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Land in Limbo

Understanding path dependencies at the intersection of the port and city of Naples

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Understanding path dependencies
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Paolo De Martino



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Land in Limbo

Understanding path dependencies at the intersection of the port and city of Naples

Dissertation

for the purpose of obtaining the degree of doctor
at Delft University of Technology
by the authority of the Rector Magnificus, prof.dr.ir. T.H.J.J. van der Hagen
chair of the Board for Doctorates
to be defended publicly on
Monday, 17 May 2021 at 10:00 o'clock

by

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This PhD thesis is the result of a joint PhD program between the Department of Architecture of Delft University of Technology and the Department of Architecture of the University of Naples Federico II.

This study was financed by University of Naples Federico II through a scholarship from 2016 until 2018. From 2018 until 2020 the study got the support of a scholarship from the Port Network Authority of the Central Tyrrhenian Sea.

Preface

It has always been said that the best ideas and opportunities might arise when we are away from books. This PhD stands exemplary. The research project started in in the canteen of the Department of Architecture of Delft. Back in 2014, during lunch with a colleague who will soon become a friend, I was told that the new Professor Carola Hein, who had recently arrived in Delft was open to the possibility of starting new research collaborations. I discussed the opportunity with my professor in Naples and I decided to introduce myself to her. I had a look at her research interests and when I saw that port cities was among the areas of her studies, I thought to play the “secret card I had”: the fact that I was coming from the fantastic port city of Naples. That was the beginning of a wonderful journey. Today, Delft is my second home.

This PhD research therefore arises from the desire to explore the relationship between the sectoral and highly specialized spaces of the port and those of the cities; to investigate the opportunities that the porosity of the areas on the edge of these two worlds offers for an urban and territorial regeneration that looks at the port as an urban, social and cultural infrastructure. Only by looking at the port as an urban entity and through a multiscale perspective it is possible to rethink the nature of a port that today in Naples generates problems. In its different spatial articulations the port is configured as a closed machine, impassable enclosure, not permeable area that separates the city from the sea. It is from this perspective that this PhD research should be framed. The research has pointed out the need to introduce new interpretative readings to understand port-city relationships. The work has in fact undertaken a methodology that has looked at the history of the port city of Naples, at the evolution of its institutions, at the relationship between the actors, many of which today impact the urban and territorial context with governance arrangements that are no longer efficient, but characterized by inertia. Space is therefore described as the result of specific decision-making processes, narratives and traditions.

The concept of path dependence, hard spine of this thesis, is applied to give shape to a research framework that allows us to better understand how to redefine a system of relations which are today still in a waiting condition. This refers to the relation between the port and the city, between the port and the regional and metropolitan territory, between the port and the landscape as a whole.

This PhD research is therefore aimed at a wider academic and professional audience. It is aimed at scholars who work on port-city relationships, historians, planning authorities in Naples and beyond, to whom it aims to offer new perspectives on the historical problems with which the city of Naples and many other cities relate today. It is hoped that this work will reorient the processes of physical, spatial and governance transformation of the port of Naples in the future.

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I would like to thank my colleagues and friends from Naples and Delft and all the people I met along my path. We shared thoughts and ideas, some of which helped shaping this PhD. Particularly I would like to thank Mo Sedighi, one of my first friends, colleague and guide during the first years in Delft. I thank all the institutions and all authorities I have interviewed all over Europe. They enriched this work with their contribution. I thank the Learning Center in Dunkirk for giving me the opportunity to co-curate an international exhibition. I thank the students of the Master design studio *“Architecture and Urbanism Beyond oil”* in Delft and their innovative way of envisioning the future. I thank Pietro Spirito, President of the Port Network Authority of the Central Tyrrhenian Sea between 2016 and 2019 for the support shown and for the constant presence during the various occasions of discussion. I thank Prof. Matteo Di Venosa and Prof. Lorenzo Fabian for reading my thesis and dedicating some of their precious time, giving essential feedback that have given the work depth, allowing it to grow. Last but not least I thank all

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With a heart full of gratitude and gratitude towards all of you.

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Summary

Ports and cities form an articulated and interconnected territory where a multitude of actors—with contrasting motivations and responsibilities—shape decisions across different scales. For each of these actors the concept of port-city relationship has a specific meaning and spatial quality. Today, in many European port cities national port reforms are promoting integration between ports and inland corridors, leading to port merging within the same regional territory. In Italy, starting in 2016, this has allowed for the creation of systems between ports belonging to the same regional territory. On the one hand, this cooperation between ports offer enormous opportunities to reformulate the port-city relationship from a different scale. On the other hand, this collide with a plurality of actors—municipalities and port authorities among others— who have historically planned ports and cities as autonomous entities, thus strengthening specific ideologies and governance mechanisms. A change of perspective would require new spatial configurations.

In particular, this thesis focuses on the role that history has played in the definition of the relationship between port and city in Naples and in particular on what historical institutionalists have defined as “path dependence”. Path dependence suggests that each action lies within an articulated system of decisions previously undertaken. This dependence is based on a self-reinforcing principle and it translates into rigid and inertial planning models that have looked, in particular in the case of Naples, at port and city as separate elements in a limbo between the need for renewal and resistance to change. This condition, several times in the thesis described as a waiting condition, has become historicized, making it difficult for the different actors to identify alternative approaches.

Path dependence therefore is an interpretative tool of particular interest for the analysis of port cities. Port cities are landscapes in transition, places at the intersection of land and water where two different cultural and planning approaches coexist and collide: the port and city ones. Here, the collaboration between the port authority, the municipality, the state and the regions has generated separation and sectoriality. The dependencies today affects different scales (local, regional and landscape) and dimensions (cultural, economic, environmental). Consequently, this thesis investigates how path dependence can become a knowledge tool for the port territory of Naples, to understand and interpret its spaces, institutions and mechanisms that have generated separation in order to better understand whether

to introduce new and possible forms of integration.

To answer the question, the thesis carried out a spatial-institutional analysis arguing that spatial transformations in port cities can be better understood as a result of a complex decision-making system and therefore strongly linked to governance models. Rotterdam, Antwerp and Le Havre have been selected and analyzed as emblematic cases to give concrete answers to the dependencies emerged in Naples.

Mapping these port city territories, their spatial and governance structures and how these have evolved over time, is used as a cognitive and methodological tool and to highlight, as in the case of Naples, a mismatch between the spatial ambitions of the various actors and how on the contrary, the territory has evolved over time. Historical archive research, policy documents analysis and interviews to the most relevant actors in Naples and over Europe shape the methodological approach. The PhD research aims to provide new insights on the history of the port city of Naples and its evolutionary process in relation to path dependencies. Furthermore, by analyzing the challenges and opportunities that other port and city authorities all over Europe are facing today, the research aims to establish an abacus of possible solutions useful to inspire the Port Network Authority of the Central Tyrrhenian Sea which, since 2016, represents the new government agency in charge of the Campania port territory.

The study concludes by pointing out the urgency in Naples to identify new spatial configurations aimed at integration, new collaborations at the scale of the city and the region and, fundamentally, a profound shift in the governance structure and mindset of the authorities as well as an update of the planning tools, which are still based today on an idea of dividing the territory into fragments rather than on the will to integrate them. The research therefore has the ambition to provide a different perspective, which looks at the porosity of the territory, useful for helping the various authorities to plan, albeit in the context of different interests, a more sustainable relationship between port and city.

Samenvatting

Havens, steden en hun regio's vormen gelede en onderling verbonden gebieden. In zo'n havenstedelijk gebied neemt een veelheid aan actoren beslissingen op verschillende schaalniveaus. Elk van deze actoren heeft tegengestelde drijfveren, belangen en verantwoordelijkheden, en interpreteert de relatie tussen haven en stad daarom anders. In veel Europese havensteden is de nationale overheid verantwoordelijk voor de integratie tussen havens en binnenvaart. Dit leidt vaak tot het samenvoegen van havens binnen dezelfde regio. Enerzijds biedt deze samenwerking tussen regionale havens kansen om de relatie tussen haven en stad op een andere schaal nieuwe betekenis te geven. Aan de andere kant botst door de nieuwe ruimtelijke systemen een veelheid van actoren—waaronder gemeenten en havenbedrijven—met elkaar; elk met een eigen, historisch ingesloten gedrag en ideologie, met hieraan gerelateerde manieren van plannen en sturen.

Dit onderzoek stelt dat geschiedenis ertoe doet in havensteden. Vertrouwde, historisch gevormde manieren van werken stellen hier grote voorwaarden aan de hedendaagse, hetgeen binnen het historische institutionalisme wordt gedefinieerd als 'padafhankelijkheid'. Padafhankelijkheid suggereert dat elke handeling plaatsvindt binnen een bepaald systeem van eerder genomen beslissingen, en zorgt ervoor dat het moeilijk is om nieuwe benaderingen te introduceren. Het is met name belangrijk om padafhankelijkheid te analyseren in havensteden waar twee verschillende planningsbenaderingen—en daarmee twee constellaties van actoren—tussen haven en stad naast elkaar bestaan en regelmatig botsen. Het verklaart de wachttoestand en institutionele inertie die ten grondslag liggen aan het gebrek aan ruimtelijke en bestuurlijke veranderingen in veel Europese havensteden. De havenstad Napels is een goed voorbeeld om dit te illustreren. In Napels hebben haven-, stedelijke en nationale autoriteiten in het verleden hun eigen routines en planningsinstrumenten ontwikkeld, resulterend in een ruimtelijke en bestuurlijke onthechting die vandaag de dag nog steeds zichtbaar is. Deze scheiding beïnvloedt verschillende schalen en dimensies, van lokaal tot regionaal, en van cultuur tot economie. Daarom onderzoekt dit proefschrift de vraag hoe padafhankelijkheid de relatie tussen haven en stad in Napels heeft beïnvloed, of het mogelijk is om ermee te breken, en toe te werken naar vormen van integratie.

Om deze vraag te beantwoorden is in dit onderzoek een ruimtelijk-institutioneel analysekader opgesteld zodat de ruimtelijke transformaties van havens, die veelal het resultaat zijn van een complex systeem van beslissingen, in verband kunnen worden gebracht met ruimtelijke sturingsprocessen. Daarbij zijn Rotterdam, Antwerpen en Le Havre geselecteerd en geanalyseerd langs drie schalen die vergelijkbaar zijn met de schalen waarlangs de ruimtelijke en bestuurlijke scheiding in Napels is ontstaan. Het in kaart brengen van deze territoria—hun vormen en hun deelelementen, zoals ze er nu voor staan en hoe ze historisch geëvolueerd zijn—wordt gebruikt als instrument om nieuwe inzichten te verkrijgen, maar ook om de discrepanties tussen de ruimtelijke ambities van actoren in Napels te benadrukken. Historisch archiefonderzoek, analyse van beleidsdocumenten en interviews met de meest relevante actoren in Napels en de andere Europese havensteden complementeren deze onderzoeksmethodiek.

Het onderzoek beoogt door het blootleggen van verschillende vormen van padafhankelijkheid nieuwe inzichten te verschaffen in de geschiedenis van de havenstad Napels en haar evolutieproces. Bovendien wil het onderzoek, door de uitdagingen te analyseren waarmee andere havens en steden tegenwoordig worden geconfronteerd, een denkkader tot stand brengen dat nuttig is als inspiratie voor de toekomst van de drie belangrijkste havens van de Centrale Tyrreense regio: Napels, Salerno en Castellammare di Stabia. De studie eindigt door te wijzen op de behoefte in Napels aan nieuwe ruimtelijke configuraties, havenstedelijke (en regionale) samenwerking en, belangrijker nog, een diepgaande verandering in het institutionele en culturele gedrag van de betrokken actoren. Door historische gebeurtenissen in dit kader te analyseren, beoogt het onderzoek besluitvormers te helpen om, met begrip voor elkaars belangen, plannen te maken voor een duurzame relatie tussen haven en stad.

Sommario

Porti e città formano un territorio articolato e interconnesso in cui una moltitudine di attori, spesso mossi da differenti obiettivi e responsabilità, pianificano la relazione porto-città a differenti scale. A seconda dei soggetti la relazione porto-città acquista specifici significati e qualità spaziali. Oggi in molte città portuali europee le riforme portuali nazionali stanno promuovendo integrazione tra porti e territori regionali per migliorare l'efficienza logistica. Questo in Italia, a partire dal 2016 ha dato il via alla creazione dei sistemi portuali che di fatto rappresentano una clusterizzazione tra porti appartenenti allo stesso territorio regionale.

Da un lato, questa maggiore integrazione tra porti e territorio offre enormi opportunità per riformulare la relazione città-porto da una prospettiva più ampia e sistemica. Allo stesso tempo, questo cambio di prospettiva richiederebbe nuove configurazioni spaziali che si scontrano invece con una pluralità di soggetti—principalmente comuni e le autorità portuali—che hanno storicamente pianificato porti e città come entità autonome rafforzando così specifiche ideologie e meccanismi di governance. Sembra quindi evidente, che nelle città portuali la storia giochi un ruolo fondamentale.

In particolare questa tesi si concentra sul peso che la storia ha giocato nella definizione della relazione porto città a Napoli e in particolare su quello che gli istituzionalisti storici hanno definito “dipendenza dal percorso”. Il concetto di “*path dependence*” suggerisce che ogni azione vada inquadrata come parte di un sistema articolato di percorsi e decisioni precedentemente intrapresi. Questa dipendenza ha un carattere auto-rinforzante e si traduce in modelli di pianificazione rigidi e inerziali che hanno guardato, in particolare nel caso di Napoli, a porto e città come elementi in conflitto e in un limbo tra volontà di rinnovamento e resistenza al cambiamento. Questa condizione, più volte nella tesi, descritta come condizione di attesa si è storicizzata rendendo difficile l'identificazione da parte dei differenti soggetti, di nuovi approcci.

La dipendenza dal percorso si presenta quindi come strumento interpretativo di particolare interesse per l'analisi delle città portuali. Queste rappresentano dei paesaggi in transizione, luoghi all'intersezione tra terra e acqua in cui convivono e si scontrano due differenti approcci culturali e di pianificazione: quelli portuali e quelli urbani.

La città portuale di Napoli si erge come esempio paradigmatico. Qui, la collaborazione tra autorità portuale, comune, stato e regioni ha generato separazione e settorialità. Le dipendenze dal percorso oggi interessano differenti scale (locale, regionale e del paesaggio) e dimensioni (culturale, economica, ambientale). Di conseguenza questa tesi indaga come la dipendenza dal percorso possa diventare uno strumento di conoscenza del territorio portuale di Napoli, di conoscenza dei suoi spazi, delle sue istituzioni e meccanismi che hanno generato separazione per meglio comprendere se e in che modo introdurre nuove e possibili forme di integrazione. Per rispondere a questa domanda, la tesi ha portato avanti un'analisi spaziale-istituzionale sostenendo che le trasformazioni spaziali all'interno delle città portuali possano essere meglio comprese come risultato di un complesso sistema decisionale e quindi fortemente legato ai modelli di governance. Rotterdam, Anversa e Le Havre sono stati poi selezionati e analizzati come casi significativi per dare risposte concrete alle questioni emerse a Napoli dai diversi livelli di separazione sopra elencati.

Mappare questi territori portuali, le loro strutture spaziale e di governance e come queste si sono evolute nel tempo, viene utilizzato come strumento conoscitivo e metodologico e per evidenziare, come nel caso di Napoli, una mancata corrispondenza tra le ambizioni spaziali dei diversi soggetti e come, al contrario, il territorio si è evoluto nel tempo. Ricerche d'archivio, analisi di documenti governativi, e interviste ad alcuni soggetti chiave della pianificazione a Napoli e nei tre casi sopra elencati, forma la struttura metodologica per la raccolta dei dati. La ricerca di dottorato mira quindi a fornire nuovi spunti e argomenti di riflessione sulla storia della città portuale di Napoli e il suo percorso evolutivo in relazione alle dipendenze dal percorso. Inoltre, analizzando le sfide e opportunità che oggi altre realtà portuali stanno affrontando, la ricerca mira a stabilire un quadro conoscitivo e un abaco di soluzioni possibili utile a guidare l'Autorità di Sistema Portuale del Mar Tirreno Centrale che, dal 2016, rappresenta il nuovo ente di governo del territorio portuale della Campania.

Lo studio conclude sottolineando la necessità a Napoli di individuare nuove configurazioni spaziali volte all'integrazione, maggiori collaborazioni alla scala della città e della regione e, cosa fondamentale, un profondo cambiamento nella struttura di governance nonché un aggiornamento degli strumenti di pianificazione, oggi ancora basati su un'idea di divisione del territorio in frammenti più che sulla volontà di integrazione degli stessi. La ricerca ha l'ambizione quindi di fornire una prospettiva di lettura differente, che guarda alle porosità del territorio, utile per aiutare i vari soggetti a pianificare, seppur nell'ambito di interessi differenti, un rapporto più sostenibile tra porto e città.

1 Introduction

1.1 Background and scope of the study

This PhD thesis is about Naples, a millenary city built around its port, where urban and port functions have come to coexist at the intersection of land and water for a very long time. Here, it was precisely the port that gave rise to the evolution of the city, built to protect the port and to provide necessary infrastructures to the city. The interest of this PhD thesis is in the governance and spaces between port, city and the larger region that we understand as historically institutionalised. More precisely, this PhD thesis argues that the evolution of space in Naples is intertwined with governance arrangements that are institutionally inert. We will use historical institutionalism theory (HI), a social science approach that establishes the existence of rigid patterns of governance action – defined as path dependencies – that affect repeating spatial, economic and ecological outcomes. Path dependence highlights that every possible choice lies within a complex system of other choices previously made. These are related to processes of interaction between authorities and economic actors that find themselves imprisoned within their consolidated ideologies. Path dependence suggests that we look at the city and its historical palimpsest as a complex system of consolidated decision making processes, some of which are perceived today as problematic.

The problems in Naples are evident in the choices made by the municipality and the port authority, among other authorities, who find themselves unable to identify a solution to balance economic development and spatial preservation. The current situation of separated development paths is cemented into physical spaces, such as infrastructures, and buildings, as well as land use dedication, resulting in several fragments of the coastal zone waiting for redevelopment (De Martino & Hein, 2020).

At the time of writing this PhD thesis, two significant changes present some opportunities for a structural innovation in the current development path of the port city of Naples and beyond.

The first change is the creation of the Port Network Authority of the Central Tyrrhenian Sea as an entity overseeing the ports of Naples, Castellammare di Stabia and Salerno. This change aimed to provide ports with more efficiency for logistics. At the same time the spatial claims of the recent port system challenge the goals and interests of local stakeholders, each of which has its own beliefs and has independently developed land use claims, spatial patterns and governance arrangements. The three cities have their own long-standing planning practices, but these are not aligned among each other or coordinated on a regional scale.

The second significant change concerns the economic shock due to the recent Covid-19 pandemic. At the time of writing (2020), the Covid pandemic is having significant impacts on the economic activities of ports all over the world. They are confronted all over the globe with significant decrease in cargo volumes, infrastructure and logistics activities as well as passengers' flows. The port of Naples is no stranger to this phenomenon, recording in fact significant losses in the commercial, cruise and passenger sectors with a decrease of over 60% compared to the flows of 2019¹. The pandemic is generating phenomena of discontinuity which are making planning authorities and the port operators in the logistic chain revisit and update their port-related investments plans (Notteboom & Haralambide, 2020).

Significant shocks like these, not unique in the history of Naples, can also represent an opportunity to rethink a different model of the port city as a whole. The city of Naples has often experienced the state of emergency. Just think of the destructions linked to the earthquake of the 1980s, or the ones brought by the Second World War or the cholera pandemic of 19th century, which had significant impacts on the flows of goods and people in and out of the port of Naples for a good part of 21st century.

Therefore, both changes can trigger a rethinking of existing governance arrangements and related spatial structures in the Campania region, and a reassessment of the long-term plans and contemporary projects of key actors involved. It leads them to reflect on the role of the port within the regional territory. This PhD thesis offers path dependence as an analytical tool to shed a historical institutionalist light on the opportunities and challenges in the Naples region today, and offer scenarios that may trigger the structural innovation desired by key actors in terms of governance and space.

¹ Ansa website. Coronavirus: Porto Napoli, fino a 80% passeggeri in meno. URL: https://www.ansa.it/mare/notizie/portielogistica/news/2020/04/08/coronavirus-porto-napoli-fino-a-80-passeggeri-in-meno-_87adea17-3026-479a-add3-730c52ff27a8.html. Last access on the 04/10/2020

The historical analysis of the Naples case will be complemented by a comparative exploration of path dependence and structural innovation in other European port cities. Here, we analyse spatial and governance challenges similar to those in Naples in some respects. Understanding how and why these challenges have emerged and what strategies have been put in place to overcome them has therefore become an important part of this PhD thesis.

1.2 From city to region: problems and opportunities

Today, the relationship between port and city has changed as well as the urban territory to which ports belong. Since the second half of the 19th century, port areas have undergone profound spatial and functional transformations (Hein, 2016a). In conventional terms, ports are defined as transitional areas, gateways through which goods and people move. A port is a contact area, a liminal space between land and water where different flows meet and collide (Notteboom & Haralambide, 2020; Russo, 2016). Industrialization has imposed significant global changes with ports moving away from the city centers (Hein, 2011; Hoyle & Pinder, 1992; Kokot, Gandelsman, Wildner, & Wonneberger, 2008). This has undermined the concept of ports themselves, changing the spatial and economic model of the port city from unitary entity to the one characterized by physical detachment.

The intimate relationship is also reflected in port-city governance. In the past port spaces were dominated by merchants houses and governed by kings and rulers. In the past, who was in charge of the port was also in charge of the city. Specifically, in Naples, for more than two thousand years, the city and its port were the backdrop for theatrical acts in which kings and dominions from different cultures competed for the interaction spaces between the port and the city, enriching it with architectures and monuments, widely regarded today as the most beautiful in the world. As a result, the development of the port was planned in conjunction with the city.

Similar to Naples, many other European ports such as Rotterdam, Le Havre or Antwerp have enjoyed a strong and intimate relationship with their cities and regional territories. Over the centuries, this has defined—depending on the spatial, institutional and economic context—a particular identity of port-city as unitary

system (Hein, 2011; Meyer, 1999). This is not the case anymore and the separation that ports and cities experience today refers to space, but mostly to the governance sphere. Since industrialization, planning authorities have increased as well as their visions and planning tools. They have started to frame port and city as two separated and disconnected entities: on the one hand the port and its industry, on the other hand the city. This has dramatically reshaped the relation between port and city with people who started to perceive the port as an impenetrable barrier within the city.

In Italy, and in particular in Naples, all of this has taken on a different and very specific dimension. The presence of a still working port within the urban fabric became more of a problem than an opportunity (Pavia, 2010). This was followed by the lack of relocation of the heavy activities of the port outside the city as well as an inability of the governance to capture the transformations at stake (Di Venosa, 2019).

As a result, the city and its port experience today a condition of limbo between resistance to change and the need to adapt to a new metropolitan and regional dimension.

Today, in fact, port functions no longer take place just near the waterfront. On the contrary, these are spread over a much larger territory going far beyond the strict port borders and delimitations of a single city—to the point that it would be more appropriate to talk about regional port territories. The transition towards regional port territories has spatial and governance implications that ask for new interpretative tools and approaches. Port authorities are called to dialogue with a much wider territory and community of actors. This offers opportunities at a more regional and national scale, resulting in a more efficient use of the infrastructures. This also asks for more cooperation and integrated visions among actors who, by nature, have different ambitions and interests.

As a response to the above-mentioned criticalities, European infrastructural policies are promoting the formation of regional clusters between the different nodes of the network such as ports, airports, roads, railways (EU, 2013). This more integrative approach has, among other results, generated the merging of ports in many European countries such as Italy, France, The Netherlands, and Belgium. Some economic geographers have described this phenomenon as part of regionalization processes resulting in the construction of inland ports and logistics centers (Notteboom & Rodrigue, 2005; Rodrigue & Notteboom). The new governance frameworks around European ports represent an opportunity to improve port efficiency and reduce unproductive competition. Indirectly, it could also reduce the conflict between port and city by reorganizing port functions between the two.

However, this also risks to clash with existing governance arrangements which have acted against spatial and institutional integration over the last decades.

This is particularly the case of Naples, where authorities, as we will thoroughly argue, are trapped in their past. Here, city and port authorities find it difficult to define a common vision for the port-city relationship, causing stalemates in historically significant waterfront sites and beyond.

1.3 The research question: how does path dependence influence space?

In Naples port and city authorities are experiencing a problem of relationship resulting in a spatial and governance distance between the city and the regional territory. Separation in Naples is widely accepted as being problematic as clearly discussed during several events that have taken place in the past years².

In response to that, the recent reorganization of the Italian port system through the legislative decree n.169 is clustering the three main ports of the region: Naples, Castellammare di Stabia and Salerno. This challenges the goals and interests of key stakeholders, each of which has their own patterns of behavior and has independently developed land use claims, spatial patterns and governance arrangements. The creation of the Port Network Authority of the Central Tyrrhenian Sea as a new institutional umbrella overseeing the three exemplifies how institutional change can create new opportunities that engage the future of the ports, cities and region and be restrained by existing spatial and governance interests.

The key actors—port authority, municipality, national and regional authorities—co-exist in the same space while lacking common visions and tools to achieve them, leading to a situation where large spaces are awaiting redevelopment. This is evident in the choices made by the port authority and central government in particular in eastern Naples; choices that are built on historical ideologies of this part of the land as an industrial territory disconnected from the rest of the city.

A concrete example of a site where competing interests block spatial development and a shared future is the eastern area of the port (Fig.1.1). This strategic area is home to oil installations and containers terminal that serve the city of Naples and beyond. Several planning initiatives exist for the area. The port authority's plan proposes expansion of the container terminal, doubling the current cargo capacity of the port with a new concrete platform into the sea. This proposal conflicts with the plan of the Naples city government for the same site, which proposes the

² Rete website. Seminario Internazionale RETE, 31 May 2019: Una Governance Collaborativa per la relazione Porto-Città. URL: <http://retedigital.com/en/event/seminario-internacional-rete-una-gobernanza-colaborativa-para-la-relacion-puerto-ciudad/>

preservation of the existing industrial architectural heritage and a redevelopment of the existing coastline as an urban waterfront.



FIG. 1.1 View on the port of Naples towards East.

The different visions suggest that the Naples port authority seems more interested in connecting the city to the region. The municipality on the contrary is more attracted to use the waterfront as a new public space, framing the infrastructure mainly as a barrier for the people to reach the sea. Because of these different visions, friction occurs at the intersection of the spaces, places and people engaged in port, city and hinterland development.

As the thesis will show, these conflicts have their roots in history. A shared path of port-city development characterized the history of Naples for the longest time of its millenary history as a port city under the rule of different Kings. The Tavola Strozzi from 1472 illustrates the shared growth of port and city (Fig. 1.2). However, since the Unification of Italy in 1861 each of these actors has independently developed separate institutions and spatial plans and has erected architectural and urban structures that serve to reinforce decisions and power relations of the past.



FIG. 1.2 Tavola Strozzi, 1472. Source: https://commons.wikimedia.org/wiki/File:Tavola_Strozzi_-_Napoli.jpg

For example, the port of Naples has maintained its location close to the historic city center, while the city has continued to expand in multiple directions, effectively cutting off the extension space for the port. The inability to organize regional scale collaboration that allows for a relocation of (some) port or urban activities or leads to shared spatial development of port and city, has led to the creation of land-side road and rail infrastructures. These separates the city from the port and the water, and prevents citizens to take advantage of the sea (Bosso & De Martino, 2017).

This PhD thesis analyses the history of Naples using path dependence as the main concept and interpretative tools to better understand how governance arrangements and related spatial patterns were created and how these have reproduced over time. The divergence of visions and interests between key port and city actors have resulted in institutional inertia and a 'waiting condition' in deteriorating spatial zones—characterized by a lack of action.

This PhD thesis asks: **what path dependencies influence the spatial patterns and governance arrangements of the Naples port city region? And what European scenarios offer a potential for structural innovation in the Naples port-city region?**

1.4 State of the art: different perspectives on port-city relationship

This PhD thesis deals with the relationship between port and city, at different scales. The focus is on space and governance, and how these influence the territorial planning and development processes that shape port-city relations. The study of the port city relationships is not new, but there are not many scholars who have applied the concept of path dependence to studying the spatial evolution of port cities. In fact, the concept of path dependence has only recently entered the realm of urban studies and be used to understand the relation between institutions and built environment (Arthur, 1980; Martin, 2010; Monios & Wilmsmeier, 2016; Sorensen, 2015, 2018). Moreover, only few contributions exist on the role played by path dependence in shaping spatial patterns and governance arrangements in port cities (De Martino, 2016, 2020; Hein, 2016b; Hein & Schubert, 2020; Monios & Wilmsmeier, 2016; Notteboom, De Langen, & Jacobs, 2013; Ramos, 2017).

The existing literature, discussed in chapter 2, offers a wide range of studies on the port-city relationship in different disciplinary fields such as transport and urban geography, economics, urban planning and history. More specifically, very valid contributions come from economic geographers who have developed interesting interpretative models of the port-city evolution, mostly focusing on the concept of interface and how this has evolved over time. These models, although offering a substantial contribution, they also present some limitations in the way they have analyzed space separately from governance processes.

Our literature review narrows down to three main research areas. The first one deals with port cities as a spatial artefact, analyzing mostly the detachment of ports from city centers and how port rationalization processes since 1970s have pushed, in many ports all around the world the port outside the city. The second research field refers to port cities as economic and infrastructure drivers in the regional economy. This is mainly the field of urban geographers who have concentrated, especially in recent years, on understanding the complex phenomena related to the change in scale of ports and the impacts this can have on cities and regions. Finally, the last area of research deals with the governance of ports. Researchers in this area have analyzed how the port governance and the way ports are managed, impacts the spatial evolution of port cities.

All these research areas have their own logics and body of scholars and therefore have analysed this relation in a quite fragmented way. Due to the increase in complexity, a more integrated and multidisciplinary approach is much needed. That is why this PhD aims to bring all these studies and disciplines together through the historical institutionalist (HI) approach, with the assumption that institutional rules and the responses to them over the long term define the behaviour of authorities and the space around them.

1.5 Research methodology

In a recent publication Hein and van Mil (2019) point out that many existing interpretative models for mapping and analysing territories are no longer able to provide enough understanding of the phenomena at play (Hein & van Mil, 2019). New research methods and theoretical approaches need to be mobilised that are not only focusing on space, but rather on the interconnection of different disciplines. This PhD thesis is in line with that call. We take an Historical Institutional approach and mobilise the concept of path dependence to assess the relationship between space and governance in the port city of Naples and selected European cases. We will elaborate on this in chapter 2.

Historical and comparative case studies

Methodologically, this PhD thesis is organised in three main parts. The first one — “Research for Design” — presents a theoretical framework that aims to provide a novel understanding of history and the relationship between space and governance in the Naples port city region. The second part — “Case study research” — is more evaluative. This one uses a comparative approach on three port city regions — Rotterdam, Antwerp and Le Havre to look for spatial and governance interventions that attempt to integrate port and city interests. This second part, project based, discusses what are the drivers for change, and what strategies and new pathways port and city authorities do put in place to overcome spatial and governance inertia. The last part “Design for Research” is the conclusive part and therefore more prescriptive. This uses scenarios for Naples port city region that find inspirations by the comparative case study research.

The investigation on Naples helped to identify three scales of space-governance interaction and related degrees of port-city separation: port city, port region and port nature. The comparative chapter will show that three different dimensions correspond to these scales. The first one refers to the city scale and the separation that characterises the cultural and social dimension. Port region refers to the economic and infrastructural dimension and the investigation deals with the disconnection between the port and regional territory. Finally, port nature refers to the conflict between port and the landscape as a whole. Specific projects in Rotterdam (port city), Le Havre (port region) and Antwerp (port nature) have been chosen to investigate how other authorities in different contexts relate to similar issues and how they overcome, if they did, path dependencies.

The selected cases, indeed, were expected to be relevant for gaining insight into how innovative spatial and governance interventions promote an integration between city, port and the regional territory. Here, although within different contexts and governance arrangements, the multitude of authorities involved are aiming to frame the port as an infrastructure machine belonging to the urban domain. For example, Rotterdam case shows how port and city authorities together with private parties and universities are promoting cultural integration and new circular economies in former port areas. Antwerp is an inspiring case to discuss the profound interconnection between port and nature, whose preservation is a fundamental prerequisite for any port expansion. Finally, Le Havre has been selected to discuss the regional dimension of the port city interface. Governance plays a key role here, showing also some aspects in common with the Italian and Neapolitan case.

Operational steps: archives, interviews, mapping

In order to answer the research question, the thesis has followed some operational steps according to an iterative process. The first concerns the archival research on the case study of Naples to better understand the path dependence processes that have influenced its spatial and governance evolution. The second step involves the analysis of policy documents and semi-structured interviews with relevant authorities in Naples and in the selected case studies to get a grasp of the current debate and the challenges and opportunities at stake. In addition, the interviews helped to verify the path dependencies found and their related impacts. Finally, the last step concerned mapping, used as tool to understand the multiple interconnections between space and institutions in port city regions (Hein & van Mil, 2019).

Archive research

This part of the PhD research is largely presented in chapter 3, which is an in-depth historical investigation of the port of Naples, starting from the Unification of Italy in 1861. As argued in the chapter, this period represents the beginning of spatial and institutional separation between port and city and the larger region. The research drew data from the most relevant primary sources of information written at that time, such the Archive of the State of Naples and in the historical archive of the municipality. The latter stores significant reports written during the city councils since the second half of 19th century. These contain crucial information that proved to be useful to reconstruct the decisions and strategies adopted by the most relevant actor at that time: the Statet. In addition, the ANIAI (National Association of Italian Architects and Engineers) archive of Naples was consulted. This archive has historical maps and reports written by the port agency in the 1960s and 1970s. These data proved to be very valuable to understand the port vision during the period of containerisation. Therefore, the historical investigation has combined maps, policy documents, and newspaper articles. The outcome of this investigation, in a form of timeline shown in chapter 3, reconstruct the spatial and institutional features of the port of Naples and has pointed out some criticalities – still unsolved today.

Interviews

Interviews to different authorities at the national, regional and local scale in Naples as well as in Rotterdam, Antwerp and Le Havre port city regions were conducted. The research has used semi-structured interviews and open questions with the aim of getting a grasp of the visions by the authorities and in particular to understand how each of the actors perceived the port-city relationship.

Actors were questioned in the light of the contemporary challenges which have imposed a significant change in scale of the port. Questions then investigated whether this represents an opportunity for a change or a reinforcement of old path dependencies. On the basis of their respective institutional level, the different actors were questioned on the basis of specific projects: “Rotterdam Makers District”, “Port Delimitation” in Antwerp, and “Reinventer la Seine” in Le Havre. This served as knowledge base to understand the driver for change and how this could inspire decision makers in Naples, where authorities, despite being aware of the need for new forms of integration, find it difficult to construct shared scenarios that can look strategically at the port and its city.

The interviews were conducted between 2017 and 2019. These were recorded with the consent of the interviewees and then transcribed. They were then sent to the respondents for feedback. However, the interviews were not used in their entirety in this thesis, but analysed and then incorporated into the text, with quotations, to make the reading flow more discursive.

The comparative investigation is used to point out some guidelines and possible strategies to formulate adaptive scenarios for Naples. The answers in the different cases were disparate and often controversial, but useful for defining possible scenarios of change (discussed in chapter 6).

Mapping

The difficulty in understanding the contemporary coastal territories asks for innovative approaches that can help decomposing the complexity through new readings of the territories and their development processes. Drawing the spatial patterns of these territories, tracing them through mapping are just the first steps toward identifying new analytical readings (Tosi, 2013).

A concrete methodology for comparing and building an understanding of spaces in port city regions in relation to their governance is still missing (Hein & van Mil, 2019). Hein and van Mil have proposed a methodology to create new abstractions able to connect spatial and governance dimensions through time and across different scales. This PhD research builds upon these studies by producing maps for Naples, Rotterdam, Antwerp and the Le Havre. The analysis is organised according to four moments and three critical junctures which summarise the transition in space and governance from the port city to a port city region: 1. The port-city, 2. The port next to the city, 3. The port outside the city, 4. The port toward the region (Fig. 1.3). Comparing territories through mapping is a useful approach that allows for identifying similarities and differences both in spatial and governance terms.

Mapping these spaces as they stand today and how they have historically evolved can help identifying spatial patterns and pose interpretative hypotheses on how and why space developed in a certain way. Mapping helps to analyse how ports have evolved (e.g. connected or disconnected from the city/region) and can be used to probe explanations by also mapping the peculiar governance arrangements developed over the centuries.

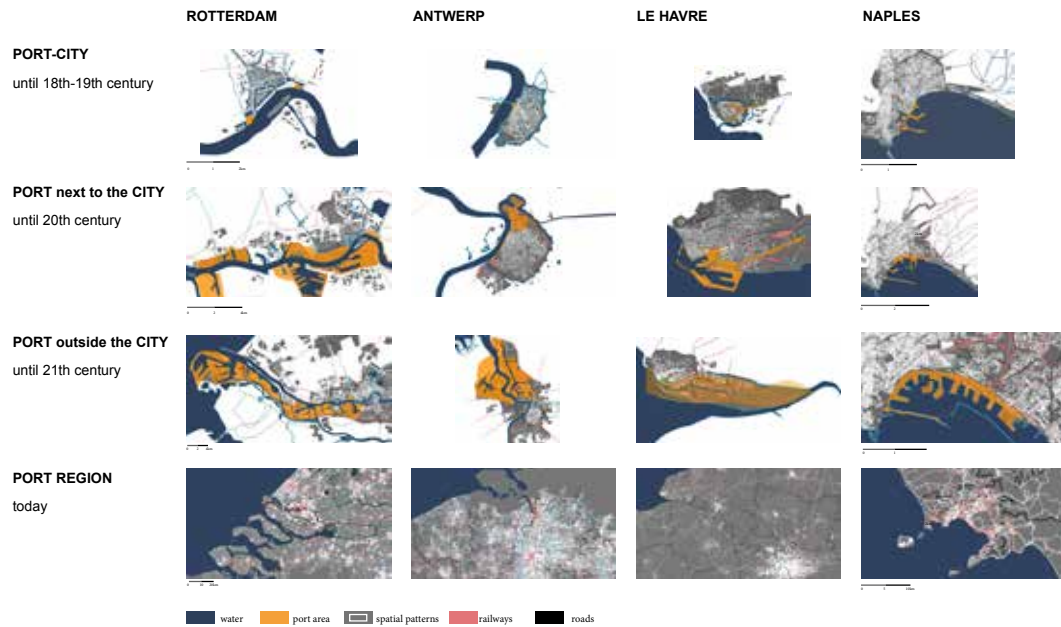


FIG. 1.3 Framework for the mapping. Space and governance of four cities from port city to port city region. Source for the data: mapcruzin.com; diva-gis; gadm

Object of the mapping are spatial patterns (the form and extension of the city), port areas (spaces owned by port authorities), infrastructure developments (land and water connections). As we will elaborate in chapter 6 there is an intimate relationship between the form and nature of a port and how this has been conceived and planned by the different authorities. Mapping is used mostly as a tool to help understanding space in relation to the governance, but it is not the main focus of this research work.

1.6 Research overview

The PhD thesis consists of six chapters, each one aiming to answer a specific sub-question. Along with chapter 1 which represents the introduction to the thesis, three main parts can be identified. The first part starting with chapter 2 is the “Research for Design” and it represents the theoretical foundation of the all research work. This part presents and discusses the literature review on port city relationships from different perspectives as well as provide the theoretical and methodological approach of path dependence. The second part (Chapters 3, 4 and 5) is the “Case Study Research”. It discusses the cases of Naples, Rotterdam, Antwerp and Le Havre in light of path dependence. The last part (Chapter 6) represents the “Design for Research” and it contains the conclusions also in light of a final webinar held in September 2020 with the Port Authority of Naples and representatives of the universities of Naples and Delft. The webinar aimed to assess the impact of this PhD thesis and its potential future developments. Chapter 6 brings together the theoretical reflections with the practical key aspects emerged from the interviews in the respective case studies, formulating possible scenarios for change. Below is a brief summary of the chapters (Fig. 1.4).

Chapter 2 introduces and discusses the literature review on port-city relationship presenting the perspectives coming from the different research fields. Then the chapter takes an historical institutional perspective on port-city development, arguing that spatial changes in port cities are strongly influenced by historical institutional paths. Over the centuries, institutions—as formal and informal rules—and governance arrangements—understood as mechanism that governs the interaction between actors— have acted as an obstacle to change.

The thesis will refer often to “institutional inertia” as a condition of resistance to change which happens particularly in big organisations. In fact, the larger the organization, the higher the institutional inertia, and harder it is to push that organization on a different path.

The Historical Institutionalism Theory (HI), known for its main concept of path dependence, has helped constructing the main argument. It is a social science theory that mainly focuses on the phenomena of formation and inertia of institutions and the ways in which institutions structure and shape political behaviour. The chapter asks: **“how does path dependence influence spatial and governance changes in port cities (and regions)?”** When recurring to HI the research will use terms such as critical junctures (as moments of change in the institutional paths), positive feedback

loops (where every action or institution is designed to reinforce previous ones), locked-in situations (as incapacity mainly among actors to shift to a different path), institutional inertia (as resistance to change in groups), waiting conditions (as mainly a spatial condition due to institutional inefficiency).

Starting from the theoretical investigation discussed in the previous chapter, **Chapter 3** takes an historical approach on the port city of Naples from the Unification of Italy in 1861 as the real beginning of port-city detachment. Data are collected through archive research in Naples in multiple locations such as Archive of the State and historical municipal archive.

To plan for the future, it is crucial to understand the past and therefore the historical investigation aims to provide the foundation to better understand the present condition of the port of Naples, where actors are still fighting to find common solutions for a port-city relation. In fact, the chapter argues that the spatial and governance separation actors experience today is the result of different path dependencies in the way port and cities have been planned by the multitude of authorities. These paths, which have made actors to plan the port separately from the city, today prevents possible forms of integration. Therefore, the chapter asks: **“How have path dependencies historically prevented integration between port and city in Naples?”**

The historical investigation discussed in chapter 3 is a point of departure for **Chapter 4** which discusses Naples in light of the critical junctures introduced by the recent national port reform. The chapter discusses whether this change may reinforce path dependence by further expanding the distance between port and city. Therefore, the chapter asks: **“How does the recent creation of the Port Network Authority of the Central Tyrrhenian Sea respond to the current situation of separate development paths?”** In order to answer the question policy documents analysis and interviews to the relevant authorities (national and local actors) in Naples have been conducted.

Chapter 5 analyses strategies in three port-city regions in the Northern Europe: Rotterdam, Antwerp, and Le Havre. The chapter asks: **“How are national and local authorities in the selected cases going to develop new paths?”**

A comparative investigation, carried out through interviews to some of the most relevant authorities in the selected case, can play a key role in inspiring decision makers in Naples to redefine common values and develop solutions where both port and city values are preserved. The selection of the cases is based on the identification of port city regions in which planning authorities (national-regional-local actors) are working on a twofold objective: on the one hand the improvement of the port and logistics infrastructure through cooperation and cluster processes, on

the other hand through the recovery of the port-city relationship from a historical, cultural and environmental perspective.

Chapter 6 contains the discussion and the final conclusion. It contains reflections on the selected case studies. It evaluates how national and local authorities are dealing with similar conflicts and to what extent some of these practices can be transferred/ tested in Naples port city region. The chapter also contains reflections carried out in a webinar held in September 2020. The webinar, organized in cooperation with the port authority of Naples and professors belonging to the Departments of Architecture in Naples and Delft, was the digital arena to discuss how to use the theoretical approach and the insights coming from the case studies to define scenarios of change for Naples. Three scenarios are presented that respond to the need of integration at the three main scales emerged: port city, port region, port nature.

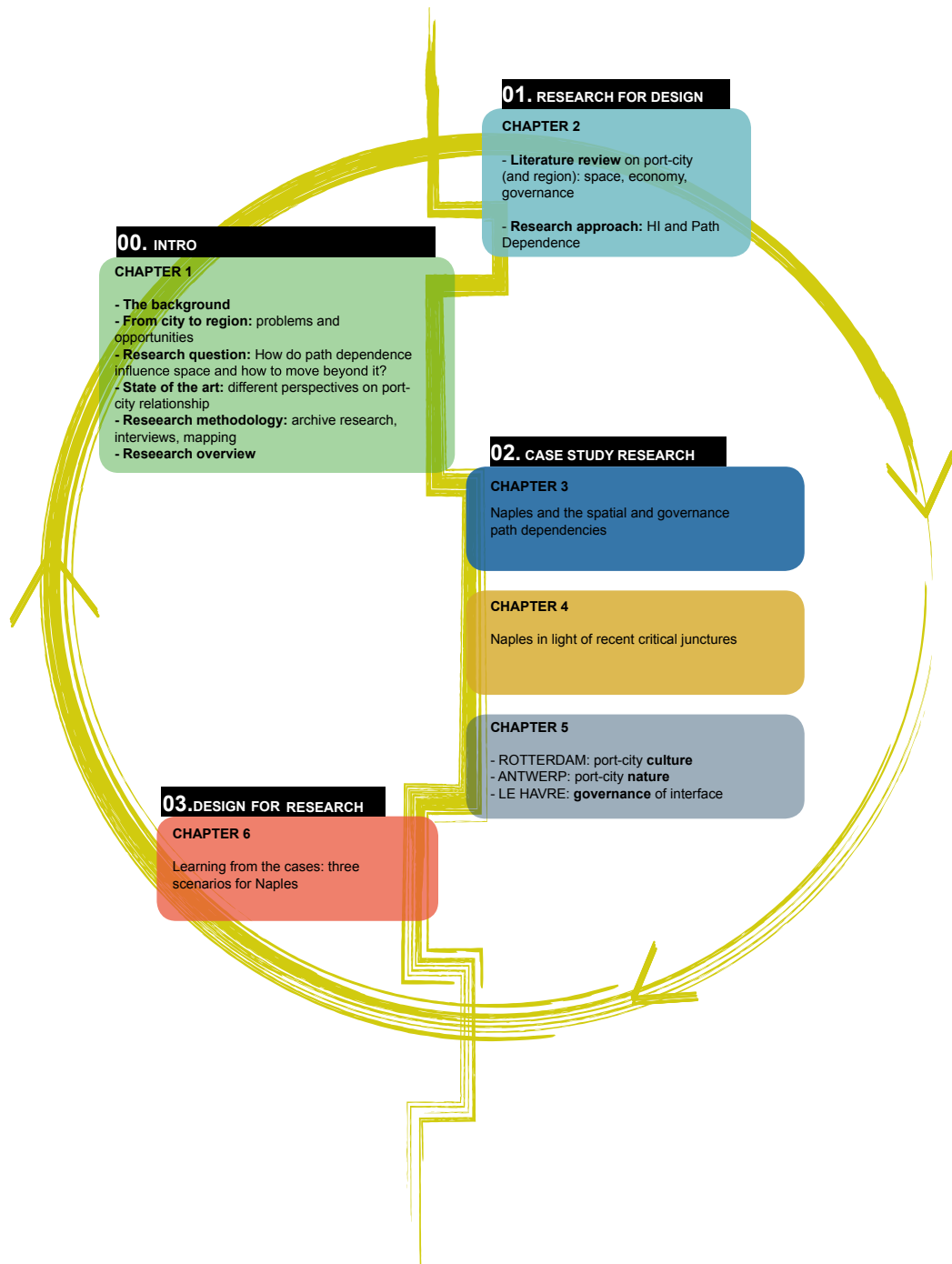


FIG. 1.4 Research framework

2 Research for design

2.1 Take space and governance seriously. An historical institutional approach (HI) to analyse port cities

In order to better understand spatial transformations and how these affect port cities, it is essential to investigate the governance arrangements, plans and the institutions behind space. Today, many local and national authorities across Europe face a governance problem that manifests itself as a locked-in situation, resulting in a separation that involves different spaces (between port and city), scales (port, city and region), actors (local, regional and national), and dimensions (culture, economy, ecology). This reflects the fact that city and port are managed by different authorities and according to often conflicting planning regimes. For each authority in fact, port city interactions have a different significance and spatial quality, depending on the disciplinary field to which each actor belongs. Hence, the difference and distance between disciplines have created divisive paths of governance and planning—as expressed and recorded in plans and decision-making documents to the point of often planning the port in a separate way from the contest in which it is located. The port of Naples stands exemplary as a paradigmatic case for how the development of the port and the city, despite being in close contact, have followed two different decision-making paths over the years.

For this reason, in this chapter we develop a new interpretative model that **understands space in port cities as institutionally constructed and therefore substantially interlinked with processes of governance**. The framework will help to understand the relation between spatial patterns and governance arrangements through the lens of path dependence in order to better understand spatial and

governance evolutions—both in Naples and in other European port city regions. The empirical focus is on planning processes and investment decisions behind the spatial projects that have taken place in the selected regions (Fig. 2.1).

Given the assumption that space and governance are closely linked in the evolution of port cities, these have become the two main pillars of the research framework.

Governance is understood here as a social and cultural construct. Each society has historically developed its own way of making decisions to deal with space, which results in specific rules of the games and governance arrangements (Hufty, 2011).

Institutions are described here as system of formal and informal rules, norms which led to specific spatial outcomes (T.A. Daamen, 2010; T. A. Daamen & Vries, 2013; Sorensen, 2018).

From this perspective, **space** can be better comprehended as an institutional construct and associated to the evolution of systems of rules and actors constellations which have cemented over time. In fact, specific interactions among actors have led historically to the creation, reinforcement and reproduction of rules and therefore path dependence (Sorensen, 2015a). We will refer to space as all the spaces at the intersection of land and water at different scales trying to go beyond spatial and geographic delimitations and deal with all the areas where port and city physically meet, including transitional spaces with variable geography at the intersection of artifice and nature (Hein & Schubert, 2020; Russo, 2016). Historical urban waterfront as well as areas on the edge of the port and between the infrastructure and industrial areas within and outside the city are also the subject of this thesis.

The research framework shows that governance conflicts lead to separation and to creation, reinforcement and reproduction of norms and institutions and, therefore, to path dependencies (as the case of Naples will show). On the contrary, a more collaborative approach can promote institutional innovation and, therefore, changing the rules of the game (see the specific cases of Rotterdam, Le Havre and Antwerp). This approach clearly emerged from exploring the existing literature on port-city relationships, a topic so far addressed from a variety of perspectives who have rarely connected space with governance processes.

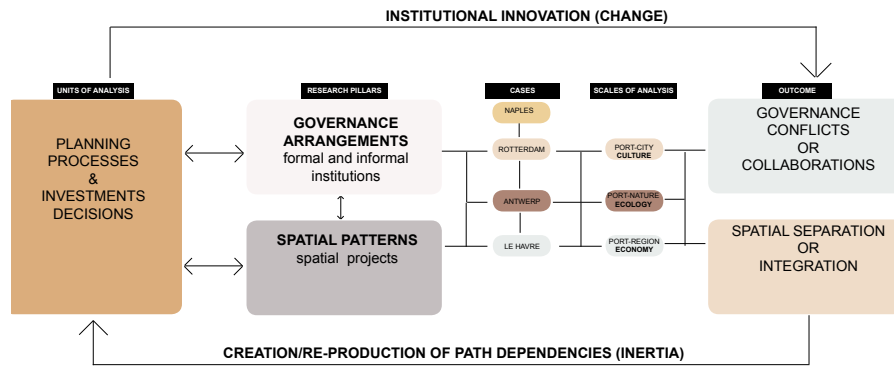


FIG. 2.1 Research framework

Path dependence is here used as a key notion to understand social and political processes. Path dependence is the result of a socio-technical process in which economic, technical and socio-cultural factors combine to create a “*logic of practice*” that curtails the “*future choice set...and link[s] decision-making through time*” (Kay, 2005).

Path dependence refers to the idea that the decisions we make today are dependent by past knowledge trajectories and this influences what is considered by the authorities as possible outcome. The concept — deepened more in economic studies — mostly focuses on the phenomena of formation and inertia of institutions and the ways in which institutions shape political and cultural behaviour (Arthur, 1980; David, 2007a; Mahoney, 2000; Sorensen, 2015, 2018). In other words, history matters and practices built in the past define the option range for future directions. This defines feedback loops that imprison the actors, making them unable to look at possible alternatives.

The main assumption discussed within this PhD thesis, which uses Naples as representative case, is that in order to develop new forms of interaction between port, city (and region), it is crucial to understand historical developments (path dependencies), the interests, visions and ambitions of the main actors, and their spatial tools. Path dependence suggests to look at the history of Naples —presented and analysed in chapter 3—as a system of **critical junctures** as moments in time when the course of the events changes direction, leaving the old paths behind to shape new ones. Each path introduced alternative imaginaries that were characterized by a specific spatial patterns, a recognizable landscape and a specific social and political structure. Understanding how these paths have emerged and how they are still influencing contemporary planning decisions in Naples is a central question in this thesis.

The chapter is organised as follow: firstly, it presents a summary of the literature review that is representative of contemporary developments and debates on port cities both in academic and professional fields. This points out that a more intertwined approach could help better understanding the complexity of the phenomena in play. Secondly, the chapter adopts an historical institutionalism (HI) approach arguing that path dependence—understood as the reliance of governance and planning actors on historical patterns of behaviour—has encouraged port-city separation preventing actors from identifying new narratives.

Therefore, the chapter asks: **how do historical paths influence spatial and governance changes in port cities?**

2.2 Literature review: different perspectives on port-city relationship

This PhD thesis argues that port city (and regional) developments are path dependent to the point that spatial patterns can be better comprehended as result of articulated relations among actors and diverse regimes of governance. The literature review presented in this chapter builds upon previous researches conducted by transport and urban geographers, economists, urban planners and historians. These researches, critically discussed in the following pages, represent a valid contribution which, however, provide a fragmented and sectorial knowledge framework.

Very valid contributions on port-city relations come from economic geographers who have developed interesting interpretative models of the port-city evolution, mostly focusing on the concept of the interface understood as physical contact area between land and water (Hayuth, 1982; Hoyle, 1989). Despite the substantial contribution of these models, they also present some limitation to be found in the way they have analyzed space separately from governance. Therefore, new interpretive models and approaches are needed to look at the interconnections between the two and in particular to the impact of path dependence in the definition of space. A multidisciplinary and more integrated approach offers new opportunities to understand port cities and therefore it results to be a fertile research area of considerable interest.

As the literature review will show, the concept of path dependence has only recently been applied to analyze the dynamics of spatial continuity and institutional inefficiency in cities. In fact, not much literature exists on the interconnections between path dependence and urban studies (Arthur, 1980; Martin, 2010; Monios & Wilmsmeier, 2016; Sorensen, 2015, 2018) and only few scholars have discussed the role played by path dependence both in the governance processes and in the spatial trajectories of the port cities (De Martino, 2016, 2020; De Martino & Hein, 2020; Hein, 2016; Hein & Schubert, 2020; Monios & Wilmsmeier, 2016; T. Notteboom, De Langen, & Jacobs, 2013; Ramos, 2017).

The review—conducted between 2015 and 2020—has used mainly Science Direct, Scopus, TU Delft repository library. The selection of journal articles and books has included the following search terms: port city, port cities, port city regions, port infrastructure, port regionalization, port governance, port institutions, path dependence, interface, waterfront, to be found in the title, abstract or keywords.

The review narrows down to three main thematic areas dealing with the evolution of port cities and later explained in detail: 1. The port city as a spatial artefact; 2. Port city regions as entities of economy and logistics and 3. The governance of port cities. All these disciplines and researches have their own logics and body of scholars and, therefore, path dependencies. Each of these research areas has been reinterpreted in the light of path dependence.

The first area of research concerns the spatial transformation of ports and the associated change of the spatial relationships with cities (Bird, 1963; Bruttomesso, 2006; Clemente, 2011; Hein, 2011b, 2015b; Meyer, 1999; Russo, 2016; Schubert, 2011). These scholars have concentrated mostly on analyzing ports as urban entities, describing the consequences of the port moving out from the city from a spatial, cultural and social perspective. Within this research field this PhD research focuses on analysing the interface at a very local scale. This refers to how the interface has changed and evolved over time, what are the spatial challenges and how the city interacts with the spaces of the port. The way the interface has evolved has in fact generated path dependencies which have not properly been addressed so far.

The second area of investigation focuses on the evolution of port infrastructure and its flows. This is the domain of economic and logistic geographers, which have recently developed an institutional economic perspective of seaports and their hinterlands. This research field frames the ports from an infrastructure and economic perspective and, in the recent years, researchers have discussed the relation between ports and their regional territories (Ducruet, 2007, 2009;

Ducruet, Itoh, & Joly, 2013; T. Notteboom, 2010; T. E. a. R. Notteboom, J.P., 2005). Globalisation, regionalisation and logistic developments have led to growth of ports into the metropolitan conurbations. Port cities have developed into port regions, requiring new spatial and institutional integrations to negotiate the respective and intersecting elements of ports, cities and their regions (Ducruet, 2009; T. Notteboom & Rodrigue, 2005a).

By doing so, this field of research looks at ports primarily as infrastructural and economic machines often disconnected by their local and spatial contexts. Spatial transformations have been described mostly as a response to a change in the economic model that has required even greater spaces and increases in production. Moreover, this PhD research argues that how ports developed over the centuries has also defined the path dependence of the spatial transformation. Here, investments reinforce previous choices with tangible impacts on space. Refineries and industrial developments, for example, along the coastlines starting at the beginning of 20th century are a tangible example of how infrastructure investments have defined the future of certain territories. Container revolution starting in the 1960s is another example which explains why all the ports look the same all over the world. Changing these dynamics and promote different spatial developments is very hard and it would require a complete rethinking of the economic model of the port.

Finally, the last area of research relates to the governance of ports. Similarities and differences between different planning cultures have been discussed by several authors through comparative studies (Brooks & Pallis, 2012; T. Notteboom et al., 2013; Ubbels, 2005), analysing port reforms as catalysts for regional integration (T. Notteboom, Knats, & Parola, 2018).

However, within these studies path dependence is framed exclusively in relation to economic and infrastructural issues. Only few scholars have come to accept the role that path dependence plays in shaping local and national differences in port governance structures and port development trajectories (Ducruet, 2009; T. E. a. R. Notteboom, J.P., 2005).

2.3 The port city as a spatial artefact

This section of the chapter deals with the spatial patterns of port cities and their interfaces, understood as tangible manifestation of the extensive land-water interconnections and, therefore, in a continuous dialogue between global flows and local dynamics (Hoyle, 1989, 2000). Here the chapter will present and discusses researches which have focused on ports as urban entities whose evolutionary dynamics have followed and often contrasted the urban ones.

An extensive body of literature exists on the evolution of ports in relation to the urban form (A. Breen, 1994; Bruttomesso & Water, 1993; Hayuth, 1982; Hein, 2016a; Hoyle, 2000; Kiib, 2012; Marshall, 2001; Pavia & Di Venosa, 2012; Soja, 2007). Historians, planners and economic geographers have mostly described how waterfront regeneration processes have affected ports and cities using several models which have schematically represented the strong intersections and the subsequent divorce between ports and cities (Hein, 2011a, 2015a, 2015b, 2016c; Schubert, 2011).

The port-city evolution model, introduced by Hoyle in 1989, and later used by other scholars, takes a chronological perspective pointing out that in the primitive era ports and cities were strongly interconnected (Hoyle, 1989) (Fig. 2.2). In fact, for centuries, ports and cities were closely interweaved and only after industrialisation they have started to grow a part functionally, spatially, and administratively.

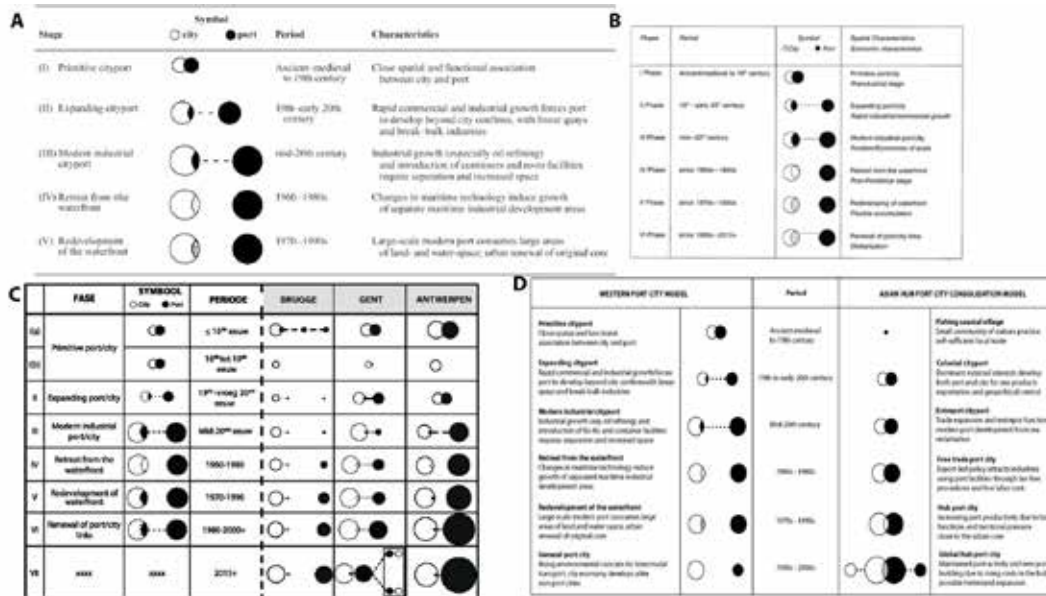


FIG. 2.2 Evolution of the models on port city interface presented in the article *Building Maritime Mindsets: Towards a Comparative Spatial Analysis for Port City Regions Based on Historical Geospatial Mapping* by Hein and van Mil, 2019. A. evolution model of the Port City Interface by Hoyle (1989); B. Schubert's adaptation of Hoyle' model with proposed sixth phase (2011); C. Van den Berghe's adaptation of the Port City Interface model of Hoyle; with case-studies of Gent, Brugge and Antwerp (2016); D. Asia Port City Interface model by Lee, et al, (2008).

Since 1960s container revolution and globalisation have defined spatial patterns in the evolution of the ports all over the world. In fact, in order to accommodate bigger ships national and local authorities have opted for moving ports outside the city centres to allocate new container terminals. In many port cities around the globe, historical city centres, not suitable anymore for heavy port activities started a phase of decay that lasted several decades (Aarts, Daamen, Huijs, & de Vries, 2012; Hein, 2014, 2016b; Hoyle & Pinder, 1992).

Since the 1970s the academic and professional debate have shifted toward redesigning the spaces in between port and the city. In fact, containerisation and the need for port expansions opened up to the opportunity for the city to reuse the brownfields left in between. The urban waterfront became fertile ground for real estate investments and a new trend for many port cities facing processes of abandonment of the historic centers. This was the chance to bring the city back to the waterfront (Fig. 2.3). Nevertheless, not all the results have been considered socially and cultural successfully specially because most of the interventions had almost nothing to do with the port identity (Marketa, 2016).



FIG. 2.3 Seattle waterfront at golden hour in 2017. https://upload.wikimedia.org/wikipedia/commons/c/ca/Seattle_Waterfront_pano_July2017.jpg Dicklyon [CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/>)]

The concept of the contact areas has evolved over the years and some scholars started to introduce the concept of interface, not immediately used in urban studies. Only from the 1980s onwards, thanks to the studies of scholars such as Hoyle among others, the term has acquired a broader geographic dimension and put in relation to port cities as transition space between port and city (Hoyle, 1989). The concept therefore did not refer only to the areas of interaction between port and city such as the urban waterfront but it acquires a broader dimension that took into account different scales and governance dimensions. (Brault, Chilaud, Beaufils, Dinh, & Innocenti, 2015; T. A. Daamen & Vries, 2013). According to these scholars, the interface becomes a contact area between different spatial, economic and political patterns in which specific outcomes reflect the balance between different groups, interests, and social goals (Hoyle, 1989; Hoyle & Pinder, 1992). (Fig. 2.4)

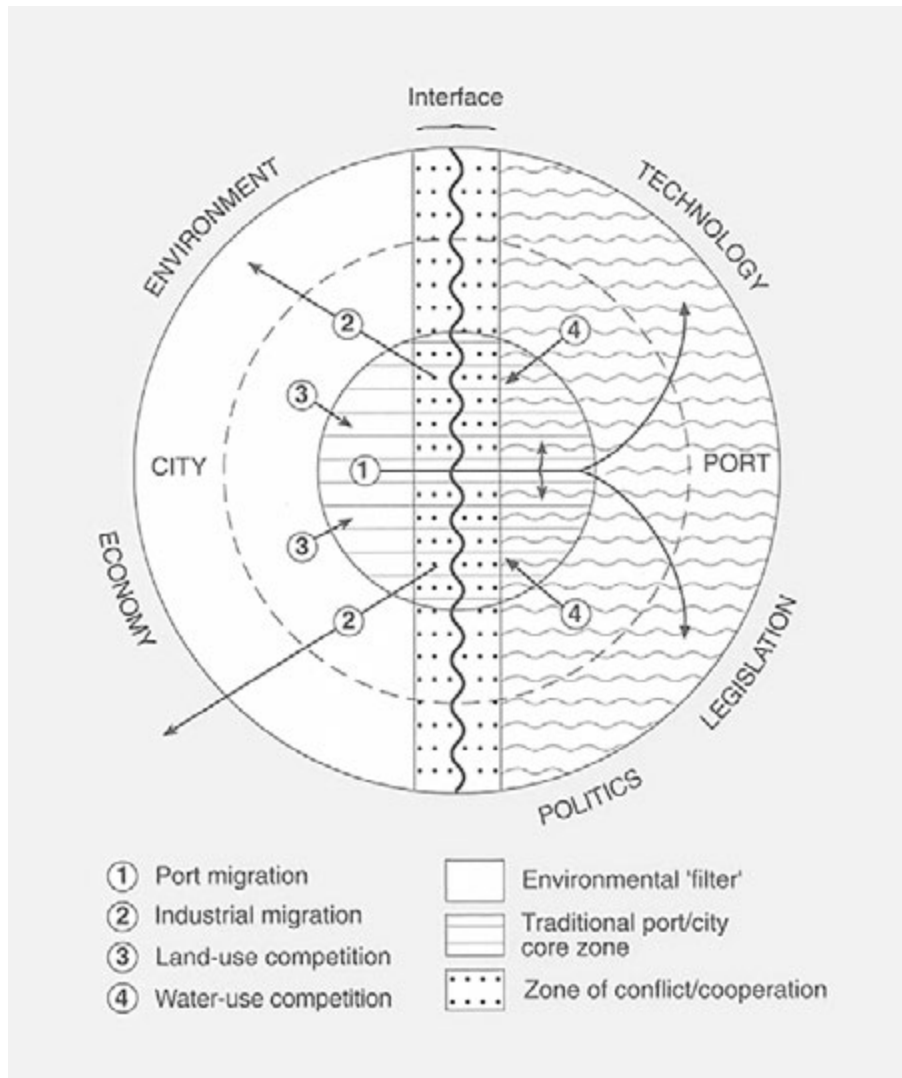


FIG. 2.4 Characteristics and trends in the port-city interface. Source: modified by Hoyle 1988, diagram by Bob Smith, Department of Geography, University of Southampton

Today the concept of the interface is still a very relevant topic of research and a very difficult space to understand due to the considerable increase of the stakeholders involved. Considering the change in scale of the ports, the interface has also changed dimension to the point that it would be more appropriate to refer to a more liquid and malleable surface with different depths and dimensions rather than an homogeneous and linear space (Development, 2007).

The undergoing radical changes which are affecting port cities all around the world, such as climate change, energy transition, logistics integration, gigantism of ships and last but not least the health and economic crisis due to Covid pandemic are challenging the interfaces across different scales, pushing authorities to find compromises in the areas of controversies. This is the reason why several international organisations, such as RETE (Association for the Collaboration between Ports and Cities), ESPO (European seaport organisation), AIVP (the worldwide network of port cities) and PortCityFutures (international research organization working on port city regions in the framework of Leiden-Delft-Rotterdam universities) are engaged in spatial, societal and economic integration of ports, promoting more sustainable relations between ports, cities and their regions. Their activities, all different in terms of contents and networks they bring together have produced codes of best practices and several mission statements. The Espo organisation has worked for a long time on societal integration as a concept that has become a key for port authorities that want to improve their image and relationship with the city. In this way port authorities can save the licence to operate (Marketa, 2016). The concept builds upon what Eric Van Hooydonk from the University of Antwerp, has defined as soft values (Van Hooydonk, 2007).

Citizens associate the word “port” to negative externalities, such as pollution, noise, and criminality. Has contributed to this the fact that ports have become unknown territories for people due to the physical disconnection with the city. That is why AIVP—international organization that brings together several public and private stakeholders involved in the development of port cities—adopted an agenda based on ten commitments to be achieved by 2030 (AIVP, 2018). The agenda—which aims to contribute to the global goals on sustainable developments—argues that citizens are pushed away and not involved in the planning process. Therefore, develop new shared values for ports and cities together with the improvement of the living environment is a social necessity which will require new inclusive and integrative approaches to be developed³.

These approaches should reconceptualise ports as urban spaces, finding solutions that allow integration between port, city and regions as a unique landscape.

³ Portcityfutures website. Mission. URL: <https://www.portcityfutures.nl/mission>. Last access 23/10/2020

The need to build a shared vision on the nature of the port in a territory is an argument pursued for years by many planners and scholars. As pointed out by Prof. Michelangelo Russo in several publications, without a shared vision, the reconnection between the two entities is far from being a reality (Russo, 2014; Russo & Formato, 2014). According to Russo, ports have become sectorial infrastructures, culturally and spatially detached from their own contexts of origin and without any relation with the life of the people living around them. Ports and cities are planned according to sectorial tools and this has promoted and reinforced a separation of visions.

Thus, in order to promote new forms of integration it is essential to reconceptualise the ports beyond their nature of pure infrastructures (Russo, 2016b). Sustainable solutions should identify a better balance between economic developments and nature (Russo, 2016b).

Nature is a broad concept that takes on various forms but in this thesis we will often refer to the idea of nature as intellectual and cultural construct, *“a name for the mode, partly known to us and partly unknown, in which all things take place”*. Nature thus becomes a set of artifice and not artifice, spontaneous and at the same time an entity regulated by specific agreements and arrangements⁴.

The urgent need to identify solutions that improve the port-city relationship is also stated in the mission of PortCityFutures research group (www.portcityfutures.nl) led by scholars from the universities of Leiden, Delft and Erasmus. The group convened a conference on Port City Futures in December 2018 that hosted port authorities, municipalities, regional authorities and academics from different European cities. The discussions have pointed out that a new research agenda on port city regions is needed in order to create new collaborations between port, city, and regional stakeholders⁵.

⁴ Landscape theory website. URL: <https://landscapetheory1.wordpress.com/category/nature/nature-rhetoric/>. Last access 23/10/2020.

⁵ PortCityFutures conference. URL: <http://conference.portcityfutures.org/>. See also <https://www.portcityfutures.nl/mission>. Last access 19-02-2020.

2.4 Port city regions as entities of economy and logistics

This section of the chapter deals with the branch of literature which analyses ports as economic and infrastructure organisms within the local and regional territory. Specifically, it has selected articles discussing the regional dimension of the ports and port regionalisation as a new phase in port systems development.

Ports, like any other organisation, operate in a changing and conflicting environment (de Langen & der Lugt, 2007; A. Pallis, 2007a, 2007b; A. Pallis, Vitsounis, T., De Langen, P., Notteboom, T. , 2011; Verhoeven, 2010) which, especially since 1960s, has generated a strong competition between ports.

In the past, ports had a different relationship with their regional hinterland and each port referred to a quite delimited territory if compared with the contemporary situation. In fact, with globalisation the final destination is not playing a key role anymore and for ports has become crucial to be part of an interconnected and successful logistic chain. This has produced a profound shift in the conceptualisation of ports from fixed spatial entities to networks of terminals (A. Pallis, Athanasios, De Langen, Peter, & Notteboom, 2011). As a result, national and local authorities together with logistic companies and port operators have moved the attention towards other parts of the territory to spread port activities. This has also reorganised the relation among all the actors, with port authorities and central governments losing control over the private sector (shipping lines, and services providers) which aims to have a complete control over the logistic chain (Ubbels, 2005).

These recent dynamics of reorganization and infiltration of ports in the regional territory has been described by scholars through new schematic models that differ from those presented in the previous session. The schemes on port regionalisation presented by Notteboom and Rodrigue (2005, 2007), for example, is a step forward compared to the previous models (T. Notteboom & Rodrigue, 2005a) (Fig. 2.5 and 2.6).

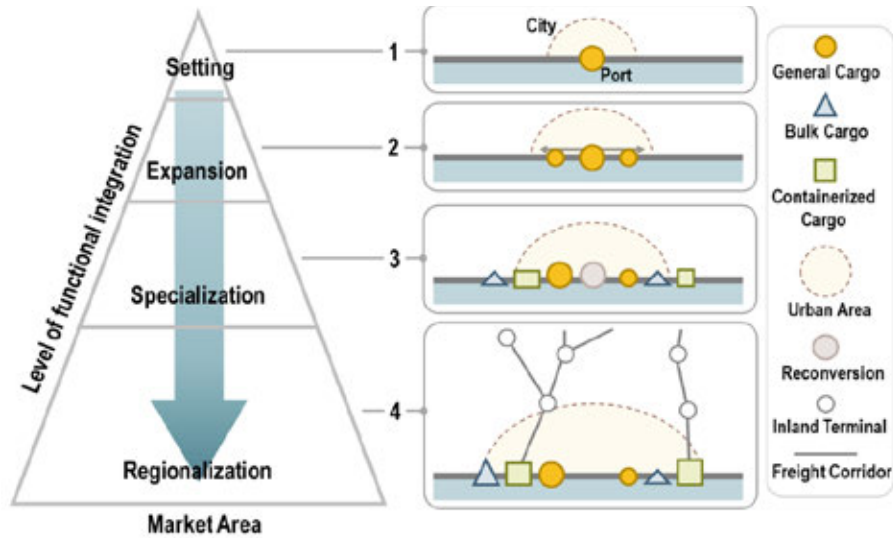


FIG. 2.5 Port Regionalization. Source: Notteboom, T. and J-P Rodrigue (2005) "Port Regionalization: Towards a New Phase in Port Development", *Maritime Policy and Management*, Vol. 32, No. 3, pp. 297-313

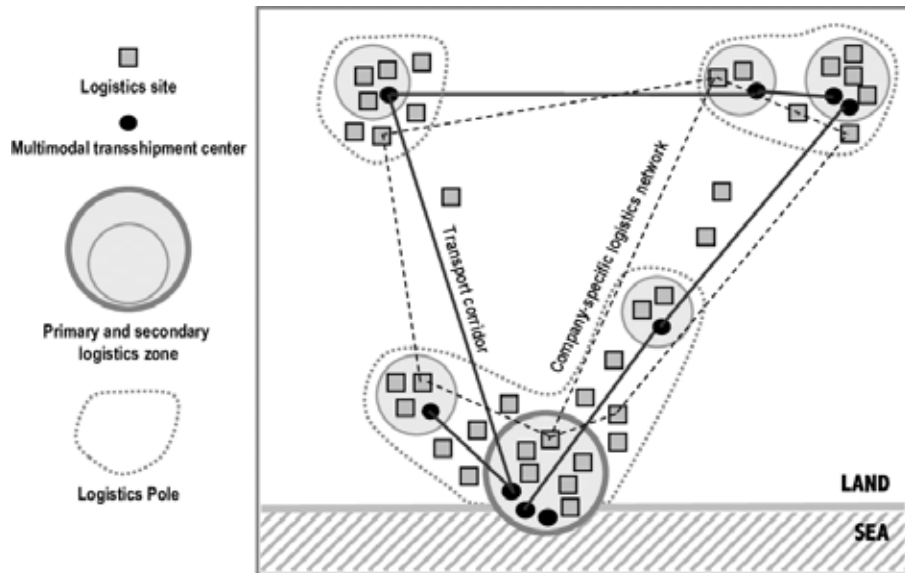


FIG. 2.6 Port Regionalization and the development of logistics poles. Source: Notteboom, Theo & Rodrigue, Jean-Paul. (2007). Re-assessing port-hinterland relationships in the context of global commodity chains. URL: https://www.researchgate.net/publication/228749866_Re-assessing_port_hinterland_relationships_in_the_context_of_global_commodity_chains

These schemes describe the recent phenomena of regionalisation of ports, characterised by development of logistic centers and freight corridors in the regional hinterland. These new infrastructures and economic dynamics are bringing the discussion to a higher geographical scale, beyond the port perimeter and they represent a new phase in port system development (Host, Skender, & Mirković, 2018; Juhel, 1999; T. Notteboom & Rodrigue, 2005b).

Therefore, regionalisation and the associated hinterland connections are stretching the ports beyond existing administrative borders. On the one hand this spreading of port activities over a larger territory aims to respond better to the fragmented consumption system to which ports today belong (T. Notteboom & Rodrigue, 2005a). Here, efficiency and integration of logistics seem to be the main parameters that really matter. On the other hand, regionalisation is also posing new spatial questions and by challenging actors' dynamics.

From a governance perspective, in fact, going beyond port perimeter also means to enlarge the vision and to deal with a plurality of actors and planning authorities in order to create synergies with the other transport nodes. However, as pointed out by Ducruet there is a lack of definitions of what a port region should be (Ducruet, 2009) and this acts as a barrier for both the understanding of the regional spatial challenges and the definition of a common vision. According to Ducruet, this gap refers to the fact that existing studies have considered ports networks as disconnected from the regional territories in which they operate. On the contrary, ports are part of the regional economy and they belong to a specific logistic chain (Ducruet, 2009). This chain needs to take into account regional and local actors, spatial specificities, and constraints (Ducruet, 2007).

Therefore, the definition of what a port city region means is a key for future developments. Although a real definition is still missing, some scholars have started to describe port systems as a territory at the intersection of different economies, logistic spaces, infrastructures, and hinterland connections (Hein & van Mil, 2019). This places a strong emphasis on the spatial context and economic structure to which ports belong. These play an important role in defining the nature of a specific port.

These economic and infrastructural dynamics are also defining new geographies of relations following the logic of function proximity rather than administrative borders. A port system might be considered as a specific type of port-region where different ports and terminals merge, sharing spaces and economic interests (Ducruet, 2009). Port clusters, for example, can define a port region. Port clusters are geographically concentrated and related business units around an economic specialisation (de Lange, 2002). Porter (2000) has described clusters as *“geographically proximate groups*

of interconnected companies, associated institutions linked by commonalities and complementarities" (Porter, 2000). They are set of interdependent firms engaged in port related activities and located within the same port region (Haezendonck, 2001). Port clusters are spatially concentrated groups of firms linked together through vertical and horizontal relations. Vertical integration is with inland nodes, horizontal integration is with other ports (de Lange & Elvira, 2012). The port of Rotterdam, for example, is part of a bigger cluster of ports located along the Le Havre-Hamburg range (Kocsis, 2011). Here regionalization is generating new forms of cooperation between ports once in competition, such as Rotterdam and Dordrecht (in the Netherlands) or between the ports of Le Havre, Rouen and Paris or even between the Dutch and Belgian ports. New tools and land use approaches are therefore required as well as the definition of collaborative tables for the design of shared visions and common languages.

2.5 The governance of port cities: different cultures of port-city planning

This section of the chapter deals with the branch of the literature which analyses ports as governance systems. The main argument discussed by these scholars is that institutions and governance arrangements play a key role in understanding port-city evolution. According to this perspective, port cities can be better comprehended as complex organizations where different levels of governance and public-private interactions take place (Juhel, 1999; Monios & Wilmsmeier, 2016). Reaching an agreement for the actors is not an easy task since historical arrangements often act against institutional change.

Institutions (formal and informal) in fact do not change easily and when they do, it is according to different temporalities of transformation. There are the informal institutions such as customs, traditions, codes of practice, religions. These kind of institutions are very hard to be changed and this normally happens in the order of centuries or even millennia. Then there are the formal institutions, such as laws, constitutions and regulations. These can be defined as the rules of the game. Major changes here occur in decades or even centuries.

Understanding the dynamics and levels of interconnection between the different institutional levels is not a simple task and for this reason, port governance

has become a central issue in the political agenda of many national and local governments in the recent years (Brooks & Pallis, 2012). The port-city relationship is played on different scales and on each scale one or more actors have a specific planning authority and ambitions.

The European Commission is today a key player and it is promoting integration and cooperation between ports and the other infrastructure nodes of the European network such as airports and railways. At a more national scale, central governments aim to facilitate integration between ports and territories to reduce local and regional competition. Port authorities are more interested in the efficiency of the port and to improve connections with regional hinterlands. On the contrary, municipal authorities frame the port mostly as potential land for new urban waterfronts.

Finally, private actors such as shipping companies, terminal operators or logistic providers seem to be the ones that can really decide the fate of a port, redesigning the geography of spatial and economic relations at different scales. Today, they are not any more interested in a single port, since they operate on a global scale (Baltazar, 2007).

Therefore, ports can be compared and contrasted not only based on their shapes, specialisation or traffic flows. On the contrary, if analysed from a governance perspective, the different European planning and cultural traditions can reveal a lot about the specific identity and nature of ports in the different geographical contexts (Othengrafen, 2009).

In fact, how actors interact, the specific level of engagements between local and national authorities and their responsibilities change from one context to an other. The governance diversities depend on the historical, geographical, social, economic, and political contexts. With the exception of the British ports, which present an high level of privatization, ports are mostly managed by public port authorities which act, depending on the context, as agency in between national and municipal authorities. As regards the port governance model, most of the European ports present the “landlord model” (public-private ports) in which Port Authorities are responsible of the port management and they are the owners (on behalf of the State) of port spaces and infrastructures. Private companies are concessionaires and they are in charge of the port services. This is the most common model among medium and large ports in Europe.

Researches conducted by ESPO (European Sea port organization), classify port authorities based on five regional groups to which belong different geo-governance

traditions: 1. Hanseatic, 2. new-Hanseatic, 3. Latin, 4. New latin, Anglo-saxon (ESPO, 2010) (Fig.2.7).

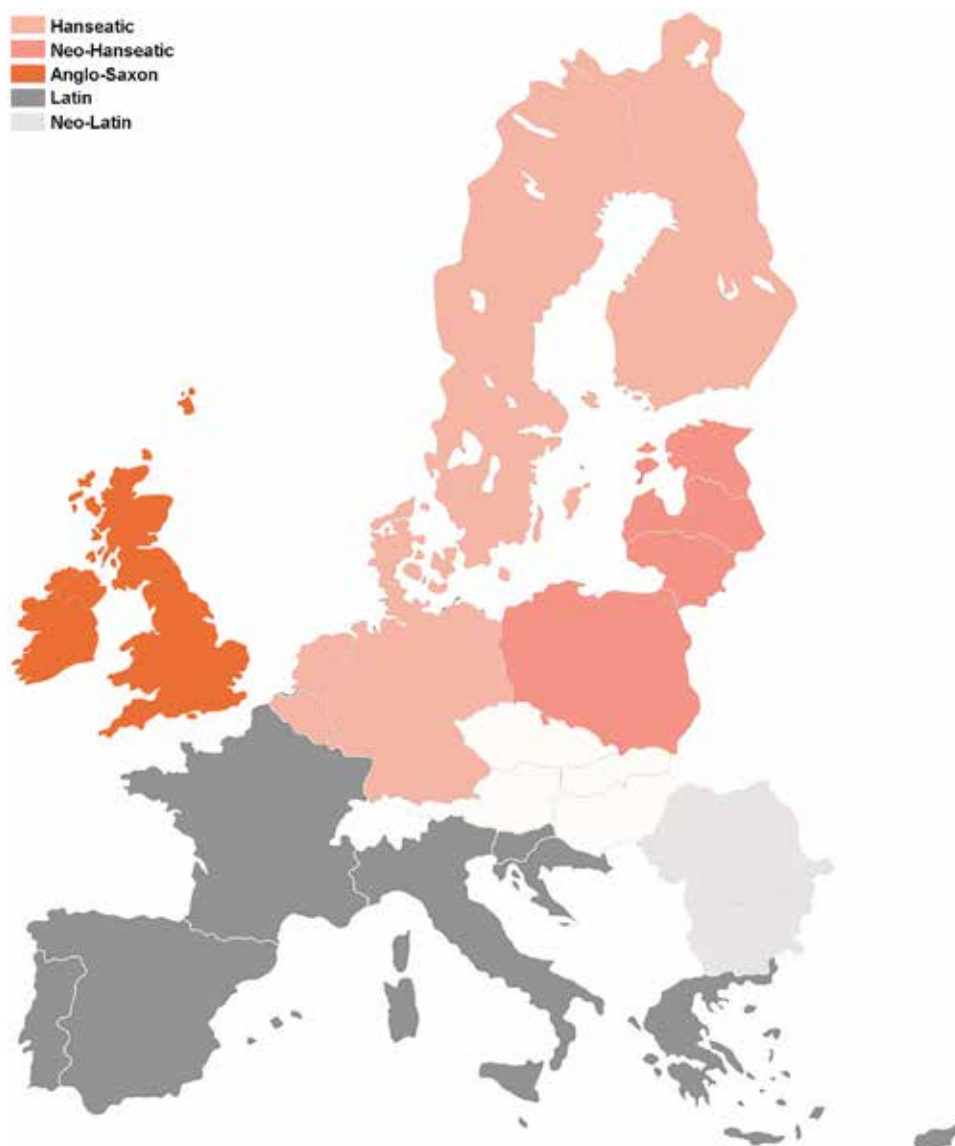


FIG. 2.7 Regional geo-governance typology of port authorities. Based on ESPO studies and re-elaborated by the author.
Source: Strategic plan for ports and logistics.URL: http://www.mit.gov.it/mit/mop_all.php?p_id=23291.

The Hanseatic and new Hanseatic traditions, typical for Northwestern Europe and Scandinavian ports, local and municipal authorities play a very important role in port planning. Within the Latin and new Latin traditions, typical of France, Southern and Western Europe, ports are planned according to a top-down approach with local governments playing a very more marginal role. Finally, within the Anglo-Saxon tradition, ports are mostly privatised (Brooks & Pallis, 2012; Verhoeven, 2010).

The case studies discussed in this thesis that are Naples, Rotterdam, Antwerp and Le Havre belong to the same Napoleonic family with is a European tradition of spatial planning. Generally speaking, in countries that belong to this family there is a tendency to build a national planning program and a hierarchy of plans that goes from the national (more general) to the local (more specific) level with specific zoning and regulations for the land use. However, in countries such as the Netherlands and France, this hierarchy is more seriously respected than other countries such as Belgium or Italy, even though in the last years there was a tendency mostly in the Netherlands and Belgium to decentralization. In countries like Finland or Sweden (Scandinavian family) there is a phenomenon of high decentralization. Here, the level of national planning is reduced to a minimum, the regional level is very weak. On the contrary, the municipal level is very strong (Othengrafen, 2009).

Thus, port cities which belong to the Latin tradition present a highly level of centralisation with port authorities depending by central government. In the Hanseatic and New-Hanseatic regions (such as the Netherlands or Belgium), the port authority works closely with local authorities. The municipality of Rotterdam, for example, together with the central government are in fact the owners of the port of Rotterdam (respectively for 70% and 30%).

Italian ports on the contrary are governed by a very rigid structure with low degree of flexibility and with port authorities that cannot perform activities directly, but just provide services on behalf of the state. This lack of flexibility has not allow ports over the years to be competitive and to grasp the new opportunities offered by the market (Carlucci & Siviero, 2016).

Understanding the impact of these forces on port-city planning helps explaining why and how some port cities developed (or not developed) in a certain way. This understanding represents a precondition before any possible comparison between port cities.

2.6 An institutional approach: historical institutionalism (HI) and path dependence

This section of the chapter introduces Historical Institutionalism (HI) as theoretical approach to explain actors' interactions and how their political and cultural behaviours shape spatial patterns in port cities. The theory, known for its main concept of path dependence, is used as lens to re-interpret the history of port cities and their current spatial and governance developments. This PhD thesis argues that understanding and recognising path dependence is crucial before planning any new forms of port-city relationships.

Institutions—within political and planning organizations—have a tendency to persist over time and to reinforce each other (Sorensen, 2015a). This statement reverses completely the way we approach space. Indeed, according to this perspective, spatial changes can no longer be understood only as a sequence of chronological events, rather as strongly interconnected to the changes in the governance and institutional constructs. According to Sorensen, historical developments of cities can be summarized, indeed as history of their institutions, as evolution of a complex and articulated system of decisions, rules, codes and practices developed over time (Sorensen, 2015a).

This is particularly the case in port cities where two different planning approaches, cultures and systems of institutional regimes meet and clash at the intersection of land and water. These systems are the result of different historical and cultural traditions, geographical, economic and political contexts which, once historicized, generate path dependencies resulting in waiting conditions and resistance to change. If we look at the nature of human behavior people tend to protect their historical constructs and beliefs. In many cases this is a positive thing which tends to strengthen a sense of belonging with the context that surrounds us. However, in many other cases this also acts as a barrier toward innovation. For example, the way port and city have historically been planned by the authorities (as two disconnected elements) stands exemplary for how historical constructs prevent them from seeing this relation working differently. Today, despite both port and city authorities have come to realise that a more collaborative approach is needed to solve controversies. However, path dependence makes institutional change very hard to be achieved.

HI is a social science theory which focuses on production, re-production, and mutation of institutions over time (Sorensen, 2015). Sorensen (2015, 2018) among few other scholars has started to apply this theory to urban studies arguing that planning institutions are often designed to be hard to be changed (Sorensen, 2015, 2018). The difficulty in changing institutions also refers to the fact that they operate in relation to a multitude of other institutions. In addition, each actor has its own idea of change, supported by different arguments. Therefore, according to Sorensen, actors' ambitions and discourses also play a role in shaping concepts and possibilities for change, structuring policies in specific directions (Sorensen, 2018). Analysing these dynamics can help understanding the impact of actors' interaction in the production of space.

One of the main concepts of the theory is path dependence, introduced for the first time by the economists Paul David (1985, 2007) and W. Brian Arthur (1980) and used mostly to understand economic and social evolutionary dynamics (Arthur, 1980; David, 2007a). According to David's definition, path dependence refers to a series of dynamic phenomena or more correctly to systemic processes (David, 1985, 2007a, 2007b). The term "path" itself refers to a direction that has been previously marked by someone more or less voluntarily and which is supposed to be the fastest way to get to the final outcome, or in other words, the most efficient.

Later, the concept has been used by other scholars in specific research fields to analyse the phenomena of inertia and institutional rigidity (G. Schreyogg, Sydow, J., Koch, J., 2009). Path dependence is an effective conceptual tool that can help understanding why change is so difficult to be achieved. Are the consolidated paths always the most efficient ones?

Some experiments in the economic field have shown otherwise. The example of the QWERTY keyboard easily explains (Fig. 2.8) the economic inefficiency (in the long term) of consolidated paths. Paul David in 1985 in a publication entitled "Clio and Economics of QWERTY" analysed the factors of economic inefficiency generated by path dependency. It is just a random event at the base of the diffusion of the QWERTY keyboard compared to the DVORAK alternative. There is no real reason related to this choice. However, over time the QWERTY keyboard proved to be much less efficient than its rival. However, due to its diffusion and the necessary costs to switch to another system, the QWERTY was and still is the most widespread keyboard (David, 1985). This explains how positive feedback allow the same institutional framework to self-reinforce itself over time, preventing external factors from introducing the change.

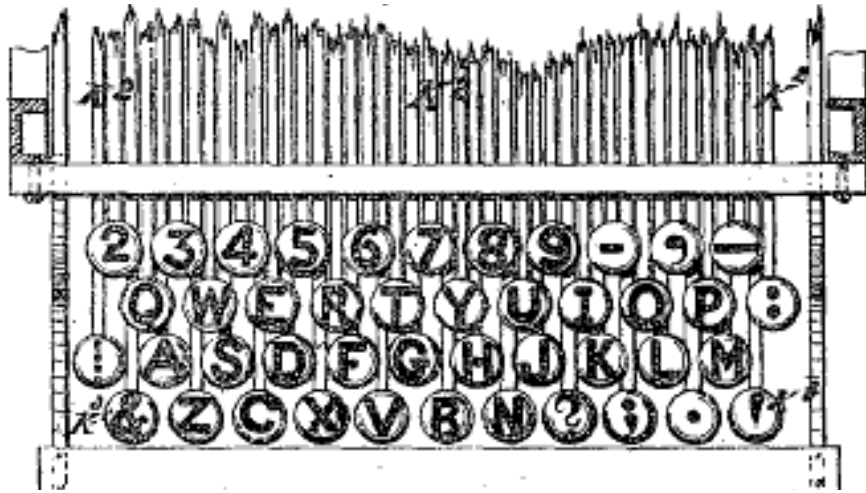


FIG. 2.8 QWERTY typewriter key layout depicted in U.S. Patent No. 207,559, issued August 27, 1878 to Christopher Sholes. https://upload.wikimedia.org/wikipedia/commons/8/87/QWERTY_1878.png. C.L. Sholes [Public domain]

Therefore, although the existence of valid alternatives actors often prefer to follow consolidated paths, continuing making their business as usual. However, studies point out that path dependence does not mean past dependence explaining with this that not all historical paths are dependent. The concept is much more complex and full of implications and it represent an interesting perspective to be applied to re-interpret the relationship between past, present, and future (Patalano, 2015).

A path can be defined as dependent when the evolution process is dominated by its own history (David, 2007a; Tsiapa, Kallioras, & Tzeremes, 2018). This is the case of planning where most of the organizational dynamics (individual actors, planning authorities, institutions) are strongly influenced by their own history. And this is true even if the past circumstances are no longer relevant today. The mechanism that guides path dependence can be schematized through the identification of a series of events, reinforced by self-reinforcing mechanisms, that contribute to defining a precise trajectory of intervention (locked-in), from which it is very difficult to deviate and which tends to strongly influence future choices, by creating what the theory has defined as positive feedback loops (Arrow, 2004). In other words, history matters in the sense that past decisions impact both the present and the future (Fig. 2.9).

The sociologist Mahoney defines as path dependent those historical sequences in which contingent events (not predictable) trigger institutional patterns or chain of events that have deterministic (not random) properties. According to this definition, the first phase of a decision-making process is characterized by random choices. In fact, it was a random choice at the base of the diffusion of the QWERTY keyboard. The choice always comes following a critical juncture, which represents a moment of institutional change, a window of opportunity in which, from a set of possible choices and institutional setup, the actors randomly can decide to undertake a different path. Critical junctures are moments of change in the institutional framework (reforms, new rules) or external shocks such as an earthquake or the Covid pandemic. What happens next is not contingent anymore. On the contrary, once adopted, the path sediments, crystallizes, consolidates and generates processes of irreversibility and resistance to change that does not disappear easily over time (Arrow, 2004; Mahoney, 2000).

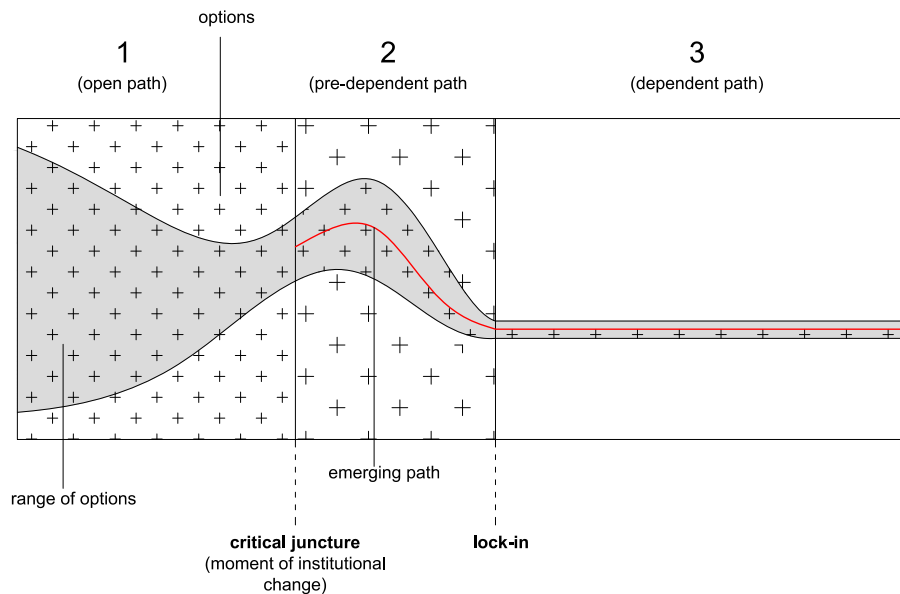


FIG. 2.9 Path dependence scheme. Re-elaboration by Paolo De Martino based on the drawing by Sydow and Schreyögg

The graph, which is a re-elaboration of the scheme presented in the studies by Sydow and Schreyögg, illustrates clearly the process of path dependence. This shows the relation between locked-in processes (inertia) and critical junctures (moments of change).

The first phase of the process is characterized by contingency which means incapacity to predict the path that will be undertaken by the actors. Critical junctions represent the transition from the first to the second phase. These are moments of crisis within a path and at the same time an opportunity for institutional change. However, the selected path generates self-reinforcing processes that will strongly impact the identification of other possibilities along the way. At this stage changing path and deviate from it is still possible at least until the last phase. This last stage in fact illustrates the complete rigidity of the system. In this phase, changing approach is very difficult despite the many external pressures.

Today, port cities all around the world are subject to several internal and external pressures from climate change, to energy transition and need for space. In some cases, these pressures are the opportunity to introduce changes in the existing governance arrangements and spatial patterns (see the case of Rotterdam, Le Havre, and Antwerp discussed later in the thesis). In others—as the case of Naples will show—critical junctures will lead to new path dependencies with port and city authorities not able to experience a sustainable coexistence of interests.

2.7 Port cities and path dependencies

Path dependence has become a useful concept to explain how complex governance systems work. Each system can be subdivided in different subsystems which have sets of actors who have developed their own beliefs, interactions and dynamics. These subsystems act as a barrier to the identification of problems and solutions. They are characterised by fragmentation, path dependence, and instability (van Buuren, 2012). Path dependence creates inertia and this explains the efficiency lacuna we often see in organisations (E. Buitelaar, 2007). Because of path dependence in fact actors are used to keep their positions and this limits the possibility for them to learn from each other.

Understanding path dependencies in port-city governance is crucial in order to trigger any institutional change (T. Notteboom et al., 2013). Ports have complex governance structures where actors create and recreate every time the rules of the game, reshaping physical boundaries and tangible and intangible relations.

The thesis claims that path dependence has generated spatial and governance distance. Sectorial planning and controversies for the management of the spaces where ports and cities meet has generated separation both in space and governance and unplanned spaces which today do not benefit the interests of both port and city. Industrialisation first, and containerization later have defined the path dependence of the port city developments. Today ports are almost all the same. Loading and unloading operations are handled the same way all over the world (Monios & Wilmsmeier, 2016) (T. Notteboom, De Langen, P., Jacobs, W., 2013). The way actors think and operate tend to create and reinforce the sense of continuity with the local culture, existing ways of doing things, and the urban palimpsest to which each port belongs. This has also defined a model of port planning—still active today—which has looked mainly at the infrastructure in a more or less independent way from urban contexts.

This because when it comes to port-city planning, planning organizations tend to find an equilibrium in which all the actors do not have any interests to change the rules of the game (T. Notteboom & Rodrigue, 2005b). The equilibrium can coincide with an economic and short-term benefit, but does not always mean efficient outcomes in the long term and from spatial or cultural perspectives. Due to path dependence some governance arrangements survive despite their lack of inefficiency. This is particularly evident in public ports with a long history (T. Notteboom, De Langen, P., Jacobs, W., 2013). Taking Naples as an example, planning organizations have developed strong governance structures and regulatory frameworks which often constrain the operation of port authorities. However, if a system is inert, it does not mean that it cannot change—only that the possibilities for change are very unlikely (Kay, 2005).

According to the canonical definition of path dependence as described above, the concept focuses almost exclusively on the processes of continuity and immobility, considering very unlikely any possibility of deviating from a previously undertaken path. In fact, the basic concept to which the theory refers is the lock-in situation which underlines the institutional inertia and the incapacity for the actors involved in a process to identify possible and better alternatives. Nevertheless, this exclusive way of looking at the history risks to become restrictive. For this reason, some scholars have started to review the theory of path dependency trying to go beyond it and to analyse the dynamics behind path creations and institutional changes (Garud, 2001; G. Schreyogg, Sydow, J., Koch, J., 2005; Sorensen, 2015). They have started to “re-place” the concept of path dependence by focusing on the processes of change rather than on the processes of continuity and institutional inertia (Martin, 2012). According to this different perspective, the last phase of the process (the lock-in) should not be seen as completely rigid. On the contrary, this

can be un-locked based on the specific context, planning institutions, and actor's relations (Fig. 2.10).

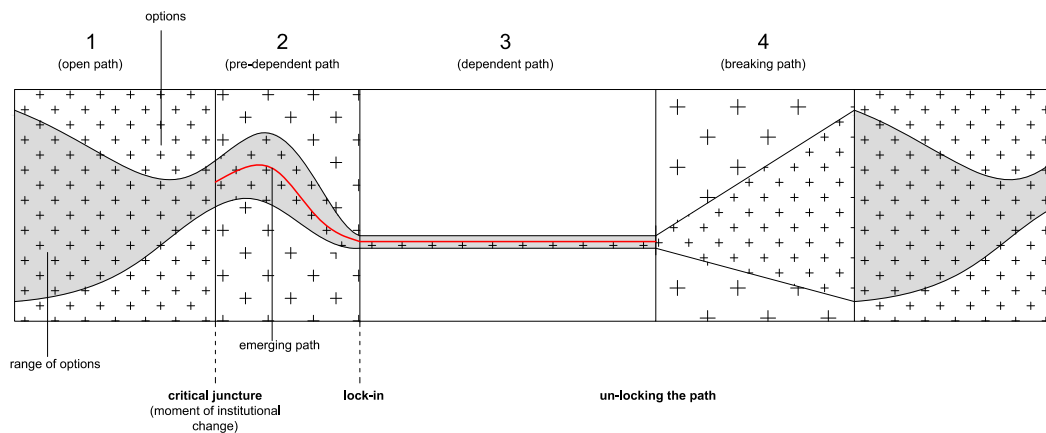


FIG. 2.10 Breaking path dependence. Scheme developed by the author based on the model developed by Schreyogg, and Sydow

According to theory there are mainly two ways to break from path dependence. The first is when the system proves incapable of dealing with the problem; the second when a rival system becomes more attractive (Kay, 2005).

Both conditions can lead to institutional change that can happen in different ways such as displacement, layering, drift (T. Notteboom et al., 2013; Sorensen, 2015). **Displacement** happens when existing rules and structures are too rigid to be modified. Therefore, new rules replace the old ones and it is presented as the “normal” mode of trigger institutional change. However, institutions not always follow this path. On the contrary, the concept of **layering** refers to the possibility of adding small changes to existing instruments in order to have a change without completely break from the old paths. It represents a sort of revision and conversion of existing rules. The process of layering is similar to a stretching which takes place when existing arrangements cannot be changed. Stretching (or institutional plasticity) allows for incremental modifications without completely break from the existing path of development. This builds up on existing rules, but the way these new processes start is completely informal, leading to incremental changes in the future. **Drift** is described as a change in the existing policy structure due to external circumstances (Sorensen, 2015b). Port regionalization, for example, responds to this increasing complexity (Ducruet, 2009). This allows for changing patterns of

interactions, bringing new actors together and by doing so identifying new rules of the game. This could eventually lead actors to changing their own beliefs (van Buuren, 2012).

Notteboom et al. (2013) have introduced the concept of "*institutional plasticity*" as a capacity to recombine or reinterpret institutions and adapt them to new purposes. Plasticity represents an institutional stretching, an adaptation of existing regulations to new conditions. According to the authors this can happen only when port authorities see a need to develop new activities (T. Notteboom et al., 2013). These are opportunities for port authorities but also for other authorities, such as municipalities, that can renegotiate the borders between port and city and also diversify the economy of the city and the port. Within these new processes, port authorities should take the lead in innovation and become a driver for institutional change (Cahoon, Pateman, & Chen, 2013). They should act as mediators between all the actors involved and take advantage of the position within the network. In fact port authorities are linked to different levels of governance and stakeholders and therefore they should be able to identify and promote trajectories of innovation. In other words, port authorities can break path dependencies by creating new opportunities for ports, cities and regions. New opportunities could come from making the problem even more complex. This means to not focus just on traditional problems but going beyond them and identifying new problems and research questions.

However, the main challenge for the actors is to recognize the problems as an opportunity for change. Why should actors change a path that they consider efficient? What are the incentives to do so? To answer these questions, some scholars have introduced the concept of "*irritating new perspectives*" or "*provocative design*" that have the power to break the old path and make the actors aware of possible and alternative futures (G. Schreyogg, Sydow, J., Koch, J., 2005). This is something that can be done during processes of interactions between authorities and academics. A tangible example is the ongoing collaboration between the Port Network Authority of the Central Tyrrhenian Sea and the Department of Architecture of Naples and TU Delft. This thesis, which is the result of this fruitful collaboration, aims to propose a new way of thinking and help decision-makers to reflect in a critical way on the hidden dynamics behind path dependencies. This needs to be done at different scales and focusing on the different aspects that have generated the paths. Only then, a new regime of rules can be introduced (G. a. S. Schreyogg, J., 2010).

2.8 Conclusion

The chapter has provided an overview of the literature on port-city relationship. This has been organized according to three thematic areas: port cities as spatial artifacts; port city regions as entities of economic and logistics; the governance of port cities. This taxonomy is a synthesis of how the topic has been addressed so far by scholars and professionals. Despite the evident interrelations between space and governance and implications of governance inefficiency in the definition of space, the review has highlighted a lack of adequate studies on the interconnections between port cities and path dependence.

For this reason, the chapter has argued that path dependence matters in port cities and its recognition plays a crucial role before planning for any spatial and governance change. Thus, the chapter has proposed an historical institutionalist approach, able to combine space and governance, to investigate how path dependence influence the relationships between ports, cities and the larger regions today. The interaction among key actors in complex organisations is designed in such a way that existing spatial patterns and governance arrangements tend to reinforce each other.

The first thematic area—port cities as spatial artifacts—points out that scholars have discussed the topic of space mostly focusing on waterfronts, where changes can more easily be seen. This spatial approach has explained changes in port city developments mainly as result of changing technology. Path dependencies are recognizable in the way ports and urban spaces have evolved over time, mostly according to functionality and rationalization of traffics. This has defined a spatial and planning approach based on the idea of separation, leading to a disconnection of actors who have started to develop their own interests and ambitions. Here, most of the studies have focused on the scale of the waterfront or of the urban interface. Today, these concepts need to be studied on a different scale.

In fact, if analysed from an economic and infrastructural perspective, different studies have pointed out ports and their related activities do not belong to a specific place and scale, rather to multiple scales and dimensions as evident from the recent port regionalisation processes. The latter represents a new phase in port city development which moves the discussion towards the concept of port city region. However, as the study of the literature has shown, there is still a lot to be done in terms of definition of what a port city region means. Moreover, despite regionalisation aims to reduce the negative impacts of ports on cities (e.g. noise,

pollution and congestion) by externalising them, this is ignoring the local dimension and urban palimpsest where the effects are still to be understood. Therefore, it would be crucial to understand whether this more regional approach is an opportunity for change or it is creating new path dependencies.

The third part of the literature review has focused on governance. Understanding the specific planning traditions to which ports and cities belong is essential to better grasp the environment in which ports operate. In fact, despite the efforts of the European Commission in promoting a more equal approach to port planning, facilitating integration between ports and regional territories, the EU goals are quite often in conflict with the interests, needs and temporalities of all the actors involved. Conflicting interests among actors still represent the main barrier toward the implementation of common policies and shared values. As pointed out by the review, port reforms are normally introduced to break established and inefficient paths, but they often end up reinforcing them. In fact, even if new institutions or governance arrangements are introduced this does not guarantee that path dependence will be interrupted. Provocative designs and a new regime of thinking need to be mobilised.

Today global pressures demand integration in terms of space and governance. Flexibility in the mindset of the actors is required in order to overcome conflicts and move toward new shared values. The model of separation, as demonstrated by the analysis of some cases later discussed in the thesis, is no longer efficient and actors need to come together to define and design new spaces of interaction. Therefore, an ecosystem approach which puts together space and governance has been proposed as valid way to address port city (and regional) relationships.

In the following chapters, the spatial-governance approach will be applied to better understand the evolution of the port of Naples, the path dependence processes and how these still influence the port-city relationship that actors experience today. Finally, space and governance will structure the analysis of the port-city relationship in three port city regions: Rotterdam, Antwerp and Le Havre. Here, specific projects and strategies have been selected based on three different scales of analysis. This European investigation aims to evaluate how other national and local authorities are dealing with port city (and regional) conflicts and how they are overcoming—when they do—path dependencies. Design can play an important role in helping decision-makers to re-conceptualize ports as multifunctional landscapes where different activities and interests can take place and coexist sustainably.

3 Naples through the lens of path dependence

Two critical junctures for the Naples port city relationship

3.1 Introduction: understanding the past to better imagine the future

The chapter presents the result of the investigation about the port-city relationship in Naples, and in particular the dissolution of this relationship, through the specific lens of path dependence. This lens is a methodological reading tool that looks at the history of the city, its form, institutions and inertia both of the territory and the governance. History matters to the point that the present condition exists because someone has made it possible. In the history of a territory, in its palimpsest and inertia are imprinted the set of problems and potentialities with which the territory has related and will always relate. The spaces we live in today have been built over the centuries through slow territorial processes and following complex systems of traditions and conventional way of thinking and doing things which give shape to the identity of a territory (Manzini, 2019).

Therefore, this chapter aims to investigate **how governance arrangements have historically influenced the port-city spaces we are experiencing today.** In answering the main question the chapter investigates whether there are any

recurring paths and if it is possible to identify analogies with the past in the way of living, conceiving and planning the space. The narrative will point out specific moments in time, the authorities in charge and their visions.

A shared path of port-city development characterized the history of Naples for the longest time of its millenary history as a port city under the rule of different Kings as also demonstrated by historical representations. However, since the Unification of Italy in 1861, each actor has independently developed separate institutions and spatial plans that have served to reinforce decisions and power relations of the past.

As such, the spatial and governance evolution of Naples stands as a paradigmatic case of a millenary port-city where different actors followed each other as in a theatrical scene, shaping, changing, and today dissolving the spaces at the intersection of land and water. In the case of Naples, despite the many changes in history, separation both in space and governance remains as a recognizable trace of the past, deeply marking the territory.

Loking at the history of Naples through the lens of path dependence suggests to perceive history as a system of “critical junctures”, as moments in time when the course of history changes direction, leaving the old paths to take a new ones. Each of these paths were characterized by a specific morphological structure, a recognizable landscape and a different social and political structure. Therefore, each of these paths introduced different problems, solutions, and imaginaries (Viganò, 2010). This chapter will identify and discuss two of these critical junctures.

Critical junctures represent changes in path, intermediate moments in time which are closely linked to profound changes in the spatial structure of the city, the port, and the formal and informal structures of power.

The port city of Naples has been widely studied by different scholars and from several perspectives. An extensive body of literature exists on the history of the port city of Naples with many scholars describing the evolution of the port of Naples. (Amirante, Bruni, & Santangelo, 1993; Clemente, 2011; Giura, 1994; Gravagnuolo, 1994; Russo, 2011, 2012; Russo & Miano, 2014; Toma, 1991). Despite the recognized value of this knowledge and despite the many words spent to imagine a possible future for the port of Naples, it can be said that today the port of Naples is experiencing the same problems as always. The main reason is to be found in the fact that most of the studies have mainly focused on the chronological sequence of events separately from the governance dimension. As a result, a detailed analysis of the numerous planning authorities and how their visions and decisions have affected space, often generating further separation, is the main goal of this investigation.

The historical investigation focuses on the period that follows the Unification of Italy in 1861, arguing that this specific time-frame was the beginning of spatial and governance distancing between the port, the city and even the larger territory. The chapter finds data and inspiration from policy documents such as reports, maps, and projects produced by the city and port authorities since the second half of 19th century. This body of primary sources – stored between the State Archive of Naples and the historical archive of the municipality of Naples – was an indispensable heritage that allowed for the understanding of spatial patterns in relation to specific governance arrangements.

3.2 Critical junctures in the history of Naples' port-city relationship

The historical analysis presented in this chapter highlights some critical junctures of the Neaples port city region very clearly.

A timeline (Fig. 3.1) with actors in space goes with the analysis, with some key dates and two critical junctures: 1. the port next to the city (1861-1920) and 2. the port outside the city (1920-1980). These two main moments of change are the temporal framework within which the chapter discusses the system of events, small and large, spatial and governance, which have developed throughout history.



FIG. 3.1 Timeline showing the spatial and governance evolution of the port of Naples. Maps produced using hisotorical maps of the city.

The port next to the city

The history analyzed in this chapter is the recent history of the port of Naples, specifically of the last 150 years. Originally and at least until the 19th century the image that better characterized Naples, as also represented by the whole Renaissance iconography, was that of the small and compact mercantile city, with the mixture of houses, port warehouses and various social groups that populated the place symbol of trade and commerce: the port and the market area. Since the 13th century Naples became the capital of the Kingdom and thanks to the Angioino domination, the first significant port expansion happened. The Angioino pier and the Maschio Angioino Castle, this located at the intersection of the city and the port, are the icons of the new power established in the city. The history of the port was affected by military actions and many of the port transformations concerned, indeed, defense activities. In Naples, several kings and rulers followed one another to grab the city and its traffics. Evidence are the defensive walls of the city which from time to time designed a new and enlarged urban perimeter, always close to the port which in fact represented the natural continuation of the city towards the sea. Architectures such as the arsenal and the San Vincenzo pier are an emblem of the Naples' military involvement.

The period of the Bourbon domination was an important turning point for urban and port history. Important new buildings of power were built by the different kings, such as the palaces in Capodimonte, Caserta, or Portici. These in fact contributed to the construction of a new territorial vision beyond the city and port perimeter and along new infrastructure axis. The defensive walls were eliminated allowing the city to

rebuild a relationship with the sea. The first Italian railway in the Eastern area built the foundations for the subsequent infrastructural connections of the port to the region.

A first critical juncture is recognisable in the second half of the 19th century, when the imaginary of the port city changed and the relationship between port and city shifted from a morphological fusion to one in which the port moved next to the city. Until that moment, the power was represented by the different kings' figures who in one way or another have always looked at the planning of Naples as a port city without separating its dual nature of city and port.

The unification of Italy (1861) affected negatively the history of the port. Naples was no longer the capital of the Kingdom. The center of political power moved to Turin thus starting an institutional distance that will marked a decline in trade and port activities⁶. This phase saw the construction of the new port on the edge of the historic city. The decision to build it by the central government was preceded by a long political debate with several professionals bringing forward proposals for the location of the new port. There was a division between those who believed that a port serving the city had to be close to it and therefore to be located close to Mercato square and those believing that an efficient port had to be located where there were room for storage facilities and new infrastructures and therefore in the Granili area outside the city center. According to these professionals, detaching the port from the city would have allowed the city to keep a continuous relation with the sea and give more space to the city. The advantages and disadvantages of the port in the city were discussed for a long time, as demonstrated by the archival materials presented and discussed later in the chapter.

Despite the pressures by the municipality to build the new port outside the city, the central government decided for the construction of the new port next to the city on the axis of Municipio square. The political scene after the Unification of Italy was governed by the figures of the Prefects which remained in charge until the post war reconstruction. The urban and port planning therefore passed through this agency which responded directly to the king. A Royal decree of 1865 was an important turning point in the port legislation. It marked the beginning of the separation of the planning tools. For the ports which had national and international relevance (Naples belonged to this category), the plans for the development of the ports needed to be prepared by the Minister of Public Works (R. Pavia & Di Venosa, 2012). The state as one actor decomposed into different actors and authorities with diverse visions and

⁶ Autorità di Sistema portuale del Mar Tirreno Centrale. La storia del porto. URL: <https://porto.napoli.it/la-storia-del-porto/>. Last access 29/10/2020

interests: the chamber of commerce responsible for the control of the warehouses, the civil engineering office responsible for the construction of the port, the municipality in charge of the areas close to the docks, the public security in charge of access to the port, the port cooperatives that controlled the movement of the goods and finally the customs responsible for the financial matters.

The political distance and the related decentralisation of decision-making power played a key role in defining a first interruption of the historical and intimate relationship between port and city as well as long waiting conditions. The port in fact had significant infrastructural deficiencies with goods waiting for weeks on the docks. The fact that from 1861 the port expansion only started at the end of the century illustrates the climate of uncertainty and governmental fragmentation.

The port outside the city

The 21st century was characterized by a new significant juncture with a consequent change in the imaginary of the city. The period from the 1920s to the 1980s saw the construction of the modern port city. The image promoted by the Fascism Regime in Naples was in fact that of modernity thanks to the construction of a modern, industrial and efficient port. New docks and port basins were built towards the east, new infrastructures, railways and roads defined the highly infrastructural character of the port separated from the history of its ancient city. The port gradually lost the character of an urban space to become an impenetrable barrier between the city and the sea. Industries and oil facilities cemented in the collective imagination occupying docks and the areas behind the port. The presence of new power regime was also manifested through the construction of new buildings inside the port, such as the maritime station and the fish market or significant buildings in the city center like the post office building and the trial court. The war almost completely destroyed the port. The post war reconstruction is a new juncture in the governance and spatial path. The central government rebuilt the port to the configuration that we see today. The political scene changed again with the central government taking over the political control after the dictatorship. The new republic vision was to relaunch the city economic aiming at the strengthening of the ports through the allocation of funds which, however, were distributed without a clear logic and strategic vision. The result was once again a territorial fragmentation. The arrival of containerization, which represented another critical juncture found the port unprepared and, despite a clear vision of an enlarged scale promoted by the port agency, the government planned the ports with a vision limited to the city boundary. In the 60s the city was growing in scale as well as the traffics of the port which however remained confined and isolated. The municipality has contributed to building an image of separation. In

fact, the various urban plans since 1939 have defined the port as a pattern of color whose planning is to be delegated to the port agency (still today). The creation of the autonomous consortium of the port in 1974 by the central government therefore had the aim of promoting cooperation on a regional scale.

The 1970s and 1980s introduced new critical junctures. Following an uncontrolled process of formation and growth of the city. From a spatial perspective the port in this period did not grow much; on the contrary the city developed by creating disconnections with the port both towards the west and east. Large residential neighborhoods and road infrastructures alter the eastern landscape of Naples defining dormitory neighbourhoods close to the city. The 1980s saw also the collapse of the Italian industrial and production system. Large industries such as the steel industry of Bagnoli and the refineries of Naples closed down. However, while in other European contexts the deindustrialisation processes were the opportunity to trigger territorial regenerations (waterfront regenerations are a tangible example) in Naples and in Italy in general ports did not play a strategic role in the territory and the waterfront regeneration processes followed different dynamics and times. The regeneration of the historic waterfront of Naples, for example, has not started yet.

3.3 The port-city (VII - 19th century)

Greeks, Romans, Norman, French, Spanish, all the different rulers came to realise the importance and strategic position of the port of Naples in the Middle of Mediterranean Sea. The foundation of Naples and its port starts in the context of the Greek colonization, when between the VII and VI Century B.C., Greeks from Rhodes founded Parthenope on the hill of Pizzofalcone (Fig. 3.2)



FIG. 3.2 "Disegni di Renato Quaranta, in 'I giorni di Neapolis' di Attilio Wanderlingh, edizioni Intra Moenia, Napoli 2015"

In Naples, historical facts and mythology continuously intertwine. In fact the name Parthenope, historically assigned to the city of Naples, it originates from a legend that tells the story of the foundation of the first settlement— named Parthenope on the islet of Megaride, as one in honour of the mermaid Parthenope.

Parthenope (or Paleapolis which means ancient city) was soon destroyed and a new city, "Neapolis" with a larger port was built by Greeks few kilometers away from Parthenope. Neapolis was organized according to the Hippodamian system with three large parallel streets to the coastline and several minor perpendicular streets, still visible today in the city pattern (Fig. 3.3).



FIG. 3.3 Contemporary aerial photo of the ancient city of Naples where it is still possible to see the hippodomean pattern.

In the years to come Neapolis, together with Parthenope, formed one bigger city. The excavation works of the new subway in Naples have brought to light the old Greek-Roman port at Piazza Municipio (Fig. 3.4). In addition, the old port was located about 15 meters below the current level of the city showcasing that port and city have grown not only horizontally but also vertically.



FIG. 3.4 Municipio square. The excavations for the metro station.

Until the 19th century port and city grew almost uniformly. They were strongly interconnected as well as the actors in charge. The image of the city during this period was that of a mercantile city, compact, inward, mainly open to the sea but closed inwards as also demonstrated by the articulation of the defensive walls which were demolished only since the 18th century (Fig. 3.5).



FIG. 3.5 Changing wall perimeters over time. Maps produced using historical maps of the city

Military activities, that have always dictated the conditions for the transformation of the port and city, have contributed to this image of closure. During the Angevin domination (1246–1435) Naples became capital of the Kingdom and this marked the beginning of a new military phase. Carlo I d'Angiò chose Naples as his headquarter to control all the Southern Mediterranean. The famous Maschio Angioino, built by Carlo I d'Angiò to protect the port, is the icon of the new political power and permanent background in the representations of the city. In 1302 Carlo II d'Angiò built the Angioino pier in place of the Vulpulum (big port). This was then rebuilt in 1450 by Alfonso d'Aragona with the addition of an angled pier (Fig. 3.6).



FIG. 3.6 Naples during the Angioini and Aragonesi dominations."Disegni di Renato Quaranta, in 'I giorni di Neapolis' di Attilio Wanderlingh, edizioni Intra Moenia, Napoli 2015"

The construction of the arsenal at the end of the 16th century and the wet dock in the second half of the 17th century stand exemplary of the military activities of the city. The defensive walls have represented an important mark in the structure of the city. Fragments of them are still visible today, particularly along the port perimeter. These have accompanied the expansion of the city, changing its shape and extension, incorporating the port area only from the 16th century (Fig. 3.7).



FIG. 3.7 Naples between 16th and 17th century."Disegni di Renato Quaranta, in 'I giorni di Neapolis' di Attilio Wanderlingh, edizioni Intra Moenia, Napoli 2015"

Military interests continued to shape the Naples port and city planning also under the Bourbons domination with the city turning to be one of the main European capitals. In 1836 Ferdinando II started the construction of the military port and the protection dock known as "San Vincenzo Pier".

The architecture of the port city, the shape of the spaces and the design of the walls testify to the role that military activities played in defining an image of the city that developed around its port and docks.

However, the Bourbon domination introduced an interesting change in the imaginary. The defensive walls of the city were demolished, also allowing the city to reappropriate the coast line. New infrastructures such as the first Italian railway that will connect Naples to the Sorrento peninsula was built. Important architectures such as the baronial palaces were built by Carlo III in Caserta and Portici and this defined new axes for urban development that gave the city a new metropolitan dimension. The Bourbon domination, among the most significant for the city of Naples, will end in 1861 when the kingdom of Naples was united to the rest of Italy. The new political power moved to Turin and the departure of political leadership was a significant critical juncture which initiated the beginning of spatial and governance distance between port and city.

3.4 The port next to the city (1861-1920)

Space and Governance

Analysing the port city of Naples inevitably means to understand the reasons which have led to the dissolution of all forms of relationship between port and city, both space and governance since the Unification of Italy. Before that the relationship between city and port of Naples was characterized by morphological fusion and many historical representations until the 19th century have perfectly shown the image of cohesion and of public life that took place around the port (Fig. 3.8).



FIG. 3.8 Departure of Charles III from Naples. Source: https://upload.wikimedia.org/wikipedia/commons/f/f8/Departure_of_Charles_III_from_Naples.jpg - Antonio Joli / Public domain.

However, this historical symbiosis between port and city has changed in the last 150 years, leading to a fragmentation of the spaces as well as of the actors who from this moment on will find it very difficult to make immediate and shared decisions on the future of the port. The new demands of the market required an upgrade of the port infrastructures, no longer suitable for coexisting with urban life. After the Unification of Italy, Naples ceased to be the capital of the Kingdom. The city was effectively downgraded to the status of a provincial capital and this meant a disinterest by the

central state in terms of economic investments. Before the Unification Naples was the most important port of the Kingdom for passenger traffic and it was second only to Genoa and Venice for the total quantity of goods that passed through the port each year (Moschitti, 1918-1919).

The change in the political scene caused to Naples a discomfort suffered also by many other ex-capitals: the loss of political power (Gabinetto-di-Prefettura-di-Napoli, 1931 - 1946). In fact, due to a lack of political interest and support, the post Unification period was characterized by a political disorder with the municipal authority which was not always able to influence the national and local debate in a concrete way. The period that followed the Unification was characterised by an active debate among city authorities and local professionals about how and where a new port expansion needed to take place: within the city (Carmin square) or outside the city (Granili area)? (Fig. 3.9). This was the main question which animated the urban and political debate in Naples since 1861. Several and discordant proposals were presented by different authorities, shaping the background to a debate which lasted for more than twenty years.



FIG. 3.9 Port city map of 19th century. Source: historical archive municipality of Naples

The engineer Giustino Fiocca proposed a new port expansion next to the city. The proposal aimed to promote an image of "beauty" related to the infrastructural modernity of the port. According to Fiocca, the port needed to be close to the city

to better serve the needs of the city. He claimed that a port that moves away from the city is not efficient because the costs and time for connections increase. He also imagined that in the future the military port could have been used for commercial activities. According to this vision, Carmine square could have become a new link between the city and the port.

On the contrary, the architect and engineer Domenico Cervati proposed the construction of the new port in the granili area, outside the historic city. This solution would have left more “breath” to the city allowing people to also reestablish a connection with the sea, something which would have been lost with a new port next to the city.

In one of his writings entitled *“Sui vantaggi della costruzione del porto di Napoli alla riva dei Granili”*, Domenico Cervati in 1862 described the advantages of the construction of the new port at the Granili area. However, Domenico Cervati’s early studies were influenced by his collaboration with the Genoa commission (commissioned by the central government) which pushed him towards a proposal of a port next to the city (Fig. 3.10).

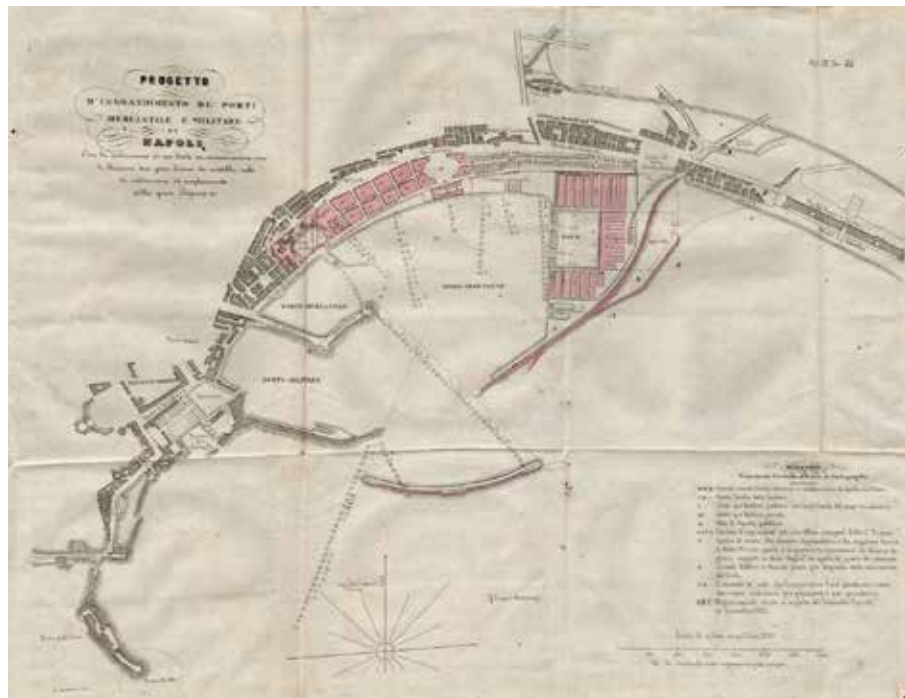


FIG. 3.10 Project by Domenico Cervati, 1860 for the construction of the port close to the Carmine square.
Source: Archivio ANIAI, Naples

Few years later, Cervati was no longer part of the commission and having freed himself from the constraints, presented a new project to the government that, unlike the previous one placed the construction of the new port where he believed to be more suitable from an aesthetic, economic, and functional point of view (Fig. 3.11). In addition, the Granili building could have been used as warehouse to store coal (Cervati, 1862).

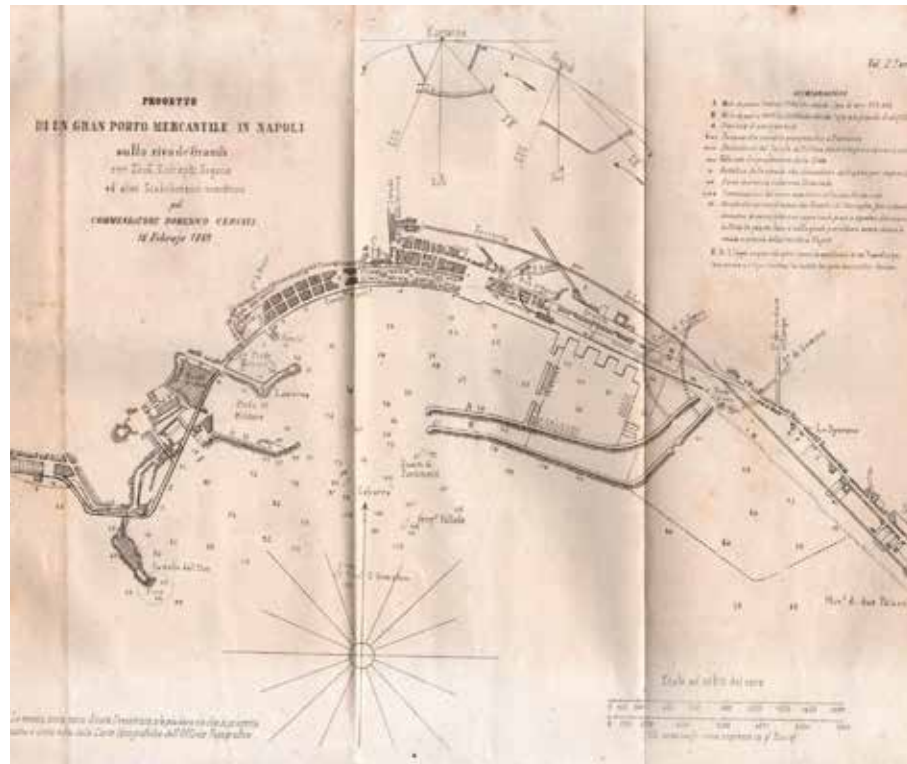


FIG. 3.11 Project by Domenico Cervati, 1862 for the construction of the port close to the Granili area.
Source: Archivio ANIAI, Naples

His vision of the port city was reported in a text entitled “*Protesta intorno al nuovo porto di Napoli*” in which Cervati, in a metaphorical form, protests against the construction of the port next to the city. The protest was motivated by both spatial and economic aspects. In the text he argued in fact that in the city center there was not enough spaces for storage, warehouses and for the handling of goods. In addition, the water was not deep enough. A new port in this area would have created only spatial and economic conflicts with the city. In most of the European port cities

already at that time, new ports were normally built where there was enough space behind them. In Rotterdam, London or Marseilles new ports were built close to the railway infrastructures rather than city centres (Eremita-del-Vesuvio, 1862). Last but not least, the removal of the port from the city would have allowed in Naples to preserve the beauty of the city landscape, a beauty that would have been disfigured as a consequence of the construction of a port too close to the historic city centre (Eremita-del-Vesuvio, 1862).

The debate lasted more than 20 years and all the protests against the construction of the port next to the city did not change the vision that the central government had. In fact, in 1880 the real implementation started, following the project designed by the engineer Domenico Zainy (Fig. 3.12). Zainy proposed the construction of the port in line with Carmine square, next to the city. The project provided also the extension of San Vincenzo pier to protect the port and the construction of the railway infrastructure to connect the city to the Angioino pier (Comune-di-Napoli, 1880). (Fig. 3.13)

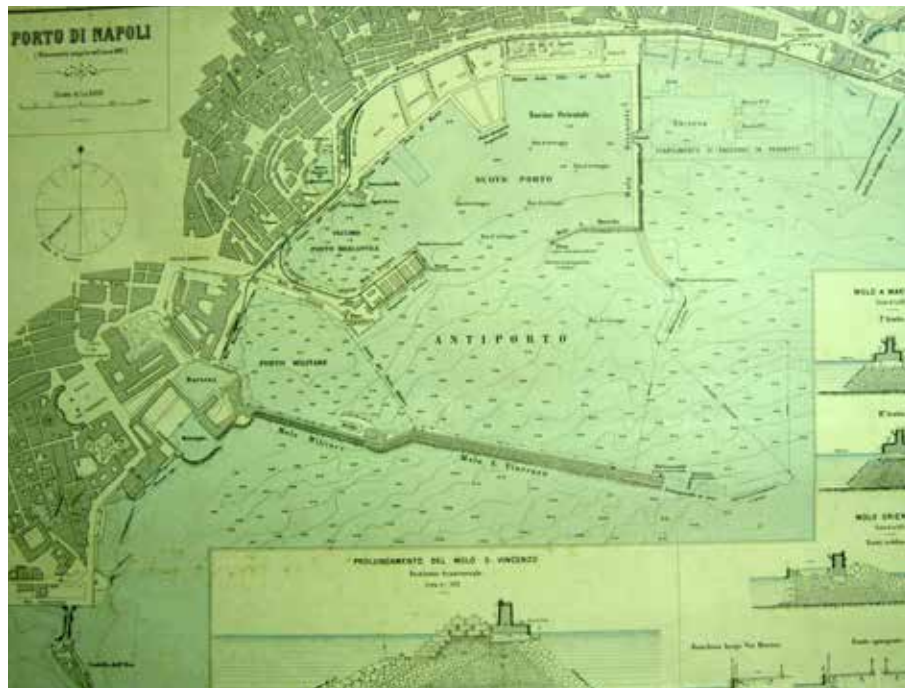


FIG. 3.12 The port of Naples in 1889 following the Zainy proposal. Source: historical archive municipality of Naples

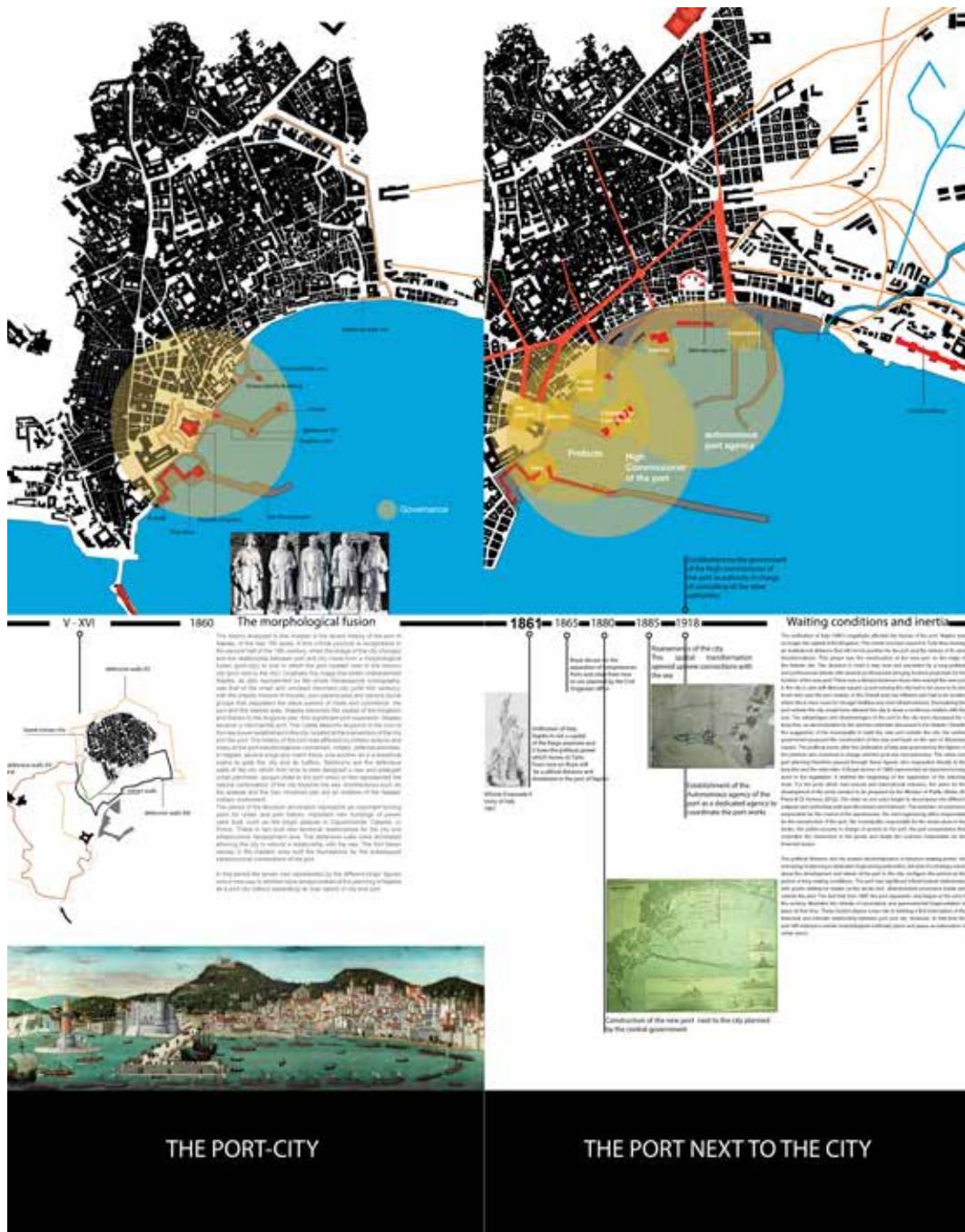


FIG. 3.13 The spatial and governance development of the port city from its foundation until 1918. Maps produced using historical maps of the city

As previously introduced, the Unification of Italy marked negatively the governance of the port. After 1861, the new monarchy of Sabaudo Reign took control of the country and the political power shifted from Naples to Turin. The national administrative regime was based on the system of the Prefects which were one of the main bodies acting on behalf of the State. Prefects remained in charge of port and city planning until the post-war reconstruction. In those years the Southern part of the nation was composed by 16 provinces under the responsibility of governors (the actual mayors)⁷ In fact, all the political and planning issues of the provinces needed to be discussed with the Prefects, who were in charge of bringing the discussion to the attention of the central government. Therefore, all the governors needed to send reports to the Prefects about political, economic, social and military activities.

The shift in the governance structure generated a fragmentation of the actors. The political power, which until that moment was easily identifiable in the figures of the different kings, became a set of many figures with interests and visions often in conflict with each other. It is in fact in this pulverization of the authorities that a first trace of path dependence can be identified as a dependence on a *modus operandi* which in fact favored processes of institutional inertia.

In addition to the separation of competencies it followed also a separation of planning tools. In terms of regulations a port legislation did not exist, rather a classification of the ports of the state. In fact, a Royal Decree in 1865 on public works –updated in 1884 –divided the ports of the state into four main classes based on their importance in the national context⁸.

⁷ Archive of the State of Naples. An institutional analysis of the port of Naples after 1861. For further information, please have a look at the website. URL: <http://patrimonio.archiviodistatnapoli.it/asna-web/scheda/enti/0000000114/Prefettura-di-Napoli-Napoli.html>. Last access 08-05-2019

⁸ The first one included the ports at the head of important lines of communication, with an international trade and classified, for this reason, of general interest of the state. In this case the 80% of works were paid by the state and 20% by municipalities; the second class included ports that affected the general navigation and safety, serving only or mostly as a refuge and military protection. Naples, Genova and Venice, for example, belonged to this category and all the works were paid by the state. The third class included ports and docks whose trade had a provincial impact (50% paid by the state and 50% by municipalities). Finally, the fourth class included ports whose trade had a local impact. In this case port works were paid only by municipalities (Comune-di-Napoli, 1927).

A Royal Decree in 1885 established that, for the ports classified as of national and strategic importance, the port plans needed be drawn up by the Office of Civil Maritime Engineers on behalf of the Ministry of Public Works. This represented a significant critical juncture which defined the separation of governmental competences. Since that moment the city plans no longer contained the port area whose planning was delegated exclusively to the central government. Due to this law ports started to be planned just as technical entities detached by the city. This changed dramatically the cultural and planning approach to port city reinforcing path dependence (R. Pavia & Di Venosa, 2012).

As a result of the processes of institutional inertia, at the end of the 20th century the port was in a waiting condition and not yet up to its potential. The docks were inappropriate, rail connections were poor, and port facilities still missing.

Some descriptions of the condition of the port come from the writings of the Admiral Augusto Witting who at the beginning of the 20th century was appointed by the municipality as a city representative in the government commission created to solve the problems of the port (Comune di Napoli, 1910). The Admiral's reports animated the cultural and political debate on the port and revealed the dramatic state in which the port of Naples was at that time. As described in his reports, the port of Naples was often in a state of emergency due to national and global events, such as the several cholera epidemics and the war⁹. As declared by Witting during the city councils the port, despite the on-going works for the construction of the new port expansion, had significant deficiencies that were not addressed properly by the national and local authorities. Witting described the chaotic situation of the port with goods that remained for months on boats for lack of space on the docks. Therefore, Witting also complained about a lack of control by the State, which wasted or misspent money (Comune di Napoli, 1911 (1)).

The port, because of both emergency conditions and lack of national political interest appeared at the beginning of the 20th century abandoned. The activities had increased, but the port facilities were the same as in 1860 (Comune di Napoli, 1911 (1)). As reported by Witting, the long waiting condition was related to the fact that inside the port there were too many autonomous agencies and authorities: the

⁹ Cholera in 1910, for example, generated many law changes that had a strong impact on the performance of the port, such as limiting the entry and exit of goods from the city. In 1914, when the port economy was about to recover, the first World War started. However, the city always showed a resistance. Thanks to its geographical position, it always remained a port at the center of international markets, and a city preferred by tourists. But this was not enough, he said.

Chamber of Commerce (in charge of storages), the civil engineer office (in charge of the works of the port not really controlled), the city council (in charge of the docks, not really controlled), the public security (police in charge of control the accesses etc), the cooperative of the port (in charge of control the loading and unloading movement of goods), and finally, the customs which had financial purposes (Comune di Napoli, 1916). In addition, issues related to criminal activities did not simplify the process (Comune di Napoli, 1916).

In order to solve the waiting condition of the port, Witting proposed a new expansion towards the east of the city (Comune di Napoli, 1913). However, the process needed to be managed by an autonomous agency or a consortium. This would have guaranteed, according to the committee a better coordination of all the actors in charge as well as removing criminal activities from the port. In 1918 the State, Municipality, Chamber of Commerce and the Bank of Naples, decided to make an agreement and with the law n.10 in March 1918, the autonomous agency of the port of Naples—Ente Autonomo del Porto di Napoli—was established. On the one hand, the agency had the task to make sure that port expansion would have been completed in a defined time frame and, on the other hand, to promote the industrial development of the city through the creation of a new industrial area in the eastern part of the port.

However, in the same year, with another decree by the King, the Royal Commissioner of the Port was established in order to coordinate and centralize all the powers of the different authorities, commissions and agencies in charge of port management. The Royal Commissioner needed to send reports to the Prefect and also to the commander of the military body when the port issues concerned public security. The Royal Commissioner was appointed by the King according to the proposal of the Ministry of maritime and rail transport, the Ministry of Public Works and the Council of Ministers (Moschitti, 1919-1921).

In conclusion, the first two decades of the 20th century finished with a condition of uncertainty for the future of the port, resulting in processes of no-action. Different actors followed one another, creating misunderstandings in terms of skills and competences reinforcing path dependencies (Comune-di-Napoli, 1919). In addition, the coexistence of the two institutional bodies, such as the autonomous agency of the port and the Royal Commissioner, accentuated phenomena of institutional inertia.

3.5 The port outside the city (1920-1980): the industrial and container port

Space and Governance

The first twenty years of the 20th century ended with an evident confusion and uncertainty about the future of the relationship between city and port with the central government delegating port management to many local authorities and public agencies. All these actors did not have a clear idea and did not put in place shared strategies for the development of the port.

At that time, the waiting condition and institutional inertia seemed to be widely accepted as being problematic as demonstrated by the active involvement of several professionals such as Francesco Saverio Nitti. He was president of the Council of Ministers of the Kingdom of Italy and he investigated the issues of the Southern Italy after the Unification, trying to understand the impacts that this key event had on the city of Naples which was the most important city of the Reign at least until 1859 (Cantarella & Filocamo, 2012). In order to revive the economy of the city and the Reign, Nitti proposed to develop plans to create new infrastructures and industries. As a result, in 1904 the law for the Economic Renaissance of Naples was nationally introduced to transform Naples into an industrial city. This law was further step towards port-city detachment.

The Fascism regim which since 1920s introduced a new critical juncture by taking over the political power. Prefects became an operative agency in the hands of the dictatorial power¹⁰. The imaginary changed again with Mussolini promoting a vision of modernity with a competitive port for the economic, industrial and political renaissance of the entire country. Mussolini looked at ports as a strategic elements to which to entrust this recovery, promoting a systemic vision which privileged mostly the ports that played a crucial role in the national networks both from an economic and military point of view.

¹⁰ State Archive of Naples. An institutional analysis of the port of Naples after 1861. For further information, please have a look at the website. URL: <http://patrimonio.archiviodistatonapoli.it/asna-web/scheda/enti/0000000114/Prefettura-di-Napoli-Napoli.html>

The port became the industrial and military machine to serve the nation. Naples, thanks to geographical position (between Gibraltar and the Suez Canal) was the first Italian port on a route that crossed the Mediterranean along its minor South-North axis. As a result, port and city gradually began to interrupt their secular dialogue, growing apart spatially, functionally and administratively.

The port slowly specialized as an industrial machine, and citizens needed to stay away from the port areas for safety and environmental reasons, in order to avoid conflicts with port activities. Therefore, during this period the second most important transformation of the port took place; a transformation that gave to the port the configuration that we still have today. Industrial and oil plants began to occupy the spaces of the port and the coastline emphasizing the physical detachment between city and port (Comune di Napoli, 1929). It was at that point that citizens could not enjoy the view of the sea anymore (Gabinetto di Prefettura di Napoli, 1929-1930).

Significant amount of money were directed to the ports of Naples, Genoa and Venice. These ports were transformed into major industrial ports specialized mainly in oil activities (Bettini, 2004). During the regime, Naples became a key hub between Italy and the colonies, specially towards Libya.

Between 1924 and 1925 two master plans for the port were presented at a national level together with the approval of 200 million lire works for the port expansion. The expansion was about the construction and extension of docks at Granili area. In addition, warehouses, cranes, and coal elevators at Vittorio Emanuele dock (towards east) were built. Two years later, important oil companies such as Benit, Sipone, Agip, and Siap established their facilities and oil storages in the eastern area of the city between the port and the only possible axis of expansion of the city (Comune di Napoli, 1930; Moschitti, 1919-1921). Mussolini provided the port with new infrastructures and buildings such as the Maritime Station, designed in 1932 Cesare Bazzani, the fish market in 1935, and dry dock, the largest in Europe at that time (Comune di Napoli, 1935; Gabinetto di Prefettura di Napoli, 1953-1955). In order to realize the maritime station, the San Gennaro pier was demolished and rebuilt differently, as we see it today (Comune di Napoli, 1933; Gabinetto di Prefettura di Napoli, 1932).

In fact, in 1925 Mussolini established the figure of the High Commissioner for the Province of Naples who became an additional governance layer to the existing structure. This figure became the responsible authority for the public works in charge of solving problems that previous (local) governments had left unsolved (Comune di Napoli, 1927). In addition, the High Commissioner had to promote and coordinate

with the other bodies to improve the economic and social conditions of the city and the region as a whole.

The Second world war, which almost completely destroyed the port, introduced another critical juncture. At the time of reconstruction, the historical problems reappeared: the port needed space for the construction of roads, storages, railway systems, warehouses.

The reconstruction war was the opportunity for the authorities to frame the port challenges at a different scale. This renewed political interest was promoted at the national level thanks to the introduction of territorial planning. The latter has its origin in the urban law of 17 August 1942. However, in Campania the establishment of a commission to define the Territorial and Regional Plan took place only in 1952. The port agency had a quite clear vision about the fact that the ports were changing in scale and therefore these needed to be planned from a territorial perspective.

According to the the port agency, port issues, both related to the modernisation of existing ports and the construction of new ones needed to be the main core of the territorial planning. Ports were not isolated dots but complex entities around which different activities and functions were taking place (Porto-di-Napoli, 1960). *“A port never has an activity on its own and detached from the specific conditions of its hinterland, but rather it is the expression of an economic-geographical situation that constitutes its premise”* (Porto di Napoli, 1960). This vision was proposing already at that time a reconceptualisation of the port, moving the focus from the sea to the land.

In fact, according to the port vision, port planning did not only concern the sea, rather the land. The hinterland was growing and the interests of the municipality, according the port agency, needed to be aligned with those of the province, the region and then up to the national scale. However, according to the port agency, an overall vision was missing due to also a tendency by the central government to centralize the traffics in few larger ports. An enlarged vision of the nature of the port, as proposed by the port agency, would have required an update of the port legislation which in fact was still non-existent except for the law of 1885 which represented just a classification of ports. This law had limited the port of Naples to a purely local function. Naples had a metropolitan dimension, but it was not considered by the planning authorities in its regional scale (Porto di Napoli, 1963a). For this reason, the port agency vision was to use territorial planning as an opportunity to facilitate the transition towards port systems.

This did not happen. On the contrary, although Naples was a center of a much bigger network going far beyond the port perimeter, the port in the 1960s was still inadequate to accommodate the increases in volumes that would soon have affected it due to the advent of containers. The port needed space and it needed to expand towards east in order to be able to allocate container ships and the ever larger oil tankers. To achieve this expansion a national law n.1462 in 1962 allowed the expansion of the port (Porto di Napoli, 1963b). However, the law did not produce the expected outcomes. The ports received investments in a discontinuous way. In addition, the money were used to compensate years of lack of policies.

Moreover, the development of containers asked for a complete rethinking of the functional port system in terms of full integration between water and land transport and advanced specialisation of the terminals. This would also have required courageous decisions to relocate certain functions to other parts of the territory, thus rethinking the logistics chain on a larger scale. On the contrary, in Naples the concept of specialisation put in crisis the model of multifunctionality and flexibility on which the port labour market was based. Specifically, port companies and cooperatives acted against the specialisation of the port (Bettini, 2004).

The port agency vision clashed with the one carried out by the municipality, which since the first city plans always framed the port mostly as a barrier between land and water. This attitude has certainly not favored spatial and cultural integration processes.

Towards the end of the 1930s, the municipality of Naples had a good chance to influence the public debate with regards port development and its relation with the city. In fact, in 1939, after fifty years from the “Piano del Rinasamento” of Naples in 1885, the municipality in collaboration with *Unione industriale di Napoli* and *Fondazione politecnica per il Mezzogiorno*, approved a the city plan (Fig. 3.14).

During the post war reconstruction, the spatial configuration of the port remained almost unchanged. On the contrary the city grew a lot and beyond the existing administrative borders. Because of the emergency due to the post-war reconstruction, the city development was guided by a series of city plans which did not propose a clear vision about the future development of the city with the port (Fig. 3.15). However, the port areas were excluded from the plan and just defined as areas belonging to the port agency. Thus, the city plans just defined the port area as a pattern of color without suggesting any directions about how to deal with the port city interaction.



FIG. 3.15 City plan, Naples in 1972. Source: Municipality of Naples website. URL: <https://www.comune.napoli.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/16674>

This confirmed the idea of port as a functional machine detached from the city dynamics. This idea continued to be a constant also in the 1970s when the growth of traffic and containerisation imposed all over the world to specialise ports in specific sectors, pushing planning authorities to move the ports away from the city centres. In Naples this did not happen for both spatial and governance constraints. Firstly, a densely inhabited area made difficult the delocalisation of activities. Secondly, processes of institutional inertia, inability by the authorities to look broadly, and resistance to change by port companies have helped to strengthen the idea of the port as a barrier within the territory. And instead of identifying processes of change, the various authorities preferred to continuing complaining about the same problems of the beginning of the century, such as the presence of obsolete port infrastructure, lack of space and connections with the regional hinterland (Fig. 3.16).

The critical situation of the port and the incapacity of the national government to deal locally with port-city conflicts, pushed the government to introduce a new governance authority, in the form of a consortium. Therefore, in 1974 a national law established that all the ports of the Gulf from Naples to Castellammare di Stabia needed to be planned and managed as one single port system. This law established the “Consorzio Autonomo del Porto di Napoli” ¹¹. This Consortium replaced the “Ente Autonomo del Porto di Napoli”. Different agencies and planning institutions became part of this new organization: central government, Campania Region, Provinces of Naples, Avellino and Benevento, several municipalities including Naples and finally Bank of Naples (Toma, 1991). The goal of the consortium was to manage commercial activities in an autonomous way, representing a first real attempt to create a port system.

¹¹ Gazzetta Ufficiale website. DECRETO-LEGGE 11 gennaio 1974, n. 1 Istituzione del Consorzio autonomo del porto di Napoli. (GU Serie Generale n.11 del 12-01-1974). URL: https://www.gazzettaufficiale.it/eli/id/1974/01/12/074U0001/sg;jsessionid=IPgVkrK07JSWdxT6oho46Q_.ntc-as2-guri2a. Last access 04/11/2020



FIG. 3.16 The port outside the city. Maps produced using historical maps of the city.

Between the 1970s and the 1980s, the port did not change much, remaining almost the same it was after the war, except for some new container terminals. On the contrary, the city continued to grow and according to a traditional urban zoning, that over the years, has created disconnected pieces within the region: the historic city, the dormitory neighborhoods (such as Ponticelli, Barra or San Giovanni a Teduccio close to the port, industry, the business center, the dispersed city along road and railway infrastructures (Fig. 3.17).



FIG. 3.17 San Giovanni a Teduccio residential areas. URL: https://upload.wikimedia.org/wikipedia/commons/5/57/Jorit_Maradona_.jpg - https://commons.wikimedia.org/wiki/File:Jorit_Maradona_.jpg - Vinci31 [CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0>)]

All these fragments, which by nature belong to different logics and planning interests, took the form of periferias within the city, without services and public spaces. In addition, they were close to the port that in those years would have required a complete rethinking both in terms of shape and integration with the metropolitan territory.

The deindustrialization processes introduced another critical juncture as also an opportunity to rethink the role of the port in the territory. Although in many European port cities and beyond, these processes since the 1970s were the opportunity for the different authorities to rethink the port-city relationship, mainly at the scale of the waterfront, in Naples this process has never really happened, also because the abandonment processes did not concern properly the port itself, rather the larger industries close to the city, such as the steel industry in Bagnoli (Fig. 3.18) and the refinery area in East Naples (Fig. 3.19).



FIG. 3.18 Italsider di Bagnoli. Source: https://commons.wikimedia.org/wiki/File:Italsider_di_Bagnoli_3.JPG - https://upload.wikimedia.org/wikipedia/commons/3/39/Italsider_di_Bagnoli_3.JPG - Mentnafunangann [CC BY-SA 3.0 (<https://creativecommons.org/licenses/by-sa/3.0/>)]



FIG. 3.19 Oil field in East Naples. Source: Studio Gasparrini

East Naples, and specifically the area of oil storage of Q8 currently called “Ambito 13”, is a critical area as it covers a huge space in between the city and the peripheral residential areas of Ponticelli and Barra. In this area, the port faces a problem of relationship with the city and the regional territory, resulting in discontinuity and fragmentation for the waterfront areas and beyond (De Martino, Hein, & Russo, 2019). An explosion of oil tanks in 1985 had devastating impacts on the territory and the environment. This event made the whole area available for new uses more compatible with the urban environment (LaRepubblica, 1985).

It will be necessary to wait until 1994 for a substantial innovation of port planning. In 1994 in fact, the national government introduced the first real port reform (law n. 84 of 1994) with the establishment of the port authorities as government agencies in charge of port planning. Thanks to this law, the management of the ports changed from a consortium to landlord port authorities. These were called to design a port masterplan and a three-years operational plan. Therefore, the central government, as “owner” takes care of the ports – in general of their governance and

planning – through the Port Authorities, that are special not-economic public entities (Assoporti, 2016). By law, Italian Port Authorities do not have financial autonomy and do not make use of land directly. On the contrary, they give concessions to private companies such shipping companies or container operators.

However, the port reform did introduce any indication about port-city interaction, which only happened in 2004 due to the introduction of guidelines for the formulation of port plans.

A renewed vision of the relationship between land and sea comes to us from the city plan which in 2004, also in light of the ongoing deindustrialization processes, proposed to rethink the port as an opportunity for reconnection between the different territorial fragments such as historic center, the coastline, the abandoned areas in east Naples, the suburbs behind the port infrastructure (Comune di Napoli, 2004a).

Despite the awareness of the strategic role of the port, the city plan highlighted that the port, while it has historically constituted and still constitutes an essential factor of the economic structure of the city, today represents, for the cultural and social life, a barrier that separates the city from the sea (Comune di Napoli, 2004a).

As regards the city plan (Fig. 3.20), its actions go in the direction of preserving the urban waterfront as part of the historical identity of the city, creating new public spaces between Municipio square and the maritime station; preserving key industrial buildings such as the the Corradini building as part of the industrial past of the port city. Finally, the city plan focused on the area of the ex-refineries, defined as an opportunity to relaunch a part of the territory from an economic and social perspective. In relation to the refineries, the plan proposed in 2004 a scenario of change focused on the “reclamation of East Naples”. The relocation of all oil plants such as oil tanks and pipelines, was a key condition for the regeneration of the city and its eastern area. The relocation of oil from the city would have allowed the construction of a city park (Comune di Napoli, 2004a). In order to make the transformation possible, different public and private agencies worked together to define the “Implementing Urban Plan” (Pua). The PUA for the area of interest “Ambito 13 ex-refineries” (containing the oil depots of Q8, Esso, and Agip, to be reclaimed and regenerated) was approved in 2009. For the management of this program, the city council created separated agency, “Società Napoli Orientale”, which has been entrusted with the task of carrying out a promotional action for the regeneration and development of the eastern part of the city (Comune-di-Napoli, 2004b).

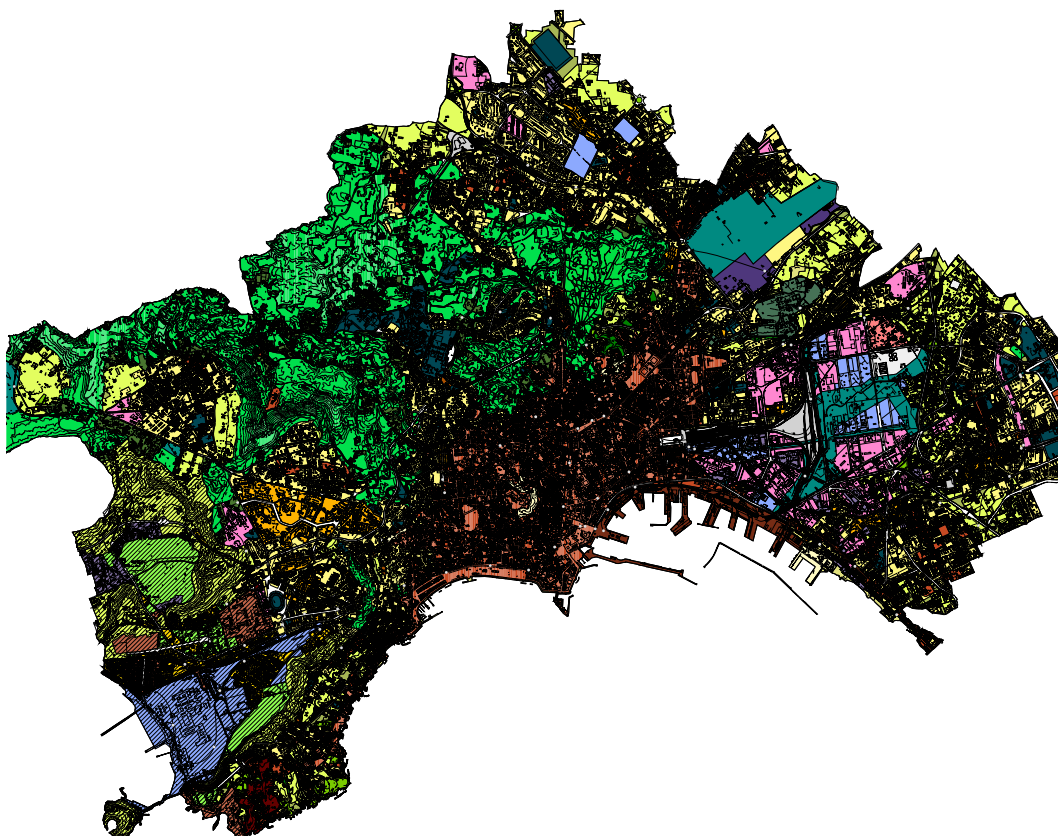


FIG. 3.20 The city plan, 2004. Source: Municipality of Naples website. URL: <https://www.comune.napoli.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/1023>

The main core of the proposal was the gradual re-naturalisation of the oilfield which could become a park as a strategic choice for a new form of integration between Naples and its eastern area. Based on this concept, the Campania Region, the Naples City Council, the “Società Napoli Orientale S.c.p.”, Kuwait Petroleum Italia S.p.A., Kuwait Refining and Chemistry S.p.A., signed a memorandum of understanding for the transformation of the Q8 Area¹². The idea of the relocation of port activities linked to oil was a condition posed by the mayor in the aftermath of the closure of the refineries and continued as a fundamental condition for the environmental and social rehabilitation of the city. The hypothesis of the plan included a construction in

¹² Comune di Napoli. Preliminare pua ambito 13 ex raffinerie. URL: <http://www.comune.napoli.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/9008>

the sea outside the Gulf of Naples of a offshore for oil tankers and the construction of underwater pipelines leading to oil storage areas. The delocalization of oil activities, therefore, could have been used as an opportunity for the port of Naples to create more available spaces and to regenerate buildings which could host other functions. However, after many years no concrete actions have been taken to address this vision.

Improving the relation between the city and the sea, through reviving the port economy, seems to be therefore the main goal of the municipality. The port and its redevelopment can play a crucial in achieving this objective. In addition, the plan stressed out the importance of framing the port at a regional scale as the required dimension to achieve integration between port and urban territory. This was also asking for a rethinking of the governance and its planning tools towards more cooperative approaches.

In this perspective it should be read the attempt, unfortunately failed, of the waterfront regeneration. In 2004, Municipality, Port Authority and Region have tried to work together, proposing a scenario of the port through an architectural design competition for the waterfront redevelopment of the historic port (R. Pavia, 2010).

The competition was won by the Arch. Michel Euvé and his design team (G. Salimei, R. Pavia, F. Contuzzi, M. Di Venosa, R. Massacesi, D. Romani, P. Capolei, F. Capolei, Via Ingegneria, Modimar)¹³ who was only able to receive the task in 2006, after several long bureaucratic delays. The competition was managed by a Public Company “Nausicaa”, composed by the Port Authority, Municipality, Region and Province. The company was established with the aim of managing complex transformations such a waterfront regeneration.

The design team proposed a complex and malleable space in which keeping together temporary and specialized flows in order to create a dynamic and contemporary place. The project, through a “filtering line” identified the waterfront as a large public space (Fig. 3.21). This is achieved by modeling the ground that allows for a panoramic walk and a visual continuity on the port. The port is connected also to the Piazza Municipio subway station, where an underground path which crosses the different layers of the historical city aimed to link the city and the port in line with the vision of the urban plan. Although the design team won the competition, the Superintendency did not approve the project.

¹³ (R. Pavia, 2010)



FIG. 3.21 Project for the rearrangement of the waterfront of the port of Naples. Source: port authority Naples. URL: <https://porto.napoli.it/progetto-la-risistemazione-del-waterfront-del-porto-napoli/>. Last access 2019-12-29

The project, between complaints and delays, never started. Despite the collaboration between different actors, the process failed since it was not able to identify a shared vision of interests. As a result, the urban waterfront is still today in a waiting condition (Fig. 3.22).



FIG. 3.22 Areas between port and city in Naples, 2017

3.6 Conclusion

This chapter has analysed a spatial and governance evolution of the port city of Naples since the Unification of Italy in 1861. Specifically, the chapter has investigated the peculiar spatial patterns and the governance arrangements that since the second half of 19th century have characterised the waiting conditions and institutional inertia of the Naples port city. The case of Naples stands exemplary of a millenary port city where path dependence has played a key role in defining a detachment between port and city spaces as well as patterns of behavior that port and city authorities find today difficult to change.

The study of the history served to better interpret the present and imagine a future that takes into account the historical stratifications, choices previously made and the inertia that has characterized some decisions and therefore to deal with path dependence. Analysing Naples through the lens of path dependence has meant to identify some moments of change—in the language of path dependence critical junctures—as windows of opportunity to rethink the nature of the port in the city. Since the Unification of Italy, changes in the political order, wars and modifications of the economic and social context have, from time to time, pushed the authorities to reformulate the theme of the port-city relationship, safeguarding a principle of integration between land and sea that had accompanied for millennia the evolutionary history of the city of Naples. However, other choices could have been made only if the past had been differently interpreted, the present differently agreed and the future differently imagined. The result was that at each critical juncture, path dependence did nothing but reinforce inertia processes, confirming an inability by the authorities, despite having widely accepted the separation as a problem, to identify integration processes between port and territory.

While therefore in other European cities such as Rotterdam or Antwerp starting from the second half of the 19th century ports were becoming strategic nodes, in Naples authorities opted for the construction of a new port in the city which, if on the one hand was motivated by the idea of building a relationship of continuity with the city, on the other laid the foundations for a separation between port and city that has lasted until today.

The study of the archive documents has allowed for the reconstruction of the constellation of actors which have followed one another as on a theater stage. Two main critical junctures have been identified. Each of these changes in time were characterized by a specific relationship between port and city, change of imaginary,

and different key players. What has been called as **“Port-city”** refers to the millenary origins of the city, when history and legend gave testimony of the port as an inseparable element of the city. The morphological integration that has characterized this period also reflected a uniformity in terms of governance. City and port were dominated and governed by kings who, for better or for worse, looked at the port as the big window of the city on the sea. This intimate relationship has dissolved over the centuries leading to a physical and governance detachment as a result of a change in the political scene with Naples that ceases to be capital of the kingdom.

The first critical juncture **“The port next to the city”** introduced the loss of the economic and political power of the city which marked the beginning of a period of institutional uncertainty for the port-city relationships in Naples. While in the past the different rulers aimed to plan the city and port together, after 1861 the new political power moved to Turin and therefore quite far from the local problems. The State, as unique actor, gradually decomposed into different authorities, public agencies, autonomous bodies and organizations with overlapping roles, ambitions and competences. This intricate network of actors—composed by navy, autonomous port agency, public works office, municipality, port commissioner, customs, chamber of commerce—prevented the construction of a systemic vision giving rise to a *modus operandi* fragmented and inert which institutionalised and cemented in the history of Naples. In this uncertainty and despite the political debate and protests against the construction of a new port within the city, the central government decided for a new expansion next to the historic city center. Due to lack of space, the port never managed to function as it should have, generating only conflicts with the city. This choice therefore was the first step towards a port-city detachment.

“The port outside the city” was the second main critical juncture. This moment of change introduced the construction of the modern port. During the Fascism regime Naples became one of the most important Italian oil port. The port continued to expand eastwards, growing on itself, but without really creating territorial integration. Refineries, new docks to the east, roads and railway infrastructures definitively separated the city from the sea. The post-war reconstruction was not perceived by the government as an opportunity for change. After the war the fact that the city was growing in scale as well as the port traffics would have required a rethinking of the nature of the port and its spaces on a regional scale.

Later, container revolution since the 1970s found an unprepared port, with obsolete infrastructures and a lack of connection with the hinterland. Path dependence played a key role in this. The nature of the port of Naples was that of a mercantile port used to dialogue with the sea rather than with the hinterland. In addition, due to pressure from cooperatives, it was preferred to focus on the multifunctionality of

the port rather than specialize it in a specific sector. These dynamics have meant that the construction of the container terminal ended up disintegrating the port-city relationship, making the port an insurmountable barrier within the city and isolated within its own port perimeter.

Deindustrialisation processes since the 1980s were an opportunity to rethink the port-city relationship once again on a different scale, as demonstrated by the vision of the port agency at that time. The port could have acted as a catalyst for a broader territorial regeneration. This was also the ambition of the city plan at the beginning of the 2000s which, however, had not succeeded in its scope rather accentuated l'idea di separazione con il porto senza mai entrare nello specifico della pianificazione di questa relazione. The awareness of the value of the waterfront as a common good came to Naples very late. This phase was a renewal of port-city link and it was another opportunity to go beyond path dependencies and to shorten the historical cultural distance between port and city. However, the project was not constructed from a common and shared vision and it actually led to a result of non-action.

Some path dependencies clearly emerge from history and these are useful to define some possible directions for a change of perspective.

The first dependence concerns space and the conflict emerging from the coexistence between the operational port and the urbanized areas. This conflict is the result of a cultural attitude that has been built up over the centuries. This emerges clearly from the first decisions of the central government in the 19th century to build the modern port close to the city without giving breath either to the city or to the port. Having a port with such a dense urban structure behind poses questions that needed at that time, as today, to look at the port-city relationship from a regional perspective.

The second dependence emerging from history refers to the dimension of governance and in particular to the inertia which has always characterized governance arrangements. Modernity introduced significant transformations, changing the imaginary of mercantile port city of the Renaissance time. The unity of the political power was replaced by a plurality of actors which have started to plan the port as a rigid and solid system lacking of common visions. As a result, the port has become the infrastructure machine we still see today.

Over the years, these two paths have generated: 1. detachment with respect to the local scale; 2. isolation within its enclosure and inability to build regional integration; 3. Fragmentation on the scale of the landscape where there is no territorial planning capable of looking at the port as an opportunity for territorial regeneration. These three aspects, and specifically the different levels of separation between

port and territory in Naples, will be analyzed in detail in the next chapter which will analyse Naples in light of recent port reforms and their possible impacts on the definition of the quality of the areas of interaction between land and water.

4 The Port Network Authority of Central Tyrrhenian Sea

A new critical juncture for the Campania port system?

4.1 Introduction

This chapter deals with the analysis of the critical junctures introduced by the recent clusterization of ports in Campania region since 2016. It investigates the regional scale of the port in light of the recent policies and port reforms which have led to the regional port system of the Port Network Authority of the Central Tyrrhenian Sea. The historical investigation presented in the previous chapter has pointed out the presence of unresolved spatial and governance conflicts with which the authorities today still relate although with a significant change in scale of the port. The recent institutional change seems to create a unique opportunity to move beyond path dependence, reconceptualizing the port as a strategic element for the city and the regional territory towards new forms of integration. However, this enlarged perspective also challenges the inertia of governance processes and the separation of responsibilities which have appeared to be cemented both in physical spaces and governance arrangements of Naples port city. Based on theory, the port reorganization might open a window of opportunity to rethink the existing

institutional arrangements and spatial structures as well as of the longer-term plans of all actors in the region. It also requires a new conceptualization of the role that space can play in the new institutional setting.

The analysis carried on in this chapter investigates therefore to what extent the recent institutional change represents a real opportunity towards integration or it is simply reinforcing old logics of separation.

4.2 From port city to port city region

As highly connected to the city palimpsest, the port of Naples has slowly lost its dual nature of landscape and urban space to develop into a place of logistics on a larger scale, a sectoral machine that has moved away from citizens and their collective imagination (M. Russo, 2016; M. Russo & Formato, 2014; M. Russo & Miano, 2014). This process of detachment has cemented over the centuries. However, recent changes in the governance arrangements suggests a break into the path. Is this really the case?

The reorganization of the Italian port legislation through the legislative decree n.169 in 2016 has introduced port systems. These represent a new institutional reorganization aiming at merging ports within the same region, improving therefore efficiency and logistics. This new development offers both opportunities and challenges for many cities that are part of the larger region to which these ports belong.

Specifically, the new spatial and governance reorganization has resulted in the creation of the Port Network Authority of the Central Tyrrhenian Sea as an authority overseeing the Campania ports of Naples, Castellammare di Stabia and Salerno. This has meant that the area of competence of the Port Authority today goes far beyond the city of Naples and it encompasses a much broader coastline and maritime landscape under the name of metropolitan area of Naples.

These recent changes point out how institutional change can create both new opportunities for ports, cities and region and also be restrained by existing spatial patterns and governance arrangements. The three cities have in fact their own long-standing planning practices, but these are not aligned among each other or coordinated on a regional scale. In fact, port authority and municipality co-exist competing for space while lacking common goals, values and tools to achieve them, leading to a situation where large spaces are in a waiting condition.

The current separate development paths is cemented in physical spaces, such as infrastructures, and buildings, as well as land use dedication (Arthur, 1980; David, 2007; Hein & Schubert, 2020; Sorensen, 2015). As the previous chapter has shown each of the actors has independently developed separate practices and plans that act to reinforce decisions and power relations of the past.

For example, the port of Naples has maintained its location close to the historic city center, while the city has continued to grow in several directions, cutting off the extension space for the port. The lack of regional scale collaboration that would have allowed for a relocation of (some) port activities or for shared spatial development of port and city has led to the creation of land-side road and rail infrastructures that separate the city from the port and the water (Bosso & De Martino, 2017). East Naples represents a tangible example of a site where competing interests block spatial development and the design of a shared future (Fig. 4.1).



FIG. 4.1 Naples, view on the container and oil port

This strategic area is home to oil installations and containers terminal that serve the city of Naples and beyond. Several planning initiatives exist for this area. Since 2016, the port authority's plan has proposed the expansion of the container terminal, doubling the current capacity of the port from about 400000 to 800000 TEU with a new platform of about 25 hectares into the sea (Fig. 4.2). This plan conflicts with the city vision for the same site, which in 2009 proposed on the contrary the preservation of the existing industrial architectural heritage and a redevelopment of the existing coastline as a new urban waterfront.

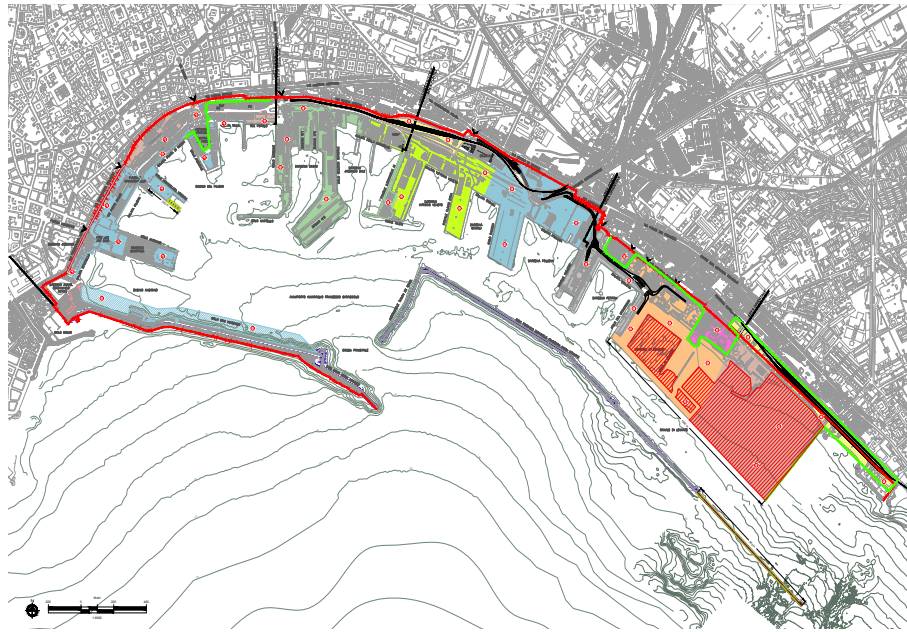


FIG. 4.2 Port masterplan by the port authority. Vision by 2030 with the planned container terminal on the bottom right

To plan for the future, it is crucial therefore to understand the governance arrangements and the needs and interests of all stakeholders involved as they have evolved over time. The creation of the Port Network Authority of the Central Tyrrhenian Sea has created a unique opportunity—in the language of path dependence a “critical juncture”—to reconceptualize the relation between port, city and region in Naples (De Martino, 2020).

The chapter therefore presents a spatial-governance analysis of the port of Naples and the regional territory, asking to what extent the merging of ports represents a tool to overcome historical conflicts towards a more integrated approach. In answering the research question, this chapter aims to firstly analyse the system of ongoing policies and plans and their spatial impacts. Secondly, the contribution triangulates these data with the results of interviews with selected key actors who have played a significant role in port city planning. The combination of policy document analysis and semi-structured interviews will provide a comprehensive picture of the visions at stake and the related spatial impacts with the ambition to identify new possible directions for the future.

4.3 Path dependence and critical junctures

This chapter proposes to look at the port territory and its possible transformations as closely related to its history. The concept of path dependence and terms such as “critical junctures” become the interpretative tool to understand the stratification of institutions, the formal and informal relations among planning authorities and how institutional changes in the current structure can represent a window of new opportunities (Arrow, 2004; Arthur, 1980; David, 2007; Hein & Schubert, 2020; Mahoney, 2000; Ramos, 2017). In Italy the establishment of port systems is a critical juncture whose effects and challenges are yet to be understood. Path dependence becomes an innovative concept to read the inertia of spatial permanencies but above all the inertia of governance models, of the arrangements among authorities, the spatialisation of power relationships and the stratified and consolidated forms of management of the entire port planning, as well as the planning of the areas of interaction between port, city and the larger region. This concept allows to identify some inconsistencies that escape to a conventional representation of history that looks only at the stratifications of the city. The proposed methodology aims to help better understand the current problems and also reorient the processes of physical, spatial and governance transformation in the future.

Today in Naples the new container terminal planned by the Port Authority could impact the small strip of the coastline of the city of San Giovanni a Teduccio. This can have significant consequences from an environmental, economic and cultural perspective. It is clear that the inability of building a shared vision is the result of a system of consolidated decisions that have worked progressively by detaching the port from the city, and making the port a specialized and sectoral infrastructure.

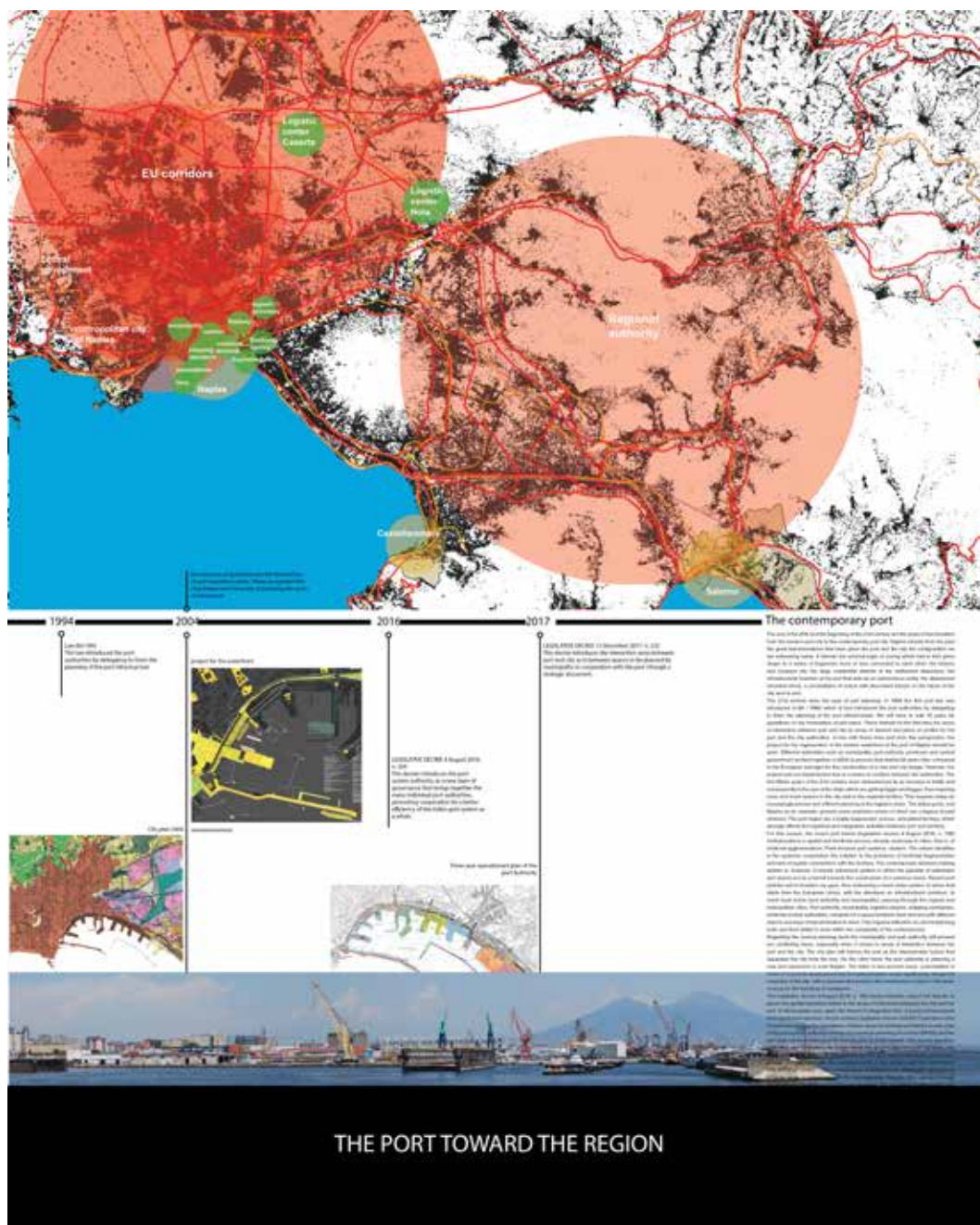
Looking at Naples through the lens of path dependence suggests to identify alternative reading of the territory to analyse the layers of what André Corboz has defined as “urban palimpsest”, to better understand the wide spectrum of events, traces, modifications that first have connected and later separated Naples from its coast line.

This approach guided the semi-structured interviews—whose results are discussed later in the chapter—with Pietro Spirito, President of the Port Network Authority of the Central Tyrrhenian Sea between 2016 and 2020, Carmine Piscopo, professor and city planning councilor of the municipality of Naples and Ivano Russo, in 2017 manager of the cabinet office at the Ministry of Infrastructure and Transport in

Rome. The choice of actors is to be found in the desire to identify the specific levels of planning directly involved into the port city and region relationship. The interviews were based on open questions, which had the aim of getting a grasp of the visions of the different authorities and in particular to understand how each of the actors perceived the port-city relationship. The main focus of the interview was on investigating the existence and therefore impacts of path dependence on the definition of space. Specifically, the interview had the ambition to firstly test the research hypotheses understanding whether the actors were aware of path dependence and secondly to understand to what extent the inertia has prevented from planning the port-city relationship in a different way.

4.4 Governance: current visions and critical junctures in the institutional path

The actors which dominate the political scene in Naples are very diverse. There are actors which are strategic that means that they have the power resources to take actions (Hufty, 2011). In the case of Naples, the EU, the central government, the Superintendence, the Navy, the region, the port authority are the public bodies which belong to this category. Moreover, private actors such as shipping companies and logistics providers also represent quite strategic actors which have the resources and power to influence decisions and institutions. There are actors who are relevant and therefore have the resources to be strategic and make things happen, but they do not use that power; rather they are dominated by other actors. The municipality, for example, belong to this category. Finally, there are secondary actors which do not have enough power to change the rules of the game but are committed to influence the debate bringing in new ideas. Citizens and community associations belong to this last category. All these actors act upon the port in different ways using specific plans to put ideas forwards resulting often in the conflict we experience today at the intersection of land and water (Fig. 4.3).



Due to the complexity of the contemporary interaction spaces, porous and liquid (Bauman, 2011; Manzini, 2019), these actors meet and collide for a space of particular spatial and economic importance, as well as social and cultural. Finding solutions in this space is therefore not a simple task mostly due to path dependence. This is evident in the choices that today see the municipality and the port authority, among other authorities, unable to identify a solution that holds together economic and infrastructural development and the enjoyment of the coastal landscape. Therefore, rethinking the spatial, infrastructure and economic nature of the port asks for a rethinking of the governance structures and above all its inertial processes.

The analysis presented in this chapter concentrates on some of the above mentioned actors, those who directly compete for this liminal space at different scales: central government, municipality and port authority.

The sketch below (Fig. 4.4) shows the response by Pietro Spirito, President of the Port Network Authority of the Central Tyrrhenian Sea between 2016 and 2020, to the question posed during the interview in 2017 about how he envisioned the port-city relationship. The sketch clearly frames the dialogue at the regional scale, as enforced also by the recent national port legislation.

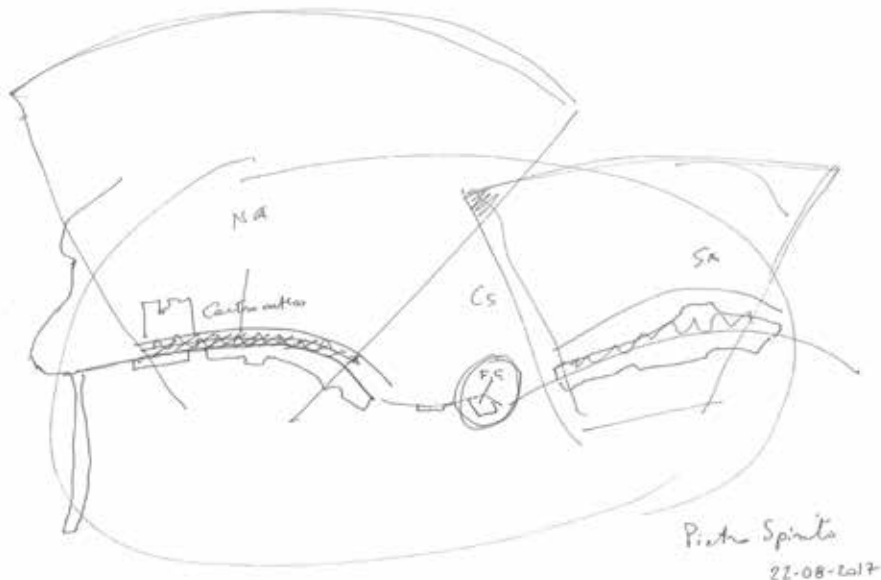


FIG. 4.4 Sketch by Pietro Spirito, developed during the interview conducted by the author in August 2017.

At a national scale the Ministry of Infrastructure and Transport (MIT) is proposing an

equal approach to port planning, promoting integration between ports and European corridors through port systems (Ministry-of-Infrastructure-and-Transport, 2014). The recent reorganization of port legislation through the legislative decree n. 169 of 2016 has in fact institutionally and spatially combined ports within the same region introducing a significant critical juncture in the current institutional path¹⁴. The recent legislation n. 169 of 2016 has indeed reorganized the previous port legislation. The reform followed the port and logistics strategic plan introduced nationally in 2015 in response to the Italian decree “*Sblocca Italia*” in 2014. The port and logistics strategic plan were the prerequisite for the necessary interventions in response to some difficulties of the Italian ports. All Italian ports are in fact small, without or with very poor connections with the hinterland and with an slow and complex bureaucracy. The port reform stems from the need to improve the competition of national ports both from an economic and infrastructural point of view. In terms of governance, the reform has reduced the number of port authorities from 24 individual port authorities to 16 port systems in charge of the activities such as programming, coordinating and controlling port operations and services as well as promoting forms of integration with hinterland and the logistics chain.

This decree and the consecutive law n. 232 established in 2017 introduced relevant changes in both space and governance of Italian ports, providing them with more logistic efficiency and recognizing the importance of the areas of interaction between land and water as strategic places to be transformed through new forms of integration. However, the recent legislation does not properly address the issues related to the improvement of the quality of this liminal space and, when it does, it is mainly to deal with technical and infrastructural aspects.

It can be said that the topic of port-city interaction areas is not new in Italy. The relevance of the planning of the areas of interaction was introduced nationally in 2004 through the guidelines for the formulation of the port regulatory plans, only ten years after the first port reform (law n. 84 of 1994)¹⁵. The national guidelines identified a sub-area called “*port-city interaction*”. According to the guidelines, competition between port and city authorities was played in the spaces at the intersection of land and water. These guidelines were suggesting to focus on urban axis to allow for a physical and social connections between the port and the city. The redevelopment of the Naples waterfront which started in 2004 responded in fact

¹⁴ DECRETO LEGISLATIVO 4 agosto 2016, n. 169. Repubblica Italiana website. URL: <https://www.gazzettaufficiale.it/eli/id/2016/08/31/16G00182/sg>. Last access 09/06/2020

¹⁵ MIT. Linee guida per la formulazione dei piani regolatori portuali (art. 5 Legge n. 84/1994). URL: <http://www.mit.gov.it/mit/sites/lineeguidaprp/lineeguidaprp.pdf>. Last access 29/06/2020

to these guidelines. Unfortunately, the process has never been completed and the historic waterfront still experiences a waiting condition (Fig. 4.5).



FIG. 4.5 Municipio square and the historical waterfront still in a waiting condition

National legislation came back to the term “interaction” in 2017 with the Legislative Decree n.232. The main innovation introduced by the law was in indeed the System Strategic Planning Document (DPSS). In fact, the law stated that the port system master plan must be made up of the DPSS together with the port master plans of each individual port of the regional system. The DPSS identified the perimeter of these areas and specifically the port and retro-port functions, the port-city contact areas (at the scale of the city) and the last mile infrastructure connections of road and rail type with the individual ports of the system and the crossings of the urban center. The law delegated the planning of these areas of interaction to the municipalities, after a consultation with the Port System Authority. This turned out

to be a significant change since it asks for a direct involvement of municipalities as direct authorities in charge. The strategic document opened up some opportunities that go in the direction of a multiscalar and multisectoral planning. However, the efficiency of having separated the three port plans and how the collaboration among authorities could work still remain to be understood.

This framework of European and national policies overlap with highly fragmented local plans. Here, we will refer in particular to the visions contained in the city plan defined as “Piano regolatore generale PRG” (2004) and in the port master plan (three-year operational plan 2018-2020).

The city plan of 2004 gave particular attention to the area of San Giovanni a Teduccio in East Naples, as a fragmented area at the intersection of port flows (Fig. 4.6) and a densely populated territory (Comune-di-Napoli, 2004).



FIG. 4.6 View of Naples from San Giovanni a Teduccio and towards the regional hinterland.

In San Giovanni several projects have been put forwards in the last decades. These projects have seen the collaboration of different public and private parties. Some of these projects have succeeded (such as the University Federico II and Apple academy in the building of the ex Cirio), others are in progress (such as the expansion of the port terminal in East Naples), others have failed (such as the beach in the area where today is planned the port expansion). According to the city vision, the port while historically has constituted an essential part of the city's economic, today represents a barrier that separates the city from the sea. The city of Naples has a coastline of almost twenty kilometers, but only for less than a third of this length there is a direct connection with the sea (Comune-di-Napoli, 2004). Due to the spatial proximity with the active port the municipality has always intended to give suggestions to the port authority to better plan the port-city relationship. The guidelines contained in the city plan were oriented towards the preservation of the waterfront as an essential asset to the historical identity of the city, suggesting the enhancement of a monumental public space between Piazza Municipio and the maritime station involving also the San Vincenzo pier as a long public promenade which extends into the sea for about two kilometers.

The regeneration of the oil field is also part of the city strategy. In 2004, the plan imposed the delocalization of oil facilities outside the city, specifically into the sea outside the gulf. The delocalisation concerned not only the storages, but also any oil facilities from the port as well as the pipelines which connect the oil dock to the storage areas. The reason was that oil was incompatible with the urban settlements. From this perspective, the elimination of oil facilities could be seized as a strategic opportunity for the future of the port and the city in an era beyond petroleum (De Martino, Hein, & Russo, 2019). This would have made space for the development of activities more profitable, as well as for the revival of shipbuilding activity (Comune-di-Napoli, 2004). The area of San Giovanni a Teduccio has been the focus also of a dedicated implementation plan (PUA, 2009). Within this plan the reconquest of the sea is a strategic theme that holds together environmental and economic necessities. This goal can be achieved, according to the plan, by eliminating the physical barriers between the city and the coastline as well as by reducing the impact of the port on the territory (Comune di Napoli, 2009).

Despite the common interests in the regeneration of the historic waterfront, the design orientations of the port authority are in conflict with the city ones especially in East Naples. This is a place where history of the industrial past meets (and clashes) with flows of logistics and global economy. The port plan identifies three fundamental directions around which to concentrate the planning focus:

1. the implementation of special economic zones (ZES);
2. the recovery of the historic waterfront and use of the San Vincenzo pier as a public promenade;
3. the

infrastructure expansion of the port in the eastern area. The port of Naples has historically suffered the lack of connection with its hinterland and this has paralysed spatial developments. The future of the port is therefore strongly linked to the potential development of its hinterland from a productive and logistic perspective.

Since 2016 and to better link the port to the economies of the territory, the regional authority has introduced the ZES in Campania (special economic zones) which are *“geographically delimited and clearly identified areas, located within the borders of the State, also consisting of areas that are not territorially adjacent as long as they have a functional economic link, and that includes at least one port area”* (Regione Campania, 2016). This introduced a critical juncture that aimed to re-industrialise the territory, promoting the development of activities already present in the area and to attract new investments and businesses from abroad (Fig. 4.7).

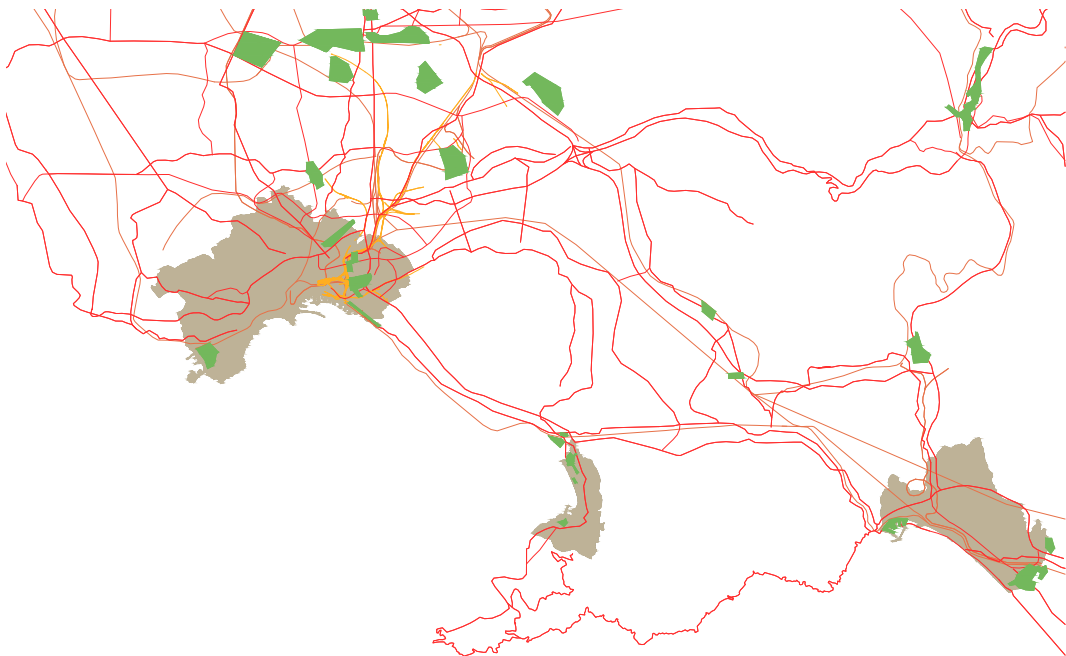


FIG. 4.7 Regional scale of the port from Naples to Salerno. In green the productive and logistic centers of ZES. Source for the data: mapcruzin.com; diva-gis; gadm

As for the historical and cultural dimension, there have been different attempts to collaborate between the port, the municipality and the provincial and regional bodies that only in 2004 decided to join forces in a concrete action and through an architectural design competition to redesign a piece of the historic port which was in a waiting condition for decades. The Arch. Michel Euvé and his design team won the competition which was managed by the Public Company “Nausicaa” between Port Authority, Municipality, Region and Province. The company was established with the aim of managing complex transformations. However, this juncture has never been seen as an opportunity for a change and after fifteen years this area is still waiting for a regeneration. The waiting condition and the consequent failure of the process, as pointed out by Matteo di Venosa, professor of urban planning at the Department of Architecture of the University of Chieti-Pescara, during the interview in 2017 is to be found in the fact that the process was not adequately constructed (Di Venosa, 2017). *“At the time of implementing the project the design team realised that the draft of the project was not in line with what the Superintendency and the municipality aimed for. The waterfront regeneration in Naples failed for lack of sharing vision. Over the years, the project has been changed by the different authorities, adapting every time to the different interests involved”* (Di Venosa, 2017). According to Di Venosa, this pointed out another problem which relates to temporality, *“a concept which has not been taken into account during the process. Important projects such as a waterfront regeneration needs time to be implemented. Over the years the needs and interests of the actors involved can change as well the actors in charge. Therefore, uncertainty and the different temporalities needed to become essential elements of the project”* (Di Venosa, 2017).

Today the Port Network Authority of the Central Tyrrhenian Sea is in charge of implementing the project in different phases. By the 2020 the goal was to carry out the first phase related to the new Beverello wharf and to restore the former Magazzini Generali building (Fig. 4.8). Today these two interventions are still in a waiting condition. The Magazzini Generali will host both the academic activities of the University Parthenope and a maritime museum (Autorità di Sistema Portuale del Mar Tirreno Centrale, 2017).



FIG. 4.8 "Magazzini Generali" building.

As regard the port expansion, the objective of the port authority was to locate the logistics activities to the east and reduce, in this way, the port pressure on the city. The Campania port system is a large multipurpose port system, supported by a demographic basin with a high population density and connected to important productive centers in Campania, Basilicata, Puglia and Lazio. The new container terminal of the Eastern Darsena will double the currently moved TEU, passing from about 400 thousand TEU to the 800 thousand planned, with 25 hectares of concrete platform into the sea (Autorità di Sistema Portuale del Mar Tirreno Centrale, 2017).

4.5 Space: fragmentation of the regional port system

The whole history and culture of contemporary civilization has its roots in understanding the complex dynamics that have characterized the delicate relationship between land and water (F. Braudel, 1997; F. Braudel, 2017).

In Naples port functions have grown over many centuries, generating a fascinating urban palimpsest with the city which has always maintained a trace of the relationships with its port. In fact, for a long time the port has represented the natural extension of the city towards the sea. Historical maps clearly show the morphological fusion with the form of the piers and quays aligned with the urban layout. Over the years and specifically since industrialization, the port has gradually lost its dual nature of landscape and urban space to become a place of logistics on a larger scale, a sectoral machine that has progressively moved away from the city and the collective imagination of the Neapolitans (M. Russo, 2016; M. Russo & Formato, 2014; M. Russo & Miano, 2014).

The governance and institutional analysis discussed in the previous paragraph has highlighted that spatial separation is the result of a detachment among actors. It is therefore necessary, today more than ever, to look at the port territory as a unitary system. Looking at the port landscape as a whole could help to identify new relationships that escape on a close scale.

The port today experiences different relationships with the city behind it. In the west-central area of the port, adjacent to the lively city center, the contact space between port and city has currently become a cluttered port landscape characterized by abandoned or underused buildings and marginal spaces. Nevertheless, relevant buildings and areas such as the Mercato square, the warehouses, the Immacolatella building keep alive the port identity. Moreover, on the west side, the military port, traditionally closed to the public, is at the core of a long public debate about its return to the city as a public space. Promoters of this debate are the “Friends of Molo San Vincenzo”, an association that has been striving for the pier to become a place for social and cultural experiments between port and the city (Clemente, 2017).

In the eastern area, the logistics flows meet and collide with a highly urbanized and fragile territory, defining a collage of problematic landscapes, at the edge of the infrastructure, an archipelago of heterogeneous fragments waiting for new configurations. They represent pieces of cities, infrastructures, unused or abandoned

areas, polluted soils, abandoned or abandoned buildings that are the result of a heterogeneous and frenetic development between port and city. The old industrial buildings of San Giovanni a Teduccio such as the Cirio or the Corradini building, or even the oil storage field on the edge of the city are significant examples. Here the elements of the urban palimpsest constitute a restriction to the port authority's development goal which has planned a new port expansion in the Darsena di Levante area. However, the project of rethinking the port infrastructure is far from being a reality, re-proposing a waiting condition that has lasted for many years.

If analysed from a larger scale, the area of competence of the port authority is much broader than the only city of Naples and it concerns an enlarged coastline that goes from the gulf of Pozzuoli to the port of Salerno (Fig. 4.9).



FIG. 4.9 Regional coastline of Naples from Pozzuoli to Salerno. Source for the data: mapcruzin.com; diva-gis; gadm

In between there is the tourist and shipbuilding port of Castellammare di Stabia. It is therefore a complex system that involves regional ports all different in terms of morphology, flows and vocation. Naples and Salerno represent the main nodes of the regional system and they have both significant flows. Passenger and cruise traffic flows are the most significant data for the port of Naples which has registered more

than one million cruise passengers since 2017¹⁶. Moreover, Naples still plays an important role in the energy sector (with around 5.3 million tons of liquid bulk and 6 million solid bulk). Salerno, plays a more significant role in the general cargo, such as the car and raw materials with around 1 million tons (RegioneCampania, 2016). As regards the logistics, there are two interports, one in Nola (province of Naples) and another one in Marcianise (province of Caserta). The interport in Nola is managed by two different companies: Interporto Servizi Cargo and Intermodal Terminal Nola. While the interport of Marcianise is managed by a third company, Interporto Sud Europa S.p.A. (RegioneCampania, 2016). These interports are connected to each other and to the port through different railway lines. On the contrary, the port of Salerno does not have a railway connection with the interports. Therefore, the regional port landscape operates today in a condition of spatial fragmentation. The fact that the port is constrained in east-west direction between two former industrial sites (ex-steel industry Italsider of Bagnoli and the area of the ex-refineries of East Naples) contributes to this fragmentation.

It is therefore clear that the rethinking of the port-city relationship cannot concern only the scale of the city itself. There are spatial and governance dynamics that go far beyond the border of the port and the city. Rethinking strategically the port requires to rethink the nature and role of the port, present and future, at different scales. It means questioning its nature, position and economic activities in light of a wider territorial vision. The necessity of having a vision emerges from the study of some European cases (e.g. Le Havre) where planning strategies demonstrate that the theme of the interaction between port and city cannot be solved only on a local scale. On the contrary, the topic is framed by the different authorities in a regional perspective and as a catalyst for territorial regeneration. The recent port governance “Haropa” in France for example, underlines the need to reunite the three regional ports (Paris, le Havre, Rouen) towards a unified plan¹⁷.

This can only happen if the different actors start (again) to conceive the port as an urban, social and territorial infrastructure, thus reactivating a virtuous process of collaboration with the city and its inhabitants.

¹⁶ Central Tyrrhenian port system. Statistics of the port. URL: <https://porto.napoli.it/bollettino-dati-statistici/>. Last access 26/06/2020

¹⁷ Calameo website. 500 ans port du Havre - Naissance d'un port. URL : <https://en.calameo.com/books/001344165ffa6e957a797>. Last access 31/08/2020

4.6 A conversation with the authorities

History matters in port cities and this has emerged clearly as a key argument during the interviews. The evolutionary history of a place gives shape to a specific port-city relationship. According to Ivano Russo, who in 2017 was manager of the cabinet office at the Ministry of Infrastructure and Transport (MIT), *“this story distinguishes, for example, ports of the Mediterranean, and the Italian ports in particular, from the ports of Northern Europe. The first ones are a commercial-mercantile type of ports with little inclination to relate to the industry. This type of ports differs from other realities, such as the Netherlands for example where competitiveness has always been referred to the cost of transportation. In mercantile ports everything is based on buying, selling, customs, defining an image of showcase port, closed towards the city and open mostly towards the sea. There are also other aspects to take into account. While most of the Northern European ports have been unified for centuries (e.g. Germany, Netherlands, Belgium), in Italy the Unification of the country was achieved only one hundred and fifty years ago. This has played an important role in terms of competition, resulting in a significant delay. Therefore, nation-ports like Hamburg, Rotterdam, Antwerp can be an example for Italian port authorities who must put into practice the concept of Nation-port through new policies able to promote the use of the 8400 km of coastline as a single large national port system”* (I. Russo, 2017). The creation of a unified and interconnected network of ports emerged as the only possible way to compete with other European port clusters, such as the ones in Northern Europe.

If history matters governance matters as well. Russo recognized the existence of path dependence in governance processes. He explained that Italy suffers the historical conflicts between the state, regions and municipalities that have given rise to phenomena that he has defined as *“port municipalism”* (...) *It exists a sense of defence of the territory by local authorities as an attachment to their ways of doing and planning the space. This attachment of the authorities is not a completely negative aspect*” (I. Russo, 2017). From this perspective, path dependence seems to be a cultural principle to be even safeguarded.

However, the minister underlined the centrality of the state as a coordinator of the local authorities. He clarified that *“ports belong to the state”* and therefore to a higher institutional level. There is a total of fifty-seven ports of national interests. Their planning is placed under the control of the central government. Russo claimed therefore his own area of competence, arguing that as regard port planning on the sea-side the presence and role of municipalities or other local authorities in the

management of ports should be re-organised. “Their presence in the decision-making process worked in the past in an old logic when the port was part of the city. Today it is no longer the case. The maritime domain belongs to the state. Therefore, the port shape will be the result of specific reflections made within a logic that goes far beyond *the local and regional dimension of the city and the port*” (I. Russo, 2017).

Managing therefore the coordination with local authorities is a complex task, although the central government seems to be open to a dialogue with the different stakeholders, but mostly where there is a real overlapping of interests. Logistics, for example, is one of those. Especially in port cities like Naples with lack of space issues related to the logistics need an active collaboration among different authorities. Building synergies is a necessity since the port infrastructures move across multiple municipalities.

Naval gigantism is a topic that requires active collaborations. The times for a ship into the port for loading and unloading operations have changed compared to the past as well as the size and quantity of goods. This has enormous impacts on infrastructure, logistics and port facilities which will be very difficult to manage in the years to come.

The conversation with Pietro Spirito, who in 2017 was President of the Port Network Authority of the Central Tyrrhenian Sea revealed that the waiting condition was part of the DNA of the port of Naples. According to Spirito, *“Naples is in a state of extreme delay”*. In the last decades other ports in the world have moved and changed. *“Naples, on the contrary, did not move, becoming become a marginal node of a much wider network”* (Spirito, 2017a). According to the President, the expansion strategy represents an opportunity to reduce the disparity with the rest of Europe. But it is more than that. *“There is a need today for wider reconnection because the current situation requires to look at ports not as isolated dots, but as systems. It would be much more appropriate not to talk about cities anymore, rather about metropolitan regions”* (Spirito, 2017a). In this respect, the goal of the new port system is to guide the Campania port region towards unity by clustering the three ports of the Region: Naples, Salerno and Castellammare di Stabia. *“The ambition is to make this system more cohesive, enhancing diversity in order to avoid internal competition. However, this clashes with the history of the institutions in Naples which are characterized by inter-regional conflicts. This has caused the wider competition in the Mediterranean to be lost sight of. For a long time feudalism has imposed the development of the port. The companies felt to be the owners of the port, while the real owner is the State, which entrusts the management of piers and docks to private companies with very specific regulations. This port feudalism has prevented the construction*

of dialogue among stakeholders and those phenomena of dependence that prevent today from planning things differently” (Spirito, 2017a).

Therefore, according to Spirito, in order to move beyond path dependence and improve cooperation at a more regional scale it is necessary to overcome that degree of provincialism that has marked the history of ports in Naples and in Italy in general for too long. In fact, *“what the recent port reform is promoting, mostly to move from 24 port authorities to 15 systems of ports, means to compact the territories making them more homogeneous. The city, according to Spirito, is a very narrow concept with respect to the port reality. The territory of the port, in fact, has a sphere of influence that embraces 14 million inhabitants, so it is much wider than the city of Naples itself”* (Spirito, 2017b). This has a significant spatial claim and reframes the concept of port-city relationship at a higher scale (Fig. 4.10).



FIG. 4.10 The port of Naples from the sea

This changing in scale of the port and the new spatial claims generated by the new institutional umbrella of the port system are challenging the traditional port-city relationship, pushing the different authorities to look for new equilibrium and forms of integration. In this respect, there is no magic formula to be applied everywhere. On the contrary, flexibility is required through solutions that should be respectful of the port identity that cannot be altered. It would be possible to insert some functions within the port enclosure that recall the metropolitan reality. This should be done in order to generate the minimum degree of contamination that is required to establish a relationship. There can be no invasion of the city into the port or the port into the city. It is, therefore, necessary to be respectful of the different functions and identities (Spirito, 2017b).

Carmine Piscopo, Professor in Architectural Composition and Naples City Councilor for Urban Planning returns to the inseparable relationship between port and city. Port and city have always had an intimate connection. This has led to a relation of continuity between the historic city and the port. Over time, things have changed, and city and port have often been separated. According to Piscopo, two main issues may have generated path dependence. The first one is related to the changes in the institutional framework; in the case of Naples, but also in other Italian ports, the European regulatory system—which is often imposed through top-down decisions—has introduced the “rationalization of ports” pushing authorities to frame ports independently of their historical origins and, therefore, kipping out the historical relations with cities (Piscopo, 2017).

The second aspect that has influenced the relationship between city and port generating *modus operandi* still visible today concerns the conflict of competences among Port Captaincies, Port Authorities, Navy and Municipality, and the overlap between the different planning instruments (port and municipal plans). The lack of common vision has generated separation both in terms of space and governance. According to Piscopo, today this separation could also represent an opportunity for change, moving beyond the nostalgic idea of a port and city physically attached to each other. On the contrary port and city should start to leave a relation based on distance. There are, in fact, a set of new possible relationships, which are difficult to be grasped if we stick to the traditional urban reading of the city (mostly still based on the understanding of the *cardo-decumanic* spatial patterns of the city). On the contrary, if we move the focus interest towards the east side new intangible relations between the city and the port can be identified (Piscopo, 2017).

According to Massimo Clemente, professor and CNR director the inability to define new and possible forms of relationship between port and city is to be found in the weakness of contemporary urbanism. Clemente has been engaged for years in studying the relationship between the city and the port from the perspective of the sea. From this perspective, the separation between the maritime and port communities is evident. And it is for this reason that in recent years Clemente is promoting the role of associations as a form of design experimentation. From this perspective, the urban planner would become a cultural facilitator as well as a planner, able therefore to put together the different figures who rotate around the ports. The latter today are experiencing enormous conflicts. Therefore, in the absence of a territorial planning the port reform, on the one hand aims to fill this gap by creating a logic of system, on the other it weakens even more the cities. *“Metropolitan urban systems in Italy are highly fragmented and port reform can be an opportunity if used to trigger institutional change”* (Clemente, 2017).

4.7 Conclusion

The chapter dealt with the theme of the port city interaction, both space and governance, in the Naples port city region. The main argument discussed was that the future of the port of Naples is influenced by phenomena of path dependence to the extent that today any possible change lies within an articulated system of choices and ideologies previously undertaken. The chapter questioned the creation of the recent regional port system—in the language of path dependence a critical juncture—to evaluate to what extent this represents an opportunity for a real spatial and institutional change.

In answering the question, the chapter has triangulated policy document analysis with interviews to the most relevant authorities still called today to play an active role in planning port-city relationships at different scales. These are Pietro Spirito, President of the Port Network Authority of the Central Tyrrhenian Sea (2016-2020), Carmine Piscopo, professor and city planning councilor of the municipality of Naples and Ivano Russo who in 2017 was manager of the Cabinet Office at the Ministry of Infrastructure and Transport in Rome.

Regarding the current planning tools the municipality and port authority still present two conflicting views, especially when it comes to areas of interaction between the port and the city. The city plan still frames the port as the impenetrable barrier that separates the city from the sea. On the other hand, the port authority is planning a new port expansion in east Naples. The latter presents many potentialities in terms of economic development but its implementation would significantly change the coast line of the city with a scenario that involves the construction of about one kilometer of quay for the handling of containers. The legislative decree 4 August 2016, n. 169 seems however, even if not directly, to ignore the spatial dynamics linked to the areas of interaction between the city and the port. It reformulates once again the theme of integration from a purely infrastructural and logistical perspective. The legislative decree 232 of 2017 operates a step forward by recognizing the importance of these areas by pointing out that the master plan of the port system authority should be composed by a strategic planning document (DPSS) and the port plans of the individual ports that are part of the system. The decree therefore identifies and perimeters the areas dedicated to port and retro-port functions, the areas of interaction between port and city and the last mile infrastructural connections of road and rail type with the individual ports of the system and the connections with the urban center. However, the modalities of intervention and cooperation between

the municipality and the port authority and how to transform this strategic document into an operational tool for defining a shared project remains to be understood.

As a result, today the port and city plans are not yet aligned with each other. This has been confirmed also by the interviewees that have recognized the existence of path dependence in the form of inertial and consolidated mechanisms that have meant for port and city to be planned in a separate and sectoral way. There are actors like Ivano Russo, who recognized path dependence in the way the history of the territory has given shape to a specific vocation of the port, giving it an identity that in some ways should be even preserved. Path dependence, however, is to be found in the way in which this principle prevents a healthy relationship between local and national authorities. Therefore according to this vision and in a contemporary logic in which the port is no longer just part of a city, but of the region, the contribution of local authorities should be reviewed in favor of a national coordination.

According to Pietro Spirito, this defense of the territory, which he has defined as *port feudalism* has created over the years an anarchy of planning with private companies that have operated as if they were the owners of the port. Consequently, a regional coordination would help to see the relationship between port and city in a different way. Piscopo, on the contrary, aimed to give value back to the city. He identified path dependence in the way recent European and national policies are pushing local authorities to plan exclusively following parameters of rationality and efficiency. This has ignored the history and culture of the territory to which every single port belong.

It is evident that every actor still claims its own area of expertise at the expense of a unitary design and vision. A careful assessment of each actor and related path in light of their morphological, social and political structure is needed to overcome inertia. From a theoretical perspective we should expect a break in the port-city path dependence among the Port Authority and the municipalities (including Castellammare and Salerno) and the regional authority to develop a comprehensive plan for the three ports and cities of the region as a unique and resilient system. Such a shared plan asks for a change of perspective, a conceptualization of port, city and region not through conventional lenses which have focused separately on economics, technology and infrastructure, but a truly integrated approach combining spatial, social and cultural values. Some of the actors are aware of the need for innovation, but as the theory pointed out there are forces, dynamics and consolidate practices that often act against a real change of perspective.

Notes on the article and interviews

Part of this chapter has been published in the journal Portus Plus (for more information please visit the following link: <https://www.portusplus.org/index.php/pp/article/view/202>).

The interviews were conducted by the author between June and August 2017. The conversations were recorded and the contents presented in this chapter are based on a reinterpretation of the discussions with the interviewees. All the interviewees, read the draft of chapter and have authorized to proceed with the publication of the contents and their names.

5 Rotterdam- Antwerp-Le Havre

A spatial-governance
understanding of the
port city regions along
the Hamburg-Le Havre
range (HLH)

5.1 Introduction

The system of European port cities cannot be examined as unified entity. On the contrary, each port and city have its own specific feature in terms of geography, economy, hinterland connections, and governance arrangements. These factors play a crucial role in shaping spatial patterns. In addition, the presence of path dependencies, as we argued in the previous chapters, explain why ports do not—or no longer—develop in generally similar ways. On the contrary, space is the result of specific rules and governance arrangements which are place specific. However, a comparative analysis between different port cities turns out to be a valid approach for mapping out similarities and differences among territories. In fact, different European contexts—among them Rotterdam, Le Havre, Antwerp—deal with similar problems, such as conflicts for the use of land, energy transition, and conflicts of competences among actors. Therefore, this chapter aims to understand firstly how ports and cities have evolved and secondly what is the impact of governance in

defining the port-city relationship. Policy documents and interviews to the relevant actors have helped to understand what tools they have put in place to overcome conflicts and path dependence.

The previous chapters have discussed the case study of Naples, where port and city are still separated in spatial and governance terms. The analysis has shown that port and city authorities have a tendency to become committed to develop institutions and spatial strategies in a certain way as result of their historical beliefs and values.

The case of Naples has revealed three scales of conflicts which generate spatial and governance separation. A first separation refers to the cultural dimension at the scale of the city (port-city) and in particular of the historical city, where despite the many attempts made by the authorities, there is still no waterfront. At this scale the urban community aims to get back to the sea. The second separation concerns the economic and infrastructural dimension at the region scale (port-region). At this scale the port appears to be disconnected from its regional hinterland and unable to build economic and productive connections. The last separation concerns the ecological dimension at the scale of the landscape (port-nature). This dimension refers to an inability by the authorities to integrate the port transformation as part of the landscape.

The previous chapter has concluded that in order to plan the future of the port in conjunction with the city and the region in Naples new spatial configurations, changes in the economic models, port-city-regional collaborations and, most importantly, a profound innovation in the governance arrangements are required. According to theory, to identify strategies to pursue these changes, it becomes crucial that all stakeholders have a keen awareness of each other's needs and interests, and that port and city authorities need to identify common values.

Therefore, this chapter analyses three port city regions: Rotterdam, Le Havre and Antwerp along the Hamburg-Le Havre range (HLH) (Fig. 5.1). The chapter is not a comparative analysis among European ports, rather an investigation of those specific spatial strategies and governance arrangements that we expect can be used as inspiration to break path dependence in Naples port city region.

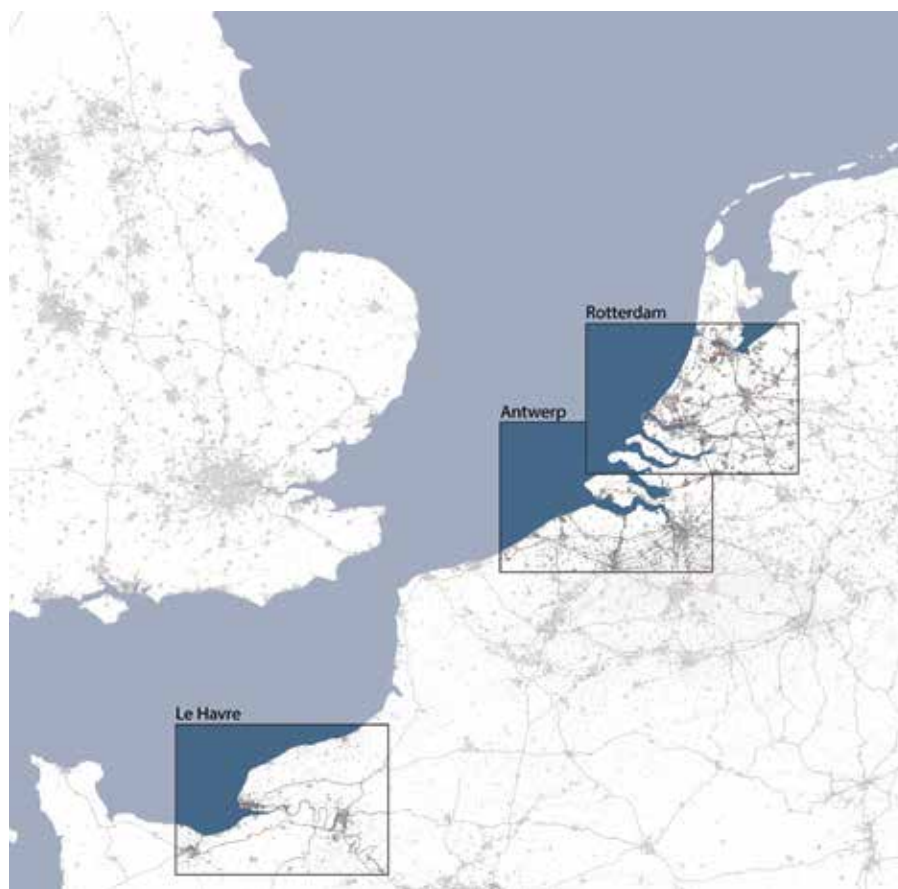


FIG. 5.1 Research area along the Hamburg-Le Havre (HLH) range. Map from the North Sea research program. Sources: Corine LandCover data set 2016 (Copernicus) and EuroGlobalMap data set 2017 (Eurogeographics). Map by Yvonne van Mil.

5.2 Rotterdam, Le Havre, Antwerp: towards a twofold objective

In this chapter the spatial-governance analysis, introduced in chapter 2, is applied to understand and evaluate spatial patterns and the governance arrangements in the selected case studies.

Particularly, the chapter focuses on Rotterdam, Le Havre and Antwerp as three different examples which show, at different scales, the port coming back to the city. All the selected ports follow the model of the landlord port. However, this differs in the way in which individual actors interact to each other, resulting in different governance arrangements. This difference serves to identify alternative interactions among actors and spatial outcome in terms of port city (and regional) relationship. Moreover, the choice looked at those specific territories where different authorities are working towards a twofold objective: on the one hand towards the improvement of the port economy and logistics infrastructure through regionalisation processes and, on the other hand, towards the revival of the port-city relationship from a historical, cultural and social perspective.

Space is analysed through two dimensions. On the one hand, the local interface between the city and the port. On the other hand, the infrastructure spaces are analysed and therefore the regional interface. Here, the focus of the analysis is on the impacts of the territorial infrastructure, its flows, regional clusters and the belonging of ports to larger scales dynamics. Space is not taken as an abstract model. The maps attempt to highlight the specificities of the territory through a minute drawing that identifies and recognizes the urban palimpsests. Mapping the spaces has meant to identify and recognize spatial relationships deriving from a long-term history that persists even after the above-mentioned critical junctures coming from history.

Governance is analysed as having different dimensions. Firstly, it refers to the visions and ambitions of the actors as perceived by the analysis of policy documents and the interviews conducted to some key actors at the central governments, port authorities, regional and municipal authorities in Rotterdam, Antwerp and Le Havre. The analysis shows that problems in port cities are not universally shared. What is a problem for some actors can be a solution for others. Therefore, in any specific context, what is the problem at stake can change depending on the actors involved. The second layer refers to the institutions, as the main laws and rules that govern the territory. Understanding who is really in charge, whom belong the areas and

how land use management work are key questions here. The last dimension deals with planning cultures (centralized or decentralised planning approach), specific arrangements between actors and if there are processes of interaction / cooperation that led to spatial strategies. Specifically, the analysis focuses on how and why interaction takes place.

The research draws data from policy documents, reports, website of the port and city authorities and interviews to the relevant actors in the selected port cities in order to get a grasp of their ambitions on port-city relations. Actors at the port authorities, region, and municipalities have been asked to elaborate on the specific challenges they are facing, the scales that are involved and the strategies they aim to put in place to overcome institutional inertia.

Three different scales and micro stories have been identified. The first one refers to the port-city scale. Here, specific projects and collaborative strategies are discussed to understand how actors deal with common ambitions at the port-city interface. The micro story of the Rotterdam Makers District (M4H) is emblematic of this (Fig.5.2).



FIG. 5.2 Rotterdam. Port-city relation. In yellow the M4H area. Map developed by Paolo De Martino. Source for the data: mapcruzin.com; diva-gis; gadm

The second scale refers to the port-region. Here the concept of interface captures a regional dimension, becoming a conceptual tool and opportunity for territorial regeneration. This scale concerns a transition from idea of port city to port city region. The focus of planning authorities has moved away from the traditional historical waterfronts. The contact areas between port and city—mostly between old and new industries and the peripheries—are porous spaces characterised by undefined borders. These areas represent the most fragile parts of the territory, but also inspiring and where porosity creates opportunities for flexible coexistences between land and water. The case of Le Havre region is an interesting example that goes in this direction (Fig. 5.3).

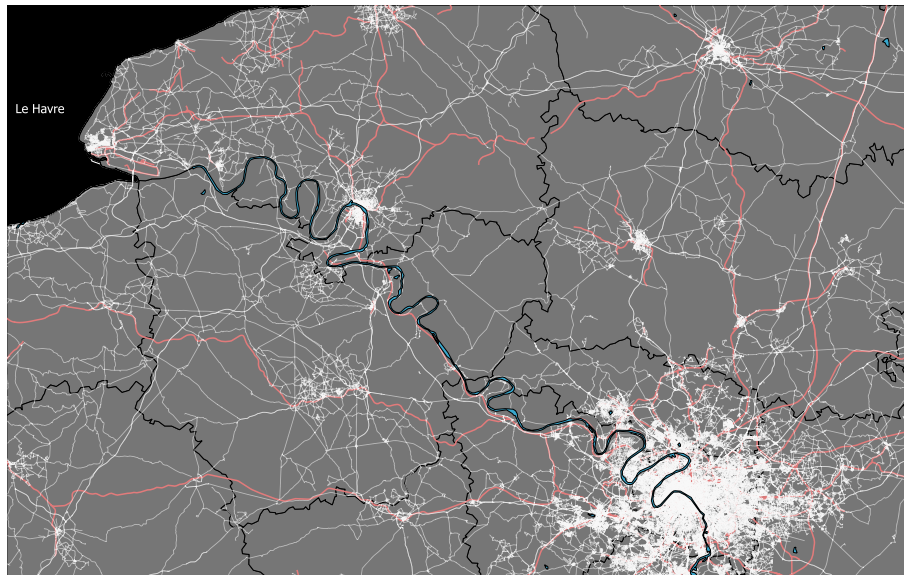


FIG. 5.3 Port-city region of Le Havre. Map developed by Paolo De Martino. Source for the data: mapcruzin.com; diva-gis; gadm.

The last scale of the analysis refers to the relation between port development and landscape. The case of Antwerp is representative of how despite the port authority's main goal is the economic and infrastructural development, port expansions can only happen if nature is preserved (Fig. 5.4).

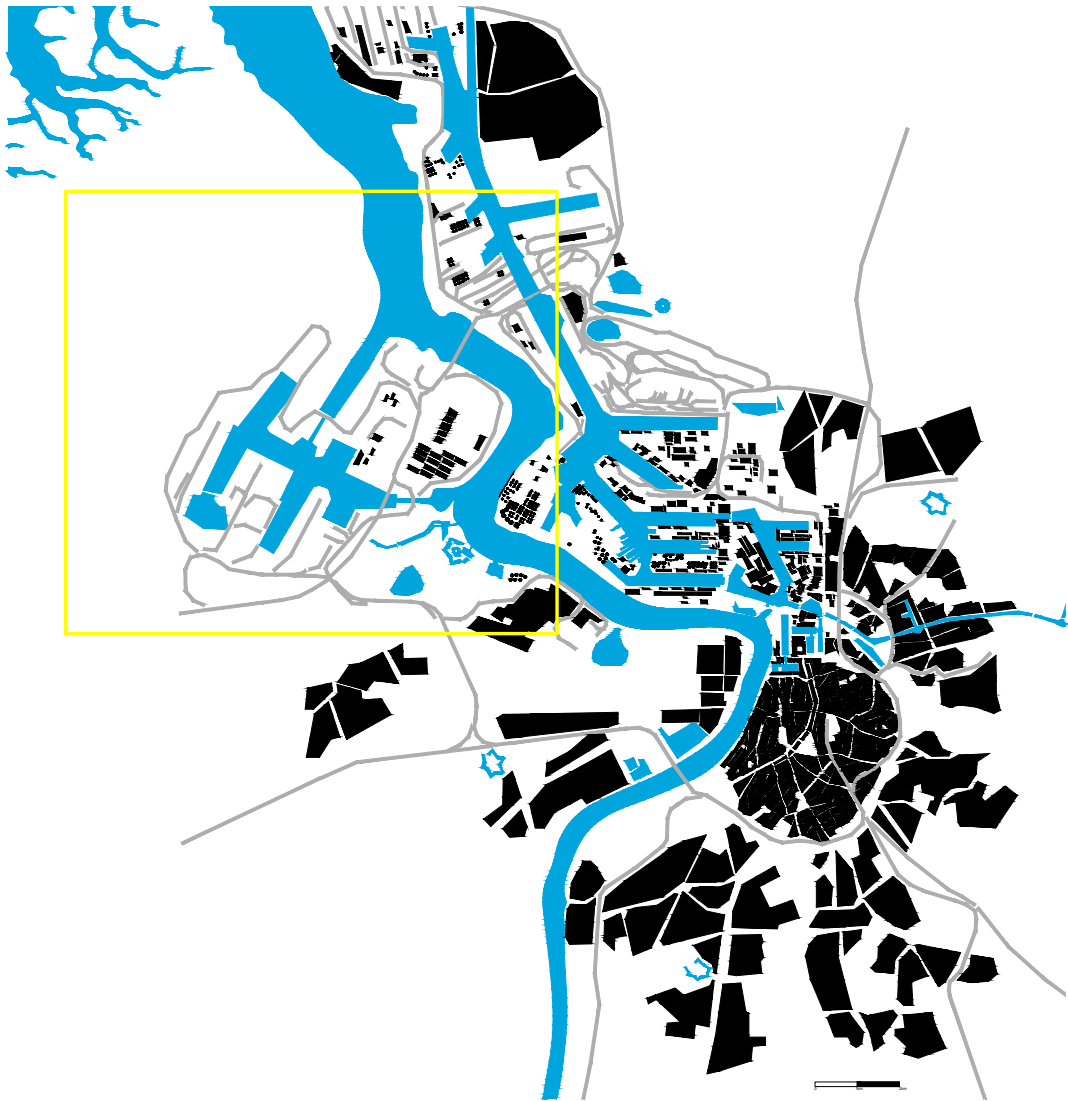


FIG. 5.4 Port-landscape in Antwerp region. In yellow the are for the new port expansion. Map developed by Paolo De Martino. Source for the data: mapcruzin.com; diva-gis; gadm

5.3 ROTTERDAM: A port back to the city

5.3.1 History in a nutshell

The port of Rotterdam overlooks the North Sea and part of the so-called Hamburg-Le Havre (HLH) range. The latter represents an integrated maritime area usually defined as consisting of the ports of Hamburg, Bremerhaven, Amsterdam, Rotterdam, Antwerp, Zeebruges, Dunkirk and Le Havre. Smaller ports such as Ghent and Terneuzen are also included (Plasschaert, Derudder, Dullaert, & Witlox, 2011).

The development of the port of Rotterdam dates back to the second half of the 19th century when the opening of the Nieuwe Waterweg canal in 1872 signed the first critical juncture and the start of Rotterdam's huge growth (*Aarts, Daamen, Huijs, & de Vries, 2012*).

In fact, while Bremen and Hamburg had in their history the Hanseatic League and Antwerp and London were among the main ports of international maritime trade, Rotterdam, on the contrary, has been eclipsed for a long time by the power of Amsterdam where the Dutch colonial traffics were concentrated until the 19th century. Only after the second half of the 19th century the economic and industrial development of Germany around the Ruhr area allowed Rotterdam to develop as an economic and industrial power, overtaking the port of Amsterdam (Camera di commercio e industria di Napoli, 1914).

The name Rotterdam originates from the presence of a dam on the Rotte river. The typical triangular shape of the city was preserved until the 15th century when, for the excavation of new basins, it was necessary to enlarge the city (Fig. 5.5).



FIG. 5.5 Dutch city maps, Edited by Willem and Joan Blaeu, 1652. Source: University of Groningen. URL: https://commons.wikimedia.org/wiki/File:Blaeu_1652_-_Rotterdam.jpg

Important transformations happened in the 18th century. Having a navigable river and with the right depth was a fundamental requisite for the port of Rotterdam and its industrial development. The relationship between port and city changed with expansions towards the west and the formation of small port cities such as Delfthaven and Schiedam (Hein, Portus 2019). These, together with Rotterdam, formed already a first port cluster serving the regional territory. Accessibility via water became even more a necessity when shipping trades moved from wood to steam power. This shift introduced speeded up commercial exchange but it also required even deeper waters. In 1863, the Dutch Government started the works for the construction of the Nieuwe Waterweg (Fig. 5.6). The port basins were modernized as the railway connections to the city were built (Camera-di-commercio-e-industria-di-Napoli, 1914).

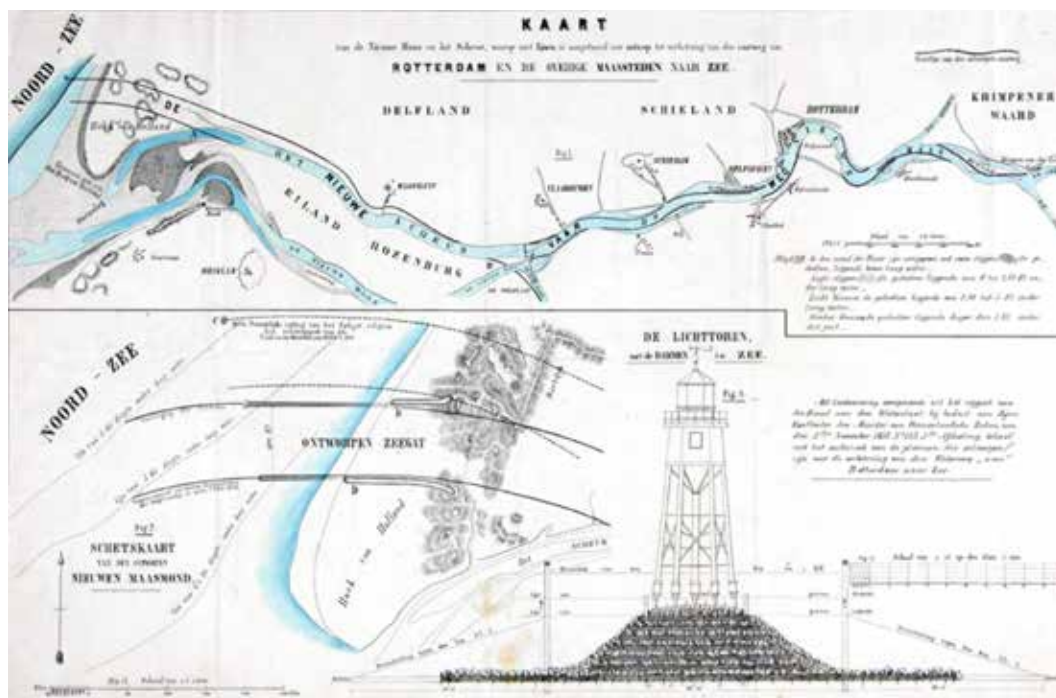


FIG. 5.6 Rotterdam en de nieuwe waterweg naar zee, 1857. Source: https://commons.wikimedia.org/wiki/File:Rotterdam_en_de_nieuwe_waterweg_naar_zee,_1857.jpg

Oil has represented another significant critical juncture which has defined the character of an industrial port that we still see today. In Rotterdam, urban development went hand in hand with petroleum, with the port moving further away from the city of Rotterdam. Already since 1862 — when the first petroleum was shipped into Rotterdam — petrochemical industries became increasingly important for the port and the Dutch economy (Hein, 2009, 2013, 2018a). Oil played a much important role after the WWII and Petroleumhaven, Merwehaven, Wallhaven, Europoort and Botlek are just the spatial impact of oil industry on the Rotterdam port landscape (Fig. 5.7)



FIG. 5.7 "Oil and the Rotterdam Port in 1972. In green the oil related architectures and spaces. Source: by Carola Hein/ Bernhard Colenbrander/Alexander Koutamanis, coloring by Paolo De Martino, CC BY NC SA 4.0

Therefore, it can be argued that until the 19th century, the development of the port of Rotterdam went hand in hand with the city. Subsequently, the port and city developed more or less independently. The port moved away from the city towards the sea (Fig. 5.8).



FIG. 5.8 Rotterdam's port development. An overview in history. Source: <https://www.portofrotterdam.com/en/files/history-port-of-rotterdam.png>

Containerization and technological revolution represented an important juncture for the port. Containers required more and more space and deeper waters for ships. Therefore, central and local governments opted for the construction of port expansions outside the city centre. Port and city drifted apart and huge areas were left behind for new urban uses. While in the 1970s the Dutch Government was constructing Maasvlakte 1 on the North Sea, the late 1980s and 1990s were known for the waterfront regeneration projects especially in the area of Kop van Zuid with the redevelopment of disused inner city docklands. Here, the city government decided to revive the city center with high rise offices and apartments, which gave a metropolitan look to the city (Fig. 5.9).



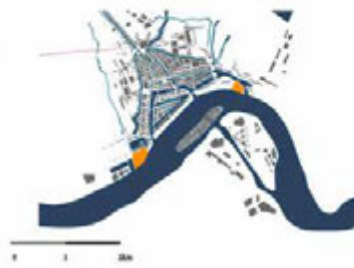
FIG. 5.9 Kop van Zuid area. View from the river

The last important critical juncture was represented by the regionalisation processes starting from the 21st century. Increasing the depths of the river was no longer sufficient. Traffic and ship sizes increased exponentially. This led the Dutch government to the construction of Maasvlakte 2 in 2008 (to be finished by the 2030). Maasvlakte 2 is the spatial response to naval gigantism and the regionalization processes of recent years that have imposed an adaptation of the port to a new regional and metropolitan dimension. This was possible thanks to a change in the governance structure of the port (corporatization in 2004) which allowed the port authority to invest outside the port area. Maasvlakte 2 is the result of a long period of negotiations between different authorities and citizens and at the same time an icon of the spatial separation between port and city of Rotterdam (Fig. 5.10).

Today, climate change and energy transition are putting pressures on the port authority to find solutions to remain competitive in the future not at the expense of the environment. In Rotterdam port development will depend on future demands on space and energy and the challenges for the port and city authorities will be to define planning approaches and policies able to deal with nature and social integration. Rotterdam represents a very interesting case because port authority and municipality are at the forefront of reinventing the relationships between port and city for the 21st century (Aarts et al., 2012). Port and city aim to find each other again. Today, after years of separation the port authority is looking back to the city as a place to establish new collaborations that can benefit both the port and the city.

ROTTERDAM

Port city
18th-19th century



Port next to the city
20th century



Port outside the city
20th-21st century



Port city region
21st century



water
 port area
 spatial patterns
 railways
 roads

FIG. 5.10 Spatial and governance evolution of the Rotterdam port city region. Maps developed by Paolo De Martino. Maps produced using historical maps of the cities. Source for the data: mapcruzin.com; diva-gis; gadm

5.3.2 Spatial context and problem at stake

The city of Rotterdam is situated in the Province of Zuid-Holland and belongs to the economic core of the Netherlands, the so called Randstad (CityofRotterdam, 2009). Except for London and Paris, the European Union has no real metropolises, rather cities connected to each other in polycentric networks. The Dutch Randstad conurbation is one of them (ProvinceofZuid-Holland, 2015). This spatial agglomeration cannot be properly apprehended if analysed as homogeneous territory, but as composed by different spatial, functional and administrative entities all interconnected to each other's. It is a complex territory where cities, towns, villages and industrial complexes are intertwined with water, nature, agriculture and related flows of people, goods and data (ProvinceofZuid-Holland, 2015). In other words, the Randstad is an industrial and metropolitan conurbation with 8 million people living around cities such as Amsterdam, Rotterdam, Utrecht and The Hague, with a population density of about 1200 inhabitants per square kilometer. It represents an inspiring case of polycentric metropolitan system where all the important functions are located in different cities. The Hague is the administrative core, Amsterdam a business city, Rotterdam, with its important port hosts the industry and Utrecht is the cultural center.

This is in fact the background for analysing the port of Rotterdam whose economic impacts do not concern only the city of Rotterdam, but a much wider metropolitan and regional territory.

The port of Rotterdam— known as Gateway to Europe— competes mainly with the ports of the Hamburg-Le Havre range (HLH) (PoR, 2011a). Rotterdam is the second largest city after Amsterdam with about 580.000 inhabitants. (CityofRotterdam, 2009). The port is the major container hub in Europe with about 14.5 million TEUs registered in 2018 and a total throughput of about 470 million tonnes.¹⁸ Most of the containers directed to the Northern Europe are transported via Rotterdam and more than 30% of intercontinental containers are handled in Rotterdam to then continue their trip in smaller vessels by sea. In addition, Rotterdam is the most important oil hub of Europe. More than 50% of refineries in Northwest Europe are supplied via Rotterdam which is also a location for the temporary storage of international oil flows. Rotterdam, together with Amsterdam and Antwerp form in fact the major European industrial cluster. Amsterdam deals with refined petroleum products, Antwerp is the second largest petrochemical complex in the world, after Houston and Rotterdam is specialised in import of crude oil (Hein, 2018b).

¹⁸ Port of Rotterdam. Continuing container growth pushes throughput at port of Rotterdam to a new high. URL:

<https://www.portofrotterdam.com/en/news-and-press-releases/throughput2018> last access 26-02-2019

Therefore, the port represents the most important economic driver for the city and the region and, as a result, also the main cause of negative impacts, such as air and water pollution or traffic congestion.

History tell us that central and local governments since the second half of 19th century have resolved the conflict between port and city by moving the port away from the city. This choice was mostly a technical necessity since more deep waters where needed to allocate bigger ships. As a result of this detachment over the years the areas between port and city in have been subject to dereliction and later to development. The River Mass and the port activities associated to it have historically represented a physical barrier that separated Rotterdam North from Rotterdam South. The area of Kop van Zuid, and in particular way the district of Katendrecht behind the old port basin of Rijnhaven, are the result of this separation having historically represented one of the most problematic neighborhoods of the city. For that reason, since the 1970s and 1980s, after the port moved away, local authorities have worked actively to reduce social segregation and improve urban quality through a reuse of old industrial buildings with new temporary activities (Fig. 5.11). Today these areas are much more integrated with the rest of the city.



FIG. 5.11 Area of Rijnhaven.

As the interviews to both port and city authorities in Rotterdam will show later in this chapter, today, the approach to the theme of the port-city relationship has significantly changed compared to the past and big scale interventions have left space to new adaptive strategies and acupuncture interventions in the contact spaces between port and city. Global challenges such as energy transition, new economies, digitalization of the society, new labor forces into the port and education are challenging the demand for space. These are the issues port and city authorities are facing today in Rotterdam and these topics are also the base for the cooperation and the joint project development known as Rotterdam Makers District (De Vries, 2019; I. Vries, 2019). Here, Port Authority together with the municipality and knowledge institutions are investigating how to develop a port in a way that can be sustainable and efficient, create room for economic development and improve the quality of life for the people living and working around the port (PoR, 2011a). The main question port and city authorities are working on is: how can the quality of the port be improved and what port-city model will reflect the economy of the future? Walter de Vries, urban planner from the municipality of Rotterdam and responsible for the M4H area, has certainly a long-term vision in believing that the next economy will not be 100% oil based¹⁹. Therefore, working on the next economy will help policy makers to re-launch the relationship between port, city, region, and the landscape as a whole. Improving this relation is in the interests of both port and city authorities and it seems clear that the port is called to play a central role as a promoter of new values that can generate social and cultural integration and new economies gravitating around the port.

5.3.3 Governance

Planning culture and governance arrangements

The complex nature of the issues involved in port-city planning requires an in-depth understanding of the institutional contexts, ambitions and interests of the different actors involved. Dutch ports have historically been governed by local public organizations. This explains the major involvement—compared to other realities in which ports are managed by the state—of the port and city authorities in working

¹⁹ The interviews presented and discussed in this chapter have been conducted by the author in the period June–October 2019. The interviewees have been recorded under their permission and they have agreed on go public with their names.

together towards the definition of common values (de Langen & der Lugt, 2007; Notteboom, De Langen, & Jacobs, 2013). At the national scale, the interest in ports refers mostly to big infrastructure developments, safety and secure shipping, but also environment and nature (IFP, 2010).

Regarding the cultural planning tradition, ports in the Netherlands belong to the Hanseatic tradition of public landlord port authorities. According to the landlord model, the Port Authority plans, develops and manages the port land and sea areas within the port jurisdiction (IFP, 2010). In Rotterdam, until 2004 the port was owned by the city (Notteboom et al., 2013). Following the reform in 2004 the Rotterdam Port Authority was formally detached from the Rotterdam's Municipal Port Management (RMPM) to form a public corporation, the *Havenbedrijf Rotterdam NV* (PoR) with major responsibilities for commercial and financial affairs, investments in new development projects, mid-term business planning and implementation, and autonomous setting of long-term objectives. Within this new governance structure, the municipality of Rotterdam became the largest shareholder (70%) and the owner of the port land together with the Dutch Government (30%) (Brooks & Pallis, 2012; Ng & Pallis, 2010; PoR, 2018). This new governance arrangements means that juridically, the city (and the state) is the real owners of the land. However, the port authority has an everlasting lease contract with the city that allows to say that the port authority, on behalf of the city, explores and develops the port. Therefore, the corporatization in combination with a Landlord Port model has defined an organisation in which the port is publicly owned but commercially driven since the port authority has its own right to develop the port (I. Vries, 2019). The Dutch Government plays a more marginal role locally and focuses mostly on big scale infrastructure interventions (de Langen & der Lugt, 2007). In fact the State acts as link between the port and the EU, specifically as regard projects like the Trans-European Transport Network (Ng & Pallis, 2010).

In the case of Rotterdam, corporatisation was an institutional necessity to allow the port authority to build Maasvlakte 2, which was outside the administrative borders. The main idea behind the corporatisation was that ports had to create a distance from politicians. Corporatisation has then the Port Authority into a fully commercial organisation and powerful planning actor able to make investments outside the port jurisdiction without being influenced by day by day politics, which is in fact very unstable. (IFP, 2010; Ng & Pallis, 2010). Nevertheless, both the state (for 1/3) and the city (for 2/3) get interests from the use of land by the port authority and this is how the national government get the investments back.

Actors' ambitions and planning interests

When it comes to port development, different levels of planning, actors' ambitions, and interests overlap. The central government has the ambition to make the Netherlands the most competitive, accessible, livable and safe country by the 2040 (Ministry of Infrastructure and Environment, 2011).

According to Wouter Pietersma, coordinator and policy advisor in the seaport division of the Dutch Government, ports should be better connected, more sustainable, digital, and more effectively integrated to the economy of the future (Pietersma, 2019).

In the Netherlands there are five ports of national interest (Fig. 5.12): Rotterdam, Moerdijk, Amsterdam, Zeeland ports (Terneuzen and Vlissingen), Groningen ports (Delfzijl and Eemshaven). Financial investments are mostly based on these five main ports. As claimed by Wouter Pietersma *"at this scale the relationship between the port and the city is less relevant (...). National responsibility is not so much to take care of the relation with cities rather to take deal with maritime access, flows and hinterland connections linked to the EU corridors"* (Pietersma, 2019). Examples of investments are the new sea locks in the ports of Amsterdam Terneuzen. He continued that *"there are no regular meetings with the municipalities of Amsterdam or Rotterdam. Central and local governments meet mostly when infrastructure investments are at stake. Therefore, the municipality has a separate and more autonomous relationship with the port authority for the day by day activities"* (Pietersma, 2019). Therefore, dealing with the port-city interface is something more between the port and the city of Rotterdam where through the Maritime Strategy different sectors in the maritime cluster, such as shipping companies, water construction and other companies come together. This reflects the more decentralized approach that characterizes the Dutch planning approach which is closer to people and users and delegates more responsibilities to provincial and municipal authorities. This facilitates collaborations between the different levels of planning and the private sector (Ministry of Infrastructure and Environment, 2011).



FIG. 5.12 National Seaports Netherlands. Source: <https://investinholland.com/infrastructure/ports/>

The minister also talks about the port-city relationship as a very problematic issue in the Netherlands as well. The case of Amsterdam, he explained, is very emblematic. Here, the city plan, which contemplates the construction of new houses in the port area, is putting under pressure port development. A compromise will need to take place between the two authorities bringing balance between the different interests. Probably, he continued *“we will face a time in the future, he said, where the needs of building houses in the city of Amsterdam will be more urgent than having more port activities”* (Pietersma, 2019).

Regional collaboration among ports emerges as a central theme from the interview. The port of Rotterdam, for example, is in competition with the port of Amsterdam for the container sector. Nevertheless, the two port authorities are cooperating at a regional scale for the oil demand (Rotterdam focuses on oil and Amsterdam on gasoline). In addition, there are interregional collaborations between the port of Rotterdam and the port of Antwerp specifically for the carbon capture and storage. *“Lack of cooperation leads to lack of efficiency”,* Pietersma argued. However, *“the region as planning authority does not exist”,* he continued. The national government fulfill this role by looking and focusing on the main five port regions. *“The shape and dimension of these port regions are defined by the collaboration itself (not by administrative borders) and by commercial interests. However, it will be up to the port companies in the future to see whether they want to follow a market model or a government model. Right now, the model is a combination of competition and cooperation”* (Pietersma, 2019).

In the future the Dutch Government expects more and more institutional collaborations between ports and cities. This collaboration relates to space of course but also to employment for the port of Rotterdam. Getting new skills in the port is the main priority for the port authority. In addition, the port aims to expand into the city and there are several programs which promote Rotterdam as maritime capital of the Netherlands. According to the minister *“the future will be characterized by a model which will see heavy port activities away from the city and several new activities related to the port (office related jobs) such as certifications, maritime law, insurances but also softer mobility solutions and logistics located into the city” (...). Education therefore will play a role in this. Ports will diversify their economies (into new economies) and these will be into the city”* (Pietersma, 2019).

Changing scale, the Rotterdam-The Hague metropolitan area (MRDH) as part of the Randstad is an intermediate scale of planning between the region, province and the municipal scale. MRDH is a geographic area of 23 municipalities which included Rotterdam and The Hague. It is a governance authority which was established in 2015 after the abolition of the city-regions. Until 2015 the city regions (associations of municipalities) were in charge of transport and spatial development. Rotterdam and The Hague were centres of two separated city regions. Over the years they have also focused on two different economies. Rotterdam was focusing on infrastructure and logistics due to the presence of the port and The Hague on administration and services. This separation of economies was also reinforced by national policies which have prevented historically that cities could form large continuous agglomerations (OECD, 2016). Therefore, the reason behind the merging was purely economic and it aimed to make the area more attractive and cohesive to international companies. Today, Rotterdam and The Hague collaborate to form a larger metropolitan region (Fig. 5.13) and to also integrate these two different economies (MRDH, 2016; OECD, 2016). The strategy of MRDH is organized based on two main pillars: transport and economic development. Transportation is planned through a top down approach. This means that MRDH transfers responsibility to the central government which takes decisions and finance the 96% of the transport development. On the contrary, the economic development follows a more bottom up strategy financed by inhabitants within each municipality (OECD, 2016).

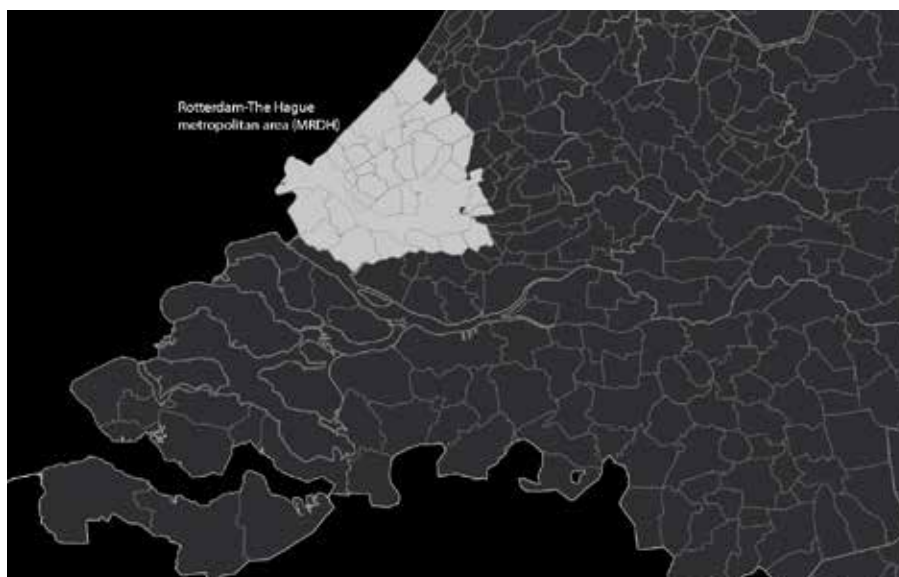


FIG. 5.13 Rotterdam-The Hague metropolitan area (MRDH)

On a more local scale, the Port of Rotterdam Authority manages, operates and develops the port and industrial area of Rotterdam and it is responsible for maintaining a safe and smooth handling of all shipping (PoR, 2018). It seems clear that the main concerns of the Rotterdam port authority refer to industrial and infrastructural developments. Nevertheless, taking the lead in these two sectors in the future asks for broader cooperations. This is the reason why since September 2011 the Rotterdam port authority has been working together with Deltalinqs²⁰, the Municipality of Rotterdam, the Province of South-Holland and the Dutch government to agree on an agenda for the future development of the port. The collaboration led to the definition of the Port Vision 2030²¹ (PoR, 2011b). The vision is a strategic instrument that has the ambition to guide the development of the port in a close dialogue with the city, the regional territory and environment. Industry and logistics have been the pillars of the port of Rotterdam for decades and, according to the

²⁰ Deltalinqs promotes common interests of over 95% of all logistic, ports and industrial enterprises in mainport Rotterdam. For more info about Deltalinqs, please visit the following website: <https://www.deltalinqs.nl/paginas/openbaar/over-deltalinqs/about-deltalinqs>. Last access 08/11/2020

²¹ Port of Rotterdam website. Rotterdam port vision. URL: <https://www.portofrotterdam.com/en/port-authority/about-the-port-authority/the-port-authority-in-society/rotterdam-port-vision>. Last access 08/11/2020

vision, these will guide the port development in the future as well (PoR, 2011a). In fact, the vision was based on the combination of two main development directions: global hub (logistics) and industrial cluster. The main ambition of the plan is to combine these two pillars to move towards a clean energy system. In fact, the port authority was envisioning the port of the future as a laboratory of innovation where to experiment processes related to the circular economies (PoR, 2011a).

Although the main purpose of the port authority is to improve the economic position and infrastructures of the port, the Port Authority also aims to offer a more vivid port area to the employees by reducing the friction between port functions at the intersection of land and water. This was clearly stated by Peter Vervoorn, port planner at the Port Authority of Rotterdam and one of the responsible actors involved in the development of the Offshore Valley in the Schiedam area (Vervoorn, 2019).

According to Vervoorn having a good quality of the spaces of interaction is a key. In the last years, the port authority has come to realise that the employees working into the port have changed compared to the past. These employees are missing the city atmosphere, with shops and public spaces. Therefore, port and city authorities want port and city to be close because they can be strengthening each other's with places to both work and live. He continued that *"however, if they are too close, then the relation will not work. Therefore, at this scale the solution can be transportation in the way that port and city can be separated but with easy and fast connections to allow people to go into the port and into the city"* (Vervoorn, 2019).

To do so, the port environment should change. *"This will be renewed thanks to the effort of the companies themselves"*. Emblematic of this is the case of the port of Schiedam where port and city authorities are working together to identify strategies to make possible that port and city can work together without being too separated. Explained Vervoorn that in the port of Schiedam the conflict does not only concern the port-city relationship, but within the port area itself different uses are in conflict with each other, such as shipyard and office buildings. Industrial companies are asked to improve the environment for people working there who want to work and live in a healthy place. *"Here, important offshore businesses, such as Jumbo, Damen and HSM, engineers, Erasmus university in collaboration with port authority and municipality of Schiedam are creating the biggest offshore community in the world, the Offshore Valley (Fig. 5.14), working from designing, engineering, constructing, redeveloping, inventing, repairing"*. He continued arguing that *"the hard work today is done in China or somewhere else, but the knowledge for the maritime industry is in Schiedam. This is the ambition of the Rotterdam Port Authority"* (Vervoorn, 2019).

After a long debate between Rotterdam port authority and the municipality of Schiedam about what port activities could stay and which ones needed to leave, they have decided to keep the industry in the city for different reasons. The first reason is history. *“The history of the port of Rotterdam is the history of its barges. The maritime history made Rotterdam what it is today”* (Vervoorn, 2019). The second reason was education. Authorities came to the conclusion that it was important to make people aware of the port history and activities. This lack of knowledge is a profound gap that needs to be filled especially if we consider that many people from Rotterdam region are working in the port of Rotterdam or port related activities and services. *Therefore, “people are, in fact, not aware of how the industry works. Where the energy is coming from? How does it work with all these windmills in the sea? What is needed to maintain them? And how can you transport electricity to the city?”* (Vervoorn, 2019). Of course, understanding how to mitigate the impacts on the city, such as noise and pollution continues to be a priority for the Port Authority.

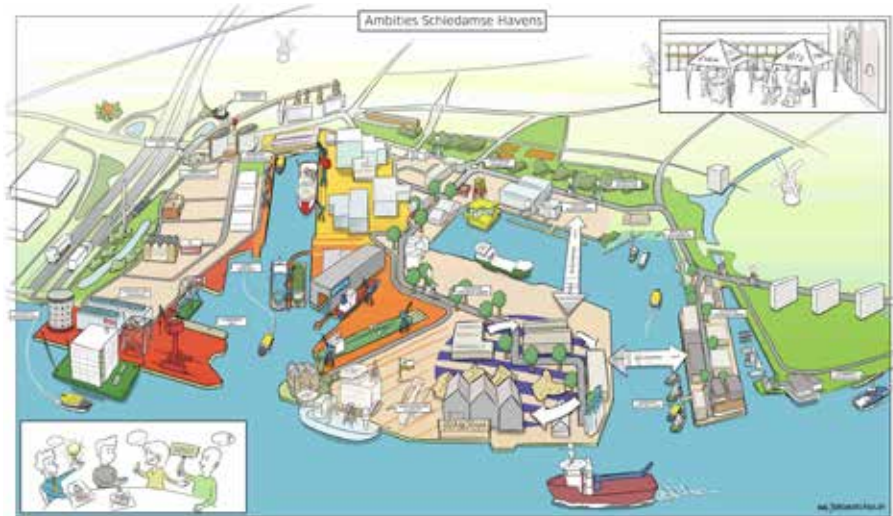


FIG. 5.14 Offshore Valley in Schiedam. Source: Gemeente Schiedam. URL: <https://www.schiedam.nl/a-tot-z/gebiedsontwikkeling-havens>

However, *“the port is still quite old fashion”* as claimed by Walter de Vries, from the municipality of Rotterdam and this has impacts on the city at different levels and scale (De Vries, 2019). Rotterdam has an oil-based port with 30 kilometers occupied by storage and refineries and heavy logistics activities from all over the world. Its footprint is quite negative at the moment. Being dependent on one economic sector means that *“if that sector comes under pressure, eventually collapsing, then the*

whole region goes down. Therefore, diversification of the port economy is in the interests of the city as well (...) we know that oil is running out and the port itself is posing the question about how to transform it in a more sustainable way. This refers to space, environment and economy” (De Vries, 2019).

How to deal with these aspects is the main goal behind the Spatial Development Strategy 2030 designed by the city of Rotterdam in 2007 and more specifically in the Stadshavens strategy (presented later in the chapter). The city plan identifies several areas whose development will contribute to the improvement of Rotterdam both from an economic and spatial/environmental perspective. Many of these areas (Stadshavens areas) concern specifically the relationship between port and city (CityofRotterdam, 2007).

As regards the city, continued de Vries, *“this is growing quite fast and like many other cities, such as Naples, there is a lot of pressure on space for building new dwellings. These need infrastructures, public transportations, public spaces. The vision of the municipality is that this expansion cannot happen outside the city, but we are investigating whether we can densify the existing city” (De Vries, 2019).*

The areas along the river are also the most fascinating places of the city and today they are ready for a different use. In order for the city to become an attractive place to live it is necessary to build new, innovative and sustainable spatial visions. This will lead to scenarios of sustainable coexistence between port and city. Therefore, these two agendas (sustainable port and city attractiveness) came together in the M4H area which, together with RDM campus, are the Rotterdam testing ground for innovation.

5.3.4 **Port-city interface: Stadshavens strategy and the Rotterdam Makers District (M4H)**

As pointed out by Walter de Vries during the interview *“in the early 2000s there was a need for a new narrative about the port-city relation” (De Vries, 2019).* The Port Authority has become increasingly aware of the importance of investing in port-city relations. At the same time the municipality has also realized that there was a need to prepare young people for the next generation of port-related jobs. Thus, Stadshavens strategy (Fig. 5.15) bring these two objectives together: on the one hand, strengthen the economy by taking advantage of a more sustainable port and on the other hand create a more attractive city for the future generations (CityofRotterdam, 2007).

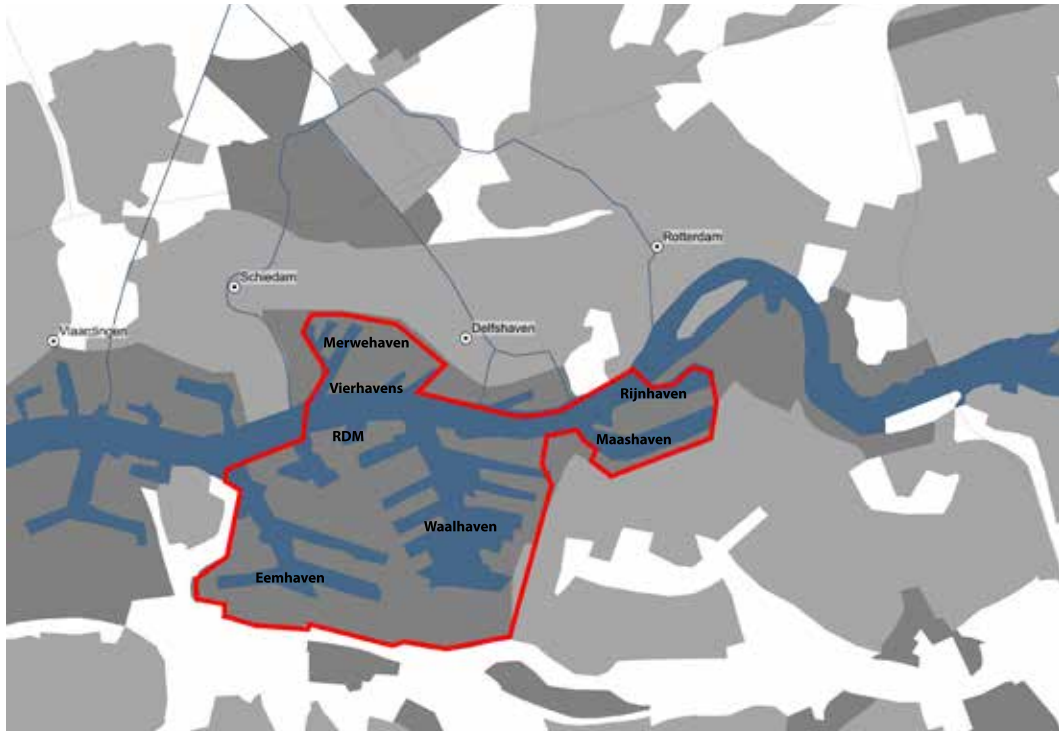


FIG. 5.15 Stadshavens area, Rotterdam Basic map by Yvonne van Mil. Sources: Corine LandCover data set 2016 (Copernicus) and EuroGlobalMap data set 2017 (Eurogeographics).

Therefore, port authority and municipality started to re-think all the port area within the highway around the city. This area was called Stadshavens area and the main question asked was: *“what do we do with those areas? Five strategies and common perspectives for the area were developed through a very informal process with people from the municipality and port authority together. Every strategy had to do with the interests of both port and city. The very first step was to understand each other’s interests but also looking for what they (port and city) had in common”* (De Vries, 2019).

Stadshavens is known as the largest port-city regeneration project in the Netherlands (I. M. J. Vries, 2014), established as a joint strategy between Port Authority and municipality to solve the conflictual relations at a more local scale. Started in 2002, Stadshavens was designated as response to the national planning law, the Crisis and Recovery Act (Chw) and it forms the framework to understand the subsequent zoning plans. Stadshavens is the place where port and city visions meet, where port and city authorities share ideas and common ambitions (Aarts et al., 2012).

The strategy touches upon four sub-areas, each with its own profile and development dynamics. The Waalhaven and Eemhaven areas are specializing as an important cluster for fruit and vegetables (cool port) and container transshipment. This area contributes to sustainability as it involves a more intensive use of space and transportation based more on inland and rail connections. Rijnhaven and Maashaven are the areas closest to the city center and also where it is possible to identify the traces of an industrial past (Fig. 5.16). Merwehaven and Vierhaven will develop over the next 30 years in an innovative district (M4H) where residences, start ups and companies in the field of energy and materials will coexist.



FIG. 5.16 Codrico building, Rijnhaven area, 2016

Today, global pressures are pushing ports, cities, provinces and regions to cooperate going beyond administrative borders. This calls for a more holistic approach, asking the actors involved to experiment innovation and cooperation practices based on less formal interactions. The wide Stadshavens strategy in Rotterdam shows that more formal interactions can help to recognize and understand the interests of the different parties involved. According to Isabelle Vries, general manager of the M4H, *“the planning approach to port-city relationships has changed compared to the past and Rotterdam is a tangible example to show the change in the mindset of the planning authorities”* (I. Vries, 2019). In fact, as also pointed out by de Vries, *“the process of Stadshavens started more as a discovery, rather than a negotiation”* (De Vries, 2019).

As explained by de Vries, the idea behind these strategies was to work on dichotomies and evaluate themes based on the combination of values (Fig. 5.17).

Volume and Value were the first strategy proposed during the meeting. Container handling in Rotterdam, for example, is almost completely automatic and it does not provide many jobs and it also has a lot environmental impacts on a local scale. But if you combine it with added value logistics, makers and recycling industry then you provide jobs and need for education. More perspectives are created in addition to the traditional port related jobs. The second one was Reinventing **Delta Technology**, more related to new kind of economies and services to provide response to climate change and way of living in a vulnerable delta. The proposal was to realise a climate campus area complimentary to Delft. Delft is more about creating knowledge and Rotterdam is more for the applied research. This created more business and this is added value for the port authority since it makes the port less dependent just on containers or oil storage. On the contrary it creates new services and products. This makes the economy of the port more diverse and less vulnerable. **Crossing Borders** is more about integrating port activities and communities. Port surrounding are characterized by poor areas with not well-educated people. Port and city are disconnected here and this is bad for the port and its license to operate. The port also expects in the future new high educated employers. In order to interest new people in port activities crossing the borders between port and city is a key. The other strategy is **Floating Communities**. Here, new kind of Waterfront development ideas are developed such as floating dwellings. The last one is **Sustainable Mobility**. This last strategy deals with infrastructure and accessibility to the port area (De Vries, 2019).



FIG. 5.17 Five Strategies for sustainable development. Source: Stadshavens Rotterdam. Creating on the edge.

“The process was constructed in a way that port and city authorities, mostly few people from the municipality and the port authority brought this document, together with a social-business plan, to the attention of the national government arguing that the topic was of national interest and that the strategy would have created added value (and probably not economic benefits in the short term) for port, city and the region. These 5 strategies represented a new perspective and the starting point of the port-city collaboration” (De Vries, 2019).

Over the years the Stadshavens strategy has developed in some concrete projects such as the RDM Campus and the Makers District (M4H) on the opposite bank, on the Merwehaven and Vierhaven basins (Fig. 5.18). *“These two interventions are an important change in the mindset of the actors” (...). M4H is a joint program with a joint program office (Fig. 18) where investments are done or by the port authority or by the municipality based on a common spatial planning” (I. Vries, 2019).*



FIG. 5.18 Makers district office in the Rotterdam port area

The program consists of few pillars. One of them refers to the physical development of the area of Merehaven (Fig. 5.19). The others deal with marketing, branding communication and networking.



FIG. 5.19 Merehaven area.

On the other side of the river there is the RDM Campus (Fig. 5.20) which is also a program office with the difference that it is owned by the Port Authority and therefore, the municipality has some voice in it but investments are done by the port authority (I. Vries, 2019).

Port and city agreed that *“the old development model “port out-city in” worked 10 years ago, but this was not the case anymore. This because the port authority today sees, contrary to ten years ago, that smaller businesses are vital for revitalization of the port”* (I. Vries, 2019). This means that today innovation does not occur anymore behind the fences of one company. On the contrary several companies have to cooperate. Startups and new businesses can influence the existing model. And these new businesses are not looking for large hectares in Massvlakte area. *“On the contrary, they want to be close to the knowledge institutes, to the urban amenities, to the city’s context”* (I. Vries, 2019).

Keilewerf is one of the many examples that is possible to find in the port of Rotterdam (Fig. 5.21). The project started in 2014 consisted in reusing an empty warehouse of about 1000 square meters to host more than 80 (young) creative entrepreneurs. Here, steel workers, artists, furniture makers and musicians have settled their new businesses²².

²² Keilewerf website. If you want to know more about Keilewerf, please visit the following link: <http://www.keilewerf.nl/>. Last access 09/11/2020



FIG. 5.20 RDM Campus



FIG. 5.21 Keilewerf, the place for makers in Rotterdam.

In 2006, educational institutions, the PoR, the Municipality and Woonbron (housing corporation) signed an agreement to develop the RDM site (Daamen & Vries, 2013; I. M. J. Vries, 2014). The RDM, old shipyard, today focuses on the port-related manufacturing industry with related education and research. This function is in line with the location on the left bank of the Maas, where the port plays a more dominant role. Here, Techniek College Rotterdam and Rotterdam University of Applied Sciences cooperate with local companies to develop projects and education programs on port related issues such as floating projects and 3D printing for the maritime industry (CityofRotterdam, 2017).

However, the RDM had some limitations. Companies here were not able to grow further due to lack of space. Therefore, small companies could move to M4H (De Vries, 2019). When port authority and municipality started to work on M4H was because they came to realise that Stadshavens was changing and the planning focus was moving towards Merehaven area. The pressure on the housing market was really fierce and therefore, mixed-use areas was starting to become a priority. This could not be achieved around the RDM area.

“When the development process started in this area there was a friction between port and city about the future of this area. The municipality wanted to transform it into a more urban area. The Port Authority, on the contrary, did not want to leave the space since there were still some vital port businesses such as the juice cluster and fruit terminals (...). Therefore, it was a long discussion and at the beginning there was a lack of common vision. We do not really remember who took the initiative, but we (port and city together) have realized the need to start thinking over again, do more homework (...) Therefore, port and city representatives set together in a room and started from the beginning trying to define common goals, interests and ambitions” (I. Vries, 2019).

The plan for the development of the Makers District is the result of these discussions and meetings. *“M4H together with RDM form one of the most inspiring cluster of knowledge and innovation and what can be defined as a return of the port back into the city” (I. Vries, 2019).* Here, companies working in the fields of logistics and maritime industry can invent, test and implement new technologies, based on digitization, robotization, and smart manufacturing by coexisting with housing and knowledge institutions (CityofRotterdam, 2017). The project of M4H represents an emblematic case that shows also a changing approach of the port authority, which by investing 100 million Euro, has moved from a landlord to a developer and planner within the process, taking the lead and maintaining control of the areas around the port (I. M. J. Vries, 2014).

5.3.5 The case study in a box

Country: Netherlands
City: Rotterdam
Space: RDM and Makers district (M4H) at port-city interface
Institutional framework: Stadshavens strategy, 2002
Actors involved: port authority and municipality in collaboration with knowledge institutions and companies involved in port-related manufacturing industry.

SPATIAL PATTERNS
 Spatial characteristics and project challenges

M4H and RDM represent a physical return of the port into the city, by combining port economy and a sustainable and attractive city. The goal is to create a cluster of knowledge and innovation by combining universities and smart manufactures. Companies related to logistics and maritime industry coexist with housing and knowledge institutions.



GOVERNANCE ARRANGEMENTS
 Institutions and actors' ambitions

Port and city authorities needed a new narrative about the port-city relation. The Makers district started as a discovery rather than a negotiation with a series of very informal meetings among port and city authorities sitting in a room for a long time trying to define common values, such as energy transition, new economies, digitalisation. Makers district together with RDM are part of the wider strategy of Stadshavens (2002) and are a joint program based on projects between port authority and municipality to redevelop port-city areas. Investments in this area are done by both port authority and municipality.

Country: Netherlands
City: Rotterdam
Planning culture: In The Netherlands ports belong to the Hanseatic tradition of public landlord port authorities. The approach follows a decentralised model with a direct link between the port authority and the municipality. The State plays a marginal role in the port-city relation.
Actors involved: central government, port authority, municipality. The province gives general orientations. The port authority is a corporatised company. The municipality owns the 70% and the state the 30% of the company.

SPATIAL PATTERNS
 Spatial characteristics and challenges

The port of Rotterdam belongs to a wider regional system of the metropolitan conurbation of Randstad. The port is the most important economic driver for the region but also the main cause of negative externalities for the city. The Main spatial challenge at a national scale is to relaunch the relation between land and water as a whole from an infrastructure and industrial perspective.



GOVERNANCE ARRANGEMENTS
 institutions and actors' ambitions

Institutional framework: Stadshavens strategy 2002, port reform 2004

State promotes collaboration among ports in The Netherlands and beyond.
Province (MRDH) has a strategic orientation towards innovation and promotes transition from a linear to a circular and decentralised economy.
Municipality promotes spatial and economic coexistence between port and city.
Port authority promotes industrial, logistic developments but also integration with nature

FIG. 5.22 Case study in a box. Summary of the spatial and governance characteristics and the national and local scale

In this chapter we have analysed and discussed the case of Rotterdam which is peculiar for how city and port authority's visions intertwine when there are common values. No doubt port and city have different spatial ambitions and the development is guided by different motivations and economic interests. Nevertheless, they have made sustainability a priority and a strategy to share. It certainly helps the fact that the city owns the port for the 70% and this makes the municipality a key player in the planning process. But it is more than that. Rotterdam hosts the first European port and this has a profound impact on the economy of the city and region. This also means that the port is based on an obsolete economic model whose collapse would risk putting the economy of the city and the region under pressure. Authorities are therefore aware that this model must be changed and a diversification of the economy would allow resilience in the future. This diversification is also in the interest of the city, which in this way can prepare the next generation of workers and help improve the environment in which they will be called upon to operate.

From a governance perspective, the Port Authority of Rotterdam is a corporatized entity and therefore a public organization commercially driven. The municipality owns the port for the 70% together with the state (30%) but the port has its own right to invest in logistic and industrial development also beyond its own perimeter. This also means to create economic alliances with other ports in the Netherlands and even beyond. An example is the collaboration between Rotterdam, Moerdijk, and Dordrecht which will work in the next year as one interconnected port cluster. This type of governance has given greater freedom to the port authority which is acting as a real developer in the planning process and, from a infrastructure and economic perspective, this has proved to be a winning strategy that has given the port a leading role in Europe.

The analysis therefore highlights the presence of a decentralized model in which the state is not directly involved in the port-city relationship. Its interest goes more in the direction of making the Netherlands a competitive, accessible and sustainable country. Instead, it gives full autonomy to local authorities for the management of port-city interaction spaces.

This aspect seems to be a key point especially in a time when uncertainties associated with global changes are asking the authorities for immediate response in order to anticipate and better adapt in the future. Decentralization also reflects in the planning tools and governance arrangements where major territorial transformations are leaving space to smaller and territorial acupuncture processes such as the recovery of abandoned buildings or rethinking of some social and productive models

at the intersection of port and city. This required the deployment of innovative, adaptive and resilient strategies capable of looking at the port from different scales and perspectives allowing local authorities to collaborate with private sector and knowledge institutions.

The interviews revealed that port and city needed a new narrative. The broader Stadshavens strategy is emblematic of this new story. Thanks to this strategy, after many years of separation the port can look back to the city again. The proposed examples of the RDM Campus and Makers District are representative to highlight a change of attitude by the municipality and the port authority on the issue of port-city integration. The analysis has shown that the competitive position of a port passes today through the regeneration of the territories in between. Innovation is no longer tied only to large companies, rather to small businesses, start-ups that find the places of the old industrialization inspiring location for experimentation due to their closeness to services and urban public life. M4H, together with RDM campus form a unique mixed use area where new (clean) industries, houses, start-ups, and universities will coexist sustainably in the coming years. Eventually, these micro changes can be scaled up and change the port model at a bigger scale.

5.4 ANTWERP: The port as a connector of fragments

5.4.1 The history in a nutshell

A simple walk along the river Scheldt in Antwerp is enough to still feel the old port atmosphere. Antwerp is in fact a unique place where the industrial character of the port coexists with a Flemish urban and natural landscape (Camera-di-commercio-e-industria-di-Napoli, 1914). In Antwerp the shape of the city is deeply related to the evolution of its port and to the changing relation with water (Municipality-Antwerp, 2012).

Since the Middle Ages the city started to develop in a concentric manner. Each urban expansion was followed by the construction of new defensive channels later used for commercial activities and inland navigation. The village Steen with the ancient castle Het Steen is where the first boats arrived and therefore the original core of the port city (Fig. 5.23).



FIG. 5.23 Joris Hoefnagel - Map of Antwerp 1657. Source: https://commons.wikimedia.org/wiki/File:Joris_Hoefnagel_-_Map_of_Antwerp.jpg - https://upload.wikimedia.org/wikipedia/commons/b/b2/Joris_Hoefnagel_-_Map_of_Antwerp.jpg . Joris Hoefnagel / Public domain

Second port of Europe for traffic after Rotterdam, Antwerp has the largest European port area, which has grown to 12000 hectares, about 20000 football fields. The extension of the port, which today hosts the second largest petrochemical cluster in the world, can only be captured from a distance and it is only from above that it is possible to realise its ramification into the territory (Fig. 5.24).



FIG. 5.24 Port of Antwerp, 2016. Source: https://commons.wikimedia.org/wiki/File:Port_of_Antwerp_-_2016.jpg Tadmouri [CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/>)]

The existence of Antwerp as a commercial port dates back to the medieval time when the port functioned as a transit port between Germany and England thanks to a dominant geographical position close to the North Sea (Port-of-Antwerp). However, until the 15th century Antwerp was relating mostly to the hinterland without a direct connection to the North Sea. In fact, it was only at the beginning of the 15th century—the Golden Age—that Antwerp emerged as a maritime city. Two important critical junctures played a role in this. Firstly, the Scheldt river became more navigable. Secondly, the fact that in 1315 Antwerp joined the Hanseatic League. These two key factors gave an important boost to the regional trade (Camera-di-commercio-e-industria-di-Napoli, 1914).

Later, the growing population and the increasing commercial activities led to the creation of Nieuwstad (New City) built to the North of the original city centre. This became the new center of economic activities (Port-of-Antwerp, 2013).

This period of growth did not last long. Between the 16th and 18th centuries there was a suppression of the shipping flows in the Scheldt which kept Antwerp out of commercial trades. Another significant change happened during the French domination with Napoleon Bonaparte that turned Nieuwstad into a military base. He decided to build the new yards and docks, the Bonaparte basin and the large Willem pier. These interventions took place between 1803 and 1812 and they formed the first major northward expansion of the port (Port-of-Antwerp).

Between 1815 and 1830 Antwerp was under the Dutch domination. The port continued to expand towards the north thanks to economic efforts of the municipality. The area known today as Het Eilandje was built during this period (Fig. 5.25). When then Belgium declared the independence, the Dutch government imposed a prohibitive tax on the navigation into the Scheldt which paralyzed the Belgian traffic until 1863 (Camera-di-commercio-e-industria-di-Napoli, 1914).



FIG. 5.25 Het Eilandje area. Source: municipality of Antwerp

Similarly to what happened in Naples, the port has undergone a progressive detachment from the city as shown on the map (Fig. 5.26). The port has grown exponentially as well as its road and railway infrastructures around a city, which has remained more or less compact with a still recognizable spatial pattern.

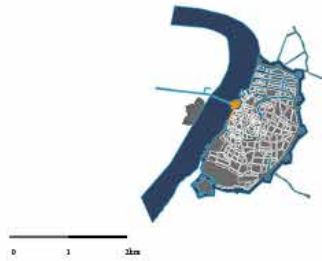
It is, therefore, only in 1870 that the progressive moving out of the port began. The Belgian government and the municipality financed the displacement of the fortifications and the construction of docks, piers, and railway tracks. The new quays started to host heavy port activities and to be separated from the city by physical barriers (Municipality-Antwerp, 2012).

In the course of the 20th century the capacity of the Scheldt quays became insufficient to accommodate economic growth and the expansion of port activities happened on both sides of the river. Berendrecht, Zandvliet and Lillo became part of Antwerp (Municipality-Antwerp, 2012). Containerisation introduced also in Antwerp a significant critical juncture. The national “Ten Year Plan” (1956–1967) promoted a large-scale port expansion which doubled the size and total capacity of the port area (Port-of-Antwerp, 2013).

Despite its large size, the port of Antwerp has become less and less visible to the citizens of Antwerp. This separation has generated an erosion of the relationship and an emotional fracture between citizens and their port. In fact, with the port expansions towards the north sea the historic docklands close to the city centre became abandoned. Since the 1970s the Eilandje and the “Schipperkwartier” (Sailors’ Quarter) slowly but surely became neglected spaces. Moreover, due to flood risks the national “Sigma Plan for the lower Scheldt basin” in 1997 imposed the construction of a concrete defence of 1.35 m which accentuated the sense of separation between the port and the city and between people and water (Port-of-Antwerp, 2013).

However, today *“people have started to miss the port”* (Port-of-Antwerp, 2013). For this reason re-establishing a connection becomes a necessity for citizens but also a planning strategy for the port authority which through the promotion of the industrial heritage can save its licence to operate and rebuild a relationship between past, present and future (Port-of-Antwerp, 2013).

Port city
18th-19th century



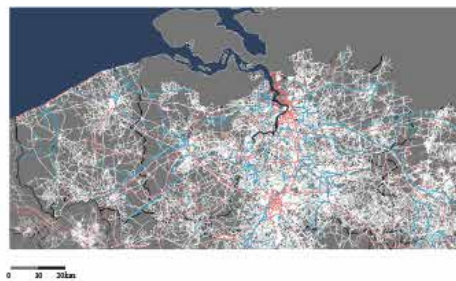
Port next to the city
20th century



Port outside the city
20th-21st century



Port city region
21st century



water port area spatial patterns railways roads

FIG. 5.26 Antwerp in 18th, 19th and 20th centuries. Maps developed by Paolo De Martino. Maps produced using historical maps of the cities. Source for the data: mapcruzin.com; diva-gis; gadm

5.4.2 Spatial context and problem at stake

The spatial analysis discussed in this chapter starts from the Antwerp structural plan that investigates the city through a longitudinal (hard spine in red) and a transversal (soft spine in blue) view (Fig. 5.27).

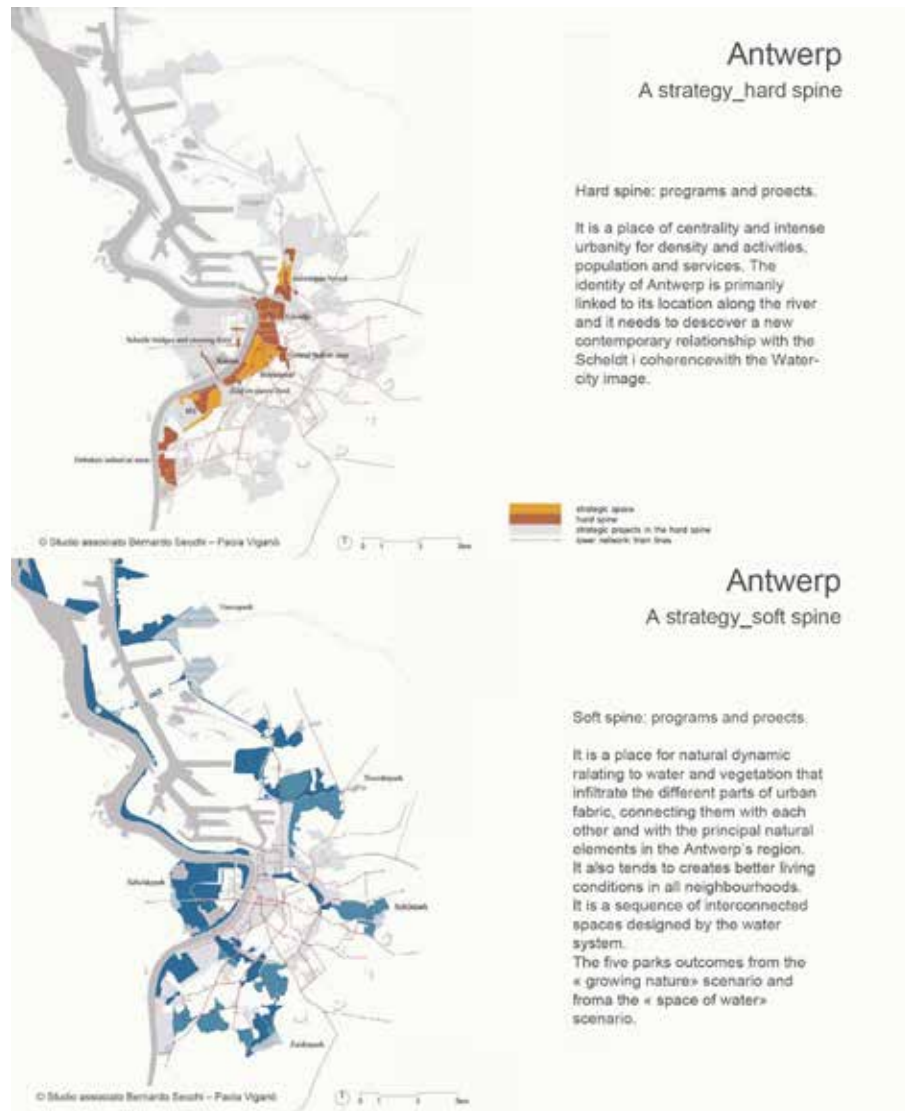


FIG. 5.27 Hard (red) and soft (blue) spines from the structural plan of Antwerp. Source: municipality of Antwerp. URL: <https://www.antwerpen.be/docs/Stad/Stadsv>. Last access 15 March 2020

These spines constitute the structure of the city and a modality to reinterpret the relationship between the city and the port. The hard spine is a system of element that extend along the river Scheldt and it is composed by the series of former port areas and this also includes a part of the historic city center. Here, the municipality has the ambition to strengthening the relationship between port, city, and the river. This ambition is carried out through projects that promote the use of the space along the river as an unitary large public space (Fig. 5.28).



FIG. 5.28 Droogdokkenpark Belvédère. Source: ©AG VESPA, Bart Gosselin

The soft spine refers to the landscape and the ecological system in relation to the city and the port (Fig. 5.29). Here the goal of the municipality is to build coherence and integration in a way that nature can be reinserted into the dense urban fabric (Municipality-Antwerp, 2012).

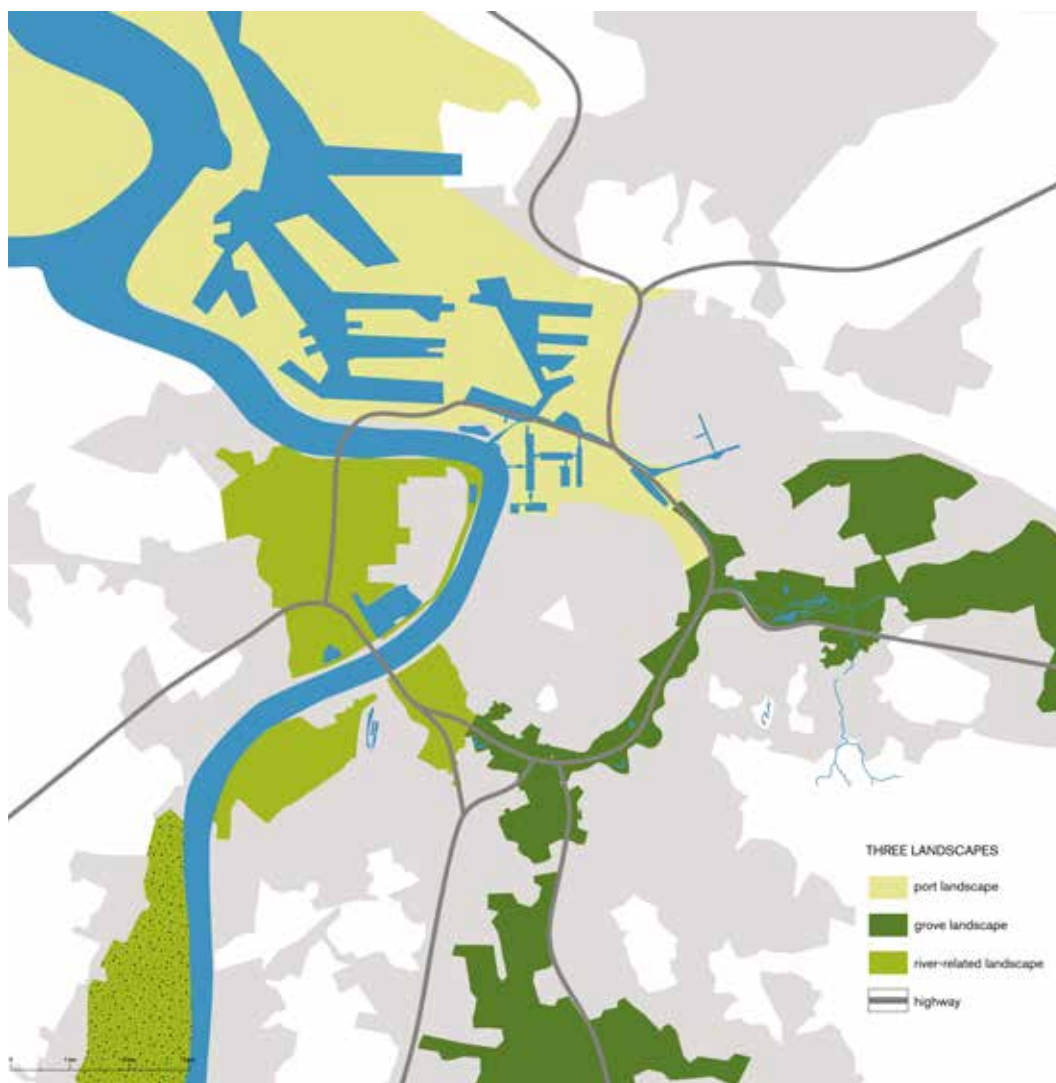


FIG. 5.29 Green infiltration in the Groene Singel. Source: @Studio Karres en Brands

The relationship between port and city in Antwerp knows no conflicts. More specifically, in order to avoid the conflict, the central government and city authority (until 1997 the port was managed by the municipality) have opted to move the port out from the historic city. Port-city boundaries kept shifting and this has had impacts on the city of Antwerp. As a result, since the 1970s, some areas of the old port became abandoned. In 1983 the city of Antwerp merged with other municipalities and the Ring, which was originally at the edge of the city, ended up to be a physical barrier between the historic center of Antwerp and the outer city (Municipality-Antwerp, 2012).

When at the beginning of the 21st century the urbanists Bernardo Secchi and Paola Viganò were asked by the municipality to draw the new structural plan they found Antwerp as an abandoned and empty city, lacking of public spaces and living a conflictual relation with its river and the port (Secchi & Viganò, 2009).

The urbanists, as pointed out in their publication *“Antwerp, territory of a new modernity”*, have explained this conflict as the result of a planning approach according to which authorities throughout the 20th century conceived the city and the port in a rigid way, giving rise to a territory of disconnected fragments (Secchi & Viganò, 2009).

Today Antwerp is experiencing a different phase with a mix of cultures, fusion between the port and the city and new types of industrial landscapes (Fig. 5.30). Therefore, Antwerp represents an inspiring case where planning authorities are investigating whether it is possible to plan new forms of integration past, present and future (Fig.5.31). Abandoned infrastructures and derelict areas contribute today to give the city an image of porosity.



FIG. 5.30 New industrial and energy landscapes in Antwerp



FIG. 5.31 View through the curved glass in the MAS Museum (Antwerp, BE). Source: [https://commons.wikimedia.org/wiki/File:Curved_glass_as_seen_from_inside_the_MAS_museum_\(Antwerp,_BE\).jpg](https://commons.wikimedia.org/wiki/File:Curved_glass_as_seen_from_inside_the_MAS_museum_(Antwerp,_BE).jpg) . https://upload.wikimedia.org/wikipedia/commons/9/9d/Curved_glass_as_seen_from_inside_the_MAS_museum_%28Antwerp%2C_BE%29.jpg. Trougnouf [CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0>)]

The concept of porosity was originally applied to urban studies by the German philosopher and writer Walter Benjamin who during his travels to Naples at the beginning of the 20th century described the Italian port city as a porous territory, referring to the materiality of its architecture (the tuff stone), unexpected voids and theatricality of life styles (Benjamin & Lacis, 2020; Cacciari, 1992).

Recently, the concept has been taken up by the urbanists Bernardo Secchi and Paola Viganò when at the beginning of the 21st century they have started working on the urban renewal of the port city of Antwerp through punctual interventions in public spaces. In the case of Antwerp porosity is a fracture in the existing urban rhythms (Fig. 5.32).



FIG. 5.32 Porosity and fractures between port and city. Antwerp 2019

In their municipal structural plan, the concept has become an interpretative reading tool to recalibrate the relationship between port and city and to explain a condition in which cavities suddenly open. These spaces offer new possibilities to reuse spaces in between. Today the port has reached its limit on the North Sea and it is returning to the city, although in a different way and under very different circumstances

compared to the past (Fig. 5.33). Porosity creates opportunities to change the relation from separation to interaction (Secchi & Viganò, 2009).



FIG. 5.33 Bar Paniek_Antwerpen_Kunstenstad_©Walter_Saenen

A tangible example is the case of the historical quays, a strip of almost seven km partially abandoned which constitutes today an important point of departure for the city and the Port Authority to rethink their relationship at the intersection of land and water (Fig. 5.34).



FIG. 5.34 Historical quays, Antwerp, 2019

Planning culture and governance arrangements

In 1962, the Belgian Act established that the national government was in charge of spatial planning. In 1980, a national reform introduced a significant critical juncture, by transferring this power to the regions and starting the process of decentralisation still in place today (OECD, 2017). Today there is not a unitary national planning system, rather three independent regional ones. Belgium is a federal country based on four levels of government: the national level, 3 regions, 10 provinces and 589 municipalities (Fig.5.35).

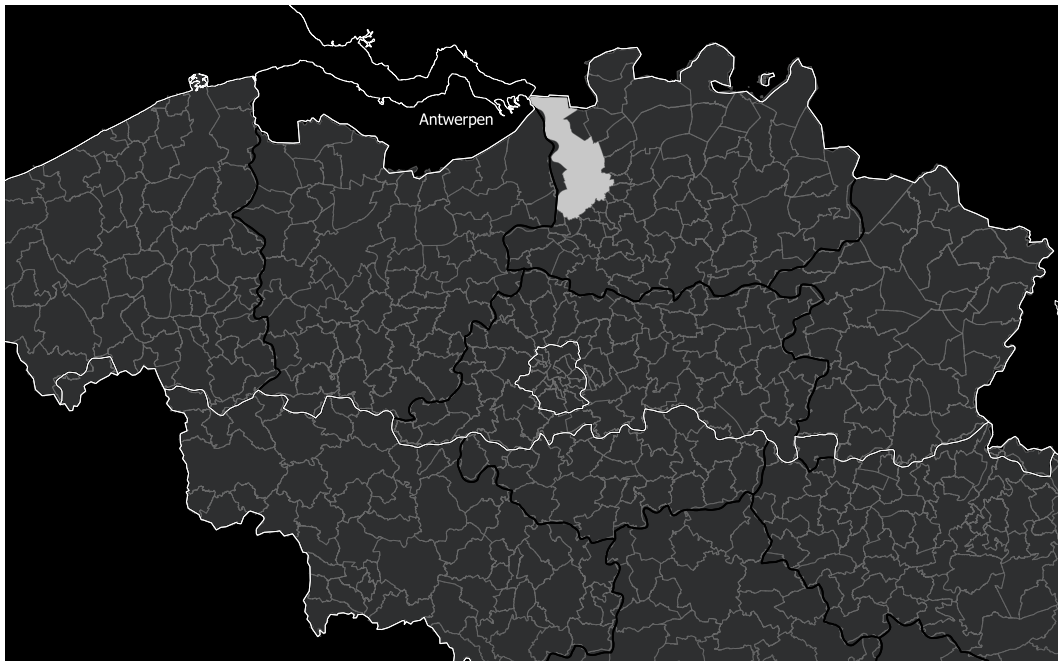


FIG. 5.35 governance layers Flemish region

Therefore, spatial planning is managed today by the regional levels which delegate to provincial and municipal authorities. Antwerp belongs to the region of Flanders (also named Flemish region) which has five provinces (Antwerp, Limburg, Oost-Vlaanderen, Vlams-Brabant, West-Vlaanderen) and 308 municipalities (OECD, 2017).

Another significant juncture in the institutional system was the introduction of the spatial planning decree in 1996. With this law the central government introduced the structure planning at three policy levels: Flanders (region), the provinces and the municipalities (Municipality-Antwerp, 2012). The structural plan established a new way of planning the regional territory (Flemish-Government, 2011). Structural plans are strategic and spatial plans that respond to contemporary urban issues and challenges of the regional territory. The plans do not aim to plan everything within the territory. On the contrary they leave space for uncertainty and physical inertia (Provincie-Antwerpen, 2000b; Secchi & Viganò, 2009). Their main goal is to improve the spatial, economic, social conditions of the city and the region.

Actors' ambitions and planning interests

At the regional and provincial scale, a first structural plan was introduced in 1997. The plan focused on the spatial development of the region, giving directions to the municipalities for the definition of municipal structural plans. Today, the regional plan represents an institutional response to a series of territorial problems, such as the abandonment of urban centers, social segregation, fragmentation, lack of public spaces at different scales. The assumption of the provincial and regional plans was then that ports represent the engine of economic development of the territory and their development should take place in a sustainable way and in continuity with nature. The plan (Fig. 5.36) in a form of sketch defines development directions, focusing on the reconnection of the different territorial fragments around the five key cities of the region: Antwerp (12,000 hectares), Zeebrugge (1,750 hectares), Oostende (600 hectares), Bruxelles, Gent (4,000 hectares).



FIG. 5.36 Ruimtelijk Structuurplan Vlaanderen. Source: https://rsv.ruimtevlaanderen.be/Portals/121/documents/publicaties/081108_planning_in_vlaanderen.pdf

These cities and ports, together with the logistics parks form an interconnected system that works in synergy with the ports of Rotterdam and Vlissingen in the Netherlands (Fig. 5.37).

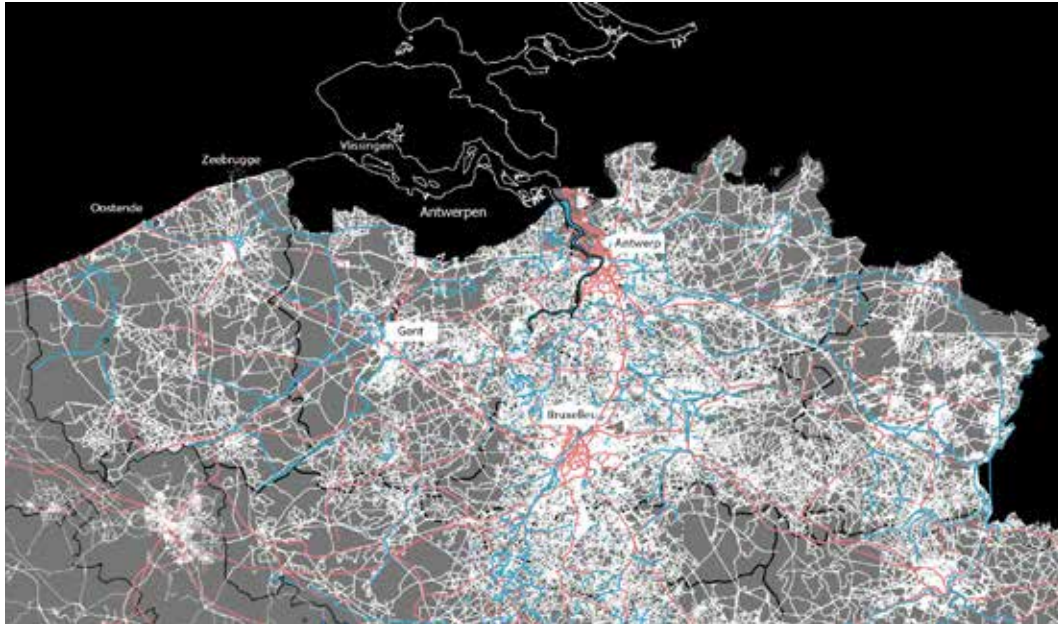


FIG. 5.37 The regional scale of Antwerp. Map developed by Paolo De Martino. Source for the data: mapcruzin.com; diva-gis; gadm

According to Steven Davids, consultant for complex projects at the development Department of the Flanders office, the main problems that port, city and regional authorities are facing today are lack of space, mobility and governance (Davids, 2019). There are, indeed, several companies and authorities with interests in the port but there is not enough space for everyone. From a spatial perspective, the port is specialised mostly in the petrochemical industry and containers. There are also many areas dedicated to nature and designated for bird's migration. *"It is easy to imagine that getting all these different activities living together is difficult and therefore planning this coexistence is one of the main interests of the Flanders region"* (Davids, 2019). In terms of mobility port and city share the same infrastructure, making the day by day activities very problematic. Finally, there is a governance conflict. *"One of the main issues in the region is to understand who is really in charge of port development"* (Davids, 2019). Davids obviously knows who governs the port, but he wanted to point out the tension between those authorities

who are called to govern effectively the port and those who indirectly influence the planning. The governance model entrusts the power of governing to the Port Authority which is the owner of the land. This gives in concession to companies the use of the port areas for commercial purposes. Therefore, the Port Authority is in charge and responsible within the port area by managing the docks, bridges, locks, and lands that belong to the port area. In addition, the Port Authority is the responsible body in charge for the safety of maritime traffic.

In the past and until 1997 the port of Antwerp was governed by the mayor and the city council of Antwerp. This governance structure became obsolete and unable of coping with contemporary dynamics. Therefore, in 1997 the port authority detached from the city department and became an autonomous municipal body with its own decision-making structure, separated from the city. However, the municipality is the sole shareholder of the company (Port of Antwerp). According to Davids, this detachment was necessary to allow the Port Authority to respond flexibly and rapidly to the changing maritime environment and not being influenced by local actors, which ideas and visions are very unstable (Davids, 2019).

Davids came back to the specific responsibilities of the the Flanders which are to approve significant infrastructure developments. The regional authority is in charge of designate the areas by making the zoning plans (port, city, industry, nature). Most of the port area is in purple which means dedicated to industrial activities (Fig. 5.38).

In addition, the regional authority is responsible for making and coordinating the strategic plan for the Flanders. *“With this plan the regional office aims to get away from the sectorial approach (...). The Flemish government is divided into different sectors such the economic sector, mobility, environment, zoning, etc. All these sectors are represented by different people who have different ambitions and it is very hard for each one to look beyond its own target. The structural plans are a tool to achieve this goal. The city of Gent (Fig. 5.39) first and Antwerp later are interesting examples where different authorities worked together to make structural plans. The plans go in the direction of integrated planning approaches. These plans ask questiond like: how do we imagine the evolution of the port areas? How to connect the port to the regional territory? These plans do not look only to the economic development, rather to the environment, mobility, focusing on the connections between different elements”* (Davids, 2019).

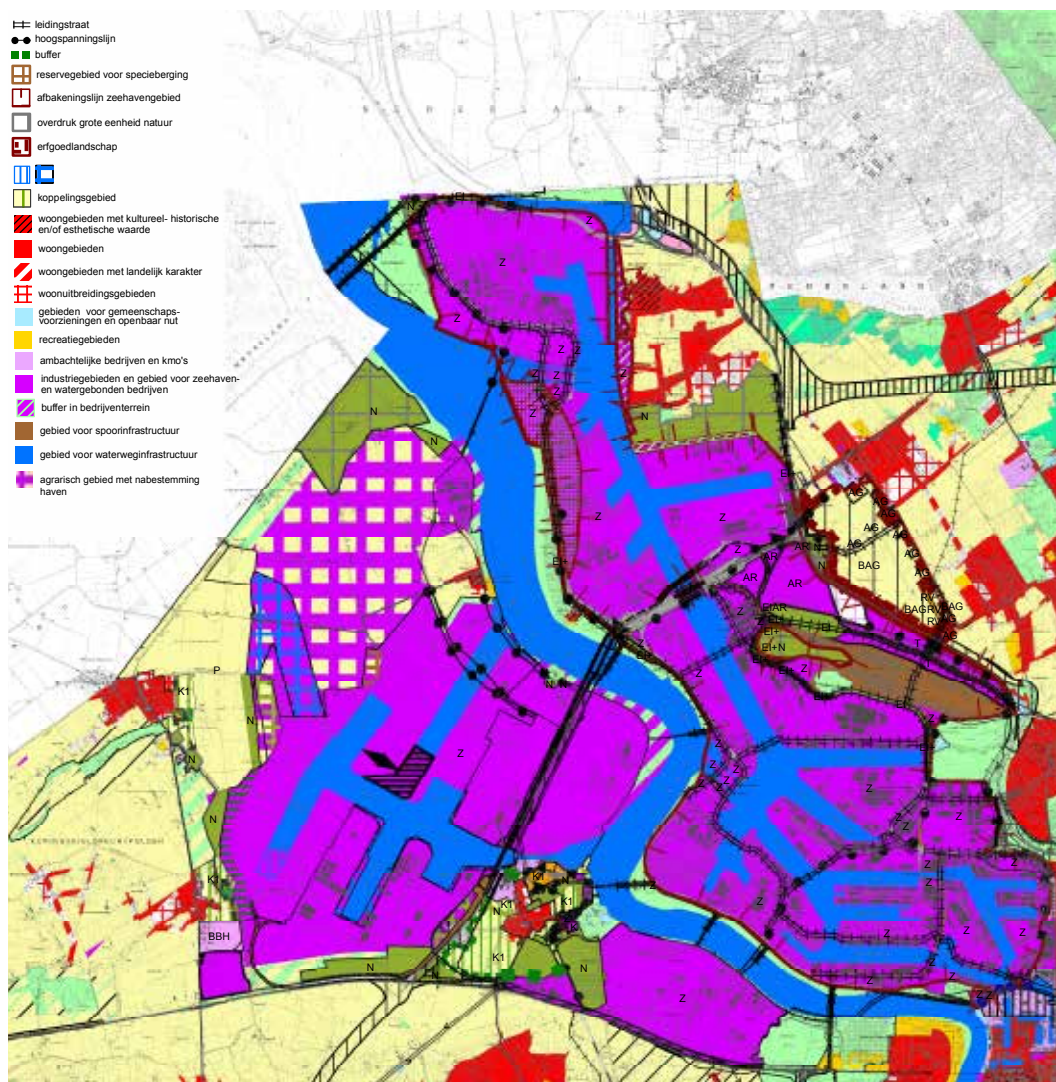
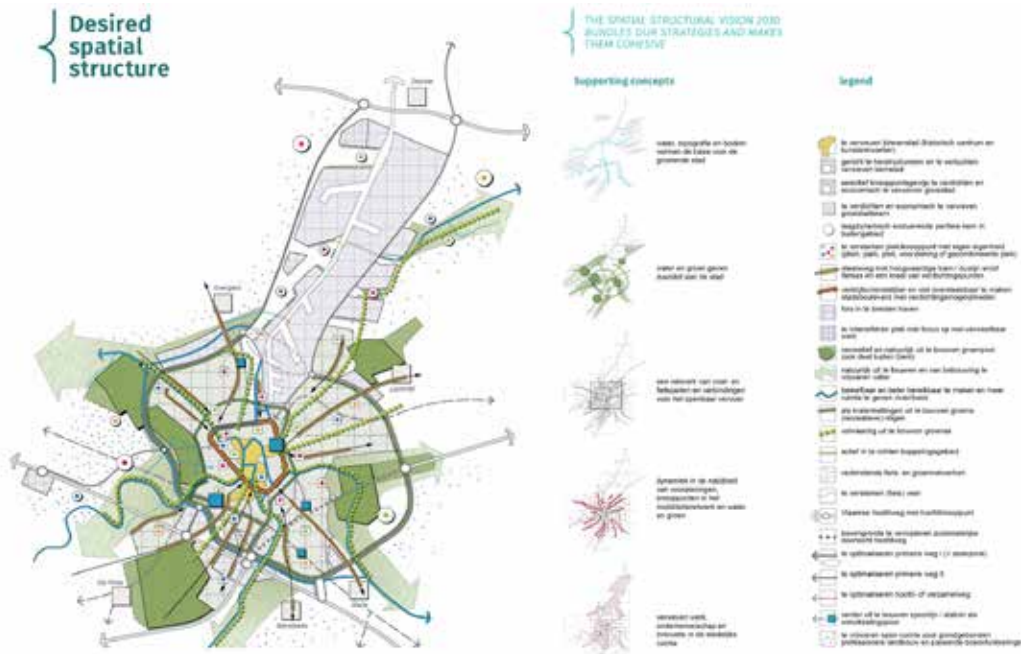


FIG. 5.38 Port-city delimitation areas. Source: Vlaanderen website. URL: <https://www.mow.vlaanderen.be/sph/antwerpen/>. Last access 13/11/2020



Therefore, the Flanders gives prescriptions more on a strategic level, giving flexibility to the port authority to decide specific locations for companies. Davids argued – metaphorically – *“that the real owner of the port is not the Port Authority, the municipality, or the regional authority. On the contrary big companies (like MSC) are the real owners of the port” (...)* In the past the government was more in power to decide. Today it seems to be not anymore the case and this represents a problem. The network of companies today is much more forceful than 20 years ago. If companies do not obtain what they are aiming for in a specific loactions, then they will go where other authorities can offer what they need. This condition came with globalization. They are the real players able to decide the future of the port of Antwerp and beyond” (Davids, 2019).

This represents a problem when it comes to sustainability. As explained by Davids, it is good that companies come to the port of Antwerp for economic reasons, but they seem not to feel properly responsible (like the government does) for environmental issues. Companies believe that the real change is up to the government and for this reason, today the Port Authority is asking companies to take more responsibilities in this direction. However, the Port Authority does not have enough power when it comes to regional development. In fact, the Port Authority aims to be more involved

in infrastructure development (e.g. pipelines, railways). *“Pipelines in port areas, for example, are owned by individual companies. In order to have a complete control of the infrastructures, the port authority aims to take a complete control over them. This would probably improve the efficiency of the port as well, since today there are too many companies involved, making the management very complicated”* (Davids, 2019).

At the provincial scale, the 1996 law gave the province a prominent role in Flanders' spatial policy. The provincial territory is very complex and composed by different “fragments” such as ports, rivers, canals, infrastructures, historic centers and suburbs along the infrastructural axes, metropolitan areas, and natural landscapes. Here, the creation of cohesion is essential for the functioning of the space as a whole (Provincie-Antwerpen, 2000a). The provincial authority has the task to ensure the development of cohesion between all these fragments and all the municipalities. The province of Antwerp comprises three districts (Antwerp, Malines and Turnhout) and with an area of approximately 2,868 km² the province has seventy municipalities. The economy maintains a strong focus on industry with its main core in Antwerp. In fact, many industrial activities are related to water or to the port. Over 40% of the employment in the province of Antwerp is related to the city of Antwerp itself and to its port (Provincie-Antwerpen, 2000a). For this reason, the provincial structural plan (Fig. 5.40) aims to give direction about how to better organise this space by granting the highest quality. This can be done by tying together the different fragments which can make sense only if re-designed as a system. To do so, the plan provides principles according to which it is possible to plan the functioning and coexistence of the fragments (Provincie-Antwerpen, 2000a, 2000b). The port plays an important role being a driving force for generating spatial, economic, social and infrastructural cohesion. The provincial plan therefore recognizes the importance of the port in its spatial-economic dimension for the region and the province. This means that the port expansion can take place only if framed within a territorial vision and after consultations with the other provinces and municipalities involved. The province also plays an important role as a protector of the natural landscape. The green ring around Antwerp, as shown on the map below, is emblematic of this concept.

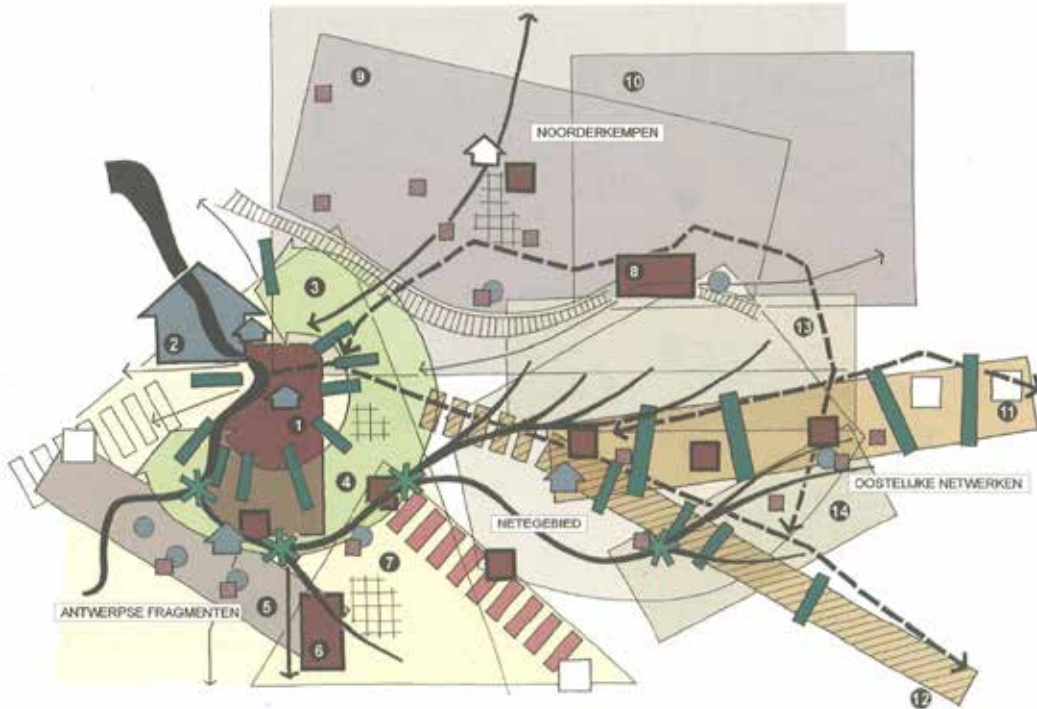


FIG. 5.40 Provincial structural plan. Antwerpse fragmenten. Source: https://www.antwerpen.be/docs/Stad/Stadsvernieuwing/Bestemmingsplannen/RUP_11002_214_50005_00001/RUP_11002_214_50005_00001_0056Ruimtelijkstruct_tn.html

On a more local scale, “the main problem for the port authority is the lack of space”. These are the words of Elisabeth Wauters, technical manager at Port of Antwerp. The port is in need of possibilities to increase container capacity (Wauters, 2019). The project which is looking for these possibilities is called “Complex project ECA” and is contained in the zoning plan drawn by the Regional authority for the delimitation of the sea port area of Antwerp²³. The Flemish government was the leading partner for the delimitation of the port-city area. The municipality of Antwerp, other municipalities, Port of Antwerp and Maatschappij Linker Scheldoever (specific governance structure in charge for the left bank of the river) participated in the process.

²³ See also “gewestelijk ruimtelijk uitvoeringsplan Afbakening zeehavengebied Antwerpen”. URL: https://www.antwerpen.be/docs/Stad/Stadsvernieuwing/Bestemmingsplannen/RUP_02000_212_00202_00001/RUP_02000_212_00202_00001_00336Besprekinggrafi_tn.html. Last access 17th March 2020

However, the plan was annulled by the Council of State for the left bank of the river Scheldt for some conflicts related to nature compensation (Jandl, 2019; Wauters, 2019).

This is emblematic of the conflicts related to the need for space where port development can happen only within a more sustainable growth. According to Filip Smits, manager of urban development at municipality of Antwerp sustainability is the main interest of the municipality. In Antwerp, this seems hard to be achieved considering that petrochemical industries are very close to the city. *“Collaboration is not always easy mostly due to the fact that the Port Authority has its own economic perspective and the municipality wants to create a better living environment” (...)* However, I can say that after many years Port Authority and municipality found each other and today there is a quite good collaboration” (Smits, 2019).

Several projects events and cultural activities at different scales show the willingness of port and city authorities to find common solutions for the port-city contact spaces. In addition, there is also a strong participation of citizens who have been the supporters for change over the last years. Several social events and educational activities have been taking place in the port of Antwerp with the main goal to open up the port to the local community. An example is the port pavilion where people can learn about the port, its numbers and economic role within the city and the region (Fig. 5.41).

Another example is the PoA (Part of Antwerp) talks (Fig. 5.42), which is a port-city festival that brings people, port and city authorities together (PoA, 2019). PoA talks aim to have residents engaged with crucial topics such as mobility, innovation, and urban development.



FIG. 5.41 Port pavilion



FIG. 5.42 PoA talks. URL: <https://www.partofantwerp.be/agenda/poa-talks/>. Last access 13/11/2020

All these events and social arenas take place at Heilandje area which, together with Scheldt Quays, are the physical representation of port-city collaboration.

The Eilandje area is a district of 172 hectares under development between the historical city and the modern port. It is the oldest port area (it dates back to 1550) in the north of the city of Antwerp (AgVespa; MunicipalityOfAntwerp, 2004; Port-of-Antwerp, 2013).

As in fact pointed out by Smits, “everything started with the redevelopment of the post-industrial areas along the Scheldt quays. The first plans were made in the 1980s thanks to a movement of citizens. The program was called “city at the stream”. However, nothing really happened until the 2000s, but the movement led to an awareness of the need to restore the relationship between the port, the river and the old industrial districts around the port” (Smits, 2019).

Only in 2006 the processes restarted thanks to a new involvement of the municipality in the definition of the structure plan by two Italian architects Bernardo Secchi and Paola Viganò. The vision of the municipality of Antwerp is a vision made of mages. Infact, seven fascinating images are used in the plan to tell the story of the city: the water city, the eco city, the port city, the railway city, the porous city, villages and metropolis, mega city. These images refer mostly to the collective memories of residents and visitors (Municipality-Antwerp, 2012). These memories engage with the meaning and role of the port within the city, past, present and future. Through these seven images the municipality aims to achieve a dual objective: on the one hand developing and improving the port’s logistic infrastructure and, on the other hand, restoring the relationship between the city and the port (Municipality-Antwerp, 2012; Secchi & Viganò, 2009).

Therefore, starting in the 1980s, and intensified in recent years, the municipality has carried out a series of projects (Fig. 5.43) also in cooperation with the Port Authority and other partners with the ambition of reconfiguring the image of Antwerp as a habitable and sustainable city, by reinforcing the relation with the port, water and the industrial and cultural heritage (Municipality-Antwerp, 2012).

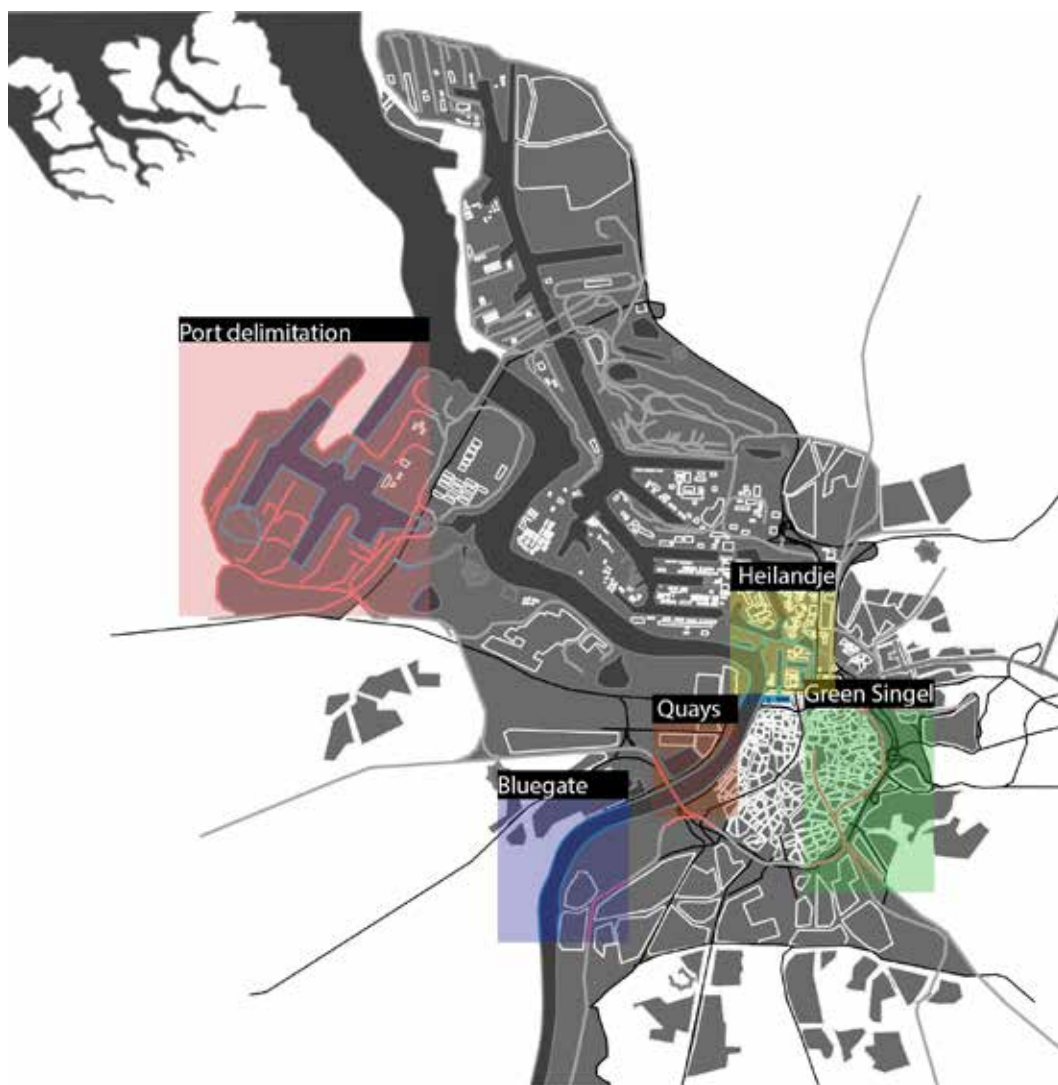


FIG. 5.43 Projects by municipality of Antwerp along the soft and hard spine. Map developed by Paolo De Martino. Source for the data: mapcruzin.com; diva-gis; gadm

Eilandje area is one of the most significant interventions of the recent years. It is a hinge between the contemporary port and the whole old strip along the river, once used for port activities. This area has been the object of an important transformation that has allowed the city to reconquist the riverfront. The project includes different sub-areas and the work will take place in phases over 15 years. The first works started in May 2017.²⁴ The quays consist of seven zones: Droogdokkeneiland, Rijnkaai, Bonapartedok and Loodswezen, Sailor's Quarter and city centre, Sint-Andries and Zuid, Nieuw Zuid and Blue Gate Antwerp.

Since the 20th century, following the expansion of the port towards the north of the regional territory, port activities left the Scheldt quays area. The inhabitants left the neighborhood and the area became a barrier between the city and the port. In the 1980s residents together with architects pushed the municipality to take actions. The movement of citizens led to a program project called "City at the stream". After some attempts to regenerate the area (Manuel de Sola Morales won a design competition organized by the municipality to make a masterplan) the area was in a waiting condition until the beginning of the 21st century when port Authority and municipality agreed that the land (which belongs to Port Authority) would be given back to the city for new residential developments and the city would have been in charge of the redevelopments. The first phase (Bonaparte dock) has finished and now they are working on second phase and they are planning the third phase (Coppens, 2019).

The actors involved in the process are the municipality, the Port Authority, the province of Antwerp, Interreg VAT. The funds for the development of the project are coming from European Regional Development Fund (ERDF). AG VESPA coordinates the development of Het Eilandje and constructs the public domain together with the city (AgVespa). This group of actors is currently working on the second phase of project which focuses on the north and east of the district. Here, an innovation district will take place in the coming years.

Today the area sees important steps already made such as the MAS, the Antwerp city-port museum (Fig. 5.44) and the new head quarter of the Port Authority, designed by the architect Zaha Hadid (Fig. 5.45). Close to the MAS museum, the MAS pavilion is the Antwerp port center where visitors can learn about the history, present and future of the port. In the northern area some spaces near the port

²⁴ AG VESPA. Scheldekaaien. URL: <https://www.agvespa.be/projecten/scheldekaaien#over>. Last access 2019-04-17

have been transformed into urban parks and to the south a 19th century warehouse is transformed into Felix Warehouse, a restaurant and space for cultural events. Heritage has played an important role in the design process. In fact, this project is about the history of the port and the city as a whole. All these interventions have in common the preservation of the maritime identity of the city and its port architectures (Municipality-Antwerp, 2012).



FIG. 5.44 MAS museum at the Bonapartedok._Source: ©Gianni Camilleri_Neutelings Riedijk Architects_kl



FIG. 5.45 Antwerp Port House.

The Eilandje regeneration project is linked to a broader regeneration strategy that concerns flood risk and the regeneration of areas along the Scheldts quays. Flood risk is a crucial topic in Antwerp. For years, this risk has been solved by the national authority by building up high protective walls that have moved away the river and the port from the collective imagination of the inhabitants of Antwerp.

Recently the municipality and the regional authorities have come to realise that raising up new barriers was no longer a valid option. The issue needed solutions. The Scheldt Quays are emblematic of this. The quays form a narrow strip of about seven kilometres along the Scheldt. The area between the river and the city center has a long history and great landscape value. The economic role of the Scheldt quays had lost its significance in the second half of the 20th century when port activities have

moved away from the city. In 1978 as part of the Sigma plan a 1.35m high concrete flood protection wall was built at the central Scheldt quays. The wall represented an additional barrier between the city and the river. That is why the municipality and the Flemish government decided in 2007 to start a process of regeneration for the renovation of the quays in order to combine water protection and quality of the public space (Municipality-Antwerp, 2012). The Cadix district (Fig. 5.46) is an inspiring example that goes in this direction.



FIG. 5.46 Schengenplein Cadixwijk. Source: ©PT Architecten and ©AG VESPA

Another example of port-city integration is represented by **blue gate area** (Fig. 5.47), known since 1860 as Petroleum Zuid. This is part of the strategic space of the Hard Spine and one of the sub-areas of the Scheldt quays which will host in the coming years the first example of business park working on circular economy. Here, sustainable and innovative companies in the field of chemicals, cleantech and logistics will find a place to work. This black field covers 64 hectares and the project of renovation is realised through a public-private partnership (Torfs, 2019). Starting in the 1960s, a progressive abandonment of the oil field took place with most of the oil companies moving away. At the beginning of 21st century Petroleum South was a polluted and wasted landscape within the city of Antwerp. For this reason several actors have decided to work together to renovate this space into an innovative business and logistic park to accommodate smart logistics, new production systems and a university campus (Flemish-Government, 2013). The renovation project started in 2011 when Petroleum South was formally renamed Blue Gate Antwerp (Bopro, 2017a, 2017b; Havenland, 2018).



FIG. 5.47 Blue Gate Antwerp. Source: Bopro

The actors involved are the municipality of Antwerp through Vespa AG (the autonomous municipal company for buildings and urban projects in Antwerp), the Flemish Government through Participatiemaatschappij Vlaanderen (PMV) and Vlaamse Waterweg (Flemish Waterway), DEME, and the private partner BOPRO. The city of Antwerp together with the Flemish government and regional authority opened a competition, asking private parties to come up with a proposal (Bopro, 2017a, 2017b). BOPRO (international real estate developer) and DEME (environmental contractor and international actor involved with remediation of soils and brownfields) came up with a proposal to clean up the site by transforming it into a business park with sustainable high levels. And with this proposal Bopro and DEME won the competition. After that they created a public-private company (Bopro, Deme, city, region) which is now in fact the company which is changing the whole polluted site into a business park (AgVespa; DEME; Quares, 2010; Torfs, 2019). As explained by Dimitri Torfs, member of Bopro, *“the city and the region took over the responsibility of the old companies since it was not possible anymore to found which companies were exactly responsible for the pollution of the soil and make them pay. The public-private company get a subsidy of 80% for the soil remediation. For the rest of the intervention, like building new roads, infrastructures there are no subsidies. The company is investing money into the project and the business model is that when the soil remediation is done the land is sold out to companies”* (Torfs, 2019).

The Port Authority, however, is not an active player in Blue Gate. *“This simply because the area is not within the port perimeter. In the past the area belonged to the port but it not the case anymore. Nevertheless, the project is developed in a strong collaboration with the port authority since Blue Gate aims to lay the foundation for a circular economic cluster”* (Torfs, 2019).

Two buildings are in fact under construction. The first one is BlueApp, a building of the University of Antwerp. It is like a pre incubator for sustainable chemistry and then there is BlueChem which is the incubator. *“Thanks to the circular cluster companies in Antwerp can start from scratch. They can start in the pre-incubation, then they can move to Bluechem and when they are big enough they can move to the port area on the north sea”* (Torfs, 2019).

5.4.4 Port-landscape interface: the case of port demarcation

The port of Antwerp plays an important role in the economy of the city and the region (Flemish-Government, 2011). However, this economic role also needs to have full respect for the environment (MunicipalityOfAntwerp, 2013). The port of Antwerp stands exemplary for how nature preservation and economic development seem to have found a compromise. In the case of Antwerp, there has always been the willingness for the Port Authority to expand the port and for the municipality to preserve the quality of the urban environment, especially in the northern part where the port is almost eating the few remaining small villages (Coppens, 2019). Today, if nature is demolished this needs to be restored and therefore if the Port Authority wants to develop new activities this needs to come with compensation measures.

Despite the contemporary sensibility towards the environment, conflicts between port and nature are much more common than fifty years ago. The area on the left bank, close to the village of Doel (Fig. 5.48) was dedicated, according to the 1970s' regional plan, to port expansion. In fifty years, many things have changed and the area today is designated by Natura 2000 as nature reserve.

The port of Antwerp is not only an important hub in the global economy, but also part of a cross-border ecological corridor. A substantial part of the Scheldt estuary is in fact located in the Antwerp port area and it includes natural areas for birds of European interest.

The port of Antwerp is on the territory of two provinces (Antwerpen and Oost Vlanderen) and several municipalities (Stabroek, Kapellen, Brasschaat, Antwerp, Schoten, and Zwijnecht on the left bank) (Fig. 5.49). The history shows that the two sides of the Scheldt river have developed quite autonomously with port activities that are progressively moved away from the city and on the left bank (MunicipalityOfAntwerp, 2013). Before planning further expansions there was the need for the several authorities involved to define a coherent vision for the development of both banks.



FIG. 5.48 Doel village. Source: [https://commons.wikimedia.org/wiki/File:De_Molen_\(windmill\)_and_the_nuclear_power_plant_cooling_tower_in_Doel,_Belgium_\(DSCF3859\).jpg](https://commons.wikimedia.org/wiki/File:De_Molen_(windmill)_and_the_nuclear_power_plant_cooling_tower_in_Doel,_Belgium_(DSCF3859).jpg). Trougnouf, CC BY-SA 4.0 <<https://creativecommons.org/licenses/by-sa/4.0/>>, via Wikimedia Commons

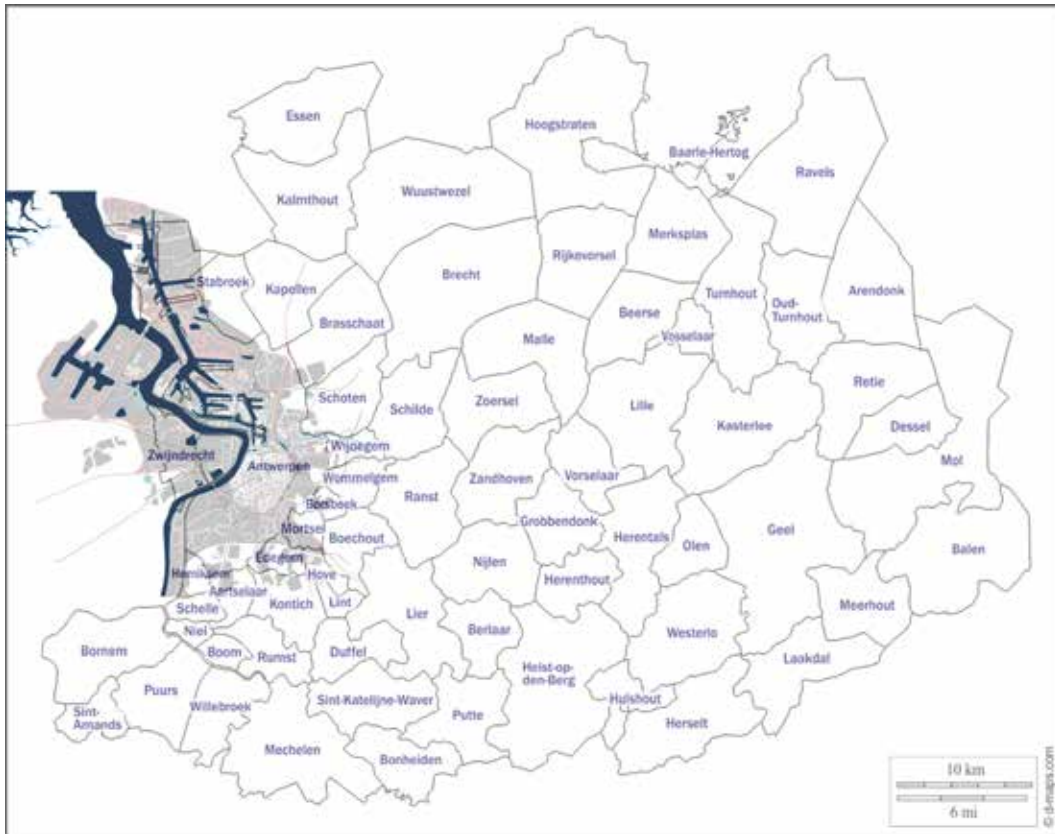


FIG. 5.49 Municipalities around Antwerp. Source for the basic map: https://d-maps.com/carte.php?num_car=35411&lang=en

On a governance level there is a special commission (right and left bank) with all the key players from nature protection. *“This commission meets every month also with representatives of the several municipalities, port authority, and some private actors (natuurpunt for example) or farmer organisations”* (Davids, 2019). Natuurpunt is the largest Belgian organisation in charge of nature preservation. It is a non-governmental organization which promotes, among other things, the protection of important biotopes, species and landscapes, including those in the Antwerp port area. The organisation manages the areas and gives advice for a sustainable coexistence between natural spaces and port development (Port-of-Antwerp). These actors meet to talk about problems trying to identify solutions collectively.

As explained by Ferry Jandl, a guide at the port center of Antwerp, *“the different actors had a governance problem to overcome. The left bank of the port does not belong to Antwerp but to the municipality of Beveren. Therefore, a new dedicated*

company was established to allow the port to expand in this area. In terms of governance, within this different company (Maatschappij Linker Scheldoever), politicians from the city side are different, but for the port side the members are the same of the port of Antwerp (right and left bank) (...) The difference is that on the right bank the port authority is the owner of the ground and the city gets the interests. Specifically, the city gets around 533000 million euros every year from the port of Antwerp. On the left bank the situation is different. The money coming from the use of the logistics spaces go to the city of Beveren and the profit related to the industry (petrochemical) goes to the port authority” (Jandl, 2019).

This also requires a collaboration with the port of Rotterdam. In fact, *“the 80% of the petrochemical oil arriving in Rotterdam is not used in Rotterdam but goes to Antwerp through pipelines. The economic and governance arrangement made with the municipalities of Antwerp and Beveren was the agreement for the use of ground and this was, according to the port authority, a good compromise to make. The agreement also allowed the port to grow outside the existing borders” (Jandl, 2019).*

This agreement brought to light the need to define an administrative perimeter of the port of Antwerp that would hold together different interests and not just the Port Authority ones. This awareness led several national, regional and local authorities to make a plan for the port demarcation in which nature protection could be taken seriously before any port expansion (MunicipalityOfAntwerp, 2013).

As pointed out by Davids, the planning process for the delimitation of the port area began already in 1990s under the initiative of the Flanders government (Davids, 2019). The process was long and complicated also because port expansion would have required for the village of Doel to be demolished. At the beginning people did not want to leave but late the national government and the inhabitants agreed on compensation that would have allowed the Port Authority to expand and people to be relocated. From that moment on, different studies were put forward by different research groups for the developed of the two banks of the Scheldt. Since 2003 the studies were coordinated by the regional government and composed of representatives of the different municipalities, provinces, Flemish government, port authority, the left bank of the Sceldt corporation, social interests’ groups and other political representatives. In 2006 a first draft of the strategic plan was defined and definitively approved by the regional authority in 2013 (MunicipalityOfAntwerp, 2013; VlaamseRegering, 2013).



FIG. 5.50 Droogdokkenpark Belvédère. Source: ©AG VESPA, Bart Gosselin

The outcome of this cooperation resulted in the definition of the plan for the port demarcation to coordinate the joint development of the port, residential areas and nature. According to the plan the left bank of the river was reserved to accommodate and facilitate fast-growing container traffic as well as the expansion of new logistics and production systems. On the right bank of the river, on the contrary, the port has already been substantially expanded and therefore in the future spatial expansion will no longer be a priority. On the contrary this area will accommodate densification of functions. Here, new companies and parks are taking place and “robust infiltration of nature” has been realized through punctual interventions in public spaces in and around the port (Fig. 5.50 and 5.51).



FIG. 5.51 Droogdokkenpark Belvédère. Source: ©AG VESPA, Bart Gosselin

However, the process of the zoning plan today stopped due to some conflicts related to nature compensation. In terms of planning process, every citizen or company having an interest in this area can react to the plan and therefore due to some complains by environmental groups a legal authority (above the state) was established which founded some irregularities about the nature compensation. The Port Authority should have compensated nature and the different authorities did not find an agreement yet on the amount of compensation which is required. As explained by Davids, *“the Port Authority is today waiting for a new minister at Flanders who can balance better nature and port development. This waiting condition is creating some friction with companies pushing the Port Authority to find solution to prevent them from leaving”* (Davids, 2019).

Antwerp is a very inspiring example that shows how different authorities re-negotiate the borders between port and nature (Davids, 2019). The delimitation of the port and city is already in itself the result of a cooperation process in which the different interests, of the regional authority, municipality, Port Authority, citizens and private parties, generate conflict. This mostly because the delimitation of a port has significant impacts on the landscape and on the quality of life that, if damaged, should be compensated with specific measures. In the case of Antwerp these measures concern with robust infiltration of nature inside the soft spine of Antwerp.

The Green Singel intervention (Fig. 5.52) can be seen from this perspective. The project was part of an investigation carried out by the municipality of Antwerp to repair urban fractures generated by infrastructure developments introduced since the 1960s. The main ambition was to recreate a continuity between the different urban fragments around the ring through a landscape approach. The Green Singel becomes today the opportunity to trigger progressive transformation of the territory and also compensate the environmental impacts of the port on the city and even the region (Karres-en-Brands, 2011).

Therefore, the strategic plan for the demarcation of the port defines a shared vision for the future development of the two banks of the Scheldt where the desired economic, spatial and environmental developments can coexist. As Davids has pointed out, *“this asks for a more integrated approach which is increasingly necessary especially in the future when the port will (very soon) face the impossibility to grow. At some point the impacts on the environment will be so significant that the regional authority will prevent further land consumption for port expansions because there will be no space anymore. Society will then face a time in which probably environment will be more important than exponential growth”* (Davids, 2019).

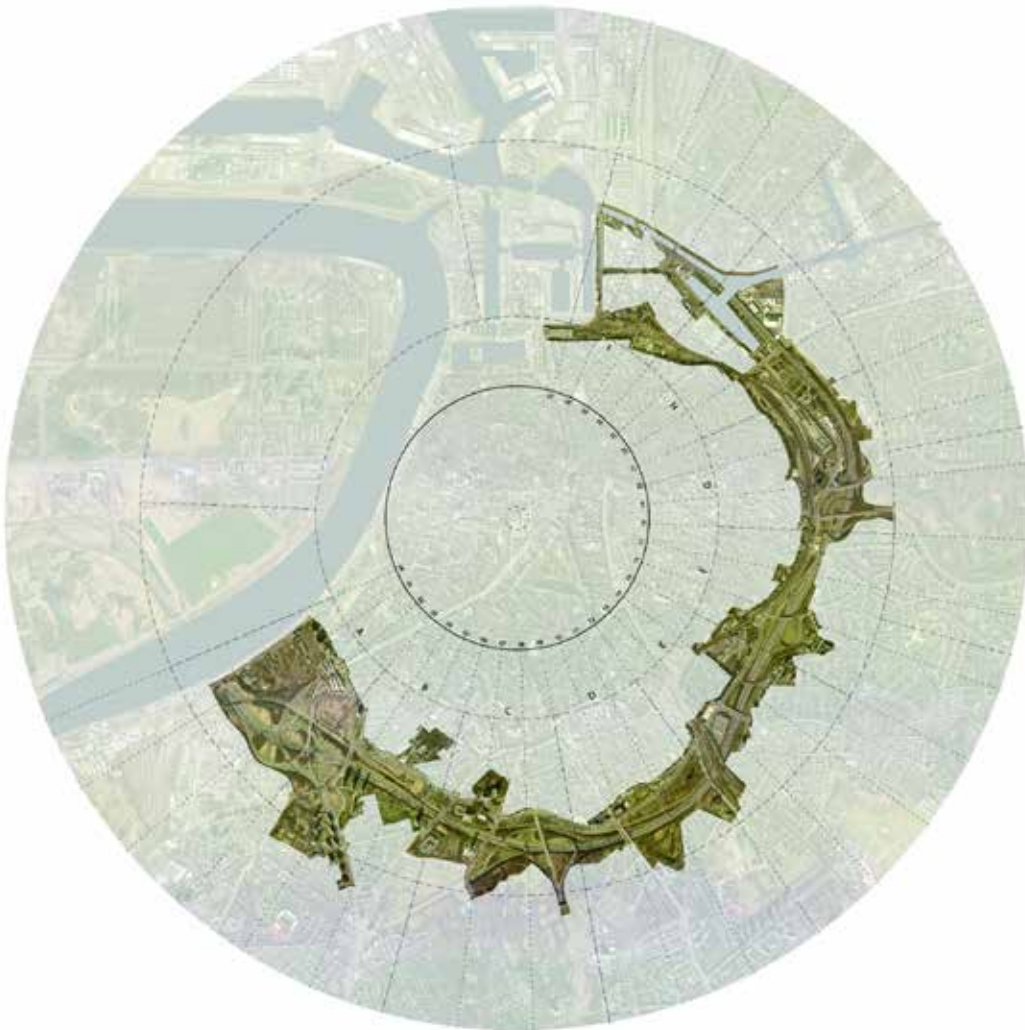


FIG. 5.52 Groene Singel. Source: AGVesps. URL: <https://www.agvespa.be/projecten/groene-singel#>. Last access 15/11/2020

5.4.5 The case study in a box

Country: Belgium

City: Antwerp

Planning culture: in Belgium ports belong to the Hanseatic tradition of public landlord port authorities. It is a decentralised model with a direct link between port authority, region, provinces and municipalities. The State has not explicit power on planning.

Actors involved: There are three levels of planning and therefore actors involved: port authority, region, province, municipality. Since 1997 the port authority is a detached company from the municipality. However, the municipality is the sole shareholder of the port company.



SPATIAL PATTERNS

Spatial characteristics and challenges

Antwerp, together with Ghent, Zeebrugge, Oostende, Rotterdam and Vlissingen form a wider port region. The main spatial challenge is to define new forms of integration between city, port, industry and nature.

GOVERNANCE ARRANGEMENTS

Institutions and actors' ambitions

Institutional framework: National sigma plan (2005-2030); Structural plans 1996; Port reform 2009.

Regions promote integration among main ports to create one big port region.

Provinces promote integration between territorial fragments (port, city, industry, nature).

Municipality aims to improve the economic position of the port by integrating it with the city.

Port authority promotes economic and logistic developments by cooperating with other ports in the region.

Country: Belgium

City: Antwerp

Space: port-landscape interface

Institutional framework: introduction of regional plan for the delimitation of the port area since 1990s

Actors involved: Flemish government, several municipalities, Port authority, provinces, Scheldt corporation (left bank), social groups, Natuurpunt. Since the 2003 Regional authority took the lead in coordinating the project for the delimitation of the port area.



SPATIAL PATTERNS

Spatial characteristics and project challenges

The physical separation between port and city has generated an erosion of the port memory. A more integrated perspective is needed especially at the time when preserving the environment will be more important than exponential growth. The project for the port demarcation aims to define shared visions for the future development of the two banks of the Scheldt. Here, the desired economic, spatial and environmental developments can coexist.

GOVERNANCE ARRANGEMENTS

Institutions and actors' ambitions

The demarcation is already in itself a process of cooperation. This involved overcoming a governance conflicts that prevented the port authority from expanding on the left side of the river (different municipality). The agreement mostly concerned the establishment of another authority for the management of the port on the left bank and financial agreements regarding the income related to the activities of the port.

FIG. 5.53 The case study in a box

The city of Antwerp is today a complex territory composed by different fragments that require to be reconnected: the historical city, the periphery, port, infrastructures, nature. Here a long history of separation—which began in the second half of the 19th century—erased the image of Antwerp as a port city and for a long time the port was not part of the collective imagination of the inhabitants of Antwerp. However, today people have started to miss the port and reestablishing the missing link between port and city becomes a social necessity but also a planning strategy that unite the different stakeholders.

Three major critical junctures in the institutional framework of Flanders form a background to understand the spaces at the intersection of port and city in Antwerp. The first one dates back to the 1980s, when the national reform decentralized planning decisions to regions, provinces and municipalities. This allowed for a more active collaboration between the different levels of planning. Since then, different authorities have worked on extensive urban regeneration projects that framed the port as an essential part of the regional identity from both economic and cultural perspective. The second juncture concerns the governance of the port. Until 1990s the port of Antwerp was managed by the municipality. In 1997, in order to allow the port to respond efficiently and flexibly to global changes, the port authority became an autonomous municipal body with its own decision-making structure. From this moment on, the port authority brought forward a policy of expansion which, nevertheless, always took into account an effort in building a sustainable coexistence with nature. This has meant promoting collaborations with the other ports of the regional territory. They all act as one coordinated system. The last change refers to planning tools and specifically the introduction of the structural planning in 1997 at regional, provincial and municipal level. This represents a new era for the spatial planning of the Flanders. The structural plans aim to respond to the fragmentation of the territory, but leaving room for uncertainty and waiting conditions, and by accepting the diversity as a resource for the territory. The structural plans frame the ports in a systemic way, promoting the reuse of existing land and the collaboration between the different ports.

As emerged from the interviews, the regional authority plays a significant role by giving guidelines that are never rigid, giving space to port and city authorities to define the parameters for collaboration. In fact, the examples presented demonstrate the willingness by public and private parties to rethink the port-city relationship. This aimed specifically at the enhancement of the port heritage as a catalyst for a wider urban regeneration strategy and acupuncture processes that aimed at the regeneration of the public spaces at the edge of the river.

Nature matters in Antwerp and discussions with the authorities have indeed revealed that port expansion can only take place in respect of the landscape. From this perspective, the project of the port demarcation represents an emblematic example of cooperation and an attempt to bring together the various economic interests that gravitate around the port. Deciding together what belongs to the port, what to the city and what to nature was in fact the main ambition guiding the plan.

Therefore, Antwerp is an inspiring case that shows how port challenges can be seen as opportunities to rethink the port-city relation at different scales. The specific projects discussed envision the port development at different scales and beyond the port-city boundaries. This highlights that coexistence between port and city is possible in different forms and spaces and most importantly only if the port is framed as a strategic entity within the city and the regional territory.

5.5 LE HAVRE: Port-city interface as a territorial concept

5.5.1 History in a nutshell

Located at the southern edge of the Plateau de Caux region and on the north bank of the Seine estuary, the port of Le Havre has a quite recent history. In 2017 the port celebrated its 500-year history (Haropa, 2017).

In ancient times, Rouen was the only major port in the region. Only later, the difficulty of accessing this region forced the authorities to look for new land closer to the estuary entrance. As a result, in the medieval period the region had two ports: Honfleur at the south of the current Le Havre and Lillebonne (Fig. 5.54) towards Rouen (Commune-du-havre, 2015-2018). Today, thanks to its position and geographical conformation at the entrance of the Seine, Le Havre is the natural way by sea to access the territory of Paris.

Also in the case of Le Havre several critical junctures have defined the port we see today. Starting as a fishing village, Le Havre turned into a port city only in 16th century (1517) when François I had the harbour, named Havre-de-Grâce (“Haven of Grace”), built for trade and defence (Haropa, 2017; Unesco, 2004). The port was enlarged and fortified between the 16th and 18th centuries. Towards the mid of the 18th century, the port was expanded thanks to the Lamandé plan (1787) approved by Louis XVI. The plan provided for doubling the area of the port and quadrupling the surface of the city (Commune-du-havre, 2015-2018). Therefore, port and city grow together for about four hundred years.

Since 19th century oil revolution introduced a significant juncture in the port-city development path by giving an important boost to the port economy. The long-standing symbiosis was then interrupted when in the 19th century the government subsidized the expansion of the port with the construction of new basins. It is the era of industrial development, linked to maritime traffic and in particular to the oil sector and known as “black gold era” in Le Havre. The port expanded towards the east and south of the city, progressively moving away from the historic core (Fig. 5.55).

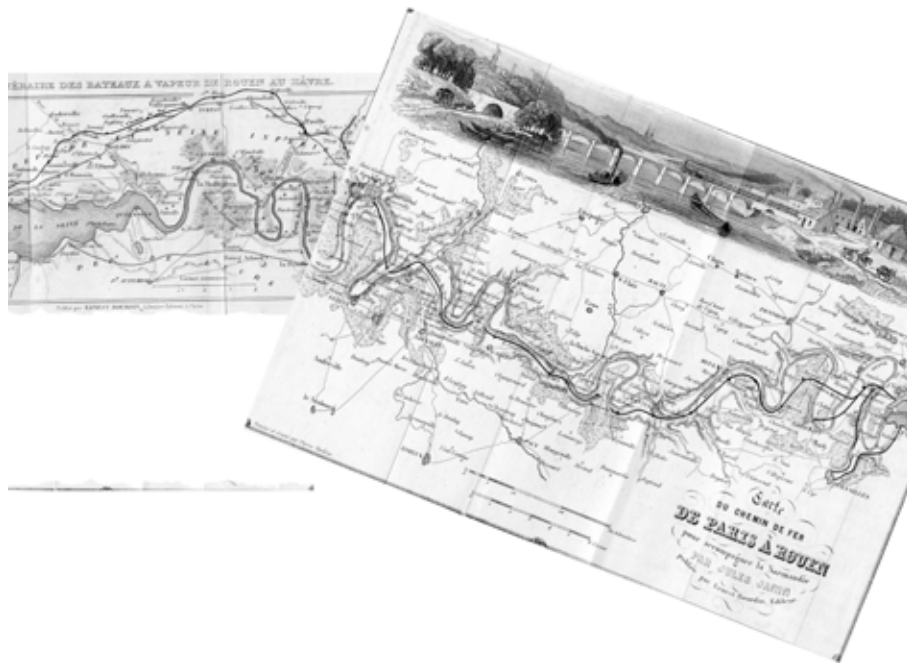


FIG. 5.54 CDF Rouen-Le Havre carte 1845. Source: https://commons.wikimedia.org/wiki/File:CDF_Rouen-Le_Havre_carte.jpg. Neantvide [CC BY-SA 3.0 (<https://creativecommons.org/licenses/by-sa/3.0/>)]

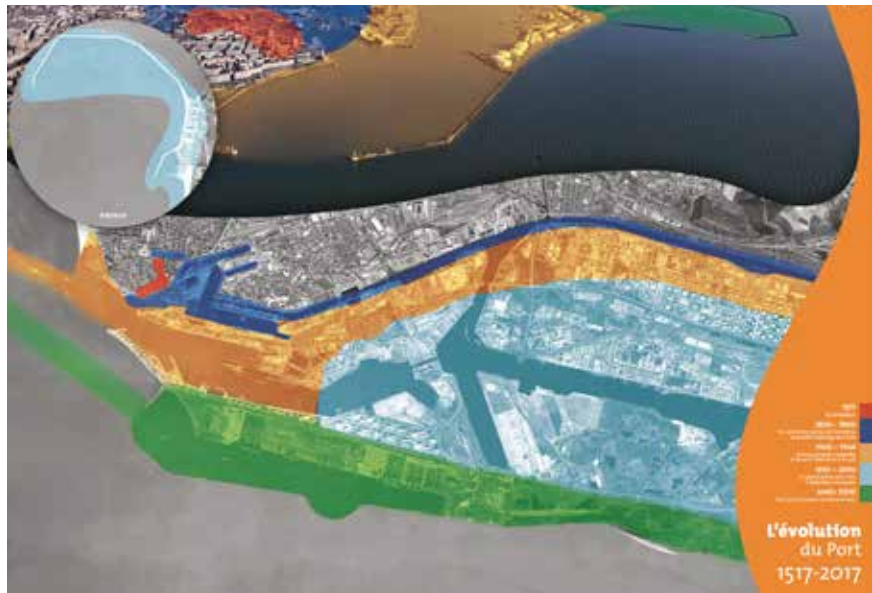


FIG. 5.55 Port development over time. Source: <https://en.calameo.com/read/00134416536a5b95804df>. Last access 16-11-2020

In 1920, the CIM (industrial and Maritime company) decided to build a dock at its own expense that could accommodate the world's largest oil companies (Fig. 5.56). At that time 20,000-ton oil ships were supplying the Tancarville refineries (built in 1933) and Gonfreville Orcher (1933) (Haropa, 2017).

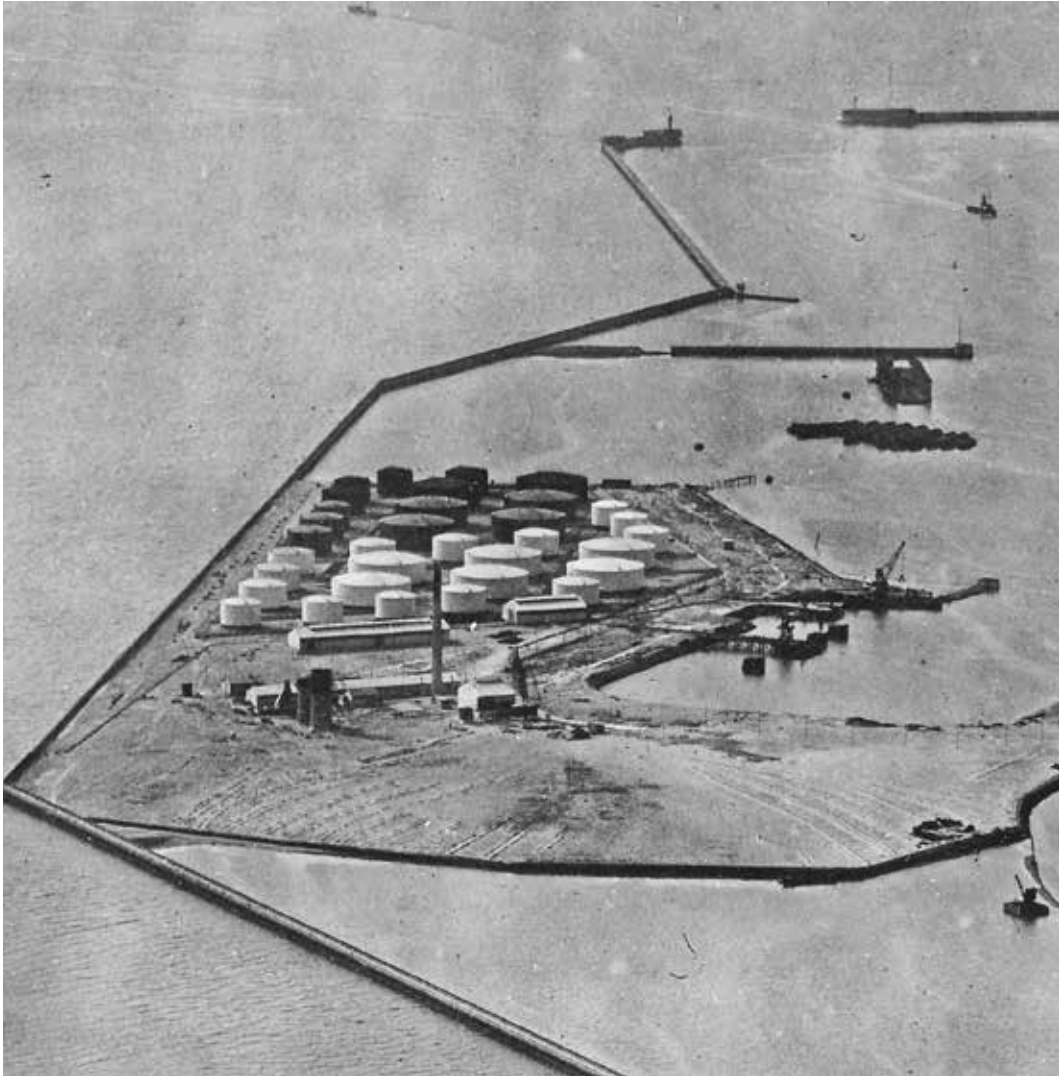


FIG. 5.56 Le Havre, or noir. Source: <https://en.calameo.com/read/00134416536a5b95804df>. Last access 16-11-2020

The war introduced a significant new critical juncture. In 1944, the city of Le Havre was bombed and completely destroyed, as its port. The Ministry of Reconstruction appointed the architect Auguste Perret and his team to rebuild the city. This period lasted about 20 years (Commune-du-havre, 2015–2018). Oil continued to play a key role also after the Second World War as demonstrated by the construction of Antifer port (in 1976) which was built to accommodate larger oil tankers (Clout, 1975; Haropa, 2017).

The container revolution since the 1960s marked decisively the relationship between port and city defining a further caesura with the construction, starting from 1968, of the first container port on the south of the city. Like many other European port cities, Le Havre found itself, at the beginning of the 1980s, with huge degraded industrial areas and spaces at the intersection of port and city. The effects of the post-industrialization of the 1970s have generated in Le Havre a system of wasted territories especially in the Southern area of the city although this district has been the heart of the economic life of the city for a long time. This is the reason why the municipality has put a lot of efforts, through urban projects, to regenerate these spaces and give them back to the local community (European-Regional-Development, 2007).

While on the one hand the municipality aimed at regaining some territories behind the port, the autonomous port of Le Havre since 1995 started to implement the project Port 2000 which included the construction of terminals dedicated exclusively to container ships. Furthermore, in order to optimize the transit of goods, the construction of a logistic platform close by guaranteed the direct connection between the terminals and the rail, river and road networks (Haropa, 2017).

Today the port of Le Havre has expanded considerably towards the east, forming one large port cluster with Rouen and Paris (Fig. 5.57). This spatial expansion was accompanied by a change in the governance arrangement since 2012. Haropa today is a regional port system and a new institutional umbrella which includes the ports of Le Havre, Rouen and Paris (Fig. 5.58). As a result of this spatial and governance stretching, Le Havre has become the port of Paris.

Port city
18th-19th century



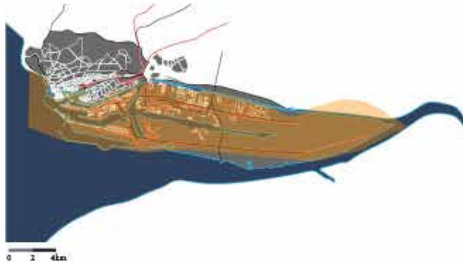
0 1 2 km

Port next to the city
20th century



0 2 4 km

Port outside the city
20th-21st century



0 2 4 km

Port city region
21st century



0 10 20 km

water port area spatial patterns railways roads

FIG. 5.57 Le Havre, spatial and governance development over time. Maps developed by Paolo De Martino. Maps produced using historical maps of the cities. Source for the data: mapcruzin.com; diva-gis; gadm

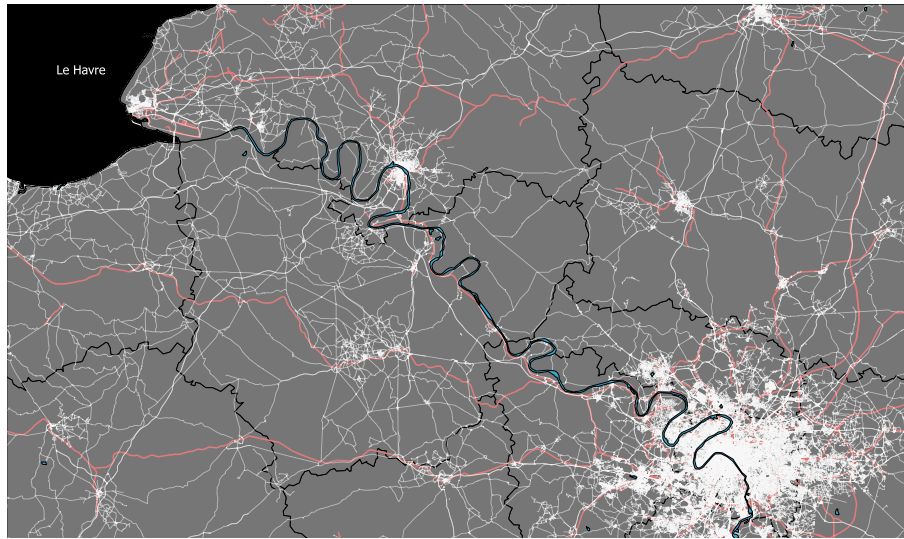


FIG. 5.58 The regional scale of Le Havre

5.5.2 Spatial context and problem at stake

The case of Le Havre is a significant example for the understanding of the spatial and governance implications of the concept of port-city (and regional) interface. In Le Havre this concept is framed by the authorities in a broader territorial perspective. Interface becomes a space with variable geographies from the city towards the regional territory of Paris and a space able to host differences (Brault, Chilaud, Beaufiglioli, Dinh, & Innocenti, 2015). In fact, the interface arises from a discontinuity between different elements, such as city, port, industry, nature. All these elements belong to different logics of planning. Therefore, understanding the governance arrangements that guide them can help to better reinterpret the spaces at the intersection of land and water.

In Le Havre industrial and commercial activities of the port coexist with an articulated and stratified living environment. This gives to the city an architectural, urban and landscape diversity that testifies to a rich and eventful history (Fig. 5.59).



FIG. 5.59 Old port warehouses

The urban structure of Le Havre is divided into three main landscape entities: the upper city, the lower city and the coastline. The lower city is where the relationship between port and city more easily materializes. This is the urban interface as a vast territory that extends from the west coast to the Vauban docks at the entrance of the city and then moving into the hinterland (Aurh, 2018; Sung & Ducruet, 2006).

In Le Havre the urban renewal and the reconquest of the southern districts, in particular of the area of Saint Nicholas (Fig. 5.60) and the districts of Eure and Brindeau, have profoundly modified the urban landscape and the identity of this part of the city (Brault et al., 2015).



FIG. 5.60 University campus, Quartier Saint-Nicolas de l'Eure. Source: https://commons.wikimedia.org/wiki/File:Le_campus_universitaire,_Quartier_Saint-Nicolas_de_l%27Eure.jpg. Ville du Havre / CC BY-SA (<https://creativecommons.org/licenses/by-sa/4.0>)

Improving this relationship is an important manner in Le Havre where the port has a significant spatial impact on the territory. Its extension is approximately twenty-seven km in length, from the entrance of the Seine to the area of Tancarville, and about five km wide (Fig. 5.61). This space includes thirty five km of docks and one thousand one hundred and fifty factories located in the industrial port area (ZIP) and more than one million square meters of logistic warehouses. Moreover, one hundred and fifty kilometres of roads and two hundred kilometres of railways connect the port of Le Havre to the regional territory.



FIG. 5.61 map of the port of Le Havre. Source: Haropa

These numbers testify the spatial impact and economic relevance of the port which is in fact the economic engine of the city and the region providing thirty two thousand direct jobs (Commune-du-havre, 2015-2018).

Le Havre is the second commercial port in France in terms of overall tonnage after Marseille with seventy two million tons of traffic in 2018 and it is the largest container port in the country with two million TEU reached in 2018 (CMcontainerManagement, 2018). Oil is playing an important role also today. In fact, the port is part of a broader industrial cluster (working in cooperation with Rouen) dealing with, among others activities, oil-refining, chemical and petrochemical (LandscapeInterfaceStudio, 2015).

From the interviews conducted to the port and city authorities in Le Havre it was clear that due to the profound impact of the port lack of attractiveness is a crucial issue today for both port and city. As explained explained Cyril Chedot, in charge of spatial planning at the port of Le Havre *“young people are leaving Le Havre. Many of them went to live in the periphery of Le Havre or in Paris. This has started 30 years ago, (...) The main reason is to be found in the fact that the industry is not attractive for them”* (Chedot, 2019). However, the image of the city has changed a lot in the last years thanks also to the fact that Le Havre city center is now UNESCO heritage. This has improved the attractiveness of the city (Fig. 5.62 and 5.63).



FIG. 5.62 Le Volcan Oscar Niemeyer



FIG. 5.63 Le Havre Campus – ENSM



FIG. 5.64 Linear park along the river basin

The extremely destructive bombing due to the war imposed, in fact, a new image to the city, especially the one close to the port. The reconstruction of the city has perpetuated this close relationship between the port and the city reorganised around its port basins. In the lower city, water plays an important role. The linear park along the river basin (Fig. 5.64) is emblematic of this double nature of the city, Unesco site on the one hand and global industrial and logistic port on the other (Commune-du-havre, 2015-2018).)

The port-city interface has been the driver for change. Thanks to the regeneration of these contact spaces today Le Havre is even an important cruise port. However, according to Chedot, the port is still facing a crucial issue. *“This refers to lack of knowledge mainly by citizens and people from the municipality who have not enough knowledge about how the port and shipping business really work. They only look at what is nice, what can be saved, what has an economic value. This mostly esthetic judgement is not enough nowadays”* (Chedot, 2019).

The port-city relation as a topic has been conceptualised in the city of Le Havre in the late 1990s, when port and city authorities came to realise the social and spatial problems the neighbourhoods close to the port were facing. In 1995, Antoine Rufenacht became mayor of the city of Le Havre and he was also the founder of AIVP. He knew that the topic of port-city relation was going to become an issue and this awareness represented a change of ideology. The establishment of AIVP as organization aimed to help finding solutions to facilitate the port-city relation (Chedot, 2019).

In 1995 there was an interesting change in the governance. Before the port reform in 2008 there was the autonomous port. The CEO was hired by the French government to develop the port. It was a public body but completely independent from the municipality. The money was coming from the state and in a marginal way from the companies. The city had no financial involvement. Moreover, the municipality before the end of the 20th century was focusing on a different area, investing money in creating new neighborhoods in the upper part of the city. *"Port and city authorities were developing in a very autonomous way and therefore there was no story at all between the two"* (Chedot, 2019).

From an economic perspective, however, Le Havre still remains strongly marked by a productive industrial apparatus and this generates very fragile economic, demographic and social problems. The city in fact is still not very attractive and this mainly concerns the areas of contact between the port and the southern areas of the city. According to Sabrina Godere, architect and city planner at the municipality of Le Havre, *"the main issue for the municipality has always been to combine a sustainable city environment with the port economy and this can be achieved at the interface"* (Godere, 2019). If we look at the areas of the Quartier Sud, here the port-city pattern is a complete mixture of industry, logistics, houses. Historically, some places were completely derelict spaces, wastelands. Between the end of 1990s and 2000s the city got money from Europe (PIC program) to regenerate the area focusing on infrastructures and quality of public spaces to attract public investments.

Today, new activities, public spaces and university buildings related to the maritime field are populating the area by creating a maritime campus.

In the next future the "Digital city" (Fig. 5.65) will be opened, a large sharing space where projects of students and young entrepreneurs will take place. Everybody here can propose ideas and visions to innovate the territory of Le Havre and along the Seine axis (municipalityLeHavre, 2019).



FIG. 5.65 Digital City

According to Chedot, the gaze with which we look at the port should be changed. The port is not only confined to the city of Le Havre. On the contrary it would make more sense to talk about the regional scale of the port of Le Havre. If analysed from this broader angle, Haropa is the first French port system, the fifth largest European port system, the first European river port for bulk cargo and the second French port for energy supply. Haropa, therefore, combines the three different French ports: Le Havre for containers, Rouen for bulks and cereals and the river ports of Paris for internal connections (Haropa, 2016). The axis of the Seine, as a system of ecological river corridors, is therefore, the backbone of this system.

This change of scale offers opportunities to individual ports, which in this way can share infrastructures and optimize the use of spaces and it is in this spatial

and governance perspective that the Port Authority frames its planning strategies (Haropa, 2013).

5.5.3 Governance

Planning culture and governance arrangements

Spatial policies in France are organised based on four main levels. Firstly, there is the national level of the French Republic. Secondly, there is the local level which is organised on three sub-national governance systems: regions, departments, municipalities (MLIT, 2019) (Fig. 5.66).

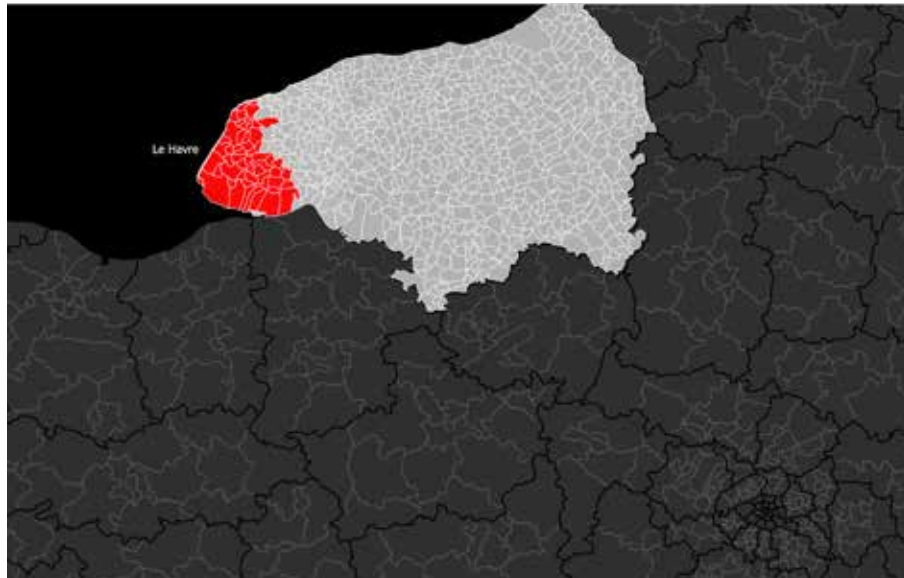


FIG. 5.66 Region, departments and municipalities around Le Havre. In red the “Communauté Urbaine du Havre”. Source: https://commons.wikimedia.org/wiki/File:Localisation_Communaute%20Urbaine_du_Havre_dans_la_Seine-Maritime_France.svg

The city of Le Havre belongs to the region of Normandy and it is part of the Seine Maritime which involves also the port of Rouen. As a result of decentralisation

processes, regions and departments became local autonomous bodies with their own powers in terms of planning (MLIT, 2019).

A significant critical juncture in the governance arrangement followed the national reform in 2008. Due to the reform, the Port Authority of Le Havre became the Grand Port Maritime du Havre. The main goal of the reform was to restore competitiveness of the French seaports allowing them to better adapt to worldwide maritime competition (Cariou, Fedi, & Dagnet, 2014). The autonomous ports were renamed Grand Ports maritime.

The seven major seaports (Dunkirk, Le Havre, Rouen, Nantes-Saint-Nazaire, La Rochelle, Bordeaux and Marseilles) are public bodies placed under the supervision of the French government. Public investments are transferred from state to the ports and terminal operation activities may be exercised by independent port operators through concessions (Jahanguiri, 2008).

Thanks to the reform, the Port Authority is now a landlord port, and not a terminal operator like it used to be in the past. This allow the major seaports to plan beyond the port perimeter and define broader strategies and coordination of joint projects. The reform also gave incentives to port authorities along the same maritime route to work together and ensure coherence. The latter is a very crucial point for the port of Le Havre, since the ports of Normandy have a long history of competition along the Seine axis (Deisse, 2012).

However, today, times are changing and rationality and efficiency seem to take over conflicts and disputes. The ports along the Seine Axis are dealing with several issues. On the sea side, global market and naval gigantism are pushing these ports to make huge and expensive investments on infrastructures. On the land side the quality and diversity of the hinterland connections are becoming a key for port competition. This needs to be managed at a regional scale and through regional cooperation (Deisse, 2012). This is the main reason behind the recent port merging which introduced a recent juncture in the current institutional path.

As explained by Chedot, *“the reform in 2008 was asking for collaboration, but the port authority of Le Havre decided to do more. Since 2012, and after decades of competitions and conflicts, Le Havre, Rouen and Paris have decided to form an alliance. The origin of Haropa is coming from the city of Paris, he explained: the call for project “Grand Paris”. The architect behind this project had the visions to make Paris a new gateway connected to the sea. This reframed the port of Le Havre as port of Paris. As a result, the port authority of Le Havre started to think to create the port cluster, later called Haropa. Right now, Haropa is not yet a completely joint venture;*

it is more a cooperation structure. The prime minister is now asking for a new port reform to really merge the three ports. By 2020 – through a new masterplan with one strategy – the three ports will be completely merged” (Chedot, 2019).

Therefore, the cooperation is coming from the port authorities themselves but under the pressure of the central government. Chedot continued arguing that *“cooperation does not always come without conflicts and also in Le Havre there are forces against change. Merging, in fact, also means that some jobs can be lost with additional reorganization of powers. This is complicated to manage and probably the future will see one organization, but with three separated bodies” (Chedot, 2019).*

Actors’ ambitions and planning interests

Regarding the main players involved in the planning of the port-city relationships these are the city of Le Havre, the Port Authority of Le Havre, Le Havre Seine Métropole, and the Havraise Region Urban Planning Agency (AURH), which acts as a mediator helping to identify projects where different authorities can work together.

As far as the port is concerned, the ambition of HAROPA is to contribute making the axis of the Seine an important logistic system in Europe, competitive and sustainable, at the service of companies and territories (Haropa, 2013). The recent port plan of Haropa 2030 aims to develop a long-term strategic vision. The vision pursues the objective of anticipating the constantly changing economic context and the technological, social and economic conflicts with which the port will relate in the coming years. Haropa, therefore, sets a series of key objectives: increasing maritime traffic, keeping of at least 300 hectares of land available on the territory of the Seine, for industrial and logistic developments, becoming a key player in urban logistics.

Although the port goals are clearly in the direction of the economic and logistic development it seems that the Port Authority is aware of the fact that in the future, the economic attractiveness of a port system will depend very much on environmental excellence and on how ports will be able to reconcile environmental protection and port development (Haropa, 2013). In fact, the port plan foresees that the growth of the ports of Le Havre, Rouen and Paris will have to take place in a sustainable manner by limiting urban pressures (optimization of the land, construction in height, developing of projects in cooperation, recycling abandoned sites, etc.). The port areas of the Seine also include sensitive natural areas of great value that must be preserved. Therefore, according to the port vision the scarcity of available land will lead to the densification of port areas, while promoting areas of

great ecological importance (use of ecological engineering, development of green and blue corridors, etc.)(Haropa, 2013).

That is why “*there is a need to invest in innovation*”, claimed Chedot (...). *The fire which happened in the chemical plant in Rouen in September 2019 should have made people realise that. The main challenge for the port in the future will be space and the pressure will be high, considering that most of the green areas are within the port perimeter. In the past there was a different balance between port and nature. Today 20% of the port area is for nature. Therefore, in terms of surface 20km² are given back to nature. For any future project it is crucial to demonstrate the effort in reducing the impacts on nature. Otherwise, compensation, with the same amount, is required in nature* (Chedot, 2019). The small artificial island (Fig. 5.67) for birds and designed in collaboration with Dutch architects is an example of this” (Chedot, 2019).



FIG. 5.67 Artificial island for birds' migration. Source: google maps

According to Godere, “*the theme of port-city integration is crucial. The port will retain its industrial functions, but the logistics and tertiary activities, these will be a prerogative of the municipality in the future which will continue to invest in the Southern areas behind the port. In addition, the economy of Le Havre is strongly related to the maritime identity and port activities. Keeping the production side of the port at the edge of the city is an opportunity. This obviously needs to be managed in terms of improvement of the quality of the contact spaces. The regeneration of these spaces in between can be an opportunity to reinvent the relationship with the port*

towards new circular economies. This is already in place. The southern districts and the districts of Eure and Brindeau have been transformed thanks to important urban renewal programs” (Godere, 2019).

In fact, since the 2000s, the southern districts have been an area of experimentation that has benefited from European, state and local funds (Commune-du-havre, 2015-2018).

However, port-city integration does not only refer the local interface. On the contrary, the reference scale of the port is changing considerably and Le Havre is an interesting example to understand the possible spatial and governance implications. As pointed out by Chedot, *“in the past the CEO of the port authority was used to dialogue with only the mayor of Le Havre. Today the legal territory of the port touches upon different municipalities and therefore mayors. Each one has planning authority on the port. That is why all these mayors have decided to team up and form a single agglomeration under the name of Le Havre Seine Métropole, which represents a system of fifty-four municipalities established at the beginning of 2019” (Chedot, 2019).* This system of municipalities can be seen as a response to the regional scale of the port of Le Havre and the inter-municipal scale of Le Havre. *“Today, thanks to this alliance municipalities have much more power and Le Havre Seine Métropole represent an additional layer to the existing governance arrangement” (Chedot, 2019).*

And it is in fact at the metropolitan scale that the strategic planning of the municipalities is played. The city activities and life of people within a territory exceed the municipal borders. This also justifies the presence of the Agence d'Urbanisme de la Région du Havre and the Estuaire de la Seine (AURH) as a key actor in helping municipalities making their city plans. AURH supports the municipalities in the preparation of planning documents (municipal PLU and inter-municipal urban plans PLUi), in the development to the approval phase, up to the realization of urban projects (AURH). AURH guarantees consistency between the various planning documents and promotes the transversality of public policies and the integration of scales.

In addition, *“the port authority also helps designing the city plans. Port and city authorities draw the plan together to reduce conflicts by organizing informal meetings which take place even before the process of the plan starts” (Chedot, 2019)*

The regional authority expresses its planning interests also through other territorial plans such as the SCOTs (instruments of territorial coherence). A relevant example is

the one developed for the Le Havre Pointe de Caux Estuaire in 2012 (Fig. 5.68). The document focused on the borders and transition spaces. According to the plan these spaces offer opportunities to rethink the relationships between city, port and region from an environmental perspective.



FIG. 5.68 Scot plan. Source: <https://www.aurh.fr/planification/scot-le-havre-pointe-de-caux-estuaire/>

According to this vision today the quality of the landscape is played in the spaces of transition between different environments and types of lands uses (residential areas, agricultural areas, industrial and natural areas). The concept of “edge” in the plan refers to the in-between as a physical space in which different things, uses, and interests meet and, sometimes, clash (Aurh, 2014). In the regional vision the issue of integration does not only concern cities and ports, rather the relationship with the coastline, with water in all its forms and dimensions. The coastline becomes a multi-functional landscape element able to grasp and hold together various relationships.

Therefore, the main problem on which the different actors are called to intervene today is to balance the relations between port, industry and nature. And it is in this desire of integration at different scales that cooperation initiatives between the port, the city, the government and private entities should be framed.

The processes of interaction between urban and port authorities take place in different ways and on topics that are across different scales. The harmonious articulation between city and port passes through a re-appropriation of port spaces, its history and its identity by the local community (Haropa, 2013). In fact, as pointed out by Chedot, *“citizens do not care about administrative borders and competences. NGO organizations, for example, are defending nature by fighting against the port and the global market to which the ports belong. Therefore, a new approach is required to build up a better relation with the territory, breaking down the mental barriers between people and the port (...). There is a layer of problems that cannot be addressed in the institutional rooms. There are arguments that need to be discussed in a third place, a place where people can talk another language and not talk to, but with. This is how and why the concept of port center comes in”* (Chedot, 2019). The Port Center, a concept has been developed in Le Havre by AIVP since the 1980s to provide the general public with the possibility to discover, experience and understand better contemporary port activities and challenges. The port center is an interface where citizens can experience the port atmosphere. It is a space for interaction between people and professionals where port excursions, visits, lectures and other port educational activities are organized (AIVP, 2011).

All this translates into spatial strategies, which in the case of Le Havre touch upon a regional dimension of the territory and this because, as previously argued in this chapter, social, economic and spatial transformations concern a dimension that goes far beyond administrative boundaries. This requires unconventional approaches and different interaction tools. Two strategies support this purpose and are briefly analysed in this chapter: The Le Havre Smart port city initiative²⁵ and Reinventer la Seine²⁶. The latter, represents a framework that laid the foundations for many strategies developed within the smart port city initiative and still in place today.

²⁵ Le Havre smart port city website. URL: <https://www.lehavre-smartportcity.fr/>. Last access 17/11/2020

²⁶ Reinventer la Seine website. URL: <https://www.paris.fr/pages/reinventer-la-seine-4647#les-projets-parisiens-en-cours>. Last access 17/11/2020

The theme of transition – in its wide range of meanings and scales – can be an opportunity for the region. This is the vision of the different authorities and partners that since 2017 have decided to start collaborative processes to transform the relationship between ports, cities and industries within the Valley of the Seine.

Le Havre as many other port regions, are facing significant challenges from global competition, to digital and energy transition, to changes in the labor market. Ports need to respond to this and it requires finding innovative and practical approaches to allow ports to be competitive and at the same time guarantee future prosperity for the city and region. To help achieving these transitions, since 2017 the national government launched a call for proposals, as part of the PIA3 (Future Investment Program) program to promote innovation (LeHavreSeineMétropole, 2017).

As explained by Chedot, “the French government asked to the contributors to propose projects showing how to completely transform the territory through innovation. Port and city authorities together with many other partners coordinated a strategy to transform this regional territory in 10 years. The project took the name of smart port city. The general program is about 240 million euros investment and smart port city project got 30 millions getting to the second stage of the program” (Chedot, 2019).

The program is gathering at the moment very different partners such as port authorities, companies (e.g. Engie, Cisco, Nokia, Orange, Siemens), industrial actors (industrial association Synerzip LH), academic and research actors (e.g. University of Le Havre Normandie, the Ecole Nationale Supérieure Maritime, the Institut Supérieur de la Logistique), associations (e.g. port center), the Normandy region. Each of these partners have come forward with proposals and Le Havre Seine Métropole has the role to coordinate and putting them together in a comprehensive way. The port authority, together with the municipality, Le Havre Seine Métropole and Siemens is working on the energy transition. The area of the port close to the cruise ship terminal (Fig. 5.59) is still hosting few oil tanks which will be removed in the coming years. As a result, the new area will host the wind turbine platform. This will be opened by 2022 (Chedot, 2019).



FIG. 5.69 Area that will host the Simens platform

Several projects have been proposed by the authorities that look at the issues of mobility, energy, attractiveness, data. Many initiatives are focused on the social, cultural and educational dimensions of the port-city relationship. Examples are the Fablab in the city centre of Le Havre, a shared facility focusing on the industry of the future. Another idea was to use the maritime campus to develop new transdisciplinary training course on Transitions, Energy, and Maritime Territories. Finally the port center also aims to develop a next-generation of port centers to reinvent the relation between people, port and maritime industry (LeHavreSmartPortCity, 2019).

Smart port city project is a strategy and cooperation which looks at the port city region interface. Moreover, it is a step forward compared to other smart port initiatives around Europe as it includes the city and the regional territory within the debate in both spatial and institutional terms. The fact that Le Havre Seine Metropole coordinates the initiative is a demonstration of this aspect.

5.5.4 **Port regional interface: Reinventer la Seine**

This section of the chapter discusses the project-based initiative called Reinventer La Seine (Fig. 5.70). The call for project aimed to create the conditions to re-imagine news ways of living with water along both banks of the Seine (ReinventerLaSeine, 2009).

The Seine valley defines the world metropolis from Paris to the sea, linking Paris, Rouen, Le Havre and the dynamic territories of Normandy and Ile-de-France. This interregional territory is configured as a strategic economic axis, but also rich of social and cultural values (ReinventerLaSeine, 2009). In fact, this space has a strong potential for development linked to its port supply (sea and river ports) and logistics (essential to integrate ports into a globalized economy), to research and innovation, to the dynamism and the diversity of its economy, but also to the richness of its natural heritage. The main challenge for the responsible authorities is to reconcile economic, urban, port and industrial development with the conservation and promotion of the cultural, environmental and landscape assets of the Seine valley (ReinventerLaSeine, 2009).

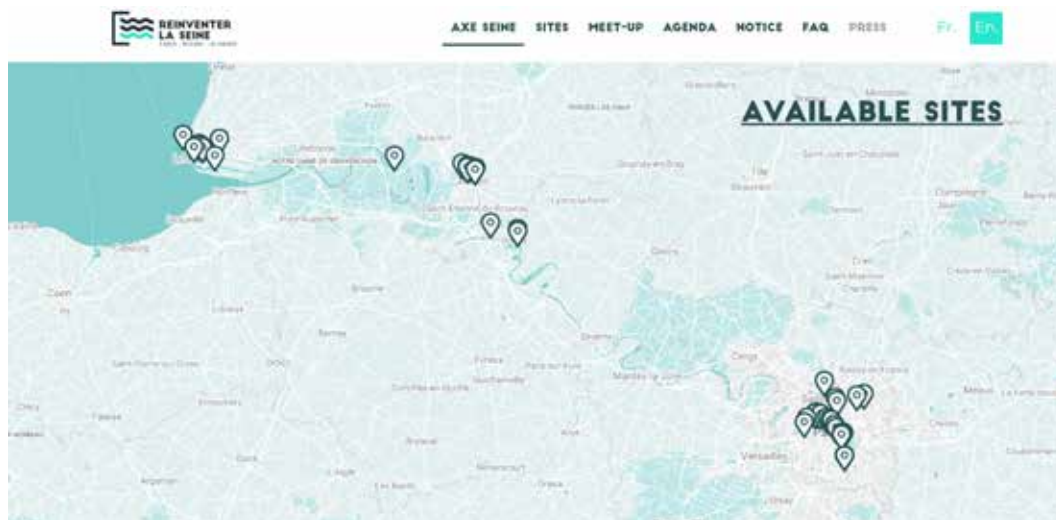


FIG. 5.70 Map Reinventer la Seine. URL: www.reinventerlaseine.fr. Last access 15/12/2019

In order to meet these challenges, the cities of Caen, Le Havre, Rouen, the Seine-Aval area in Île-de-France and Paris decided to work together to develop the Seine valley. This desire has given rise to a true collective ambition, triggering the mobilization of all the actors of the Seine Axis, in particular the French government, port authorities, municipalities, and regional authorities, companies and start-ups (ReinventerLaSeine, 2009).

Reinventer la Seine is a call for proposals consisting in proposing sites along the Seine Axis (use, rent or buy land) for the implementation of innovative projects. Through a dedicated platform, start-ups, associations, investors, companies, collectives, artists can apply, joining existing projects or asking for collaborations. That way, other interested parties can be in touch and join.

The role of municipalities within the process is crucial, especially when it comes to port-city relationships. In particular, their role is to make sure that the port-related transformations are framed as a strategic opportunity for a broader territorial transformation that contemplates a renewed relationship with the city. Several projects have been put forward since 2009, many of which realized such as Quai de Southampton and Pointe De Floide in Le Havre, at the intersection of city and port (Fig. 5.71).



FIG. 5.71 Panorama of Le Havre, listed as UNESCO World Heritage. Source: https://commons.wikimedia.org/wiki/File:Panorama_of_Le_Havre,_September_2019.jpg. Attribution: Martin Falbisoner [CC BY-SA 4.0 (<https://creativecommons.org/licenses/by-sa/4.0/>)]

The project was co-managed by the municipality of Le Havre and the port authority of Le Havre (GPMH). At the entrance of Le Havre by sea the area in question is where different flows meet (oil tankers, ro-ro, commercial vessels, service vessels, fishing vessels, ferries, cruise ships). Located near the city center and in front of the pier that accommodates cruise ships, the Southampton pier and its immediate surroundings were unattractive to locals and visitors (Autorité Environnementale, 2016). There was a natural tension between the large dock of Southampton which still forms part of the city and the Florida Point which hosts the cruise ship terminal. Therefore, port and city authorities decided to work together to reduce this tension (Seine, 2015).

The project consisted of the redevelopment of the Southampton pier, an area of 12 hectares, to be transformed into a space of re-appropriation by citizens and tourists by recreating the riverfront (Autorité Environnementale, 2016; Gallien, 2016).

In terms of process and ownerships, the Port Authority of Le Havre owns the land and together with the municipality in 2014 has commissioned a study for the regeneration of the area to a design team composed by several firms such as IHA Inessa Hansch and Michel Desvigne Paysagiste (Hansch, 2014). The idea proposed by the designers was a landscape vision, but at the scale of the city that aims to reconstruct a new balance within the territory between urban riverfront and port activities. The project works on different elements and scales of relationships, allowing to reduce the existing fragmentation and to read the riverfront as a unitary system. The promenade hosts already different functions and activities and represents an interesting filtering line and transition space between port and city (Hansch, 2014). This promenade systematizes the buildings and functions already present within the project perimeter such as the harbor master's office and customs and cultural and tourist activities such as the MuMa Museum and the Port Center. It is a project that does not work much on the idea of functional integration of spaces rather on a visual relation with the port and its activities (Desvigne, 2013).

5.5.5 The case study in a box

Country: France

City: Le Havre

Planning culture: In France ports belong to the Latin tradition of public landlord port authorities. The State delegates to regions and municipalities in terms of planning issues. Port authority owns the land on behalf of the State.

Actors involved: state, regions, municipalities, port authorities

SPATIAL PATTERNS

Spatial characteristics and challenges

The port of Le Havre together with Rouen and Paris forms a wider port region along the river Seine. The main problem on which the different actors are called to intervene today is to balance the relations between port, industry and nature. In Le Havre the concept of interface becomes a planning tool used by authorities to look at the integration between port city space, regional territory and landscape.



GOVERNANCE ARRANGEMENTS

Institutions and actors' ambitions

Institutional framework: port reform in 2008, Haropa 2012, formation of Le Havre Seine Metropole 2019

State promotes functional integration of ports by developing regional collaborations.

Region promotes territorial cohesion.

Municipality promotes integration between port economy and city environment.

Haropa aims to make the Seine axis a strategic logistic system in conjunction with nature

Country: France

City: Le Havre

Space: port regional interface.

Institutional framework: call for project "Reinventer La Seine" 2009

Actors involved: French government, port authorities, municipalities, and regional authorities, companies and start-ups

SPATIAL PATTERNS

Spatial characteristics and project challenges

The Seine valley defines the world metropolis from Paris to the sea, linking Paris, Rouen, Le Havre and the dynamic territories of Normandy and Ile-de-France. This interregional territory is configured as a strategic economic axis, but also rich of social and cultural values. The main challenge for the responsible authorities is to reconcile economic, urban, port and industrial development with the conservation and promotion of the cultural, environmental and landscape assets of the Seine valley.

Several projects have been put forward since 2009, many of which realized such as Quai de Southampton and Pointe De Floide in Le Havre, at the intersection of city and port.



GOVERNANCE ARRANGEMENTS

Institutions and actors' ambitions

In order to meet these challenges, the cities of Caen, Le Havre, Rouen, the Seine-Aval area in Ile-de-France and Paris decided to work together to develop the Seine valley. "Reinventer la Seine" represents a collective ambition to regenerate the Seine axis on the base of projects across different scales. This aims to reestablish a relation between ports, cities and regional territories. In terms of process and ownerships, the port authority of Le Havre owns the land and together with the municipality in 2014 they have commissioned a study for the regeneration of the area. The strategy shows that in order to improve the port-city relationship a regional strategy is needed.

FIG. 5.72 The case in a box

The evolutionary history of the port city of Le Havre is fairly recent, dating back to just five hundred years ago. Port and city have changed and evolved together for about four hundred years until when industrial processes, especially those related to oil, gave rise to a clear separation between the two. Oil therefore introduced a significant juncture which has played a decisive role in defining the industrial character that port and city still retains today. The industrial-based development has led local and central governments to face the abandonment of entire areas of the city since the 1970s. This phenomenon has concerned specifically the southern districts of Le Havre, economic and productive engine of the city. Here, several regeneration projects funded by national and local authorities have been committed to rethink this territory as new places to live. Today these neighbourhoods are much better if compared to the past. However, the city of Le Havre appears still quite unattractive and this represents the point of departure to understand spatial strategies carried out in Le Havre region.

Le Havre is a significant example to show that the scale to better understand port-city dynamics is today the regional scale. The concept of interface in Le Havre becomes a spatial entity with variable geographies that does not only concern the relationship between port and historical city, but the industrial port, the territory, open spaces, the landscape and the relationship of these elements with new production systems. The port, with its large infrastructural and production flows, holds together different landscapes that constantly change in scale as the sinuous line of the Seine emphasizes.

Two significant critical junctures in the existing institutional path form the background to better understand the transition towards the port city region. The first concerns the introduction of Haropa in 2012 as an initiative of the three port authorities of Le Havre, Rouen and Paris, following the national port reform introduced in 2008. Haropa is today the new port governance and the institutional umbrella for the three ports along the Seine. This port merging has generated a stretching of the port boundaries with significant impacts on cities as well. In fact, the port of Le Havre is today the port of Paris. This governance evolution and the change in scale of the port are an opportunity to rethink the relationship between port and territory at its different scales.

The second change refers to the introduction of Le Havre Seine Métropole as the agglomeration of the different municipalities that gravitate around the port. This represents a significant change in the reorganization of powers between port authorities and municipalities. The change in scale of the port has meant that while

in the past the port authority only dialogued with the mayor of Le Havre, today this must interface with many more municipalities and each of these has something to say in terms of port-city relationship. This is the reason why different municipalities have joined together. Starting from 2019 Le Havre Seine Métropole represents the intermediate level of governance with which Haropa relates for the planning of port-metropolitan city relation. This seems to be the right scale to understand urban phenomena (housing, mobility, economy) that go beyond the strictly municipal boundaries.

Interviews to the representatives of the Port Authority and municipality have pointed out that the major challenges Le Havre will face in the coming years have to do with reconcile economic development with the enhancement of the cultural, environmental and landscape assets of the Seine valley. The vision of the municipality is much more oriented towards improving the quality of the spaces behind the port, in the South districts. On the contrary, the port authority is evidently more oriented towards the logistic and infrastructural development as also clearly expressed in the Haropa 2030 port plan vision. However, they both seem to be aware that in future the competitiveness of the ports of Haropa will be played on the capacity to make the port in a sustainable dialogue with the city and the region.

Planning strategies such as Reinventer la Seine and Smart Port City initiative are representative for how the concept of interface is expressed in a regional perspective. These strategies show that in order to improve the port city relationship a regional scale strategy is needed. This requires the construction of new governance arrangements among the different stakeholders that from time to time identifies the key players and the funds for the development.

6 Conclusion

The research presented in this dissertation is concerned with ports as urban entities. Indeed, contemporary ports are complex machines whose economic and logistic activities overlap, often in conflictual ways, with those of cities. Ports and cities have evolved into having different rhythms, spaces and governance dynamics. In this thesis we worked specifically on understanding the spaces and dynamics related to the port of Naples, its urban palimpsest and the regional hinterland.

Our historical account of Naples shows various articulations of the territory of the port: the historic city, the consolidated city, the industrial city and the periphery. The PhD thesis has worked on understanding how to link all these port articulations from a historical and multidisciplinary perspective.

In practice, the port of Naples is configured as a closed system that has its areas either in development, abandonment or underuse. For the city's inhabitants, it is a large and poorly permeable entity that takes the city away from the sea. In this thesis, however, we found that the spatial fragmentation and porosities within and outside contemporary ports also represent unique opportunities. Based on our research, we thus aim to rethink the current state of the port in Naples, and present scenarios that address its problems with the city at different scales.

This thesis has followed a transversal methodology consisting of three main parts. Firstly, the thesis has applied the historical institutional approach (HI) and the concept of path dependence to read the history of the port of Naples, its morphology, but above all its spatial evolution and related historical governance changes. Secondly, a thematic and comparative investigation on three port city regions in Northern Europe has been conducted. Finally, the thesis has proposed design scenario for Naples. The latter also include prescriptions for institutional change.

Within this investigation, we uncovered institutional inertia in Naples in the way the authorities have historically planned the relationship between port and city, leading to creation, reinforcement and reproduction of rules that have promoted separation. This has shown to impact the morphology of the territory and produce what we have termed as spatial 'waiting conditions'.

6.1 Naples towards Delft

The research, carried out across two universities – in Delft and in Naples – reflects a combination of two different research traditions and cultural approaches to doing research: the first one oriented towards the methodological approach and reproducibility of the research process, the latter more focused on planning and territorial specificities. Moreover, the last year of research was enriched by a fruitful collaboration with the Port Network Authority of the Central Tyrrhenian Sea which has also agreed on financial support part of the research. The collaboration between universities and Port Authority has defined an innovative formula that has allowed to constantly test and verify the application of the research.

The Dutch period, under the guidance of professors Carola Hein and Tom Daamen, formed and shaped the structure of the research and the methodological approach. From this point of view, the work has been enriched and nourished by the many academic activities carried out in the Netherlands and beyond: meetings with professors, seminars, formal and informal discussions, international conferences, exhibitions, teaching activities. All these experiences shaped the research, inspired and helped to form a critical thinking on the topic. In particular, the experience with Delft's students of the master course "Architecture and Urbanism beyond oil" – which focuses on the future of port cities in a decarbonized era – has allowed to maintain a fruitful contact with the design practice, with urban themes and the challenges of contemporary port cities. At the same time, this was intertwined with work at the Neapolitan school of urbanism, attentive to planning, design and reading of the territory to produce new forms of knowledge. In Naples, the guidance of professor Michelangelo Russo allowed to enter into the details of the city of Naples and the complex and fragile relationship between the port and its regional territory.

History matters in this thesis. In fact, this PhD looks at the past as a resource, sometimes as a problem in the way it produces inertia, but certainly as a heritage made out of signs, traces, and cultures, written and rewritten on the territory. This historical signification is this research' main point of departure. The history, in particular that of the relationship between the port, the city and the regional territory of Naples, is studied, described and analyzed in order to create scenarios—presented in this chapter—that enable new conversations about improving Neapolitan port-city-region relationships.

6.2 Learning from existing literature and theory

In chapter 2, we discussed the existing literature on ports and port cities in light of the contemporary debate both in the professional and academic fields²⁷. The debate addressed ports as entities growing in a scale, triggering new spatial and governance dynamics that affect directly the consolidated relationships with cities, their spatial patterns and the actors who live and plan the territories. The research has argued that predefined scales of reading, current governance and cultural approaches – typical of the period of the modernity, which have framed port and city as two distinct entities – are no longer sufficient to understand the liquid and porous dynamics of contemporaneity (Bauman, 2011; B. Secchi, 2000; B. Secchi, 2013). Therefore, terms such as ‘port-city interface’ and ‘urban waterfront’ on which the literature has been based up to now, cannot fully grasp the complexity of the issues that city and port authorities are called upon to face today.

Chapter 2 identified three different perspectives on port-city relationships: spatial, economic, governance. The spatial analysis has explained changes in port cities’ spatial patterns as a result of changes in transport technology. These changes have led to a tendency of port authorities, especially in modern times, to spatially separate the port from the city. The economic and infrastructure perspective has explained port-city relation as dominated by logics of efficiency and functionality. This has also promoted spatial distance and creation of functional areas which have ignored the presence of urban contexts and historical palimpsests to which ports belong. Finally, the governance perspective has explained this distance as a result of a disconnection of the actors. The planning and cultural traditions that regulate arrangements among actors play a key role in defining specific separation of competences.

The fragmentation of disciplines has highlighted a lack of studies able to look at port city relationships in an integrated way. On the contrary, each disciplinary area has tried to explain the phenomena from its own perspective paying not much attention to the interconnection of the aspects. The challenges of contemporaneity, such as climate

²⁷ Several international organisations, such as RETE (Association for the Collaboration between Ports and Cities), ESPO (European Seaport Organisation), AIVP (the worldwide network of port cities) and LDE-portcityfutures are engaged in spatial, societal and economic transition of ports, promoting more socially and economically sustainable relationships between ports, cities and their regions.

change, energy transition, land use, circular economy and recent economic shock due to the COVID pandemic, do not refer to one specific scale or city. On the contrary, they happen across different scales and systems of governance. Experts argue that these challenges require a strong interconnection between space, economy, production systems, and that this will require new governance arrangements²⁸.

Therefore, new research methods able to understand the complex phenomena of port cities are strongly required. The thesis therefore responds to this need by applying the historical institutionalist approach (HI) to analyse spatial patterns and governance arrangements, and the relations between them in the port city of Naples and beyond. Central to this approach is the concept of path dependence, which was used both as an interpretative and prescriptive tool. Hence, we first used path dependence to explain the spatial separation and governance fragmentation in Naples' planning history. In the second part of the thesis, we used the concept to provide planning authorities with an orientation towards new solutions that could help them to plan and govern the port-city-region relationship in a more integrated way.

The thesis argued that space and governance are highly related. Specifically, the research has looked at space and governance as institutionalised constructs. They are shaped by the evolution of a constellation of actors and rules that shapes space across different scales, particularly through spatial planning and investment decisions. The research therefore investigated the extent to which there are similarities between path dependencies in the spatial and governance features of different European port cities.

Starting from the relevant existing studies on the interaction between path dependence and urban studies conducted by scholars such as Andre Sorensen, Stephen Ramos, Carola Hein and Schubert, the dissertation began with the statement that planning authorities have a tendency to become committed to make planning and investment decisions in a certain, historically grown way (Hein & Schubert, 2020; Ramos, 2017; Sorensen, 2018). More specifically, port cities are a particular type of cities where two different planning approaches (to ports and cities) and traditions meet and often clash. Here, planning authorities have historically created, re-created and reinforced path dependence through the production of laws and ways of doing things and, consequently, defining specific spatial patterns based on a separation of spatial functions and governance responsibilities. In many port cities, this has led to a condition we have called institutionally inert, visible also specifically in the port city of Naples.

²⁸ Portcityfuture conference. URL: <http://conference.portcityfutures.org/>. Last access 6 of May 2020

Today, port and city authorities in Naples are experiencing a new spatial and governance dimension. They are experiencing a transition from port city to port city regions. This new dimension that, on the one hand, offers a unique opportunity to reformulate the relationship between the port and the city, on the other also introduces challenges, expanding the range of actors to the whole regional territory and therefore questioning consolidated spatial patterns and existing governance arrangements.

The analysis conducted on the Naples case (chapter 3 and 4) has highlighted the existence of three dimensions of problems, scales and related path dependencies, to be also seen in other European contexts, as clearly pointed out by the analysis and interviews conducted in the cases of Rotterdam, Le Havre, and Antwerp (discussed in chapter 5). The comparative investigation was aimed at identifying the extent to which alternative practices could help and guide decision makers in Naples to move beyond path dependence. As response to this, this chapter presents and discussed three scenarios for Naples.

The scenarios reflect on three geographical scales. From the historical investigation of the specific case of Naples, we identified three dimensions of conflict that manifest themselves particularly on these scales:

- a socio-cultural distancing from the port at the scale of the city;
- a detachment of the port's governance and spaces from its regional context;
- environmental frictions caused by port infrastructure along the coastline, manifesting itself particularly at the scale of the metropolitan region.

6.3 Learning from Naples' path dependencies

Reading the evolutionary history of Naples through the lens of path dependence has meant to look at both spatial and governance aspects, some critical junctures in history whose effects still influence authorities today. Similarly, to what happens in a theatrical setting, with different acts and changing of scenes, in Naples, starting from its foundation, the city, the sea and coastal landscape have been the backdrop for various colonists, rulers and authorities who, over time, have fought competing for space at the intersection of land and water. The spatial and governance separation

that authorities experience today thus have historical roots. The current situation of separate development paths is in fact cemented in physical spaces, such as infrastructures, and buildings, as well as land use dedication. An intricate system of actors, with contrasting visions, have given rise to a chaotic and fragmented *modus operandi* that has looked at the city and its port as disconnected elements since the 19th century.

A shared path of port-city development characterized the history of Naples for the longest time of its millenary history as a port city under the rule of different Kings. The Tavola Strozzi from 1472 illustrates the shared growth of port and city. It shows the mixture of houses, port warehouses and various social groups that populated the port as place symbol of trade and commerce. This image was preserved until the early 1900s, when the construction of the modern port marked the beginning of a continuous and inexorable detachment of the port from the city, with the construction of new infrastructures, industries and functional areas. This period was the construction of the modern city with its large rigid models based on zoning that introduced a *modus operandi* that looked at the port as a functional machine separate from the urban, social and cultural dynamics. This approach consolidated over the years, as discussed in the chapters, giving rise to what we have defined institutional inertia: resistance to recognizing and acting upon possible changes along the path.

The goal of the historical investigation was not to return to a romantic image of the port city. History brings back a moment of the city that no longer exists, a spatial and morphological continuity that have followed precise relational rules. On the contrary, the ambition was to understand these rules, the mechanisms behind them to better plan for the future. In fact, the context in which port cities are immersed today is very different compared to the past. Contemporaneity is liquid and porous (B. Secchi, 2000; B. Secchi, 2013; Viganò & Secchi, 2009). In Naples the borders between port and city are uncertain, confused and devoid of an apparent form. It is precisely in this situation of evident spatial fragmentation that solutions should be identified towards new and possible forms of integration rather than continuing to pursue logics of separation and functional enclaves.

6.4 Learning from potential institutional innovation

Spatial and governance analyses were conducted at the European scale, regional and local level in three different port city regions. The investigation has discussed planning approaches to deal with conflicts which are quite common when diverse actors at different scales are called to share—and compete for—space. Interviews with representatives of some of the most relevant authorities have pointed out that the model of separation inherited from the past seems to be no longer in line with the challenges of contemporaneity. Here, the theme is addressed by the different authorities from a metropolitan and regional scale highlighting the need to work on the port as territorial infrastructure.

Specific strategies in Rotterdam, Le Havre and Antwerp were analyzed on the basis of three different scales of relationship: port-city (Rotterdam), port-region (Le Havre), port-nature (Antwerp). The choice to analyze the port-city interface in Rotterdam, the regional interface in Le Havre and the port-nature interface in Antwerp is a matter of interpretation also reinforced by the analysis of the policy documents and, above all, by the discussions with the interviewees who pointed out clearly what were the most relevant themes to be discussed and at what scale.

This structure has highlighted significant and peculiar aspects in the different contexts, investigating whether there are path dependencies and how port and city authorities in the selected European are testing new approaches to break from them.

Due to path dependence authorities have created a model of port-city separation which has produced waiting conditions, collages of fragmented pieces and mosaic of elements on the edge of the port infrastructure. This is a phenomenon widespread in many European port cities. The old port areas of Rotterdam such as Kop van Zuid present many of these left over of the industrial past. Similarly, the riverside areas of Antwerp, such as the Petroleum South area, today renamed BlueGate, are experiencing a new post-industrial era.

Here new de-industrialisation processes are generating opportunities to rethink the port-city relationship in a circular and systemic way. The planning approach to port-city relationships has changed compared to the past and Rotterdam is a tangible example to show the change in the mindset of the planning authorities. As also pointed out by Isabelle Vries, the “port out city in” model is no longer sustainable.

On the contrary, today the port returns to the city through processes that see small companies settle their businesses in the residual spaces. It will probably be thanks to these spaces, as places of innovation, that the port will continue working in the future.

The second topic addressed refers to the relationship between port development and the nature. This has become a crucial issue in the policies of many national and local authorities, considering that more and more citizens are forced to coexist with the pollution deriving from port activities, especially when ports are close to the urban contexts (see the case of Naples). Reducing the negative externalities has become therefore one of the priorities pursued by many port authorities also and above all to safeguard the possibility for them to operate in the future. For many years, the issue of compensation has accompanied port development. The example of Antwerp and the project for the port area delimitation goes in this direction. Despite today some problems related to the process, the key aspect that emerges is the idea of establishing roundtables among authorities and civil society to agree on a delimitation of the port perimeter where all the different interested can be preserved. Different stakeholders have cooperated to decide what to allocate to the port, what to the city, what to nature. And it is precisely nature that plays an important role in this process. Robust infiltration of nature inside and around the port areas allows for a continuity of the ecological system and function as huge buffer zones and filter lines between port, city, and the larger region.

Finally, the case study of Le Havre is emblematic to show how the theme of the interface cannot be solved only on a local scale. This is framed by the different authorities in a regional perspective and as a catalyst for territorial regeneration. The projects that are being carried out in Le Havre, such as “Reinventing the Seine” or “Le Havre smart port city”, underline the need to have a vision and new planning tools able to look at the port and the coastline in their entire and interconnected dimensions. In order to build up a new vision governance should change as well. “Haropa”, as the institutional umbrella for the three ports of Le Havre, Rouen and Paris shows this change.

Two main lessons can be drawn from the cases. The first one deals with space. The analysis has pointed out that competition today is based on improving the quality of the contact spaces between port and city. Improving the infrastructure is certainly a key, but this only generates new values if part a larger and shared vision able to improve the relationship with the city and the region. The second lesson is about governance. How ports and cities are owned and planned has significant spatial impacts. The decentralized governance typical of ports such as Rotterdam or Antwerp gives enough freedom to port authorities and municipalities to plan

the port-city interfaces, through regular formal and informal meetings. This more decentralised approach aims to improve the spatial impacts of the port and reduce the potential for conflicts to arise. However, the fact that in cities such as Antwerp or Rotterdam municipalities are directly involved in the ownerships and management of the land is certainly a significant aspect. Le Havre is more similar to the Neapolitan context both in terms of governance and planning culture. Nevertheless, it shows some degrees of decentralisation with the regional authorities and metropolitan cities playing a key role in terms of territorial coordination.

6.5 Space and governance: towards effective strategies

The analysis on the three scales of conflicts goes back to the main research questions asked for Naples. The analysis of Naples' history has shown that planning authorities today experience a conflict that results in a separation that affects different scales and dimensions of the planning process. The separation concerns the scale of the city in its cultural and economic dimensions; it concerns the infrastructure whose change of scale is posing new governance questions along with the spatial ones; finally, it concerns the ecological and landscape dimension, manifesting itself in an unsustainable relationship between port development and nature preservation.

The recent institutional changes introduced by the clustering of ports in Italy signify a unique opportunity to move beyond institutional inertia. This could help to trigger extensive regeneration processes that look at the port once again as part of the urban territory rather than as a fracture within urban rhythms.

The following pages introduce three possible scenarios that aim to provide a change of perspective in the way the port-city relationship should look like, at the local, regional and landscape scale. These – inspired by experiences from the Northern European case studies previously discussed – aim to translate some of the hypotheses for institutional change into design ideas for the specific territory and governance setting of Naples. These ideas, therefore, are not so much meant to identify solutions rather some “what if” questions for discussion with relevant stakeholders. The aim is to critically reflect on the new regional dimension of the port

and on the current policies in Naples and Italy in relation to port-city planning. The debate will provide new theoretical insights and practical advice to the authorities on how to address path dependence and move towards an integration between port, urban and regional territories.

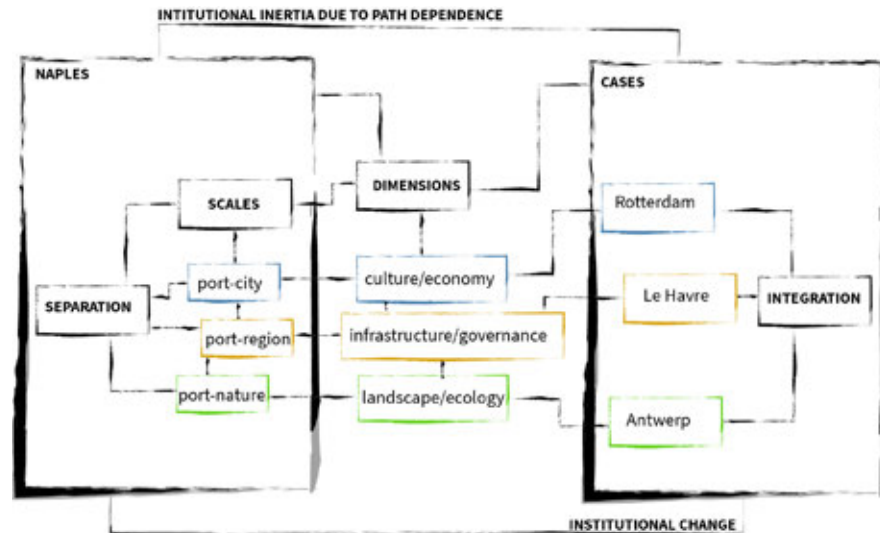


FIG. 6.1 Research framework

6.6 Towards new geographies of territorial interfaces: three scenarios for Naples

The port-city interface has traditionally been used as a concept to describe a space of variable geography that follows the line of the port perimeter, including infrastructures, open spaces and buildings. It is an interstitial space, whose evolutionary dynamics testify to the history of a long conflict between different authorities fighting for the use of space at the intersection of land and water. As described in the literature presented in chapter 2, this space has mainly concerned the analysis of the waterfront as the space close to what in the past was the mercantile city.

Today, the geography of ports is the result of complex socio-economic dynamics which has multiple interface spaces in a greater territorial and functional area. The historic port-city relationship has thus evolved into to a much more complex territorial system, with fragmented spaces and with often uncertain institutional boundaries (Di Venosa, 2020).

In Naples the flows of logistics overlap, and often collide, with urban flows, historical palimpsests and fragile territories on the edge of the infrastructure. This overlap identifies a system of problematic landscapes in the form of pieces of cities, infrastructures, unused or abandoned areas, polluted soils, abandoned buildings inside and outside the port, areas in crisis that are the result of an uneven growth of the city with its port. East Naples is emblematic of this. The new port expansion at the Darsena of Levante collides with a system of industrial buildings to be reused and the urban context of San Giovanni a Teduccio. The expansion is making the possibility of using the coast line for uses other than industrial very unlikely.

History matters, as well the present. Today the scenario with which port cities relate is complex and very uncertain. The term Covid has recently entered into our life and in all the statistics concerning ports, outlining large discontinuities which make it very difficult to draw predictions or imagine how ports will develop in the future. All the sectors, from goods to passengers, have been hit by this discontinuity with effects still to be evaluated. One of these concerns the transformation of shipping routes on a global scale also and above all following the decrease in the price of oil.

In a recent meeting of the Shipping week held in Naples between the end of September and the beginning of October 2020, Ivano Russo intervened stating that this moment of crisis is an opportunity for the Italian government to understand where to invest in the future. In his speech he identified some key directions going towards a renewed management of tangible (spaces) and intangible (data) infrastructures, creation of a 4.0 manufacturing industry, development of new governance models.

It seems crucial that a future scenario should work on the interconnection of sectors and the intimate relationship between port and territory, between the system of maritime flows and that linked to innovative industries to be placed into inland areas. Therefore, the scenarios presented in the following pages reflect on these integration principles. They do not have the ambition to be conclusive and they can co-exist simultaneously. The establishment of a new governance is a key. This should entrust the regional agency, which today is very weak, a leading role in guiding the transformation processes of the territory.

SCENARIO 1: PORT-CITY PALIMPSEST. What if the city infiltrates the port?



FIG. 6.2 Scenario 1, port-city palimpsest. Map developed by Paolo De Martino. Basic map by Campania Region database

Rethinking the port at different scales would suggest to start from the existing porosities and urban cavities within and outside the port. Areas along the road and railway infrastructures, “Ambito 13” of the old refineries, abandoned spaces and buildings within the port perimeter are some of the possible design opportunities to trigger new models of port-city relationship.

In particular, the buildings in red on the maps (Fig. 6.2) are the demolitions planned by the Port Authority. With the exception of the Corradini buildings in the eastern area of the port, which have an evident historical and architectural value, most of the buildings have no value at all. Their demolition could also be an opportunity to host different uses and activities also in light of new economies. Startups and new businesses, as demonstrated by the case of Rotterdam, could influence the existing port-city model. Moreover, some relocation of activities could be vital (e.g. shipyards

could be moved to Castellammare di Stabia). This would allow to reuse some abandoned spaces at the edge of the port with new economic and cultural activities to promote a diversification of the economic model of the port.

These new businesses, such as companies in the field of circular economies, logistics, and clean energy could develop testing ground for innovation into and around the port. As the M4H in Rotterdam has shown, small companies are not looking for large hectares. On the contrary, young entrepreneurs want to be close to the city, the knowledge institutes and the urban amenities. Naples, with its rich palimpsests can offer this environment.

The scenario therefore imagines a new pedestrian path (in yellow and with different heights) which crosses the entire port perimeter connecting the San Vincenzo pier to the east area of the port. This path also embraces the historical traces of the city and its monuments, testifying to a strong and intimate relationship between the morphology of the port and the urban palimpsest. The scenario takes into account the vision proposed by the Port Network Authority of the Central Tyrrhenian Sea which aims to expand towards east with a new container terminal.

However, the Covid pandemic, which has slowed down, and in many cases cancelled, the flow of goods calls for a rethinking of the purpose of this intervention and imagining possible and alternative developments. The proposed scenario therefore aims to rethink the port as a place in which to concentrate the production of knowledge by imagining the establishment of an industry 4.0 that, starting from the port, can branch out into the territory.

The scenario reorganizes the port area into 3 macro space. The first one (in blue) would represent the cultural hub as the area of the port closest to the historic city. By moving the shipyards to Castellammare di Stabia (where an already active industry exists) an entire piece of the port could be destined for passengers and cultural and recreational activities (e.g. learning centers and port centers). In brown, the energy hub would be reinvented in order to host new energy sources in close contact with the entire system of the old oil field reinvented to allocate new residential and advanced tertiary areas in the sector of clean energy. The prerequisite would be the remediation as well as the end of concessions for oil companies (in 10 years from now). Finally, the Levante dock could, as expected, host a flexible platform to be reinvented when containers will be no longer needed. A long park along the port perimeter as buffer zone would be necessary to compensate and mitigate port activities.

SCENARIO 2: PORT REGIONAL INTERFACE. What if the port infiltrates the region?

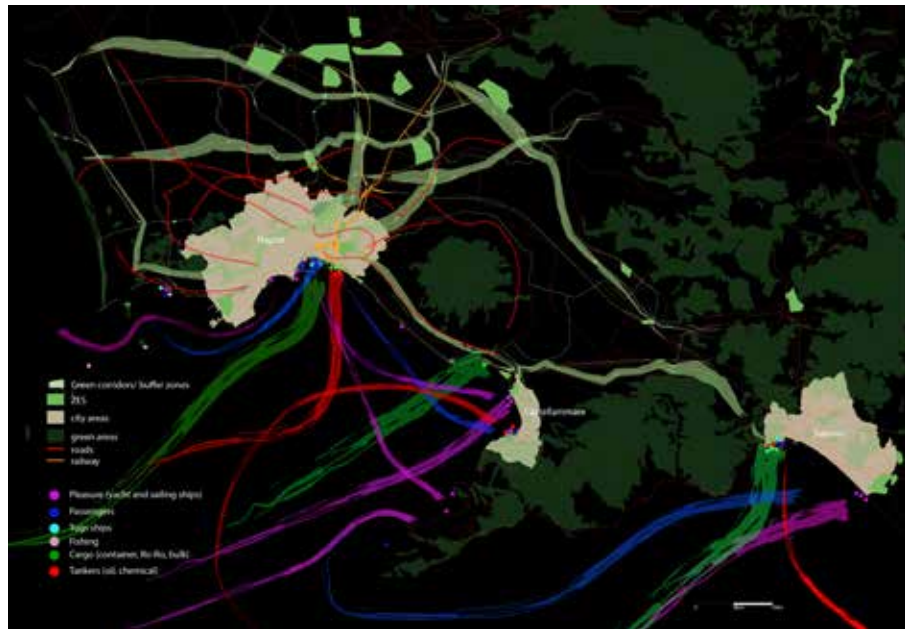


FIG. 6.3 Scenario 2, port regional interface. Map developed by Paolo De Martino. Source for the data: mapcruzin.com; diva-gis; gadm

The regional territory of Naples is a fragmented space where a logic of archipelagos dominates, with closed and poorly connected spaces, absence of public spaces and insufficient infrastructures. This fragmentation asks for a wider integration able to combine the needs of the port with its flows and functional enclaves with the city, its culture and economies.

The port changing in scale raises new governance issues. Today, the legal territory of the port touches upon different municipalities (from Naples to Salerno and even beyond) each of which has planning authority on the port. Since 2015 the metropolitan city of Naples has replaced the province and this represents an additional layer to the existing governance arrangements, covering an administrative area of three million inhabitants. It is evident that port merging as a pure spatial claim is not enough to reach integration. Thus, while there is a larger scale port planning (national and regional), there is no equal urban planning on a regional scale. Regional planning cannot be delegated to the Port Authority.

Therefore, starting from the awareness of a weakness of the regional planning system, the proposed scenario (Fig. 6.3) reflects on the need to define regional port planning able to bring together (on the same map) the three main ports of the region. This would primarily help to reflect through a systemic perspective rather than plan the three ports according to separated visions. The introduction of special economic zones (ZES) in Campania could be an opportunity to trigger new integration processes between the port and the production system towards the regional territory. Today, however, ZES are far from being implemented. This waiting condition could be an opportunity to reinvent the ZES as new productive and cultural incubators 4.0, redefining a new production chain working on circularity. The special economic zones in the Campania region focus on the automotive, textile, ICT, food and made in Italy sectors. These could be put in connection through green infiltrations that act as ecological corridors along the infrastructures. According to this perspective, the ZES areas could become eco-districts that work on strengthening existing production sectors but also on creating new ones (with workplaces, training centers, at the service of the port economy) in addition to the construction of new residential areas.

The scenario therefore proposes to go beyond the traditional idea of the port as a mosaic of functional enclaves. On the contrary, the vision highlights that today the quality of the landscape is played in the spaces of transition, left over areas between different environments and types of lands and water uses (residential areas, agricultural areas, industrial and natural sites). Balancing this relationship becomes crucial and also the task of the planning in the future. The role of the regional authority within the process will be crucial. In particular, its role could be to make sure that the port-related transformations become a strategic opportunity for a broader transformation that contemplates a renewed relationship with the territory.

SCENARIO 3: PORT-CITY LANDSCAPES. What if we look at the sea a landscape?

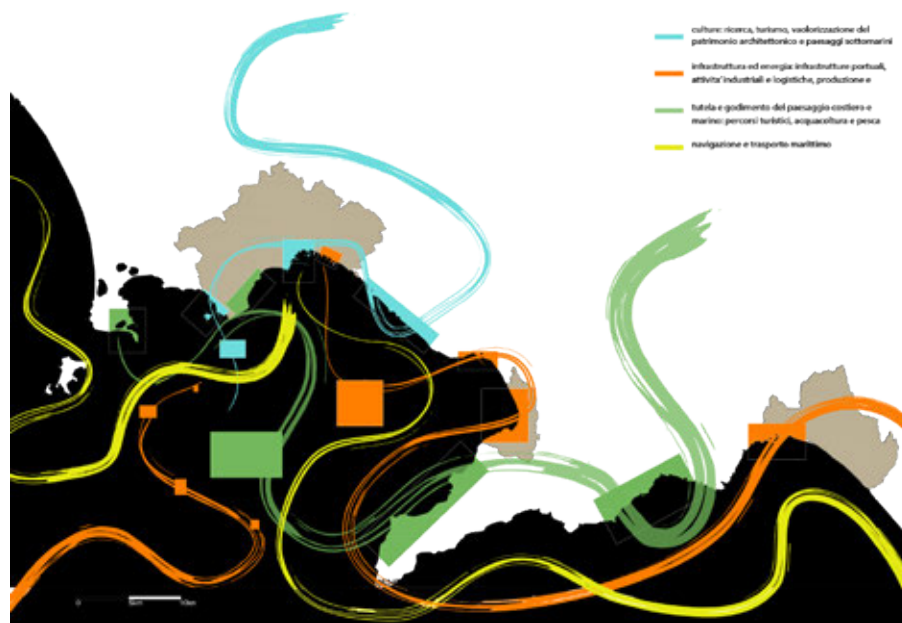


FIG. 6.4 Scenario 3, port-city landscape

"The landscape is an essential component of the living environment of populations, the foundation of their identity, an expression of the diversity of their cultural and natural heritage and an opportunity for individual and social well-being."²⁹

The concept of landscape is here understood as landscape of the sea and from the sea with a constant focus on the spaces of interaction. The landscape of Naples is in fact a landscape that has been built over the centuries starting from the sea and it is only from the sea that it is possible to grasp the complex relationships of its palimpsest and the different landscape areas that develop along the coast. There is therefore no single landscape, but different landscape structures³⁰ and

²⁹ Regione Campania website. Paesaggio. URL: <https://www.territorio.regione.campania.it/paesaggio>. Last access 16/10/2020

³⁰ Regione Campania website. Piano Paesaggistico Regionale (PPR). URL: <https://www.territorio.regione.campania.it/paesaggio-blog/piano-paesaggistico-regionale-ppr>. Last access 16/10/2020

these must always be seen in relation to the sea and the different uses, functions and economic activities that develop into the water.

Seen from this perspective, the relationship between port and city, and the potential territorial regeneration linked to it touch upon different scales of landscape. In a context of growing and competing uses of marine space it seems there is no more separation between what happens on water and what takes place on land. All sea-related activities continue on land and vice versa. This applies to the flows of goods and people, logistics and energy among others. The complexity of these relationships requires that these two worlds (land and water, ports and cities) cannot be planned with sectoral and disjoint planning tools. On the contrary an ecosystem approach able to bridge this gap is much needed. Ports, which are physically at the intersection of land and water, can offer new opportunities to bring these two entities together.

The experiments carried out in Antwerp in particular on the robust infiltration of nature within and around the port, is an inspiring approach that underline the need to look at the port infrastructure in a landscaping way, using the challenges of the port as an opportunity for a larger territorial project.

Thus, the proposed scenario (Fig. 6.4) reflects on the challenges and opportunities to develop maritime economic activities hand in hand with environmental protection by looking at the sea as a landscape and strategic space. The vision proposes a shift of paradigm in planning from a land-oriented approach to one that is mostly oriented towards the sea and its broader relation with the territory.

The vision also aligns with the maritime spatial planning policies introduced by the Directive n.89 of 1980 and its implementation in 2016 (n.201 of 22/11/2016) which require all Member States to draw up plans of the sea by 2021 (EU, 2014; Monaco, 2018; Repubblica Italiana, 2016).

Therefore, in line with the methodological framework proposed by the MSP, the scenario aims to reconceptualise the coast line as a complex and multi-functional space in which different uses and activities can coexist, from fishing, to aquaculture, plants for oil and gas extraction, maritime transport, tourism, enhancement of the heritage, scientific research and this can happen in respect and analysis of the specific vocations of the considered maritime region. The vision asks for going beyond the existing sectoral plans for the planning of maritime cities such as port plans, landscape plans (under development in Campania region since 2019), regional and municipal plans by merging them.

Culture, infrastructure and energy, coastal landscape and maritime transportation are the four main activities taking place in the Gulf. The scenario suggests the networking of these activities and functions that go into the territory. It is evident that there are many possible activities, as well as interests in place. However, changing perspective, and look at the coastal territory in its broader sense could help overcome historical conflicts of interest and build a territorial vision, which in fact is still missing today.

6.7 Final remarks: changing patterns of behaviour

It is clear that in order to fully understand the spatial transformations taking place today, a new governance model and new planning tools are needed, capable of framing the port as part of a much wider territory.

The current Italian port legislation (legislative decrees n. 169 of 2016 and 232 of 2017), recognizes the strategic importance of ports at the nation level and delegates the municipality and the port authority for the planning of port-city interaction areas. This decentralised model would seem an innovative aspect which, however, in Italy risks introducing once again a sectoral planning in which there is no coordination on a regional scale.

Therefore, on the one hand, the central government proposes to look at the national coastline as a single port system and to go even beyond the regional scale. On the other hand, this re-formulates the topic once again from a purely infrastructural perspective, risking, at a local and regional scale, to ignore the quality of the interaction spaces, the culture and history of the port and the urban palimpsest to which the port of Naples belongs.

On this specific issue it is clearly visible the distance that separates Naples and Italy from the most advanced port city regions like Rotterdam, Antwerp or Le Havre among others. Here, local, regional and national authorities have managed to promote projects and regeneration processes in the port-city-region interfaces, improving relations between actors through more decentralised approaches.

The joint projects between port and city in Rotterdam, the structural plans in Belgium or the recent clustering of the ports of Le Havre, Rouen and Paris in France under the name of Haropa have increased the competitiveness and attractiveness of the port systems by streamlining procedures and at the same time promoting collective interests in the planned transformations. The experiences of Stadshavens in Rotterdam, the regeneration projects along the Le Havre river, or the processes of renaturalization of the areas inside and outside the port of Antwerp, demonstrate the decisive role played by the governance in the attempt to overcome obsolete patterns of behavior. The role of Port Authorities in the specific cases is also quite innovative. They are mainly public bodies that operate as private commercial agencies, investing in strategic sectors such as energy, technological innovation, logistics, urban regeneration thanks also to the involvement of the private parties. The innovation of governance models, therefore, is a crucial condition for the regeneration of the port-city-region interfaces. Thus, the cases discussed in this thesis can be fully understood only if we take into consideration the role played by the port on a larger scale. This in fact highlights an overcoming of the traditional idea of port-city as closed system towards a networked and interconnected territory made of ports, cities and metropolitan regions.

PortVision 2030, Haropa 2030, Antwerp's Structural plan are not just rethoric images. On the contrary, these are strategic frameworks within which the challenges and potentialities of the territories and the interests and visions of the complex network of actors are recomposed.

Coming back to the Italian and Naples case, in order to plan for the future a shared vision is needed. To do so, reviewing the current legislation and identifying institutional porosities will be an important step to make. A possible direction is provided by the Strategic Guidance Document (Documento di pianificazione strategica di sistema DPSS), introduced by law 232/17. This document has enormous potentialities if reformulated as a strategic tool for extensive regeneration between port and territory (and not just limited to urban contact areas). Future researches need to investigate regional interfaces in relation to systems of logistics flows, production systems and territorial economies. All these in fact identify areas of interaction that need to be planned through a territorial port plan. If seen from a systemic logic, port plans cannot continue to be conceived and planned by the authorities as the sum of plans of the individual ports. Outlining a port plan on a regional scale would be a first step towards the understanding of the nature of the port in relation to a vast and articulated territory and also in relation to the specific vocations of this territory.

It is within this perspective that the entire contribution offered by this thesis should be looked at, opening up an interesting research field that investigates the relationships between the overall quality of the port city regional interfaces and the institutional and governance related to it (T. A. Daamen, 2010; T. A. a. V. Daamen, I., 2013; De Martino, 2016, 2020; Hein, 2015a, 2015b; Russo, 2016).

References

- A. Breen, D. R. (1994). *Waterfronts: Cities Reclaim their Edge*. New York: McGraw-Hill.
- Aarts, M., Daamen, T., Huijs, M., & de Vries, W. (2012). Port-city development in Rotterdam: a true love story. *Territorio, Urbanismo, Sostenibilidad, Paisaje, Diseño urbano*, 2-27.
- Aarts, M., Daamen, T., Huijs, M., & de Vries, W. (2012). Port-city development in Rotterdam: a true love story. *Territorio, Urbanismo, Sostenibilidad, Paisaje, Diseño urbano*, 2-27.
- AgVespa. Blue Gate Antwerp. Retrieved from <https://www.agvespa.be/projecten/blue-gate-antwerp#over>
- AgVespa. Eilandje. Retrieved from <https://www.agvespa.be/projecten/eilandje#about>
- AIVP. (2011). Port Center. The next step in your port-city relation. What can AIVP and the Port Center Network do for you?, <http://www.aivp.org/portcenternetwork/files/2011/11/Port-Center-Guide-Short-Version-English-update.pdf>.
- AIVP. (2018). AIVP Agenda 2030. 10 goals for sustainable port cities. Retrieved from https://66ac397d-12db-434e-bc80-8e2a03c755f7.filesusr.com/ugd/1032fc_d1019cfb4455437d8db452e0872647cd.pdf
- Amirante, R., Bruni, F., & Santangelo, M. R. (1993). *Il porto. Napoli*.
- Arrow, K. J. (2004). Path dependence and competitive equilibrium. In W. Sundstrom, T. Guinnane, & W. Whatley (Eds.), *History Matters: Essays on Economic Growth, Technology, and Demographic change*. California: Stanford University press.
- Arthur, B. (1980). Urban systems and historical path-dependence. *Morrison Institute for Population and Resource Studies*, 12.
- Assoporti. (2016). Confronto L. 84-94 testo vigente e testo con integr. D. Lg.vo riforma AP 7.9.2016. Retrieved from <https://www.assoporti.it/media/1574/confronto-l-84-94-testo-vigente-e-testo-con-integr-d-lgvo-riforma-ap-792016.pdf>
- Aurh. (2014). Scot. POUR DE NOUVELLES RENCONTRES EN PAYS DE CAUX. <https://fr.slideshare.net/SCoT-LHPCE/scotpour-denouvellesrencontresenpaysdecauxjuillet2014150204030655conversiongate02>
- Aurh. (2018). Quartiers sud du Havre : réinventer l'interface ville-port. Retrieved from <https://www.aurh.fr/planification/introduction-planification/>
- Autorità di Sistema Portuale del Mar Tirreno Centrale. (2017). Piano Operativo 2017-2019 con proiezione al 2020 Revisione anno 2018. URL: <https://adsptirrenocentrale.it/wp-content/uploads/2018/12/REVISIONE-anno-2018-POT-2017-2019.pdf>
- Autorité Environnementale. (2016). Avis délibéré de l'Autorité environnementale sur la requalification du quai de Southampton au Havre (76). Retrieved from http://www.cgedd.developpement-durable.gouv.fr/IMG/pdf/160921_Le_Havre_quai_Southampton_76_-_delibere_cle15d57b.pdf
- Baltazar, R. a. B., M. (2007). Port governance, devolution and the matching framework: a configuration theory approach. In M. Brooks, Cullinane, K. (Ed.), *Devolution, port governance and port performance* (Vol. 17, pp. 379-403): Elsevier.
- Bauman, Z. (2011). *Modernita' Liquida*. Italia: Laterza.
- Benjamin, W., & Laci, A. (2020). *Napoli porosa*. Naples: Grafica Elettronica srl.
- Bettini, M. (2004). Riquilificazione dei porti italiani, lotte sociali e ruolo dello stato, 1945-1965. *Studi Storici*, 3, 785-836. Retrieved from <http://www.jstor.org/stable/20567268>
- Bird, J. H. (1963). *The major Seaports of the United Kingdom*. London: Hutchinson.
- Blue Gate Antwerp Development. Retrieved from <https://www.bopro.be/project/blue-gate-antwerp/Bopro> (2017a). "BLUE GATE ANTWERP WATER-BOUND SITE DEVELOPMENT IN METROPOLITAN AREA Blue Gate Antwerp Development." from <https://www.bopro.be/project/blue-gate-antwerp/>.

- Bopro (2017b). Blue Gate Antwerp. HOME PORT FOR SUSTAINABLE INNOVATION. Retrieved from https://www.bopro.be/wp-content/uploads/2017/03/190311_BGA_Brochure-ENG-metcover.pdf
- Bosso, P., & De Martino, P. (2017). Le infrastrutture sono stupide – report del seminario Naples meets Rotterdam. Retrieved from <https://friendsofmolosanvincenzo.wordpress.com/2017/07/27/le-infrastrutture-sono-stupide-report-del-seminario-napoli-meets-rotterdam/>:
- Braudel, F. (1997). *Storia misura del mondo*: Storica Paperbacks.
- Braudel, F. (2017). *Il Mediterraneo. Lo spazio, la storia, gli uomini, le tradizioni* (E. D. Angeli, Trans.): Bompiani.
- Brault, E., Chilaud, F., Beaufils, M., Dinh, S., & Innocenti, C. (2015). Le Havre, interface ville-port. Retrieved from <http://www.geographie.ens.fr/Le-Havre-interface-ville-port,742.html?lang=fr>
- Brault, E., Chilaud, F., Beaufils, M., Dinh, S., & Innocenti, C. (2015). Le Havre, interface ville-port. Retrieved from <http://www.geographie.ens.fr/Le-Havre-interface-ville-port,742.html?lang=fr>
- Brooks, M., & Pallis, A. (2012). Port Governance. In W. Talley (Ed.), *The Blackwell Companion to Maritime Economics* (pp. 491-516): Blackwell Publishing Ltd.
- Bruttomesso, R. (2006). *La Biennale di Venezia. 10ª Mostra internazionale di architettura. Città-Porto*. Palermo. Catalogo della mostra (Venezia, 2006).
- Bruttomesso, R., & Water, I. C. C. o. (1993). *Waterfronts: a new frontier for cities on water*: International Centre Cities on Water.
- Cacciari, M. (1992). Non potete massacrarmi Napoli. Conversazione con Massimo Cacciari. In C. Velardi (Ed.), *La città porosa. Conversazioni su Napoli*. Napoli: Edizioni Cronopio.
- Cahoon, S., Pateman, H., & Chen, S. L. (2013). Regional port authorities: leading players in innovation networks? *Journal of Transport Geography*, 27, 66–75.
- Camera di commercio e industria di Napoli. (1914). *I grandi porti commerciali del nord*. Napoli: Stab. cromo-tipografico F. Razzi.
- Cantarella, G., & Filocamo, A. (2012). *ECONOMIA ITALIANA E DEL MEZZOGIORNO*. In.
- Cariou, P., Fedi, L., & Dagnet, F. (2014). The new governance structure of French seaports: an initial post-evaluation. *Maritime Policy & Management*, 41(5), 430-443. doi:10.1080/03088839.2014.929753
- Carlucci, F., & Siviero, L. (2016). La governance dei sistemi infrastrutturali tra centralizzazione e decentramento: il caso della riforma portuale in Italia. *Rivista Scientifica della Società Italiana di Economia dei Trasporti e della Logistica*.
- Cervati, D. (1862). *Sui Vantaggi della costruzione del porto di Napoli alla Riva dei Granili*. Retrieved from
- Chedot, C. (2019) Interview to Cyril Chedot/Interviewer: P. De Martino.
- City of Rotterdam. (2007). *Stadsvisie*. Retrieved from <https://www.rotterdam.nl/wonen-leven/stadsvisie/>
- City of Rotterdam. (2009). "The City of Rotterdam, The Netherlands: Self-Evaluation Report", OECD Reviews of Higher Education in Regional and City Development Retrieved from <https://www.oecd.org/netherlands/44148367.pdf>
- City of Rotterdam. (2017). *ROTTERDAM MAKERS DISTRICT*. Retrieved from <https://www.rotterdammakersdistrict.com/index-en.php>
- Clemente, M. (2011). *Città dal mare*. Napoli: Editoriale scientifica.
- Clemente, M. (2017) Interview to Massimo Clemente/Interviewer: P. De Martino.
- Clout, H. (1975). Reports. Le Havre-Anfliter: a giant channel port. *Geoforum*, Vol.6, 247-262.
- CMcontainerManagement. (2018). HAROPA achieves record container throughput at the Port of Le Havre. Retrieved from <https://container-mag.com/2019/02/01/haropa-achieves-record-container-throughput-port-le-havre/>
- Commune du havre. (2015-2018). *Plan Local d'Urbanism du Havre. Rapport de presentation* Retrieved from <https://www.lehavre.fr/je-participe/revision-du-plan-local-durbanisme-plu>
- Comune di Napoli. (1880). *Atti del Consiglio comunale*. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1910). *Atti del Consiglio comunale*. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1911 (1)). *Atti del Consiglio comunale*. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1913). *Atti del Consiglio comunale*. Retrieved from historical archive municipality of Naples

- Comune di Napoli. (1916). Atti del Consiglio comunale. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1919). Atti del Consiglio comunale. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1927). Bollettini Comune di Napoli. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1929). Bollettini Comune di Napoli. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1930). Bollettini Comune di Napoli. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1933). Bollettini Comune di Napoli. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (1935). Bollettini Comune di Napoli. Retrieved from historical archive municipality of Naples
- Comune di Napoli. (2004). City plan. URL: <https://www.comune.napoli.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/1022>
- Comune di Napoli. (2004b). LE TRASFORMAZIONI DELLA ZONA ORIENTALE. Retrieved from <http://www.comune.napoli.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/3485>
- Comune di Napoli. (2009). Pua di San Giovanni a Teduccio. URL: <https://www.comune.napoli.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/9441>
- Coppens, T. (2019) Interview to Tom Coppens/Interviewer: P. De Martino.
- Daamen, T. A. (2010). Strategy as Force. Towards Effective Strategies for Urban Development Projects: The Case of Rotterdam City Ports. Amsterdam: IOS Press (dissertatie).
- Daamen, T. A., & Vries, I. (2013). Governing the European port-city interface: unstitional impacts on spatial projects between city and port. *Journal of Transport Geography*, 27, 4-13. doi:<http://dx.doi.org/10.1016/j.jtrangeo.2012.03.013>
- David, P. A. (1985). Clio and the Economics of QWERTY. *The American Economic Review*, 75 n.2, 332-337.
- David, P. A. (2007). Path dependence - A foundational concep for historical social science. *Cliometria - the journal of historical economics and econometric history*, 1.
- David, P. A. (2007a). Path dependence - A foundational concep for historical social science. *Cliometria - the journal of historical economics and econometric history*, 1.
- David, P. A. (2007b). PATH DEPENDENCE – A FOUNDATIONAL CONCEPT FOR HISTORICAL SOCIAL SCIENCE. *The Journal of Historical Economics and Econometric History*, v.1, no.2.
- Davids, S. (2019) Interview to Steven Davids/Interviewer: P. De Martino.
- de Lange, W. (2002). Clustering and performance: the case of maritime clustering in The Netherlands. *Maritime Policy & Management*, 29:3, 209-221. doi:10.1080/03088830210132605
- de Lange, W., & Elvira, H. (2012). Ports as Clusters of Economic Activity. In W. K. Talley (Ed.), *The Blackwell Companion to Maritime Economics*: Blackwell Publishing Ltd.
- de Langen, P. W., & der Lugt, L. (2007). Governance structures of port authorities in the Netherlands. In M. Brooks, Cullinane, K. (Ed.), *Devolution, port governance and port performance* (Vol. 17, pp. 109-137): Elsevier.
- De Martino, P. (2016). Land in Limbo: Understanding Planning Agencies and Spatial Development at the Interface of the Port and City of Naples. Paper presented at the International Planning History Society Proceedings, 17th IPHS Conference, History-Urbanism-Resilience,, TU Delft.
- De Martino, P. (2020). Defending the past by challenging the future: spatial and institutional path dependencies in the Naples port-city region. *Regional Studies, Regional Science*, 7(1), 108-117. doi:<https://doi.org/10.1080/21681376.2020.1746193>
- De Martino, P., & Hein, C. (2020). The Creation of the Central Tyrrhenian Sea Port Authority: A critical juncture for the Naples port city region? URL: <https://www.portcityfutures.nl/news/the-creation-of-the-central-tyrrhenian-sea-port-authority-a-critical-juncture-for-the-naples>
- De Martino, P., Hein, C., & Russo, M. (2019). Naples Beyond oil. New design approaches in the era of retiring landscapes." *Portus plus*, the online magazine of Rete(Special focus 37).
- De Vries, W. (2019) Municipality of Rotterdam. A perspective on port-city relation/Interviewer: P. De Martino.
- Deisse, P. (2012). The future of port governance : The case of Haropa.
- DEME. Making a difference. Retrieved from <https://www.deme-group.com/making-difference>

- Desvigne, M. (2013). Le Havre etude urbaine. Retrieved from <http://micheldesvignepaysagiste.com/fr/le-havre-%C3%A9tude-urbaine>
- Di Venosa, M. (2017) About the waterfront of Naples/Interviewer: P. De Martino.
- Di Venosa, M. (2019). L'interfaccia città. Geografie e governance in transizione. *Urbanistica Informazioni*, 287-288.
- Ducruet, C. (2007). A methageography of port-city relationships. In J. Wang, D. Olivier, T. Notteboom, & B. Slack (Eds.), *Ports, cities and global supply chains* (Vol. Transport and mobility, pp. 157-172): Ashgate.
- Ducruet, C. (2009). Port regions and globalization. In C. Ducruet, P. de Langen, & T. Notteboom (Eds.), *Ports in Proximity: Competition and Coordination among Adjacent Seaports* (pp. 41-53): Ashgate Publishing.
- Ducruet, C., Itoh, H., & Joly, O. (2013). Ports and the local embedding of commodity flows. *Papers in Regional Science*, 94:3. doi:10.1111/pirs.12083
- E. Buitelaar, A. L., W. Jacobs. (2007). A theory of institutional change: illustrated by Dutch city-provinces and Dutch land policy. *Environment and Planning A (ENVIRON PLANN A)*, 39, 891-908.
- Eremita del Vesuvio. (1862). Protesta intorno al nuovo porto di Napoli fatta al Parlamento Italiano dal Sebeto, dal Molo Militare, dall'ombra della Pallade e dal Vesuvio.
- ESPO. (2010). EUROPEAN PORT GOVERNANCE.
- EU. (2013). Infrastructure - TEN-T - Connecting Europe. New EU infrastructure policy. Retrieved from https://ec.europa.eu/transport/themes/infrastructure/news/ten-t-corridors_en
- EU. (2014). Introduction to MSP. Retrieved from <https://www.msp-platform.eu/msp-eu/introduction-msp>
- European-Regional-Development. (2007). Plan the city with the port. Strategies for redeveloping city-port linking spaces.
- Flemish Government. (2011). Ruimtelijk Structuurplan Vlaanderen. Retrieved from <https://rsv.ruimtevlaanderen.be/Portals/121/documents/publicaties/RSV2011.pdf>
- Flemish Government. (2013). PLANNING IN UITVOERING. STRATEGISCHE PROJECTEN
- Gabinetto di Prefettura di Napoli. (1929-1930). Secondo versamento, fascio 1092, fascicolo 3.
- Gabinetto di Prefettura di Napoli. (1931 - 1946). Secondo versamento, fascio 1173, fascicolo 1.
- Gabinetto di Prefettura di Napoli. (1932). Secondo versamento, fascio 19, fascicolo 001. Relazioni mensili anno 1932.
- Gabinetto di Prefettura-di-Napoli. (1953-1955). Stabilimenti petroliferi. Terzo versamento, fascio 1651, fascicolo 001.
- Gallien, P. (2016). Le nouveau Quai de Southampton du Havre. Retrieved from <http://lehavreavance.over-blog.com/2016/04/le-nouveau-quai-de-southampton-du-havre.html>
- Garud, R., Karnoe, P. (2001). Path Dependence and Creation. Mahwah: Lawrence Erlbaum Associates.
- gewestelijk ruimtelijk uitvoeringsplan. "Afbakening zeehavengebied Antwerpen". https://www.ruimtevlaanderen.be/NL/Diensten/GRUPS/GRUPS-Detail/rid/RUP_02000_212_00202_00001 Retrieved from https://www.ruimtevlaanderen.be/NL/Diensten/GRUPS/GRUPS-Detail/rid/RUP_02000_212_00202_00001
- Giura, T. (1994). Città Porto - Porto Città. Napoli: Officine grafiche napoletane.
- Godere, S. (2019, 15 October 2019) Interview to Sabrina Godere/Interviewer: P. De Martino.
- Gravagnuolo, B. (1994). Napoli il porto e la città. Storia e progetti. Napoli: Edizioni Scientifiche Italiane.
- Haezendonck, E. (2001). Essays on Strategy Analysis for Seaports. Leuven-Apeldoorn: Garant Publisher.
- Hansch, I. (2014). LE HAVRE, Quai de Southampton. Aménagement des espaces publics. Retrieved from <http://www.inessahansch.com/fr/projects/37-le-havre-quai-de-southampton>
- Haropa. (2013). Haropa 2030. URL: <https://www.slideshare.net/FREDGASNIER/projet-haropa-2030-amnagement-portuaire-de-laxe-seine>
- Haropa. (2016). Haropa. Dry Industrial Bulk cargo. Retrieved from <https://www.haropaports.com/fr/publications/vracs-industriels-solides>
- Haropa (2017). Les 500 ans du Port Du Havre. Retrieved from <https://ita.calameo.com/books/00134416536a5b95804df>
- Havenland (2018). PETROLEUM ZUID A.K.A. ANTWERP BLUE GATE. Retrieved from <http://havenland.be/petroleum-zuid/>
- Hayuth, Y. (1982). The port-urban interface: an area in transition. *Area*, 14(3), 219-224. Retrieved from https://www.jstor.org/stable/20001825?seq=1#page_scan_tab_contents
- Hein, C. (2009). Global landscapes of oil. In R. Ghosn (Ed.), *New Geographies 02: Landscapes of Energy*: Harvard University Press.

- Hein, C. (2011). *Port Cities: Dynamic Landscape and Global Networks*. New York: Routledge.
- Hein, C. (2011a). *Port Cities: Dynamic Landscape and Global Networks*. New York: Routledge.
- Hein, C. (2011b). *Port Cities: Dynamic Landscapes and Global Networks* (C. Hein Ed.). New York: Routledge.
- Hein, C. (2013). Between oil and water. The logistical petroleumscape. In N. B. a. M. Casper (Ed.), *The petropolis of tomorrow*. New York: Actar Publishers.
- Hein, C. (2014). Port cities and urban wealth: between global networks and local transformations. *Int. J. of Global Environmental Issues* vol. 13, 13, 339-361.
- Hein, C. (2015a). Professional and Academic Conference on Port. Connecting Past, Present, and Future. *Portus plus*, the online magazine of Rete, 30.
- Hein, C. (2015b). Temporalities of the Port, the Waterfront and the Port City. *PORTUS: the online magazine of RETE*, 29. Retrieved from <http://portusonline.org/temporalities-of-the-port-the-waterfront-andthe-port-city/>
- Hein, C. (2016a). Port cities and urban waterfronts: how localized planning ignores water as a connector. doi:10.1002/wat2.1141
- Hein, C. (2016b). Port cityscapes: conference and research contributions on port cities.
- Hein, C. (2018a). Oil Spaces: The Global Petroleumscape in the Rotterdam/The Hague Area. *Journal of Urban history*, Vol. 44(5), 1-43. doi:10.1177/0096144217752460
- Hein, C., & Schubert, D. (2020). Resilience and Path Dependence: A Comparative Study of the Port Cities of London, Hamburg, and Philadelphia. *Journal of Urban history*, 1-31. doi:<https://doi.org/10.1177/0096144220925098>
- Hein, C., & van Mil, I. (2019). Towards a Comparative Spatial Analysis for Port City Regions Based on Historical Geo-spatial Mapping. *Portus plus*, the online magazine of Rete, 8, 1-18.
- Host, A., Skender, H. P., & Mirković, P. A. (2018). The Perspectives of Port Integration into the Global Supply Chains – The Case of North Adriatic Ports1. *Scientific Journal of Maritime Research*, 32, 42-49.
- Hoyle, B. (1989). The port-city interface: trends, problems and examples. *Geoforum*, 20, n. 4, 429-435.
- Hoyle, B. (2000). Global and local change on the port-city waterfront. *Geographical Review*, 90 no. 3, 395-417.
- Hoyle, B., & Pinder, D. (Eds.). (1992). *European Port Cities in Transition*. London: Belhaven Press, British Association for the Advancement of Science, Annual Meeting, University of Southampton.
- Hoyle, B., & Pinder, D. (Eds.). (1992). *European Port Cities in Transition*. London: Belhaven Press, British Association for the Advancement of Science, Annual Meeting, University of Southampton.
- Hufty, M. (2011). Investigating policy processes: The Governance Analytical Framework (GAF). In U. Wiesmann & H. Hurni (Eds.), *Research for Sustainable Development: Foundations, Experiences, and Perspectives* (pp. 403-424): NCCR North-South / Geographica Bernensia.
- IFP, O. (2010). Transcontinental infrastructure needs to 2030/2050. North -West Europe gateway area -port of Rotterdam case study-Rotterdam workshop-final report. Retrieved from https://rsv.ruimtevlaanderen.be/Portals/121/documents/publicaties/RWO_strategische%20projecten.pdf
- Jahanguiri, A. (2008). European Union: Port Reform In France. Retrieved from <http://www.mondaq.com/uk/x/64222/Marine+Shipping/Port+Reform+In+France>
- Jandl, F. (2019) Interview to Ferry Jandl/Interviewer: P. De Martino.
- Juhel, M. H. (1999). Global challenges for ports and terminals in the new era. *Ports and Harbours*.
- Karres-en-Brands. (2011). GROENE SINGEL. ANTWERP, BELGIUM. Retrieved from <https://www.karresenbrands.com/project/groene-singel-antwerpen>
- Kay, A. (2005). A Critique of the Use of Path Dependency in Policy Studies. *Public Administration*, 83(3), 553-571. doi:<https://doi.org/10.1111/j.0033-3298.2005.00462.x>
- Kiib, H. (2012). Harbourscape Aalborg. In H. S. a. M. S. G. Ferrari (Ed.), *Waterfront regeneration Experiences in City-building*.
- kocsis, A. (2011). The role of port clusters in the theory and practice. *Regional and business studies*, 3:2, 51-60.
- Kokot, W., Gandelman, M., Wildner, K., & Wonneberger, A. (2008). *Port Cities as Areas of Transition. Ethnographic Perspectives: The Deutsche Nationalbibliothek*.
- Landscape Interface Studio. (2015). *Le Havre: City Scale*. Retrieved from <https://landscapeiskingston.wordpress.com/2015/10/19/le-havre-city-scale/>

- La Repubblica. (1985). UN BOATO, IL ROGO, UN' ALBA DI TERRORE. Retrieved from <https://ricerca.repubblica.it/repubblica/archivio/repubblica/1985/12/22/un-boato-il-rogo-un-alba-di.html>
- Le Havre Seine Metropole. (2017). Projet TIGA "Smart Port City". Retrieved from <https://www.lehavreseinemetropole.fr/projet/projet-tiga-smart-port-city>
- Le Havre Smart Port City. (2019). Le Havre Smart Port City. Retrieved from <https://www.lehavre-smartportcity.fr/en/ambition/innovation-in-the-area/>
- Mahoney, J. (2000). Path dependence in historical research. *Theory and society*, 507-548.
- Mahoney, J. (2000). Path dependence in historical research. *Theory and society*, 507-548.
- Manzini, E. (2019). *Politics of the Everyday*. Great Britain: Bloomsbury Publishing.
- Marketa, P. (2016). EU port cities and port area regeneration. Retrieved from
- Marshall, R. (2001). *Waterfronts in Post-industrial Cities*. New York: Spon Press.
- Martin, R. (2010). Roepke Lecture in Economic Geography—Rethinking Regional Path Dependence: Beyond Lock-in to Evolution. *Economic Geography*, 1-28.
- Martin, R. (2010). Roepke Lecture in Economic Geography—Rethinking Regional Path Dependence: Beyond Lock-in to Evolution. *Economic Geography*, 1-28.
- Martin, R. (2012). (Re)Placing Path Dependence: A Response to the Debate. *International Journal of Urban and Regional Research*, 36.1, 179-192. doi:10.1111/j.1468-2427.2011.01091.x
- Meyer, H. (1999). *City and Port*. Rotterdam: International Books.
- Ministry of Infrastructure and Transport. (2014). Strategic plan for ports and logistic.
- Ministry of Infrastructure and Environment. (2011). Summary National Policy. Strategy for Infrastructure and Spatial Planning. Ministry of Infrastructure and Environment
- MLIT. (2019). An Overview of Spatial Policy in Asian and European Countries. Retrieved from https://www.mlit.go.jp/kokudoikeikaku/international/spw/index_e.html
- Monaco, M. R. (2018). La pianificazione marittima in Italia. URL: <https://www.federalismi.it/nv14/articolo-documento.cfm?Artid=37160>
- Monios, J., & Wilmsmeier, G. (2016). Between path dependency and contingency: New challenges for the geography of port system evolution. *Elsevier Journal of transport geography*, 51, 247-251. doi:<https://doi.org/10.1016/j.jtrangeo.2016.01.008>
- Moschitti, C. (1918-1919). Guida Annuario del Porto di Napoli. Napoli: Stab. Cromo-Tip. Cav. Uff. Francesco Razzi.
- Moschitti, C. (1919-1921). Guida Annuario del Porto di Napoli. Napoli: Stab. Cromo-Tip. Cav. Uff. Francesco Razzi.
- MRDH. (2016). Roadmap next economy. URL: <https://agendastad.nl/content/uploads/2016/12/Roadmap-Next-Economy-NL-versie2.pdf>
- Municipality Antwerp. (2012). Urban development in Antwerp. Designing Antwerp.
- Municipality LeHavre. (2019). LA CITÉ NUMÉRIQUE & VOUS! La CODAH ouvre le dialogue avec ses futurs résidents et partenaires de la Cité numérique. Retrieved from <https://www.lehavre.fr/actualites/la-cite-numerique-vous>
- MunicipalityOfAntwerp. (2004). Masterplan Eilandje Antwerpen. <https://www.agvespa.be/sites/default/files/download-item/masterplaneilandje.pdf> Retrieved from <https://www.agvespa.be/sites/default/files/download-item/masterplaneilandje.pdf>
- MunicipalityOfAntwerp. (2013). GRUP DEFINITION OF SEAPORT AREA ANTWERP (RUP_02000_212_00202_00001) EXPLANATORY NOTE. Approved dated. 30-04-2013. https://www.antwerpen.be/docs/Stad/Stadsvernieuwing/Bestemmingsplannen/RUP_02000_212_00202_00001/RUP_02000_212_00202_00001_00143Voorafgaandonde_tn.html
- Ng, A. K. Y., & Pallis, A. A. (2010). Port Governance Reforms in Diversified Institutional Frameworks: Generic Solutions, Implementation Asymmetries. *Environment and Planning A: Economy and Space*, 42(9), 2147-2167. doi:10.1068/a42514
- Notteboom, T. (2010). Concentration and the formation of multi-port gateway regions in the European container port systems: an update. *Journal of Transport Geography*, 18, 567-583. doi:10.1016/j.jtrangeo.2010.03.003
- Notteboom, T. E. a. R., J.P. (2005). Port regionalization: towards a new phase in port development. *Maritime Policy & Management*, 297-313.
- Notteboom, T., & Haralambide, H. (2020). Port management and governance in a post-COVID-19 era:
- Notteboom, T., & Rodrigue, J. P. (2005). Port regionalization: towards a new phase in port development.

- Notteboom, T., De Langen, P., & Jacobs, W. (2013). Institutional plasticity and path dependence in seaport: interactions between institutions, port governance reforms and port routines. *Elsevier Journal of transport geography*, 27, 26-35.
- Notteboom, T., Knats, G., & Parola, F. (2018). Port co-operation: types, drivers and impediments. Retrieved from https://www.researchgate.net/publication/325220436_Port_co-operation_types_drivers_and_impediments
- OECD. (2016). OECD Territorial Reviews: The Metropolitan Region of Rotterdam-The Hague, Netherlands. Retrieved from Paris: https://www.oecd-ilibrary.org/governance/oecd-territorial-reviews-the-metropolitan-region-of-rotterdam-the-hague-netherlands_9789264249387-en
- OECD. (2017). The governance of land use. Country fact sheet Belgium. URL: <https://www.oecd.org/regional/regional-policy/land-use-Belgium.pdf>
- Othengrafen, F., Knieling, J. (2009). *Planning Cultures in Europe: Decoding Cultural Phenomena in Urban and Regional Planning*: Routledge; 1 edition (October 28, 2009).
- Pallis, A. (2007a). EU port policy: implications for port governance in Europe. In M. Brooks, Cullinane, K. (Ed.), *Devolution, port governance and port performance* (Vol. 17, pp. 479-495): Elsevier.
- Pallis, A. (2007b). Whiter port strategy? Theory and practice in conflict. In M. Brooks, Cullinane, K. (Ed.), *Devolution, port governance and port performance* (Vol. 21, pp. 343-382): Elsevier.
- Pallis, A., Vitsounis, T., De Langen, P., Notteboom, T. (2011). Port economics, policy and management - content classification and survey. *Port economics, Transport review*, vol. 31, 445-471.
- Patalano. (2015). C'è una mappa per il futuro? Le biforcazioni come snodi significativi. *Futurimagazine - Italian Institute for the Future*. URL: <https://www.futurimagazine.it/dossier/politiche-per-il-futuro/una-mappa-per-il-futuro-le-biforcazioni-come-snodi-significativi/>
- Pavia, R. (2010). La riqualificazione del waterfront monumentale del porto di Napoli. *Portus plus, the online magazine of Rete*, 20, 25-29.
- Pavia, R. (2010). La riqualificazione del waterfront monumentale del porto di Napoli. *Portus plus, the online magazine of Rete*, 20, 25-29.
- Pavia, R., & Di Venosa, M. (2012). *Waterfront. From conflict to integration*. Trento: LIST Lab Laboratorio. Internazionale Editoriale.
- Pavia, R., & Di Venosa, M. (2012). *Waterfront. From conflict to integration*. Trento: LIST Lab Laboratorio. Internazionale Editoriale.
- Pietersma, W. (2019, 05/06/2019) Interview to Wouter Pietersma, Ministrie van Infrastructuur en Waterstaat/Interviewer: P. De Martino. Den Haag.
- Piscopo, C. (2017) the city planning/Interviewer: P. De Martino.
- Plasschaert, K., Derudder, B., Dullaert, W., & Witlox, F. (2011). Redefining the Hamburg – Le Havre range in maritime networks Paper presented at the BIVE-GIBET Transport Research Day 2011., Zelzate (Belgium).
- PoA. (2019). PoA talks. URL: <https://www.portofantwerp.be/over-poa/>
- Por. (2011). Port Vision 2030. Direct the future. Start today. Retrieved from <https://www.portofrotterdam.com/en/port-authority/about-the-port-authority/the-port-authority-in-society/port-vision-2030>
- Por. (2018). Organisation. Port authority, developer, manager and operator. Retrieved from <https://www.portofrotterdam.com/en/port-authority/about-the-port-authority/organisation/organisation>
- Port of Antwerp. (2013). Heritage: The bread- crumb trail between city and port. *Espo Award 2013*. Retrieved from https://www.espo.be/media/news/poa_espo%20award%202013.pdf
- Port of Antwerp. About the port authority. Retrieved from <https://www.portofantwerp.com/nl/havenbedrijf-antwerpen>
- Port of Antwerp. History of the port. Retrieved from <https://www.portofantwerp.com/nl/havengeschiedenis>
- Porter, M. (2000). Location, Competition, and Economic Development: Local Clusters in a Global Economy. *Sage Journal*, 14(1), 15-34. doi:<https://journals.sagepub.com/doi/10.1177/089124240001400105>
- Porto di Napoli. (1960). *Bollettino Ufficiale del Porto di Napoli*. Retrieved from
- Porto di Napoli. (1963a). *Bollettino Ufficiale del Porto di Napoli*. Retrieved from
- Porto di Napoli. (1963b). *Bollettino Ufficiale del Porto di Napoli*. Retrieved from
- ProvinceofZuid-Holland. (2015). Europe strategy Province of Zuid-Holland Retrieved from <http://www.zuid-holland.eu/>
- Provincie Antwerpen. (2000a). Ruimtelijk structuurplan provincie Antwerpen. Richtinggevend deel.
- Provincie Antwerpen. (2000b). Ruimtelijk structuurplan provincie Antwerpen. Teksten.

- Quares. (2010). BLUE GATE ANTWERP. Retrieved from <https://consulting.quares.be/en/cases/detail/blue-gate-antwerp-quo-vadis?> Maritime Economics & Logistics, 22, 329–352. doi:<https://doi.org/10.1057/s41278-020-00162-7>
- Ramos, S. J. (2017). Resilience, Path Dependence, and the Port: The Case of Savannah. *Journal of Urban history*, 1–22. doi:10.1177/0096144217704183
- Regione Campania (2016). Piano di sviluppo strategico zona economica speciale della Campania. Retrieved from <https://www.sipotra.it/old/wp-content/uploads/2018/04/PIANO-DI-SVILUPPO-STRATEGICO-ZONA-ECONOMICA-SPECIALE-DELLA-CAMPANIA.pdf>
- Reinventer La Seine. (2009). The Seine Valley. A space of strategic importance for the attractiveness and economic development of the country as a whole. Retrieved from <http://www.reinventerlaseine.fr/fr/axe-seine/>
- RepubblicaItaliana. (2016). DECRETO LEGISLATIVO 17 ottobre 2016, n. 201 Attuazione della direttiva 2014/89/UE che istituisce un quadro per la pianificazione dello spazio marittimo. (16G00215) (GU Serie Generale n.260 del 07-11-2016)note: Entrata in vigore del provvedimento: 22/11/2016. Retrieved from <https://www.gazzettaufficiale.it/eli/id/2016/11/07/16G00215/sg>
- Rodrigue, J. P., & Notteboom, T. Port regionalization: improving port competitiveness by reaching beyond the port perimeter. *Port technology international*.
- Russo, I. (2017) The national port planning/Interviewer: P. De Martino.
- Russo, M. (2011). Città Mosaico il progetto contemporaneo oltre la settorialità (M. Russo Ed.). Napoli: Clean.
- Russo, M. (2012). L'esperienza come progetto: conoscere l'area est di Napoli. In R. L. a. M. Russo (Ed.), Napoli verso Oriente. Napoli: Clean.
- Russo, M. (2014). Harbour waterfront: landscapes and potentialities of a contended space. *TRIA*, 13(special issue).
- Russo, M. (2016). Harbourscape: Between Specialization and Public Space. In M. a. R. Carta, D. (Ed.), *The Fluid City Paradigm. Waterfront Regeneration as an Urban Renewal Strategy*. Switzerland: Springer International Publishing.
- Russo, M., & Formato, E. (2014). CITY/SEA SEARCHING FOR A NEW CONNECTION. REGENERATION PROPOSAL FOR NAPLES WATERFRONT LIKE AN HARBOURSCAPE: COMPARING THREE CASE STUDIES. *Tema. Journal of Land Use, Mobility and Environment(Spacial Issue)*, 871–882.
- Russo, M., & Miano, P. (Eds.). (2014). Città tra terra e acqua Esplorazioni e progetto nel Dottorato di Ricerca. Napoli: Clean.
- Schreyogg, G. a. S., J. (2010). The hidden dynamics of path dependence, Institutions and organizations. London: Palgrave Macmillan.
- Schreyogg, G., Sydow, J., Koch, J. (2005). Organizational paths: path dependency and beyond. Paper presented at the 21th Egos colloquium, Berlin, Germany.
- Schreyogg, G., Sydow, J., Koch, J. (2009). Organizational path dependence: opening the black box. *Academy of Management Review*, 34, No. 4, 689–709.
- Schubert, D. (2011). Seaport Cities, phases of spatial restructuring and types and dimensions of redevelopment'. In C. Hein (Ed.), *Port Cities: Dynamic Landscapes and Global Networks*. New York: Routledge.
- Secchi, B. (2000). Prima lezione di urbanistica. Bari: Laterza.
- Secchi, B. (2013). La città dei ricchi e la città dei poveri. Bari: Laterza.
- Secchi, B., & Viganò, P. (2009). Antwerp. Territory of a new modernity. Amsterdam: Sun Publishers.
- Seine, R. I. (2015). Link between the Quai de Southampton– Pointe de Floride. Retrieved from <http://www.reinventerlaseine.fr/en/sites/1303-link-between-the-quai-de-southampton-and-the-pointe-de-floride.html>
- Smits, F. (2019) Interview to Filip Smits/Interviewer: P. De Martino.
- Soja, E. W. (2007). Dopo la metropoli. Per una critica della geografia urbana e regionale. Bologna: Pàtron.
- Sorensen, A. (2015). Taking path dependence seriously: an historical institutionalist research agenda in planning history. *Planning Perspective*, 30(1), 17–38. doi:10.1080/02665433.2013.874299
- Sorensen, A. (2018). Institutions and Urban Space: Land, Infrastructure, and Governance in the Production of Urban Property. *Planning Theory & Practice*, 19(1), 21–38. doi:10.1080/14649357.2017.1408136
- Spirito, P. (2017a) Interview to Pietro Spirito/Interviewer: P. De Martino.
- Spirito, P. (2017b) the port planning/Interviewer: P. De Martino.

- Sung, L., & Ducruet, C. (2006). Waterfront redevelopment and territorial integration in Le Havre (France) and Southampton (UK): Implications for Busan, Korea. *Ocean Policy Research*, 21(2), 127-156. Retrieved from https://www.researchgate.net/publication/41540256_Waterfront_redevelopment_and_territorial_integration_in_Le_Havre_France_and_Southampton_UK_Implications_for_Busan_Korea
- Toma, P. A. (1991). *Storia del Porto di Napoli*. Genova: Sagep Editrice.
- Torfs, D. (2019) Interview to Dimitri Torfs/Interviewer: P. De Martino.
- Tosi, M. C. (2013). *Toward an atlas of European Delta Landscape* (List Ed. Vol. Babel). Italy: LIST Lab Laboratorio Internazionale Editoriale.
- Tsiapa, M., Kallioras, D., & Tzeremes, N. (2018). The role of Path-dependence in the resilience of EU regions. *European Planning Studies*, 26(6), 1099-1120. doi:10.1080/09654313.2018.1458284
- Ubbels, B. (2005). INSTITUTIONAL BARRIERS TO EFFICIENT POLICY INTERVENTION IN THE EUROPEAN PORT SECTOR. *IATSS RESEARCH*, 29.
- un percorso in atto. *Federalismi.it Rivista di diritto pubblico italiano, comparato, Europeo*, 19.
- Unesco. (2004). *Le Havre, the city rebuilt by Auguste Perret*. Retrieved from <https://whc.unesco.org/en/list/1181>
- van Buuren, A., Boons, F., Teisman, G. (2012). Collaborative Problem Solving in a Complex Governance System: Amsterdam Airport Schiphol and the Challenge to Break Path Dependency. *Systems Research and Behavioral Science*, 29, 116-130.
- Van Hooydonk, E. (2007). *Soft values of seaports. A strategy for the restoration of public support for seaports*. Antwerp: Garant.
- Verhoeven, P. (2010). A review of port authority functions: towards a renaissance? *Maritime Policy & Management*, 37(3), 247-270. doi:10.1080/03088831003700645
- Vervoorn, P. (2019) Interview to Peter Vervoorn/Interviewer: P. De Martino.
- Viganò, P. (2010). *Territorio dell'urbanistica. Il progetto come produttore di conoscenza*. Roma: Officina.
- Viganò, P., & Secchi, B. (2009). *Antwerp, Territory of a new modernity*. Amsterdam: Sun Publishers.
- VlaamseRegering. (2013). *Besluit van de Vlaamse Regering houdende definitieve vaststelling van het gewestelijk ruimtelijk uitvoeringsplan. "Afbakening zeehavengebied Antwerpen"*. https://www.ruimtevlaanderen.be/NL/Diensten/GRUPS/GRUPS-Detail/rid/RUP_02000_212_00202_00001
Retrieved from https://www.ruimtevlaanderen.be/NL/Diensten/GRUPS/GRUPS-Detail/rid/RUP_02000_212_00202_00001
- Vries, I. (2019, 16/07/2019) Interview to Isabelle Vries/Interviewer: P. De Martino.
- Vries, I. M. J. (2014). From Shipyard to Brainyard - The redevelopment of RDM as an example of a contemporary port-city relationship. In ALIX, Y. DELSALLE & B. COMTOIS, C. (eds) *Port-City governance*. Editions EMS, 233-245.
- Wauters, E. (2019) Interview to Elisabeth Wauters/Interviewer: P. De Martino.
- What can AIVP and the Port Center Network do for you? Retrieved from <http://www.aivp.org/portcenternetwork/files/2011/11/Port-Center-Guide-Short-Version-English-update.pdf>

Curriculum Vitae

Paolo De Martino graduated in Architecture with top marks in July 2008 at the Department of Architecture of University of Naples Federico II (DiARC). After graduation he has collaborated with an architectural firm in Naples, focusing mainly on reuse of existing architectural heritage and urban regeneration. Since January 2015 he lives in Delft to develop a PhD within a dual research program between Delft University of Technology and the University of Naples Federico II. His research investigates port cities from a spatial- governance perspective, comparing the port system in the Campania Region with port city regions in the Hamburg-Le Havre range, with particular reference to the territories of Rotterdam, Antwerp and Le Havre. Some of his research has been discussed in conferences and published in international journals. Between 2017 and 2018 he was involved with teaching, tutoring students in Delft during the design studio “Architecture and Urbanism beyond oil” run by Prof. Carola Hein. Since 2019 he is a tutor in the Master on Sustainable Planning and Design of Port Areas Master run by Prof. Maria Cerreta at the Department of Architecture of Naples. In 2021 he was involved as tutor within the design studio in Delft entitled “Adaptive Strategies”: reinventing Beirut as a port city.

Publications

2021

Hein, C. M. (Author), Hauser, S. J. (Author), Aktürk, G. (Author), Lee, R. J. (Author), De Martino, P. (Author), Mehan, A. (Author), & Sennema, H. (Author). (2021). (Re)Imagining Port Cities: Understanding Space, Society and Culture. Digital or Visual Products.

2020

De Martino, P. (2020). Defending the past by challenging the future: spatial and institutional path dependencies in the Naples port-city region. *Regional Studies, Regional Science*, 7(1), 108-117. <https://doi.org/10.1080/21681376.2020.1746193>

De Martino, P., Amenta, L., Russo, M., & Castigliano, M. (2020). Reinventing Wastescapes in port cities. A resilient and regenerative approach to plan Naples at the time of logistics. *BDC - Bollettino del Centro Calza Bini - Università degli Studi di Napoli Federico II*, 20(2), 261-276.

De Martino, P. (2020). The Central Tyrrhenian Sea Port Authority. A critical juncture for the Campania port system? *PORTUSplus*, (9).

2019

De Martino, P., Hein, C., & Russo, M. (2019). Naples Beyond Oil: New Design Approaches in the Era of Retiring Landscapes. *Portus (online)*, (37). https://portusonline.org/category/this_issue/37/focus-this-issue-37/

2018

Hein, C., & De Martino, P. (2018). Designing post-carbon Dunkirk with the students from TU Delft. *The Beam*, (5). <https://medium.com/thebeammagazine/designing-post-carbon-dunkirk-with-the-students-from-tu-delft-28f44c40d761>

Castigliano, M., De Martino, P., & Russo, M. (2018). Napoli: relazioni irrisolte tra porto e città. *Urbanistica Informazioni*, 45(278-279), 43-45.

Hein, C., Sedighi, M., De Martino, P., Jafari, E. (Other), & Farahmand, E. (Other). (2018). The Global Petroleumscape. Exhibition

Amenta, L., & De Martino, P. (2018). Wastescapes in port cities. Naples and Rotterdam: a spatial and institutional comparison on the role of ports as promoters of circular economy. *BDC - Bollettino del Centro Calza Bini - Università degli Studi di Napoli Federico II*, 18(2), 159-181.

2017

Hein, C., & De Martino, P. (2017). *Architecture and Urbanism Beyond Oil: Designing the transition in Rotterdam and Dunkerque*. Abstract from Beyond Oil 2017, Bergen, Norway.

De Martino, P. (2017). *Cultural heritage as resilient driving force for the next economy in the port-city of Naples*. Abstract from 30th Annual Aesop Congress 2017, Lisbon, Portugal.

Hein, C., Stroobandt, C., & De Martino, P. (2017). *Dunkirk: from oil port to cultural heritage*. Abstract from The resilience of European port cities , Dunkerque, France.

Sennema, R., & De Martino, P. (2017). Interpreting reinterpretation: the 13th conference of the European Association for Urban History, Helsinki, 24–28 August 2016. *Planning Perspectives: an international journal of history, planning and the environment*, 1-7. <https://doi.org/10.1080/02665433.2016.1277954>

De Martino, P. (2017). Next economy in the areas in between city and port. Rotterdam case-study: resilient spaces for a contemporary urban port. In *Atti della XIX Conferenza nazionale SIU, Cambiamenti. Responsabilit  e strumenti per l'urbanistica e il servizio del paese: Workshop 2. Economia circolare e nuove forme produttive* (pp. 396-403). Planum Publishers.

Hein, C., Russo, M., & De Martino, P. (2017). Planning the Post-Petroleumscape: Overcoming the territorial impact of oil on the urban landscape of Naples. In *Atti della XX Conferenza nazionale SIU | Urbanistica e  azione pubblica. La responsabilit  della proposta: Workshop 6. Urbanistica e  azione pubblica per il riciclo e la valorizzazione energetica dell'ambiente e del paesaggio* (pp. 1153-1163). Planum Publishers.

De Martino, P., Hein, C., & Garofalo, F. (2017). The Archipelago of Knowledge: From Research to Project . *Eco Web Town: Journal of Sustainable Design*, 2(16), 87-97.

2016

De Martino, P. (2016). Land in Limbo: Understanding Planning Agencies and Spatial Development at the Interface of the Port and City of Naples. In C. Hein (Ed.), *History Urbanism Resilience: Change and Responsive Planning* (Vol. 3, pp. 203-216). (International Planning History Society Proceedings; Vol. 17, No. 3). Delft University of Technology. <https://doi.org/10.7480/iphs.2016.3.1262>

Listing of Activities

2021

- Tutor in Master in Sustainable Planning and Design of Port Areas
Naples, Italy
Period: 15 Apr 2021 → 15 Apr 2022
- Teaching in the master design studio AR0110 Adaptive Strategies Past, Present, Future: Topics of History of Architecture and Urban Planning (2020/21 Q3)
Delft, Netherlands
Period: 10 Feb 2021 → 14 Apr 2021

2019

- Organiser the webinar on Gaming on Maritime Spatial planning
Naples, Italy
Period: 3 Dec 2019
- Speaker in the MAPA Design Studio in DiARC, University Federico II. Title lecture: "*Un piano fatto di immagini: il caso di Anversa*"
Naples, Italy
Period: 26 Nov 2019
- External critic at TU Berlin in the studio Supply Chain Urbanism
Berlin, Germany
Period: 4 Jul 2019
- Attending the event AMSTERDAM2050: Urban Makeover on display
Amsterdam, Netherlands
Period: 19 Jun 2019
- Attending the RETE General Meeting – May 2019
Naples, Italy
Period: 30 May 2019 → 31 May 2019
- Participating in the RETE meeting in Barcelona
Barcelona, Spain
Period: 19 Feb 2019

2018

- Co-organiser in the Port City Futures Conference
Rotterdam, Netherlands
Period: 17 Dec 2018 → 19 Dec 2018
- Presenting part of the PhD research during a SPS seminar in TU Delft. Title of the lecture: “Spatial and institutional path dependencies in the port city of Naples”
Delft, Netherlands
Period: 2 Oct 2018
- Teaching in the Master course “Building Green”
Delft, Netherlands
Period: Feb 2018 → Mar 2018
- CO-curator of the international exhibition “Or Noir: Ruée, Marée, Virage”
Dunkirk, France
Period: 2018 → 2019

2017

- Presenting a paper in the conference Beyond Oil 2017
Bergen, Norway
Period: 25 Oct 2017 → 27 Oct 2017
- Attending the seminar “Integrated design in... Deltas”
Delft, Netherlands
Period: 19 Oct 2017
- Presenting a paper entitled “Creating a Post-Petroleumscape: overcoming the territorial impact of oil on the urban landscape of Naples” at the The Global Petroleumscape Conference
Delft, Netherlands
Period: 17 May 2017
- Designer and co-curator of the Exhibition “The Global Petroleumscape Conference”
Delft, Netherlands
Period: 17 May 2017 → 19 May 2017

- Teaching in the Design Studio between the years 2017 and 2018 Architecture & Urbanism Beyond Oil_MSc2 DESIGN STUDIO_AR0052
Delft, Netherlands
Period: 2017 → 2018

2016

- Attending the lecture Reuse, never demolish! Public lecture by Anne Lacaton
Delft, Netherlands
Period: 20 Sep 2016
- Presenting a paper “The spatial dimension of path dependency. A different framework to understand port-city development. Naples case study: conflict area or negotiation space?” at Reinterpreting Cities: 13th international conference on urban history
Helsinki, Finland
Period: 24 Aug 2016 → 27 Aug 2016
- Presenting a paper at the conference entitled: Land in Limbo: Understanding Planning Agencies and Spatial Development at the Interface of the Port and City of Naples at the 17th IPHS Conference History-Urbanism-Resilience
Delft, Netherlands
Period: 17 Jul 2016 → 21 Jul 2016
- Presenting a paper at the conference entitled: Next economy in the areas in between city and port. Rotterdam case-study: resilient spaces for a contemporary urban port at XIX Conferenza Nazionale SIU - Cambiamenti Conference
Catania, Italy
Period: 16 Jun 2016 → 18 Jun 2016

2015

- Attending a lecture by Michelangelo Russo entitled “Resilient urban landscapes, new materials for the contemporary urban project”
Delft, Netherlands
Period: 17 Dec 2015
- Attending conference “Historic harbour cranes Restoration and re-use of a living monumental heritage”
Antwerp, Belgium
Period: 12 Nov 2015

Understanding path dependencies at the intersection of the port and city of Naples

Paolo De Martino

Numerous actors have been involved in the planning of the port and city of Naples. National and local authorities—namely central government, the Region, the Municipality of Naples, and the Port Authority—act upon the port at different scales, according to diverging interest and by using different planning tools. Each entity has different spatial claims and contrastive views on what port city integration can be. Their diverse goals have led port and city to develop into separate entities, from a spatial, cultural, economic as well as administrative perspective. The different scopes of their planning are particularly visible in the areas at the intersection of land and water, where the relationship is characterized by waiting conditions across different dimensions and scales.

The separation between port and city in Naples originates from history. This PhD thesis looks at the past as a resource, sometimes as a problem in the way it produces inertia, but certainly as a heritage made of signs, traces, and cultures, written and rewritten on the urban palimpsest. Using and challenging the concept of path dependence—defined here as a resistance by institutions and people to change patterns of behavior and to repeat previous decisions and experiences—this PhD thesis argues that in order to overcome inertia, it is important to recognize the interests and spatial claims of all the stakeholders involved port city planning and to identify shared goals and values as a foundation for future design.

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