Waterfronts in the Straits Port Areas, Between Architecture and Town Planning

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Abstract. The architecture and waterfronts of the straits are areas of environmental and landscape significance: coastal fronts on "fuzzy" limits, they are the last curtain of the existing city and the open fronts in a dialogue beyond. A strait has, by definition, the water and then the built-up area opposite. In the essay, which has the character of a literature review, we ask what the relationships of the land-sea borders are, what are the processes of transformation and management of architectural and urban dynamics. What are the speeds and possible spatio-temporal synchronies of visions and strategies. With reference to the straits of Europe, and particularly the Strait of Messina, one wonders if it is already possible to glimpse signs of a reorganisation of the territories in view of hypotheses of strengthening port realities or the realisation of a stable crossing.

Keywords: waterfront architecture · waterfront regeneration · waterfront design · Strait landscape · Strait of Messina

1 Introduction

Today it is very topical to reflect on the role of coastal cities and coastal facades of the Strait of Messina, but it is also appropriate to rethink the relationship between the city and the sea. It means looking at the past by identifying the historical reasons for a happy (or lacking) dialogue, but also turning our gaze to the present and the future. Going very far, it is Aristotle who identifies in the manuscript "Politics" what represents the ethical basis of an ideal city. In addition to arguing about the assumptions for good governance, based on the "civil consortium", he dwells on the need for the city to have contact with the continent and the sea [1] as the position "between the land and the sea" would benefit the "well-governed cities". During the Hellenistic period, in which the urban planning rules developed during the fifth century according to the teachings of the Hippodamians were applied, some cities attributed centrality to the link with the coast and the sea. Delos is an example. The island took on a new urban physiognomy, the agoras multiplied: in

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the second half of the second century B.C., the agora of Theophrastos were added to that of the port. The areas dedicated to commercial bargaining were created - among which the Hypostyle Room in the area adjacent to the port - and the port warehouses were created. The city is strengthened around the port. Among the Ptolemaic cities, Alexandria, which presents the regular Hippodamian scheme around Portus Magnus and Porto Eunosto, becomes an example of urban planning for the Ptolemaic cities within the territory and on the coast. Ptolemais was open to the sea with a harbour and had two wide streets perpendicular to the coast, which served the traffic between the city proper and the port [2]. With a time span of more than 2400 years, we arrive at the present day and the scenarios that can be hypothesized in view of the stable crossing of the Strait of Messina invite us to look at the process of socio-economic integration and territorial rebalancing that could be activated, at the interconnection of trade agreements that have their rationale in the "European/Mediterranean neighborhood policy" [3] between European states and the Mediterranean. The question arises as to whether the coastal cities of the Mediterranean basin, seen in their connection with the port, are configured as the physical tools functional to the port or as autonomous systems, as gateways or wings. In very different historical moments, Europe has focused on the outlets to the sea, encouraging the improvement of the internal infrastructure network, aware of the role that it assumes in the system of international trade, but has given little emphasis to an appropriate policy for the enhancement of coastal strips and their relationship with ports. But we are aware that coastal strips in general and coastal cities – in the double and different declination of port cities and cities with ports – have many complexities and criticalities to be addressed, as they are characterized by a variable geography and a dynamic geometry of flows. As it is difficult, as we will see in the paper, to propose a classification of the morphotypes of cities and identify appropriate tools for the integrated management of coastal areas and even arrive at unambiguous definitions of coastal strips. The definitions proposed over the years, starting with that of the U.S. Coastal Zone Management Act of 1972, have limited themselves to configuring it as an area of interaction between land and sea, without specifying either the nature or the scale of interdependence indicated, this limit is to be attributed to the fuzzy nature of the reality we are analyzing.

2 Cities in the Straits of Europe, Review

Cities located along the straits of Europe represent places of special interest from an environmental, landscape and urban planning point of view. Straits, such as the famous Straits of Messina, are geographic spaces characterized by the presence of water separating two lands, creating a strong connection between the two sides and influencing the urban and architectural development of neighboring cities.

The architecture and waterfronts facing the straits form a kind of barrier between the existing city and the sea, representing the last curtain of the city and opening up to open horizons and dialogues beyond land boundaries. These waterfronts prove crucial to the environmental and landscape quality of cities, as they define their image and relationship with the surrounding marine environment.

In the context of the straits of Europe, several cities overlook these unique spaces, offering interesting insights into the relationships between land and sea, as well as the

architectural and urban transformations taking place. For example, the city of Gibraltar, located in the Strait of the same name, represents a strategic crossing point between the Mediterranean Sea and the Atlantic Ocean, with architecture that reflects the history and cultural influences of different civilizations that have followed one another over time [4]. The city of Istanbul, positioned on the Bosphorus Strait, is also a significant example of a city in the straits of Europe. Its unique geographical location has fostered the development of a rich architectural history, with buildings directly overlooking the water creating striking cityscapes [5]. About the Strait of Messina, there are interesting signs of territorial reorganization in view of hypotheses of strengthening port realities and the realization of a stable crossing. The cities of Messina and Reggio Calabria, located at either end of the Strait, are facing major challenges related to the management of architectural and urban dynamics, seeking to enhance their waterfronts and promote greater integration between the two sides.

An analysis of the literature on the topic of land-sea boundary relationships in straits, with reference to the straits of Europe and the Straits of Messina, reveals a complex interaction between environmental, landscape, architectural and urban factors. Straits constitute spaces of transition and connection between two worlds, land and sea, and present unique challenges and opportunities for urban management and development.

The processes of transformation and management of architectural and urban dynamics in straits are crucial to preserve the balance between nature and the built environment, as well as to foster proper integration between local communities and maritime contexts. The search for possible spatial-temporal synchronies in the visions and strategies adopted is crucial to ensure effective and sustainable urban and spatial planning.

Specifically, looking at the Straits of Europe and the Strait of Messina, the need emerges to identify signs of a potential reorganization of the territories to promote hypotheses for the strengthening of port realities or the realization of a stable crossing. This process implies an in-depth reflection on the economic, social, and environmental dynamics that characterize these areas, as well as on the enhancement and protection of the cultural and landscape heritage.

Messina represents an interesting case study for the implementation of waterfront redevelopment strategies to enhance the city's historical and cultural heritage and improve the quality of public spaces along its coastline. A landmark study addressing the issue of waterfront redevelopment in Messina [6] analyzes the waterfront redevelopment project in Messina, focusing on the aspect of integration between the natural environment and the urban environment, and the importance of enhancing the coastal landscape to promote the sustainable development of the city. In their study, the authors analyze the Messina waterfront redevelopment project, focusing on the fundamental aspect of integration between the natural coastal landscape and the surrounding urban environment. This approach aims to enhance the environmental and landscape features of the coastal area to promote sustainable development of the city and improve the quality of life of its inhabitants. The importance of considering the coastal landscape as a key element in urban redevelopment is highlighted, as it represents an opportunity to create attractive public spaces, promote city-sea interaction, and preserve the biodiversity and environmental quality of the area. The enhancement of the coastal landscape not only contributes to the aesthetic and functional appearance of waterfronts but can also promote

the development of economic activities related to sustainable tourism and the enhancement of natural resources. Through their detailed analysis of the Messina waterfront redevelopment project, they highlight the importance of adopting integrated approaches that consider urban, environmental, and social dimensions to promote harmonious and sustainable development of the city. The enhancement of the coastal landscape thus becomes a key element in urban regeneration and the promotion of a healthier urban lifestyle in harmony with the surrounding environment.

Gibraltar is committed to the sustainable management of waterfronts through projects for the redevelopment of port areas, the creation of pedestrian paths along the coast, and the enhancement of the area's natural and cultural resources. Strategies for integrated waterfront management in Gibraltar aim to ensure balanced economic growth, preserve the marine ecosystem, and promote collaboration among different local entities for shared and participatory land management. A landmark study addressing the issue of integrated waterfront management in Gibraltar [7] highlights the integrated management strategies adopted to preserve the coastal environment, focusing on the importance of integrated coastal zone management, which involves collaboration among different actors, such as local authorities, nongovernmental organizations, local communities, and the private sector, in order to effectively and sustainably manage the natural and cultural resources of waterfronts. The integrated management strategies adopted in Gibraltar include the implementation of coastal development plans that consider environmental, social, and economic aspects, the promotion of marine and terrestrial biodiversity conservation, and the creation of synergies between the different activities carried out along waterfronts to maximize benefits and reduce negative impacts on the environment. In addition, an emphasis on the inclusion and active participation of stakeholders in waterfront planning and management is critical to ensure a transparent and democratic decision-making process that considers the needs and perspectives of all stakeholders, thereby fostering the long-term sustainability of waterfront redevelopment and development initiatives. Through their detailed analysis of the case of Gibraltar, Balaguer and Moya demonstrate how cooperation between different actors and integrated waterfront management can lead to positive results in terms of environmental conservation, sustainable development, and local community involvement.

Istanbul represents a prominent case study for urban regeneration and cultural enhancement strategies of waterfronts, given its unique location spanning two continents and overlooking the Bosphorus Strait. A landmark study that delves into the urban regeneration strategies adopted in Istanbul [8] is Istanbul represents a relevant case study for urban regeneration and cultural enhancement strategies of waterfronts, given its unique location spanning two continents and overlooking the Bosphorus Strait. A landmark study that delves into urban regeneration strategies adopted in Istanbul analyzes how the redevelopment of Istanbul's waterfronts has transformed these areas into creative urban spaces, promoting social and cultural interaction between residents and visitors. In their study, they examine the redevelopment process focusing on the aspect of urban creativity and the importance of promoting social and cultural interaction between residents and visitors. The authors analyze how the transformation of coastal areas has helped to create vibrant and inclusive public spaces, encouraging local community participation, and fostering cultural exchange. Through detailed analysis of specific case

studies in Istanbul, the authors highlight strategies implemented to enhance waterfronts as places of encounter and cultural expression. These strategies may include creating accessible public spaces, promoting cultural and artistic events, restoring historic and architectural sites, and raising awareness of the importance of environmental and cultural protection. The paper thus provides a clear perspective on the urban transformations that have occurred in Istanbul through the regeneration of waterfronts, highlighting how the enhancement of these coastal spaces has contributed to improving the quality of life for residents, promoting sustainable tourism, and preserving the city's cultural identity (Fig. 1).

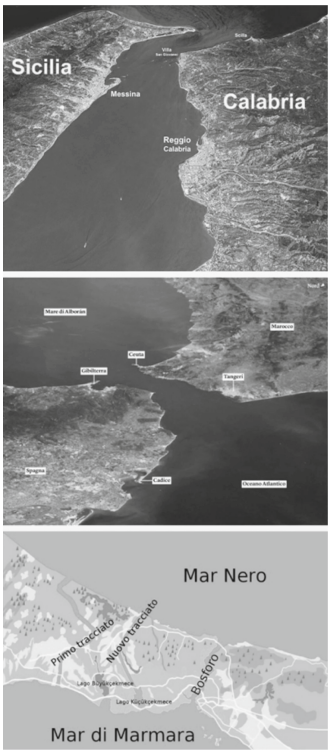

Fig. 1. The Strait of Messina and the Straits in Europe. Source: https://www.internazionale.it/magazine/2023/07/20/lo-stretto-di-gibilterra; .

3 Coastal Cities and Coastal Facades of the Strait, Such as Works and Infrastructures in View of the Bridge

Today, the aspects related to the port and the routes of the Mediterranean Sea seem to be experiencing a moment of rebirth, leading to a review of the physical/spatial configuration of the European territory and to extend interests beyond the physical dimension

of the urban context. With respect to the morphotypes of coastal strips, port cities and cities with ports, which will be discussed later, there is a heterogeneous case history. Decisive, with respect to this interpretation, is the role that the port is called upon to play. It is not necessarily the central place of the industrial system, of the material activities connected to it, it is rather a complex infrastructure, a node in a transport cycle, a gateway to territorial systems [9]. "Ports are therefore gateways to the world for territorial systems in the processes of globalization, in the face of a transport cycle that materially innervates the territory, is articulated in networks, and disperses into regional structures that are less and less dense" [10]. The gateway to the hinterland is the city, the settlement system that is physically and functionally welded to the port. Barcelona represents a significant case of a port system intended as a multimodal gateway to access a territory, the value of the strategic plans activated testifies to the scope of the interventions - which combine economic development, urban planning, and environmental protection - implemented through a Project Plan of considerable value. The Llobregat Delta is the subject of an artificial detour to allow the expansion of the port, the creation of a river park along the Rio, the construction of the South Gate through the Ronda de Dalt. The port system of Livorno is also an autonomous reality, characterized by the presence of wetlands and waterways that require safeguarding and protection interventions. The vast Pisa-Livorno area is in a central position with respect to both the Northern European and Mediterranean markets. The system of the logistics platform interacts with the San Rossore National Park and in the Park's Territorial Plan an attempt is made to restore the water-land relationship. The general Masterplan of Saranda, Albania, also indicates the direction of new infrastructural works – in particular the new access system to the city, the marina, accommodation facilities served by the new tourist service parkway, a fundamental option for the economic development of the country [11].

In the literature we have heard, with adequate clarifications, of coastal cities and coastal strips, the latter defined as that part of the earth's surface where the sea and the land meet (Carter 1988) [12], (Hildebrand and Norrena, 1992) [13]. The coastline can be described as a geographical feature with indeterminate boundaries, which is why it becomes difficult to apply the same metric of measurement and evaluation to all land and sea territories (Forman, 1995) [14]. And that's not all. Coastal cities, precisely because they are part of the generic, as well as complex, category of coastal areas, are areas of particular sensitivity and danger compared to other territorial areas. Floods, erosion and climate change with rising temperatures that progressively raise the sea level by reducing the land and the surface of the islands (as in Venice known as a lagoon city, it is organized around the central core of the island while there is another part that extends along the coast of Mestre and Porto Marghera), These are concomitant factors that lead scholars to investigate mitigating the possible damage caused by natural events (in any case related to human activities), rather than discouraging and discouraging some human practices and interventions. The expression 'coastal strip' acquires different meanings in different territorial contexts and in different disciplinary areas. Its definition can be found in the literature when it takes on the character of an "environmental emergency", i.e. a cogent issue that requires urban and environmental planning in line with the principles of sustainability. These approaches, known internationally as Integrated Coastal Zone Management (ICZM) (Cicin-Sain 1993) [15], have taken on different forms. This

is what the American Zadeh (1965) would have defined as fuzzy, a vague, nuanced concept. In fact, looking at the coast, it is not possible in scientific terms to say where the beach stops and where the sea begins. And then there is the coastal city, with the port cities and port cities. The latter are quite different from each other, as we will see later. If it is therefore difficult to schematize seaside cities into categories, starting with their "contiguity position" with respect to areas of different productions, but also to the different means of transport used on land and at sea, it is even more complicated to try to define the different morphotypes of coastal cities. It was probably the revolution of transport – protagonists of the changes in the way territories are used – that influenced the reorganization of the values and destiny of cities in the past. Among the seaside towns there are also those that lap the mouth of a river basin. Many of the cities established on "estuaries" or near "submerged valleys" are cities in which port activity and trade flows are predominant (Matvejević, 1987) [16], conditioning the settlement and urban organization of cities.

"The mouths of rivers have a double aspect: on the one hand it is the river that penetrates the sea, on the other it is the sea that enters the territory. The deltas at certain points make us discover the nature of their reciprocal relationship" (Matvejević, 1987) [16]. Cities such as Hamburg, London, New York and Buenos Aires allow maritime navigation to the interior of the territory. The cities built on the "deltas" of navigable rivers are less favourable to maritime ports, sometimes the deep ramifications have made possible the installation of port systems, among these we mention Rotterdam, New Orleans, Saigon. In general, however, the peculiarities of estuary cities define an osmotic urban landscape of contamination between river and sea water lines, compared to those of classic coastal cities. To the second group of seaside towns belong those landlocked coastal towns, whose position may have been determined either by the ease of sea access or by the guarantee of defence against the hinterland. As stated by Matvejević, "the nature of the port depends on the way in which the sea is in it, on the subjects to which it is accessible: the Atlantic or the Pacific are the seas of distances, the Mediterranean is the sea of proximity, the Adriatic is the sea of intimacy [16]." The condition of insularity, such as Singapore, Hong Kong, or Gibraltar, has favored the development of "cities of maritime empires" such as the English one. If, on the other hand, the condition of isolation derives from the orographic condition, such that the coastal city is bordered by numerous reliefs, as in the case of Rio de Janeiro or Genoa, and are partially sheltered from storms and surrounded by slopes, the condition of opening to the sea is natural [17]. "Cities with ports are distinguished from port cities. In the former, the ports were built out of necessity [18], in the latter they were created according to the nature of the place" [19].

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Fig. 2. The Samonà plan of the 1970s. Source C. Fazia

An analysis of the coastal façade between Cannitello (Villa San Giovanni) and Punta Pellaro (coastal town of Reggio Calabria at the extreme south of the coast) reveals that the coastal strip has been affected by numerous interventions for several decades, some almost completed, others in the process of being carried out. Villa San Giovanni [20], has been preparing for some time to reorganize the port infrastructures while waiting for the stable crossing to become a reality. The port project is part of a large project to upgrade the intermodal hub of Villa San Giovanni and is closely connected to the redevelopment project of the railway station. It is aimed at rearranging the external areas of the new piers, constructing a new building to serve as a passenger terminal and creating canopies to protect pedestrian flows between the railway station. Inside the building there are the various functions at the service of passengers. The building is the final element of the new project and in continuity with the interventions that RFI will carry out on the Villa San Giovanni railway station, allowing the creation of an intermodal rail-maritime hub in Villa San Giovanni. In the meantime, the waterfront project was launched in Villa, returned to the city with the enhancement of Piazza delle Repubbliche Marinare, the islet, Piazza Chiesa di Cannitello [21]. From the port of Villa San Giovanni to that of

Reggio Calabria, the projects underway concern the coastal stretch of Catona where the modernization of the seafront has begun. Continuing the analysis from north to south of the coast, the other intervention to be reported is the one concerning the Port of Reggio Calabria. In 2022 Atelier(s) Alfonso Femia took on the task of designing the masterplan that will connect the port with Zaha Hadid's Museum of the Mediterranean, this work - financed with PNRR funds - will be built on the Ponente pier. On the other side overlooking the Strait, there will be the MAXXI Med, for the arts of the Mediterranean and will house a research center. The redesign of the Reggio Calabria waterfront, which in Zaha Hadid's initial project also included the Functional Hub to be located behind the Central Station, represents a segment of a unitary program that concerned the seafront of Pellaro - with the Parco del Vento - and San Gregorio and intercepting the linear park that affects the southern area. To the north, the redevelopment of the Catona and Gallico waterfront stops before the port.

The South Linear Park is in the Calamizzi area. It stops at the airport, which is currently undergoing a major upgrading and renovation project. The seafront of Pellaro is affected by interventions that involve urban redevelopment and the arrangement of green areas. This will connect to the Parco del Vento which affects Punta Pellaro.

4 From Cities to the City of the Strait of Messina: For a New Waterfront

The urban and architectural conformation of the sea fronts of the three Strait cities - Messina, Reggio Calabria and Villa S. Giovanni - are strongly, and even heavily, marked by the continuous crossing. If in the past this gave rise to decidedly extraordinary results, such as the astonishing *Teatro Marittimo* or the Messina *Palazzata*, an exceptional seventeenth-century architectural invention with an urbanistic dimension, placed (in place of the original city walls) like an amphitheatre to frame and encircle the entire historic and natural Sicilian port of call, on the contrary, in recent years the crossing seems to have marked the two shores, leaving traces that are less and less respectful and rather treating the places almost as if they were roadside cafes (Figs. 3 and 4).

Yet the Strait, as it is in fact already partly experienced, is a complex inter-regional metropolitan system that certainly deserves more care and attention, especially in its precious, though never sufficiently appreciated, land border. Fewer crossing spaces and more public places and spaces where to stay, entertain and station, on the precious and never valued edge of the sea.

One suggestion would be to look at good practices from other Straits in Europe and around the world, useful for understanding which processes and phenomena 'cross' them, which works, which urban and territorial strategies and architectures they intercept or lap up. "Sea 'straits', such as the Bosporus, the Dardanelles or Gibraltar, unleash incredible energies, and one realises that the strength of their peculiarities lies not only in their function as natural links between two shores, but also in their role as channels for flows and energies."

Therefore, it is precisely in view of the construction of the bridge that it appears necessary to rethink the areas of the Strait's sea fronts, coasts and cities, with the related inland areas, on a vast, even interregional, scale, but with new eyes: as if the gaze were



Fig. 3. Reggio Calabria. Degraded areas still awaiting redefinition on the seafront in the central area not far from the hydrofoil dock. February 2020. Photo Clara Stella Vicari Aversa.



Fig. 4. Reggio Calabria. Sicily with Mount Etna framed by the canopies located on the seafront near the hydrofoil dock. November 2022. Photo Clara Stella Vicari Aversa.

never satiated. We must first of all try to look at this microcosm from and in all directions, trying to continually overturn the point of view, to return to observing the mainland from the sea (as was traditionally done in the passage and crossing between the two shores) but also the sea from the mainland, trying to imagine and interpret, above all, the profound change that is coming, considering the planned stable connection of the Bridge. In a sea basin such as the Strait, in this heterogeneous and permeable strip that has always intercepted different landscapes and architectures, functions and activities, it is necessary to ensure that the arrival of the bridge does not cause a rejection response in the living organism in which it is grafted but, on the contrary, is almost a natural operation, as if the place itself had forcefully requested its insertion. It is a matter of seizing, now, without further delay, the opportunities dictated by future scenarios.

The Strait of Messina area, despite its bubbling with history, myths, legends, seems as if it has been in a state of almost waiting for some 30–40 years; as if it were a 'suspended' or 'blocked' space (even the wait and the constant second thoughts about the bridge [22] have been a strong and evident reason for blockage), as if this place were at a standstill and all around the world was moving. Yet it has always represented one of the nerve centres of the entire Mediterranean, constituting itself over time as an attractive pole and a synonym for crossing. Along its shores there are multiple urban conglomerates and two cities, Messina and Reggio Calabria - actually now three with Villa San Giovanni -, which have long faced each other in an attempt, as yet unsuccessful, to stabilise what is increasingly being seen as the conurbation of the Strait. However, what is lacking to date is a unified vision between the two shores and studies that can act as a glue in the enterprise of considering the area as homogeneous and destined as a whole, with the planned construction of the Strait Bridge, to have a profound effect on the imagination, on its real conformation and beyond. There appears to be an urgent need to redefine a unitary architectural sea front for this precious area, with a response that is as unified as possible and that could also be of an urbanistic dimension, like the extraordinary invention of the *Teatro Marittimo*/*Palazzata* for Messina - the last version of which was reinterpreted and designed by Giuseppe Samonà [23] - in order to outline the three cities together at various scales in a harmonious manner, even while grasping their natural diversity, exposure and specificity (Figs. 5 and 6).



Fig. 5. Messina. View from inside the harbour. December 2022. Photo Clara Stella Vicari Aversa.

It must be understood that this is a great and hardly unrepeatable opportunity for which, if one really wants to aim for benefits, one must overcome particularisms, reasoning as if it were, as in fact it is, a single new large area.

It is thought, therefore, that this approach should be extended to every sphere, e.g. by trying to distribute architecture, urban beaches and marinas taking into account the real needs of a single new large sphere that is growing, perhaps being reborn, in this wonderful crossroads between two seas and two shores.

In order to identify potential and planning, it appears necessary to continuously return to looking both from land and sea, maintaining a constant 360-degree gaze, identifying correct relationships between full and empty, between built and unbuilt, between spaces of permanence and transition.



Fig. 6. Messina. The current *Palazzata* of Giuseppe Samonà at the bottom and the entrance to the city harbour on the right. March 2024. Photo Clara Stella Vicari Aversa.

In the sense that it seems pointless to repeat infrastructures or duplicate them, for example a marina or an urban beach, if not necessary, as if each of these three cities had to claim its own. It is a question of reasoning with a broader vision, at a wider range and at various scales at the same time, with a real desire to intercept, like diviners, the needs of a new single great conurbation of the Strait. There are many works that are already part of the update of the final design of the bridge, the so-called compensatory works, and it is no coincidence that these include the new Straits metro. An infrastructure that symbolically already represents the accomplished expression of the Messina-Reggio-Villa San Giovanni conurbation. And it is certainly a work of great importance and to be given the right planning relevance, almost on a par with the permanent link. Suffice it to say that on the territory of Messina alone, a line (90% underground) of no less than 18.2 km is planned between the area south of Gazzi and that north of Ganzirri-Punta Faro. Impossible, then, especially for planners and architects, not to think that they should commit themselves to the best of their ability and immediately to the prefiguration of a single new metropolitan city made up of several different souls, ensuring that the opportunity and the sea that has always lapped and united them becomes an enrichment for all of them. All three cities of the Strait, albeit in different ways, have always grown up together with the sea, but the relationship with their coastline, unfortunately, has not always been one of symbiosis and enrichment, as can be seen, on the contrary, in other seaside cities. In fact, several stretches of seafront, with the exception of a few overlooks, have for years been closed to the three cities of the Strait, yet it was enough, for example, for Reggio Calabria to bury the railway line to rediscover the magic of a wide seafront reopened to the city's promenade and enjoyment. A process of opening up to the sea is finally taking place in Messina in the area immediately south of the port with the so-called 'via del mare', a process of freeing up the seafront which has already begun in part but which, thanks to the relocation of the railway station and the burying of the railway provided for among the works connected with the bridge, will be able to become truly extraordinary.

This shows that even little would suffice for the three Straits seaside cities, which have exceptional potential that now only needs to be intercepted in order to finally return the sea to the cities.

One only has to look at the coastal cities that have been able to do this as Rio de Janeiro or Miami, but also much smaller and closer to us such as Spain's San Sebastián whose *paseo marítimo* manages to combine in an exemplary manner the use of the

promenade itself as an element defining the coastal space with its pre-eminent urban character [24], and whose Concha beach, was recognized, by *Travellers choice 2024*, as the best urban beach in the world, the third among all beaches in the world. (Fig. 7).



Fig. 7. San Sebastián. Concha Beach, the main public space of the Basque city, full of people all day every day of the year. July 2021. Photo Clara Stella Vicari Aversa.

Seaside cities such as Barcelona or La Coruña, Malaga, or the French city of Nice, owe their good fortune not only to the extraordinary geographical condition in which they are found, but also, and above all, to their ability to maintain over time a real integration between the sea, the beach and the city centre. It is therefore necessary to intervene on the Straits of Messina with a timely operation to reopen and redefine the edges on the sea, returning the beach, possibly with bathing facilities, to the city, as in the above-mentioned sea locations. Doing so can also become an opportunity to implement appropriate regeneration and renaturalisation of places. In the careful, democratic and sustainable use of the urban beach, for example, it is possible to refer to the case of Rio de Janeiro, where not only is the richness of this resource perceived, but there is continuous concern to safeguard and protect it as a precious and primary asset.

The *Instituto- E*, a non-profit organisation dedicated to sustainable development, has been operating here since 2009. Together with *Osklen* (a contemporary brand committed to the philosophy 'As Sustainable As Possible, As Soon As Possible'), it has developed several projects that include, among others in addition to carbon and water footprint monitoring, also and above all the implementation and maintenance of sandbanks thanks to the *Recomposição da vegetação de Restinga fixadora de dunas project in the Área de Proteção Ambiental (APA) da Orla Marìtima* implemented on the beaches of Ipanema, Leblon and Prainha. (Restingas are coastal areas made up of sandy and saline soil, covered with herbaceous and shrubby plants and with a strong marine influence. The fauna is made up of migratory birds, crabs, turtles, as well as mammals such as the caiçara lion tamarin and the otter). A public-private partnership (also involving Janeiro hotels and Airbnb) working jointly with the City of Rio de Janeiro to preserve its flora and fauna by renaturalising its precious beach along the urban waterfront with native species [25] (Figs. 8-9-10).

For the Strait, the sea is the wealth from which to start again, the new place of the project for the relaunch of this new exceptional conurbation, whose planning must immediately abandon particularisms, globalisms, the Italian attitude of dividing into "Guelphs and Ghibellines" but of reasoning all together.

The challenge is important and it is not only between three cities but involves two different regions (a significant challenge but not complex if you think that in Istanbul the bridges connect two different continents) and it is above all a cultural challenge, which can only be implemented by positioning itself exactly in the center of the Strait; So not from the mainland, from one or both shores, but only looking at the shores as a unitary circular front. The centre of the Strait must become the place of the project, engaging not only politics, but also the designers, although it may seem paradoxical.







Figs. 8-9-10. Rio de Janeiro, Ipanema Beach. *Área de Proteção Ambiental (APA) da Orla Marìtima. Recomposição da vegetação de restinga fixadora de dunas.* November 2023. Photo Clara Stella Vicari Aversa.

Just as today it is possible to have new and always different perspectives thanks to drones, in the same way we must change the directions of our project, our own "position" in thinking about the project must find different locations with the same approach in the middle of the Strait.

Of course, a great collaboration is hoped for, we must work in concert between all possible actors, Municipalities, Port System Authorities of the Strait, Universities, in a multidisciplinary and interdisciplinary field, the Region of Sicily and Calabria, etc., to reason and compose together a new architectural and urban piece, just as if it were a new piece of music so that the different instruments, at the various scales, not only do they not clash with each other, but together they reproduce a new architectural symphony. The entire territorial and urban system, the coastal strip and inland areas, must be an

active part of the processes of regeneration and territorial development, in a phase of ecological and digital transition consistent with the technological leap in infrastructure and the innovative support provided by universities.

The Bridge, therefore, cannot be reduced to a parachute infrastructural graft of three thousand three hundred meters, but on the contrary represent the spark to trigger a process of global regeneration of the surroundings, the inestimable opportunity so that finally the entire seafront of the Strait can be rethought and redesigned, enriching itself with all the vital elements necessary for its enhancement and refunctionalization.

The answer must be a unitary redefinition of architectural wings but also of solids and voids that, despite their diversity and variety, can still dialogue with each other, resonating and echoing in this wonderful body of water of the Strait as the protagonist of the entire system; a responsible and contemporary response so that the Strait returns to being in a unitary way that "immense and superb lake covered with boats" already in the past happily identified and outlined by the abbot Saint-Non [26].

Only in this way will we be able to ensure that the dots on the Strait mentioned above do not just join together two by two, tracing single linear routes, but finally sketch and redesign together a new extraordinary architectural and urban framework for the future, framing a precious sphere not only made up of lines and edges, but above all of space and wonderful places of exchange, where one can recharge one's batteries, but above all of being, with the Strait as the main urban square of its new metropolis that is finally coming into being (Fig. 11).

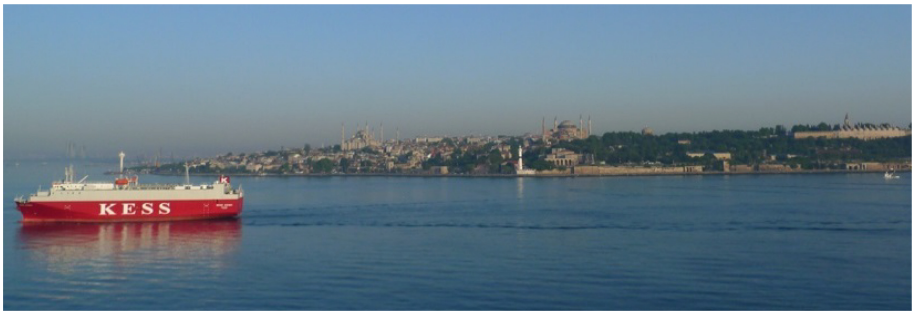

Fig. 11. Istanbul. The Sultanahmet district from the Bosphorus. May 2014. Photo Clara Stella Vicari Aversa.

5 Conclusions

In the territory analysed, there is an overlap of instruments – sectoral, planning at different levels, programming – such as to make the government process difficult, even through the new tools introduced by the most recent regional legislation. There is certainly a lack of a comprehensive plan that identifies the useful tools to ensure adequate integration between the risk framework, the physical framework of priority coastal defence interventions and the institutional framework, which is already quite complex and fragmented.

Although it has a varied morphological conformation and a plurality of landscapes - in which historical coastal settlements alternate, marine urban systems perfectly welded to the infrastructural system, and coasts not yet reached by buildings and wild anthropizations - in the hilly part, despite the numerous building aggressions, different scenic values, areas of environmental value and valuable production areas are preserved. The coast is seen as a boundary, it is connected to its very fractal nature: if the coast cannot be described apart from the spatial and temporal scales of observation, it is also necessary that planning adopts a transcalary approach. The most advanced experiments in the field of environmental planning and coastal planning in general [27], suggest that only some situations and some phenomena can be governed within specific space-time boundaries, while a plurality of problems require transcalary visions, capable of internalizing the externalities produced by the very existence of some boundary, explicitly or implicitly defined. The rules and norms laid down in the plans must therefore apply to portions of the territory and time horizons that change according to the system of relations called into question by the provision itself. It can therefore be said that the lines of intervention to be supported in sensitive territories, strongly affected by anthropic pressure and widespread naturalness - in a mix of man-made landscapes, coastal landscapes, naturalistic landscapes and environmental values - must possess the sense of flexibility of planning moments (in which competing safeguards are able to internalize, with check-lists, transformative processes) and also be aimed at operations that, by graduating the interventions with respect to the different priorities expressed by the ecological-environmental and social components, are aimed at economic revival and:

- to functionally redevelop the coastal areas, enhancing services and activities in line with the lines defined by plans and programmes, comparing them with the load capacities and with the compatibility of use of the interventions in that given territory;
- to promote the homogeneous development of coastal areas, upgrading services and facilities at the service, guaranteeing tour operators the possibility of eco-sustainable investments;
- to ensure the protection of the soil, the protection of natural and environmental components, also with regard to the nourishment of the coast, attention to erosion dynamics, to water quality;
- to enhance the architectural, cultural and archaeological heritage, marine and terrestrial parks, protected reserves, and activities traditionally linked to fishing.

In conclusion, cities in the straits of Europe represent unique urban and architectural contexts, where the boundaries between land and sea merge to create spaces of great charm and complexity. The reflection on these territories makes it possible to explore the potential for development and enhancement of waterfronts, as well as to identify sustainable management strategies that take into account the environmental and landscape specificities of these places and, of course, to know how to combine them wisely [28]. Therefore, Messina, Istanbul and Gibraltar face significant challenges related to the sustainable management of waterfronts, the preservation of historical and environmental heritage and the promotion of balanced and inclusive urban development. Projects for the redevelopment and enhancement of coastal spaces are helping to improve the quality of life of residents and preserve the uniqueness and beauty of the three cities, promoting harmonious and sustainable growth. The analysis of Messina, Istanbul and

Gibraltar offers interesting insights to understand the dynamics that characterize cities in the straits of Europe and to promote sustainable waterfront management strategies in unique and fascinating urban contexts such as these.

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