euro-Mediterranean region might be cynically conceived as an attempt to extend EU influence over the region to ensure political stability and access to resources, the authors believe the issue is more complex than "institutional colonisation" and policy transfer here will happen only through a long process of integration and dialogue via the Barcelona Process.

Policy translation must happen at the national level and that may result in a failure to adopt parts of the plan, especially if flexible and adaptive management and implementation capacity are still need to be developed. An example of the hurdles faced is the lack of a citizen engagement tradition in the MENA region, where decisions are generally taken by authoritative and highly technocratic bureaucracies, in mostly hierarchic governance environments that fail to effectively incorporate market and networked governance styles. This is why training and capacity strengthening are so central in the Plan, in the hopes of triggering a transformation in the

61 David P. Dolowitz and David March, "Who Learns What from Whom? A Review of the Policy Transfer Literature," *Political Studies* 44, no. 2 (1996).

62 David Benson and Andrew Jordan, "What Have We Learned from Policy Transfer Research? Dolowitz and Marsh Revisited," *Political Studies Review* 9, no. 1 (2011): 367.

education of the next generation of MENA managers, spatial planners and policy makers. Such education can be key to creating a better understanding among different stakeholders in the policy process.

The process of drafting the UfM Action Plan also raises questions about the potential impact and contribution of scientific actors, such as the authors of the article, in the political process. While academics can provide independent advice, they may lack access to all relevant political decision-makers. They also may work on different time scales than representatives of governmental and intergovernmental organisations that depend on short-term political support. Facilitating collaboration and ensuring that scientific knowledge is included in policymaking, including in the field of spatial planning, requires consideration of the different temporalities, mandates and power structures of academic institutions, national governments, and intergovernmental organisations.

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# Annex 1

## Non-exhaustive list of policy frameworks used in the elaboration of the UfM Strategic Urban Development Action Plan

Policy frameworks are listed chronologically.

1. (1972) The 1972 UNESCO Convention Concerning the Protection of the World Natural and Cultural Heritage
2. (1995) The Barcelona Declaration
3. (2008) Joint Declaration of the Paris Summit for the Mediterranean
4. (2009) Integrated Urban Water Management: Arid and Semi-Arid Regions
5. (2009) UN-Habitat The Right to Adequate Housing
6. (2011) The 2011 UNESCO Recommendation on the Historic Urban Landscape
7. (2011) The SWITCH (Sustainable Water Improves Tomorrow's Cities Health) Transition Manual: Managing Water for the City of the Future
8. (2014) Charter for Multilevel Governance for Europe
9. (2014) The policy framework "Cohesion Policy 2014-2020: Integrated Sustainable Urban Development"
10. (2015) Cairo Declaration on Housing, and Sustainable Urban Development
11. (2015) Cairo Declaration: Development Challenges and Population Dynamics in a Changing Arab World
12. (2015) The 2030 Agenda and its 17 Sustainable Development Goals (with a focus on Goal 11)
13. (2015) The Geneva UN Charter on Sustainable Housing
14. (2015) The Paris Agreement
15. (2016) European Neighbourhood Policy (ENP)
16. (2016) The New Urban Agenda
17. (2016) The OECD Better Policies for 2030: An OECD Action Plan on the Sustainable Development Goals
18. (2016) The Pact of Amsterdam. An Urban Agenda for the EU
19. (2016) Urban Water Agenda
20. (2017) The Arab Strategy for Housing and Sustainable Urban Development 2030
21. (2017) The Report "My Region, My Europe, Our Future: Seventh report on economic, social and territorial cohesion"
22. (2017)The Union for the Mediterranean Urban Agenda
23. (2018) Davos Declaration: Towards a high-quality Baukultur for Europe
24. (2018) Policy Guidelines for Affordable Housing in European Cities
25. (2018) Post-2020 Global Biodiversity Framework (COP 15 to the Convention on Biological Diversity, 2020)
26. (2018) The Housing Partnership Action Plan of the Urban Agenda for the EU

27. (2018) United Nations Secretary-General's Plan: Water Action Decade 2018-2028
28. (2019) An updated version of the Leipzig Charter (in preparation)
29. (2019) European Commission Explanatory Memo: European Urban Initiative- Post 2020
30. (2019) Sustainable Development Goal 6: Ensure availability and sustainable management of water and sanitation for all
31. (2019) The Discussion Paper on the "UfM Action Plan on Affordable and Sustainable Housing" produced by the UfM Thematic Working Group on Affordable and Sustainable Housing (draft)
32. (2019) The EC "Better Regulation Framework" included in the document "Better Regulation: taking stock and sustaining our commitment"
33. (2019) The European Green Deal [62]
34. (2019) The OECD Recommendation of the Council on Policy Coherence for Sustainable Development .
35. (2019) The Reflection Paper "Towards a sustainable Europe by 2030"
36. (2019) UN-Habitat Urban-Rural Linkages Guiding Principles
37. (2019) Urban Disaster Resilience through Risk Assessment and Sustainable Planning (UD-RASP)
38. (2019)The New Strategic Orientation of UN-Habitat
39. (2020) European Framework for Action on Cultural Heritage
40. (2020) OECD Territorial Approach to the Sustainable Development Goals
41. (2020) The AIVP (The worldwide network of port cities) Agenda 2030 for Sustainable Port Cities
42. (2020) UN-Habitat Mainstreaming Urban-Rural linkages in National Urban Policies
43. (2020) United Nations World Water Development Report 2020: Water and Climate Change

63 Initiatives announced in the political guidelines:
Legislative proposals • European Climate Law • Proposal to extend the EU Emissions Trading System to the maritime sector and reduce the free allowances allocated to airlines over time; and to extend this further to cover traffic and construction • Carbon Border Tax • Review of the Energy Taxation Directive * Strategies and Action Plans • New industrial strategy • Strategy for green financing and a Sustainable Europe Investment Plan • Comprehensive plan to increase the EU emissions reduction target for 2030 towards 55 % • 'Farm to Fork Strategy' on sustainable food along the whole value chain • Cross-cutting strategy to protect citizens' health from environmental degradation and pollution • Biodiversity Strategy for 2030 • New Circular Economy Action Plan; tackling micro-plastics* Financing instruments • New Just Transition Fund • Proposal to turn parts of the European Investment Bank into Europe's climate bank * Non-legislative initiatives • European Climate Pact • Lead the world at the 2020 Conference of the Parties to the Convention on Biological Diversity.

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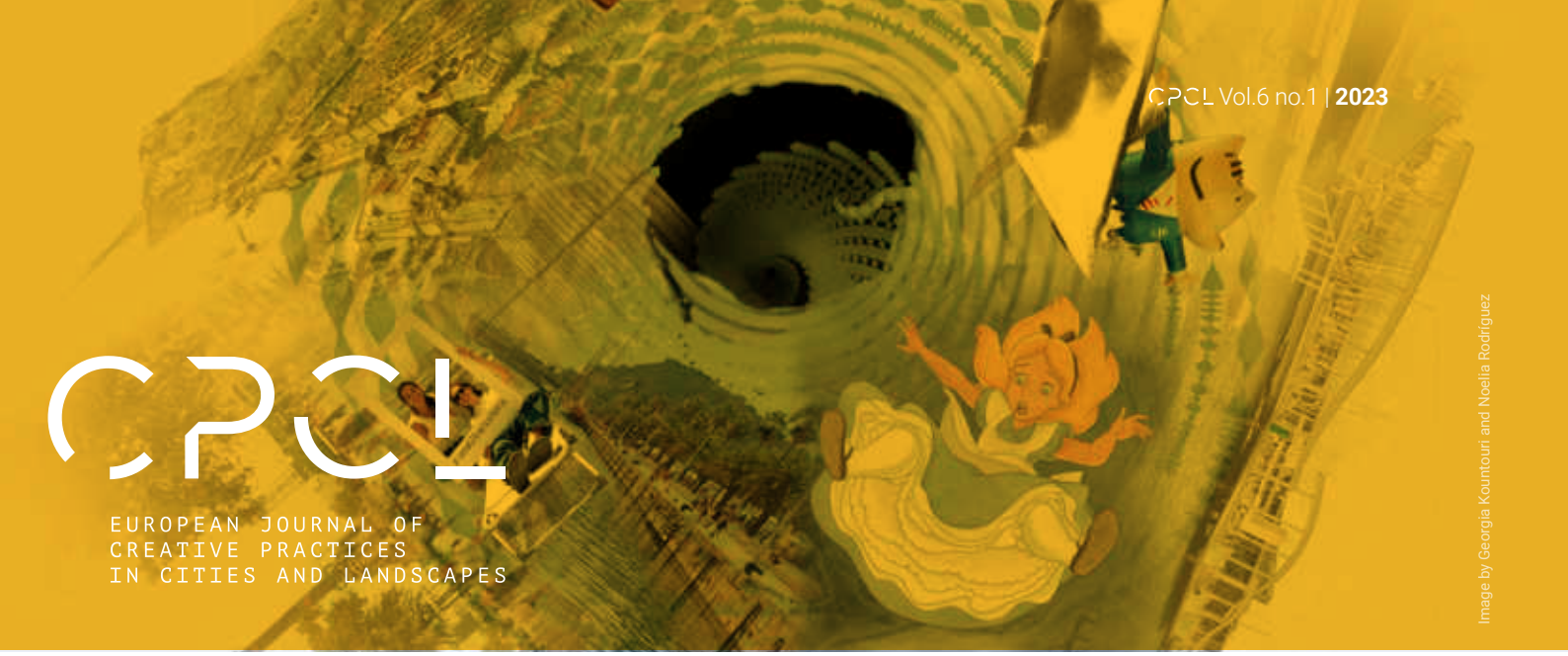

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Image by Georgia Kountouri and Noelia Rodríguez

PRACTICES

# seaUbarcelona

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ABSTRACT

As a result of doing the Contemporary Projects Design Critique workshop at the Master of Landscape Architecture (UPC), we explore and define a new strategy to analyze and interact with the site of study, which we call Site Vibration Tool. In continuation, we tested the tool through the seaUbarcelona performance at the Port Vell of Barcelona waterfront. We came into a double conclusion. The first one, derivate from the site. Having as a start point, the Barcelona's 92 strategy of opening the city to the sea, we think over how that strategy has respond those 92 expectations in today's reality and will transcend in the future of the city's waterfront, considering the climate change. And in second place, an invitation to enter into our mind. The experience using Site Vibration Tool, we perceive and add tangible and intangible aspects of the place in a landscape proposal, encouraging our colleagues to incorporate it to their practice.

KEYWORDS

*Waterfront, Landscape Analysis, Site Performance, Site Vibration Tool, Barcelona.*

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Before we start the reading, we want you to travel with us into our world, from the site to our *mind*, so you understand the different factors contributing to this study.[1] This is our study of the Barcelona's '92 waterfront strategy, formulated after the landscape performance[2] that took place in Port Vell of Barcelona in various acts.[3] We want to present you the site vibration tool that we tested during the performance. It is a subjective action of interacting with the site, tangible and intangible, and a subjective action of interacting with its users after a previous analysis. The aim of the **site vibration tool** is to confirm and discover characteristics, dynamics, and future necessities which can better define the project's areas of influence and thus reflect into the areas of effect,[4] and the way of perceiving the project site as area of control, area of influence, and area of effect. For better results it is necessary that the enactor executes an extensive previous site analysis to be able to prepare and interpret better the site vibration. Part of this analysis, it is the chords definition. The chords are those areas from the site, where the interaction it is going to take place. In continuation, we are going to try to transmit our own experience of the site vibration tool practiced in the Port Vell of Barcelona, through the seaUbarcelona performances.

FIG. 1 Collage of our site vibration experience in SeaUBarcelona.

1 Notice that the text format changes to help the reader to understand when the mind talks, or the site expresses itself.

2 UPC – Master of Landscape Architecture (MAP) - Contemporary Projects Design Critique Workshop (November 2022)

3 #seaUbarcelona

4 The site thinking method and the interpreting methodology defined by Carol Burns and Andrea Kahn (Site Matters 2005/2020).


FIG. 2 Collage showcasing the history of Barcelona's city and port growth. Exploring how the history can inspire the future, as first part of the site vibration process.

We are using this critique to argue that the Olympics Games' 92 strategy to open Barcelona to the Mediterranean, although intelligent and contemporary, did not establish a concrete landscape relationship between the city and the sea. We want to engage with the ongoing discussion about this relation, in order to enrich it with a tool of analysis and develop an urban intervention of this magnitude. We call this tool: site vibration.

*We use the site thinking method and the interpreting methodology defined by Carol Burns and Andrea Kahn (Site Matters 2005/2020). We argue that the architects and responsible committee for the strategic design of the Barcelona's Port Vell in 1992, did not prioritize as design's area of influence neither the historical, patrimonial, and collective memory of the place, nor the environmental conscience and future necessities (derived from the climate change).*

Our initial thesis, in the analyzing site process, has a recurrent thought that for a long time, from the roman areas, till the end of 19th century, Barcelona had a concrete relationship between the city and the sea. It was defined by the city's walls. and this idea of intramural and extramural accompanies us in our critique. The Olympics Games' '92 strategy to open Barcelona to the Mediterranean, was to change this relationship, to connect the city to the sea. Using our site vibration tool, we want to look at the future and participate in this discussion. We started the traditional site analysis. We focus on our area of control, the chords appeared, as the places to perform the interactions.

The interactions performed had a double scenario in each chord: in the access as a perturbation, and in the public space as a reception.


FIG. 3 Collage explaining the different site vibration tool acts/installations that took place in Barcelona as part of SeaUBarcelona performance, also featuring interactive moments on Instagram.

During October 2022, we obtained the data to construct our critique by interacting with the place and the social media through site vibration process. Previously, we did a site analysis, based on an initial critical thesis, in order to define the site vibrations' chords. In continuation, we conducted our site vibration, which were an extensive series of interactions site vibrations in the waterfront and Instagram, where the participants, willing bystanders, and usual users, were given the opportunity to think over about the history, the present, and the future of the relation between the city and the sea. Thus, it allowed us to obtain information and street data, outside of the traditional analysis tools.

*We analyzed the site with a conventional urban analysis. That considered the site´s history, the mobility´s plans, the formal and informal usages, the municipality´s plans, the critiques, the aesthetic character, the possibility of visual connecting, the barriers, the landscape, and the ecological value. Our initial thesis was centered in the idea that this opening to the sea strategy didn't take into consideration the city legacy: Barcelona's in and out of the wall relationship and within the sea. The chords that we identified in Port Vell, are small areas near populated intersections-crossroads (accesses) with an aesthetic and "instagrammable" value and a potential to attract more users in order to interact with them.*

Based on an initial critical thesis, we defined the site vibrations' chords.

FIG. 4 Collages explaining the different site vibration tool acts/installations, in the chosen locations -chords, that took place in Barcelona as part of SeaUBarcelona site vibration performance.

In continuation, we conducted our site vibration, named SeaUBarcelona. This is a sum up of the 6 acts, and the Instagram feedback. Plus, we invite you to visit this link to the Instagram account.[5]

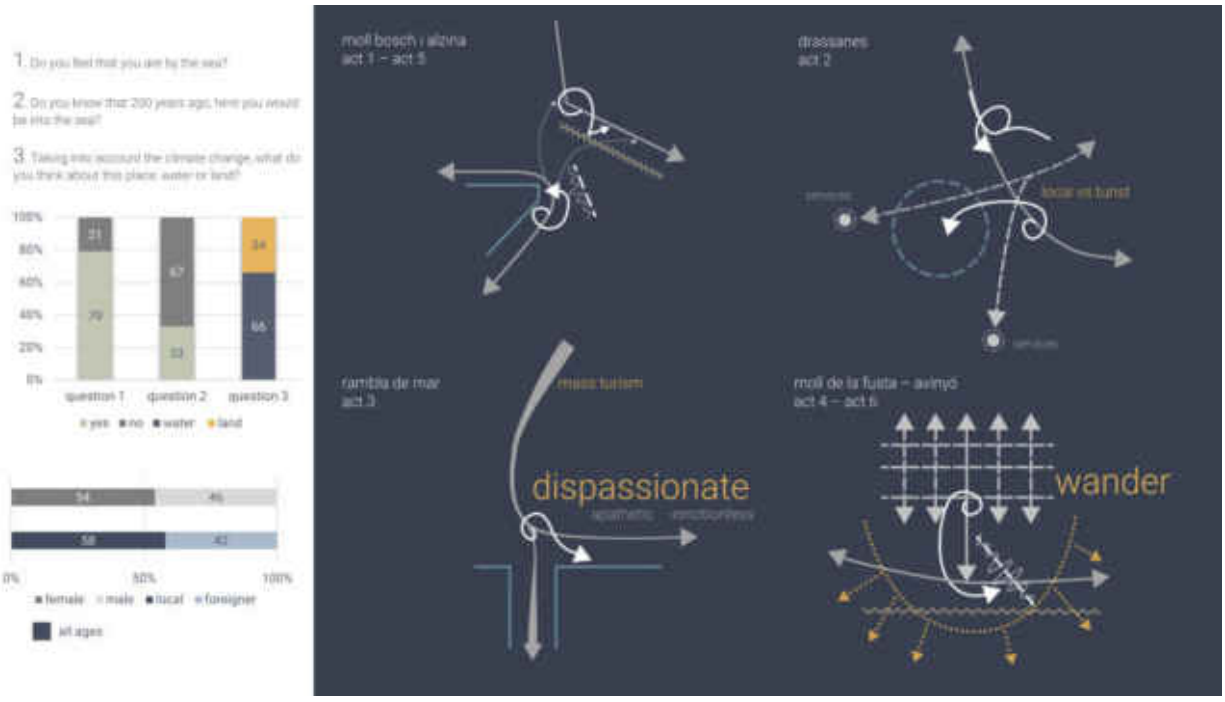


FIG. 5 Collage graphically illustrating the key conclusions from the site vibration performance SeaUBarcelona.

5 #seaUbarcelona

We want to address the technical teams who will be called to redesign and intervene the waterfront in the future. We believe that the designers, by using the site vibration tool, will be able to enrich the proposals areas of control, influence, and effect.

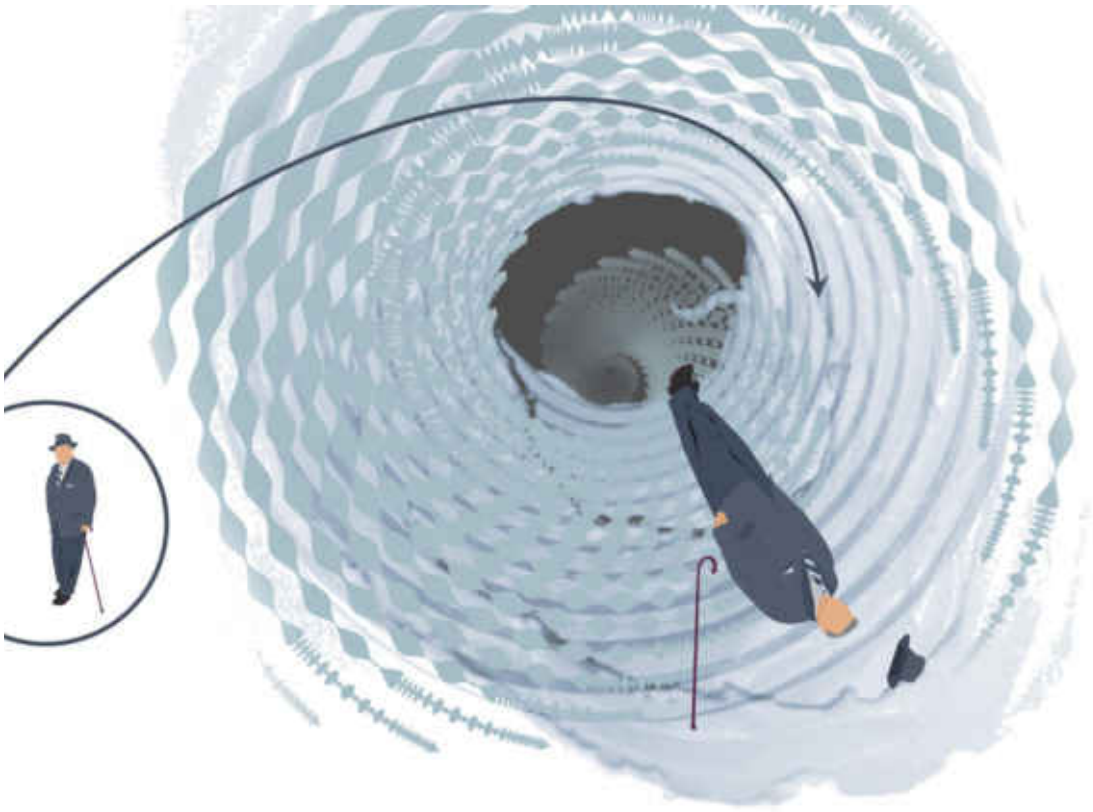

FIG. 6 Collage depicting how the site vibration tool can contribute to rethinking design factors.

Thus, it allowed us to obtain information and street data, outside of the traditional analysis tools. But also, this data has a double influence on us: a data from the site and a data that vibrates in our minds. Both, combined, helped us to enrich our site critique. That is why we encourage our colleagues to find their own site vibration in order to enhance their proposals.


FIG. 7 Collage illustrating final thoughts on the future of Barcelona's old port waterfront.

The critique's purpose is to bring up to the spotlight the 1992 strategy to connect Barcelona to the sea. In reflection to how in the past, far and close and until now, we have perceived and realized our connection between the city and the sea, and proposed some directions for the future, enriched by the site vibration process. Meanwhile, the subjective experience derived from the interaction process, has brought up a second purpose, to introduce and to highlight site vibration as an important tool of analysis and development for future urban and public designers.

*The site vibration process showed the importance of the site's legacy, the environmental criteria and social consciousness as projects' areas of influence, otherwise occulted, for future site interventions. The tool confirmed that there are different ways to relate to the sea, obvious but seemed forgotten. Therefore, we conclude that the upper zone of Moll de Fusta is an area of high potentiality to recuperate the open visibility and usage relationship between Barcelona and the sea horizon. The down zone of the Moll de Fusta, we conclude, is an area with the aptitude of constant change and an area of battle between nature and man. Where the vibration process sound louder, was in the chords, as expected. But in the process of site vibration, the chords resonated differently and emphasized the necessity to redefine them.*

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**Noelia Rodríguez,** Architect and Landscape Architect at the UPC (Universitat Politècnica Catalunya). Specialized and working actively in restoration of historical heritage, construction of public facilities, public space and social housing. Recently graduated in Master of Landscape Architecture, with honors grades. My final project, La esencecia de la trama, focused on listening to the landscape through time, perceiving the essence of the place in its ecosystem, cycles and specificity. A transversal profile, creative and with resolution capacity and adaptability.

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Photo by Mert Kahveci

MISCELLANEA

# İzmir as Mediterranean Trade Port and Ottoman City in 19th Century

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ABSTRACT

İzmir occupies a prominent place among the Mediterranean port cities of the 19th century. The city is quite similar to other port cities in terms of trade dynamics but differs from them in the diversity of actors who had a say in trade. It can easily be said that İzmir was one of the plateaus of 19th century capital competition. Especially in the 19th century, the city was considered the second capital of the Ottoman Empire after Istanbul and continued to be one of its most important ports. In this period, the architectural and urban arrangements made by the Ottoman government on a local scale, as well as the urban transportation interventions made with the initiatives of western countries, significantly affected the morphology of the city. In this context, the morphological transformation of İzmir in the 19th century, its position within local, regional, and global networks, and its relationship with urban interventions will be evaluated through maps, drawings and documents related to railways and transportation.

KEYWORDS

*İzmir, Morphological Transformations, Mediterranean Port, 19th Century City.*

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## Introduction

İzmir is one of the significant ports in the Eastern Mediterranean region. In terms of trade relations, the city has a looser authority than Istanbul, another important port city and the capital of the empire, and it brings together a rich hinterland with a large number of investors. Especially from the 18th century onwards, the city played a vital role in the Ottoman overseas trade with Europe. This important position led to several innovations to improve trade routes for faster delivery and profit. Europeans were eager to build and acquire the rights to operate railways in the Ottoman Empire and with the same ambition to build modernized ports. Although these developments were not the only modernization movement for the city, they were the most important architectural manifestations of the increasing volume of trade. The increasing trade between the Ottoman Empire and Western countries in the 19th century led to a significant social, structural, and economic transformation in İzmir. This transformation journey is analyzed through the lens of urban morphology. The aim is to analyze and historically frame the social, economic, and structural changes that occurred during this period within the historical timeline of İzmir, in line with the approach of this study.

In order to clarify the transformation of İzmir, especially in the port area, and to comprehensively adapt to the new era, this study includes the historical background of İzmir as well as brief information on the Ottoman Empire and Europe in the 19th century. In this way, it is aimed to illuminate the urban transformation of İzmir as a Mediterranean port city.

## Problem Definition and Methodology

İzmir irrevocably joined the Ottoman Empire in 1425. However, the city never found a place in the state's memory, ideologically, politically or commercially. Moreover, Western Anatolia was a region to be protected and exploited, and it was advantageous not to restore it or add it to the territory to be developed. By the 16th century, İzmir was not seen as a trade center by the Ottomans, nor was its potential as a port city being utilized. On the other hand, this century can be defined as a period of expansion of trade between Western Asia and Eastern Europe as well as the Mediterranean. However, according to economic historian Pamuk, this economic expansion in the 16th century gave way to a long period of stagnation in the 17th century.[1] As the pattern of economic growth in Europe changed in the 18th and 19th centuries, so did the European countries trading in İzmir. With the Sultan losing power, capitulations only worked in favor of Europeans. Until the 18th century, the most important privilege was the freedom of travel and trade within the borders of the empire. On the oth-

1 Şevket Pamuk, *Osmanlı-Türkiye İktisadi Tarihi 1500-1914* (İstanbul: İletişim Yayınları, 2015), 111.

er hand, the Empire began to grant the right to establish its own courts to settle commercial disputes. Pamuk argues that these conditions were contrary to the sovereignty of the Empire.[2] Moreover, customs duties paid by European merchants were kept at the lowest level and in most cases, foreigners paid less than local merchants. In the following centuries, these practices put Ottoman merchants in a difficult position against Europeans and they were negatively affected by this competition. With the increasing trade volume of the Ottoman Empire with Western countries in the 19th century, İzmir underwent a major social, structural, and economic development and transformation. Bruce Masters› claim that the process, which began with a vision of a very active change at the political level, gradually turned into an effort to obey and adapt to external dynamics can be added to this context.[3] Thus, from his point of view with the rapid spreading of economic and political[4] power of industrialized Europe, the Ottoman Empire dragged into the period of integration and exploitation which was quite in line with Wallerstein's model of peripheralization. In the meantime, the West legitimized the overwhelming influence and pressure over state, economy, and society.

Thus, İzmir, known as the modern capital of Asia Minor and the superior emporium of the Levant, in the 19th century, as the West of the East or the East of the West, a city in between, hosts many people from all over the world, and their reaction to this, namely rapid changes, affects this port city in every aspect and makes it more special. The reason for these interactions is, as Henk argues, its location at the center of regional, national, and international communication.[5]

In this article, instead of questioning individual spatial traces, the tool of urban morphology is used to evaluate spatial qualities together. According to Birik, when we analyze urban space, built environment, socio-economic and cultural traces as a whole, we have the necessary information about that urban space and its relationship in local, regional and global networks. Moreover, these clusters of knowledge are shaped by a holistic morphological approach by questioning which urban dynamics and structural interventions have led to change and transformation, the breaking points, and whether there is continuity in the qualities that make up urban space, or in this case İzmir.

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2 Şevket Pamuk, *Türkiye'nin 200 Yıllık İktisadi Tarihi* (İstanbul: Türkiye İş Bankası Kültür Yayınları, 2014), 57.

3 Bruce Masters, "İstanbul: İmparatorluk Payitahtından Periferileşmiş Bir Başkente," in *Doğu ile Batı Arasında Osmanlı Kenti, Halep, İzmir, İstanbul* (İstanbul: Türkiye İş Bankası Kültür Yayınları, 2012), 96.

4 Immanuel Wallerstein, *Modern World System in Long Duree,* (London: Routledge, 2004), 32.

5 Driessen Henk, "Mediterranean Port Cities: Cosmopolitanism Reconsidered" *History and Anthropology,* 16, no.1 (March 2005): 131.

## Historical and conceptual evaluation of İzmir port

The Aegean Region is a region where land and sea are somehow intertwined. Geographically, the mountains run perpendicular to the sea, resulting in many indentations between land and sea. The complex coastline allows for a large number of ports on the seashore. Besides the position of the mountains, rivers are also vital for the region. The Aegean's river plains have been the founding grounds of cities due to their abundance and the fact that they provide a one-way inlet and outlet valley between the steep mountains and the land. İzmir, or Smyrna, is a classic example of these city-state formations.

Although being located on such an advantageous territory, Smyrna has always been the scene of invasions and different struggles for supremacy, and authority has been in constant flux. At the same time, the fate of other port cities was always a dangerous threat to Smyrna. Despite all these battles for authority, Smryna's fate was shaped by the Gediz River. Eventually, the alluvium carried by the Gediz River flows into the sea at today's Tuzla and begins to accumulate.[6] In time, İzmir was encountered being a lake shore city. So, the center of the city was changed with Pagos mountain vicinity, today's Kadifekale (Fig. 1).

FIG. 1 Map of İzmir showing Pagos / Kadifekale dated in 1763, author is unknown. Source: Poulimenos Collection

The city continued to grow after the center was moved to Kadifekale. Population and production level increased in almost every region of Europe. Beginning from second half of the 15th century to the end of 16th century even including the beginning of 17th. The growth of the textile industry in Western Europe required a market for both raw materials and

6 Çınar Atay, *Tarih İçinde İzmir,* (İzmir: Tifset Yayınevi, 1978), 8.

final production of fabric. İzmir could meet both.[7] After 1750s, İzmir ended up its mediator role in that commerce chain. In other words, İzmir was not a totally transit port anymore which transferred silk from Iran, cotton and wool yarn from Anatolia. The export of local products such as dried grapes, opium, dried figs, bonito, olive oil and soap started to gained value. İzmir spread its role to wider hinterland being as exporter. At the same time being as importer, it maintains and expands its redistributor's role to larger inner market. This economic growth in the 18th century led to the growth of the city's trade with both Ottoman Empire and Europe. Especially France became the most significant trading partner in Europe.


FIG. 2 Detailed map of Comte de Choiseul-Gouffier's journey from Menderes to gulf of Edremit by J. Perrier showing gulf of Smyrne and environmental topography dated in 18th century. Source: ARKAS collection

In this sense, İzmir's local ports and geographical features have started to gain value. Fig. 2 shows the detailed topography of İzmir and its bay. According to Scott, the increasing concern of the authority for efficiency,

7 Frangakis-Syrett, "Uluslararası Önem Taşıyan Bir Akdeniz Limanının Gelişimi: Smyrna: 1700-1914" in *Smyrna (1700-1914)* trans. By Işık Ergüden (İstanbul: İletişim Yayınevi, 2016), 32

health, cleanliness, transportation, mineral resources, grain production and investment is directly related to the organization and permanence of space.[8] In this context, mapping is the most important tool. In addition, it is important to underline that the authority here is a European investor, as can be understood from the map author.

İzmir's trade was changing in parallel with the pace of growth and trade volume in the Western world. As Britain became the world economy's playmaker, the biggest trade partner of İzmir, which was integrated into the world economy thanks to its port, also changed as Britain. In this context, The Treaty of Baltalimanı agreement[9] signed in 1838 reinforces this relationship. Similar agreements that will reshape the economic life of the empire will be signed with some other European powers such as France, England, the Netherlands, Belgium and Portugal on future date.[10] In addition to these developments, since the land ownership of foreigners was protected by the authority with the Imperial Edict of Gülhane, Tanzimat Fermanı in 1839 dated just after this agreement, the initiatives of foreign investors began to play a major role in the urban morphology and almost shaping of the hinterland.

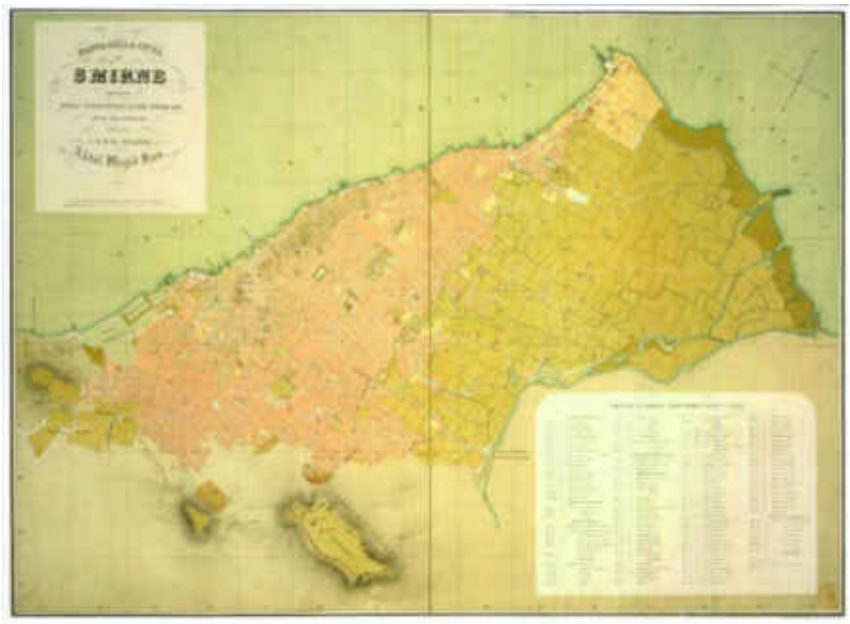


FIG. 3 Luigi Storari, City Map of İzmir 1854-1856. Source: APİKAM

8 James C. Scott, *Devlet Gibi Görmek*, trans. by Ozan Karakaş (İstanbul: Koç Üniversitesi Yayınları, 2020), 64

9 Also known as Anglo-Ottoman Treaty is a formal trade agreement signed between Babıali of the Ottoman Empire and the United Kingdom. Some of the vital articles are; The British were given the opportunity to purchase as many raw materials as they wished, British citizens were entitled to purchase Ottoman products from Ottoman subjects under the same tax conditions as merchants, the official tax on transit trade with the British was abolished and lastly once custom taxes had been paid for British goods arriving by British ships, any other taxes would no longer be paid no matter where the goods were taken by the buyer. With the last one British citizen would pay even less tax than Ottoman citizens when trading within the borders of the Ottoman Empire. For more detailed research please check Mübahat Kütükçüoğlu, *BaltaLimanı'na Giden Yol: Osmanlı İktisadi Münasebetleri (1580-1850)*, (Ankara: Türk Tarih Kurumu Yayınları, 2013)

10 Şevket Pamuk, *Osmanlı'dan Cumhuriyet'e Küreselleşme, İktisat Politikaları ve Büyüme* (İstanbul: İş Bankası Yayınları, 2008), 33

In Storari's map which is dedicated to Abdülmecit Han and most probably is prepared as constitutional ordering shows the first seed of changing city (Fig. 3). The expanding trade network brings with it the new requirements of the century such as transportation (especially sea) and communication (telegraph networks). By the middle of the 1860s, İzmir-Aydın and İzmir-Kasaba railways are built, which are accelerated the commercial flow of agricultural and mineral raw materials from the hinterland. Meanwhile, Zandi-Sayek indicates that the caravan trade, which lasted for days, fell into almost hours, is due to the development of the transportation network. In addition to that railway lines almost ended the preventive role of seasonal opposition[11] Transport between countries and between cities is not only for raw materials, but also for people, with steamship lines regularly carrying people to London, Liverpool, Alexandria, and other Mediterranean ports on a daily basis.[12] Together with intercity transportation, city tram lines are also articulated almost a decade later. Furthermore, in Fig. 4[13] it is clearly seen that İstanbul and İzmir are the important nodes of marine commerce. Primarily, sea transportation and the use of telegraph instead of post makes İzmir and the capital of empire closer contact and then other important centers.[14]


FIG. 4 Map Showing the Railway, Maritime, Postal and Telegraph Networks in Ottoman Rumelia and Aegean Region, 1876. Source: COA

11 Zandi-Sayek, *Ottoman İzmir The Rise of a Cosmopolitan Port*, 1840-1880, 27.

12 Kozmas Politis, *Yitik Kentin Kırk Yılı* (İstanbul: Belge Yayınları, 1992), 72.

13 Ottoman Carte Des Chemins de Fer Deslignes Postales, Telegraphıques, et de navıgatıon a vapeur de la Turquıe D'Europe HRT.h.. 173 1293 accesed in 16.09.2019 in The State Archives of Presidency of the Republic of Türkiye.

14 Zandi-Sayek, *Ottoman İzmir The Rise of a Cosmopolitan Port, 1840-1880,* 29.

Accordingly, İzmir, with its direct connection to the Mediterranean, gained a more important role compared to the capital of the Ottoman Empire.

## Political, social and economic dynamics in İzmir as Mediterranean port city

In the early centuries of the Ottoman Empire, the entire western Anatolian coast was responsible for providing the harvested fruits and grains for İstanbul and maintaining the food supply. The government therefore did not encourage trade in İzmir and did not welcome the money such a warehouse would bring.[15] On the contrary Ülker claims that central Ottoman government had always desired to encourage trade in İzmir. According to his studies income tax which was coming from this source was always important. From this point of view to keep flowing without interruption to imperial treasury was important as well.[16] In most of the 15th and 16th centuries the Ottomans succeeded in draining all the products of Western Anatolia to Istanbul. As a result of this approach the Western Anatolia coastline filled with so many towns like patches. Goffman asserts that the population of these towns never exceed two or three thousand and İzmir was one them.[17]

From 1768 to the beginning of the 19th century, the Ottoman Empire was dragged into a series of long, costly wars that resulted in heavy defeats. During the wars against Austria, Russia, France, Greece and Egypt, rebellions broke out as the imperial power in the state waned. Pamuk states that wars and political crises put the economy in a difficult situation. Therefore, the 19th century was different for both Ottoman society and the economy of the empire, as the conservative conception of the state had somehow been achieved in the 17th and 18th centuries. However, Pamuk underlines that the Ottoman Empire was directly confronted with the military, political and financial power of the West. The state economy began to open up to a new order, capitalism.

Accordingly, Kasaba, an expert on Middle Eastern history and politics, identifies Western Anatolia as one of the first Ottoman regions that was integrated into global networks.[18] One of the reasons of easily integration could be having appropriate site where transformation of distribution took place. From a totalitarian perspective, the Ottoman state as a whole was integrated into the capitalist world economy between 1750 and 1810.[19]

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15 Goffman, "İzmir: Köyden Kolonyal Liman Kentine," in *Doğu ile Osmanlı Arasında Osmanlı Kenti Halep, İzmir, İstanbul,* ed. Edhem Eldem, Daniel Goffman, and Bruce Masters, trans Sermet Yalçın, (İstanbul: Türkiye İş Bankası Kültür Yayınları, 2012),104.

16 Ülker, The Rise of İzmir 1688-1740, Unpublished Ph.D. Thesis, (Michigan University, 1974), 1.

17 Goffman, "İzmir: Köyden Kolonyal Liman Kentine", 105.

18 Reşat Kasaba, *The Ottoman Empire and The World Economy: The Nineteenth Century* (New York: State University of New York Press, 1988), 6.

19 Ibid., 35.

As the other emerging port cities of the Ottoman Empire, Alexandria, Salonica, and Beirut, İzmir offered alternative consumption models that were cut out for the production-consumption cycle for global trade.[20] Among these port cities, İzmir gained a special importance.

Compared to other port cities, having this unique geographic position, port suitable for long-distance and regular cruises, resource-rich hinterlands to presume on and a class of foreign merchants familiar with the global trade network, and as well as the local merchants supporting international trade allows the city to be above water.[21] Thus, flow of capital, investors, investment momentum gained, expanding working class creates a multi-ethnic and also multi-cultural commercial center.

## Urban development of İzmir during late Ottoman period and its transformation

As world trade expanded after the Industrial Revolution, the hierarchical structure of the world also strengthened. Accordingly, Pamuk states that the trade of agricultural products and finished goods between Western European countries and so called third world countries was widening at an unprecedented rate.[22] Hierarchical pyramid had been shaped during this enlargement. There was the industrialized Europe and the United States at the top of pyramid. Wallerstein defines the key point that distinguishes core processes from peripherals as how monopolized or profitable these processes are.[23] In this manner at the lower step there are peripheral countries whose economies based on agriculture. While Pamuk classifies peripheral countries, he puts Ottoman Empire to the group of countries that continue to protect their political independence under the conditions of competition between imperialists.[24] In the 19th century China, Iran and Ottoman Empire fitted in this group. The significant condition of these countries was having a more centralized administration compared to the other peripheral countries.

In this manner, Tanzimat Fermanı declared on 3 November 1839 during the reign of Sultan I. Abdülmecit is considered as the most concrete step of westernization. In this context, according to Davison, equality of all subjects, a new system of recruitment, and taxation of all in proportion to their income emphasizes and protects the equality of life and property.[25]

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20 Elena Frangakis-Syrett, "Commerce in the Eastern Mediterrenean from the eighteenth to the early nineteenth centuries: the city-port of İzmir and its hinterland", *International Journal of Maritime History*, X, no. 2 (1998): 138.

21 Zandi-Sayek, *Ottoman İzmir The Rise of a Cosmopolitan Port, 1840-1880*, 10.

22 Pamuk, *Osmanlı-Türkiye İktisadi Tarihi 1500-1914,* 193.

23 Wallerstein, *Modern World System in Long Duree,* 167.

24 Pamuk, *Osmanlı-Türkiye İktisadi Tarihi 1500-1914*, 195.

25 Roderic H. Davison, *Reform in the Ottoman Empire* (Princeton: Princeton Legacy Library, 2016), 423.

The Imperial Reform Edict (1856) Islahat Fermanı is the second phase of reform or continuation of Tanzimat which involves equality with Muslims in terms of justice and taxation and being able to come to positions freely.[26] The peak point of all those reforms is The Constitution of the Ottoman Empire (1876) Kanun-i Esasi that basically declares the parliamentary regime. Davison states that all nationalities are considered as Ottoman subjects without exception is the continuation of the wind of equality caught in the Tanzimat.[27] The fact that all these changes affected the empire with all its subjects naturally had a positive effect on the investments of the citizens and foreigners in the cities. The investors whose conditions became more liberal, increased their activities in the port cities, especially in İzmir.

In this context, to rebuild the cities with the Tanzimat (The rescript of Gülhane) regulations based on the rules, provisions and decrees were issued in in İzmir as well as in the whole empire. In the case of İzmir, the need for a new urban infrastructure and laws, and the legal solutions and administrative organizations developed in response to this need, have led to major changes at the urban level.


FIG. 5 İzmir map from Murray's Handbook for Travellers, 1873. Source: APİKAM

In this İzmir plan, which is dated to 1873, it is possible to see all the innovations brought by the late Ottoman period on the plan scale (Fig. 5). For instance, Sarıkışla barrack (Kışla-ı Hümayun) and Government Office (Hükümet Konağı) is indicated as black solid on the left hand of the map, additionally custom houses and some consulate buildings, important

26 Marie-Carmen Smyrnelis, "Tarihini Arayan Şehir," in *İzmir 1830-1930 Unutulmuş Bir Kent mi? Bir Osmanlı limanından Hatıralar*, trans. Işık Ergüden (İstanbul: İletişim Yayınları, 2008), 16.

27 Davison, *Reform in the Ottoman Empire*, 424.

churches and hospital are also hatched with black. Stations of railways and surrounding auxiliary spaces of Aydın and Kasaba lines are also shown on the map (Fig. 6).


FIG. 6 Map of İzmir, dated in 1878, author is unknown. Source: APİKAM

According to Bilsel with Tanzimat regulations and Ebniyye Nizamnameleri edicts the western image of İzmir was highlighted.[28] Kasaba evaluates Tanzimat term (1840-1876) as commercial revival of both Europe and Ottomans.

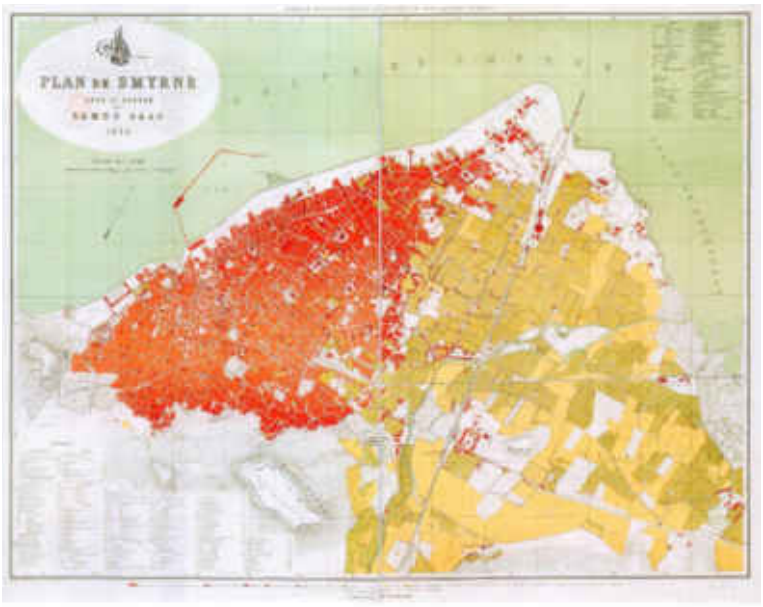


FIG. 7 City Map of İzmir, Lameec Saad Map, 1876. Source: APİKAM

28 Cana Bilsel, "Modern Bir Akdeniz Metropolüne Doğru," in *İzmir 1830-1930 Unutulmuş Bir Kent mi? Bir Osmanlı Limanından Hatıralar*, ed. Marie-Carmen Smyrnelis. Trans. Işık Ergüden (İstanbul: İletişimYayınları, 2008), 146.

The major contributors of this economic growth were port cities and some inner centers that junction point of caravan roads. Correspondingly, Serçe defines Ottoman 1860s as years when accelerating and widespread movement of modernization starting with the Tanzimat.[29]

The understanding of local government also works in a way that serves the authority, not depending on the democracy of the local, like the European municipality that came into play during the Tanzimat period.[30] As mentioned before, the reforms were implemented simultaneously with Istanbul by the authorities, who saw the city of İzmir as a showcase opening to the West. Depending on the rapidly increasing population of İzmir during the 19th century enormous growth of the settlement area, the inadequacy of urban services revealed. At the request of western capitalists from Ottoman administration, in November 1867, municipality was established in İzmir.

According to Henk, 19th-century innovations forced the separation of city and port, with newly constructed linear quays, warehouses, and railroad stations for loading and unloading.[31] In that sense to improve trade roads for quick delivery and profit, Europeans were willing to construct and to get operating rights of railways in Ottoman Empire. As the veteran urban planner Tekeli points out, the settlement structure of a region is morphologically dependent on products and transportation infrastructure, state policies and international relations.[32]

İzmir as a city and its morphological characteristics are heavily affected by the surplus and the ways of transportation of this surplus.

In this way, firstly, four English entrepreneurs obtained a concession from the Ottoman Empire for the construction of a railway between İzmir and Aydın on September 23 in 1956 and the central station of the railway was established in Punta where outside of the city center in 1858.[33]

In 1859 two merchants from Europe obtained a concession from the Ottoman Empire for a second railway construction. This construction started with the establishment of British company that named Smyrna-Cassaba Railway Company (Compaigne de Chemin de Fer Smyrne Casaba) in 1863.[34] The development of this transportation system that links İzmir to the fertile lands of the Western Anatolia has made city as a center of

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29 Erkan Serçe, T*anzimattan Cumhuriyet'e İzmir'de Belediye 1868-1945* (İzmir: Dokuz Eylül Yayıncılık, 1998): 33.

30 Hasan Taner Kerimoğlu, "19. Yüzyılda Reformlar ve İzmir," *İzmir Kent Ansiklopedisi*, Tarih, 2(2013): 82.

31 Driessen, "Mediterranean Port Cities: Cosmoplitanism Reconsidered," 131.

32 Tekeli, "Ege Bölgesi'nde Yerleşme Sisteminin 19. Yüzyıldaki Dönüşümü," *Ege Mimarlık* III, no. 4 (1992): 79.

33 Bilsel, "Modern Bir Akdeniz Metropolüne Doğru", 148.

34 Leon Kontente, "İzmir: The Changing Face of a City," in *Smyrna in the 18th and 19th Centuries: A Western Perspective* (Arkas Sanat Merkezi, İstanbul: Mas Matbaacılık 2013), 113.

attraction for the products of the entire region.[35] İzmir in Turkey became a port of a world-wide transportation hub of raw materials and natural resources, and like them, changes in the built environment of the city and its hinterland occurred after the careful selection of its railway routes.


FIG. 8 Map of Joseph Meyer, Late 19th Century. Source: ARKAS

In 1865, when the first phase of this line opened between İzmir and Manisa, İzmir was the only city in the Empire to have a railroad. These railways not only privatize the city in the international and national arena, but also develop the suburbs reached by the railway. Accordingly, Bornova and Buca have become accessible suburbs during the day. In addition to them, Kontente asserts that Karşıyaka, located in the north of the bay, shows great development with the railway and regular ferry services.[36]

With the urbanization transformation that started in the second half of the 19th century, not only the appearance of the city but also its economic function changed radically. The renovation of İzmir's old wooden port and wharf has been on the agenda since the 1860s. Kütükoğlu explains that the aim is to establish the relationship of the city with its hinterland faster and there is no port city around the empire with regular port facilities.[37]

35 Bilsel, "Modern Bir Akdeniz Metropolüne Doğru", 150.

36 Ibid., 114.

37 Mübahat Kütükoğlu, "İzmir Rıhtımı İnşaatı ve İşletme İmtiyazı," *Tarih Dergisi* 32 (1979): 495.

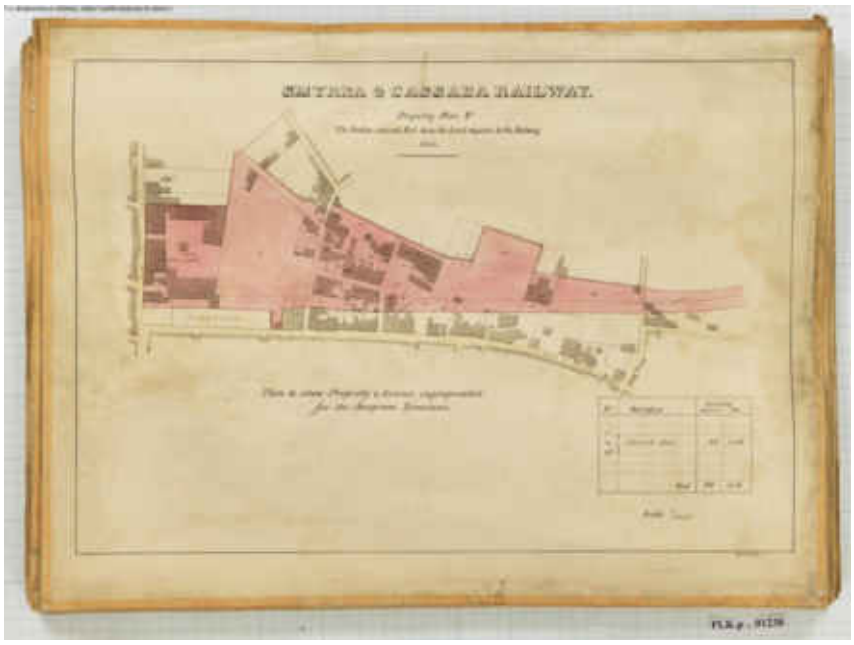


FIG. 9 Plan of İzmir-Kasaba Railway N.0, 1866. Source: COA

In this context, not only the European entrepreneurs, but also the travelers who visited the city with the help of the frequent steamboat trips, emphasized the need for a modern public pier instead of the trade-intensive Frenk Street, which almost impedes the relationship with the sea.[38] It can be said that both healthy trade and public use of the sea are prevented by the rows of buildings leaning against the sea. The management, aware of the problem, has also put the construction of a new dock on its agenda and first started to sell 15 meters from the structure to the sea.[39] The buyer of the land from the sea had to fill it in a certain period, otherwise state transferred the right. However, this method has been shelved, especially since it will help foreign merchants with capital to expand their business to the sea.

The old wharf was not suitable for large tonnage ships. Coal storage and suitable berths were also needed for the steamships that were beginning to appear on the seas.[40] (Fig. 9) In November 1867 after an earthquake, the existing service area became dysfunctional. Three Englishman J. Charmad, A.Baker and G. Guerracino dealt with Ottoman Ministry of Commerce and Public Works in the 27th of November by settling the firm Société des Quais de Smyrne.[41] The results of the work carried out by a British engineer, modeled on the Dussaud Brothers company from Marseille, and consisting of the construction of docks, a tram line along the entire coast, a sewage system and a 240-meter breakwater, were rejected

38 Rauf Beyru, 19. *Yüzyılda İzmir Kenti,* (İstanbul: Literatür Yayınları, 2011), 348.

39 Ibid, 349.

40 Kontente, "İzmir: The Changing Face of a City," 114.

41 Atay, *Tarih İçinde İzmir*, 94.

because they did not give the desired image.[42] According the authorities Joseph and Elie Dussaud were competent and reliable as they built the ports of Marseille, Trieste, Cherborg.[43]

FIG. 10 Photo of İzmir Quay ca 1870s, Alphonse Rubellin. Source: APİKAM

In time, the Dussaud brothers took control of this wharf construction and merged with it in a short time, at the suggestion of the French consul, in which it was a capital partner.[44] Korkut evaluates this concession as an exemplary build-operate-transfer method that consist of the franchisee company's liability at the entrances and exits and the ownership of the entire land to be acquired from the sea belong to the company.[45] The quay will be built on the filled area and the company will be authorized to construct buildings on the filled lands during the concession period. At the end of the period, the dock and the facilities on it would be left to the state free of charge.[46] It is important to give the information that after operating 57 years, company assigned the docks to the Turkish government in 1933.[47] In February 1876 the construction of port and breakwaters were completed, according to Kontente, when the perfection of the pier, the superiority of its technical features and the success it creates in the urban plan are added, it is praised both nationally and internationally (Fig. 10).[48]

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42 Kontente, "İzmir: The Changing Face of a City," 114.

43 Vilma Hastaaoglu-Martinidis, "Doğu Akdeniz Kentlerinde Liman İnşaatının Kartografyası: 19. Yüzyıl Sonunda Teknik ve Kentsel Modernleşme" *Osmanlılardan Günümüze Doğu Akdeniz Kentleri*, edited by Biray Kolluoğlu and Meltem Toksöz (İstanbul: Türkiye İş Bankası Yayınları,, 2015), 102.

44 Kontente, "İzmir: The Changing Face of a City," 114.

45 Cevat Korkut, *Belgelerle İzmir Rıhtım İmtiyazı* (İzmir: Doğaşan Ofset, Kemeraltı, 1992), 39.

46 Ibid., 26.

47 Kütükoğlu, "İzmir Rıhtımı İnşaatı ve İşletme İmtiyazı," 551.

48 Kontente, "İzmir: The Changing Face of a City," 114.

Likewise, Bilsel evaluates the port as a real achievement both in technical sense and at the level of urbanism.[49] The harbor had modern façades and service facilities including trams between Konak and Punto, 4 km distance continuous port and Kordon promenade additionally a modern drainage system.[50] Construction of port made İzmir harbor more useful for commercial vessels.[51]


FIG. 11 Map of New Quay in 1875. Source: COA

Increased flow and capital gave speed to many attempts at modernization. Building wharves and regulating ports was one of the motivations of both the state and the merchants. As can be seen from the regulatory proposal in Fig. 11, parcels were quite linear and narrow, especially before the infilling of the coast. The new ones were relatively balanced multi-rectangular shapes with a rectangle. According to Ünlü, in line with the disconnected nature of modern projects, the new spaces produced for commercial necessities target a new spatial order instead of paying attention to the texture or trace of the past.[52] As Fig. 12 shows, the city was trying to formally comply with these innovations.

49 Bilsel, "Modern Bir Akdeniz Metropolüne Doğru," 154.

50 Rauf Beyru explains all the objections and revaluation moves between the company and the management during the construction process, and about the tariffs after the completion of the pier, with the support of newspaper reports. Please see his book, *19. Yüzyılda İzmir Kenti* page 347-358.

51 Kütükoğlu, "İzmir Rıhtımı İnşaatı ve İmtiyazı," 503.

52 Tülin S. Ünlü, 'Modernleşme ve Doğu Akdeniz Liman Kentlerinde Planlama Pratikleri: İzmir ve Selanik Örnekleri Üzerinden Bir Değerlendirme,' in *İzmir Belediyesinin 150. Kuruluş Yıldönümünde Uluslararası Yerel Yönetimler Demokrasi ve İzmir Sempozyumu,* Akdeniz Akademisi proceedings, (2019): 45.

FIG. 12 General view showing quay after construction, Sebah and Joailier. Source: SALT Research

## Conclusion

This article has proposed to understand the transformation of İzmir as a port city aspect of mega form. In this respect, the port is a physical space that is directly related to the sea besides it is a social space and is constructed out of the competition between the power groups that put order to the waterfront through its regulations, institutions, investments, and the cosmopolitan community of İzmir that makes the city alive. In terms of the dynamics and structural interventions that shape (change and transform) the city, ruptures and continuities the city has been studied with a particular focus on the 19th century. İzmir, one of the first modernizing and pioneering cosmopolitan cities of the Ottoman Empire, was transformed by the interventions of the central government along with trade agreements and Western initiatives after it became an international port. In this way, according to the conceptual and theoretical perspective of this dissertation, the state, European entrepreneurs and all imperial subjects living in the city were holders of a right to shape the port area of this semi-peripheral city, which experienced all the innovations of the 19th century almost together with Europe.

According to Smyrnelis, the construction of two railways, the construction of two railway station buildings in the city center, the renovation of the port, the tram line connecting the north and south of the city, and the construction of main roads that would connect İzmir with the surrounding provinces would turn İzmir into the “Little Paris of the East”, as travel-

ers called it.[53] The general layout of city shows that in addition to these two mega railway projects there are some supporting projects (Fig. 13).[54] Trams used for urban transportation can be included in this group.


FIG. 13 Plan of Smyrna, Georgiades Demetrius ca. 1800. Source: Gallica

In this framework, it is easily understood that the changes İzmir experienced as a city in terms of the construction of ports, drainage and irrigation facilities, railways, stations, railway ancillary facilities for factories, warehouses and other facilities for the direct loading and unloading of trade, as well as domestic settlements, hospitals, schools, and clubs were part of the process of political and social organization for Eurocentric capitalism. It is important to emphasize that the development of the built environment in and around İzmir is crucial for the holistic understanding of the city's history. Beyru claims that the main reason for the acceleration of all these innovative movements was the law enacted on June 15, 1867, which gave foreigners the right to own property.[55] With the increase in the volume of products brought from the hinterland with the construction of the railways, most of the goods to be exported had to reach the customs in the shortest time. It was no longer possible for the products left at the stations to be transported to ships by camel caravans as seen in

53 Marie-Carmen Smyrnelis, "Urban Space in Smyrna in the 18th and 19th Centuries," in *Smyrna in the 18th and 19th Centuries: A Western Perspective* (Arkas Sanat Merkezi, İstanbul: Mas Matbaacılık 2013), 104.

54 For map please visit https://gallica.bnf.fr/ark:/12148/btv1b550111284/f1.item.zoom author accessed in 15.11.2019

55 Beyru, *19. Yüzyılda İzmir Kenti*, 350.

the photo (Fig. 14). The foreign and Levantine merchants, who had almost all the import and export business and whose activities were further increased by the construction of railroads and wharves, were interested in the construction of wide roads that would connect the railway station and the wharf. In addition to these investments, a district of banks, insurance companies and shipping companies began to develop in İzmir in the mid-1860s.[56]

FIG. 14 İzmir Pasaport region, showing camel carriers ca 1880s. Source: APİKAM

It is important to note that İzmir is no longer any different from its European contemporaries in terms of urban investments. Besides modern hospitals and schools, it even has a museum called Grand Cabinet d'Antiquites where sculptures and reliefs are exhibited.[57] This transformation in a short time, which 50 years ago lived to the rhythm of the caravans, is proof of

56 Çınar Atay, *İzmir'in İzmir'i,* (İzmir: Ege Sanayicileri ve İş Adamları Derneği, 1993), 152.

57 Kontente, "İzmir: The Changing Face of a City," 116.

the city's dynamism, which goes beyond all rules.


FIG. 15 Functional Analysis of İzmir in 19th century. Produced according to Storari and Saad's map by the author

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