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Eastern Mediterranean and Atlantic European cities

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Editorial

Articles

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Issue Editors
Fatma Tanış, TU Delft, NL
Dr. Ir. Frank van der Hoeven, TU Delft, NL
Prof.dr. Ir. Lara Schrijver, University of Antwerp, BE

Managing Editor
Nienke Blaauw, TU Delft, NL

Contact
Principal: Frank van der Hoeven (f.dvanderhoeven@tudelft.nl)

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EDITORIAL

Narratives of Eastern Mediterranean and Atlantic European cities

Fatma Tanis [1], **Frank van der Hoeven** [1], **Lara Schrijver** [2]

[1] *Delft University of Technology*
Faculty of Architecture and the Built Environment
Delft, the Netherlands
[2] *University of Antwerp*
Faculty of Design Sciences
Antwerp, Belgium

Port cities have traditionally played an essential role in local and transnational networks. The spatial imprints of cross-border flows and socio-spatial interactions in port cities have left intertwined and entangled histories. However, the physical presence of these rich histories is not always visible.

Port cities have undergone a number of socio-spatial metamorphoses since the early 20th-century. A series of local and global events have triggered significant transformations, among these:

- Globalisation
- Natural and human-made disasters
- De-industrialisation and changes in regulation (neo-liberal policies)
- Changing social conditions (migration and population exchanges)

Such events have resulted in rapid, sometimes haphazard, urbanisation while, in other cases, regeneration projects have erased traces of history in many places. Many East Mediterranean and Atlantic European cities were also affected by armed conflicts. Contemporary waterfront regeneration projects produce generic results that further conceal the marks from the past.

Despite the physical transformations of port cities, historical narratives remain. Global trade and transnational exchange left tangible imprints on urban patterns and manifested themselves in cultural expressions such as paintings, engravings, travelogues, novels, travel books, and poems. Authors, artists, and travellers found inspiration in port facilities such as quays, customs houses, warehouses and site-specific urban typologies and street patterns, and social spaces in the cities.

Many protagonists are brought together in such narratives, from elite traders, local governors, and white-collar workers (e.g. engineers, developers), to the domestic and foreign labour classes, transit passengers and sailors, and local inhabitants.

This issue of Spool seeks to investigate narratives on the architecture, culture and development of coastal cities. We have challenged authors to present how narratives inform designers and how narratives are used in contemporary design approaches?

What is the role of the architect/planner in the contemporary narrative formation of port cities, particularly in the changing context of port-city relations?

We have selected seven contributions for this issue of Spool, four from the Eastern Mediterranean basin (Istanbul, Beirut, Acre and Jaffa) and three from Atlantic Europe (Bodø, Matosinhos and Gafanha da Nazaré).

Roula El Khoury and Paola Ardizzola address the post-civil war reconstruction of Beirut in Lebanon and reveal how neoliberal models of development resulted in a generic city.

Adem Erdem Erbas uses the Istanbul port heritage area in Turkey to showcase how GIS helps to consider underground cultural inventory from a historic landscape perspective within the framework of the conservation plans.

Ana Jayone Yarza Pérez explores the potential of adaptive reuse evaluation procedure in the Old City of Acre, Israel, as a means to deal with development and gentrification in this World Heritage site.

Komal Potdar explores the historical evolution of the old town, cultural geography, and the current state of exclusion and gentrification in Jaffa, Israel. She underlines the need for discourse on socio-spatial analysis and assessment for decision-making processes for urban heritage design.

Diego Inglez de Souza and Ivo Pereira de Oliveira reconnect architectural history with social and industrial accounts as a strategy for understanding the relationship between infrastructure, fishing, and urbanisation by studying the emblematic case of Matosinhos, Portugal.

André Tavares seeks to trace the links between fluctuations in the natural cod resources, the technologies used by fishermen to catch and process the fish, and the development of coastal landscapes and the urban form of the fishing port Gafanha da Nazaré, Portugal.

And finally, Fatma Tanis uses an interview with architect Daniel Rosbottom from DHDR to provide insight into situated architecture in port cities by addressing a library and concert hall project realised in Bodø, Norway.

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From the Port City of Beirut to Beirut Central District

Narratives of Destruction and Re-Constructions

Roula El Khoury [1], **Paola Ardizzola** [2]

[1] **Lebanese American University**
School of Architecture and Design
Beirut, Lebanon

[2] **German University in Cairo**
Cairo, Egypt

Abstract

The repeated destructions and reconstructions of Beirut have been widely acknowledged and conveyed from one generation to the next through different narratives, anecdotes, literature, and popular cultural productions. This paper describes the historical transformations of the city of Beirut from an old harbour city to a generic central district through a selection of dominant narratives, as well as alternative counter-narratives and anecdotes.

The paper argues that the post-civil war reconstruction project is submissive to the neo-liberal models of development which resulted in the generic city that we can observe today. The paper also projects two extreme case scenarios for the future development of the city, of which one seems to prevail: a scenario that has started to materialise since the sudden dramatic and deadly port explosion that hit the port of Beirut on August 4, 2020.

Keywords

Beirut Port City, Beirut Central District, Solidere, Urban Transformation, Narratives, Destruction and Re-construction

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Introduction

Beirut has died a thousand times,
and been reborn a thousand times.

From *Twenty poems for one love*. (Tueni, N., 1979)

The cityscape of Beirut has undergone massive physical transformations throughout the last century and even more so during the past five decades. The civil war between 1975 and 1990, Israel's invasion of Beirut in 1982, its occupation of southern Lebanon up until 2000, its blockade on Lebanon in 2006 during which Israel targeted the southern suburbs of the city and the main infrastructure of the country, and finally the more recent Beirut port explosion in August 2020, have triggered continuous destructions and reconstructions and resulted in a constant flux of populations. In addition to armed conflicts and wars, other kinds of hostilities were observed against the built fabric of Beirut. At the end of the civil war in 1990, a hyper inflated real estate sector developed, prompting an unprecedented boom of construction activities and a drastic change in the morphology of the city. Solidere - a project for the development and reconstruction of the war damaged areas in the city centre, is an excellent example of the permanent damages to the physical and social fabric of Beirut.

The repeated destructions and re-constructions of Beirut have been widely acknowledged and conveyed from one generation to the next through different narratives and anecdotes (Alameddine, 2008; Al-Boustani, 1860; Al-Rihani, 1947; Awwad, 1976; El-Khoury, 1981; Kassir, 2003; Khalaf, 2006; Nasrallah, 1962; Salibi, 1988). It is thus important to note the role of literature and literary analysis in understanding the history and the development of the production of places in the city. In her book entitled *Beirut, Imagining the City: Space and Place in Lebanese Literature*, Ghenwa Hayek (2015) argues that the relationship between urban change and Lebanese literature has been dynamic and even dialectical. Besides offering a reading of the political, social, and historical context, she mentions that several Lebanese novels and books express emotional relations to specific locations and very often reflect the alienation of the character and the authors from the city. Other critics, such as Nirvana Tanoukhi, Neil Smith, and Robert Dixon, emphasise the need to address the geographic dimension and the materiality of the places described in literature. In contrast with the abstract and symbolic representation of the city in the seminal work of Burton Pike *The Image of the City in Modern Literature*, these authors call for a "closer reading" of the city – depicting it at a different scale and referring to it in less metaphorical terms.

This paper is structured around a tripartite division. The first section introduces two dominant yet contrasting grand narratives that contributed largely to the shaping of the Lebanese nation state. The juxtaposition of these narratives clearly portrays the political tensions at the time of the country's inception, towards the middle of the nineteenth century. However, despite representing contrasting ideologies and cultural identities, both seemed to have converged into a common aspiration for modernity initiating a process of urban transformation. The paper then unravels through a selection of micro-narratives based on stories and written accounts, taking a closer look at the old port city of Beirut under the Ottoman rule, describing daily activities and routines, physical and mental boundaries, as well as contested places. The selected anecdotes offer a different reading of the city and reveal some tangible and sometimes intangible heritage. The second section of the paper summarises a turbulent history of modern Lebanon that culminates in the breaking of the civil war, often referred to as a manifestation of an "identity crisis." The paper sheds the light on the works of artists and writers who used the cityscape to evoke their feelings of alienation from the city that was divided along sectarian and religious demarcation lines. The last section focuses on a major paradigm shift in politics and economy in Lebanon starting in 1990. The paper contrasts the commercial narrative brought forward by Solidere with the actual reading of the authors as

they roam around the streets of Beirut Central District, the recently re-constructed city centre. At the end of this section two extreme case scenarios are imagined for the future of the city that have been completely stripped from its core values and identity. Unfortunately, the paper ends on a dramatic note with the tragic Beirut Port explosion that shattered the neighbourhoods of the city and literally rendered it a post-apocalyptic city of ruins.

This assemblage of previous and current narratives is an attempt to materialise the metaphor of the city that "has died a thousand times, and been reborn a thousand times" through a physical description of old and new places and a historical account of the major events that have shaped it. It is also a practical attempt to write a new future for the city – a future that is resilient precisely because it refuses to adapt to its dramatic and traumatic transformations.

Building the Narrative | Shaping the Country

Two contrasting ideologies reflecting national aspirations and cultural identities emerged in the middle of the nineteenth century in the weakening Ottoman Empire and have equally contributed to the shaping of the port city of Beirut. The idea of the 'Asile du Liban' brought forward by the Flemish Jesuit Priest Henri Lammens - in reference to Mount Lebanon (Hayek, 2015), and the rise of an Arab cultural movement - 'Al Nahda' in contrast with the rise of religious identities in the Empire and also strongly supported by the West, have urged the Sublime Porte to adopt a series of urban transformations/reforms, also known as the Tanzimat. Although the narratives of the Jesuits and the Arab Nationalists were rooted in the specificity of the places they represented, they both explored the relation between the urban and the rural condition and strongly influenced the development of the port city of Beirut.

While there is not a perfect homogeneity among all the sections of the Syrian population, there is nevertheless, in its bosom an important core of nationality, and that is the population of Lebanon which, completely devoted to France, only awaits its advice and its guidance to enter on the path to regeneration.

From *Letter from the Jesuits in Lebanon to the French Foreign Ministry,* 1858. (Shorrock & Spagnolo, 1977).

The academic and religious institutions of the Jesuits heavily present in the area, because of the presence of a large Christian (mostly Maronite) population in Mount Lebanon, sought to cultivate this population and establish in them a Catholic nationality for Lebanon in order to foster France's colonial interests and ambitions (Hayek, 2015). In fact, the Jesuits strongly contributed to the formation of a Lebanese nationalistic thinking - rather sympathetic with the West, and eventually led to the formation of Greater Lebanon under the French mandate in 1920. Lammens' idea of the Asile du Liban is at the heart of the mountain-centred discourse and the idealisation of Mount Lebanon as a refuge for the Christians and non-Muslims, the symbol of the Lebanese nation and its source of inspiration. It is also important to note that the cedars - a species of trees native to the mountains of Lebanon - was adopted as a national emblem and an important image reflecting the strong connotations of the country with ancient civilizations preceding any Ottomans/Muslim heritage. The rise of the mountain nationalism and the romantic image of a pure and natural way of living not only excluded the port city of Beirut from its narrative, but also demonised it as being distrustful, too pluralistic, and dirty (Hourani, 1976).

In Beirut there are persons of different countries and races
Though they may differ in their nationality and tastes, they have common interests
and if they wish, they may live together in security, ease, affluence and prosperity

From *Nafir Suriyya* (Al Bustani, 1861)

Your status in the eyes of the Turks is debased,
And your right by the hands of the Turks is usurped,
You possess no known status or honor,
Nor any existence, or name or title,
O to my people, and my people are none but the Arabs!

From *Tanabbahu wa istafiqu ayuha al-arabu* (Yaziji, 1883)

> Mountain nostalgia alone could not exemplify the Lebanese national identity as it obviously excluded the non-inhabitants of the mountains, namely the population of the coastal cities of Beirut, Sidon, and Tyr (Hayek, 2015). Simultaneously with the Christian-centric discourse that rose in the mountains, a secular ideology deeply anchored in the pluralistic and multi-cultural environment of Beirut appealed to many Arabs and educated elites of the Ottoman Empire. This discourse, born in the city, quickly developed into anti-Ottoman sentiment and fostered Arab Nationalistic aspirations. The plan for the establishment of *Al Watan Al Arabi* or *Al Ummah Al Arabiyyah* [the Arab Homeland or the Arab Nation] (Antonios, 1939) was inspired by western ideas and the modern-nation model of self-determination based on shared language and ancestry (Volk, 2010). While the term *Al Watan* reflects a territorial dimension, *Al Umma* refers to a community of people without necessarily describing a well-defined geographic boundary. It is worth mentioning that the earliest figures of the *Arab Renaissance* used the term *Watan* in reference to a city or a city with its hinterland. As a matter of fact, Butrus Al Bustani and Kahlil Khuri first referred to the city of Beirut as *Watanuna* [our homeland] before ascribing to the term *Watan,* a larger territory encompassing rural areas in *Nafir Suriyy*a (Hill, 2020).
>
> These two dominant and yet conflicting narratives of *the Asile du Liban* and *Al Watan Al Arabi* coexisted and contributed to the growing pressure over the weakening Ottoman empire to grant the land and its inhabitants a form of self-governance and independence from the Sublime Porte. While the Ottoman authorities tried to suppress the rebellious Arab and Lebanese nationalists, there were serious attempts to consolidate the social and the political foundation of the Empire, to reduce the danger of outside intervention on behalf of the defiant groups. Ottoman authorities sought to better integrate the non-Muslim population into the Ottoman society by improving the quality of life in the city and granting them more liberties, and at the same time, tried to appeal to the shared Muslim heritage of both Ottomans and Arabs (Volk, 2010). These efforts are best described through the *Tanzimat* reforms that were mostly concerned with the organisation of the Empire's cities of which Beirut was not an exception. A series of urban transformations contributed to the changing physiognomy of the *new city*, the appearance of new landmarks on the streets, and the establishment of a new urban space control.

As such, the new city would be more efficient than the old one in terms of comfort cleanliness, public services and security… Emanating from a uniform law, it would be open and fair, which means accessible to all, to its citizens as well as to new comers, without any prejudice about their origin or religion, and reflecting the qualities that the new Ottoman man deserves, when freed from communitarian burdens.

From *Beyrouth un siècle et demi d'urbanisme* (Davie, 2001)

The *Tanzimat* peaked in 1978 under the new Sultan Abdul Hamid II. The promised city - "the city of reason" - is meant to be superior to the old vernacular city and is characterised by order and conscious organisation of its streets and spaces (Davie, 2001). Its civic places are defined by wide and straight boulevards and functional buildings standing as landmarks and recognisable from a distance (Davie, 2001). The predecessors of Weygand, Foch, and Allenby streets today were the first creations of this new urbanism at the expense of the old and compact city fabric that characterised the Arab city. Another manifestation was the physical regularisation of urban spaces such as *Sahat Al Bourg* and *Al Hamidiyyah* through their demarcation with new buildings, streets, and modes of transportation (Hanssen, 1998) believed to make the city more *open* and *accessible* to all. The urban changes also affected the habitat structure that evolved into a more extroverted residence better adapted to the new cultural values and modern practices and made the city earn its name of *Mediterranean Bourgeoise* with the three-arch windows and red-tiled roofs (Fig. 1). Although the *Tanzimat* reforms aimed to re-establish the power and legitimacy of the Ottoman state, its physical manifestations were strongly connoted to the West and western practices, ironically increasing the hegemony of, and dependency on, the new European centres of power – much to the delight of their allies inside the Empire. Consequently, Sultan Abdel Hamid II adopted a highly symbolic construction programme to express the Ottoman nationality through an architecture that reproduced and reinterpreted Islamic art and patterns, of which the most impressive is the municipality building.

FIGURE 1 *Photograph of Beirut c. 1880.*

Note: *Photograph depicting the urban fabric of Beirut in the late 1800's. The bonfils Collection. AUB digital collections.* https://lib-webarchive.aub.edu.lb/BorreLudvigsen/http://almashriq.hiof.no/general/700/770/779/historical/pcd0109/28.html. *Reprinted with permission*

Narrating the Ottoman City | A selection of three micro-narratives

In 1888, Beirut was declared a provincial capital by Ottoman decree although it was neither the largest nor the most important city in the region (Volk, 2010). The common framework within which people from different religious loyalties and family ties coexisted, established a favourable environment in the city for the proliferation of trade and commercial activities between the East and the West. While the Lebanese Mountain maintained its strong symbolism of the Lebanese nation state, the capital, Beirut, gradually imposed its dominance as it became the main outlet for Mount Lebanon as well as Damascus – the important capital of the interior and of the Arab hinterland, thus becoming the main source of recounted events, encounters, and experiences.

During the second half of the nineteenth century, the city of Beirut witnessed spectacular growth, mostly resulting from migratory movements within the empire and an influx of traders, journalists, and artists from the West. The site was transformed from a little coastal town to a major port city and later became a highly cosmopolitan centre. The population growth was the main generator of the renewal of the urban society and the subsequent challenge of the dominant political and cultural paradigms. Alternative narratives started to emerge as "new meanings and values, new practices, new relationships and kinds of relationships" were being produced (Volk, 2010).

Narrative One: The City as Chaotic, Dirty, and Filthy

Men, women, kids, Greeks, French, Turks, Maronites, white, black, dark abound in the dirty streets, where with every step we take we bump into a camel, a dog, very often ducks and chicken. No pathway gets even close to regularity, or rectitude. Recognizing someone in Beirut is an impossible problem…

From *Voyages en Syrie 1860-1861* (Renan & Renan, 1930)

In her book entitled *L'occidentalisation de la vie quotidienne a Beyrouth: 1860-1914* (the westernization of daily life in Beirut: 1860-1914), Nada Sehnaoui looks at everyday life in the city of Beirut during the period of the *Tanzimat*, and through them analyses the new societal structure and relations that emerged in the midst of a systematic process of westernisation. Reading into her analysis is reading into a thousand tales about a city that was perceived by many as chaotic, dirty, and filthy. Henriette Renan, during her first visit to Beirut described its streets as a 'receptacle of dirt' and its houses as 'masses of mud' (Sehnaoui, 2002). Twenty-three days later, she writes:

Our present impression about Beirut is more favourable than the ones that were echoed in our first letters. While penetrating through thousands of horrors until we reach the interior of the houses, we understand that everything that is general remains completely abandoned in the East, that the street is a sewage, but that the house is most often neat. The Arab architecture has very nice motifs…

From *Voyages en Syrie 1860-1861* (Renan & Renan, 1930)

While her description emphasised again the disgust that a foreigner would experience when walking on the streets, she distinguishes the interior of the houses as places that are "neat" and showcasing "beautiful Arab Motifs." This testimony is not only important because it describes the city, but because it represents to a large extent the relationship of its inhabitants with the spaces that are identified as non-private. The dense morphology of the old city, the physical quality of the streets and urban spaces, and the introverted habitat structures shaped an image of the city that was the perfect stage for such narratives. While we could easily argue that these narratives described existing conditions and real places, we could

also think that they played an instrumental role in reshaping them and imagining the city of the future. In fact, the new mercantile bourgeoisie who wished to live in a city that reflects their economic and social aspirations could not identify anymore with streets that hinder their commercial activities and do not accommodate their clients, (Sehnaoui, 2002) and thus, supported the municipality's hygienic approach of wiping and clearing the old streets.

Narrative Two: The city as a stage for performance and representation

At dusk, [...] the pressured and the overwrought found soothing release on their way home in the conviviality, engaging humour and accomplished virtuosity of the celebrated *Hakawati*. After his makeshift stage is assembled (no more than a high table or wooden platform), usually in a familiar cul-de-sac or intimate intersection in the souks, he ascends the platform with his traditional garb, *tarbush* and provincial stick, his soul prop which he rhythmically taps to sustain the enthralled attention of his audience. Gradually, the gathering, as coffee and *arghilehs* are served, turns into an amiable, often rambunctious, interactive performance.

From *The heart of Beirut: Reclaiming the Bourj* (Khalaf, 2006)

In his book *The Heart of Beirut: Reclaiming the Bourg*, Samir Khalaf describes the different entertainment and distractions that characterised Beirut during Ottoman times and up until the middle of the twentieth century. He specifically refers to some traditional and local storytelling practices as a form of appropriation of the public sphere, transforming it into a *playground* or a performance place. Picture-shows (Sandouq al-firje), shadow-theatres (*Khayal al-zhil)* led by a *Karakoz,* and most notably storytellers also known as *Hakawatis,* were famous for their dramatic performances and were paid by owners of coffee houses to draw customers after sunset. Along the seashore, various cafes resting on the beach, or seated over the rocks turned into a popular stage where traditional and historical plot lines with an overall epic and theatrical form took place. Typically, the storyteller starts with a few comic statements and recommendations for the audience. Then, he resumes the story from the point at which he ended it the previous evening. A good *Hakawati* always interrupts the story at a critical point to prompt the audience to come back again (Zaydane, 1968). Samir Khalaf as well as Nada Sehnaoui both agree that these practices started to disappear as theatres and other western forms of cultural production made their first appearance in Lebanon. The last *Hakawati* was recorded several times by the Lebanese national television before the breakout of the war in 1975 as a valuable Object d'Art. The disappearance of such representations from the street not only marked the disruption of a significant local cultural production, but also gave birth to new architectural typologies and exclusive spaces catering for the intellectual elite.

Narrative Three: The city as a place for Martyrdom

"Glory and Eternity to our Martyr-Heroes"

(Inscription, *Unknown Soldiers tomb*, 1916)

There lives a people that knows how to die
They die as martyrs and ignored by the sword of fanaticism

From *Silhouettes Orientales* (D'Ancres, 1969)

Narratives that turn memory into history are usually told in times of crisis and political instability – when national identity is under attack (Volk, 2010). They selectively remember events in the past where unity prevailed to overcome the cultural differences and the conflicts of the present (Volk, 2010). The commemoration of such narratives becomes very important for the stability of the country and usually it materialises in the most significant places in the city. *Sahat Al Bourg* or *Al Bourg square* was not only one of the capital's major transit centres, it was also a public plaza where all vital functions were centralised. It is here that some - from different confessions and religious affiliation - were executed in 1916 by Ottoman ruler Jamal Pasha for their alleged conspiracy against the empire and aspiration for independence and where later a memorial honouring them was created. The fourteen men were proclaimed as martyrs and the square was renamed after them. Their heroic journey to the gallows was a lesson of civic duty and solidarity to both urbanites and mountaineers and eventually led to the formation of Greater Lebanon, including Mount Lebanon and the coastal cities under the French mandate. The narrative of the defiance of the Ottomans was also supported by the French who encouraged the commemoration of Jamal Pasha's Act of Cruelty and assigned to it one of the most significant places of the city; *Sahat Al Bourg* was also described as the Levant gateway and Liberty square (Sassine & Tueni, 2003). Martyrs square became a place of *shared grievance* (Volk, 2010) in the city, that continues to be commemorated today, despite the different motifs behind the martyrdom of the commemorated deceased and the different aspirations and beliefs of today's communities.

From Independence to Civil War | A turbulent history of Lebanon

To understand the turbulent history of modern Lebanon, it is important to acknowledge the long-standing rivalry between the Lebanese and Arab nationalists, and to understand the evolution of the power dynamic between the 2 groups after 1943. While the Lebanese nationalists were predominantly represented by a Christian Maronite population rooted in Mount Lebanon, their counterpart Arab nationalists were settled in the urban centres of the Ottoman Empire including Beirut, Damascus and Aleppo. In his book *Lebanon and Arabism*, Raghdi el-Solh argues that the geographic separation of the two groups under the Ottoman rule reduced the possibility of friction between them (El-Solh, 2004). In fact, both parties tended to cooperate against the Ottomans despite their differences. With the fall of the Ottoman empire and the emergence of Greater Lebanon in 1920 (Figure 2), frictions started to surface as the newly formed entity was considered a *Foyer* for the French and an extension of their influence in the region. However, the National Pact of 1943 reasserted the foundation of an independent multi-confessional country characterised by an "Arab face".

The National Pact was widely perceived as a reconciliation agreement but the conflict between the two groups persisted as the idea of the "Arab face" was constantly re-interpreted. The "Arab face" was considered by the Christians as an acceptance of Lebanon as being "less Arab than other Arab states" and as a total abandonment of the idea of the Arab Unity. They also took the liberty to pursue their self-determination path, excluding the others. Asher Kauffman (2014) further argues that during the three decades following independence, Lebanese nationalism developed into a more radical form. Phoenicianism – a national, non-Arab identity of Lebanon, was strongly advocated for by right wing Christian groups in a predominantly Arab - Muslim context. Simultaneously, the rise of the Palestinian cause as a consequence of the *Nakba* in 1948, demographic change, and regional politics also favoured a more radical form of Arab nationalism. Unfortunately, the civil war broke in 1975 opposing radical groups from both sides. Some of the bloodiest battles took place in Beirut, heavily damaging its built fabric and displacing its residents.

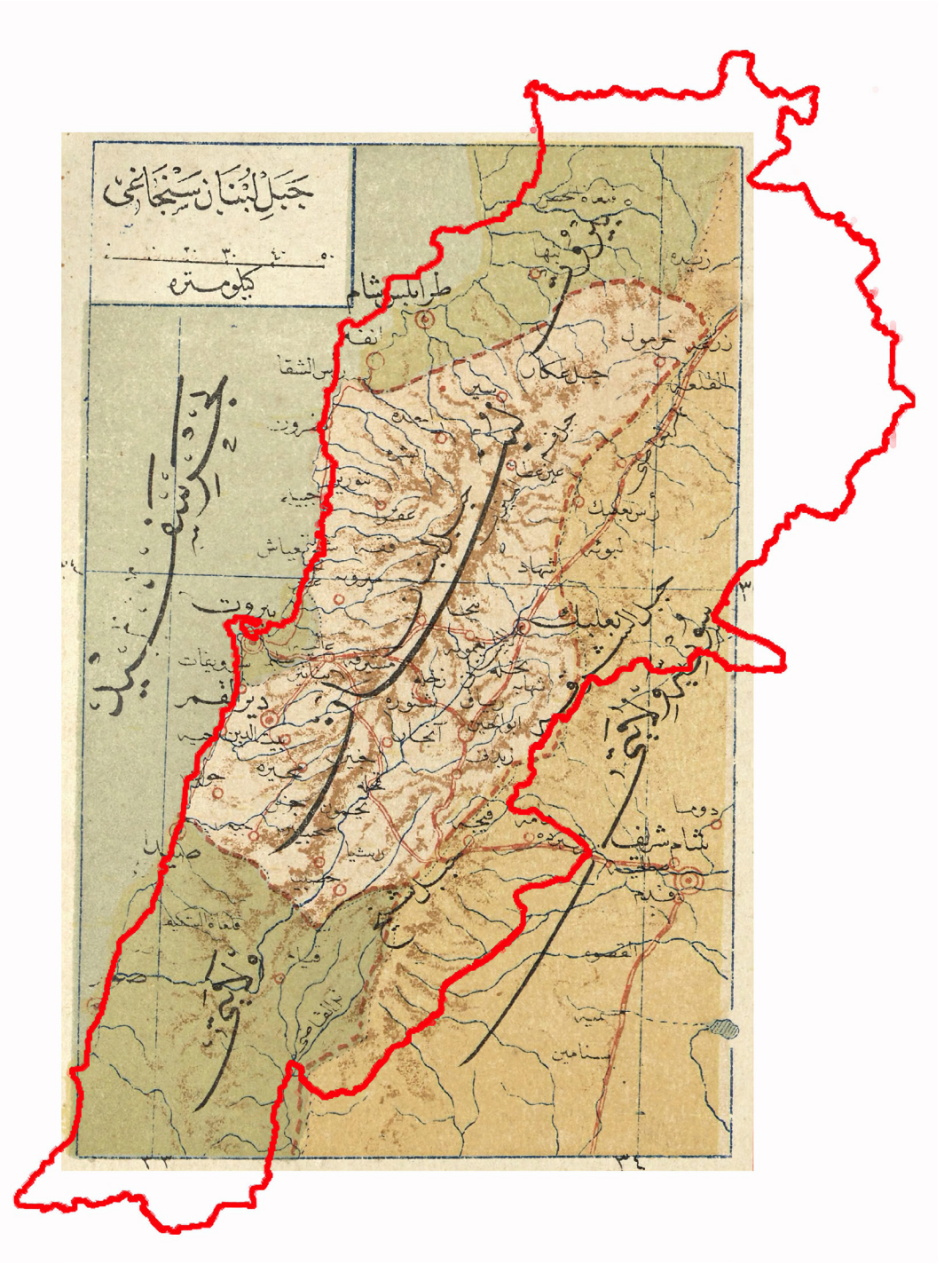

FIGURE 2 *Greater Lebanon Boundary Map*

Note: Overlay of Greater Lebanon boundary over the map of Mount Lebanon circa 1900

Fragmented City

We confess now
That we've maltreated and misunderstood you
And we had no mercy and didn't excuse you
And we offered you a dagger in place of flowers!
We confess before the fair God
That we injured you, alas; we tired you
That we vexed you and made you cry
And we burdened you with our insurrections
O Beirut

From *To Beirut the Feminine, With My Love* (Qabbani, 1978)

FIGURE 3 *Demarcation line, Beirut.*

Note: The demarcation line going through Beirut city centre and the end of the civil war. https://www.gettyimages.dk/detail/news-photo/the-reconstruction-of-big-beiruit-opening-of-the-green-line-news-photo/124121315 (Copyright 2020 by Marc Deville).

The civil war lasted 15 years during which the cityscape of Beirut featured as the main protagonist in several novels and poems written by local as well as foreign authors. Very often, Beirut was described in metaphorical terms as a young and beautiful female that was kidnapped, maltreated, or raped (Darwish, 1982; El-Khoury 1981, 2002; El Shaykh, 1996; Qabbani, 1978). The city was not only referred to as a victim but sometimes as a whore – possibly in reference to its "openness" as Mahmoud Darwish would argue in a series of prose poems entitled *Memory for Forgetfulness*. Besides the feminine and metaphorical description of the city, Beirut has also been depicted as a body dissected and amputated from its vital organs. In many texts, Beirut is described using a language of division and fragmentation, projecting the image of a torn city that cannot be pieced together. Looking back at the pictures of the civil war, the most representative photos are those that depict the green line (Figure 3) as a no-man's-land – a demarcation line cutting through the city centre and dividing the city into an eastern Christian sector and a western, predominantly Muslim sector. The once hustling and bustling city centre became completely deserted as shops and business owners moved to other districts controlled by their respective co-religionists. During the war, Beirut port - strategically located close to the city centre, fell under the control of factional militias and armed groups. What was once a vital organ for the city was transformed into a safe haven for corrupt practices

and illegal trade while other makeshift ports were constructed along the coast to serve their respective sectarian community. In another provocative representation of the city, several writers such as Etel Adnan, Mahmoud Darwish, and Hassan Sabra referred to Beirut, excluding the eastern Christian district as if it did not really belong to Beirut!

The shift in the representation of the city from a diverse and multicultural place to a fragmented place divided along sectarian and religious demarcation lines reflected a profound significance for the country (Hayek, 2015). In fact, the emergence of a new urban identity was observed by Elise Salem (2003) as happening simultaneously with another shift in the representation of the country from a focus on the mountains to an emphasis on the capital Beirut. According to the political scientist Lucian Pye (1962), the dilemma of parochial sentiments and cosmopolitan practices often results in a state of confusion or an identity crisis. He argues that as long as people cannot assimilate this duality within their civil society, their perception will always be uprooted and they will not be able to develop the firm sense of identity, a necessary condition for building a stable, modern nation state. In her reading of Emily Nasrallah's *Tuyur Aylul* and Yusuf Awwad's *Tawhin Beirut*, Ghenwa Hayek (2015) describes the city and the village - where the protagonists of both stories "could not find themselves or could not belong in either rural or urban Lebanon," as inhospitable places. She continues to describe that each of the two places is an escape from the other and argues that this condition reflects the Lebanese identity crisis.

While the entire country was affected by the civil war, the most destructive impact was concentrated in the city centre. During these years, Lebanese and foreign literature reflected the ideological conflicts, physical divides, and more subjective states of confusion experienced by the inhabitants of, and visitors to, the city. Ironically, the committed atrocities of the war contributed more than ever in bringing out the material sense of the city shaping the way individuals collectively remembered Beirut. At the end of the war in 1990, the Lebanese were looking forward to seeing the heart of the country revived.

Globalization and Beirut | The Post-Civil War City

The National Reconciliation Accord signed in November 1989 in Taef, Saudi Arabia is considered to be "the basis for the ending of the civil war and the return to political normalcy in Lebanon" (Krayem, 2012). The agreement settled many of the contested issues at the time and most importantly legitimised a new politico-economic order in Lebanon. The Taef Agreement as such is perceived as a major milestone in the country's history, but it is also part of a more global phenomenon that was triggered by the fall of the Berlin wall and the collapse of the Soviet Union. These two events allowed people to devise standards of "how things should be done" (Friedman, 2005), hence announcing the end of the cold war and the beginning of the unilateral dominance of the United State model all over the world.

Solidere - the reconstruction project of Beirut centre, was launched shortly after Taef and aimed at catching up with the age of neoliberal globalisation and at serving as a role model of "how things should be done" in Beirut. It was backed by the increasingly intertwined political and economic powers that prioritised the conversion of downtown Beirut into an international commercial and financial centre (Traboulsi, 2016). Despite widespread opposition, Solidere was incorporated in 1994 as a Lebanese joint stock company with 50% of its shares attributed to the former land and property owners of the city and the other 50% made available on the international stock market. The commoditisation of the capital Beirut perfectly illustrates the emergence of the global urban model seeking to create a favourable business environment and attract external investors and developers. Solidere is a clear by-product of this process and thus reveals a text or an image through which the social rules and political power were made legible (Rottenberg, 2001).

"Beirut Reborn"

The project gives form to a city centre that balances old and new,
Enhances its heritage and creates an "Ancient city of the future".

From *Beirut Reborn* (Chammaa, 1996)

The old centre of the city was identified as a perfect site for the development of a new Central District - a symbolic project it deemed capable of representing all Lebanese. To promote the project, Solidere tailored a historical narrative that suits its commercial objectives and communicated it through generic slogans such as 'Beirut – An ancient city of the future' and through a so-called 'contextually sensible' design approach. The project idealised a vision of colonial Lebanon inherited from the Ottoman empire and the French, neglecting any exchange between local traditions and modernity. The result was a pastiche of iconic representations limiting the definition of historical associations to the appearance and aesthetics of the façades. Furthermore, the heart of the city has been amputated from the urban fabric and the geographic location it belonged to by building a massive infrastructure of high-speed roads around the newly proposed Beirut Central District (BCD). Today, the city that was once naturally connected to the sea has only a series of industrial blue cranes visible from afar to remind us of its historical relation to the water.

FIGURE 4 *Domus magazine featuring Zaha Hadid's Parametric Souk.*

Note: Domus magazine (2019) featuring Zaha Hadid project under construction in Beirut.

Several eminent architects or archistars, such as Rafael Moneo, Renzo Piano, Giancarlo De Carlo, Herzog & de Meuron, Steven Holl, Lord Norman Foster, Arata Isozaki, and Zaha Hadid were also involved in the rebirth of the city. One of the recent issues of the glossy Italian architectural magazine *Domus* (Figure 4), features

the bombastic Zaha Hadid project in Beirut Central District under the title *Parametric Souk*, an evident oxymoron of two words belonging to two different worlds: parametric in reference to the architecture of the future, and souks as a typology reminiscent of past traditions, culture, and memory. Another headline at the bottom left of the page reads: *Under construction. Souk or Mall? Post-War rebuilding. Bulldozing Heritage?* A provocative question that is highly critical of the design approach for the project.

The development of Beirut Central District to become "the finest city centre in the Middle East" was described by the chairman of Solidere, Nasser Chamaa, as "one of the most ambitious post-war reconstruction and urban regeneration ventures" (Solidere Quarterly, 2009). As we look at it today, it is an admirable architectural outcome that defines an exclusive space where punctual and limited exchange takes place and where the visitor is overwhelmed at night by a perceptible sense of solitude. Behind the glazed windows of the ground floor, fancy shops and restaurants spread along the streets, while the upper floors remain empty like ghost spaces suspended in the air. At night, this portion of the city disappears in the darkness at the exact moment when one wishes to experience it the most! Furthermore, Solidere's final outcome is a project that is not able to reflect the process of urban change, in which there is no room left for openness, un-finished works, heterogeneous spaces or otherness within the Beirut Central District.

Beirut as an experimental ground

I have given up on fantasizing
about the future of cities.
My work is not about the past, and it
is certainly not about the future.
I am only interested in very specific
experiences in the present.
It is by addressing the specific rather than
the general that we can transcend the
predictable consensus of generalities.

The specific is the unpredictable
reality that is far too complex to be
absorbed by theoretical stances.
The present is volatile; it allows for
frivolous and spontaneous experimentation
within the limits of given realities.

From *The Anti-Manifesto* (Khoury, 2010)

Even a possible claim that Beirut Central District is an experimental ground for new ideas, forms, and architecture is far-fetched and unconvincing. The new constructions, products, brands, and lifestyle are a replica of other projects designed for the West rather than a contextual Lebanese experiment. As such, Solidere's project qualifies as a thematic city occasionally punctured by sparse islands of surviving ruins and leftover spaces that are designated as public places. It is worth mentioning that despite the resistance of the professionals, academics and nostalgic inhabitants of Beirut, the *tabula rasa* approach took over the reconstruction process and continues to unfold as the so-called BCD or Solidere (in reference to name of the real estate company) becomes a stage for submission and non-resilience. The heart of the city seems to have surrendered completely to the neo-liberal model, leaving no room for people-centred processes and replacing the 'real city' with a speculative bubble.

The identity of Beirut Port City has been completely obscured by the post-civil war reconstruction. The outdoor markets and local coffee shops that once greeted visitors from around the world have disappeared. The sound of random bargains and the smell and taste of the spontaneous sharing of food on the streets have also vanished. An induced anaesthesia overwhelms the city that no longer speaks a recognisable language. Visitors strive to find the lost beauty that made Beirut a Mediterranean capital. '*I love Beirut*', the brightly-coloured motto placed in three-dimensional letters at the entrance of Beirut Souks (Figure 5), explicitly represents the vulgar language through which the city wants to communicate with its inhabitants and visitors. '*I love shopping in Beirut*', we shall clarify.

FIGURE 5 *I love Beirut*

Note: *I love Beirut* motto placed at the entrance of Beirut souks in October 2019.

Two scenarios for the Future of Beirut

As we walked down the streets of Beirut Central District and observed the city during the autumn of 2019 (just before October 17), we imagined two scenarios.

In the first one, the BCD was destined to become a future ruin. The glamour of the empty flats would start fading as they became deserted and would soon be in need of restoration or renewal. Safi Village, the hotel district and *Wadi Abou Jmil* would turn into a gigantic site in a state of decay like ruins, occasionally visited by a few. The ruins of the future will be pretty much like a movie set built with special care given to every detail, but it will be destined to be dismantled... In the second scenario, a more rebellious ending was imagined for the city. Mass groups would march on the streets and would move into the empty apartments in an act of collective appropriation, reviving the lost *genius loci*. Although this act would not be legislated by any law, it would qualify as the sanest behaviour in a colony of insects, moving naturally to better places as part of a systematic process of occupation.

A few days later, on October 17, massive crowds marched on the streets of Beirut, filling Martyr's Square and other significant places in the city. The demonstrations spread quickly across the entire country, claiming the demise of the ruling political system and asking for change. The protests became known as the *October 17 Revolution* and lasted for months during which protesters attacked every form of representation that served as propaganda for the dominant and political actors. Concrete walls, metallic fences, barbed wires, and armed forces were struggling to protect the last soldiers of a crumbling empire – namely the banks and the luxurious retail centres (including the Zaha Hadid project still under construction), in addition to the most prominent institutions of the government…

Before we move forward and conclude, we would like to take a look back at the most recent series of events that occurred in Beirut and around the world while we were still writing the final draft of the paper. The *Port Cities*' call for abstracts was launched during the summer of 2019 and was due at the end of October, a few days after the start of the so-called *October 17 Revolution* in Lebanon. By the time the abstract was accepted a new government had been formed in Lebanon as a result of the increasing pressure of the crowds on the street. The first draft of the paper was due in April and extended until June 1 due to the unprecedented implications of the Covil-19 pandemic around the globe. The paper deadline was eventually re-extended until July 1. By then, the economy in Lebanon had hit "rock bottom," witnessing the most acute depreciation of the local currency and the total crumbling of the banking sector. But this was not all! A few weeks after the submission of the draft paper, a devastating and deadly explosion hit the port of Beirut and consequently the final draft of the paper is being revised. For over a year, Lebanon has been featured in the breaking news of every single media channel and newspaper in the world. Any paper disregarding this past year in Lebanon is certainly outdated and could only serve as a reference.

The "Apocalypse" | "The Great Collapse"

FIGURE 6 *The ruins of Achrafieh*

Note: A panorama of the ruins of Achrafieh neighbourhood facing the port. Copyright 2020 by Thibault Camus

At the door of the house who will come knocking?
An open door, we enter.
A closed door, a den.
The world beats on the other side of my door

From *Les amusements Naturels* (Birot, 1945)

On August 4th 2020, nearly 2750 tons of ammonium nitrate that had been improperly stored in the port of Beirut detonated provoking the second largest non-nuclear explosion in human history (BBC News, October 5). The blast resulted in the killing of hundreds of people and the injury of thousands, the destruction of tens of thousands of homes and the displacement of hundreds of thousands of people. The scene in Beirut following the August 4th explosion has been described as "post-apocalyptic" by many newspapers and channels reporting the tragic event (Figure 6).

The city that was once divided along religious and political demarcation lines, and continues today to be characterised by discrepancies and inequalities between its inhabitants, has suddenly come together as a result of this unprecedented tragic blast. Unfortunately, the new reality of Beirut reifies the first extreme case scenario we have imagined for the city: Beirut as a future ruin - a future that arrived too soon! Some years back, Lebanese-German movie director Myrna Maakaron drew a parallel between Beirut and Berlin, describing them as "two cities that were occupied, destructed, divided, reconstructed and where you feel today the weight of the past and the lightness of life-sharing, adventures and memories." Today we also remember the *year zero* set by the famous neo-realist Roberto Rosselini in reference to the reality of Berlin the year after its near-total destruction during World War II. Beirut *year zero* was referred to as the "Great Collapse" in the "Al-Akhbar" article featuring a photo of the destroyed port (Al-Akhbar, August 5). In fact, this collapse was not a surprise; it is better defined as the final stage of the downfall of an organism due to a long term and untreated illness or injury.

As people wander around the ruins of the city, they wonder if this final knockout was an intended act or simply the result of mis-governance, negligence, and corruption. They also wonder about their different fates if they were in other places at the wrong moments. They recount their journey across places they have been to, but that no longer exist and their encounters with people that have ceased from being. Samir Skainy, a Lebanese writer documented few stories of those who made it. However, some were in the wrong place at the wrong time and hundreds of unspoken stories have been buried under the rubble or are still missing.

"No one can tell a story on the casualties' behalf; they are gone with their stories and secrets. They are gone without telling us how they thought and fought at that painful moment. They left the hellish Lebanon, leaving us behind like moving corpse awaiting the second explosion."

From *Beirut Blast: The stories will never end* (Skainy, 2020)

Recorded narratives are like spoken memorials, commemorating both places and victims as well as "survivors" who will soon leave the city looking for a better place. As a matter of fact, just as the city started to show a glimpse of hope, a new narrative of forced exile has come to the fore, echoing an old Arabic proverb that says: "When the sad one decided to find happiness, she found nowhere to go."

Concluding Notes

Since its inception as a capital, Beirut has undergone continuous changes. The city was transformed from a small harbour town to a generic financial/business district to which the port has lost its relevance but remained too close. In ancient Greece, the design of the port was based on a 'ritual design' that considered different bays for distinguishing and preserving its multiple functions in case of disasters. The protection of a port has always been an essential factor for granting the survival of a water city. During the past decades, the port of Beirut continued to operate mostly ensuring the import and the storing of goods coming from abroad. It has been reduced to a dangerous 'storage place,' a mere shadow of its former beauty and complexity. Unfortunately, the daring aspect of the port materialised into an apocalyptic explosion that devastated the entire city. The silos that once represented a state-of-the-art infrastructure and a vital resource for the country has become an icon of its evil spirit. While we try to re-imagine the future of Beirut, we ask ourselves if it is acceptable to move the port somewhere else... and whether it is necessary to amputate its gangrene limb for a safer and healthier city.

Collecting different narratives is an important part of the documentation process that is necessary for any reconstruction project that might take place, ensuring that it does not take too long to be implemented, not happen at all, or turn out to be as destructive as the explosion itself. Re-thinking the port city as a place with new (or old?) possibilities requires the fulfilment of several milestones of which a resilient population - one that has the mental ability to understand and adapt to change – is crucial. Yet, it seems that the Lebanese population has taken a different path towards resilience, by rejecting to adhere to any imposed dramatic or traumatic transformations.

No! We don't want to rebuild.
We don't want to rise again.
We don't want to be resilient and go on.
We don't want to recycle this mess.
We want to destroy.
We want to destroy this system.
We want to build ourselves from scratch.
We want to live.

Just live with what remains in us.

(D. Kanaan – a Lebanese citizen, 2020)

As our perceptions continue to be eroded by capital flow and the continuous destructions and reconstructions of objects, goods, and ideas, our ability to see without language guiding our eyes is fading away. This research fully adopts Paul Valery's affirmation that *words affect our perception* (Valery, 1936), hence the relevance of investigating written accounts and narratives about the city. This paper is not merely a record of previous and current narratives; it is also a practical attempt to write a new future for the city - a city that is safe, with its door open, that gives equal opportunity and access to its citizens, a city in which each individual will play an active role.

We are knocking at the door of Beirut,
and we enter only if we find the door open.
Together with Beirut citizens,
we keep on beating on the other side of the door.

(Roula el Khoury & Paola Ardizzola, 2019)

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Port Heritage, Planning Challenges and the Role of GIS Tools in Multi Layered Cities

Yenikapi Metro Station, Istanbul

Adem Erdem Erbas [1], **Bedel Emre** [2]

[1] Faculty of Architecture
Mimar Sinan Fine Art University
Istanbul, Turkey
[2] Eurasia Institute of Earth Science
Istanbul Technical University
Istanbul, Turkey

Abstract

The aim of this study is to present arguments showing that on the port heritage area, underground cultural inventory should be considered from the historic landscape point of view within the framework of the conservation plans. This study focuses on the Yenikapı region, whose settlement history of the Historical Peninsula changed following the rescue excavation performed at the end of The Bosphorus Rail Tube Crossing Project (Marmaray). The area covering the Port of Theodosius, whose multi-layered urban formation started in the Neolithic period and which was one of the most significant grain trade ports in the Byzantine era, and the port heritage within the background of this area consist of important spatial formations. However, waterfront regeneration projects have disrupted the spatial continuity of cultural heritage under the effect of neoliberal policies. The methodology of the study, which involves the use of GIS, is based on the overlapping of the archaeological surveys from the Istanbul Archaeology Museum, geological structure data from the Istanbul Metropolitan Municipality, and historical maps. The conservation planning approach in a metropolitan city like Istanbul, whose archaeological layers reflect the port heritage, should be developed by applying the concept of historic urban landscape.

Keywords

port heritage, multi-layered city, underground cultural inventory, historic urban landscape, conservation, renewal

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Introduction and Conceptual Frame

The concept of space has maintained its requirement-based anthropogenic transformation from the Neolithic settlements to modern, capitalist-inspired cities (Marull et al., 2010). The human requirements aspect mentioned here mainly refers to sheltering and eating. Over time, the first settlement formation based on the relationship between sheltering and eating gained a multi-layered quality and bore the traces of the era, resulting in the formation of significant heritage areas in today's historical cities.
The relationships that arise over time from meeting basic needs have developed in line with the socio-economic relationships formed through surplus agricultural products and have thus deeply affected the structure of settlements. The historical background of the relationship between settlements and ports feature certain factors, like the transportation and marketing of the surplus agricultural products that help to shape urban planning. The city-states of the ancient periods, the commercial cities of the medieval age, the industrial cities of the 19th century, and the information cities that emerged following the industrial revolution always had a strong relationship with their ports (Benevolo, 2006; Wycherley, 1993; Pirenne, 2014). Similar to the function of buildings, the port territory within the urban pattern of the port cities are regarded as a part of the city, and the ports are considered to be equated with the cities themselves, that is, they morphologically and typologically complement one another. The buildings of the port territories have qualities that integrate with the urban characteristics of these territories as they develop (Hoyle & Pinder, 1992). However, a need for larger ports has emerged today due to the decentralisation of production based on different human needs and to the performance of production activities at certain centres, both of which arose from technological developments, an increase in communicational options and capital flows and easy circulation of goods and services. Because of the greater distance now between consumption and production spaces, the ports of an era that are not protected, that are not surrounded by hinterland, and that are no longer able to grow have started to see changes in their importance and where they are positioned (Tümertekin, 1987). After ports have left their old locations to their cities, they require new physical areas outside the cities for their container traffic (Schubert, 2008). As the relationships between the abandoned ports and cities form the basis of the socio-economic structure, the renewal of cities is the primary factor impacting the characteristics of port cities (Chaline, 1995).

Although the concept of territory is argued as "area of land," as a metaphor it is the surface boundary of a country, a city, or a function. When the boundary of sovereignty transforms to a "geobody," it would be subjected to spatial planes with height and depth from a levelled area. For this reason, although it is logical to ask questions about the horizontal plane of a territory, it can be thought that it would be more appropriate to evaluate through the "volumetric geobody" in terms of spatial studies (Nieuwenhuis & Crouch, 2017). The territory of the port is the port itself and the development area of the port (Serry & Loubet, 2019). In this context, the port is involved in urban and regional development. The development of port activities reflects the economy of the city and region. Ports have a great impact on the economy of the city and the region in which they are located. Therefore, this effect can be expressed as economic territory within a geographical territory (Eurostat, 2017). Therefore, facilities for storage and transhipping areas constitute a large part of the port area (Meyer, 2020).
However, in this paper, the concept of port territory is accepted as a spatial plane in a geographic area, taking into account the existing archaeological inventories, through the "volumetric geobody."

The qualities governing the spatial characteristics of port cities are affected by the economic-political relationships based on their ports' conjuncture (World Bank, 2001). Within such a balance of power, requests for places for the ports deeply impact both the old port territories and the urban development dynamics (Hoyle & Pinder, 1992; Charlier, 1992). What totally changes the use of shores is the significance of the interface between the port and city (Daamen, 2007). The traces of the past can be seen in the heritage areas in the aforementioned interface as well as in the ports themselves. The formation of areas with

customs has created qualities altering the definition of this interface throughout history. Accordingly, a port should be regarded not only as an area of commerce but also as a significant part of the city (Rosselli, 2005). The physical evolution of the city-port interface is believed to be the result of the countries' nautical policies and regulations on the use of shores; this is particularly true in European countries (Hoyle, 2000; Vigarie, 1995; Vallega & Smith, 1991). As the old port territories in central urban locations have recently been reconfigured as part of preserving the cultural heritage, the processes of transforming these territories into social, cultural, and commercial areas have started (Akın, 2002; Hoppenbrouwer & Louw, 2005). The transformation of these old port territories should be considered as part of industrial transformation (Schubert, 2008). Some of the reasons port transformation activities have been performed include abandonment of old port territories due to their removal to points where more extensive port functions can be utilised, complete financial development of the port, accessibility problems in the old port territories, inability of the old port territories to keep up with the technological advancements in nautical and shipping activities, and decrease in the rate of employment in the old port territories. Consequently, it is clear that the transformation activities for the port territories are necessary for urban development. While the urban projects conducted to redevelop port functions and port territories provide new opportunities to ensure sustainable urban development, they also create significant threats against the heritage areas of the cities (Borja & Castells, 1997; Gunton, 2003; Savini & Salet, 2017). Every port city should perform renovation activities that are suitable to their own characteristics, such as their geographical territory, socio-economic structures, and heritage qualities (Shubert, 2011).

In addition to the port heritage, the relationship between urban projects that are present in the territories, considered to be important in terms of industrial and nautical heritage, and other urban functions should be holistically planned. Urban project approaches that involve a disconnected and fragmented plan and project relationship can cause irremediable harm to the sustainability of the spatial cultural structure. The protection of ports' authentic values requires a review of the qualities related to the place and location, pattern, design, style, compatibility, identity, traditions, methods, spirit, and emotions as a whole (Morley & Robins, 2002).

The alteration process for the port and industrial heritage is closely related to the needs of the territory hosting them. The port-related concepts presented in Figure 2 and the conceptual analysis reflecting the functional and periodic changes presented in Table 1 should be examined in relation to the change of needs. The optimum use of space by modern cities is necessary for securing sustainable life dynamics. Accordingly, when addressing the issues of spatial transformation and change, the most fundamental question to be asked is how much of a transformation should be conducted (AIVP, 2015). Due to their geographical locations, the developments of port cities have been carried in a multi-layered manner to ensure spatial and functional sustainability from the past to the present time. Traces of the layers accumulated over time in port cities can occasionally be seen in above-ground reconstruction and new construction processes. However, most of the time, it is not possible to find these traces in the waterfront areas hosting the underground and underwater heritage and forming part of the multi-layered urban systems. The aforementioned traces can be identified only within the context of cultural heritage inventory. When it comes to port-related studies, assessments must be performed using concrete and probative information and documents related to the concept of heritage. Accordingly, these evaluations can be conducted using a wide array of resources, including historical maps, gravures, miniatures, manuscripts, cadastral records, qadi registry books, travel books, commercial records, pictures and photographs. The available documentation coupled with the limitation of the studies regarding the maps of the period (Kubilay, 2010) provide significant opportunities for researchers in this field. In this context, gravures are the oldest documents related to the port heritage of Istanbul. For instance, the copy of the oldest picture of 16th century Istanbul is a woodprint gravure made by Vavassore, who is believed to have lived in Venice during the early years of that century (Eyice, 1988). This gravure is also known for its versions made from a lost prototype dated 1479 (Mülayim, 2015).

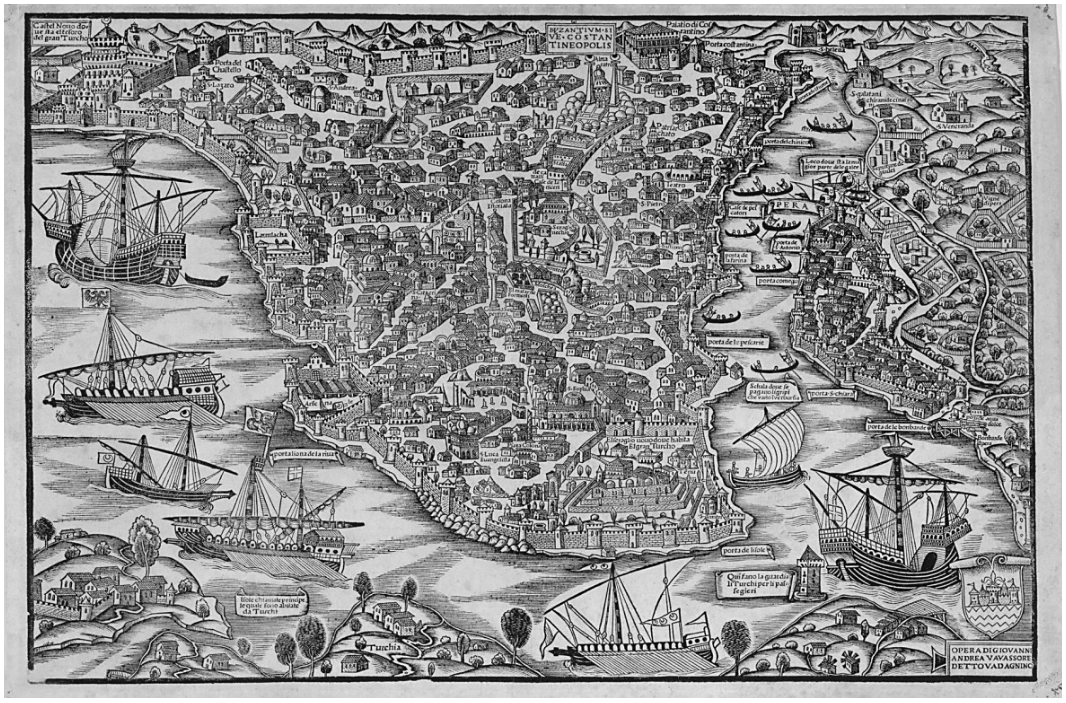

FIGURE 1 *Byzantine Constantinople*

Note. Byzantine Constantinople in G. A. Vavassore's painting of the oldest map following the Conquest of Istanbul. (Kubilay, 2010).

FIGURE 2 Conceptual schema for the aquatic heritage elements and port heritage.

Note: Created by https://wordart.com/create

WATER/SEA HERITAGE	COASTAL HERITAGE	PORT HERITAGE	DEFENSE HERITAGE
Water-Natural	Cost Specific?	Tangible and Intangible	Military
Water-Related	Seaside	Post City	War
Deltas	Coastal Areas	Port-Related	Shipyard/Dockyard/Navy Yard
Water and Culture	Landscape	Maritime	Arsenal
Water Management	Harbour (front)	Cultural	City Wall/Fortification
Water System/Hydraulic	Water (front)	Industrial	
Water Infrastructure (Aqueduct, Water Pipelines, Cisterns and Sewer)	Agriculture	Archaeological	
Water Works		Architectural/Buildings	
Water System/Hydraulic	Water (front)	Industrial	

TABLE 1 Conceptual schema for the aquatic heritage elements and port heritage

Guided by the idea of protecting and passing down heritage areas to future generations, the main aim of this study is to raise awareness on port heritage, to draw attention to the importance of cultural heritage inventory in port heritage areas and to discuss different evaluation approaches, vis-à-vis historical urban landscape approaches, to the possible impacts of urban projects conducted in port heritage areas and the buffer zones of these areas. This study also emphasises that Heritage Impact Assessments (HIA) cannot be considered in isolation and there is a need to include a holistic assessment of the relationship between the cultural heritage inventory and urban projects to ensure that the urban layers in the areas with port heritage can be analysed in ArcGIS. The assessments related to the "significance of effect or overall impact," as laid out in the document entitled "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties" published by ICOMOS in January 2011, should be made in accordance with the authenticity value of the areas. This document suggests that while GIS, 3D-modelling, and databases can be used in complicated cases, a proper heritage impact assessment report does not always require GIS practices (the use of databases and GIS, or 3D-modelling, changes the way in which HIAs are undertaken). The use of GIS in HIA assessments of the urban projects to be conducted in the areas that contain port heritage zones is among the major topics of importance with regard to waterfront planning, which is one of the most complicated aspects of urban planning in Turkey.

Accordingly, the Yenikapı zone, which was revealed following the Marmaray Subway excavations within the Historical Peninsula of Istanbul, was selected as the study settlement. This zone has hosted living spaces in various periods ranging from the Neolithic Age to the present day. Traces of the Port of Theodosius, which is one of the largest known ports of the ancient world and dates to the Eastern Roman Empire, were uncovered in Yenikapı archaeological excavations. This study, therefore, reviews the database model developed based on the findings related to the stratigraphic layers in the Yenikapı zone from the Neolithic Age and from the Port of Theodosius (Portus Theodosiacus) of the Eastern Roman era. This zone and its vicinity host many urban projects, including the "Yenikapı Transfer Point and Archaeopark Area" and the "Yenikapı Cruise Port Project," as part of the planning agenda of the city. Accordingly, rather than using the "Heritage Impact Assessments-HIA," a heritage inventory database was developed, using ArcGIS-based "georeferencing" and "overlay analysis" methods, to evaluate the cumulative impact of every project, to be able to reveal the collective effect of these projects.

Port Heritage Areas in Istanbul's Historical Development and Impacts of Neoliberal Urban Policies after 1980

From the finds uncovered during the excavations performed around Yenikapı by The Directorate of Archaeology and Museums in Istanbul as part of the The Bosphorus Rail Tube Crossing Project (Marmaray), Istanbul has a history that dates back 8000 years. Moreover, the housing that constitutes the focal point of the settlement and the historical pattern in Istanbul and that forms the essence of the physical pattern in the area currently referred to as the Historical Peninsula was developed by colonists from Megara in 657 BC. The borders of Istanbul and the settlement established under the name of Byzantium on the edges of the triangular-shaped Historical Peninsula gradually expanded to the west after coming under the control of the Roman Empire. This expansion can be partially seen from the traces of the wall. The cultural heritage of Istanbul, which throughout its history served as the capital of Roman, Byzantine, and Ottoman Empires, has a historical quality which can be compared to only a few cities in other countries. Some of the works constituting this heritage were recognised by the United Nations Educational, Scientific, and Cultural Organization (UNESCO) as World Heritage Sites for their "Outstanding Universal Values," and they gained special status under relevant national and international legislation.

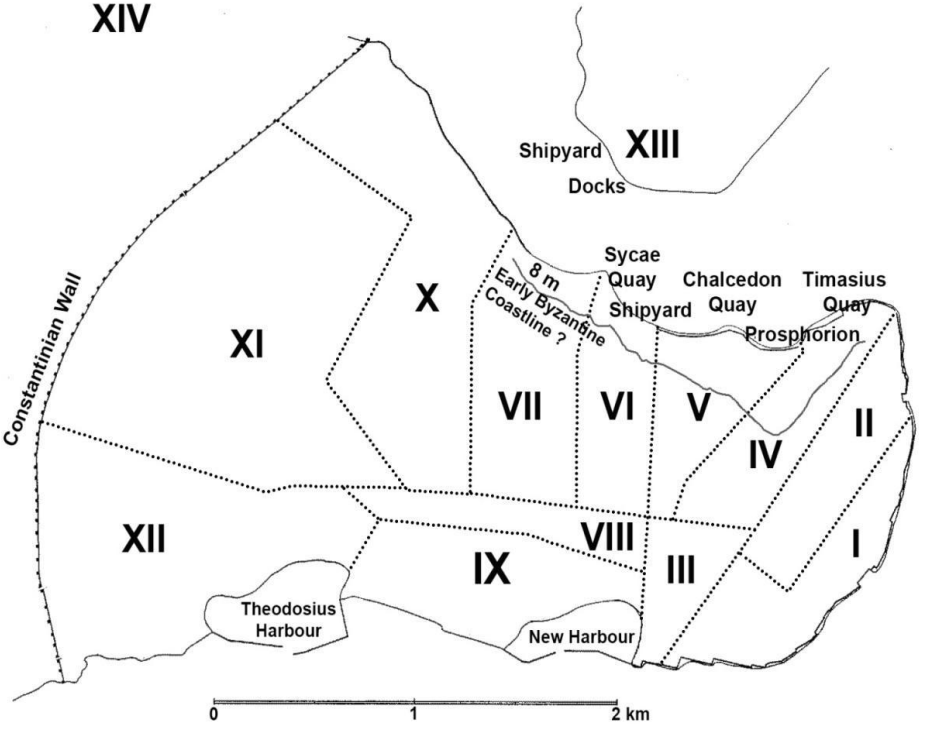

FIGURE 3 *Map of Istanbul and 14 Regions in 5th Century*

Note. Map of Istanbul and 14 Regions in 5th Century (Adopted from Berger, 1997; Dark, 2004a; Dark, 2004b; Mango, 2001; Matthews, 2012)[1]

1 III Region, New Harbour; IV Region, Quay (scala) of Timasius; V Region, Portus Prosphorianus, Chalcedon Quay (Scala); VI Region, Shipyard, Neorion Harbour, Sycae Quay (Scala), XII Region, Harbour of Theodosius; XIII, Docks

One of the main factors governing the establishment of the city of Istanbul, which from earlier times was designated the "metropolis mundi" (Ortaylı, 1977), is the power of control over the commercial activities in the Mediterranean basin, whose geopolitical location includes the Bosporus, which links the Mediterranean and Black Sea basins. Moreover, it is fair to state that many of the settlements formed on the shores of the Marmara and Black Sea by merchant colonies, particularly those from Megara and Phoenicia, were established in line with the same purpose. "The intersection of important terrestrial and nautical routes from all four directions in Istanbul and the presence of the Golden Horn (Haliç) as a natural port protected from wind have made the city one of the most important commercial centres in history" (Ağır, 2001).

The Neolithic lifestyle, often mentioned with "The Fertile Crescent", is believed to have spread to the Marmara Region and Europe after 9000 BC (Esin, 1979; Ammerman & Cavalli-Sforza, 1984; Özdoğan, 1990; 1992; 2007a; 2007b; 2007c; 2008; 2013; Frangipane, 2002; Hauptmann & Özdoğan, 2007). The performance of archaeological studies in the Marmara Region will help to determine whether this change was spread through migrations corresponding to the period of the neolithisation of Marmara or whether the prehistoric life forms in the area simultaneously initiated the neolithisation period. Among these settlements, Fikirtepe has particular importance, so much so that the Neolithic Period in the Marmara Region is referred to as *Fikirtepe Kültürü [Fikirtepe Culture]* (Arne, 1922; Janse, 1925; Mordtmann & Gottwald, 1907; Özdoğan, 1979). The Yarımburgaz, Pendik, and Fikirtepe excavations were the first settlements found in the Marmara region after the 1990s. However, the Marmaray subway system passing from Kadıköy-Üsküdar to the Historical Peninsula under the Bosporus resulted in many rescue excavations in the Historical Peninsula, particularly in the station areas, as those of 2009. These excavations uncovered significant archaeological finds that helped to identify the changes in the urban history. One of the sites of these excavations was Yenikapı.

The peninsula was exposed to the siege of Septimus Severus for three years at the end of the second century AD, and the entire city, including its walls, was demolished. In addition to waterway and infrastructure activities performed in the city after it came under the control of the Roman Empire upon the siege of Severus, the Hippodrome and Mese routes were also constructed. The city gained the name of Constantinople in 324 and was declared as the seat of government in 328.

The ports continued to exist thanks to their protected locations when Constantinople was newly established in the fourth century. Referencing the Notitia Dignitatum, Müller highlighted that all urban usage activities were formed around the ports (Müller, 1998). The old port lost its importance in the seventh century as the agricultural deliveries from Egypt stopped. Moreover, it became the place for unloading debris before merging with the shore during the early Ottoman periods. According to Müller, there are only a limited number of buildings from Constantinople from the period between the seventh and tenth centuries, which makes it difficult to regenerate the appearance of the city from that period (Müller, 2001). It is important to note here that defence-based shipyards became important actors in the use of shores. Walls and doors were reinforced for the conduct of defence activities, and the need for a powerful fleet emerged. For Constantinople, a process where this triple structure existed as complementary elements in the physical space was experienced. Müller states that fleet shipyards related to defence activities and fortified with doors and walls were built as systems that served to address defence deficits in this period, and that research should be focused on the most important fleet shipyard of the era located at "Tersane-i Amire," as this would help to reveal the impact of spatial and functional sustainability in the decisions of selecting a location. The protected Golden Horn shipyards formed by military and defence-based structures host the shipyard heritage; therefore, the relationship between new urban projects, such as Haliçport, and this heritage should be recognised. The city was controlled by Latin authorities after the tenth century but was then recaptured by the Byzantine Empire in the twelfth century. The changes in this period were so radical that only the port territories featured an urban space quality, while other settlements were similar to miscellaneous rural spaces around the churches.

Genoese citizens and merchants were granted privileges from the Byzantine Empire after the eleventh century, and from the Levantines during the Ottoman times. Their commercial activities of the area around Galata (across the Historical Peninsula) made it one of the major commercial centres in the city (Erbaş, 2018). As the port underwent financial changes, the Golden Horn ports lost their significance and the Galata ports became more important. Ports that turned into transit harbours triggered the alteration of supportive functions in the interface of ports and cities. As seen in all port cities, the Galata and Golden Horn shores were densely crowded with inns, storehouses, warehouses, sites for repairing and supplying ships with goods, customs buildings, prayer sites, entertainment venues, brothels, hospitals, courts, and prisons, all of which were important for the interface of the port and the city in the past. This function of the region continued with new buildings during the Ottoman period. As part of the urban planning conception during the Ottoman Era, a featured pattern was formed around specific commercial buildings in the Golden Horn, such as specialised piers (Yağ İskelesi, Odun İskelesi, Yemiş İskelesi etc.), places for the goods delivered by ships, "kapan" (a place where goods were purchased and sold), "inns," "covered bazaars," "arasta (a type of Ottoman bazaar)," "shops," "markets," and the "Grand Bazaar" (Cezar,1983; Türkantoz, 2011). After completion of the gaps in building structures and the repositioning of the buildings within a great commercial relationship network, these commercial buildings created innovations in the service sector, such as the stock market, banking, and insurance. For instance, the Turkish Coffee Culture and Tradition was recognised as an Intangible Cultural Heritage (UNESCO, 2013), meaning that the coffee culture should be regarded as a part of port heritage considering that this culture developed and spread in the Eminönü-Tahtakale zone in accordance with the port activities of the 16th century.

The defence system in Istanbul was reinforced with walls and gates. Evidence indicates that port-related commercial activities developed along the Golden Horn shores of the Historical Peninsula, which is a natural port, in line with the principle of "drop anchor safely." These sites along the ports and piers on the shores of Golden Horn, and the ports and piers bordered by the walls along the shores of the Marmara Sea, represent important heritage areas. These sites should be seen as locations that are integrated with the city according to the concepts of "new faces of harbour cities" (Dündar et al., 2014) and "living in the harbour" (Rembarz, 2018).

Over the course of time, some of this heritage in Istanbul was damaged or even destroyed due to fires, earthquakes, storms, epidemics, demolitions, and the construction of monumental and civil buildings. Although traces of the heritage have been partially discovered in the excavations performed for subway projects, it should be noted that urban projects are both an opportunity and a threat for these kinds of heritage areas. The port territories from the period between the Roman and Ottoman Eras includes:

- the Galata Port, used by the Genoese trade colonies per the agreements with the Byzantine Empire during the late 12th century,
- the commercial pier built outside the wall in the Ayios Mamas settlement (currently known as Beşiktaş) during the fifth century,
- the Port of Damalis in front of the Maiden's Tower in Üsküdar (Port of Öküz), the Port of Chalcedon (currently known as Haydarpaşa-Kadıköy), which was around even during the second century BC,
- and the port territories of Chalcedon in the area where the Kurbağalıdere (river) flows into the sea (currently known as Kuşdili-Kadıköy).

Although archaeological excavations partially continue in these areas, the holistic assessment of the activities sheds light on the cultural wealth in Istanbul. Old traces of port territories at the station locations in Haydarpaşa, Üsküdar, Sirkeci, and Yenikapı have been found during the recent Marmaray subway system project, and these findings have deeply changed our understanding of the known history of the city (Kızıltan & Polat, 2013; Kocabas, 2014; Girgin, 2007; Karagöz, 2007).

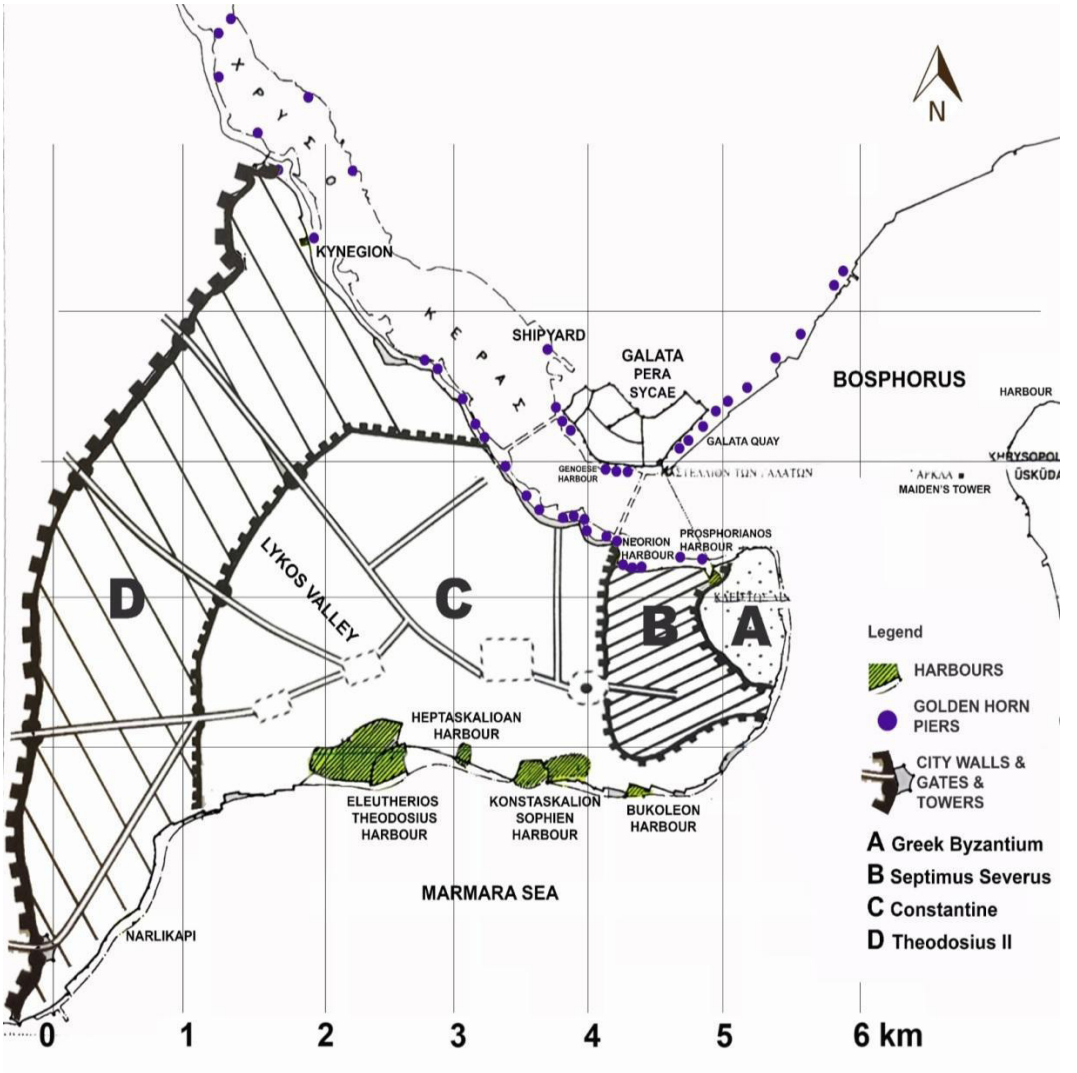

FIGURE 4 *Important port territories from Roman, Byzantine, and Ottoman periods in Istanbul*

Note. Important port territories from Roman, Byzantine, and Ottoman periods in Istanbul (Adopted from Müller, 1998; Berger, 1994; Eyice, 1994, Krautheimer, 1983)

Accordingly, the important port territories in the Historical Peninsula, which were used in the Roman, Byzantine, and Ottoman Eras and which have a multi-layered urban quality (Müller, 1998; Berger, 1994; Eyice, 1994), include the Port of Prosphorianos (Portus Prosforianus), the Port of Neorion (Portus Neorii), the Port of Bukoleon, the Port of Sophia (Port of Kontoskalion, the Port of Iulianus, Port of Kadırga), the Port of Eleutherius (Port of Vlanga), and the Port of Theodosius.

After coordinating the waterways to the Black Sea, the Sea of Marmara, the Bosporus, and the Golden Horn, this small peninsula hosted Roman, Eastern Roman, Latin, Ottoman, and Turkish states following its urban revolution. In determining an urban planning approach based on the Historic Urban Landscape (HUL) concept, it is critical to first gain an understanding of the change in the organisation of urban space during different periods and in land use patterns against the background of port function (Ginzarly et al., 2018; UNESCO, 2011).

LOCATION OF/AND INFLUENTIAL URBAN PROJECTS	CONFLICTS RELATED TO PORT HERITAGE CONSERVATION
Eminönü The Bosphorus Rail Tube Crossing Project (Marmaray) (Sirkeci Excavations) Arrangement of Gülhane Park Construction of New Galata Bridge and Eminönü Square Stack Interchange Kabataş-Sirkeci-Beyazıt Trolley Line Projects of restoration and refunctioning projects in Hanlar Bölgesi (Area of Inns) Restoration and transformation of Vakıf Han into a hotel	Urban development and transformation pressure from the projects impacting the archaeological layers of the Ports of Neorion and Prosphorianos (on the shore of Golden Horn) from the Byzantine and Ottoman periods; Urban development and transformation pressure on the old Venedik street, a multi-layered cultural landscape area bearing the traces of Ottoman and Republican periods
Sultanahmet Transformation of Sultanahmet Prison for use as a hotel Project for arranging and pedestrianizing Sultanahmet Square Arrangement project for of Topkapı Palace & Gardens of the Palace Demolition of Eminönü Municipality Building Restoration of Theodosius Cistern Basilica Cistern and environmental arrangement Improvement of the area hosting hotels around Hagia Sophia	Archaeological area covering Sultanahmet and Great Palace ruins in the vicinity, pressure of settlement on water routes and cisterns Urban development and transformation pressure from the projects impacting the archaeological layers of the Ports of Boukoleon and Sophia from the Byzantine and Ottoman periods
Yenikapı Marmaray tube passage and subway project (Yenikapı excavations) Yenikapı fill area project Langa Gardens & Emniyet Bus Station Improvement of the area hosting hotels in Aksaray	Urban development and transformation pressure from the projects impacting the archaeological and settlement-based layers of the Ports of Theodosius and Eleutherius (on the shore of the Sea of Marmara) from the Byzantine, Ottoman and Neolithic periods
Beyazıt-Süleymaniye Exit of Laleli Subway Station Süleymaniye renewal area Change in the sunction of sandal covered bazaar (in the Grand Bazaar) (Nusr-et Steakhouse)	Urban development and transformation pressure on the historical settlement and commercial areas on the shores of the Golden Horn
Beyazıt-Süleymaniye Exit of Laleli Subway Station Süleymaniye renewal area Change in the sunction of sandal covered bazaar (in the Grand Bazaar) (Nusr-et Steakhouse)	Urban development and transformation pressure on the historical settlement and commercial areas on the shores of the Golden Horn
Yedikule-Cankurtaran Inclusion of the Coastal Road on the coast leading towards the outside of the walls Eurasia highway tube tunnel project Arrangement of the gardens with the restoration of sea and land walls Yedikule Cer housing project Transformation of Lifeguard Cavalry Post into Faruk Saraç Vocational School of Design	Urban development and transformation pressure from the projects impacting the archaeological layers of the Byzantine and Ottoman ports with walls along the Sea of Marmara
Golden Horn/Fener- Balat- Ayvansaray Rehabilitation project for Fener Balat towns (1996-2009) Urban renewal project for Fener Balat Ayvansaray (2008-2013) Sulukule renewal area Restoration of Palace of the Sovereign Project Haliçport in Golden Horn shipyards Golden Horn passage bridge Golden Horn coastal arrangement project	Urban development and transformation pressure from the projects impacting the Golden Horn walls, Ormanlı Shipyard, and Republican Period industrial heritage areas
Karaköy- Beyoğlu Persembe Pazari Conservation Master Plan, Galataport İstanbul Project	Urban development and transformation pressure from the projects impacting Byzantine, Genoese, Ottoman, and Early Republican port territories and the projects in this regard.

TABLE 2 Significant Projects for the Historical Peninsula between 1980 and 2020 and conflicts related to Port Heritage Conservation

LOCATION AND INFLUENTIAL URBAN PROJECTS	DEGREE OF IMPACT ON THE HERITAGE IN THE MULTI-LAYERED PORT HERITAGE AREAS				
	Neolithic Period	Roman	Eastern Roman	Ottoman	Early Republican
Eminönü					
Marmaray Tube Passage and Subway Project (Sirkeci Excavations)	?	++	++	++	++
Arrangement of Gülhane Park	?			+	+
Construction of New Galata Bridge and Eminönü Square Stoack ExInterchange	?	++	++	++	++
Kabataş-Sirkeci-Beyazıt Trolley Line	?	-	-	+	+
Projects of Restoration and Refunctioning Projects in Hanlar Bölgesi (Area of Inns)	?	-	+	++	++
4. Restoration and Transformation of Vakıf Han into a Hotel	?	--	--	++	++
Sultanahmet					
Transformation Regarding the Function of Sultanahmet Prison into a Hotel Function in Sultanahmet Archaeological Area	?	+	+	+	+
Project of Arranging and Pedestrianizing Sultanahmet Square Project	?	-	-	+	+
Arrangement of Topkapı Palace & Gardens of the Palace	?	++	++	++	++
Demolition of Eminönü Municipality Building - Restoration of Theodosius Cistern	?	--	+	+	+
Basilica Cistern and Environmental Arrangement	?	--	+	+	+
Improvement of the Area Hosting Covering Hotels in Hagia Sophia	?	+	+	++	++
Yenikapı					
Marmaray Tube Passage and Subway Project (Yenikapı Excavations)	++	++	++	++	++
Yenikapı Fill Area Project	++	++	++	++	++
Langa Gardens & Emniyet Bus Station	++	++	++	++	++
Improvement of the Area Hosting Covering Hotels in Aksaray	--	+	+	+	+
Beyazıt-Süleymaniye					
Exit of Laleli Subway Station	?	--	-	-/+	-/+
Süleymaniye Renewal Area	?	-	-	+	+
Change in the Function of Sandal Covered Bazaar (in the Grand Bazaar) (Nusr-et Steakhouse)	?	--	--	++	++
Yedikule-Cankurtaran					
Inclusion of the Coastal Road on the coast leading to towards the outside of the walls	?	++	++	+	+
Eurasia Highway Tube Tunnel Project	?	-/+	-/+	+	+
Arrangement of the Gardens with the Restoration of Sea and Land Walls	?	-	++	++	++
Yedikule Cer Housing Project	?	-	+/-	+	+
Transformation of Lifeguard Cavalry Post into Faruk Saraç Vocational Designing High School	?	-	+/-	+	+
Golden Horn/Fener-Balat-Ayvansaray					
Rehabilitation Project for Fener Balat Towns (1996-2009), Urban Renewal Project for Fener Balat Ayvansaray (2008-2013)	?	--	+	++	++
Sulukule Renewal Area	?	--	+	++	++
Restoration for Palace of the Sovereign	?	+/-	++	++	++
Project Haliçport in Golden Horn Shipyards	?	--	--	++	++
Golden Horn Passage Bridge	?	++	++	++	++
Golden Horn Coastal Arrangement Project	?	++	++	++	++
Karaköy-Beyoğlu					
Project Galataport	?	+/-	++	++	++
Persembe Pazari Conservation Master Plan	?	+/-	++	++	++

TABLE 3 Significant Projects for the Historical Peninsula between 1980 and 2020 and conflicts related to Port Heritage Conservation

Post-1980 urban policies led to the harm of the multi-layered urban structure due to plans and projects involving excessive interventions, irreversibly damaging the cultural heritage. The influence of neoliberal policies on urban interventions is primarily responsible for this damage (Brenner & Theodore, 2005).
The transportation projects had a major impact on the change in the urban archaeological layers and heritage areas. Rational methods, like decision-making processes involving multi-criteria and analytical hierarchy, should be used in planning investment projects that affect the historical urban centres, and these should be applied in a manner that covers multiple fields of specialisation, regardless of whether this is performed on building scale or protection zones scale. A planning approach to the physical pattern and socio-economic structure of small retailers has been applied, albeit without taking protective measures, within the historical urban centres that aim to maintain their traditional structures. Accordingly, the "Cumulative Cultural Heritage Impact Assessment" (C-HIA) method suggested in this study should be an integral part of planning approaches based on the concept of historical urban landscape.
The issue of "Heritage Impact Assessment" requires the development of tools for a cumulative assessment within the framework of transdisciplinary, cross-sectoral, and planning and design strategies. In this subject, one of the European Union's Horizon 2020 projects is very valuable. The project is integrated with new ideas, tools, and training to ensure that interdisciplinary, research-based heritage, landscape management, and spatial planning is undertaken (Heriland, 2020).
Currently, the preparation of HIA reports is based on the World Heritage Convention and the ICOMOS Guidelines of Cultural Heritage Impact Assessment (28.05.2014 / 2014-50). In this context, there should be strong consistency between the proposed and implemented management approach and projects (Zeren, 2020).

Historical Urban Landscape and Planning and Cumulative Heritage Assessment Approach based on GIS

With the increasing concerns and approaches on protection, a new method that combines the old and new, and the past and present, is needed. One such method is HUL, which has intrinsic values, provides communicational and instrumental rationalism, and combines the protection and management model for organising private and public areas using a holistic and systematic approach (Girard, 2013; Bandarin & Ron, 2012). According to HUL, the management plan and programme take on a central role in utilising new and innovative multi-dimensional instruments (Rosa & Palma, 2013). However, the neoliberal-inspired urban interventions on the Historical Peninsula have been devastating for the underground and overground cultural inventory and stand in contradiction with the aforementioned role. Major transportation projects have continued, but the fragmented structure in the national legislative amendments has negatively affected the protection of heritage areas.
Various studies related to understanding and specifying the conceptual framework of cultural landscape were conducted in the 1990s, when the management of cultural heritage was included in planning activities (Jacques, 1995; Taylor, 2009). HUL was defined in the text entitled *Recommendation on the Historic Urban Landscape* as follows: "Urban areas that are formed as a result of the historical stratification related to the cultural and historical qualities and values, that reach beyond the definitions of 'historical centre' or 'formation', and that have an urban and geographical context" (UNESCO, 2011). The most basic definition made at the end of the development of the concept of Cultural Landscape covers the traces of the natural or anthropogenic effects. Accordingly, the aquatic/port heritage was assessed as a cultural landscape element, and the harm these areas suffered due to the current neoliberal policies were reflected upon. The criticisms directed at the current situation will help develop a new planning approach.
A GIS-based database was developed to discuss the impacts the spatial interventions would have on these heritage areas. The content of this database can be summarised as follows:

– A study was initiated on the satellite image of the Historical Peninsula by using GIS. A total of 414 drilling holes were marked on the smart maps of GIS in a coordinated format (Saner & Kızıltan, 2011).
– Historical maps and natural environment data (Metropolitan Plan, 1:5000 Land Use Plan, and 1:1000 Master Plan), existing plan analyses for the Historical Peninsula, and other existing plans (Metropolitan Plan, 1:5000 Land Use Plan, and 1:1000 Master Plan) were added to the data system[2].
– A literature review was performed for the Historical Peninsula and integrated into the database covering the archaeological studies[3].
– The Geological Base-Map and boreholes data from micro-zoning and the relevant database were integrated[4].

The data from archaeological and geological studies were integrated into the database[5].

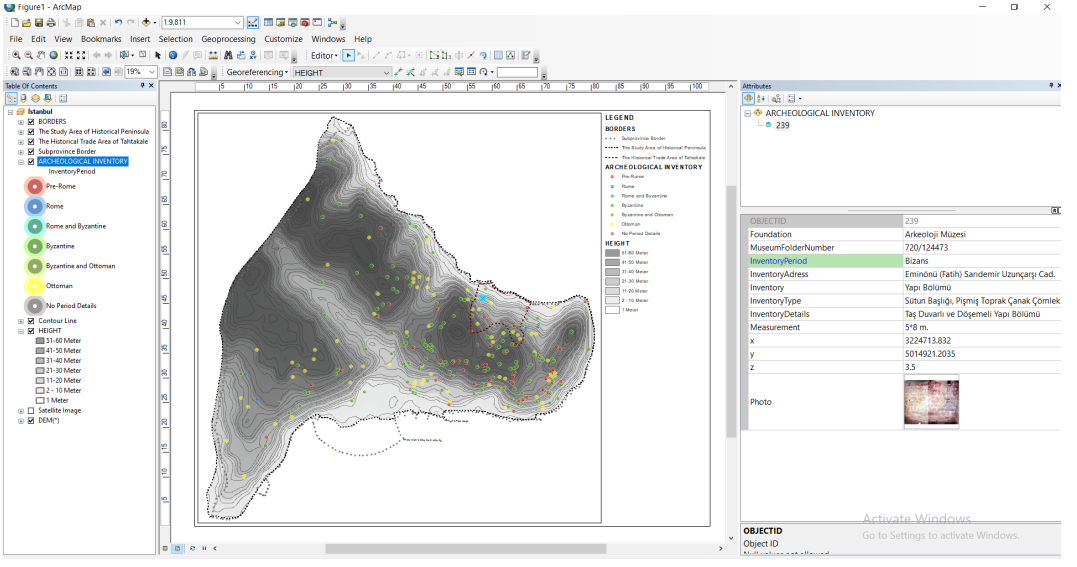

FIGURE 5 *Database Infrastructure on GIS.*

Note: In the study, period data of archaeological finds were grouped and visualised. These groupings are based on various presuppositions, and detailed chronology studies have not been conducted for all archaeological finds. For example, the finds from the Late Antique Period were classified as pre-Rome. Finds from the late, middle, and early Byzantine period were included in the single classification of Byzantine period. For this reason, it is very important forresearchers who want to work with the data in question to reach out to the authors and obtain the raw data.

2 Fourteen historical maps were received as a result of the interview carried out with İhsan İZLE, Head of the Section of Protecting Cultural Heritages under the Directorate of Cultural Assets in the Metropolitan Municipality of Istanbul. Interview Date: 26.10.2016.

3 The additions made from the literature in regard to the underground cultural inventory of Istanbul are as follows:
Tuna, N., 2003, İstanbul Suriçi'nde Kentsel Arkeolojik Kültür Mirası, Istanbul Dergisi, S:46, p: 88-93.
Altuğ, K. (2014). Tarihi Yarimada'nin Bazi Bilinmeyen Bizans Dönemi Sarniçlari. *TÜBA-AR*, 161.
Lordoglu, N. Byzantion ve Kalkhedon'un Şehircilik Açısından İncelenmesi: Kuruluşlarından Roma İmparatorluk Dönemi'ne Kadar. *Cedrus*, *7*, 169-194.

4 General Geology and Micro Zoning studies were obtained as a result of the interview conducted with Geology Professor Emeritus Turgut ÖZTAŞ from Mimar Sinan Fine Arts University. Interview Date: 09.04.2017

5 The data obtained from the archaeological and geological studies conducted in Yenikapı and added to the database include the following:
Bulut, M., Yalçın, N. & Algan O. (2019). Sedimentological properties and depositional environments of the Holocene sequence in Yenikapı, Istanbul. Maden Tetkik Arama Dergisi, 160:21-43.
Özsait & Kocabaş, I. (2018). The Yenikapı 12 shipwreck, a 9thCentury merchant from the Theodosian Harbour in Istanbul, Turkey: construction and reconstruction. *International Journal of Nautical Archaeology*, *47* (2), 357-390.

Using this database, the dynamic process of the area was assessed within the frame of the cultural heritage inventory that still exists today for the aquatic/port heritage. The spatial transformation analysis was performed in accordance with major post-1980 urban interventions. The Golden Horn and the Marmara shores of the Historical Peninsula were selected as the subject of this study, and the impacts of project-based interventions on the port heritage were discussed within the context of concrete facts.

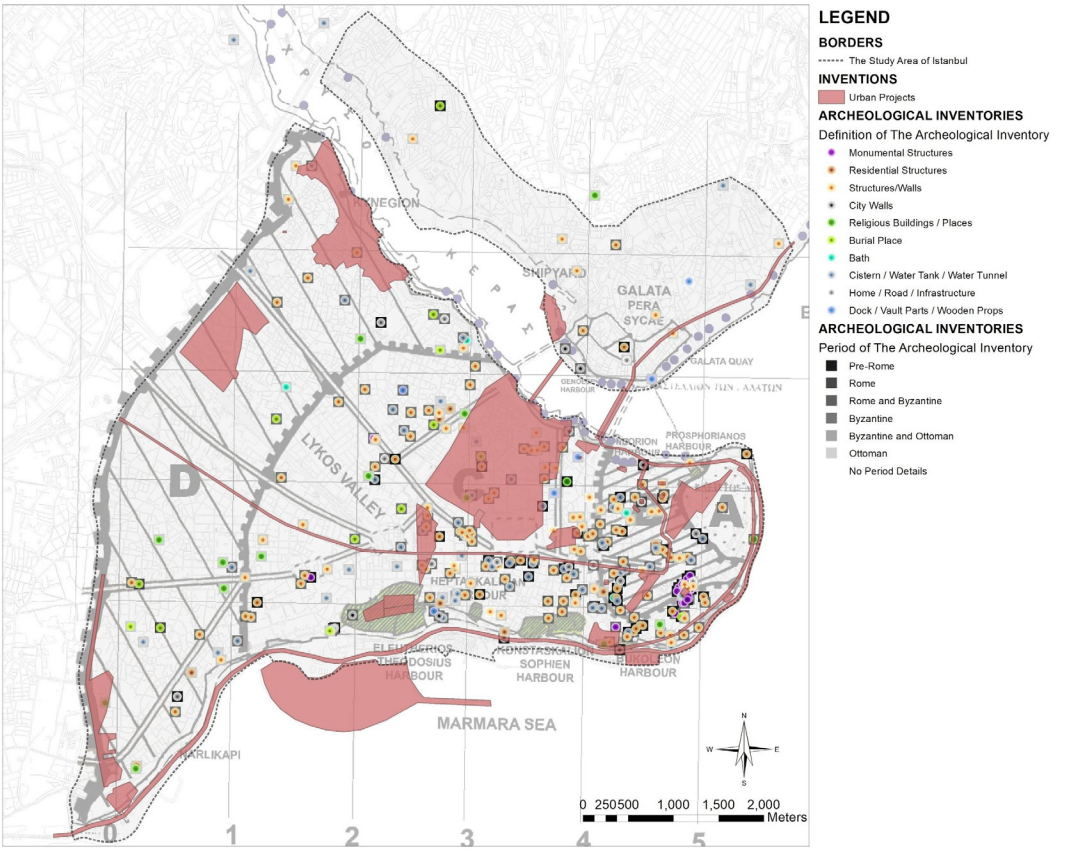

FIGURE 6 *Intervention Data with Ruins Related to the Port Function.*

Planning Decisions and Impact of the Legislation on Aquatic/Port Heritage Areas

The aquatic/port heritage has undergone constant change around the Historical Peninsula and the Golden Horn. The traces of such changes can be tracked below and above ground. To understand the effects of spatialised projects on port heritage for the post-1980 period, ruins from the underground and overground cultural heritage, as they related to the port heritage, were collected and entered into the database. The commerce, storage, housing, and worshipping functions that were active on and behind the port were considered when entering this information, and the inventory from the Metropolitan Municipality of Istanbul was examined and then separated from all data using the spatial section method for the overground cultural heritage. As a questioning method based on usage function was not possible for the underground inventory, a visualisation of the archaeological cultural inventory was made so that it could be used in correspondence with the information about the periodic and defined architectural elements over time. These two inventory elements were overlapped through GIS, and the spatialised intervention data were added for the period between 1980 and 2020 (Figure 6). Accordingly, how cultural assets like periodic port heritages

were affected by urban projects was determined, and the harms suffered by heritage areas in this period were reflected clearly. All-based urban interventions on the building and heritage area scale had negative impacts on the port heritage of the Historical Peninsula, erased a large part of the heritage, and significantly impacted the urban memory.

There are three types of archaeological sites in the Historical Peninsula: *First Degree Archaeological Site, Urban Archaeological Site*, and *Urban Historical and Archaeological Site.* The Archaeological Site and First Degree Urban Archaeological Site areas refer to formations like old palaces or hippodromes that have a strong urban image; only a limited number of urban interventions should be allowed in these areas. However, rescue excavations performed for the Marmaray Subway and Yenikapı Transfer Station reflected the multi-layered development of the Historical Peninsula (Dönmez, 2006) and provided evidence showing that the heritage of the Ports of Prosphorion and Thedosios existed underground (Gür & Emre, 2018). Therefore, determination of the potential underground cultural inventory for the Historical Peninsula and revision of the site status, legislation, and plan decisions would be necessary for the protection of port heritage areas.

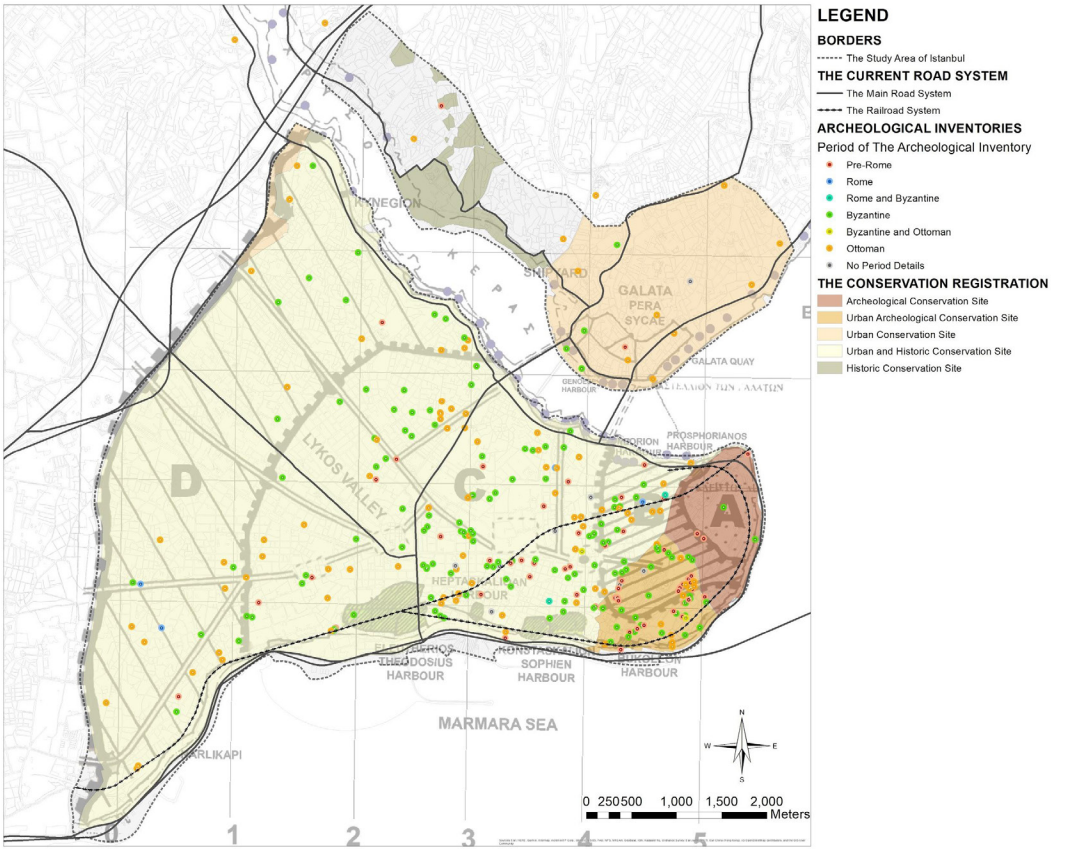

FIGURE 7 *Archaeological and Urban Site Areas with Underground Cultural Inventory.*

There are four protected areas in the Historical Peninsula that were recognised by UNESCO for their superior universal qualities. It is not possible to separate and protect these sites, which were identified during the UNESCO World Heritage Candidacy process, without taking into consideration the multi-layered historical development of the Historical Peninsula. Nevertheless, restoration areas were declared under Law no 5366 without first performing studies to determine the current cultural inventory and port heritage on

this important historical landscape. Impacts of this decision and conflict with the protected areas, such as Süleymaniye, which are quite important for the urban landscape, resulted in heated discussions on the protection of the architectural heritage. Some of the restoration areas determined in these discussions were the old port territories, but no activities other than determining the rescue drilling points and excavations were performed for the archaeological cultural assets in these areas.

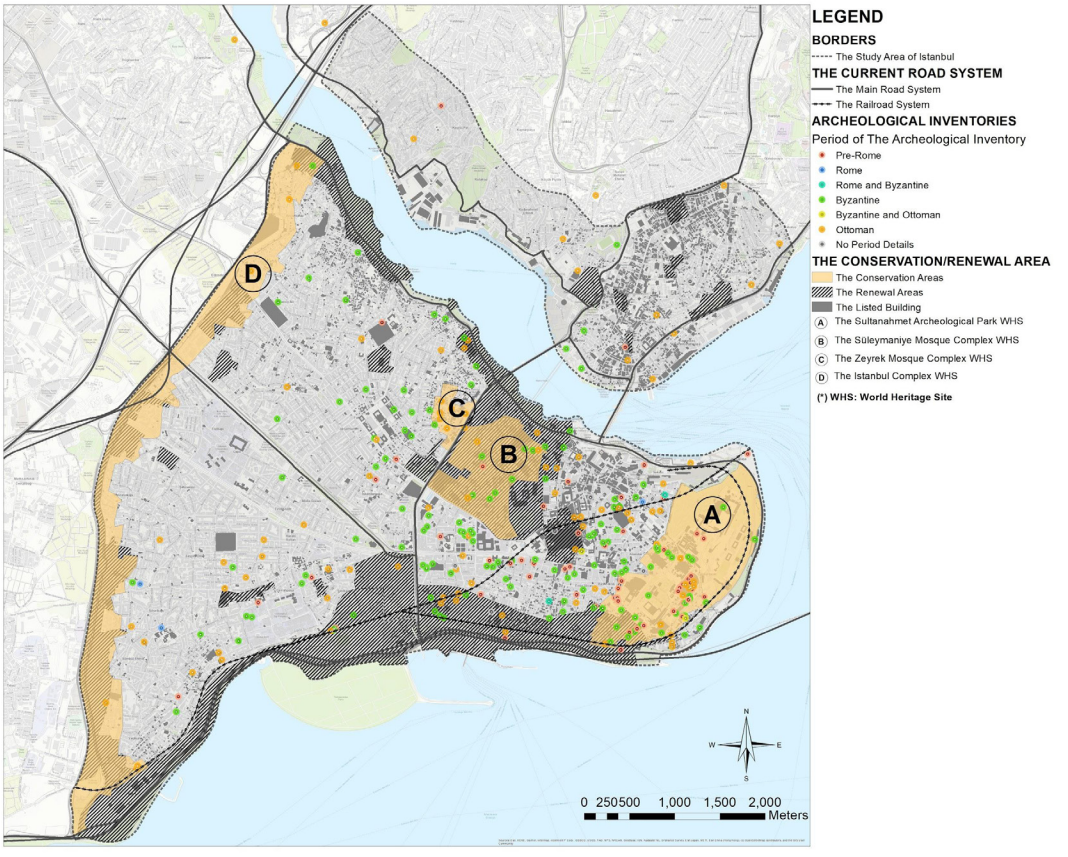

FIGURE 8 *Protection and Restoration Areas with Underground and Overground Cultural Inventory.*

There are two main criteria governing transportation projects. The first is to determine drilling activities based on the depth-related information from the rescue excavations performed by the Archaeology Museum when making decisions on transportation. Moreover, for determining geological fill thickness, the data derived from scientific archaeological studies should be taken into account for any decisions on transportation. The second criterion is to avoid segmental arrangements based on projects developed with no relation to the plans. Digitalising the depth of works within the urban archaeological inventory to form a database in the GIS environment and considering such data as part of the first decision-making step in transportation projects will help prevent the port heritage from becoming extinct and guide the decisions in this regard. This issue is highly important for creating a cultural memory and ensuring sustainability.

Studies indicate that planning decisions in the Historical Peninsula allow for the construction of multi-storey basements. The fact that such decisions were made without first determining the archaeological inventory reflects poorly on the process. The legislative provisions, the costs of archaeological excavations to be performed are born by the property owners and such planning decisions display attitudes permitting the basement floors, which are great obstacles before approaching these areas objectively. With the initiation

of multi-story housing, as enabled by the technology of the 21st century, in the Historical Peninsula and interaction areas, cultural assets have been significantly affected. The current housing conditions have caused underground and overground assets to suffer harm from many different aspects. In this article, although there are difficulties in drawing the port territory in terms of the existing archaeological inventories and period traces within the study area, the studies aimed at drawing these borders are very valuable. It is not an aim to draw the port territory within the scope of this article, but the outputs of the article can be helpful in providing opportunities for other academic researches.

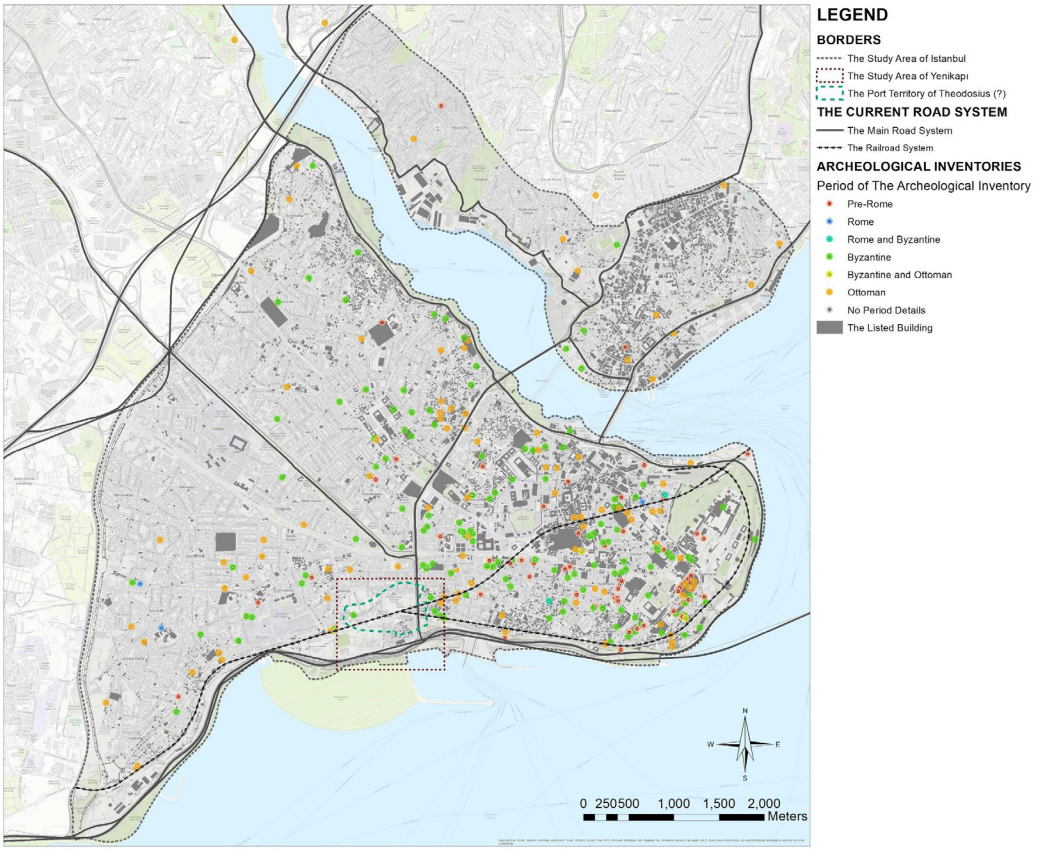

FIGURE 9 *Archaeological Finds in the Buildings and Transportation Infrastructure within the Port-City Interface.*

The database in this study and other scientific studies indicate that the port heritage in the Historical Peninsula, which has been continually used as a settlement location since the Neolithic Period, displays a multi-layered configuration. Evidence further shows that humans' relationship with water started with the Neolithic settlements dating back to 6500 BC, which was understood from the excavations in Yenikapı. People lived a life based on aquatic activities in the Historical Peninsula, and that relationship between the people and water has continued to the present day. The quality of the relationship with water has been examined more extensively thanks to the new methods applied in archaeological studies, which provide information on the topography, climate, and vegetation cover of the past. It is critical that these studies be referred to in relation to planning decisions to be made for the Historical Peninsula. However, the current status reflects the contrary.

Cumulative Cultural Impact Assessment with the Historical Urban Landscape Approach in Yenikapı Study Area

Using the data from the rescue excavations performed for the Yenikapı Subway Station, this section presents the assessment of Cultural Heritage Impact Evaluation processes for protecting the cultural heritage areas from a multidisciplinary and participative perspective and provides feedback within the Historical Urban Landscape at the stages of plan and project development.

With the recent increase in archaeological activities performed in the Historical Peninsula, where Istanbul is believed to have gained its urban identity, it became clear that the first settlement on the Historical Peninsula dated to the Neolithic Age, and that this settlement reached the Colonization period through migrations or other various settlements (Dönmez, 2011). Considering the importance of the archaeological material found as a result of the subway station activities, excavation activities were conducted in an area of approximately 58 ha. It was understood that the history of settlement in the Historical Peninsula (e.g. the first Neolithic settlement) dates back to 6500 BC (Kızıltan, 2016), prompting exploration of what is now considered a significant territory.

The excavations for the Port of Theodosius took place in the Yenikapı zone, located along the shore of the Sea of Marmara within the Historical Peninsula. Ports were generally located along the Golden Horn shores during the Byzantine period. Within the chain, two large ports were constructed on the shore of the Sea of Marmara to transport and unload the grain coming from Egypt. One of them is the Port of Sophia located in the area currently known as Kadırga, and the other is the Port of Theodosius in the location currently known as Yenikapı. Although the finding related to the Port of Theodosius dates all the way back to the fifth century, the evidence clearly shows that the grains brought from Egypt via ships were stored in the warehouses. After the Arabs took control of Egypt after 641, grain transportation to the country was occasionally interrupted, which eventually led to the port losing its significance. The port was filled with alluvium carried by the Stream of Lykos (Bayrampaşa). The geoarchaeological data indicate that the Neolithic settlement that is present in the historical layer of the Port of Theodosius on the location where Bayrampaşa Stream, known as Lykos in the ancient world, flows into the sea was -6.50 metres below the current sea level (Dönmez, 2011).

Yenikapı Marmaray excavations were conducted in four different regions. In these excavations, a great part of the Port of Theodosius present under layers from the Republican and Ottoman Eras, commercial ships from the fourth and fifth centuries and a cistern that is believed to be from the 20th century were found. However, the most attractive finds from these excavations were the Port of Theodosius and 37 Byzantine shipwrecks (Kızıltan, 2016; Asal, 2007; Başaran et al., 2007). The geological evolution of the territory should be assessed based on the archaeological findings in the Byzantine Port of Theodosius (Kocabaş & Kocabaş, 2006), which is also called the Port of Eleutherios (Wiener, 2001) in other sources, as this would be quite important for understanding the filling layer of the port and for reviewing the territory through the cultural landscape approach. In order for Yenikapı to be assessed within the Historical Urban Landscape (HUL), it is not sufficient to solely digitalise the archaeological cultural inventory of the area and highlight it as an historical urban landscape element. The aforementioned area is a location where human and natural actions, such as the rise of sea level, change of climate and vegetation cover, and the difference of topography, have been united ever since the Holocene period. Therefore, it is crucial to present the archaeological importance of the area and to plan it through the HUL approach.

The archaeological and geological studies performed for Yenikapı were compiled, and Figure 10 presents the relationship between the archaeological cultural inventory and geological stratification. Accordingly, the natural and human processes that the multi-layered urban system has gone through since the Neolithic Period provided a trackable dataset. The rock formations on the south side of the Historical Peninsula

consist of elements dating to the Palaeozoic and Cenozoic periods (Figure 10); the unit designated base rock, whose surface was seen in the Yenikapı excavation site, represents the Thracian Formation from the Early Carboniferous Period, which forms the highest section of the Istanbul Paleozoic Collection. The lower section of the unit was not found in the shallow drilling points opened during the foundation excavations or in engineering geology studies. However, the relationship with the Güngören Formation above is discordant. Another unit whose surface was seen in the Yenikapı excavation site, particularly at a location from the Miocene period, is the Güngören Formation from the Late Miocene period. Broad surfaces are also present in the unit setting area. The Holocene collection located on the Güngören Formation from the Miocene Period and swamp clay from the Early-Mid Holocene Periods reflect two different environments, namely, nautical (from Unit 2 to Unit 7) and stream (Unit 8). The Holocene collection in Yenikapı was first affected by the sea level, and the Neolithic Period settlement was also probably affected and had to alter its location. Results indicated that the coast settled in an environment that was formed due to the materials transported by the stream and their eventual accumulation and as a result of regression in the direction of the sea. The shipwrecks found as a result of archaeological activities indicated that the area was used as a port territory. The port was buried under the stream sediments (from the Holocene Period) of the Lykos (Bayrampaşa) Stream and used as a garden during the Ottoman Period (Table 4).

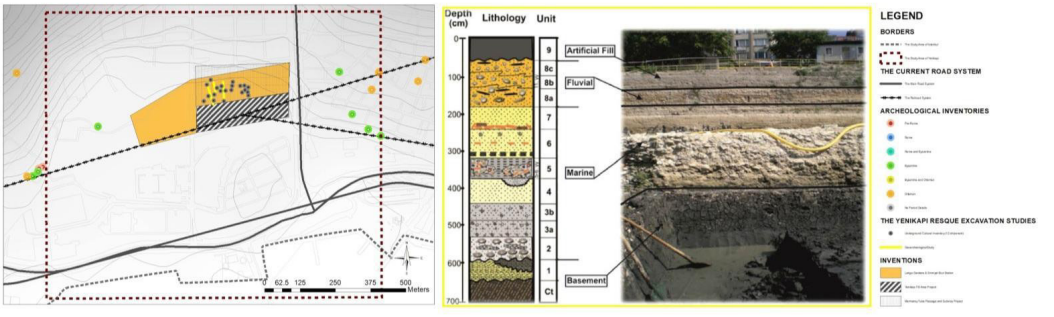

FIGURE 10 *The Geological Base-Mad with Yenikapı Archaeological Excavations Area (Shipwreck Remnant of Theodosios Harbour and Geo-Archaeological Stratification).*

Note. This table unites the archaeological and geological activities performed in Yenikapı and presents the definition of the geo-archaeological stratification in the area. References used in this regard include: Dönmez, Ş. (2011)., Perinçek, D. (2008)., Bulut, M., Yalçın, N. & Algan O. (2019), Özsait & Kocabaş, I. (2018).

Archaeological studies were performed until the parent rock on the Yenikapı zone was located. The elements forming the layered structure consist of the Neolithic Period settlement, the Port of Theodosius, and the Garden area. This multi-layered urban structure can be seen throughout the entire Historical Peninsula, but most of the archaeological studies fail to reach the location of the parent rock (Table 4).

Recovery excavations conducted as a result of a transportation project dated the settlement history of the Historical Peninsula to 8000s BC, and efforts were made to perform field-specific geological and archaeological studies from a multi-disciplinary perspective. As a similar study cannot be performed before every plan decision, various difficulties can arise from this. Despite such conditions, protecting the cultural heritage and planning the design of cities so that they retain their identities according to the historical urban landscape approach is still a must.

ARCHAEOLOGICAL STRATIGRAPHY HISTORY	ARCHAEOLOGICAL STRATIGRAPHY PERIOD	ARCHAEOLOGICAL RESULTS	GEOLOGICAL UNIT-IZING	UNIT CHARACTER-ISTICS	ELEVATION
15th-20th century (AD)	Ottoman Era	Pottery items, small finds	Ninth Unit (Terrestrial)		50 cm
			Eighth Unit (Stream)	"İstfi" (to be asked to the author) type delta environment.	50-80 cm
5th-20th century (AD)	Byzantine Era	Port of Theodosius, shipwrecks, chapel	Seventh Unit (Nautical) Sixth Unit (Nautical) Fifth Unit (Nautical)	Unit number 6 dates back to the 10th-11th century as evidenced by the result of the shipwrecks.	Seventh Unit, 40-70 cm, Sixth Unit 70 -130 cm.
4th century (AD)	Late Roman Period	Construction of Constantine's Wall, Establishment of the Port of Theodosius, city renamed of the city as Constantinople	Fifth Unit (Nautical)	Dated through relative dating.	20-50 cm
1st century (BC) - 3rd century (AD)	Roman Period	Pottery items	Fifth Unit (Nautical)	Dated through relative dating.	
4th-3rd century (BC)	Hellenistic Period	Pottery items	Fifth-Fourth Unit (Nautical)	Dated through relative dating and Unit number 4 and 5.	
5th century (BC)	Classical Period	Pottery items	Fifth-Fourth Unit (Nautical)	Dated through relative dating and Unit number 4 and 5.	
7th-6th century (BC)	Establishment of Colonization Period (Archaic Age) Byzantium	Pottery items	Fourth Unit (Nautical)	Geoarchaeological studies indicated the 6th century (AD).	50-100 cm
1200-1000 (BC)	Early Iron Age/Dark Age Thrako-Phryg. migrations	Pottery items	Third Unit (Nautical) Second Unit (Nautical)	Lenticular shell and shell cracks	60-120 cm
5300-5200 (BC)	End of the Neolithic Age	Completion of glacial melting, Formation of the Bosporus, Yenikapı Neolithic Age settlement being totally covered by sea	Second Unit (Nautical)	sands with shells	25-30 cm
6500 BC	Neolithic Age	Simple wooden architecture, "hoker mezar" (to be asked) with wooden construction, urnae, small wooden finds, grain silos	Unit	Güngören Formation from Miocene Period and Swamp Clay from Mid-Holocene Period	80-90 cm

TABLE 4 Unity of Geological Building Data and Archaeological Culture Inventory

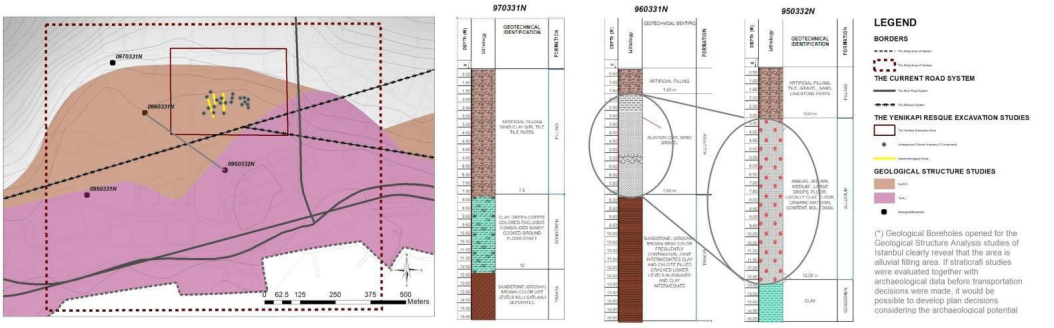

FIGURE 11 *Assessment of Cumulative Cultural Heritage Impact in Yenikapı*

Accordingly, it is essential to identify all the archaeological materials ever found, to conduct historical background assessments, and to determine archaeological fill layers or areas sensitive for historical urban landscapes when using the data from the studies on general urban geology and micro-zoning as a layer in multi-layered, historical and developing urban centres. A prediction was made for the potential cultural fill layer in the cumulative assessment of studies, as shown in Figure 15, and an impact transition area was suggested as an addition to the buffer zone for the archaeological area. Performing these studies within the preparatory process of Cultural Heritage Impact Assessment Reports and providing feedback to projects will ensure the adoption of the HUL method as a planning approach.

Assessment and Conclusion

This study clearly indicates that port heritage territories reflect the spatial traces of their social, environmental, economic, and political settlements. Thus, these areas qualify as urban spaces that should undergo a sensitive review in order to be protected as a part of our cultural heritage. As the modern planning activities and project-based urban interventions cause changes to the coastal lines that are a part of ancient topography, it is becoming increasingly less possible to spatially reveal the traces of these heritage areas. However, it is possible to plan, project, and pass down these areas, which constitute part of our identities, to the following generations by reviewing them from the HUL perspective. Accordingly, the results from this study and suggestions can be summarised as follows:

- Transfer the cultural heritage inventory to an extensive database, include the underground and overground cultural inventory and historical maps as spatial data, and interactively consolidate the archaeological studies, and beyond the historic ensemble (to include the "port territories")
- Determine the potential cultural heritage fill areas for the potential locations of underground cultural heritage areas through a holistic approach, using a multi-layered urban database (GIS) provided by the general database, and develop unique plans and projects for these areas in accordance with (the authentic) values of heritage areas and the relevant attributes
- Prepare cultural heritage impact assessment reports by using the extensively prepared database for all decisions which are derived from community involvement, ranging from protecting the architectural heritage to changes in the legislation on protection, as these will impact the historical urban patterns
- Review the data on Potential Cultural Heritage Fill Areas within the Cultural Heritage Impact Assessment Reports and form the report in a manner that reflects all components of the relevant cultural potential, and develop a proactive approach for the integration of these areas in the urban fabric
- Finally, ensure that Cumulative Cultural Heritage Impact Assessment Reports provide feedback to plan decisions

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Evaluating Adaptive Reuse Alternatives of a Multi-Layered Port City

Acre, Israel

Ana Jayone Yarza Pérez

Bezalel Academy of Art and Design
Jerusalem
Israel

Abstract

Acre is a port city in the north-western part of Israel, with a history that goes back more than 4000 years. Being inscribed on the World Heritage List, the Old City of Acre preserves the urban and architectural elements of a historic town. Its outstanding value relies on the Crusader remnants preserved under the Ottoman city, showcasing the dynamism and continuous change of Mediterranean port cities. Moreover, the presence of various religions: Judaism, Christianity, Islam, and Bahai, adds to its complexity, expressed as monuments and religious sites that enrichen Acre's cultural heritage. The dramatic change in values over the past decades has a direct impact on the built environment and the citizen's lifestyles, in some cases jeopardising the physical elements and drastically influencing people's lives. This paper aims to analyse the changes linked to the sea: livelihoods, tourism, and recreational use; and the change of use of the khan, as both the sea and the khan are constant elements in the city. The analysis of these processes serves as the starting point to identify changes in values which can enhance development or promote gentrification, and in the case of Khan Al-Umdan and its vicinity, we aim to recognise the lights and shadows that followed the adaptive reuse evaluation procedure, and the influence of the multiple narratives in its development. The conclusions will provide a solid base on which to develop a methodology on the one hand, identify changing processes, such as gentrification; and on the other, to evaluate adaptive reuse alternatives of cultural heritage in contested societies and changing values.

Keywords

Port City, Acre, Akko, Akka, Urban Heritage, Adaptive Reuse

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Introduction

Acre is a port city in the north-western part of Israel, with a history that goes back more than 4000 years. Being inscribed on the World Heritage List, the Old City of Acre preserves the urban and architectural elements of a historic town. Its outstanding value relies on the Crusader remnants preserved under the Ottoman city (World Heritage Centre, 2013), showcasing the dynamism and continuous change of Mediterranean port cities. Acre has gone through many changes over time, each community and civilisation has left its identity imprinted, materialised in the urban fabric and ambiance of the current city.

Throughout the history of Acre, adaptive reuse was a fundamental and automatic process by which not only buildings, but other tangible and intangible elements like public spaces and sense of place, were transformed into others with a new use preserving the city's and citizens' memory (Wong, 2017). These adaptation processes create collective memory, which, combined with identity, tradition, history, and culture, provide continuity to the urban heritage (Stone, 2020). However, the dominant identities in each period created, erased, or adapted the heritage based on this continuity, which was maintained, or not, depending on their needs, transforming the city up to the present moment.

Nowadays, this port city continues to face numerous challenges that involve the adaptation and transformation of its fabric, while at the same time promoting conflict between the existing stakeholders. The economic demands prioritise tourism as the main activity, while traditional livelihoods diminish and become at risk of disappearing. Modern lifestyles require that infrastructure be updated, along with citizens' homes, leading to a continuous deterioration of the urban heritage through the informal construction and renovation of the buildings. This variety of interests and needs is characterised by confrontation and a lack of consensus, finally reaching a dichotomy of heritage loss on one side, and positive economic transformation (for some) on the other.

It is in this context that heritage becomes relevant for cities, as a way to develop their identity, uniqueness, and attractiveness, as well as fostering potential for investment and economic growth (Ashworth, 1994). Therefore, it becomes urgent to redevelop and regenerate urban centres to prepare them to face the urban challenges of this century (Bandarin et al., 2011; Sassen, 2011). This is undertaken by means of The Historic Urban Landscape approach (UNESCO, 2011a), which addresses "the broader setting" of cities, expanding the limits of traditional heritage beyond the notion of "historic centre" or "ensemble" (Barthel-Bouchier, 2010; UNESCO, 2011), and pushes the urban physical limits to include not only the tangible elements, but also intangible elements (*European Union Research Report No 16 Sustainable Development of Urban Historical Areas through and Active Integration within Towns – SUIT*, 2004; UNESCO, 2011). The framework provided by these documents sets the basis for this article, and proposes attributes that promote harmony and continuity throughout the historic urban area rather than breaks or ruptures (UNESCO World Heritage Centre, 2020).

Taking these global frameworks as a reference, the analysis of the attributes of port cities (such as Khan El-Umdan) firstly aims to provide a chronological overview of the urban heritage in the port city of Acre, and its continuity, adaptation, or erasure over time (past narratives). These identified elements, in principle, were intended to promote harmony (UNESCO World Heritage Centre, 2020), though in reality they were subject to continuous change, showcasing how conflict impacts cultural heritage. Secondly, an analysis of the present perceptions of urban heritage (present narratives) highlights the current societal ruptures, diverse understanding of urban heritage, and change in the values linked to port cities, which, contrary to the historic analysis, includes a wide range of diverse and dissonant points of view. The active consideration of these contemporary voices aims to address current adaptive reuse processes in contested cities like Acre, proposing alternatives that dilute conflict and guarantee the continuity of urban heritage.

Methodology

The following paper focuses on the importance and influence of past and current narratives in the evolution of urban heritage in Acre, and how they may influence the current process of adaptive reuse, so that they mitigate societal conflicts. In doing so, three steps are taken: a) a historic analysis of the evolution of port city attributes; b) the analysis of contemporary voices to understand Acre's stakeholders' views on the previously identified port city attributes; and c) the case of a hegemonic building, Khan El-Umdan, is utilised to test how the past and present narrative analysis can be applied in a real case, and provide adaptive reuse alternatives which may (or may not) contribute to the mitigation of conflict.

Definition of Narrative

According to Thesaurus Dictionary (*Thesaurus Dictionary*, n.d.), a narrative is "a story that connects and explains a carefully selected set of supposedly true events, experiences, or the like, intended to support a particular viewpoint or thesis." Similarly, Cambridge Dictionary (*Cambridge Dictionary*, n.d.) defines a narrative as "a particular way of explaining or understanding events." For the aim of this paper, a narrative is understood as a combination of both definitions: *a story that connects a series of selected events explained in a particular way, with the intention to support a particular viewpoint*.

Past Narratives

Therefore, the analysed past narratives refer to the stories extracted from historic documents that tell of a series of events that happened in Acre over time, told by the dominant perspectives of each period. These stories present the city of Acre in different periods, understanding the city as the subject that tells its own story through the evolution of its elements.

The consulted historic documents include archaeological reports, history books, and data from heritage institutions.[1][2] The bibliography consulted on the history of the Mediterranean and Acre includes the seminal books by Braudel, *A History Lesson* and *Mediterranean*; David Abulafia's *The Great Sea: A Human History of the Mediterranean*; *On the Ocean: The Mediterranean and the Atlantic from Prehistory to Ad 1500*" by Cunliffe; and books on Mediterranean history by Jacoby, Folda, and Sakel.

The distilled narratives encompass the comprehensive regional, local, tangible, and intangible cultural values in addition to the Outstanding Universal Values of World Heritage Cities. The analysis starts with the regional significance of Acre linked to the trade routes since the Bronze Age. Once the attributes of the urban heritage identity found in the port city of Acre are identified, four periods are focussed upon: the Crusader, the Ottoman, the British Rule, and the Modern State of Israel. These are the most relevant in the city's history, and the most influential in current discourses.

1 The bibliography consulted on the history of the Mediterranean and Acre is the following: (Abulafia, 2011; Aubet & Turton, 2001; Avni, 2011; Bacci & Fribourg Colloquium, 2014; Braudel, 1982, 2002; Cunliffe, 2017; Folda, 2005; Jacoby, 1977, 2015; Norwich, 2006; Sakel et al., 2014)

2 The data on the heritage of Acre is mainly extracted from the World Heritage documentation (World Heritage Centre, 2001, 2013) and the documents by the Israeli Antiquities Authority (IAA): (Boas, 1997; Folda, 2005; Kedar & Stern, 1995; Kool, 1997; Smithline et al., 2013; E. Stern, 1999b, 1999a, 2001, 2014; E. J. Stern, 2013; E. J. Stern et al., 2017)

In addition, four quotes have been included to understand the perspectives of the city of different people at different times: two of them appear in Itinerarium Peregrinorum Regis Ricardi, a Latin prose narrative of the Third Crusade, describing the city at different moments; the third one is by an English Augustinian canon in the 13th century; and the fourth is by Sir Laurence Oliphant in the 19th century. These quotes are likely to be the closest materialisation of the past people's views, which differ from the hegemonic narrative. These are included in the article to provide additional interpretations, as the diversity of voices in the past were not documented.

New Narratives

The new narratives, by contrast, comprise contemporary stories told by diverse stakeholders in the city. Contrary to the past narratives, we currently have access to all the voices present in the city, which reflect the complex and contested reality in Acre. These are based on elements from the past narratives, and at the same time address the current urban issues from various perspectives, forming a reality of dissonant identities. Not only the local stakeholders are analysed, but the outsider perspective is also included through the analysis of social media posts about Acre, aiming to compare local and tourist views on the city. The resulting conflict of interests influences current urban processes, as urban heritage continuity is jeopardised. Therefore, the understanding of each stakeholder's values, interests, and trade-offs offers a wide range of lenses through which to observe the previously identified port city attributes, and how these points of view are based on some of the past narratives in order to justify and create a new one that complies with the previously mentioned interests. The resulting new narratives are key to addressing current challenges in the city, as well as informing adaptive reuse processes.

The Case of Khan El-Umdan

The latter is tested in the case of Khan El-Umdan, through an evaluation process based on the past and new narratives. This specific building, a caravanserai constructed during the Ottoman period, on top of a previous similarly used building from the Crusader era, has undergone a series of transformations and changes of use linked to the processes experienced by the city and the interests of governing bodies. The current debate around it, having been closed and abandoned in the last decades, provides the ideal setting to imagine and test the alternative possibilities for the building. This article explores how including past and new narratives in the evaluation of new uses can mitigate existing conflicts of interest and result in consensual choices.

First, the evolution of the caravanserai is studied to understand the key historic phases that influenced the building, as well as the key architectural and urban elements of it. Secondly, addressing the current debate on the use of the Khan, a series of alternative uses is proposed based on the interests of Acre stakeholders' (analysed in the new narratives section). The resulting matrix is then used as the basis on which to create a 'consensual' alternative that would be accepted by all the actors. The exercise serves as an example of how adaptive reuse processes are being managed(Plevoets & Van Cleempoel, 2019), and how the use of narratives in the evaluation of adaptive reuse processes could provide acceptable and reasonable alternatives in environments with dissonant stakeholders.

Analysis

Preliminary Considerations

Before delving into the topic, it is important to give some consideration to data availability, and bias.
The following historic analysis investigates the narratives of the city of Acre at different periods; it has been extracted from the historic data available. It is important to acknowledge the bias present in the historic narratives (Mccullagh, 2000), as the history is usually written by the winning side. This means that we lack an overview of the diversity of narratives in every age, therefore, the narratives presented up to the 20th century represent those which were dominant. It is only with the documentation produced in recent decades that wider range of perspectives is included and in which we can find dissonance.
The analysis of urban transformations is limited to the available maps. Not every period produced a plan, map, or illustration of the city, and these do not necessarily relate to the actual geographical location.
The prehistoric map of Tel Akko was produced by the archaeologists, and it represents the approximate situation of the settlement (Killebrew et al., 2010), and the Crusader map is a schematic drawing of the city, from which diverse illustrations of the city have been derived. On a positive note, the Ottoman plan made by the British in 1840 is remarkably close to reality, providing an accurate representation of the urban fabric.
Taking these points into consideration, the most relevant periods, which have the most available data, are analysed (See Figure 1). Moreover, when the contemporary narratives are analysed these four periods are again the most relevant. These include the following four eras: The Crusader, the Ottoman, the British Rule, and the Modern State of Israel (marked in red).

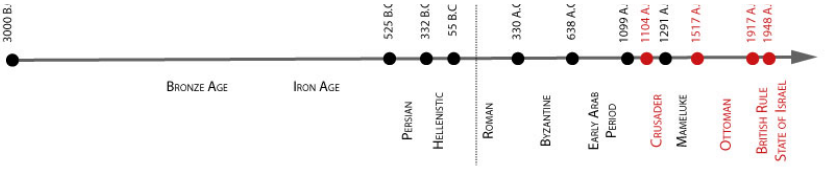

FIGURE 1 Timeline of Acre

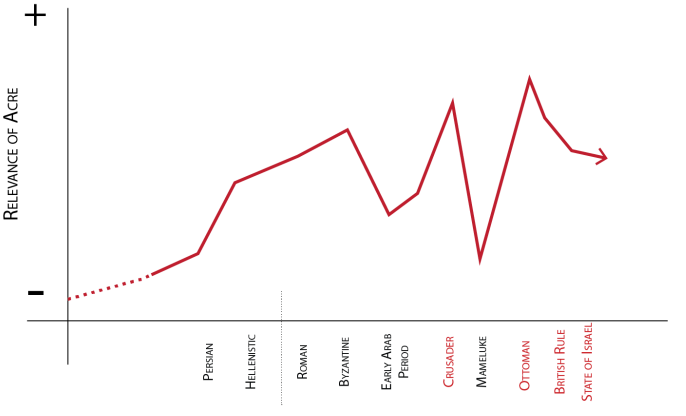

FIGURE 2 Relevance of Acre evolution graph

Narrative Analysis

Past Narratives [3, 4]

The history of Acre dates back nearly 4500 years. Acre was first mentioned in the Ebla tabloids dated circa 2400 – 2250 BCE, and even if there are no remains from this period, this datum shows the importance of its location, and how this made it favourable for trade in the region. What follows is an overview on the changes in the regional significance of Acre linked to the trade routes, supported by the historic evolution of the city, paying special attention to the value of the city, the significance of the water, and the evolution of urban elements in each period of time.

Regional Significance

The following diagram (Figure 2) summarises Acre's regional significance fluctuation over time. Its relevance was augmented during the Crusader and Ottoman periods, and diminished with the Mamelukes, and during the British Mandate when Haifa became the reference port in Israel.

Acre maintained its role as a gate between continents as a constant, its link to the sea routes was enhanced during the more western and Christian periods, and the land routes were promoted during the Arab eras, as a way to economically link the far East with the West.

Historic Overview of Acre

Tel Akko: shifting the importance from the land to the sea

The oldest remnants of Acre date to the Bronze Age (3000 B.C.), and are related to Tel Akko, an artificial hill formed from the accumulated remains of mudbricks and other remnants of generations that had lived on this site for centuries (Wilkinson, 2003), some kilometres away from the current Old City of Acre (See Figure 3).

Tel Akko was located in the path of the Via Maris, and other ancient trade routes connecting Africa, Asia, and Europe, which dated to the early Bronze Age. The regional geostrategic location of the settlement will be permanent throughout history, while these ancient routes become highly influential in the socio-economic development of Acre (See Figure 4).

3 To avoid constant repetition of the sources throughout the Past Narratives section, it is noted that the bibliography consulted on the history of the Mediterranean and Acre is as follows: (Abulafia, 2011; Aubet, 1994; Avni, 2011; Bacci & Fribourg Colloquium, 2014; Braudel, 1994; Braudel et al., 1997; Cunliffe, 2017; Folda, 2005; Jacoby, 1977, 2015; Norwich, 2006; Sakel et al., 2014)

4 The data mapped on the heritage of Acre is mainly extracted from the World Heritage documentation (World Heritage Centre, 2001, 2013) and the documents by the Israeli Antiquities Authority (IAA): (Boas, 1997; Folda, 2005; Kedar & Stern, 1995; Kool, 1997; Smithline et al., 2013; E. Stern, 1999b, 1999a, 2001, 2014; E. J. Stern, 2013; E. J. Stern et al., 2017)

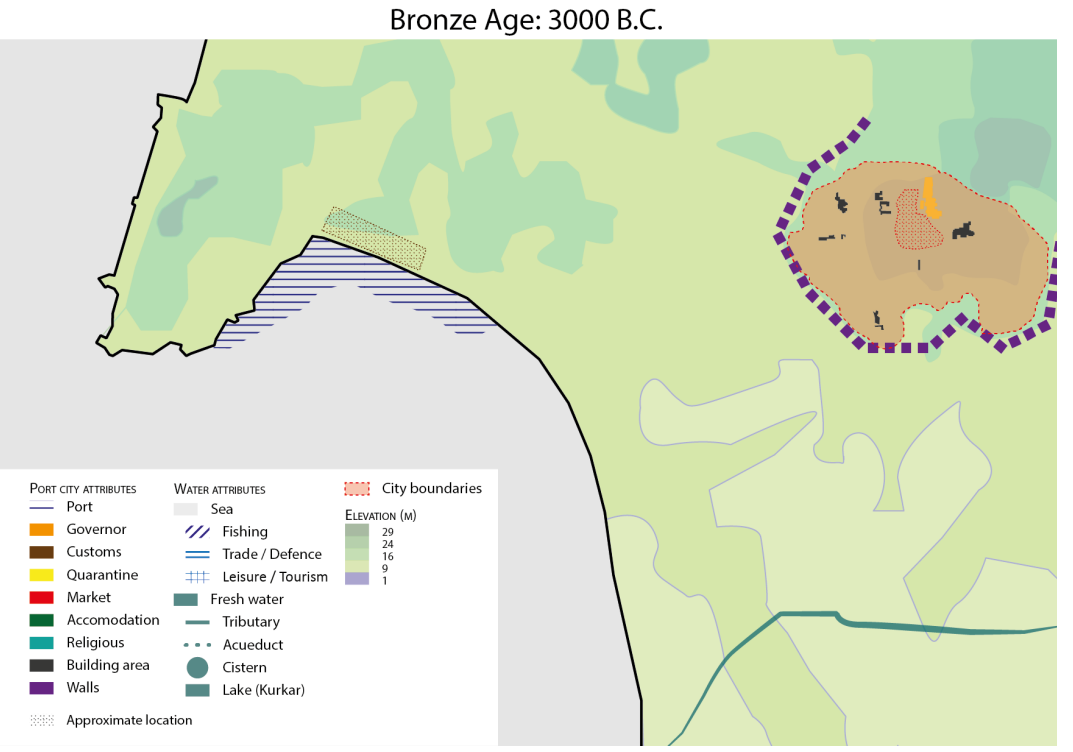

FIGURE 3 Tel Akko – Boundary and port city attributes.

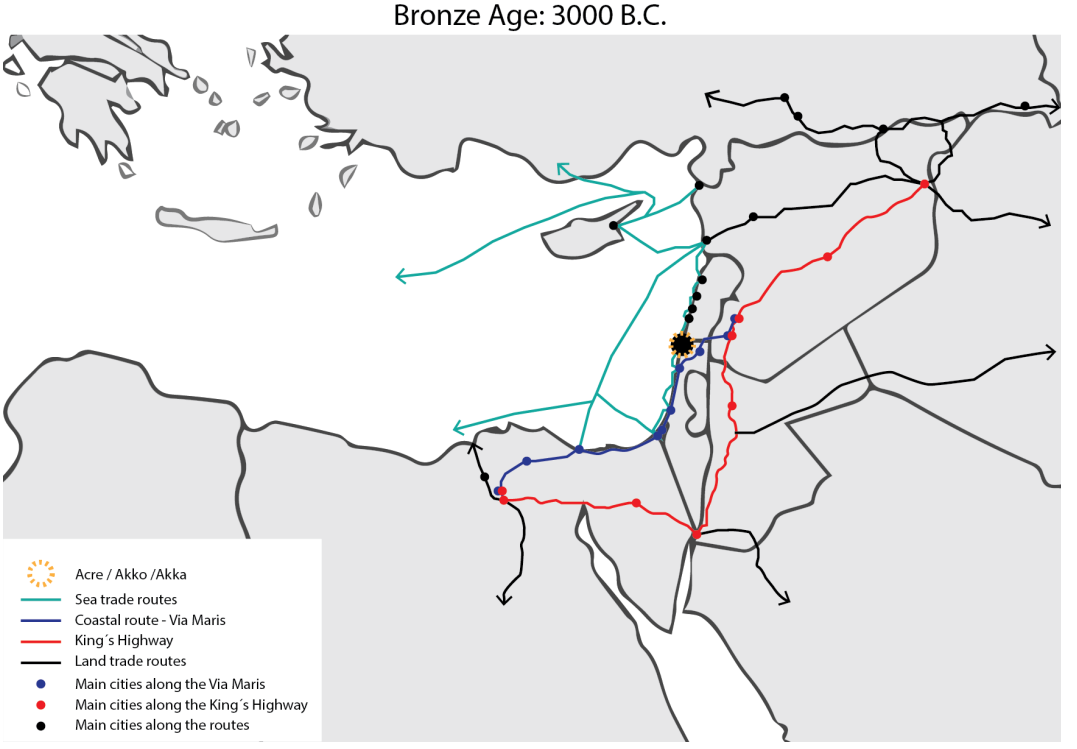

FIGURE 4 Ancient Levant trade routes - The Via Maris (purple), King's Highway (red), and other ancient Levantine trade routes, c. 1300 BCE - https://en.wikipedia.org/wiki/King%27s_Highway_(ancient)

The location of the Tel was determined by the existence of a river tributary and fertile land. The proximity to the ocean was also advantageous, so the city only stayed linked to the river until trade and defence gained importance and the sea became the cornerstone for Acre's evolution. The following quote by Richard de Templo during the Third Crusade, not only confirms but strengthens the importance of the city location and its relationship with the water bodies.

A city called Ptolemais was formerly situated on top of Mount Turon, which lies in the vicinity of the city... The river which flows to the city is called the Belus. It has a narrow bed and is not deep, but Solinus claims no little glory for it, including it among the wonders of the world and stating that it has sands like glass... Mount Carmel rises loftily on the south side of the city.

A writer during the Crusader. From Richard the Lionheart: The Crusader King of England By W. B. Bartlett. (Bartlett, 2019).

During the Iron period (1200 B.C. – 525 B.C.), trade continues to be the main enterprise. Yet, the more favourable agricultural position of other cities, like Tell Keisan, decreased Acre's significance. This was to be regained with the conquest of the Assyrian Empire, which benefited from the natural barrier of the sea to promote a trade port and became the major Persian harbour (525 B.C. – 332 B.C.).
During this period, the location of the city shifts to the more strategic peninsula at the seashore.
The Phoenician presence in the Mediterranean enhanced sea trade. The proximity of Acre to the main Phoenician cities of Tyre and Sidon made its port active, promoting it as one of the most important in the region (See Figure 5).

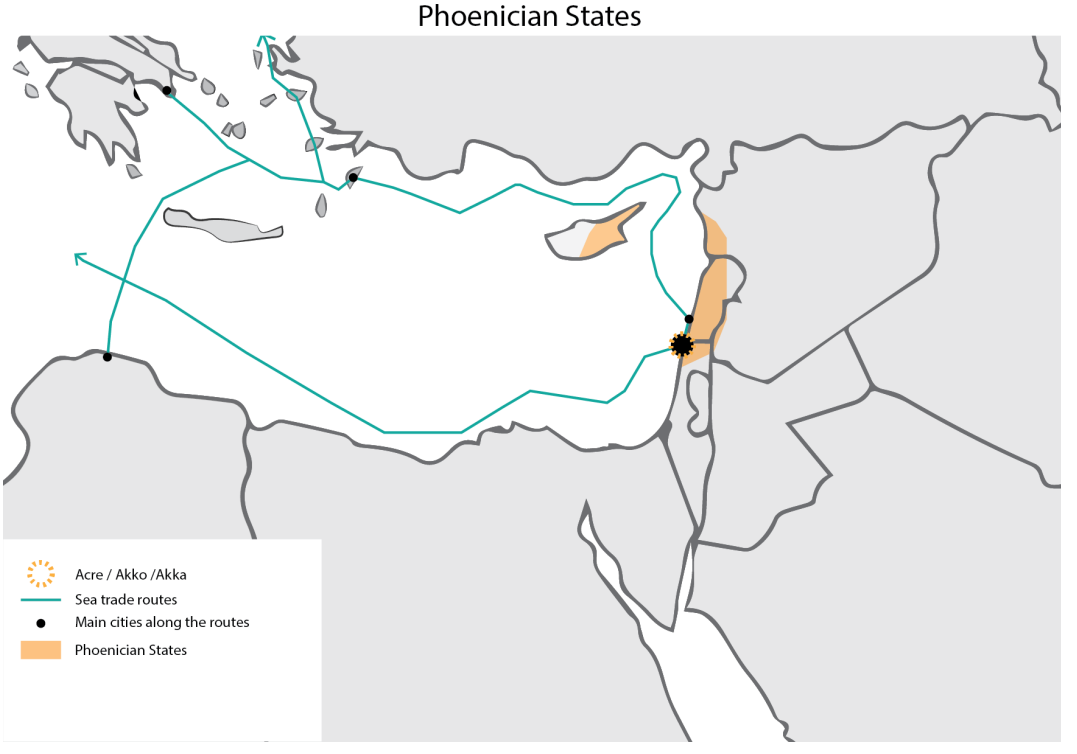

FIGURE 5 Phoenician and Greek trade routes.

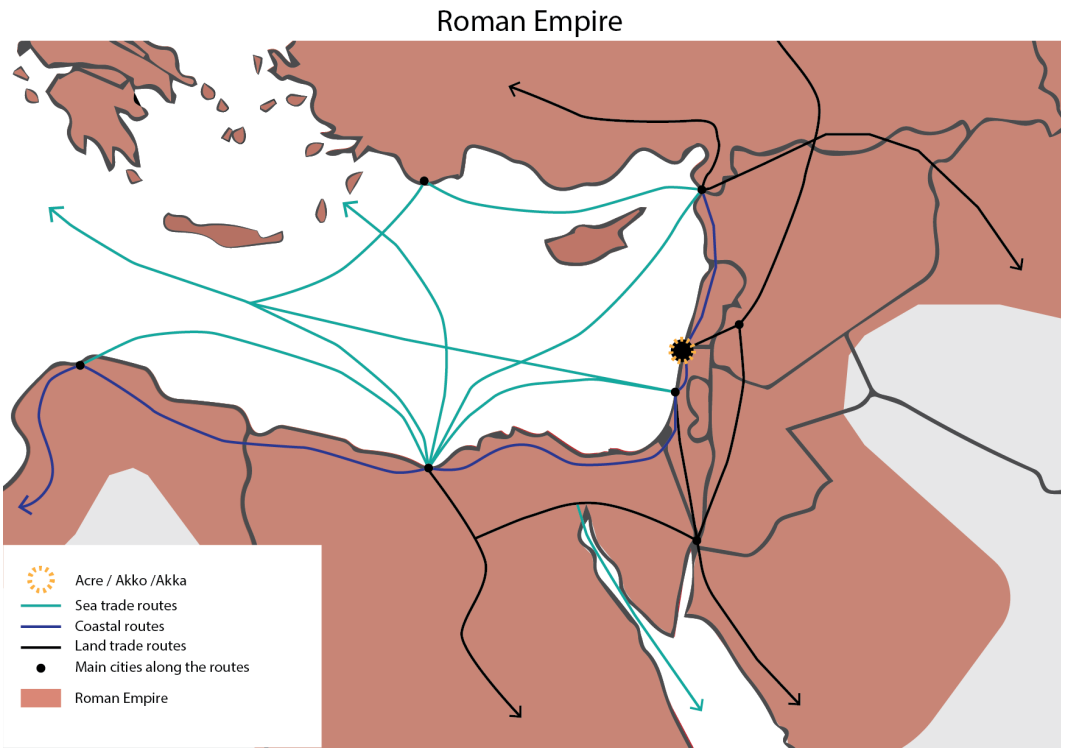

FIGURE 6 Roman Empire trade routes.

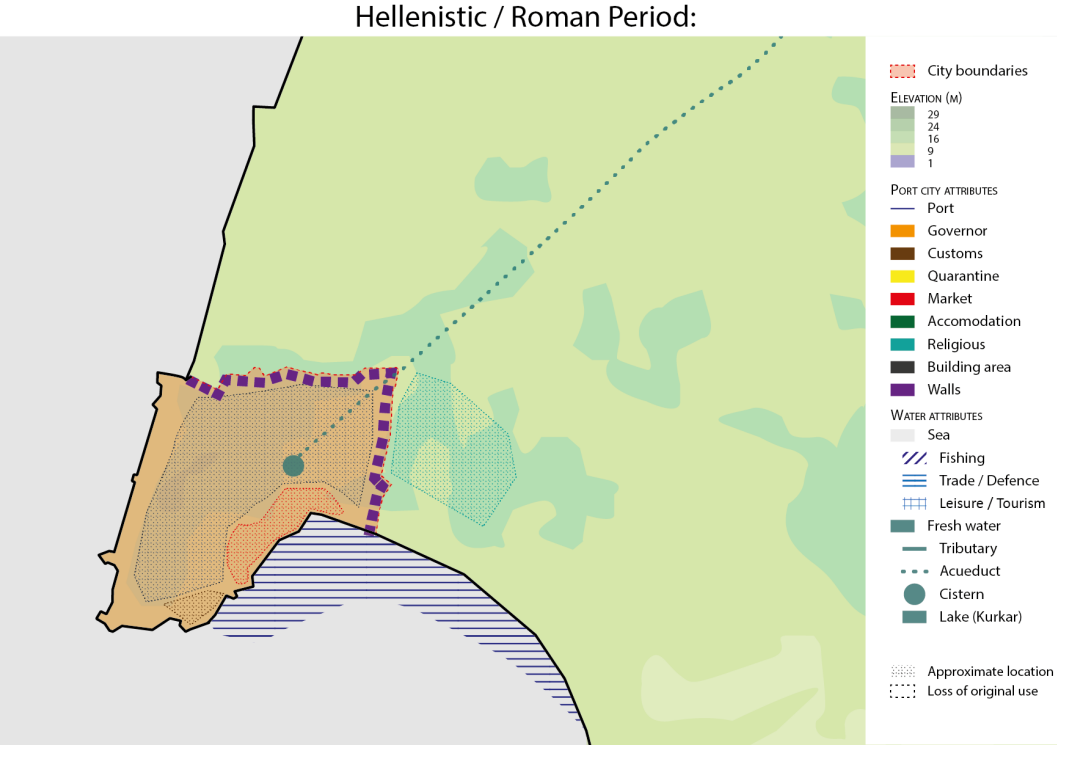

FIGURE 7 Acre: Hellenistic/Roman Period – Boundary and port city attributes.

Prosperity of Acre as a strategic harbour

During the Hellenistic period, thanks to Alexander of Macedonia (332 – 312 BCE), the city gained popularity as a main port and formed a strategic piece in the Macedonian Empire. They maintained most of the previous Phoenician sea routes, conferring the Mediterranean Sea with its world economic status (See Figure 5).

The Roman Empire also took Acre as a main maritime link after Pompey's conquest of the land of Israel in 55 B.C. Their influence went beyond the sea routes, creating an intricate sea-land route network that guaranteed the Empire's survival for centuries. Acre was again important in the Levant region, and served as a gateway to the sea (Figure 6). The Roman presence enhanced the urban development of Acre by expanding the city to include Roman elements, such as the cemetery on the western side of the city (Figure 7).

The biggest contribution of the Romans to Acre is linked to the significance of the water. Even though the sea remains the main water body, a fresh water system was built consisting of an aqueduct bringing water from the north east, and a cistern in the centre of the old city (in the place where we find the Al-Jazzer Mosque nowadays).

Foundation of a fortified city

Throughout the following centuries, the fight to win Acre remained a constant. This quote by a writer from the Crusader period predicts this fact in a poetic way, showing how the city was perceived as the centre of the world.

Acre will certainly win eternal fame for the whole globe assembled to fight for her.

A writer during the Crusader. From Richard the Lionheart: The Crusader King of England By W. B. Bartlett. (Bartlett, 2019).

Its geographic location at the intersection between the three continents, made it a fundamental piece for the Asia – Mediterranean trade. It was in this moment that the ancient trade routes formalised and morphed into the Byzantine routes (See Figure 8).

During these medieval times, a more formalised city was built. First, the fortification of the city was constructed, delimiting the area where the Byzantine Empire (330 A.C. – 638 A.C.) built the foundations of Acre, as a port city strategically located in the Mediterranean. This would become the main port of Palestine during the Early Arab Period (638 – 1099 A.C.).

The value as a trade centre is highlighted through the building of a large mosque, and, with the extension of the city, resulted in an area much bigger than the current Old City area (See Figure 9). The foundations of the city served as a basis for the Crusader urban fabric.

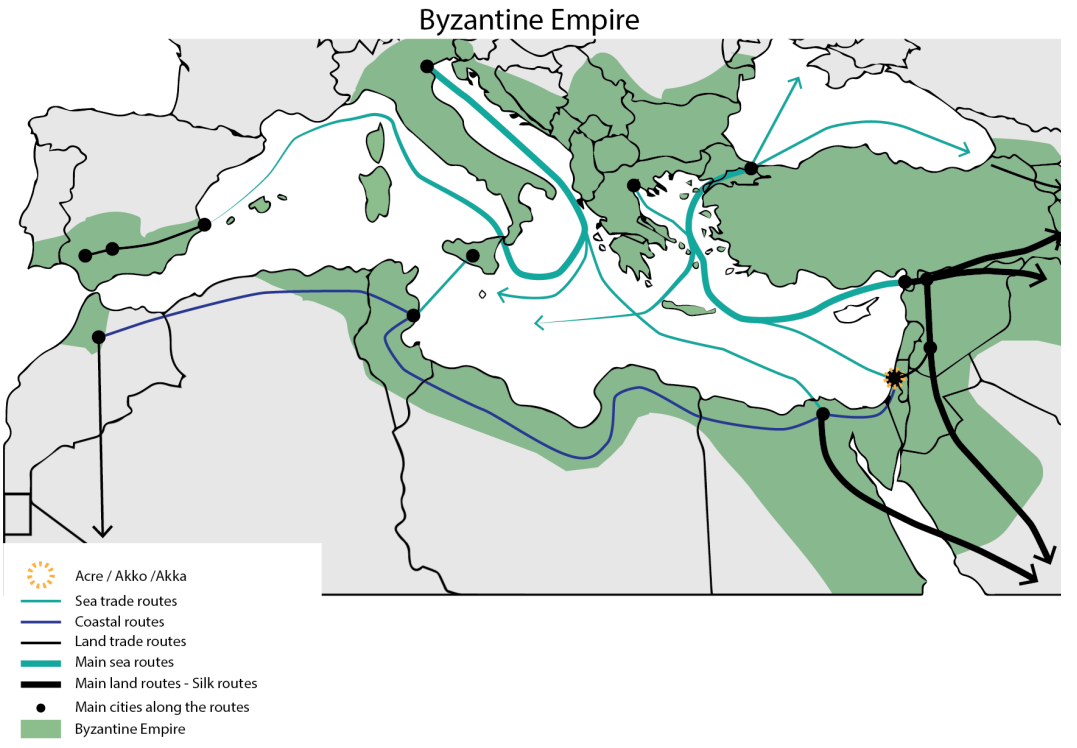

FIGURE 8 Byzantine trade routes A.D. 1028

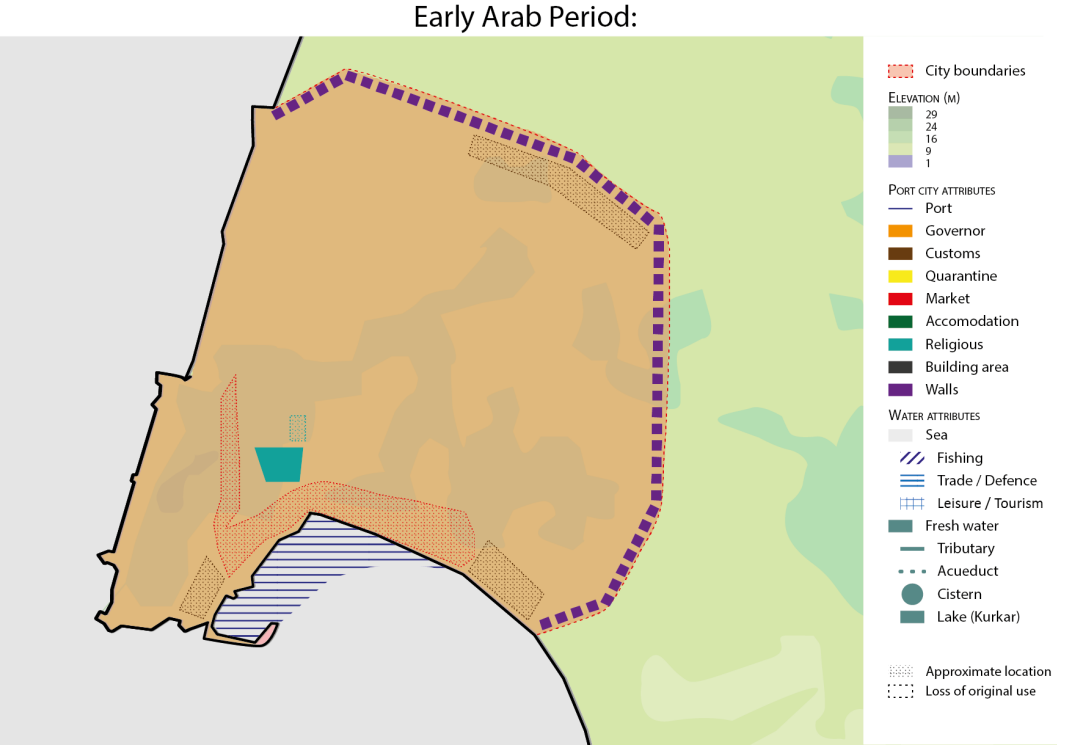

FIGURE 9 Acre: Early Arab Period – Boundary and port city attributes.

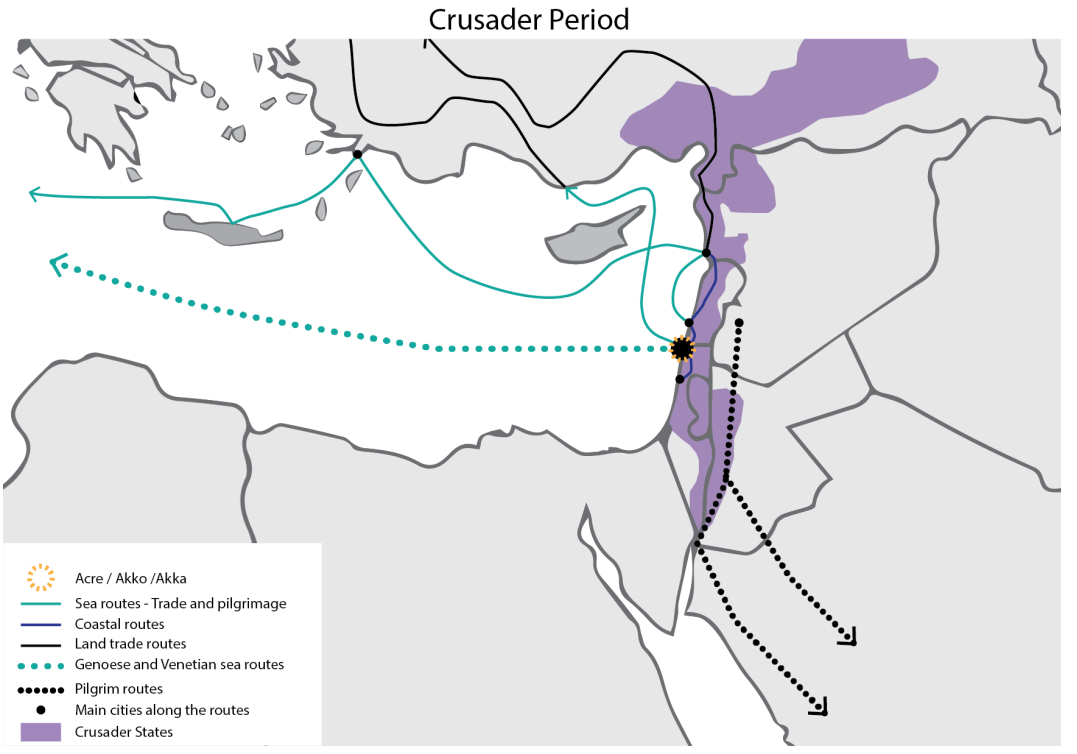

FIGURE 10 Crusader states and routes.

Acre continued to be a main port, becoming the main port of the eastern Mediterranean, and the kingdom of Jerusalem around 1170. Its value not only resided in its strategic location and the trade, but another value is created: the religious. During the Crusader period (1099 A.D. – 1291 A.D.), pilgrimage to the Holy land is crucial for Christians coming mostly from Europe, as well as for Muslims going to Mecca. The pilgrim routes, linked to the political and religious setting, work mostly separately, differing from previous ways (See Figure 10).

The city is triangular in shape: narrower on the west, more extended on the east. More than a third of its perimeter, on the south and west, is enclosed by the flowing waves. Its harbour is not as good as it should be. It often fails to protect vessel wintering there so that they are smashed to pieces, because the outcrop of rock which runs parallel to the shore is too low to break the force of wave in a storm.

In Itinerarium Peregrinorum et Gesta Regis Ricardi (Journey of the crusaders and deeds of King Richard) by Richard de Templo, an English Augustinian canon (also known as Richard of Holy Trinity or Richard of London). (Nicholson, 2010)

Richard de Templo, an English Augustinian canon, in the 13th century describes the city as above, highlighting the difficulties in accessing the port and the inefficiency of the seawall. This element would be strengthened during the following decades by the Crusaders, turning it into the main port for pilgrims.

The city of Acre became the main port of pilgrimage to the Holy Land, but it lacked holy elements. This fact encouraged the sacralisation of the city through the construction of churches in every neighbourhood, related to various relics. At the same time, its value as a trade city at the intersection of continents, and land and sea routes, attracted foreign merchants who moved into the city. The combination of these two elements: the sacralisation of the city and the settlement of foreign traders resulted in the urban tissue presented in the following plan (See Figure 11).

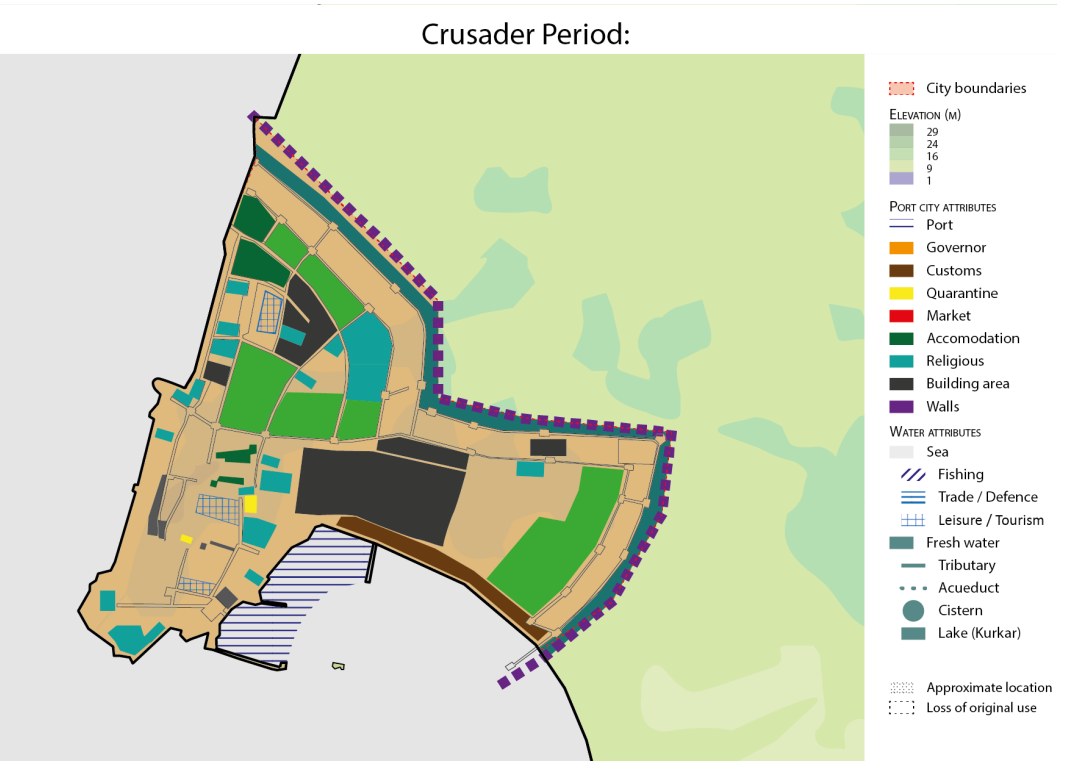

FIGURE 11 Acre: Crusader Period – Boundary and port city attributes.

An important feature of the urban layout of Crusader-period Acre was the physical division within the city between the various maritime communes and the military orders. The value as a religious destination for Christian pilgrims is showcased as each quarter revolves around a main or multiple churches (See Figures 12 and 13). Additionally, the value as a trade city is highlighted by the port city attributes (governor, religious buildings, etc.) with special emphasis on the importance of the port and the walls.

FIGURE 12 Crusader map and aerial view with urban division. The Hebrew University and The Jewish National and University Library.

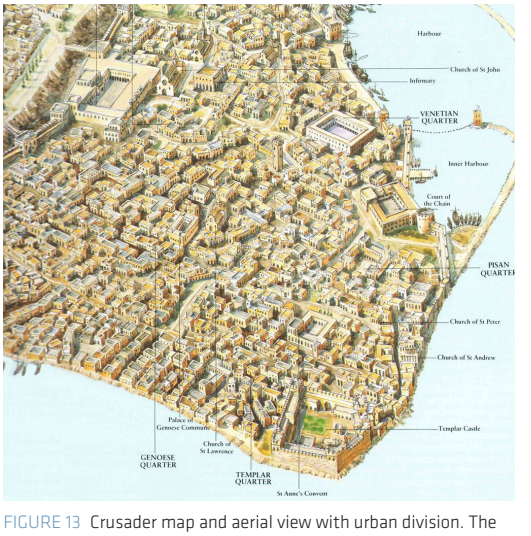

FIGURE 13 Crusader map and aerial view with urban division. The Hebrew University and The Jewish National and University Library.

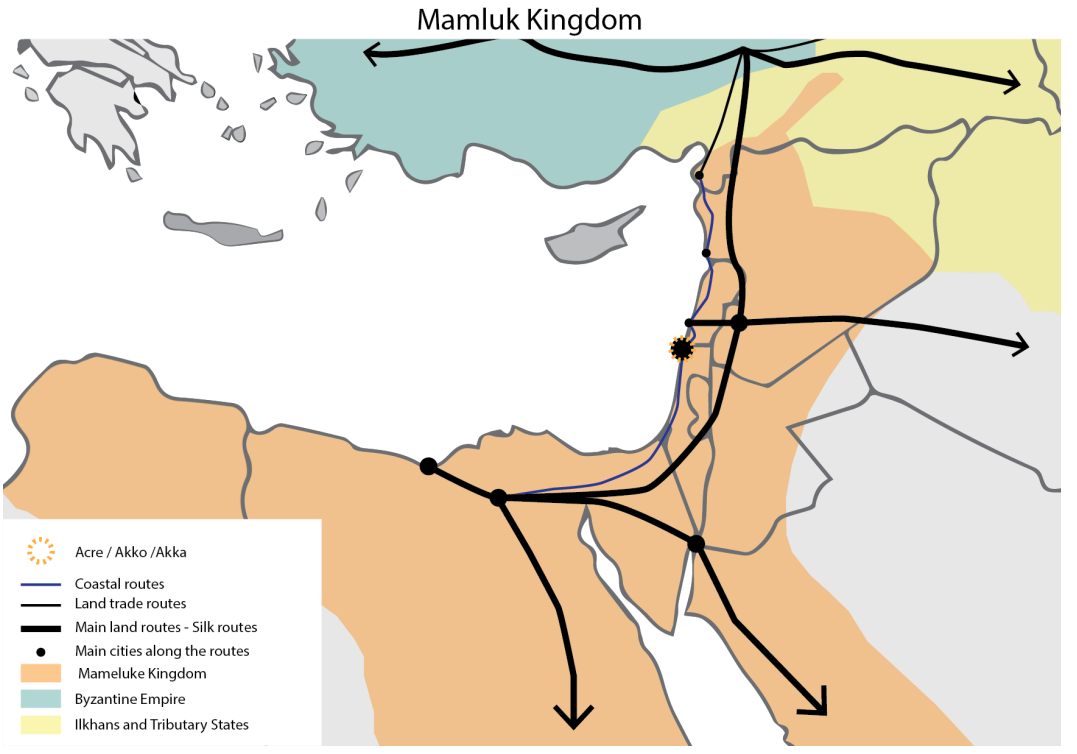

FIGURE 14 Mamluk expansion.

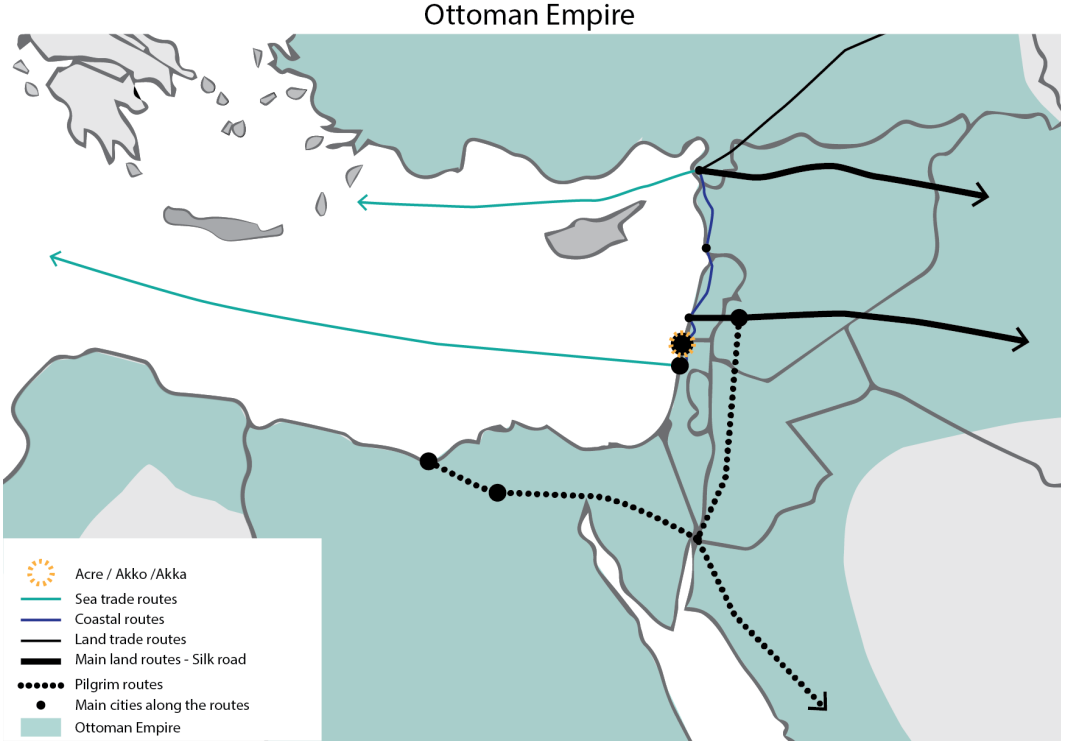

FIGURE 15 Ottoman trade routes and Sinai – Beirut Railway.

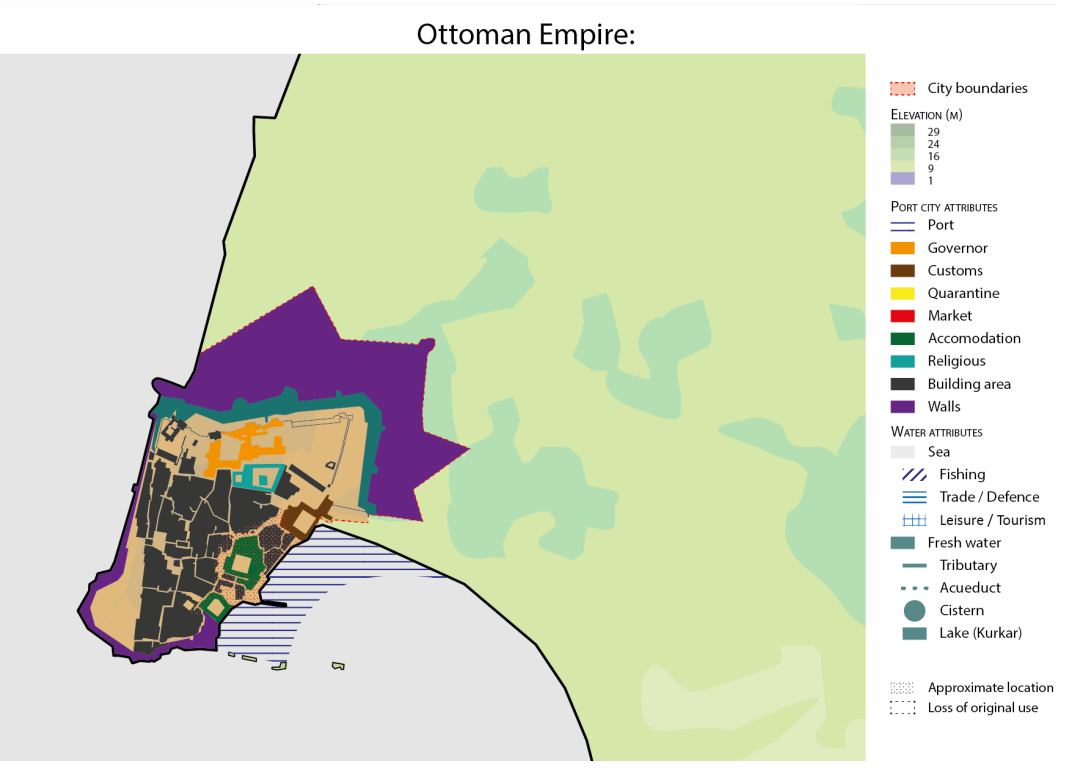

FIGURE 16 Acre: Ottoman Empire – Boundary and port city attributes

Decay and Rebirth

These two constant values, the trade hub and its strategic location continued even after the Mameluke capture of the city. The trade towards the Christian West remained limited during the Mamluk period (1291 A.D. – 1517 A.D.), but the connections with the Muslim dynasties continued with the trading activities in the Levantine coast (Figure 14). This event changed the social fabric of the city, as most Italian traders fled to Cyprus, and the city's population was reduced to the remaining Arab and Jewish communities.
Amid the decay, the port was still in use and the city welcomed traders and Muslim pilgrims, providing continuity to the urban heritage linked to commerce and Islamic religion. The city was revived during the Ottoman period (1517 A.D. – 1917 A.D.), when it became the capital of the autonomous sheikhdom.
The existing trade routes were maintained, as the Ottoman routes strengthened, thanks to the construction of the railway during the late Ottoman years (Figure 15). The line joined Haifa with Damascus, via Acre, shifting Acre's importance to Haifa. During this time, a new city was built over the Crusader ruins. The main rulers of this period, Zahir al-Umar and al-Jazzar, undertook ambitious architectural projects linked to trade, like the adaptation of main buildings into caravanserai (khan), accommodation for travellers (Figure 16).
The enthusiasm for the city and its tourism potential is expressed by Sir Laurence Oliphant, and is described in his book *Haifa – Living in Modern Israel* at the end of the 19th century, as follows:

"Nowhere in the East will you find a more typical market than that of Acre...
Acre is a most interesting place to spend a few days, not to mention its delightful antiquities or its new buildings which are undoubtedly worthy of attention..."

Quote by Sir Laurence Oliphant from "In Haifa – Living in Modern Israel" (Dana, 1886)

The religious value was created during the Crusader period prevails, and materialised with the construction of mosques. Also, the presence and influence of the Baha'i faith should be noted. The religious leader and founder of this religion, Bahá'u'lláh, lived and died in Acre (1868-1892), leaving prominent sacred places for Bahá'ís, and Bahá'í pilgrimage sites in the city: the mansion, the shrine, and surrounding gardens.

Expansion of the City and the Development of Tourism

After 500 years under the Ottoman government, the British (1917 A.D. – 1948 A.D.) overtook Acre. At the regional level, during the end of the 19th century, the port of Haifa gained importance, shifting Acre's trade activities to the new and bigger port (Figure 18). Acre would remain a fishing and craftsmanship town, its trade value having been lost. The railway continued to increase in importance as more lines were built by Palestine Railways government company.
During this time, the city was reconstructed and expanded (See Figure 17). On the one hand, the British converted the fort into a prison, while on the other, they developed the new city of Acre extra-murus.
The design of the new expansion followed an orthogonal grid in contrast with the organic pattern of the Old City (Figure 19).

FIGURE 17 *Acre in 1841, as mapped by the British Royal Engineers after the Oriental Crisis of 1840. From Wikipedia Commons*

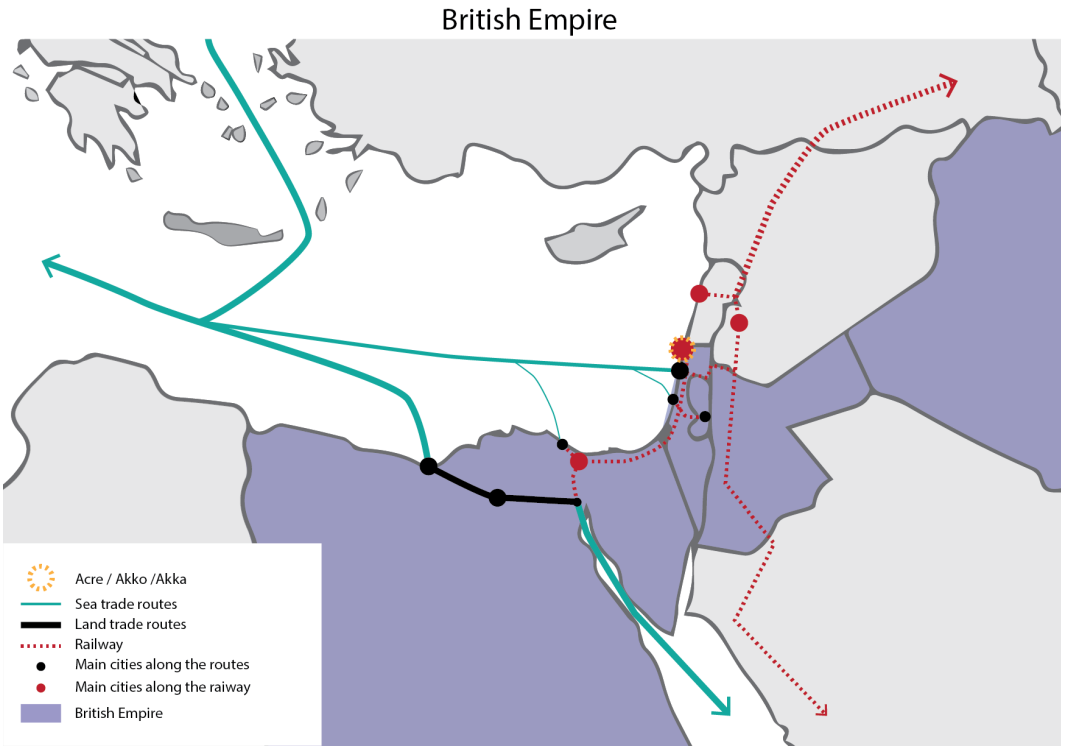

FIGURE 18 British Empire trade routes along the Mediterranean.

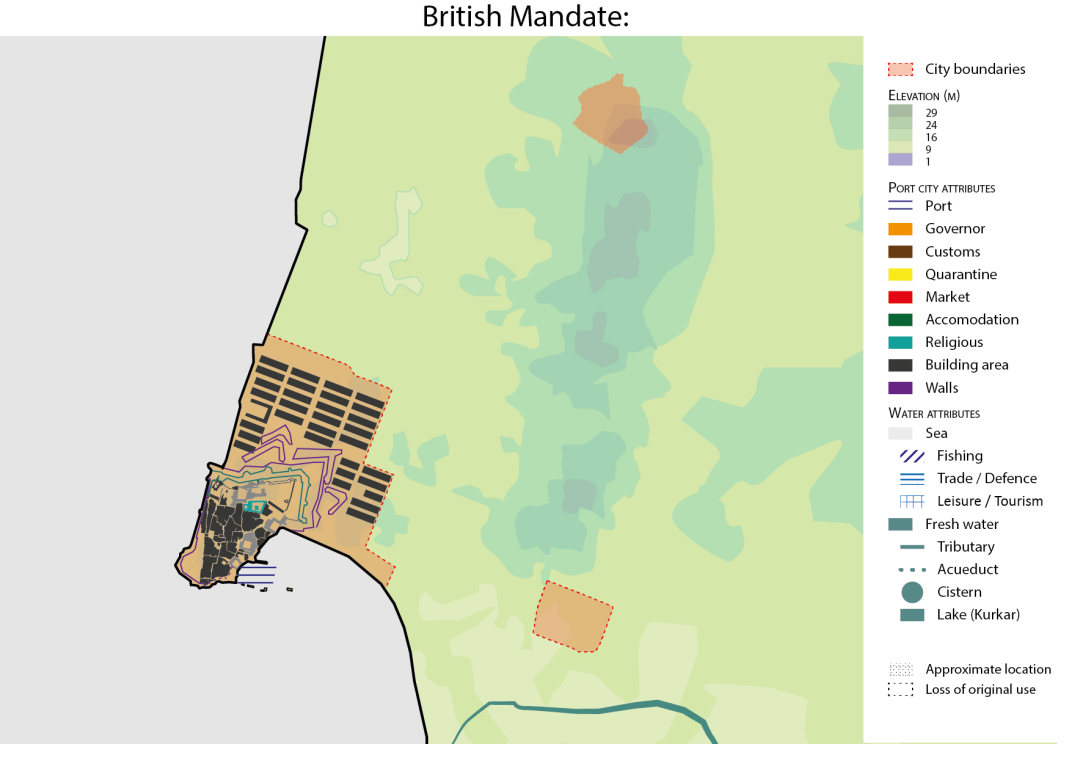

FIGURE 19 Acre: British Mandate – Boundary.

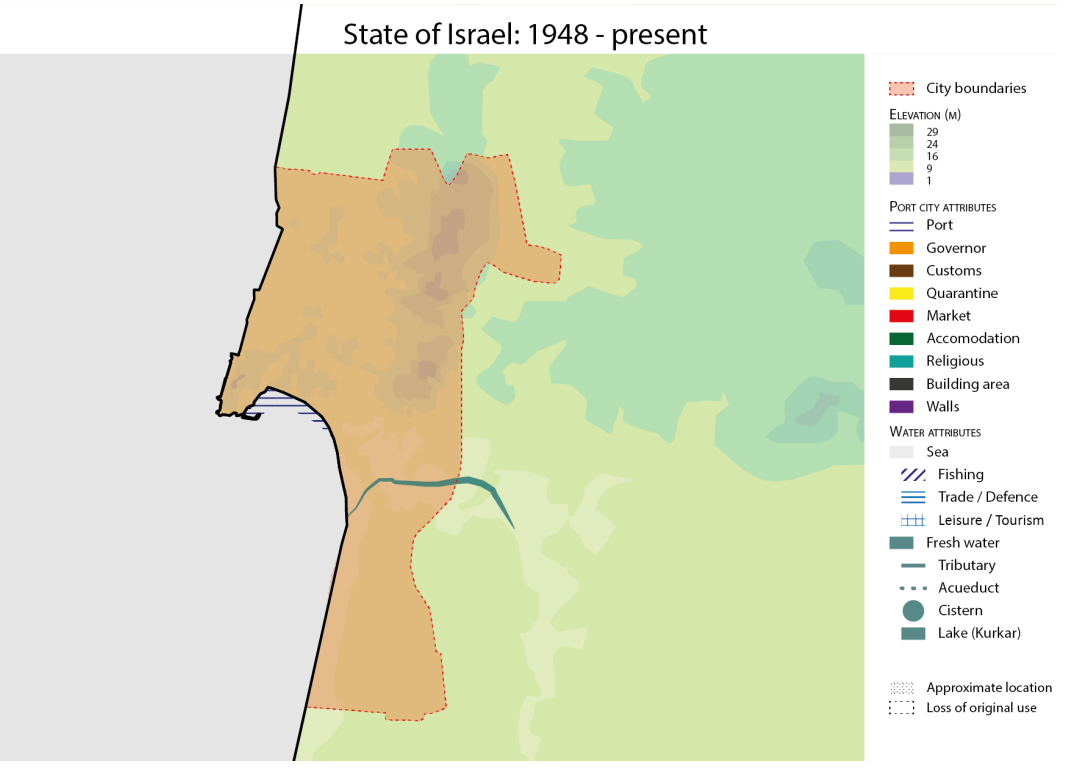

FIGURE 20 State of Israel boundaries.

In 1948, the State of Israel was founded. The regional significance of Acre was maintained as a fishing port and its importance resided in its political value linked to the Israeli-Palestinian conflict, which drove constant demographic change until the 1990s (Central Bureau of Statistics, Government of Israel, 2018; Della Pergola & Jewish People Policy Institute, 2011). In 2001, the World Heritage nomination repositioned Acre as a touristic destination (World Heritage Centre, 2001).

The migration of Jewish people from all over the world influenced the urban development of Acre, which underwent its largest expansion up to the current boundaries of the city (See Figure 20). This new fabric followed the modern values, the British Mandate adjacent areas maintained their street alignment and plot proportions, as well as materiality and style. The modern infrastructure contrasts with that of the Old City, as it includes the railway, a wider and orthogonal street grid, a planned water and electricity system, and other updated elements.

Analysis of the Attributes of Urban Heritage Identity in Port Cities

The historic overview showcases how the complexity and multiplicity of historic periods influenced Acre's urban heritage. The values of each period materialise into elements that continue, are adapted, or erased, supporting the narratives of the city in each period. The urban transformations found in Acre are related to its status as a port city. These include the port city attributes which have been mapped (Figures 3 - 20), and their evolution is analysed in this section. In the following tables (Table 1, Table 2, Table 3, and Table 4), these elements are identified and marked in different colours to show how the attributes continue (green), adapt (orange), are preserved (blue), or erased (red). The continuity, the adaptation, or the erasure of the port city attributes is linked to the past narratives. The analysis of the interrelations between the city attributes in a given period, or between the same attribute over time identifies historic trends, can help understand the narratives over time, and could ultimately inform current adaptive reuse processes.

WIDER CONTEXT					
URBAN HERITAGE IDENTITY ATTRIBUTES IN ACRE	PORT CITY ATTRIBUTES TO BE ANALYSED	TIME			
		CRUSADER	OTTOMAN	BRITISH RULE	MODERN State of Israel
Natural features					
Interaction with the environment					
Hydrology	SEA, TRIBUTARY, FRESHWATER SYSTEMS	SEA: Trade and pilgrim routes. Military	SEA: Trade and military	SEA: Fishing	SEA: Leisure
			KURKAR: Freshwater	KURKAR: Erased due to being a source of infection	KURKAR: Reactivated as a fresh water source
Views and vistas					
Orientation (e.g. to seaside, mountains, river fronts)	TEL AKKO AND THE PENINSULA OF ACRE	Peninsula of Acre, seafront	Peninsula and part of the bay. Seafront	Peninsula, seafront	Extended Acre, peninsula, bay, tel and beyond
Skylines					
Legend					
	Not found	Found / Continue	Adapted / Different location	Preserved / Conserved	Erased

TABLE 1 Acre's wider context heritage elements and port city attributes over four periods of time.

At the wider level, the sea and the orography of Acre remain constant. The peninsula is maintained as a strategic location, except during the Bronze and Iron Age, when the inland boundaries expanded accordingly. The use of the sea adapted to the needs of every period, this being one of the indicators of the main narratives over time. The fresh-water lake, *kurkar*, was erased during the British Rule due to it being a source of infection. The ecological value of this attribute was reconsidered, as fresh water availability became a priority in the region.

Trends can be distilled from the urban attribute analysis. In most cases:

- The Crusader elements are used as a foundation by the Ottoman, who adapt the use to their priorities.
- The British follow a conservation approach including additional elements for the same use in the city extension, while the Crusader and Ottoman elements are preserved, though detached from their original use (e.g. the city walls are no longer used for defence).
- The State of Israel continues the British approach, extending the city limits, and adapting the elements to the current needs (e.g. the harbour converted into a marina for tourism).

URBAN ELEMENTS					
URBAN HERITAGE IDENTITY ATTRIBUTES IN ACRE	PORT CITY ATTRIBUTES TO BE ANALYSED	TIME			
		CRUSADER	OTTOMAN	BRITISH RULE	MODERN State of Israel
City walls		Stone walls in similar location as Roman	Reconstruction and strengthening of previous walls	Conservation of walls, not used for defence	Conservation of walls, new uses of the moat
Markets	ZOUK, MARKETS, COMMERCIAL AREA	Market area in every quarter	Area among and between the khans. The white market	Markets in the Old city	Markets in the Old City
				Markets in the new extension	Markets in the new City
Architectural Identities					
Historical layers	CRUSADER, OTTOMAN, BRITISH EMPIRE, MODERN	Crusader layer on the Roman base	New layer on top of the Crusader	Protection of previous two layers, new city extension	City expansion beyond previous layers.
Urban water systems and water elements	FRESH WATER PROVISION, ACCESS TO THE SEA	Use of Roman cistern and aqueduct	Use of Roman cistern water for the Mosque.	Use of Roman cistern water for the Mosque.	Use of Roman cistern water for the Mosque.
			Kurkar used for water provision.	Cancellation of kurkar due to infection.	
			Fountain network.	Fountain network.	Underground urban water system.
Local communities and social groups					
Migrant communities		TRADERS: Genoa, Venice, Pisa, Middle East	TRADERS: Ottoman Empire		
		PILGRIMS: Western European			
				Jewish communities from Russia and Eastern Europe	Jewish communities from Eastern Europe, Northern Africa, and Asia
				British citizens, military, diplomats	Israeli citizens
Street vendors/ cafes					
Port/ Harbour	PORT ENTRANCE, LIGHTHOUSE, CHANNELS, SEAWALL	Inner and external harbour, island of flies with lighthouse and seawall	Inner and external harbour, island of flies with lighthouse and seawall; upgrade of key buildings (khans)	Seawall deteriorated; inner harbour mainly used; decay of harbour and its key buildings	Harbour used for fishing and tourism; upgrade of the port to a marina

Legend					
	Not found	Found / Continue	Adapted / Different location	Preserved / Conserved	Erased

TABLE 2 Acre's urban heritage elements and port city attributes over four periods of time

Adaptive reuse is a constant in the architectural heritage of Acre. An example of this is al-Jazzer Mosque, which was built on top of the Cathedral of the Holy Cross (Radojewski, 2010) reusing stones from the ancient ruins of Cesaerea (Schvoerer et al., 1999).

ARCHITECTURAL ELEMENTS					
URBAN HERITAGE IDENTITY ATTRIBUTES IN ACRE	PORT CITY ATTRIBUTES TO BE ANALYSED	TIME			
		CRUSADER	OTTOMAN	BRITISH RULE	MODERN State of Israel
Governor building		Hospitaller's Castle	Reconstruction and strengthening of previous walls		
Customs building		Castle (khan)	Khan		
Quarantine building		Infirmary	Khan		
Religious buildings		Churches	Mosques	Churches, mosques, and new synagogue in the expansion	Synagogues, churches, and mosques
Travellers' accommodation	CARAVANSERAI	Religious hospitals	Khan Al-Umdan, Khan Al- Shawanti, Khan , Khan		Hostels, hotels
Ledgend	Not found	Found / Continue	Adapted / Different location	Preserved / Conserved	Erased

TABLE 3 Acre's architectural heritage elements and port city attributes over four periods of time

ELEMENTS OF INTANGIBLE CULTURAL HERITAGE (UNESCO, 2004)					
URBAN HERITAGE IDENTITY ATTRIBUTES IN ACRE	PORT CITY ATTRIBUTES TO BE ANALYSED	TIME			
		CRUSADER	OTTOMAN	BRITISH RULE	MODERN State of Israel
Festivals					
Markets					
Social mix					
Cultural diversity	MULTICULTURAL SOCIETIES	Palestinian	Palestinian	Palestinian	Palestinian
		Italian	Ottoman	British	Israel
		Middle Eastern	Middle Eastern	Middle Eastern	Middle Eastern
		Western European		Russian and Eastern European	Russian and Eastern European
		Christian			
		Jewish	Jewish	Jewish	Jewish
		Muslim	Muslim	Muslim	Muslim
			Baha'i	Baha'i	Baha'i
Spirit of place					
Legend					
	Not found	Found / Continue	Adapted / Different location	Preserved / Conserved	Erased

TABLE 4 Acre's intangible cultural heritage elements and port city attributes over four periods of time.

These two points showcase the importance of reuse in the evolution of Acre, at a wide range of levels: from the reuse of materials, the adaptation of buildings, and the reassessment of urban values, like trade. The multiculturality is linked to the constant migrant communities identified in the urban attributes. This intangible heritage is perceived in the multiplicity and diversity of identities present in the city. The historic buildings and traditional festivals cover a wide range of cultures and religions, while the ambiance in the city keeps changing as we move from one area to another.

New Narratives

The new narratives created after the foundation of the State of Israel are heavily influenced by the creation of municipal and local authorities dealing with the urban and heritage components in Acre, as well as the regulations linked to them. The development of the planning guidelines, city master plan, and conservation plan promoted the protection of the Old City as well as the adequate development of the new city. The former is showcased by the inclusion of the Old City of Acre on the list of World Heritage Sites by UNESCO in 2001 (World Heritage Centre, 2001). The Outstanding Universal Value is inherent in the Crusader and Ottoman layers, which form the basis for conservation and are a priority for the Israeli Antiquity Authority, while also forming the narrative for tourism promotion.

The World Heritage nomination returned regional importance to Acre, but rather than trading activity, tourism was enhanced. This is the focus of the current stakeholders in Acre, who adapt the existing structures and activities to serve this new and growing economic activity. The transformations derived from tourism range from the conversion of households and heritage buildings into tourist accommodation, warehouses and craft workshops, souvenir shops and restaurants; fishing has been substituted by boat tours, and the historic Ottoman and Crusader buildings are used as museums and tourist attractions.

The Narratives of Today's Stakeholders

These new narratives are shaped by the modern needs and demands (Butler & Hinch, 2007), with the influence of past narratives. The following tables show the variety of views from different actors in Acre. The first one ( ) focuses on the public, private, and civil society, while Table 6 delves into tourists' perceptions.

In the following table, we can appreciate how the stakeholders, grouped by their role in society (public, private, or civil society) base their interests and values on past narratives, and are mainly concerned with certain issues (divided into economic, cultural, social, religious, or World Heritage nomination status). The aim of this exercise is to acquire a holistic understanding of Acre's actors' perceptions, to extract each one's interests and incentives. The following table shows how these intertwine:

The narratives of the current stakeholders share the following points:

- The Ottoman period is relevant for most of the stakeholders.
- Economic development is a priority, and heritage conservation is also important for some: mainly, the preservation of the Old City and the harbour.
- The Crusader remnants are only valued by the IAA and international tourists.
- The British expansion and the new city are valued for their development potential, but do not generate touristic or cultural interest.
- The port city attributes relevant to the city settlers and tourists are confined to the Old City as a whole, the Ottoman heritage such as Al-Jazzer mosque, and the Hammam, the port, and the market.
- By contrast, investors value the built heritage in the Old City, depending on its potential for touristic accommodation (e.g. transformation of buildings into hotels)

An analysis of Instagram posts was the main source used to develop the following "Table 5." In order to get an understanding of different tourists' perceptions of the city, the posts under three different hashtags were analysed. The Hebrew and Arabic versions of "#Acre" (#וכלא and #عكا) aim to understand Jewish and Arab perspectives, while #acreisrael intends to grasp the international tourist perceptions.

ELEMENTS OF INTANGIBLE CULTURAL HERITAGE (UNESCO, 2004)										
STAKEHOLDERS	TIME NARRATIVES				CURRENT ISSUES					SOURCES
	Crusader	Ottoman	British	State of Israel	Economic dev.	Conservation	Social inclusion	Religious	World Heritage	
PUBLIC										
Municipality										akko.muni.il/
Dev. Company										www.akko.org.il/en/Acre-Tourism-Development-Strategy
IAA										www.iaa-archives.org.il/
AMIDAR										www.amidar.co.il/
PRIVATE										
Muslim WAQF										Interview with WAQF member
Jews										Data provided by the IAA
Christian										Data provided by the IAA
Baha'i										Data provided by the IAA
Hotels										Data provided by the Dev. Co.
Investors										Data provided by the Dev. Co.
CIVIL SOCIETY										
Entrepreneurs										Entrepreneur Whatsapp group
Women's group										Women's group Leaflet
Old city settlers										Interview to Johayna Saifi (Saifi & Chávez, 2019)
New city settlers										

Legend

	Not found		Main narrative		Secondary narrative		Residual narrative

TABLE 5 Narratives by the stakeholders.

NARRATIVES BY TOURISTS										
STAKEHOLDERS	TIME NARRATIVES				URBAN HERITAGE / PORT ATTRIBUTES					SOURCES
	Crusader	Ottoman	British	State of Israel	Sea / Harbour	Old City	Market	Food	Religion	
Jewish Tourists										#עכו on Instagram 'Akko'
Arab Tourists										#عكا on Instagram 'Akka'
International Tourists										#acreisrael on Instagram

Legend

	Not found		Main narrative		Secondary narrative		Residual narrative

TABLE 6 Narratives by the stakeholders.

The studied elements are related to the four periods (Crusader, Ottoman, British, and State of Israel), and the port city attributes. After a first scan of the posts (Table 7), these were narrowed down to the harbour and the sea, the Old City, the market, and the food as part of the intangible cultural heritage.

The analysis shows how all tourists focus on the Old City, the food, and the sea; and how little difference is found among the Jewish and Arab hashtags regarding religious elements. The reduced importance given by the Jewish and Arab visitors to the historic layers should be noted, in contrast to the moderate appearance in the international posts. This clashes with the current political narrative in the country, which shows both communities deeply attached to their past history, and the analysis shows how both Jewish and Arab communities (as tourists in Acre) see the city in a similar way and value the same elements.

It should also be highlighted that international tourists share a similar perception to the "local" Jewish and Arab vision, with a small difference notable around religion and/or World Heritage. The Bahai sites are mainly visited by international tourists, probably due to them being pilgrim sites and UNESCO WH sites, while the Arab tourists focus more on Muslim buildings.

	Old City	Sea / Port	Food	Ottoman	Crusader	Market	Baha'i	Muslim	New City	Jewish	Christian	State of Israel	British	Comparative images
#acreisrael	242	219	64	50	41	35	30	28	5	4	4	2	1	0
#וכע (Akko)	41	59	35	5	1	8	1	4	4	5	0	0	0	0
#اتعع (Akka)	41	68	3	0	0	4	1	11	3	0	1	0	0	3

TABLE 7 Tourist perceptions on Instagram (24/08/2020).

The Case of Khan El-Umdan

To showcase how the analysed past and new narratives influence the adaptation of heritage, the case of Khan El-Umdan is portrayed.

First, the historic evolution of the building is studied, to understand the elements which continued, were adapted, or erased, using the same methodology as was used in the understanding of past narratives of the city. Secondly, the use, management and users of the Khan are studied to be compared with the current stakeholders' interests and values. The latter serves as the baseline to propose alternative uses for the building linked to the diverse actors, their interests, and values. The resulting matrix tables serve as the main tool by which to evaluate the points of consensus and conflict among the stakeholders' options. Finally, a combination of the uses provides a reasonable adaptive reuse alternative that would be accepted by all the stakeholders, aiming to mitigate the conflict of interests and respond to the actual needs through these new uses.

The adaptive reuse evaluation methodology tested in this case tries to exemplify how the analysis of past and new narratives could provide alternative adaptive reuse options in environments with dissonant stakeholders, and showcases how the current adaptive reuse processes are being managed.

Evolution of the Khan

Khan al-Umdan was built in 1784 on the site of the Royal Customs house of the Kingdom of Jerusalem, during the Crusader period. Refurbished to accommodate the growing needs brought by the expanding commerce, it is one of al-Jazzar's principal construction projects in the city and the biggest khan in Israel.

The khan is a rectangular two-storey building enclosing a spacious internal courtyard, with a pool in the middle. Flanking the courtyard on the ground floor, an arcade of red and black granite columns, taken from Caesarea, Atlit, and the ruins of Crusader monuments in Acre, give the name to the khan ("Caravanserai of the Pillars"). Behind the arcade are storage spaces covered with barrel vaults. The second-floor arcade is held up by masonry piers and leads into small cross-vaulted guests' rooms. In 1906, a tall clock tower was built adjacent to the main entrance to the khan.

Due to its proximity to the port, Khan al-Umdan has, throughout its history, been an important trading spot. Merchants arriving in Acre used the khan as a warehouse while the second floor functioned as a hostel. The commercial activity in the khan ceased as a result of the vast destruction brought upon the city by the Egyptian conquest of 1832, although the structure itself was not harmed in the attacks. The khan later gained importance for the Baha'i community as it was the site were Baha'ullah used to receive guests, and later the site for a Baha'i school.

In 2001, Khan al-Umdan, together with the rest of Acre's old city, was designated as a World Heritage site. The khan was a major tourist attraction and used as an open-air stage during festivals in the city. However, since 2013 it has been closed to visitors because the authorities plan on converting the Khan into a luxury hotel. This situation has created a debate among the citizens and stakeholders in Acre, who witness how this valuable cultural asset has been withdrawn from the public and is to be used for private economic profit. In addition, other investment projects, such as the Efendi 5-star hotel, also in the Old city of Acre, have set a precedent on how this kind of intervention promotes gentrification (Harari, n.d.; McMaster, 2020; Saifi & Chávez, 2019).

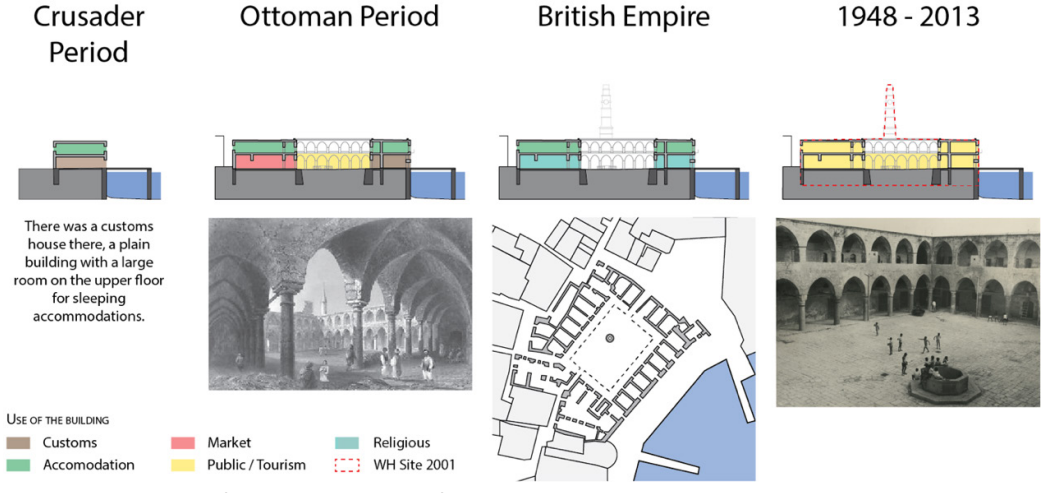

FIGURE 21 *Historic evolution of Khan El-Umdan – Change of Use*

Note. The *image on the left corresponds to a drawing of the Khan in the Ottoman Period by William Henry Bartlett and J. Tingle, 1838; and the one on the right is a picture of the Khan from Beit hatfutsot, 1950.*

The evolution of the Khan (Figure 21) can be understood as an epitome of the evolution of Acre, as the use of the building in each period reflects the coetaneous values and needs. The accommodation use tended to dissolve as Haifa port gained importance, and the more local uses shift into tourism-aimed ones as soon as the World Heritage Nomination happens, raising the Old City's status and its visibility.

The lack of intervention in this hegemonic building in recent decades, therefore, is not surprising. The city of Acre and the caravanserai have evolved in alignment with the times, and the city's values and future vision are currently under debate. The type of adaptation chosen for this building represents the direction the city is willing to follow. It is in this moment that bringing all the voices into the discussion becomes crucial, so that the most favourable option is implemented, and conflicts of interest are mitigated.

Alternative Adaptive Reuse Options Based on Past and Present Narratives

The planned reuse project of the khan is based on the priorities of the development company, the Municipality, and the investors; this means that the economic development-conservation narrative is being prioritised (Harari, 2012; Municipality of Acre, 2014; Saifi & Chávez, 2019). This approach is a source of conflict among Acre's stakeholders and it could be managed through the proposal of alternative adaptive reuse options that include all the voices. Finding common interests among them, to arrive at "what everybody agrees to" rather than "what everybody wants," results in an effective approach to tackling dissonance.

Taking the building's evolution (Figure 21) and Acre's stakeholder narrative analysis (, Table 6) into consideration, we find the following points of conflict and points of consensus (See Table 8):

- Social inclusion is not a priority for the developers.
- The World Heritage principles are shared by most stakeholders.
- The pattern of use of the khan was consistent until 2013: give service to the public, Acre citizens, traders, and visitors, regardless of the public or private management of the building:

	USE	MANAGEMENT		USERS		
		Public	Private	Citizens	Traders	Visitors
CRUSADER	Customs					
OTTOMAN	Caravanserai					
	Warehouse					
BRITISH	No use					
	Baha'i school					
STATE OF ISRAEL	Baha'i school					
2001-2013	Public space					
2013-2020	No use					

TABLE 8 Use, management, and users of Khan El-Umdan.

In the same way, different alternatives for the building are proposed, including the planned luxury hotel (See Table 9). A comparison between them showcases how the biggest conflict derives from private management and Real State use (marked in red). The rest of the alternatives, aligned to the different stakeholders, address the current issues, and have points in common like the conservation and WH principles.

	Alternative USE	MANAGEMENT		USERS		CURRENT ISSUES			
		Public	Private	Citizens	Visitors	Economic dev.	Conser-vation	Social inclusion	World Heritage
	PLANNED								
Dev. Co. Investors Municipality	Luxury Hotel				High socio-economic status	Real Estate			
	PROPOSED								
IAA	Tourist visit / Museum				All				
Citizenship	Public Space			All	All				
Entrepreneurs	Handcraft market			Vendors	All				
Women's group	Community centre			All					
Tourists	Tourist visit / Handcrafts market			Vendors	All				

Legend

	Not found		Public Management / Main Issue/ Conflict of interest		Info Semi -Public/Private Secondary issue		User

TABLE 9 Alternative uses of Khan El-Umdan according to different stakeholders and its combination.

The application of a combination of the alternatives to reach a consensus between the stakeholders would be ideal (See Table 10, Figure 22). To do so, the building could be used and managed differently on each floor as was done during the Ottoman period. This way the upper floor could be reserved for the Luxury Hotel, while the ground floor could be open for the public, including areas for the community, tourists, and a handcraft market. This alternative use aims to combine the past narratives – highlighting the separate uses of the Khan by floor during the Ottoman period – with the current stakeholder narratives.

	Alternative USE	MANAGEMENT		USERS		CURRENT ISSUES			
		Public	Private	Citizens	Visitors	Economic dev.	Conser-vation	Social inclusion	World Heritage
	COMBINATION								
First floor	Luxury Hotel				High socio-economic status	Real Estate			
Ground floor	Public Space / Tourist visit / Handcrafts mar-ket / Community centre						Tourism / Local com-merce		

TABLE 10 Alternative uses of Khan El-Umdan according to different stakeholders and its combination.

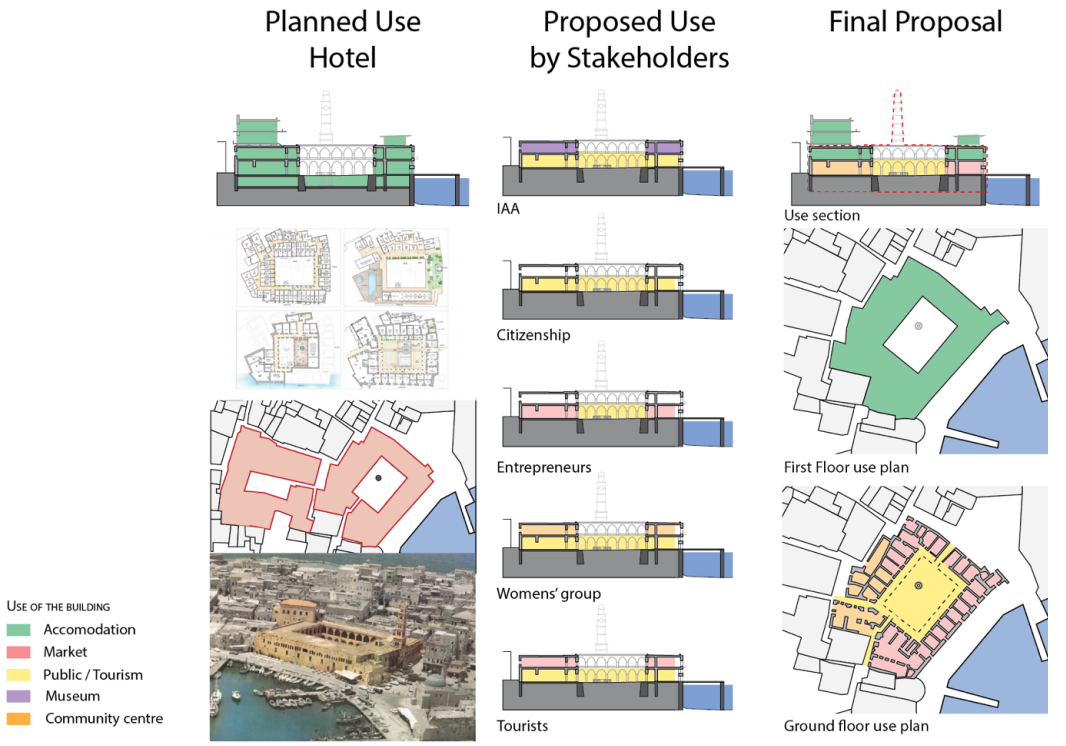

FIGURE 22 Alternative uses of Khan El-Umdan according to different stakeholders and its combination.

Note. The aerial view of the Khan is extracted from Michael Schwartz and Associates website, 2014. https://msarchts.com/wp-content/uploads/2014/09/Website_Khan-1-COVER-707x500.jpg.

Conclusions

The city of Acre has been part of numerous empires and kingdoms. The dominant identities of these prevail throughout history, materialising as the continuous adaptation of the city, based on the needs of each period. Nowadays, various stakeholders have different needs, and create a variety of narratives to address them, leading to a multiplicity and dissonant set of narratives.

The proposed way to address the conflicts of interest relies on two components: On the one hand, the understanding of the narratives of the past, extending the concept of the city beyond the historic ensemble, adding the hinterland, as well as moving between scales from the building to the regional level. On the other, including the dissonant voices in the decision-making process through the analysis of the current stakeholder narrative and combining the points of consensus aims to reach adaptive reuse alternatives that mitigate conflict.

The analysis of the past narratives extracted from the historic overview, and the analysis of the port city attributes are key to understanding trends, the change in values, and the impact of these in the current urban fabric.

At the wider level, the significance of the sea is a constant; it is constantly used, in different ways, but is always the cornerstone of Acre. In the present moment, it is still a key element to take into consideration as citizens' livelihoods revolve around it: fishermen and tourism (boat tours, ferry, panorama...).

The urban attributes also follow a consistent pattern: The Ottoman is built over the Crusader, maintaining, in most cases, the formal aspect of the urban elements, but with changes in use as they respond to societal needs; the British Rule established a conservation approach so the urban elements under the conservation status are maintained unchanged, and the new city develops by adding new urban elements to the fabric.

In this sense, it should be highlighted that the Old City urban elements (under conservation) remain in a limbo status, in which they are not supposed to be modified, but their preservation depends on them being adapted to new uses that guarantee their survival. Adaptive reuse is, therefore, the most straightforward solution to this dilemma, and the experience of the past, mainly with the constant adaptation of architectural elements, confirms how adequate management of these processes can guarantee the sustainability of the urban heritage, aligned with the current values and interests, if managed adequately.

Similarly, the intangible cultural elements found in Acre, mostly related to multiculturality and migrant communities, work as a double-edged sword, being, at the same time, the city's source of attractiveness as well as conflict. Managing these intangible elements through the inclusion of the civil society in the adaptive reuse processes seems fundamental not only to mitigating conflict, but also to maintaining the multiculturality alive and present in the city. This is to give continuity to the intangible cultural heritage elements.

The latter is directly related to the new narrative analysis, which provides a wide range of perspectives of the stakeholders present in the city, and the local and international tourists. Creating a matrix of these, their interests, values, and how these are based on the past narratives, should be the starting point in adaptive reuse processes, so that plurality is considered. In the case of Acre, this is particularly important, as we are dealing with a contested society – an extra reason to include the dissonant voices in the process.

Using the example of Khan El-Umdan to showcase the evaluation approach provides a visual way to understand if this methodology is valid. The fact that the case is real and its future use under debate highlights the need to come up with mechanisms to address conflicts of interest in contested societies. In this case, the management of this conflict is addressed by: a) following the past and new narrative analysis, b) resulting in adaptive reuse alternatives linked to diverse stakeholders that are c) combined, aiming for the least conflicted alternative, which is not ideal for any stakeholder, but could be agreed upon by all.

The proposed approach provides alternative adaptive reuse options through the analysis of narratives in current adaptive reuse processes. Following two principles: the extension of the city beyond the traditional limits, this includes historic narratives, quotes, and a multi-scale approach; and the analysis of current stakeholders, their needs, priorities, and past references. The combination of these aims to reach a consensual option among the stakeholders and to guarantee the continuity of the urban heritage in Acre.

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Jaffa Port, Israel

From a thriving port town to a socio-ethnic enclave

Komal Potdar

Bezalel Academy of Art and Design
Jerusalem
Israel

Abstract

The material extant of the fortifications of Jaffa, the physical markers of memory, narrates the contrasting status and evolution of one of the oldest port towns in Israel: from grandiose to decline, from thriving multicultural neighbourhoods to immigrant communities over time, from town centre to marginalised significance and shifting centralities in the wake of political and economic events. Its town centre, propagating social interaction, existed through complex and evolving agricultural, industrial, and residential land uses. This port town bears a testimony to the dynamic and enormous shifts in land use, communities, and collective social memory. The alternate port of Tel Aviv came into existence during the revolt in 1936-39 by Arabs of Mandatory Palestine. The drastic decline of the Arab population in Jaffa and its environs and the rise in the Jewish population in the new modern city of Tel Aviv was an antagonistic process of negation and exclusion. The asymmetric planning of Tel Aviv that emerged in the early 1900s identified it as uncivilised geography, turning into a dilapidated district. Communal and national identities were built on the premise of antithesis giving rise to significant demographic transformations. This socio-spatial metamorphosis of Tel Aviv-Jaffa became a representational space leading to physical and cognitive boundaries evident in the planning policies. Since the mid-1980s, the spatial overturns have led to the radical restructuring of the urban space through gentrification with political and socio-economic implications such as population displacement and the production of urban alterities. This oxymoron of creative destruction suggests the tensions at the heart of urban life that embodies the erasure and re-inscription of culture and economics. This article will explore the historical evolution of the old port town, cultural geography, and the current state of exclusion and gentrification in Jaffa, and underlines the need for discourse on socio-spatial analysis and assessment for decision-making processes for urban heritage design.

Keywords

urban heritage, port cities, mixed cities, cultural landscapes, gentrification, preservation

DOI

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Introduction

Tracing history, evolution, and expansions of cities and towns, which are labelled as historic on account of their associative value and existence through the centuries, helps to illustrate the reciprocal relationship between man and nature, geography, and its spatial and cultural influences. These historic towns and cities are complex manifestations of the diverse facets, attributes, and external influences on geography, economics and trade, social and cultural aspects, environment, and religion. With special focus on the historical port town of Jaffa, Israel, and its diachronic existence, these derivatives become more evident and demonstrate a clear picture of how towns come into existence, thrive, and face decline and neglect due to shifting power relations, and cultural and social constructs. The rise and fall of port towns can be ascribed to economics, political will, and technological advancement. Due to the dynamic economy in these port towns, shifts in demographic composition lead to significant alterations in the socio-spatial configurations and generation of urban alterities (Smith, 1996) (Lefebvre, 1996), resulting from exclusivist attitudes and governance models. This emphasises the need for identification of determinants that catalyse, influence, impose, and impact the socio-spatial and economic order of port cities. These determinants or attributes of social significance and spatial characteristics portray different identities of place and also become physical markers of memory (Belanger, 2002).

This article will begin by exploring the historical evolution of the port town of Jaffa and analysing the diachronicity of the cultural landscapes and values of significance and association. As the research as a whole has adapted a deductive and inductive approach, the literature study of its history and social aspects is crucial for deducting the research questions. This socio-spatial and diachronic understanding of the site of interest and analysis of the current trends and methods of heritage management and urban design process bring forth the good practices as well as the gaps in the frameworks. The article aims to highlight the disparity of the socio-spatial context within the management process and proposes innovative methods and discourse in the neo-liberalist system for integration.

Historical evolution of the Port Town of Jaffa

Trade Routes in the Mediterranean Basin and the Emergence of Port Cities

The Ancient trade route of *Via Maris* was a great channel of cultural influence and interaction among civilizations in the Mediterranean basin and the Fertile Crescent. This sea route between Egypt and Damascus witnessed the emergence of many port towns and cities, products of favourable coastal geography. The few natural bays and anchorages located on the southern coast of present-day Israel were developed as the ports of Jaffa, Ashdod, and Acre. The breakwater technology was non-existent before the eighth century B.C.E. (Dothan, 1973), many other cities were located relatively far from the beach. This bestowed prominence on these port towns. The port town holds biblical importance[1] (Bacci & Rohde, 2013) and bears testimony to cultural evolution within a desert landscape, and is a palimpsest of

1 References from the Bible: Story of Jonah, who fled from the presence of God and boarded a ship at Jaffa. When a storm endangered the vessel, Jonah told his companions to cast him overboard to calm the sea. He was swallowed by a whale, which after three days cast him ashore. Other stories: Tabitha's Restoration to Life, and Peter's Conversion of Gentiles.

architecture, port activities, and multicultural facets of society. Increased commercial traffic in the Levant region[2] (Figure 1), the excavation of the Suez Canal, and increased speeds in steamship technology propelled the port to the forefront as a leading port in the Mediterranean, alongside Beirut and Alexandria (Kark, 1990a). These ports were also used as transit ports for pilgrimage and entry to Jerusalem and other holy sites. Jaffa gained eminence due to its proximity to Jerusalem.

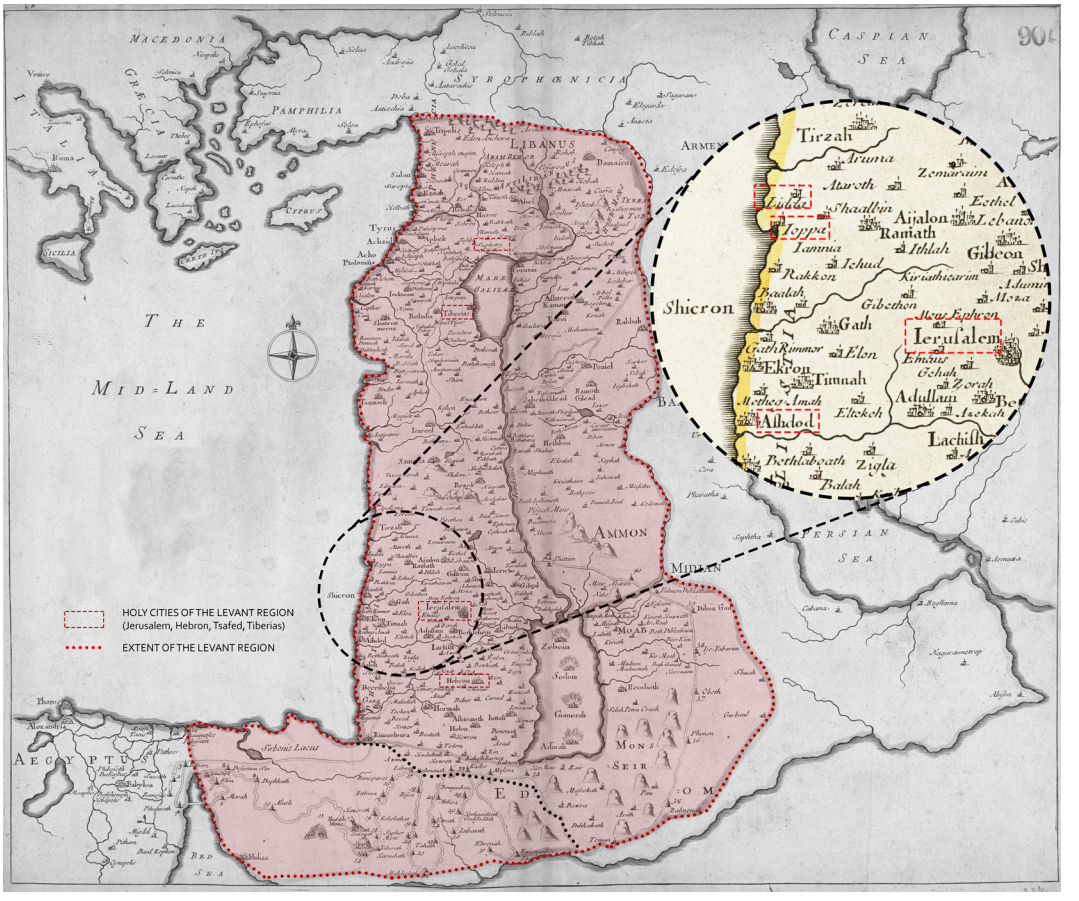

FIGURE 1 Map of the Levant region, derived from the original map by Philip Lea, dated 1692.

Note. The map shows the existence of the port town of Jaffa (Jopha in the map) along with other important inland towns contributing to the trade on the Mediterranean coast, namely Gaza, Ashdod, Akko, and the four holy cities of Jerusalem, Hebron, Tiberias, and Tsafed. Source: A map of Canaan in 1692, Author/ Publisher: Lea, Philip. Copyright Norman B. Leventhal Map & Education Centre 2020 http://maps.bpl.org. (Edited by Author).

2 Levant was the name of a large and prosperous ancient country (at times independent, at others a tributary of Egypt) located in the Levant region of present-day Lebanon, Syria, Jordan, and Israel. It was also known as Phoenicia.

FIGURE 2 Lithograph of Jaffa, 1843.

Note. An 1843 lithograph showing ancient Joppa (Jaffa) in the backdrop and a group of pilgrims of various religions traversing through the port town. Author: Haghe, Louis, 1806-1885, lithographer; Roberts, David, 1796-1864, artist, Library of Congress Catalogue. https://lccn.loc.gov/2002717506.

During the Second Temple era, Jaffa enjoyed special status as the only Hasmonean harbour, but in the succeeding Roman era, Caesarea took over as the major coastal focus. During the Roman and the Byzantine periods (6 BCE to 500 CE), it became an important commercial centre; it was occupied in June 1099 during the First Crusade to realise their main objective of recovering the Holy Land from Islamic rule. It witnessed a decline during the Battle of Jaffa 1119 between the Crusaders and the Egyptians, which partially destroyed the wall, however, the power remained with the Crusaders. The Mamluks from Egypt conquered the port in 13th century CE, rebuilding the port and reviving its markets. Hostels built by Franciscan monks along with Armenian and Greek Orthodox monasteries on the mound of port town as evidence of the multicultural nature of the port and connection to the holy city of Jerusalem and allied pilgrim activities. In the 16th century CE, the Ottoman period dynamically took over the port town and profoundly reshaped Jaffa's social and cultural geography (LeVine, 2005). The late Ottoman period (the late 1800s) saw the formation of new Muslim neighbourhoods like Ajami,Nuzha, Hursih, Irshid, Jebaliyyeh, Manshiyah, American and German colonies, and a model farm (Sarona) *(Figure 4)* and where the Egyptian soldiers settled alongside Christians in the north of the town. This period also witnessed the Tanzimat (1840–61)[3] i.e. reformation, which focused on modernisation, centralisation, increasing revenue, and forestalling fragmentation and conquest.

3 Tanzimat reformation laws aimed at revival and regeneration of religion and state, land and community and granting of political equality with a desire to win European diplomatic support. This had clear impacts on the growing population of Jews in Jaffa.

Cultural Geography and Emerging Economies in the Port Town

Port towns as cultural landscapes are manifestations of the communities that inhabit them and generate impressions of the specific needs, become icons, and reflect customs, events, and ideology (Amit-Cohen, 2009). Jaffa and its hinterland contributed to the agricultural landscape, and the productive aspect had been important to the community since its inception. This was in contrast to the old Jewish communities in the four holy cities of Jerusalem, Hebron, Tsafed, and Tiberias, *(Figure 1)* which had survived on religious activities. The agricultural hinterland, one of the largest in the country, was at the forefront of the commercial activity of citrus production and export, and gained prominence as a major economic centre and port (Goren, 2015). The study of the Survey of Israel atlas reveals a large forest in Jaffa along the coastal plain (Kark & Levin, 2012). The geology of this coastal plain, the presence of dunes, fields, and hydrology demonstrated the ecological landscape and its implications on the culture and economy of the region. Sand dunes were present along the coast from Caesarea in the North to Jaffa in the south, extending up to five kilometers inland. The traditional system of *mawassi*[4] agricultural practice prevailed (Kark & Levin, 2012), by which the upper level of coastal underground water was used for growing grapes, palm trees, and other crops whilst protecting the farm and crops from encroaching dunes.

FIGURE 3 View of the orange groves in Jaffa; Copyright Library of Congress Date, 1890.

4 Mawassi in Arabic means suction, referring to water that has been sucked out to the surface

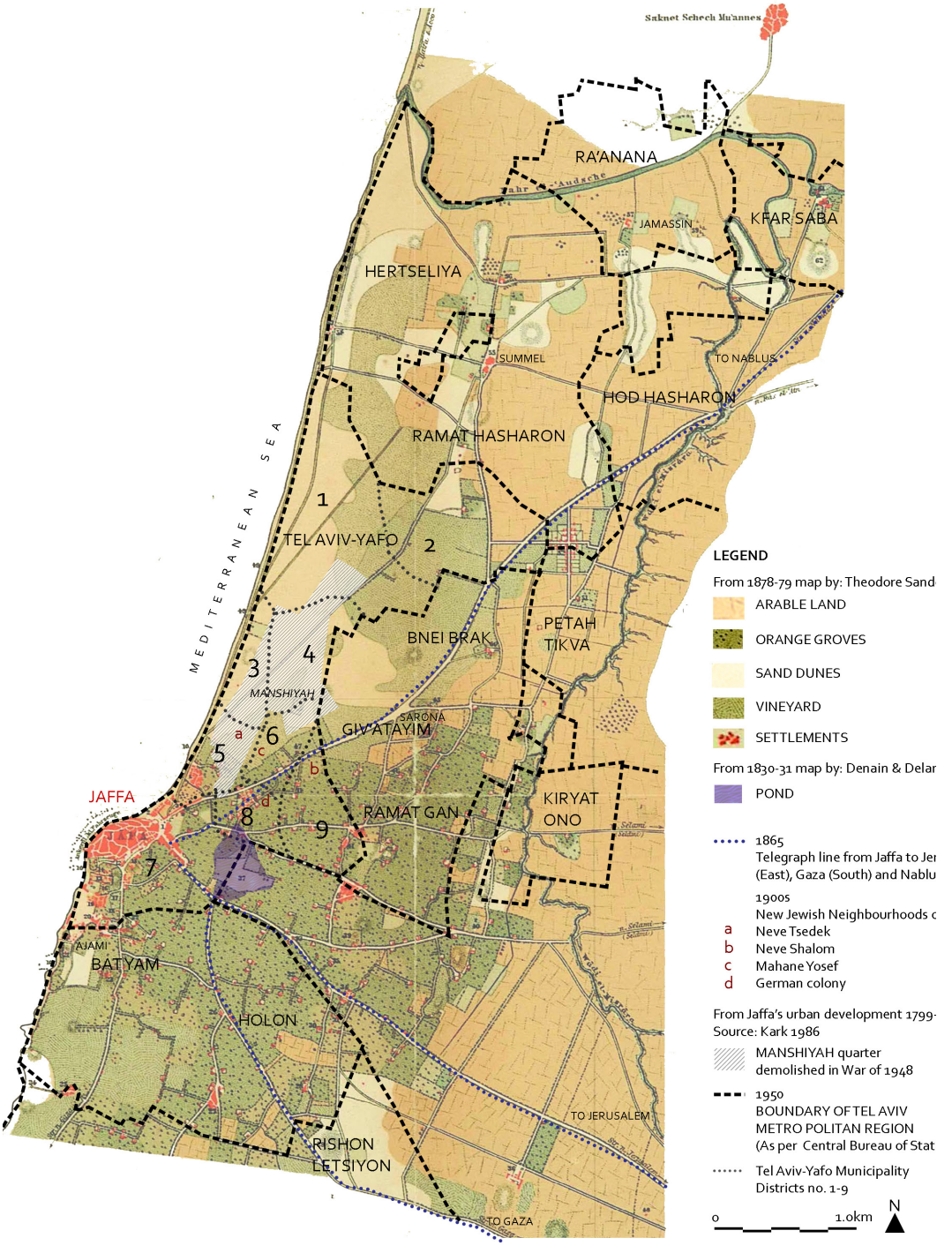

FIGURE 4 Map of the region, 1870s and 1950s.

Note. The map shows layers of information from two periods: 1870s and 1950s. The 1870s layer demonstrates the physical landscape and its uses, with Jaffa as the main port town; the surrounding German colonies and smaller villages are connected via a network of roads, telegraph lines; there are depictions of numerous orchards, groves, and farms. From Baedeker guidebook map of Jaffa. Copyright by Theodore Sandel, 1878–1879 (In Shaham, 2011); From Map, Bibliotheque Nationale de France, fonds geographique, Res. Ge. FF. 6421. Copyright by Denain & Delamare, 1830-31. The 1950s layer shows the Tel Aviv-Yafo Municipal boundaries and districts as well as the extent of the Tel Aviv Metropolitan region, built over the existing landscape. These coinciding sets of information show the evolution of an agrarian landscape into a metropolitan area, and show Jaffa as the prominent port becoming marginalised on the fringes, as Quarter 7 of the modern city of Tel Aviv grows. From LeVine (2005); Map from Jaffa's urban development 1799-1918 (Kark, 1990a). Map edited by Author

These attributes of economics, agricultural activities, and trade concomitantly led to the infrastructural development of the port along with the migration of pilgrims and Arabs from other connected parts of the world and an increase in the population of the town and subsequently in Jerusalem. Since then, the identity of the port as a functional element in the economy and its vitality became the source of national pride and identity for the Arab population. This led to Jaffa being constructed more quickly than other coastal towns in the middle of 19th century; with the introduction of new technology and industrial development, services related to health, education, transportation, and communication services improved. Along with a telegraph line installed between Jaffa and Jerusalem in 1865 as well as a road, the railway line laid down in 1871 (Kellerman, 1993) was one of the main technological advancements in the region.

The socio-spatial interaction and modalities of Jaffa's town centre were interwoven in the narrative of landscape and evolving agricultural, industrial, and residential land uses (LeVine, 2005). The iconography of power structures as well as religious structures were a matter of pride amongst the Arab communities. The grandiosity of the port town, due to its economic vitality, was demonstrated by grand palatial houses in Oriental architecture, which had elaborate enclosures, orange groves, well structures, water channels, and pump systems built by wealthy residents. The well-houses were a significant feature of the port town's built environment owing to the marshlands.

The spatial development of Jaffa and the surrounding villages was a concomitant and integral part of its socio-spatial economy. The villages of Jamassin East and West and Summel in the environs together encircled a zone of pastoral and agriculture land, roads, and rivers, and were inhabited by immigrants from Egypt, Jordan, and Bedouins from South Palestine who were involved in agricultural produce and commerce in the port town (LeVine, 2005) *(Figure 4)*.

Jaffa's Reformation and Reorganisation

After the siege of 1799 by Napoleon, the power instability forced the Ottoman government to strengthen its presence in the region; the further period saw the construction of a military watchtower to enable control over the sea and its borders. This type of iconography and political partitioning of space (Gottmann, 1952), of religious and military nature, has a notion of social shared heritage and association embedded in the memory of the allied communities. Following the end of Egyptian hegemony in 1840 on the port town of Acre in the north, which lead to its stagnation, economic attention was shifted to other port towns in the south of the region along the Mediterranean eastern coast. This period also witnessed the rise of Ottoman control over the region and the foundation of fortification walls, gates, and water fountains to facilitate the travellers and pilgrims from Jaffa to Jerusalem.

In the 1830s, Jewish immigrants from North Africa arrived in Jaffa to form the basis of a steadily growing Jewish community in the town. The year 1882 marked the beginning of the First Aliya (Zionist immigration). This time period and the early 1900s saw a rise in Jewish immigrants from other cities and abroad and witnessed the tendency of pilgrims and travellers to settle in the port of arrival in their immigration destination country. The Jewish community in Jaffa was renewed and became the most prominent Jewish community in Palestine outside the four holy cities of Jerusalem, Hebron, Safed, and Tiberias (Kellerman, 1993). *(Figure 1)* New Jewish neighbouring colonies were formed, including Neve Tsedek, Neve Shalom, Mahane Yosef, Mahane Yehuda (later renamed Kerem Hatienanim), and Ohel Moshe.

FIGURE 5

Note. From left: L- Abu Nabut Trough at Abu Nabut Park, Tel Aviv-Yaffo, also known as the "Well of Tabitha," is a public fountain. Built in 1815 by Mohamad Agh'a (Abu Nabut), Governor of Jaffa. Copyright by M. Talmoryair, 2008; An ancient and broken Arabic 'well-house' and a tin shack on top of it, which stands on Turey-Zahav St., in the neighbourhood of Shapira neighborhood, Tel-Aviv -Jaffa. Copyright by R. King Boshi, 2009; Clock Tower in Jaffa built by Sultan Abdul Hamid II to celebrate 25 years on throne. Copyright by Or Naim 2021.

Decline of Jaffa Port and Development of the Alternative Port of Tel Aviv

The rise and decline of coastal towns and ports in Palestine throughout all historical periods correspond closely with political and strategic changes, as well as economic and technological developments (Kark, 1990b). In the early 1900s, due to the introduction of new steamship technologies, many ports on the eastern Mediterranean coast faced decline, such as Tipoli, Tyre, Acre, Gaza, Rosetta, and Damietta. The ports of Jaffa, Haifa, and Beirut, with their advantageous geographical locations and harbours, as well as providing the benefit of bulk points[5] (Kark, 1990b), received more attention and grew further. The formation of 'Ahuzat Bayit' society in 1906 to establish a modern and developed neighbourhood, with better living conditions than the crowded Arabic port town, generated a sense of segregation by land acquisition of the unaccounted dunes to the north of the port. The association's members and initial builders were predominantly Russian immigrants living in the town (Mager, 2017). The British Mandate period from 1920 marked the beginning of the decline and gradual deterioration of the economic vitality of Jaffa, which was flourishing as an economic centre (Goren, 2015). During the mid-1930s, the development of the Jewish Yishuv (settlement) alongside the growth of Tel Aviv had implications on the economic growth of Jaffa to a great extent. The shifting demographics and increase in Jewish immigrants led to the vision of forming a Jewish neighbourhood and nurturing the sentiment of the Hebrew speaking population, a modern suburb with a garden city concept built in the European style. Cartography carried out by the British was undertaken with the intent of transferring and formalising ownership of the land to Zionist organisations such as the Jewish National Fund or Palestine Jewish Colonization Association.

As a result of the Arab revolt and the riots at Jaffa port in 1936, the Arab merchants and workers halted all the port operations, resulting in huge economic implications. This event was seized as an opportunity by the Tel Aviv Chamber of Commerce to establish an alternative port in Tel Aviv and to forgo the Jaffa port. However, The Jaffa Municipality had expressed support towards the bargemen on the port and did not support the decision of a new alternative port. From that point onwards, the old port saw a steep fall in import and export after a jetty was built in Tel Aviv. During World War I, all chief operations were moved to Haifa and the movement of cargo in Jaffa plummeted. With the opening of the Tel Aviv passenger terminal, the movement of Jewish passengers through Jaffa port had come to a halt. The events of World War II and

5 A break-in-bulk point is a place where goods are transferred from one mode of transport to another, for example, at the docks where goods are transferred from ship to truck.

the halting of all global trade in the Mediterranean led to the further deterioration of the condition of Jaffa port and its prolonged closure; this ultimately resulted in joblessness amongst the Arab bargemen until the end of the war 1945. After the war, the Jaffa Chamber of Commerce and the Arab Higher Committee played a pivotal role in supporting the revival and reopening of the port, however the simultaneous revival of Tel Aviv port was a perceived threat to citrus exports. As a result, the revival of the old port as a national symbol of Arab pride and economy failed and the port sank and decayed (Goren, 2015).

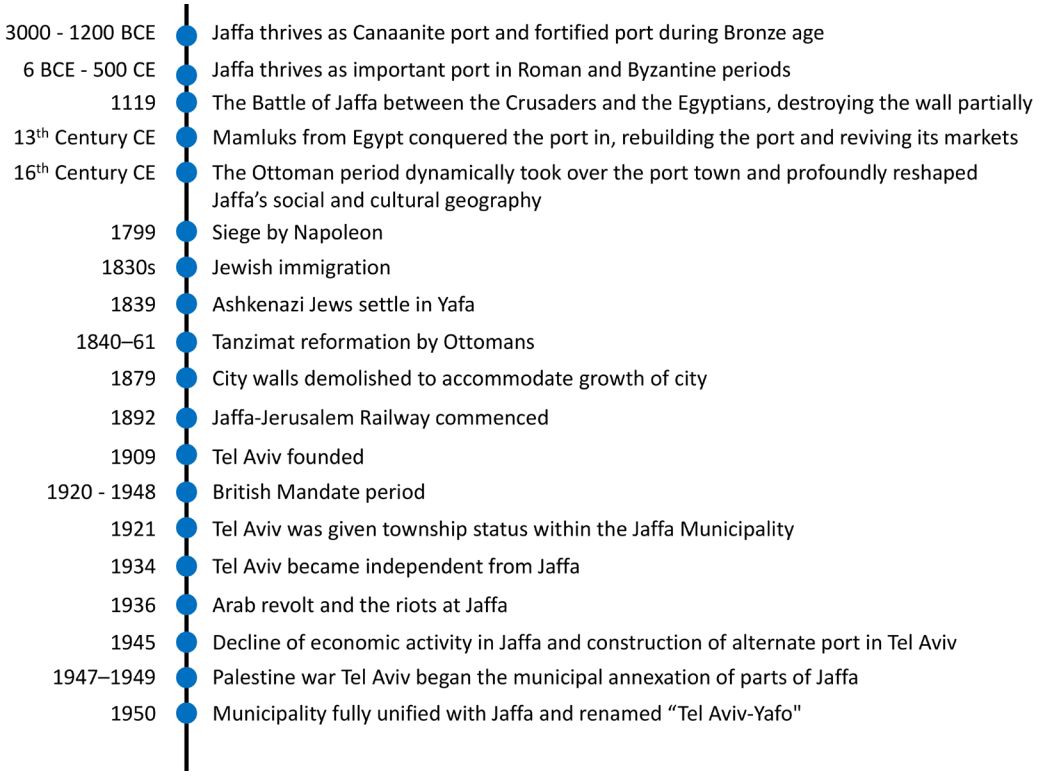

FIGURE 6

Note. Historical chronology of the formation, rise and fall of the port town. Copyright by The Jaffa Cultural Heritage Project, Israel Antiquities Authority, 2014. Figure created by author.

The Emergence of Alterity: Separatist and Exclusivist Attitudes in Jaffa as the Enclave

The histories of cities are compelling narratives that tell the story of the victor and exhibit the history and culture through the victor's records (Rotbard, 2015) and the identity of a place is shaped by historical events, influential figures, and religious and national ideologies. With the beginning of the decline of the port operations and economy in 1936, the Jaffa Municipality defended the city's borders, economy, and culture from Tel Aviv under Arab Nationalist Policies (LeVine, 2005). Ultimately, however, after the war of 1948, and the formation of the modern city of Tel Aviv, the Jewish state rose to prominence and Jaffa became a city reminiscent of the past; it was a deliberate target of neglect and decay, and unequal distribution of resources. Its neighbourhood became the ethnic enclave while Tel Aviv emerged as a modern metropolitan city. This phenomenon can be observed to have had a profound impact on the borders of the city, the social and spatial configurations, as well as attitudes of the new modern Jewish city towards immigrants with varied origins and economic conditions present in the derelict district.

Jaffa, with its evocative past, can be termed a heterogeneous historic port town, drawing references from the association of its multiple communities to various origins and their movements and travails in the region. These include Bedouins, Yemenite, and North African Jews, Houranis from Syria, Egyptians, Trans Jordanians, Circassians, Germans, Greek orthodox, and Lebanese (LeVine, 2005). The historical records show an exponential rise in the Jewish population from 1922 to 1944 as against the gradual growth of the Arab population in Tel Aviv and Jaffa (Table 01). As a result of the war of 1948, most of the Arabs either fled or were forced out of the country (Portugali, 1991). The population census of 2002 demonstrates the complexity of the phenomenon of socio-spatial segregation within the city, with Muslim and other religious minorities concentrated in the neighbourhood of the old port town (Figure 7). This composition makes Jaffa homogenous in the regional schemes; however, on studying the social, cultural, and economic aspects, it maintains its heterogeneity.

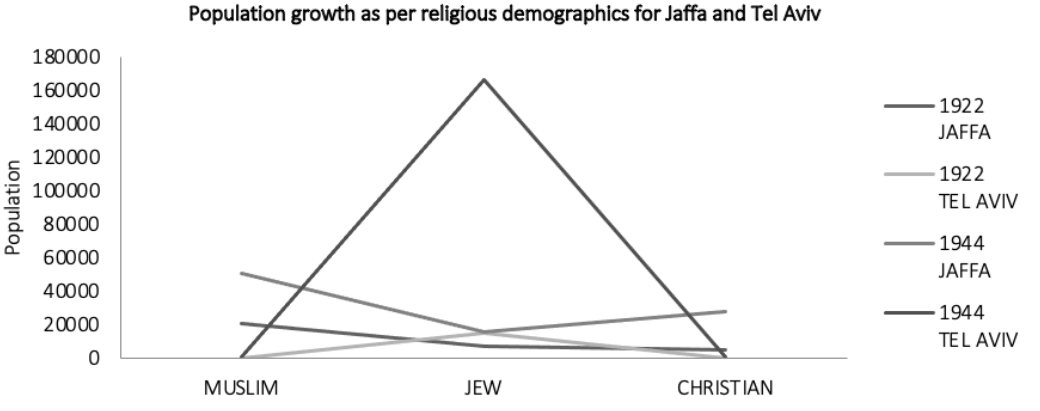

TABLE 1 Population growth in Jaffa and Tel Aviv. From Levine (2005).

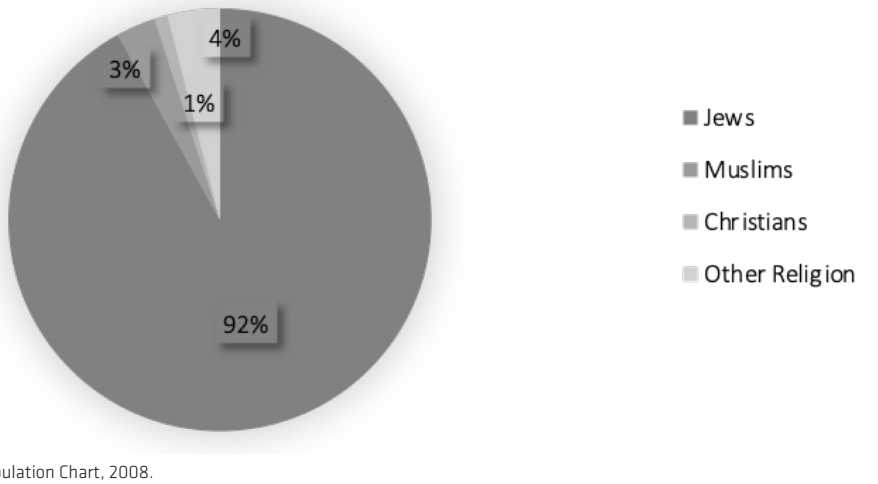

FIGURE 7 Population Chart, 2008.

Note. Population census of Tel Aviv- Yafo from Central Bureau of Statistics, Israel, 2008. Figure created by author.

Erasure, Inscription, and Modernising Space

Nationalism in Israel has an implication on the socio-spatial configurations at a regional as well as at a metropolitan level, within the Jewish, Arab, and other minority groups, and is operationalised and conceptualised by political, economic, social, and cultural forces and processes (Vaughan, 2019). The period after the 1948 war until the 1970s witnessed discriminatory policies against the Arabic population. With the introduction of Absentee Property Law[6], the period saw the appropriation of all communal and individual property by the state (Monterescu, 2015) which led to the displacement of original inhabitants of Jaffa. Palestinians were banned from renovating their homes and the Jewish diaspora was involved in land purchases from large landowners. The historic Manshiya neighbourhood, built and inhabited by the Egyptian agricultural merchants, was razed to ground in 1948 during Israel's war of independence and consequently developed as a sea promenade and arterial roads of the metropolis (Figure 4). Tel Aviv council allocated funds for planting trees on the surrounding *Mahlul*[7] land, owned by the Bedouin, and were given compensation to leave peacefully (LeVine, 2005). The dynamics of the social composition of a neighbourhood is evident from the movement of Jewish and Arab communities gravitating towards neighbourhoods that were a conglomeration of certain communities. The exclusionary governance policy resulted in deteriorating living conditions in Jaffa making it an economically deprived quarter within the municipality borders with a higher rate of social issues of unemployment, crime, and drug abuse. Jaffa became a conurbation of Arab communities; after the six-day war of 1967, many displaced Palestinians gravitated towards the dilapidated old neighbourhoods. In the late 1990s, the inhabitants started to engage in economic revival activities such as restaurants, car repair shops, and contracting firms. Although this phenomenon saw the restoration of the communities, the increase in the Arab population led to the town becoming overcrowded, which further impacted on its physical and social infrastructure. This ultimately led it to be regarded as the underdeveloped ghetto of District no. 07 of Tel Aviv-Yafo municipality, an economically deprived quarter (Figure 4).

After the annexation of Jaffa with Tel Aviv and the formation of Tel Aviv- Yafo municipality, the events of the creation of spatial fringe conditions and erasure of memory and sense of belonging continued to exist. This was the continued result of the intensified division based on ethnicity, and political and social control over the spatial order, to perpetuate the notion of governance by singular ethnos; this marginalises vulnerable ethnic groups, relegating them to the city's economic, political, social, and spatial margins (David, 1995). The Tel Aviv Municipality changed almost all the Arabic street names in Jaffa into numbers before renaming them in Hebrew. Southern areas of the city have been systematically encouraged to collapse and continue to be deliberate targets of decay with unequal distribution of resources (Rotbard, 2015). This creative destruction (LeVine, 2005) seeped in through the planning policies and actions, having implications on the global economic and cultural flow in the city.

6 Absentee Property Law 1950: Introduced as emergency ordinances issued by the Jewish leadership for land acquisition for properties owned by Palestinian refugees in the state.

7 Mahlul Land: As per the Ottoman Land Code of 1858, mahlul land was to be reverted to the state if left uncultivated for 3 years or left vacant and up for re-grant.

Global Identity, Consumerism, and Gentrification

The discourse of right to a city (Lefebvre, 1974) in the Jaffa old port town has been altered by influences of the phenomenon of modernising the spaces and globalisation, while supporting the idea of the identity of a state. Jaffa and its neighbourhoods were considered to be an antithesis to the modern Tel Aviv, an underdeveloped region, creating the other through creative destruction (Timothy, 1988). 'The White City of Tel-Aviv – the Modern Movement' with its innovative garden city urban planning ideas, Bauhaus modern architecture, and influence of the European school of architecture adapted to the climate needs of the city, was granted the status of World Heritage Site in 2003 by UNESCO. However, environs like Florentine, Neve Shanan, and Cheinoy demonstrate magnificent oriental and colonial architecture, which was not woven into the narrative of Tel Aviv and obscured the historical significance of the historic Oriental port town. Jaffa, located on the periphery of this celebrated modern town with outstanding universal value, was transformed into a suburb inflicted by cultural tourism and consumerism. This movement of appreciation of historic architecture can be attributed to postmodernism, as a reaction to modern Tel Aviv's uniform architecture devoid of ornamentation. The heritage conservation practice initiated during this period witnessed the appropriation of historic buildings for purposes of promoting tourism for an elite section of the society, change in building uses that made Jaffa spatially heterogenous, and divergent modes of growth, behaviour, and development.

The Discourse of Management of Change and Decision-Making Process

The Practice of Heritage preservation and Associated Actors

In 1952, the port of Jaffa was made an independent unit managed by the Ministry of Transport and followed by the establishment of the Old Jaffa Development Company in the 1960s. Since then the port was designated as an 'architectural reserve' in the Municipal Building plan 606 (IAA, 2013). To ensure the stability of old structures, any new construction activities were not permitted by the Municipality and new plan 606A was drawn to redevelop the area as a centre for tourism, art, and entertainment, thereby attracting a new populace. In 2007, the port became the responsibility of Tel Aviv-Yafo municipality after being officially transferred. The Israel Antiquity Authority protects and manages listed historic buildings and a 2006 policy document declares the mound of Jaffa as a protected antiquities site where many controlled archaeological excavations are carried out.

Coinciding with universal conservation practices, efforts by the joint city of Tel Aviv-Yafo began in the late 1960s and continued until the mid-1980s. The first Israeli urban master plans for West Jaffa, designed in the 1950s and 1960s, called for almost total demolition of the existing Palestinian built environs, to be replaced with modern housing projects (Meishar, 2018). The neighbourhood of Neve Tsedek was slated for demolition and redevelopment along modernist lines, however the middle-class occupants of the area campaigned for its conservation. As the port faced decay, abandonment of houses, and demolition by the Municipality, redevelopment plan no. 2236 was launched as the Jaffa Slope Project in the 1960s. This aimed at the neighbourhoods of Ajami and Jabaliya and involved evacuating the existing inhabitants (Arabs and Jews) from the space and demolishing some of the existing structures to build luxurious housing on the empty land for people of medium and high socio-economic means, the reclamation of the sea as a

recreational area, and the building of hotels along the expanded seashore (Goldhaber, 2010). Such flagship projects, Andromeda hill[8] for instance, introduce gated communities within the historic district, leading to gentrification and further segregation of the local milieu (Monterescu, 2009).

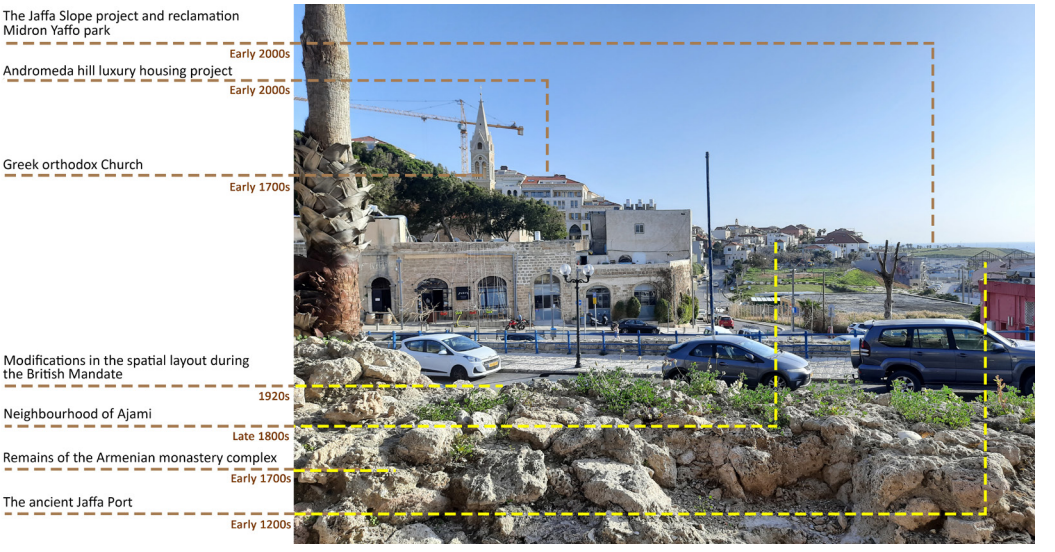

FIGURE 8 Annotated Photograph of Jaffa.

Note. View of Jaffa from the historic site of the Armenian monastery, demonstrating the different layers of history that form the spatial identity as well as the attributes of spatial memory.

As Jaffa developed into a cultural and tourist centre, the spatial fragmentation became evident through its mixed uses—artists' colonies, mixed lower-end and high-end residential areas, the Palestinian neighbourhood of Ajami, the promenade, and the old port—which significantly altered the cultural, social, and economic landscape of the port town. This socio-spatial metamorphosis of Tel Aviv- Jaffa became a representational space (Lefebvre, 1974) with physical and cognitive boundaries evident in the planning policies. The Jaffa Slope Plan No. 2236 was finally included in the Local Area Plan in 1995. Land policies, adopted by municipal planners at various stages, broadly maintained the ethos of altering the social and physical fabric of these neighbourhoods (Goldhaber, 2010). The process of historic preservation is challenging as the values of association and history are pitted against the value or the market trends as well as development. The 2020 demolition of the old custom house is a classic example of this case. The modernist styled customs building was built by the Turkish authorities in 1886 for the pilgrims arriving at the port. It was later converted to an immigration terminal during the British Mandate period (Zeveloff, 2016). It was marked for preservation as a historic building in 2003 in National Outline Plan 2/13, and later in a detailed plan for Jaffa Port that went into effect in March 2007 (Mirovsky, 2019). However, the Tel Aviv municipality chose to reverse the status in order to demolish the building to expand the seaside promenade. Another example of extensive renovation work undertaken on 37 buildings of the former Templer settlement of Sarona was considered to have been the greatest conservation project ever conducted in Tel Aviv. During this course of the project, five buildings were completely relocated and reopened as a recreational destination, making evident the sharp contrast between the historical and the modern high rise buildings (Mager, 2017). Such shifting dynamics of market forces, trends in architecture, and notions of development for preserving the physical and the social fabric of a historic city, present many challenges and demand innovative methods of assessing the impacts of projects and development plans.

8 Andromeda Hill is a luxurious high-end residential complex which promotes itself as a 'city within a city' and is a striking combination of old-world beauty, architectural charm, and modern-day comfort. It was launched in the early 2000s.

Left

Rigth

FIGURE 9

Note. Left: Archival photograph of the Jaffa port from 1989. Copyright by Library of Congress, 1989. From pickryl.com; Right: The current spatial configuration of Jaffa which demonstrates modification of land use by the Municipality, and the conversion of land to 'The Slope Park' or The HaMidron garden after this area was abandoned and demolished. The promenade was also developed to promote cultural tourism in Jaffa and, as seen in the picture, was developed after the demolition of the old port buildings.

Socio-Spatial Configurations in Urban Planning and Heritage Management of Jaffa

Since the emergence of Tel Aviv and consequent historic events, the demographics and singular ethnic hegemony were drastically altered, which bore direct implications on the plurality of the socio-spatial configuration of the historic port town. The spatial organisation of cities in the age of globalisation is characterised by an agglomeration of heterogeneous social groups that are polarised economically, socially, and politically (Goldhaber, 2007), giving rise to urban arteritis (Lefebvre, 1996; Smith, 1996). These social spaces are diachronic, and the discourse of evolving territories is contingent on the understanding of geographical space, landscape, and property as cultural phenomena, and thereby have a history of change (Lefebvre, 1974). These challenges of management of mixed cities and spatial modalities of the cultural landscape, as shaped by people, imply customary-use rights and broaden the discourse of right to landscape (Egoz et al., 2011) and mnemonics. The current practice of historic preservation and cultural tourism subverted the Arab identity, creating a representative imagined space that is sanitised and devoid of Arab presence (LeVine, 2001).

Such a spatial turn and phenomenon encouraged by apathy towards plurality and cultural significance exacerbates the sense of placelessness (Relph, 1976) and erasure of memory. Though the preservation policy encourages heritage building owners to renovate and maintain their houses, there is no analysis of the record of financial mechanisms such as incentivised statutory plans (Mualam, 2014) in the historic preservation framework of Israel. The lack of concerted preservation efforts is visible and documented in Israel's State Comptroller survey of local and national policy (Mualam, 2014). To maintain the status of a UNESCO World Heritage city status, Tel Aviv exercises preservation and site management policies. However, Jaffa is treated as antithetical to the Zionist project of constructing a new state and the oriental architecture was not deemed fit for preservation. The market forces and lack of preservation framework exacerbate the intensity of modernising the historic core and promote high-end luxurious housing or commercial properties, relegating the preservation approach to tokenistic efforts (Figure 10). In this historic port town, the acute insufficiency of institutional urban preservation is replaced by an interest in urban heritage as a catalyst for socioeconomic change and private investment in heritage properties, which leads to appropriation, gentrification, and marginalisation, and is an oxymoron of creative destruction (Page, 1999).

Left

Right

FIGURE 10

Note. The material extant of the historic port walls of Jaffa are preserved and displayed for demonstration at The Jaffa, a Luxury Collection Hotel, demonstrating and acknowledging the historical layer and the fortification walls incorporated in the design, however, this is limited only to providing information to the visitors of the high-end luxury hotel and subsequently a limited section of the society. This absence of preservation policy and the tokenistic approach restricts the continuance of mnemonics and cultural memory.

Addressing the Shifting Narratives of Historic Cities as a Tool for the Preservation of the Social and Built Environment

To discuss the new trajectories in the management of historic urban conurbations, the New Urban Agenda emphasises the process of urbanisation as a powerful tool for sustainable development.

Article 97. We will promote planned urban extensions and infill, prioritizing renewal, regeneration, and retrofitting of urban areas, as appropriate, including the upgrading of slums and informal settlements, providing high-quality buildings and public spaces, promoting integrated and participatory approaches involving all relevant stakeholders and inhabitants and avoiding spatial and socioeconomic segregation and gentrification, while preserving cultural heritage and preventing and containing urban sprawl (UN Habitat, 2017).

The UNESCO Recommendation on the Historic Urban Landscape (UNESCO, 2010) also emphasises a landscape approach to ensure integration of cultural heritage policies and planning concerns for sustainable and inclusive methods for urban heritage management with attention given to socio-spatial configurations. This socio-spatial modality of a mixed city is discursive and needs to be documented through the collective imaginations of its residents and decision-makers, as well as the attributes of socio-economic and cultural aspects and their consequences on the spatial phenomenon.
Moving toward sustainable development requires economic and social systems that encourage environmental stewardship of resources for the long term, acknowledging the interdependency of social justice, economic well-being, and environmental stewardship (Haughton, 1999). However, these caveats of gentrification, commodification, and heritagisation are integral to the effective functioning of a market economy having direct impacts on the equilibrium of rights to the city and social justice. This equilibrium underpins the mainstream theory of the economics of the Pareto effect[9] and can also be applied to the spatial and social equilibrium.

9 Pareto effect: This is named after Vilfredo Pareto, an Italian economist, who used the concept in his studies of economic efficiency and income distribution. It refers to situations in which any change to make any person better off would be impossible without making someone else worse off.

Conclusion

Historic port cities present a complex cultural landscape with layers of history, evolution, social and economic factors of influence, and the resulting dynamics. To achieve sustainable development, it is essential to address how our current political, economic, and social systems cause impact and transcend the set parameters and frameworks of practice. Planning and heritage management is central to development, however the cognisance of this socio-spatial character of historic urban areas plays a crucial role in the planning of residential environments. Novel methods for assessment are key to the recognition of these forces and challenges and to enforcing a well-informed inquiry. Taking cognisance of the social, cultural, and economic narratives of the cities to address present-day concerns is a prudent step towards integrating socio-spatial disparities and addressing the lacunae in contemporary management strategies and philosophies. In the current epoch of the 'Anthropocene,' capitalism, neo-liberalism, and dominance of human activity on the landscape and ecology, it becomes imperative to annotate the changing environments. The spatial shifts and changes in cities over a period of time can be articulated and drawn from the influence of economic forces and neo-liberal activities and attributes such as the shift in demographics, land values, change in land use, and marginalisation or social exclusion of vulnerable groups leading to spatial injustice. Spatial justice should be instantiated and evaluated in two major aspects: Just distribution of resources and just representation in decision-making processes. The distribution of resources may include basic facilities for a living such as water, sanitation, health, and education facilities. Representation in decision-making processes becomes credible by the inclusion of all communities, fair representation, and participatory method of planning by the urban local bodies. The combination of these two as aspects as results and process can lead to a spatially just city and ecosystem and address the concerns and narrative of historic preservation in contemporary culture. Novel methods of documentation and inquiry such as cultural mapping which is an emerging model of research that can serve a point of inquiry for theory and discourse on spatial representation. Developing a Historic Urban Landscape database, which is beyond the confines of boundaries of protected buildings, UNESCO World Heritage lists, and buffer zones will enable historic and spatial representation. Integrating the intangible values of social and cultural heritage would be an effective tool to identify the urban invisibles within spatial configurations, the continuity of historical landscapes in the existing built environment, and present knowledge and ontology of urban heritage, urban evolution, and sustainable conservation and development.

Acknowledgements

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Infrastructure, Canning and Architecture

The Case of Matosinhos

Diego Inglez de Souza, Ivo Pereira de Oliveira

School of Architecture
University of Minho
Portugal

Abstract

In this article, we seek to reconnect architectural history with social and industrial histories as a strategy for understanding the relationship between infrastructure, fishing, and urbanisation by studying the emblematic case of Matosinhos. This paper traces the formation of the port area and the process of its subsequent transformation with the development of the fishing and canning industries, to understand the relationship between urban planning, the architectures of production (infrastructures, industries, and urbanism) and the architectures of reproduction (housing), and the dynamics of the physical and economic transformations, as well as the key role played by the port in supporting the urbanisation process. In the last decades of the twentieth century, the canneries almost completely disappeared and the gap left by its concentration and modernisation led to the creation of a new urbanisation plan, directed by Álvaro Siza Vieira. Recent works, such as the seaside platform designed by Eduardo Souto de Moura and built at the beginning of the present century, the redevelopment of Leça's shoreline in 2006 or the conversion of the ruins of a former winery into the new 'house of architecture,' are signs of growing functional disputes and symbolic transformations of a particular port city.

Keywords

Fishing industry; canning industry; port city infrastructures; urbanisation; Matosinhos (Portugal)

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Introduction

In the Portuguese context, Matosinhos represents an unusual experience of planned urban development that is interesting because of the causal relationship that the city developed with the port of Leixões, built in the late nineteenth century, together with the emergence and consolidation of the canning industry during the first half of the twentieth century. In gathering information about the construction and enlargement of the port, the creation and transformation of the various municipal urbanistic practices and the investments of the capital originating from the sea-based economy, we seek to understand and analyse the relationship between the urbanisation of the area and the development of an industrial activity based on the exploitation of a particular natural resource. This relationship resulted in the development of a series of functional capacities that were identified and stimulated in the successive plans drawn up for Matosinhos from the late nineteenth century onwards.
The description of this process of urban development clearly reveals the relationship between the port of Leixões and the main urban plans for the surrounding area,[1] enabling us to identify features of continuity and rupture in the relationship between the built environment and the sea through fishing, offering a new perspective from which to analyse the works produced by Portuguese architects who worked in Matosinhos during the twentieth century.

The concentration of the canneries around the port of Leixões during interwar period,[2] as well as their subsequent abandonment and reorganisation, had a decisive impact on the built environment, making the activities linked to fishing and the canning industry a fundamental aspect underlying the urbanisation of Matosinhos. Besides the impulses given by urban planning, there are various factors that should be borne in mind regarding the transformation of this landscape: the virtually unpredictable behaviour of the schools of fish; the quantities and the quality of the sardines that were caught along the north coast, favoured by the phenomenon of upwelling;[3] the spatial transformations arising from the introduction of new fishing techniques and new technologies for the propulsion of boats; and the presence of a rail and port infrastructure. The introduction of motor-powered seiners that could be used for purse seining, ideal for capturing pelagic fish like sardines, led to a concentration of fishing activities in natural harbours or in ports built by taking advantage of riverbeds and rocky bottoms, especially in Leixões. These ports gradually replaced the sandy beaches on which the *arte xávega* was practised (involving a purse-seine net being launched and dragged directly from shore) and led to the displacement of the fishing centres that supplied the canning industry.
While, along the sandy shore that runs from the mouth of the River Mondego to the mouth of the River Douro, the nets were dragged onto the beach, the port of Leixões offered better conditions for sheltering the larger diesel-powered seiners that had begun to replace the steam-powered seiners (Filgueiras, 1994, p. 68) from the 1930s onwards, capturing larger quantities of fish at further distances from the coast. Espinho and Furadouro, where the *arte xávega* was the main technique (Baldaque da Silva, 1891), gradually ceased to have any relevance, which made Matosinhos a fundamental fishing centre for the Portuguese economy during the years of the *Estado Novo* (1933-1974).

1 For an analysis of the successive plans drawn up for Matosinhos, see Valente (2014).

2 During the First World War, most of the canned fish was produced and exported from the south of Portugal, mainly Setúbal and some ports in the Algarve, such as Lagos, Portimão, Olhão, Tavira, and Vila Real de Santo António. During the Second World War, however, these industries were established in the North of the country, being largely concentrated in Matosinhos. The *Estado Novo*'s "industrial conditioning" law is one of the factors that helps us to understand the decision to concentrate the fishing and processing of sardines in Leixões from a political point of view. The same can be said regarding the concentration of the cod industry in Ílhavo.

3 The rising of nutrients towards the surface of the water due to the interactions between the winds and the ocean currents, providing a favourable environment for pelagic fish.

The increased fishing pressure, or, in other words, pressure from the investments made in the activity and its greater development through the widespread introduction of seiners and purse-seining, corresponded to a greater productivity per fisherman in terms of the number of kilos of fish captured and to an increase in the productive capacity of the canneries, in response to the expansion of the consumer market for canned fish, mainly for export. In this way, the geographical shift in fishing activities arose both from the appearance of new fishing techniques and navigation facilities and from the geomorphological characteristics of the environment in which this activity was practised, attracting fishermen, manual workers, industrialists and their capital to Matosinhos.
The sea thus offered an enormous growth potential that took advantage of the conditions available at the port of Leixões for export and simultaneously justified the strategies included in the 1896 and 1944 Plans based on investments in the urban fabric and the development of the land for industrial use. These were decisive factors in attracting companies from the canning sector that had initially been established at other points along the coast.

Some recent works emphasise the exploration of the sea as the main element in the spatial configuration of port cities to understand and face contemporary challenges.[4] Even a discipline – Marine Spatial Planning[5] – has been created recently (Marine Spatial Planning, n.d.), but the relations between fishing and processing staple food with architectural and urban histories remains almost unexplored, with the exception of the Ellefsen and Lundevall's (2019) book on North Norway. The distinction between "architectures of production"– port infrastructures and fishing processing facilities – and "architectures of reproduction" – the housing areas linked to the port – was developed by them and helps us to organise our perspectives on Matosinhos.

Infrastructure, industry, and urbanism as architectures of production

Shortly after the port of Leixões began to be built in 1884, the engineer Licínio Guimarães drew up the first Matosinhos Urbanisation Plan in 1896, following the decision to transform the haven for the ships that demanded the quays of Douro river in Porto be transformed into a full commercial port (Alves & Dias, 2001).[6] The plan introduced a structure of blocks and the consequent network of streets, which covered an area located to the south that was nothing more than a large expanse of sand occupied by a hippodrome, proposing a new sector for the city linked to the pre-existing urban structure. The 1896 plan was the support structure for the installation of an industry that was well developed in Portugal by then, boosted by the economy of both wars and fed by the massive presence of large schools of pelagic fish, especially sardines, on the northern coast. The growth of the cannery and fishing sectors and consequent attraction of the labour force to Matosinhos, together with the expansion of the port, made a new plan necessary before the end of Second World War.
In the 1944 Urbanisation Plan for Matosinhos-Leça, the coastline, which, at the beginning of the twentieth century and in Licínio de Guimarães' plan, was an ill-defined space between the water and the grid of streets that gave way to the construction of an avenue along the seafront. With the 1944 plan, new urbanistic parameters were introduced and the area's functional specialisation was accentuated. The pragmatism of

4 For instance, some articles published on the *European Journal of Creative Practices in Cities and Landscapes, including Hein et al. (2019) and Hein (2018).*

5 http://msp.ioc-unesco.org/about/marine-spatial-planning/

6 See also the historical recapitulation of the history of the Douro-Leixões system included on the 73-A law project presented at the National Assembly in 1913.

the 1896 plan was supplanted by the notion of a "rational land use",[7] following the premise of functionalist urbanism (Pires, 2012). The 1944 plan marked out the industrial, port, and residential zones, as well as a beach area where no new constructions were permitted, a measure that proved decisive for determining the urban framework not only of the architectures of production, but of the architectures of reproduction too.

The 1944 plan multiplied the area given over to industry fivefold (Valente, 2014, p. 130) and, at the same time, invested in the development of the region by proposing the construction of various public facilities, whose locations largely corresponded to the ones that we can still see today: the school, the library, the hotel, the swimming-pools – namely the tidal pool designed by Álvaro Siza (#12 in Figure 1) and built two decades later, in 1966, as part of the tourism development plan devised for the seafront avenue of Leça da Palmeira.

If the brineries and canneries were, in the beginning, simple warehouses built with a sense of pragmatism that relegated architecture to the task of summarily decorating the façades, Matosinhos saw the emergence of a modern type of cannery, organised in accordance with the stages of production and the flow of workers and activities in a rational fashion. Gradually, architects began to play an active role in the organisation of the territory and its industrial buildings, as proposed by Arménio Losa in the thesis that he presented at the 1st National Congress of Architects, in 1948 (Losa in Sindicato Nacional dos Arquitectos, 1948, p. 127).

The theoretical model for a modern canning factory designed by ARS studio and published in 1946 in the magazine *Conservas de Peixe* incorporated technological improvements such as the Massó evisceration system, brought from Galicia by the shipowner and industrialist Adão Polónia (1901-1964), creating a liquid assembly line connecting the spaces of production. This typological change is the most evident materialisation of the relationship between fishing and architecture, which can be developed on various levels from the equipment and buildings involved in the activities of capturing, processing, and distributing the fish[8] to the urban fabric of port cities like Matosinhos.

In the 1960s, the construction of the three piers at the port of Leixões strengthened the determination to organise the productive activity, with the formal regulation of the landing of the fish and the control of the fish auction. The informal landing of the fish on the beach disappeared, together with the practice of transferring the fish onto small rowing boats. However, the modern enclosed industrial spaces, associated with the rules outlined in the 1944 plan establishing the importance of creating green lanes of protection for the factories and special areas for the loading and unloading of fish away from the streets, confirm the industry's increasing loss of visibility.

The apparent modernity of the port and urban infrastructures, as well as of many of the factories built in this decade, contrasts with the economic and productive conditions of the canning industry. According to Luísa Valente, "*In 1960, Portugal's accession to EFTA*[9] *was to find the* canning industry *decapitalised, antiquated and scattered into a series of inviable companies that were only able to survive through state protectionism.*" (Valente, 2014, p. 89). Shortly before that, in 1955, the engineer and director of the Port Authority, Henrique Schreck, presented his plan for expansion of the port with the construction of another dock in the Leça valley.

7 David Moreira da Silva (1909-2002) was the first Portuguese architect to study at the Institut d'Urbanisme at the University of Paris, before settling in Portugal and joining forces with Maria José Marques da Silva Martins (1914-1996).

8 On the typological transformation on the Matosinhos canneries, see Tavares and Inglez de Souza (2020, pp. 238-253).

9 *European Free Trade Association*, founded in January, 1960, in Stockholm.

The decline in the presence of the canning industry in the industrial area next to the port ended up creating space for a new type of urbanisation arising from the increasing popularity of bathing habits. The state's investment in the productive potential of the port and the industry contrasted with the municipal investment in the development of the region's residential and bathing capacity, especially along the then unpopulated coastal strip of Leça da Palmeira. In Leça, as contemplated in the 1944 Urbanisation Plan, the project for the Avenida dos Centenários included two structural works designed by Álvaro Siza (1933-): the Boa Nova Tea House (#11 on Figure 1) and the Tidal Swimming Pool (#12 on Figure 1). The inauguration of a massive petrochemical refinery in Leça, decided at the national level, only three years after the Tea House and shortly before the construction of the swimming pool, reveals functional disputes between the residential and bath areas imagined by the municipality and the infrastructural plans for the Leixões port decided in Lisbon.

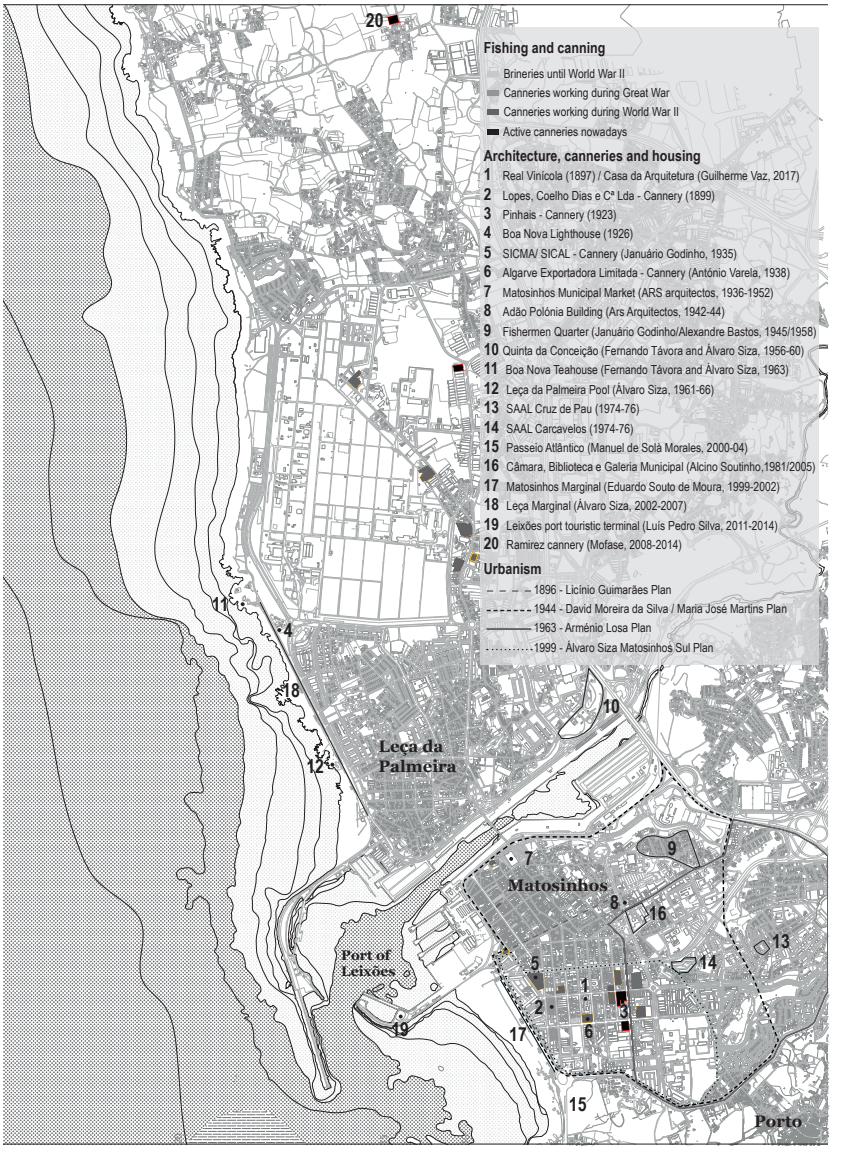

FIGURE 1 Map of Matosinhos

Infrastructure, canning and architecture: the case of Matosinhos.

The residential area of Matosinhos was reinforced with the Matosinhos South-East Zone Urbanisation Plan produced by the architect Arménio Losa (1908-88) and presented in 1963. Besides contemplating the interstitial spaces between the municipal boundaries of Porto and Matosinhos, the plan proposed the building of large housing estates organised into neighbourhood units and destined to house families already living in precarious conditions or rendered homeless by the opening of new roads. This expansion towards the south-west was designed to produce an urban infrastructure capable of serving a population that had grown from 25,000 inhabitants at the beginning of the twentieth century to 110,000 by the time the plan was drawn up.[10]

The approval of the Matosinhos Municipal Master Plan in 1992 extended the coverage of the planning instruments to the whole of the municipal territory, consolidating new systems of relationship and providing new opportunities for urbanisation and real estate. The Matosinhos Sul Urbanisation Plan, designed by Álvaro Siza, sought to control the transformations arising from the activity of the property market and to establish a coherent process for the replacement of the canneries by apartment blocks, taking advantage of the pre-existing urban grid, its infrastructure potential, and its capacity to develop a higher quality urban public space.

The physical transformations of Matosinhos resulting from its land management can be interpreted in the light of the changes in vocation that were outlined and stimulated by the plans and their comparison with the state's strategies for building dominant port facilities that would be fundamental for the northern region. Although the port of Leixões is the basic infrastructure of the urban system, over time the confinement and protection of the port's activities and spaces opened up the adjacent areas to some highly interesting possibilities for interpreting the relationship between the sea and the built environment. In these areas, fundamental differences called into question a reading of this relationship that was based on the hegemony of the port, on a clear functional specialisation of the urban space, and inevitably on linear narratives for the urban and architectural transformation of Matosinhos.

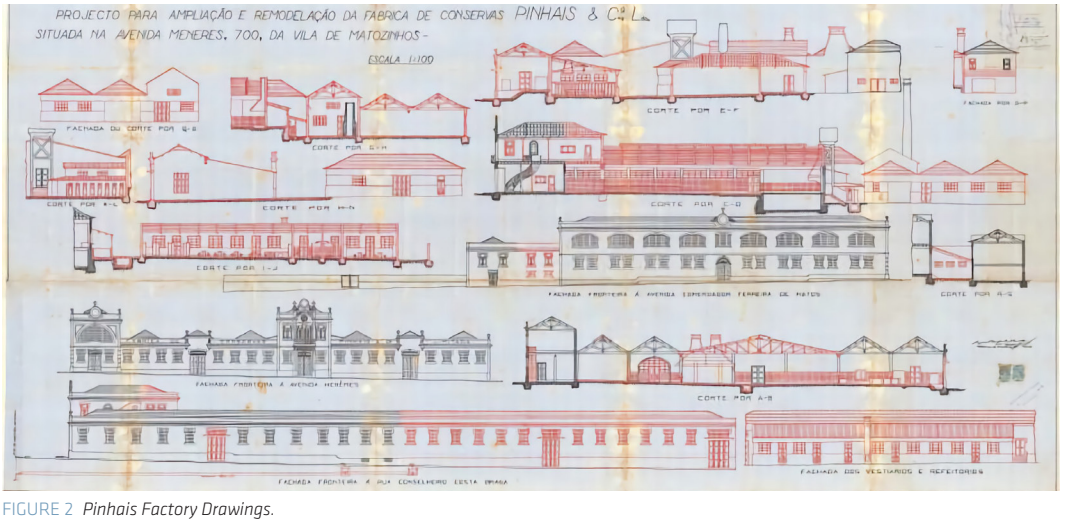

FIGURE 2 *Pinhais Factory Drawings.*

Project for expansion of the Pinhais Factory, built in 1920. Copyright 1945 by Historical Archive / Matosinhos Municipal Council

10 In the early twentieth century, the resident population of Matosinhos amounted to 25,000 inhabitants; in 1920 it numbered 35,000 inhabitants; in 1950, 73,000 inhabitants; in 1970, 110,000 inhabitants; and by 2011 it had reached 175,000 inhabitants.

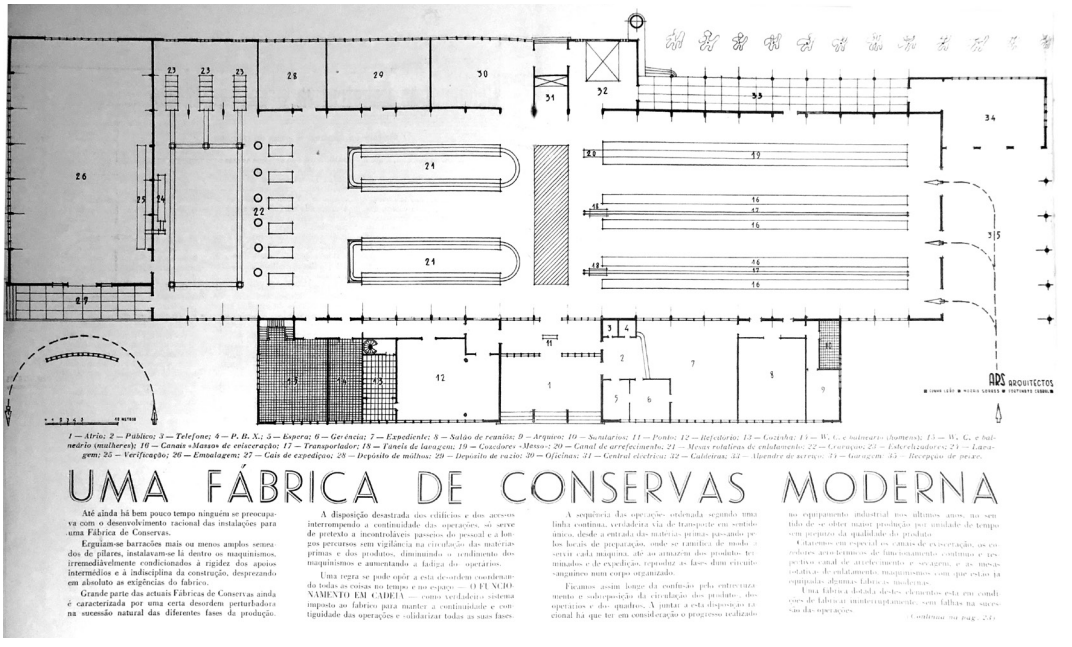

FIGURE 3 *Theoretical model for a modern cannery*

Theoretical model for a modern cannery, developed by ARS architects. Copyright 1946 by Conservas de Peixe, Nº 6, p. 14-15.

Housing and Urbanisation as Architectures of Reproduction

The concentration and organisation of production, as well as the reproduction of the labour force, called for interventions to be made in the infrastructure, canneries, and neighbourhoods that housed fishermen and workers, further extending the relationship between sea and shore at the regional level. The relationship between fishing and architecture was clearly shown, not only in the debate about town planning and in the urbanisation processes implemented in the residential neighbourhoods planned for fishermen, but also in the markets, in the welfare institutions developed for the support of fishermen and workers, and in various other buildings financed by the capital arising from this activity.

In the early twentieth century, the interstitial spaces of the residential blocks in Matosinhos housed around 180 inhabitants per hectare (Valente, 2014, p. 126), which is a surprising density if we take into account the average figures for other urban centres in the same period and the profile of the local landscape, dominated by one- or two-storey houses, punctuated vertically by the chimneys of the canneries.

Even before the state introduced any measures designed to provide housing for the fishermen of Matosinhos, there were clear associations to be made between the sea-based economy and the promotion of affordable housing, seen as a business opportunity, as in the case of the rental building designed by the ARS studio for Adão Polónia (#8 on Figure 1), built between 1942 and 1944. Also in the 1940s, the same studio undertook a study for the same client, for the building of a housing estate for the canning factory workers, consisting of 111 houses, as well as a chapel, nursery, schools, washhouses, and sports fields (Miranda, 2004), which was given the name of Bairro Adão Polónia, and was to be sited in the area of Cruz de Pau. The association between Polónia, whose industry occupied the premises of the first canning factory (#2 on Figure 1) to be established in Matosinhos Sul (Tato, 2008) and the ARS studio reflects a link between the canning industry and modern architecture, which also came to be regarded as an instrument for the transformation of the productive conditions and the landscape of Matosinhos. Between 1937 and 1946,

Polónia commissioned more than 40 architectural projects from the ARS studio, according to the studio's archives (Soares, 2004). The relationship between the studio and Polónia may have arisen from the design presented for the Matosinhos Municipal Market (#7 on Figure 1), built as the result of a competition promoted by the Council in 1936, when the canning factory owner was serving as a councillor and was heavily involved in the realisation of this project (Delgado, 2015).

Although the houses were built under the strict scope of the 1944 Plan, the urbanisation of Bairro dos Pescadores (#9 on Figure 1), the fisherman's residential quarter, seems to have followed its own autonomous logic, probably arising from the lack of articulation between the municipal sphere and the *Junta Central das Casas dos Pescadores*[11] [Central Board of Fishermen's Houses] which was the body responsible for promoting such operations. The first phase began construction in 1945, in accordance with a design by Januário Godinho, and consisted of the building of 146 homes, divided into two-storey housing units, either semi-detached or grouped together in a row, as well as smaller units placed on top of one another and accessed via a gallery supported by an arcade. Apparently, this solution was reminiscent of the proposals made by Carlos Ramos for the *Bairro Municipal de Olhão* (Agarez, 2013, pp.150-161), and undertaken by Inácio Peres Fernandes at the Fishermen's Quarters built in the Algarve, another early manifestation of the relationship between modern architecture and the canning industry, mediated by the State (Agarez, 2018). The second and third phases of the *Bairro dos Pescadores* in Matosinhos were planned and designed in 1958 by Alexandre Teixeira Bastos, divided into two types of units, grouped together in blocks of two houses (56 homes) and four storeys (104 homes) (Ramos et al., 2009). The relationship between the housing estates and the urban fabric was altered with the 1963 plan by Arménio Losa, who proposed the creation of neighbourhood units adjacent to the then-urbanised area, as well as in Cruz de Pau. In the period following the revolution of 25 April 1974, operations of the so-called Local Ambulatory Support Service (*Serviço de Apoio Ambulatório Local – SAAL*) in Matosinhos were undertaken there (#13 and #14 on Figure 1.).[12] This service was created as a reaction to the corporative and technocratic logic that had dominated housing production until then. The land available around the neighbourhood units proposed by Losa would gradually be filled with developments promoted by different housing cooperatives between 1973 and 1998. These new logics of housing production and the consequent increase in the population ended up contributing to the growing dispersal of fishermen and canning factory workers around the urban area, contributing to their relative invisibility. At the same time as the production of the housing cooperatives drew closer to the characteristic practices of the real estate, offering various typological configurations for the urban middle classes in accordance with their different income levels, the production of social housing in Matosinhos ceased in the course of the 1980s, only being resumed in the next decade, when it was financed by European funds.

When Portugal entered the European Economic Community, most of the canneries were unable to meet the demands imposed by the sudden modernisation of the economy and the State, abandoning many of the buildings that had once expressed the strength and vitality of the sardine civilisation in Matosinhos Sul. Those that were concentrated in economic groups moved to peripheral places that were easier to access and closer to the new traffic infrastructures, in keeping with their high productive capacity. The corporative policies of the *Estado Novo* had ended up delaying the dynamics of the new economic demands, which, in turn, marked the end of a means of production that was highly dependent on State protectionism.

11 Law No. 1953 of 11 March 1937 authorised the creation of the Fishermen's Houses; Decree-Law No. 35732 of 7 April 1946 authorised the Junta Central das Casas dos Pescadores to obtain loans from Caixa Geral de Depósitos, Crédito e Previdência for the building of fishermen's houses.

12 Besides the operation at Cruz de Pau, other housing estates were built under the scope of the SAAL programme in Matosinhos, Angeiras, and Carcavelos. A fourth operation, given the name of Ilhas de Leça, was not built (Bandeirinha, 2011).

1930 1963 2007

FIGURE 4 *Matosinhos Sul shore photographs*

Matosinhos Sul shore in 1930's, 1963, and 2007. Copyright Photographic Archive / Matosinhos Municipal Council

1900 1960 2017

FIGURE 5 *Leça da Palmeira shore photographs*

Leça da Palmeira shore around 1900, 1960, and in 2017. Copyright Arquivo Fotográfico Municipal de Matosinhos / Portal da Freguesia de Leça da Palmeira

Disputes, Consumption, and Evocation in Architectural Narratives

Matosinhos from thirty, forty years ago... The primitive seiners, the enlightened masters, the works being carried out at the port and the engineers, the chapel of Santo Amaro under demolition, the same characters, every day, standing in the doorways of Rua de Brito Capelo, the same priest, also the same mayor (...) Those who lived from the sea, or by looking at the sea, were forcibly tidied away in the Fisherman's Quarter, in pink houses with oriental eaves. The tenements that had been overcrowded during the campaign, and then abandoned, the pawnshops, the drunken sailors from the oil tankers, the fires at the Mobil depots, near the sawmill, the first bars, the brothels, the festivities of Senhor de Matosinhos with their paper decorations and wooden arches, the 'factory women', in large groups, encouraging people to sing, also the winery, the warehouse filled with workers and disease. This Matosinhos has disappeared, transformed by itself, also by me, by my eyes. (Siza, as cited in Salgado, 1985, pp.135-136)

The architectural map published by the Matosinhos Municipal Council (n.d.), with the support of the *Casa da Arquitectura* devotes little attention to the construction associated with fishing and the canning industry, giving much greater emphasis to the relatively recent projects developed by the heroic generation of the so-called Porto School: Siza, Eduardo Souto de Moura (1952-), and Fernando Távora (1923-2005), besides some projects developed by Alcino Soutinho (1930-2013), another architect born in the city and trained at ESBAP, the Porto School of Fine Art, such as the town hall, the municipal gallery, archive, and library (#16 on Figure 1). The only direct reference to the sardine civilisation is the inclusion of the Pinhais cannery (#3 on Figure 1), besides the designs of the ARS studio for the Matosinhos Municipal Market and for the rental building built by Adão Polónia.

It seems reasonable to state that, in the late 1950s, with the construction of the works designed by Távora and Siza, there was a deepening of the disputes between the expectations of urban functions and the increasingly reduced visibility of the economic activities and social dynamics linked to fishing and the production of canned fish. The displacement, reduction, and confinement of sea-based activities led to the beach asserting itself as a place of leisure and to the seaside being inhabited by the urban middle classes whose professional activity was not related to the sea, while, at the same time, the fishermen and manual workers ceased to be the predominant groups in these areas.
The four canneries that still continue to operate in the municipality of Matosinhos reveal possible strategies for dealing with the transformation of the canning industry, ranging from anticipation – as in the case of the market leader, Ramirez (#20 on Figure 1), which has moved to an industrial area close to the airport – to resistance, as in the case of Pinhais, which continues to use its traditional character as a marketing feature and remains installed, as before, in Matosinhos Sul.

Siza's plan accompanied the final phase of these functional disputes, the end of the large spaces dedicated to the canning industry and the increase in new residential typologies. Siza maintained some features that evoke the memory of the place's previous functions, as is the case with the footpath along the now disused railway line that brought the stones from São Gens quarries with which the Leixões breakwater was built. Today, the urban and spatial expression of the canning industry has changed. Siza's plan also contributed to a process that has turned the presence of the canning industry in Matosinhos Sul into an important feature of the local heritage. The other industrial spaces have either disappeared or been transformed into supermarkets, furniture shops, discothèques, and restaurants.

The *Casa da Arquitectura*, rehabilitated in 2017 by the architect Guilherme Machado Vaz, which occupies the facilities of the *Real Companhia Vinícola* (#1 on Figure 1), a milestone of 'modern' Matosinhos, was designed by the engineer António da Silva in 1897 and built by Licínio Guimarães. Having been left abandoned for several decades, its ruins were part of the same block occupied by SICMA (#5 on Figure 1), a modern canning factory designed by Januário Godinho in the 1930s, whose façade has now been preserved and which currently houses a fitness centre. The transformation of this block quite clearly shows the different phases in the development of Matosinhos Sul. Although Matosinhos Municipal Council is committed to preserving the memory of the canning industry through publications, homages, and exhibitions, besides using the highly reputed quality of the fish that is landed at the port of Leixões as a marketing feature, these subtle coincidences and contradictions that can be read through the built environment seem to reveal a certain degree of incompatibility between the continued presence of the fishing activity and the past history of the canning industry and the image that the city has projected for itself.

In Matosinhos Sul, the informal occupation of the beach and the public space, which lasted until the 1960s and was marked by the bustling and noisy presence of the fishermen and the female workers from the canneries, has been slowly disappearing. The announced end of many of the continuities and promiscuities that until then had been established between the beach, the boats, the fishing gear, the railway, the industry, and the vast expanse of sand that separated the urbanisation of the coastline was confirmed with the construction of the avenue that runs along the seafront. It is an area that in the 1980s and 1990s was afforded a design that highlighted its growing functional specialisation and was dominated by the roadway. It was transformed once again in the first decade of the twenty-first century with the building of the new seafront avenue. Souto de Moura, who designed the new waterfront of Matosinhos Sul (#17 on Figure 1), which was developed between 1995 and 2002 under the scope of the plan coordinated by Siza, sought to establish a relationship with the formal repertoire associated with the port of Leixões. By presenting a design for an enormous granite platform, which would later be accompanied by various facilities intended to enhance the use of the beach and its bathing area, most of which were not constructed, Souto de Moura evoked forms and materials that were characteristic of the port's activity, although he also made reference to the language of industrial architecture:

The materials that are planned to be used will mainly be iron, wood and glass, being supported by a language that is close to that of industrial architecture. The overall image comes from the fact that it appears to be a continuation of the port of Leixões. (Souto de Moura, 2019)

As a space that is fought over between bathing activity and property development, the Matosinhos coastline has been consolidated to the south with Souto de Moura's intervention and to the north, in Leça, with Siza's successive interventions. The seafront avenue in Leça (#18 on Figure 1), recently subjected to another intervention by Siza, was extended to the north and dotted with the urban facilities of the Boa Nova Tea House and the Tidal Swimming Pool, but it still remains a disputed urban space. The apparent functional continuity of the most recent interventions, which have marked a return to the pioneering initiatives of the English families who settled there at the beginning of the twentieth century, is also disturbed by the presence of the Boa Nova Lighthouse, built in the 1920s, and by the successive expansions of the infrastructure of the port of Leixões and the petrol refinery. There are frequent tensions and disputes over the expansion of the port's activity and the maintenance of the refinery, as well as moments when bathing and tourist activities seek to advance into spaces that were previously linked to the port of Leixões.

The dynamics and administration of the port of Leixões were determining factors of the occupation of this territory, becoming progressively constrained by international safety rules and by the urbanistic pressure of a city in search of spaces. Today, the conflicts between its wishes to expand and the new uses established in Matosinhos are entirely different from before.[13]

Siza's interventions since 2000 on the port facilities surrounding the marina, the construction in 2015 of the Cruise Ship Terminal (#19 on Figure 1) on the port's jetty, designed by the architect Luís Pedro Silva, and the installation in 2017 of the *Casa da Arquitectura* in the *Real Companhia Vinícola* winery are clear examples of the most recently adopted strategies. The rational planning of the territory and its infrastructures as an urban development strategy based on the architectures of production has been losing its influence in the decision-making processes, which are dominated today by marketing strategies geared towards the promotion of tourism and the attraction of real estate, a situation in which architecture again plays an accessory role.

Conclusion

In presenting these moments of convergence and divergence between the aspects suggested by the urbanistic plans and the actual constructions promoted by the fishing economy, our intention has not only been to establish a distinction between the notions of urbanism as a professional practice, but also urbanisation as a process in which the whole of society plays a part. After playing their part in a cycle characterised by the port's function as a platform for the exploitation of natural resources and a basis for the development of a particular industrial economy, both architecture and the production of canned fish seem to have lost the protagonism that they enjoyed as forces for the transformation of the urban space adjacent to the port, and have themselves been transformed through marketing into products for cultural consumption.

As Ellefsen and Lundevall (2019) suggest, in analysing the transformations and dilemmas that have become typical of the fishing ports of northern Norway, with other characteristics and at different times,

13 The mobilisation of some inhabitants and beachgoers of Matosinhos Sul against the extension of one of the jetties of the port of Leixões because of the foreseeable environmental impact of this operation is one of the examples of the various functional disputes that are now alive in the city.

depending on the particularities of each place, there may be identifiable patterns to be discovered between the trajectory and condition of Matosinhos and other port cities in different locations on the shore of the Atlantic Ocean.

"Even though the fisheries followed patterns and techniques that were relatively identical along the entire coast, each place differed from the next, depending on the local nature, property conditions, modes of production, and building culture." (Ellefsen & Lundevall, 2019, p. 51)

The territory that has developed from the fish canning industry is today fed by a rarefied collective imagination in which the visibility of the links to fish and fishermen now tends to be restricted to gastronomy and restaurants. Nowadays, to seize the connections and spaces of fishing and canning, we would have to look to a regional or even Atlantic scale, as the activities that characterised Matosinhos' urban evolution now involves wider connections. The comprehension of the most recent relations between land and sea call for new scales and other places.

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The Invention of Cod in Gafanha da Nazaré

André Tavares

CEAU
University of Porto
Faculty of Architecture
Portugal

Abstract

To what extent can a fish drive specific urban developments? This paper seeks to trace the links between fluctuations in the natural cod resources, the technologies used by fishermen to catch and process the fish, and the development of coastal landscapes and urban forms. The fishing port of Gafanha da Nazaré, near Aveiro on the River Vouga lagoon, is an example of the close relationship between the twentieth-century nationalist cultural construction in Portugal (in which cod fishing played a major role), the development of urban sprawls in new territories (independently from the old urban centres with ties to agriculture) and the fluctuations in the cod populations on the other side of the Atlantic. Despite the somewhat haphazard development of the fishing port between the 1920s and the 1970s, it nonetheless established the territorial dynamics that displaced the centre of local urban developments from the ancient urban core to new territories.

Keywords

fishing architecture, coastal settlements, food processing, socio-ecology, Atlantic landscapes, cod fisheries, port architecture

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Atlantic gaze

The Portuguese coast to the south of Porto, where the river Douro drains its large basin, is dominated by sandy dunes. It is a dynamic landscape, shaped by marine hydrographical phenomena as well by man-made constructions designed to stabilise the coast's endless movements. Near Aveiro, in the lagoon of the river Vouga, a small fort was built in the sixteenth century above the dunes.[1] Periodically in a state of ruin, the construction mixed its military function with serving as a beacon for coastal navigation. Its position, close to the village of Ílhavo, later served as reference point for the construction of two piers to open up a canal across the sandbar. This canal, initiated in the nineteenth century and requiring constant improvements up to the twentieth century, granted safe navigation and permitted the development of a harbour in the Aveiro Lagoon.[2] A significant part of the harbour emerged in Gafanha da Nazaré, where, from the 1920s to the 1970s, the various surrounding agricultural terrains were progressively occupied by shipyards, docks, fish processing facilities, infrastructure, and government buildings to regulate the fisheries (Figure 1). The main product of this combined activity in Gafanha da Nazaré was salted dried cod, a staple foodstuff sourced from Newfoundland on the other side of the Atlantic Ocean. Ílhavo, until then a modest agricultural and pre-industrial settlement, become a hub among Portuguese fisheries.[3] This essay sets out to address two questions: Is it possible to correlate the developments and transformations of the port of Gafanha da Nazaré to cod? And how did cod, this natural resource, mould an urban landscape so distant from its natural habitat, and what was its impact upon it?

Cod is a fish.[4] As a demersal species, cod inhabits the bottom of the sea along the continental shelves, where the water has a convivial temperature and salinity. *Gadus morhua*, the Atlantic cod, prefers a lively environment, rich in nutrients, generated by the meeting of the warm Gulf Stream and the cold northern currents. As a species, cod occupies a high level within the trophic chain, meaning it eats other fishes (including its own juvenile species). There were once several cod populations in the North Atlantic, ranging from the Gulf of Maine up to the Barents Sea, the most popular being that from Newfoundland. In the fifteenth and sixteenth centuries, when European fishermen expanded the horizons of their search for Atlantic resources, the abundance of cod in Newfoundland was overwhelming and boosted a flourishing industry in dried fish. The intercontinental dynamics of fishing cod, processing the catches, and, ultimately, consuming them, led to various urban dynamics that unfolded on both sides of the Atlantic and that metamorphosed throughout the centuries. Such transfigurations often related to technological shifts in fishing or processing practices, while at other times they reflected cultural or political dynamics, yet all had a single common denominator: they were always dependent on the existence and behaviour of cod. Gafanha da Nazaré is part of this set of Atlantic dynamics, its singularities bound up in a larger history in which urban forms relate to marine ecology.[5]

1 On the history of the fort and the urban development of Ílhavo, see the collective reference work: Gomes, S.A. (Ed.) (2017). *Ílhavo: Terra Milenar*. Municipal Council of Ílhavo. See also Tavares, A. (2021), A Maritime Portrait of Ílhavo. Lab2PT.

2 Concerning the harbour, see the illustrated work: Amorim, I. & Garcia, J.C. (Eds.) (2008), *A Barra e os Portos da Ria de Aveiro, 1808–1932* [The Barra Canal and the Ports of Aveiro Lagoon, 1808-1932]. Aveiro Port Authority.

3 Besides fisheries, its proximity to coastal navigation routes and the generous sand and water supply explain the location of the important Vista Alegre porcelain factory, established in the vicinity of the village in 1824. Vista Alegre remains a name and a standard in Portuguese porcelain manufacturing.

4 The most compelling and sharply synthetic discussion of cod is the best-selling book by Mark Kurlansky. See Kurlansky, M. (1997). *Cod: A Biography of the Fish that Changed the World*. Walker and Co.

5 This is the hypothesis of a research project entitled "Fishing Architecture" conducted by the author at the School of Architecture at Guimarães University. See www.fishingarchitecture.com.

FIGURE 1 Drying racks and the codfish port in Gafanha da Nazaré, 1940s. Courtesy of Administração do Porto de Aveiro

The form of two fishing settlements

Tender cod flesh is rich in proteins and poor in fat, an optimal chemistry for preserving its nutritional qualities by dehydration. The business of drying and salting cod started in Catholic Europe in the eleventh century, covering the entire Mediterranean Basin. Fishermen would venture from the North Sea up the coast of Norway, to Iceland and even Greenland – some historians go as far as claiming the existence of temporary settlements in Newfoundland prior to Columbus – to secure a continuous supply of cod. Historical descriptions from the fifteenth century often depict the sheer wealth of cod on the North American coast – a fabled abundance that attracted numerous merchant-venturers to explore further afield in the hope of tapping this rich natural resource.[6] From the sixteenth century onwards numerous British and French fishing fleets operated in the region, combining long-distance fisheries with coastal operations. Cod was fished by line, from large boats. Once caught they were cleaned and salted on board to be later dried inland. The process required large amounts of salt, then a precious commodity, and thus also the rapid development of coastal settlements to process the catches. These shoreline settlements could undertake the drying process quickly, thereby avoiding the initial consumption of salt and producing a less expensive product.

The sinuous and rocky coast of Newfoundland, with its patchwork of bays and coves, provided a convenient setting to establish independent outports with protected access to the sea. The morphology of the shore enabled the safe use of natural ports and cabotage; the various settlements were connected by sea. The land interior and its climate were harsh and inhospitable, meaning that prior to the twentieth century there was almost no terrestrial infrastructure. Whereas the cities in the Gulf of Maine were mixed in nature, with fishing operations combining with colonial trade and flourishing urban scenarios,[7] in Newfoundland fisheries remained the prime reason for settlement. In occupational terms, this meant that the formal architectural qualities of these habitats were predominantly dictated by the monoculture of cod fishing and processing.

6 See Roberts, C. (2007). *The Unnatural History of the Sea: The Past and the Future of Humanity and Fishing*. Gaia. pp. 199–213.

7 Such was the case for Boston and other growing commercial cities in New England. See Kurlansky, *Cod* (see note 4), pp. 62–106.

An 1821 atlas of French cod fisheries in Newfoundland represents the scattered outports lying upon the margin between sea and land (Le Tourneur Atlas, c.1821). (Figure 2). The settlements were an intermingling of a few houses dotted between large expanses of drying racks ranged in military alignments. This synthetic depiction matches the later photographic records of late-nineteenth-century Newfoundland outports, recording predominantly wooden constructions, either anchored onto piers or above the harsh rocky landscape, which simultaneously formed their barren background[8] (Figures 3 & 4). Apart from the houses, built as straightforward wooden structures,[9] and some occasional stone buildings, the racks, piers, docks, stairways, and other service constructions all have a strikingly frail appearance.[10] From an urban perspective, these coastal fishing settlements were devoid of any infrastructure. Connected to the outer world only by sea, they constituted autonomous communities with the sole *raison d'être* of harvesting and producing a fish commodity that could then be traded in exchange for metropolitan goods.[11] This anti-urban, pre-industrial reality lasted until the twentieth century, when major technological, political and biological changes overwhelmed the fragile coastal habitat.

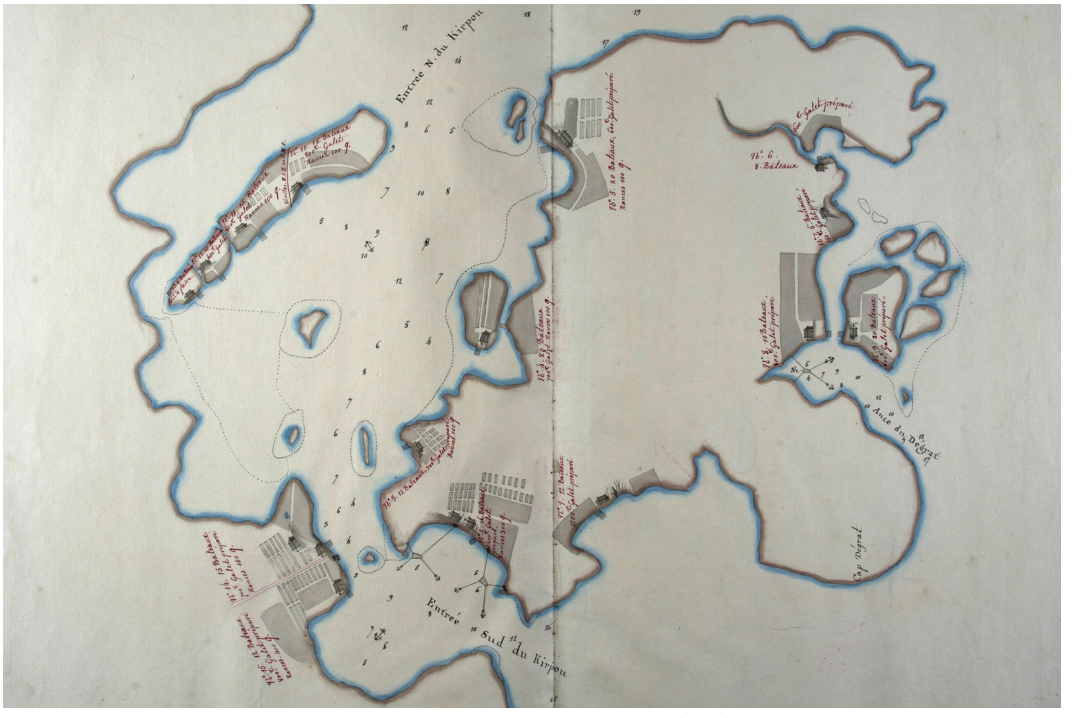

FIGURE 2 Bay in Newfoundland and its cod-fishing settlements. From Le Tourneur Atlas (c.1821). Courtesy of Memorial University of Newfoundland.

8 See the photographic album *Newfoundland Scenery*, presented to Joseph Laurence and attributed to Simeon H. Parsons (1844–1908). Memorial University of Newfoundland, Archives and Special Collections. Accessible online.

9 For a survey of examples of vernacular Newfoundland architecture, see Mellin, R. (2003). *Tilting: House Launching, Slide Hauling, Potato Trenching, and Other Tales from a Newfoundland Fishing Village*. Princeton Architectural Press.

10 Directly supported by the bedrock, the houses have almost no foundations. As a result, in the 1950s, after Newfoundland became a Canadian province and a resettlement policy was implemented, many houses were simply transported by boat. This process was recorded by the National Film Board of Canada in 1961 in a short documentary film entitled *Moving House*. Accessible online.

11 See Innis, H. (1940). Harold Innis delves into the trade network sustained by cod fisheries from the sixteenth to the twentieth century, cogently linking the various Atlantic human geographies to Newfoundland cod stocks.

FIGURE 3 Petty (Petit) Harbour, Newfoundland. From Newfoundland Scenery, presented to Joseph Laurence with photographs attributed to Simeon H. Parsons, c.1880s. Courtesy of Memorial University of Newfoundland

FIGURE 4 Beneath the drying racks, Newfoundland, St. Johns, 1950. Photograph by Gustav Anderson. Copyright by Memorial University of Newfoundland, Archives and Special Collections

Returning back to the shores of the European Atlantic, the sandbars near Gafanha da Nazaré are the locus of an equivalent process that took place from the end of the eighteenth century onwards. There is no cod in the waters off Portugal. Unlike the long extent of shallow waters on Newfoundland's continental platform, the Portuguese coastal profile dives down abruptly twenty miles from shore. This geological configuration, combined with the direction of the waves and the Coriolis effect, boosted in turn by the Earth's rotation, combines to produce a strong upwelling, bringing deeper ocean waters to the surface. As a result, the Portuguese coast has low-temperature waters and a wealth of plankton, ideal for another species of fish, namely sardine. The *Sardina pilchardus* is a pelagic fish that lives in the upper levels of the water column and that occupies a lower rank than cod in the trophic chain. The fatty acids of its flesh make it ideal for preservation in brine, a technique that developed in the late eighteenth century before being surpassed during the second half of the nineteenth century by the more efficient canning industry. The sandbars south of Porto led to the adoption of a fishing technique called *arte xávega* where a flat-bottomed boat hurdles the beach surf to then drop a purse sein net one or two miles offshore, the net then being pulled in from the beach with the help of oxen. Sardine fisheries were (and still are) a seasonal enterprise, effective from early spring to late summer when the fish accumulate fat to produce the energy required for reproduction. Hence sardine fisheries became a supplementary occupation to local agricultural labour, consequently shifting the cultural axis of the region.

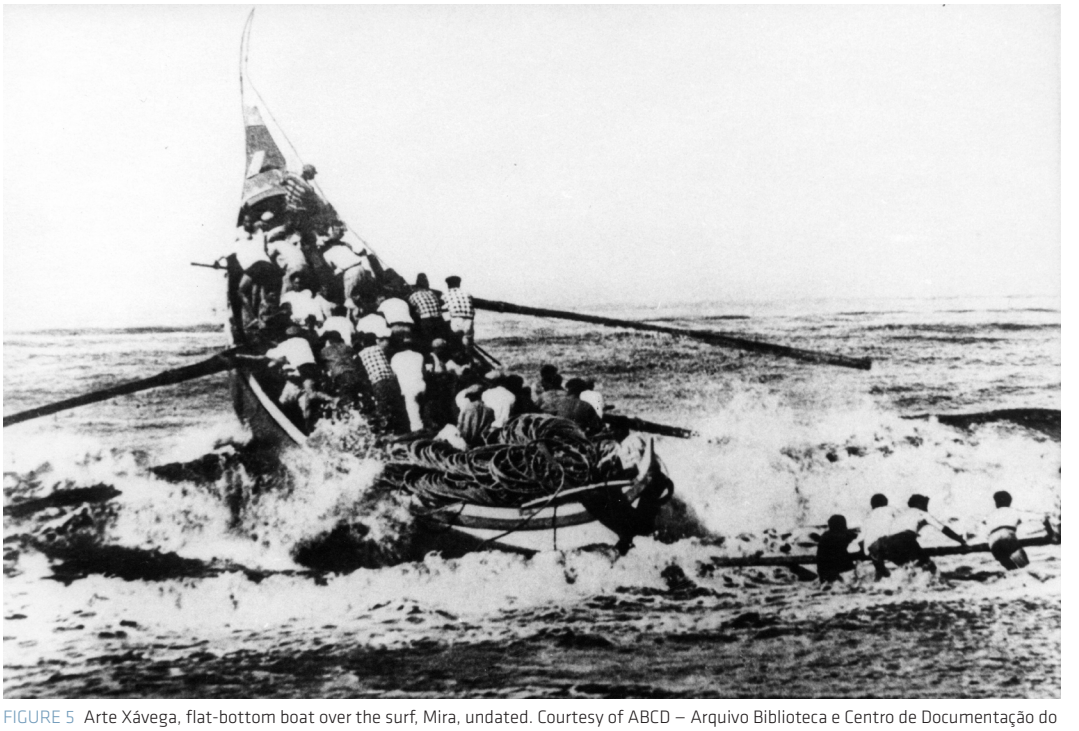

FIGURE 5 Arte Xávega, flat-bottom boat over the surf, Mira, undated. Courtesy of ABCD – Arquivo Biblioteca e Centro de Documentação do Centro de Estudos do Mar, Figueira da Foz, Buarcos

The ability to directly launch the boats into the sea, without the need for a harbour, meant that little investment or infrastructure was required to set up a fishing operation. (Figure 5). Devoid of any service infrastructure, various isolated settlements sprouted up along the coast to lodge the fishermen during the fishing season. In many respects these sardine-fishery settlements were not so different from their cod-fishery counterparts in faraway Newfoundland. The wooden-built constructions at beaches such as Esmoriz, Furadouro, Torreira, Costa Nova, Vagos, Mira, and Tocha were erected on stilts above the sand, only finally acquiring a corresponding infrastructure when seaside tourism required new facilities to host a different temporary residential clientele (Tavares, 2018) (Figure 6). A photograph of Tocha in the 1950s still

shows a small alignment of wooden houses arranged across the dunes, with a long umbilical cord connecting the coastal settlement with the main road and railway systems a few kilometres east (Figure 7).Unlike Newfoundland, however, where the coves and bays provided secure navigation for larger commercial boats, the roughness of the sea and the Portuguese shoreline required either port facilities or a direct connection to land-based infrastructure to quickly transport the catches to the main processing facilities. Nevertheless, despite their fundamental differences these two forms of fishing settlements share distinctly common elements in terms of their direct relation to the sea, their reliance on communication networks, and the absence of any major infrastructural schemes.

FIGURE 6 Furadouro, wooden-built sardine-fishermen's houses, undated. Photograph by Carlos Costa. Courtesy of Biblioteca Municipal de Ovar

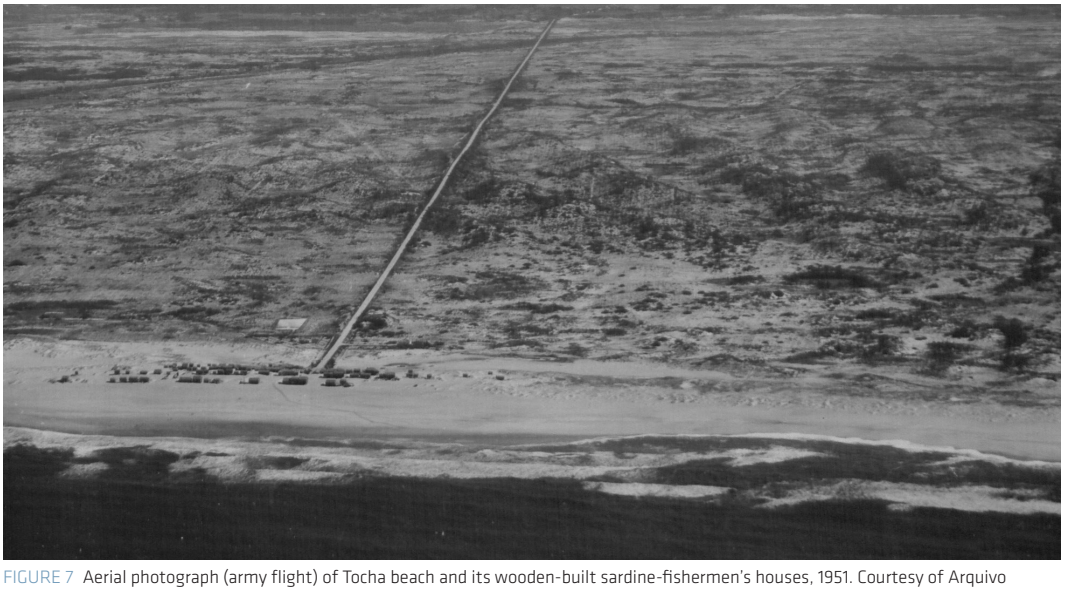

FIGURE 7 Aerial photograph (army flight) of Tocha beach and its wooden-built sardine-fishermen's houses, 1951. Courtesy of Arquivo História de Marinha

Drying racks on the dunes

Several factors made Gafanha da Nazaré into a major cod-fishing port in the twentieth century. Although sailing knowledge and know-how do not equate to fishing knowledge and know-how, the long history of sardine fisheries formed a rich pre-existing regional pool of skills and understanding. A second factor that boosted the local cod fisheries was the modernisation of the Barra Canal, providing secure navigation to larger boats between the sandbar and the inner side of the Aveiro Lagoon. A third factor may have been be the abundance of salt produced in the lagoon, although the extant records make it difficult to establish the exact relational balance between the salt produced regionally for sale abroad and the excess salt required to preserve fisheries that had to be acquired elsewhere (Amorim, 2001; Cunha & Nazaré Pereira, 2014). Despite these local reasons, what was it precisely that drove the growth of Portuguese cod fisheries in Gafanha da Nazaré?

In the late fifteenth and early sixteenth centuries, Portugal was one of the nations with a long-distance fishing fleet in Newfoundland, to the extent that many bays in the region still boast Portuguese names. The enterprise was abandoned soon afterwards, and it was only in the 1830s, under a renewed political regime, that Portugal resumed long-distance cod fishing with the aim of securing the provision of low-cost and high-nutritional proteins to what was a much-dilapidated country, ravaged by the French Napoleonic invasions and emasculated by a British colonial dominance of its main productive industries. Worthy as they were, these long-distance fishery ambitions failed: insufficient cod-fishery know-how and a lack of technology and investment combined to make the industry insignificant and unsustainable (Baldaque da Silva, 1892; Soares Franco, 1840; Frederico Torlade Pereira d'Azumbuja, 1835). As in other European countries, salted cod remained an important part of the Portuguese diet but most of it was ultimately imported from British, Spanish, and French suppliers. In the late nineteenth century, it was this dependency that prompted Lisbon, Viana do Castelo, Vila do Conde, and Figueira da Foz alike to set up small fleets using the then-common technique of fishing with three-to-four-mast luggers.

FIGURE 8 Cod fish drying racks, Figueira da Foz, c. 1950s. Colecção Rocha Madahil 4326, Courtesy of Centro de Documentação de Ílhavo.

In spring a boat would sail from Europe laden with salt accompanied by thirty to fifty fishermen and an equivalent number of dories (a small flat-bottomed boat with low gunwales). Once in Newfoundland they would find bait and anchor a few miles offshore over the Grand Banks. Daily, fishermen would leave the lugger in their dories and launch a long line carrying hundreds of baited hooks. Once the dory was full of catch the fisherman would head back to the main boat to unload the fish, where they were cleaned, cut, and split to be salted and packed in the hold. The season would last about five to six months – with rare visits to the Newfoundland ports – and once the holds were filled the boat would sail back to Europe. Back home the cargo of salted cod would be unloaded to be washed and dried. Drying took place on fishing racks, where the catch was treated by a workforce of womenfolk (Figure 8). The process required wind, low humidity, and no sun, each fish taking several days to dry in a process where it was laid out and then removed several times a day around the clock. The sheer expanse of these fishing racks formed a unique "codfish landscape" that occupied the vicinities of the fishing harbours, whereby the fish racks, the dories, and the labour-intensive fishing and processing techniques were common to all Atlantic coasts. With minor variations, this cod-fishing scenery extended ubiquitously from the Gulf of Maine to England, and from Norway to the Netherlands, France, Spain, and Portugal. And as Gafanha da Nazaré advanced to become Portugal's main cod-fishing port, the drying racks likewise became a distinctive form of its landscape, with the particular smell of the fish and the rational pattern of the flat surfaces of the racks characterising the dunes of the Aveiro Lagoon.

Species biomass and fishing effort

The major shift in cod fisheries came about with the general spread of trawling in the late nineteenth century and, to a greater extent, the introduction of steel-hulled steam- or diesel-propelled boats, which exponentially increased the fishing capacity of trawling fleets. Bottom otter trawling subsequently ravaged the ecosystems of the North Sea, and although designed to catch other species it similarly decimated the local codfish population, along with all its rich natural diversity (Taudal Poulsen, 2007; Roberts, 2007, pp. 130–60). Other cod populations experienced the same fate. Rather than signalling a general decline in fisheries however, this decrease in overall cod biomass in various regions (and indeed coupled with the commercial advantages of its efficient preservation method) simply increased the fishing pressure over the Grand Banks of Newfoundland, with more fleets than ever now operating above its vast continental shelf. Historical descriptions mention an almost total collapse of Iceland's cod stocks in 1914, on the brink of the Great War. However, at this point fleets were diverted en masse to the war effort and the move released pressures on the over-fished stocks, which underwent a small population recovery. It was during these war years that Portugal – in its infancy as a republic and taking its first steps as a new political system – set about reasserting itself as a cod-fishing nation. Despite their feeble state of technical development, the lack of then-active competitors, and their peripheral position within the war effort meant that the commercial Portuguese fleet could reap generous returns on capital invested in cod fisheries. The war also provided a welcome opportunity to increase catches in order to achieve national production autonomy, thereby freeing the county from the prevalent and onerous reliance on imports – a goal that was paramount but never in fact achieved.

At this historical juncture Gafanha da Nazaré did possess a number of luggers equipped for cod fishing, but they were fewer and smaller than the ones harboured in ports such as Porto, Lisbon, or even Figueira da Foz. Nevertheless, the locality had an advantage in the form of its own shipyard, which, since the 1890s, had occupied a site next to the newly built canal. In the 1920s, navigational obstacles at the mouth of the Mondego in Figueira da Foz obliged various functions of its port to relocate towards the now more reliable mouth of the Vouga and the Aveiro Lagoon. Hence, more cod-fishing boats also harboured in Gafanha da Nazaré, additionally profiting from both the shipyard and the fishing expertise, accumulated through

the existing sardine fisheries. Nonetheless the port remained an informal set of piers positioned around the shipyard and effectively nestling as the backyards to agricultural fields, bereft of any significant infrastructure other than the ancient road connecting Aveiro to its abandoned fort.

In the 1920s, European fleets resumed fisheries in Newfoundland, by which point Portugal's sailing luggers, equipped with dories and reliant on longline hauling, were little but obsolete reminders of a bygone era. British and French fleets focused on the more efficient diesel-powered trawling method, which threatened cod stocks again. In 1926, Portugal's brief republican experiment was abruptly ended by a military putsch, which by 1933 had mutated into a fascist regime that lasted until 1974. With the support of the new autocratic government, Portuguese cod fisheries started to grow at a steady pace, with government investments being made to enlarge the long-distance fleet and increase catches.[12] However, instead of investing in modern fishing technology, Portuguese fisheries continued to rely on the existing but out-of-date and inefficient luggers. This anachronism was the result of several economic and political factors, including the widespread availability of underpaid labour (Cole, 1990). Along with the social and economic ambivalence of this strategy, and perhaps indeed reinforcing it, was a muscular political iconography of the cod-fishing fleet as a vital element in a heroic national pathos. Despite a relative resurgence of the industry during the 1940s, Portuguese cod fisheries remained suspended in a state of permanent deficiency and never managed to fulfil the high economic expectations placed upon them. This had a biological explanation: to maintain the profitability of their fleets other countries had to multiply their fishing efforts, thus compounding pressures on the remaining stocks and depleting the overall stock biomass. As a result, although Portuguese fleets attempted to expand, because their fishing efforts stayed similar to that of previous years, operations became less and less profitable.

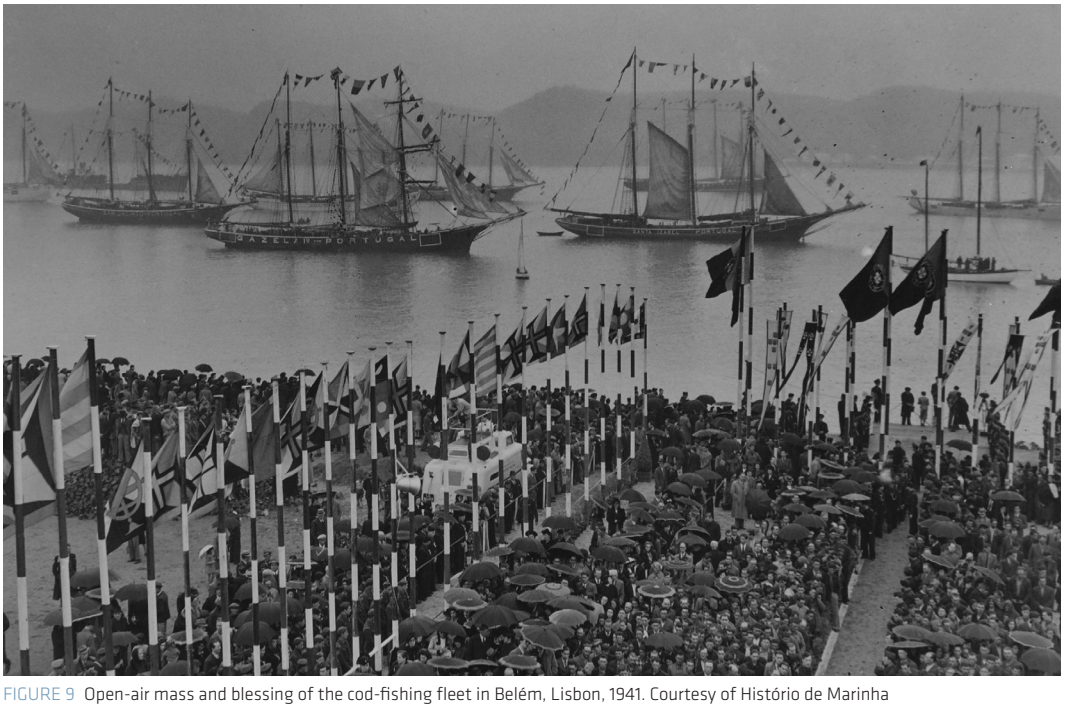

FIGURE 9 Open-air mass and blessing of the cod-fishing fleet in Belém, Lisbon, 1941. Courtesy of Histório de Marinha

12 A detailed analysis of this period was undertaken by Álvaro Garrido, who became a national expert on Portuguese cod fisheries. Despite his accurate and meticulous research, his approach fails to analyse Portuguese cod fisheries in relation to overall Atlantic history (See Garrido, 2007; 2003). An earlier history of Portuguese cod fisheries, less minutely researched than Garrido's but more poignant in its arguments, was written after the democratic revolution of 1974 (See Coutinho, 1985).

The architectural politics of cod fishing

The urban and architectural staging of this political utilisation of the fishing fleet is cogently evident in three examples initiated by the all-powerful Admiral Henrique Tenreiro (1901–1994), who controlled the corporative actions of all Portuguese fisheries (Garrido, 2009). One is the ritual of the annual blessing of the fishing fleet, in Lisbon; the second is the neighbourhoods of fishermen's houses built throughout the country; and the third is the location of the Cod Trade Regulatory Commission on the wharf at Gafanha da Nazaré.
From 1936 onwards, and without interruption until 1973, the cod season was ushered in with the ceremonial gathering of the whole fleet in Lisbon to be blessed, either by the Cardinal Patriarch of Lisbon, Manuel Cerejeira (1888–1977), or Archbishop Trindade Salgueiro (1898–1965).[13] (Figure 9). The some two thousand fishermen deployed for the coming season attended an outdoor mass and a special celebration within the sixteenth-century Jerónimos Monastery, followed by a reception by the heads of state, including dictator António Salazar (1889–1970). Anchored on the Tagus in Belém, the entire fishing fleet would face the monastery and the Tower of Saint Vincent, a ceremonial gateway to Lisbon both in the heyday of sixteenth-century navigation and the modern fascist era. The apparatus of this spectacle was a massive exercise in urban propaganda, with fishermen from all over the country congregating on the capital to perform as extras in a scenario carefully staged to be broadcast in newspapers, radio and, later, television. The long-distance fisheries, where fishermen were severed from their homes and hearts for five to six months, were a modern reincarnation of the Portuguese sailing *fado*, a fate glorified in the homonymous music genre that was promoted to the status of a national hymn. Underpaid fishermen, working in terrible conditions and reliant on antiquated techniques, were lauded as sacrificing themselves for the greater good of the country. This portrayal of the fisherman as hero corresponded to the romanticised notion that long-distance line-fisheries were maintaining "good old traditions" while at the same time securing the country's food self-sufficiency. These deeply inculcated ideas concealed the fact that cod fisheries were actually only a recent endeavour – the sixteenth-century experience was a long-gone episode – and that the rudimentary techniques being used were ruinous, the fisheries only being profitable (and highly profitable) by means of continuous government support to the entrepreneurs who ruled the businesses. Moreover, the sailor-of-yore image served to preserve a steep and rigid social hierarchy that was increasingly under threat by the modern fishing techniques used by other countries. Thus the inscription of the annual blessing of the fleet on the landscape of Lisbon represented a powerful urban orchestration, revealing behind its quasi-religious symbolism a deep political manipulation of fisheries under the Portuguese fascist regime.
The second architectural example is the fishermen's housing projects promoted by Tenreiro, co-joined with the establishment of corporative institutions such as *gremios*, cultural associations, and professional teaching schools for fishing communities (Figure 10). From the south to the north of Portugal these small neighbourhoods, ranging from ten to 150 houses (Tavares & Couto Duarte, 2018, pp. 217-21), sprang up as repetitions of each other following the model of the *Casa Portuguesa* (the Portuguese House) – a national standard coined by the architect Raul Lino (1879–1974) and characterised by an amalgamation of stereotyped details (Lino, R, 1933; Ribeiro, 1994). This myth of a national architecture was even rendered into a popular *fado* interpreted in 1953 by Amália Rodrigues (1920–1999).[14] In the lyrics of the song the architectural imagery is translated into an homage to the modest and humble but generous family, faithful to God and Nation, working hard to partake in the simple joys of life. Mapping the fishermen's housing projects built during the 1940s is an exercise in tracing the distribution of fishing communities along the coast.

13 The first ceremony, in 1936, was conducted by the priest Padre Cruz and followed the example of a French blessing that had been recently attended by Portuguese officials. Cerejeira, a close ally of the dictator, conducted the blessings in April 1937, 1938, 1945, 1947, and 1948. Trindade Salgueiro was born in Ílhavo, the site of the Gafanha da Nazaré port, and he conducted the blessings in 1939, 1941, 1942, 1944, 1946, and from 1949 to 1961, resuming the function from 1963 to 1965 before he died. See the annual May issues of the monthly newspaper *Jornal do Pescador: Órgão Mensal das Casas dos Pescadores*.

14 *Uma Casa Portuguesa*, composed by Artur Fonseca, lyrics by Reinaldo Ferreira and Vasco Matos Sequeira.

FIGURE 10 Ílhavo, Malhada Fishermen's Housing, 1949. Courtesy of Arquivo Histório de Marinha

Not simply intended to address the severe housing shortage, these neighbourhoods were also a deliberate strategy to inscribe a state presence into each and every location, enabling a permanent social vigilance against potentially problematic groups and making them a political emblem of state benevolence towards the fishing communities. From an architectural perspective, despite the specific clientele, the aim was not to create a distinctive (and hence potentially disruptive) design language nor to instigate any form of typological innovation, rather the projects stuck rigidly to standardised state housing patterns. The relatively simple set of ten houses inaugurated in Ílhavo in 1949,[15] sited halfway between the ancient village centre and the growing port of Gafanha da Nazaré, do not mark a significant housing investment commensurate with its location as a major cod-fishing port. Instead they represent a larger government policy of ossifying a conservative social attitude towards fishing communities, the cod fisheries included.

15 In the 1960s, a second phase of fishermen's housing developments was constructed, each encompassing a larger number of houses, a school, and a social centre, although by this stage its architecture had assumed a more neutral rhetoric.

FIGURE 11 Gafanha da Nazaré, Cod Trade Regulatory Commission (CRCB), inaugurated in 1936. Courtesy of Museu Municipal de Etnografia e História da Póvoa de Varzim

The third example involves the Cod Trade Regulatory Commission (CRCB), a key element in the corporate state and the regulation of cod fisheries[16] (Figure 11). It was set up in 1934 and its headquarters located on the Gafanha da Nazaré wharf in 1936, a decision that subsequently prompted many cod-fishing and processing companies to relocate to Ílhavo during the 1930s.[17] The location of the CRCB in Gafanha da Nazaré was instrumental in elevating Ílhavo as the national centre of cod-fisheries. As a building, it has the pedestrian appearance of a warehouse-like artefact – this in stark contrast to the powerful refrigerated storehouses built in Lisbon and Porto, executed in an architectural language of monumentality and refined symbolism. In fact, the port continued to keep its rather haphazard form, each company enlarging its drying racks on the neighbouring agricultural fields and building its own piers to dock the luggers. The wharf was not continuous, with the shipyard interrupting the sequence of piers, and there were no railway connections to Aveiro, the transport of the processed goods instead being undertaken by boat. There were several tentative designs to unify the codfish harbour, most of them part of larger plans for the growing Aveiro harbour, but none of them really progressed further than the drawing board (Figure 12).

16 Comissão Reguladora do Comércio do Bacalhau (CRCB). Its archive is currently held by the Centro de Documentação de Ílhavo (CDI) on the premises of the Maritime Museum of Ílhavo, which has dedicated one of its main permanent exhibitions to Portuguese cod fisheries and hosts a cod aquarium.

17 The companies that moved to the port are, in chronological order, as follows: Empresa de Pesca Testa & Cunha (prior to 1924); Empresa de Pesca de Aveiro (1928); Brites, Vaz & Irmãos (1929); António José dos Santos–Empresa de Pesca Ribau (prior to 1932); Indústria Aveirense de Pesca (prior to 1936); Empresa União de Aveiro–João Maria Vilarinho (prior to 1936); Parceria Marítima Esperança (prior to 1936); Ribaus & Vilarinhos–José Maria Vilarinho (1936); Pascoal & Filhos (1937).

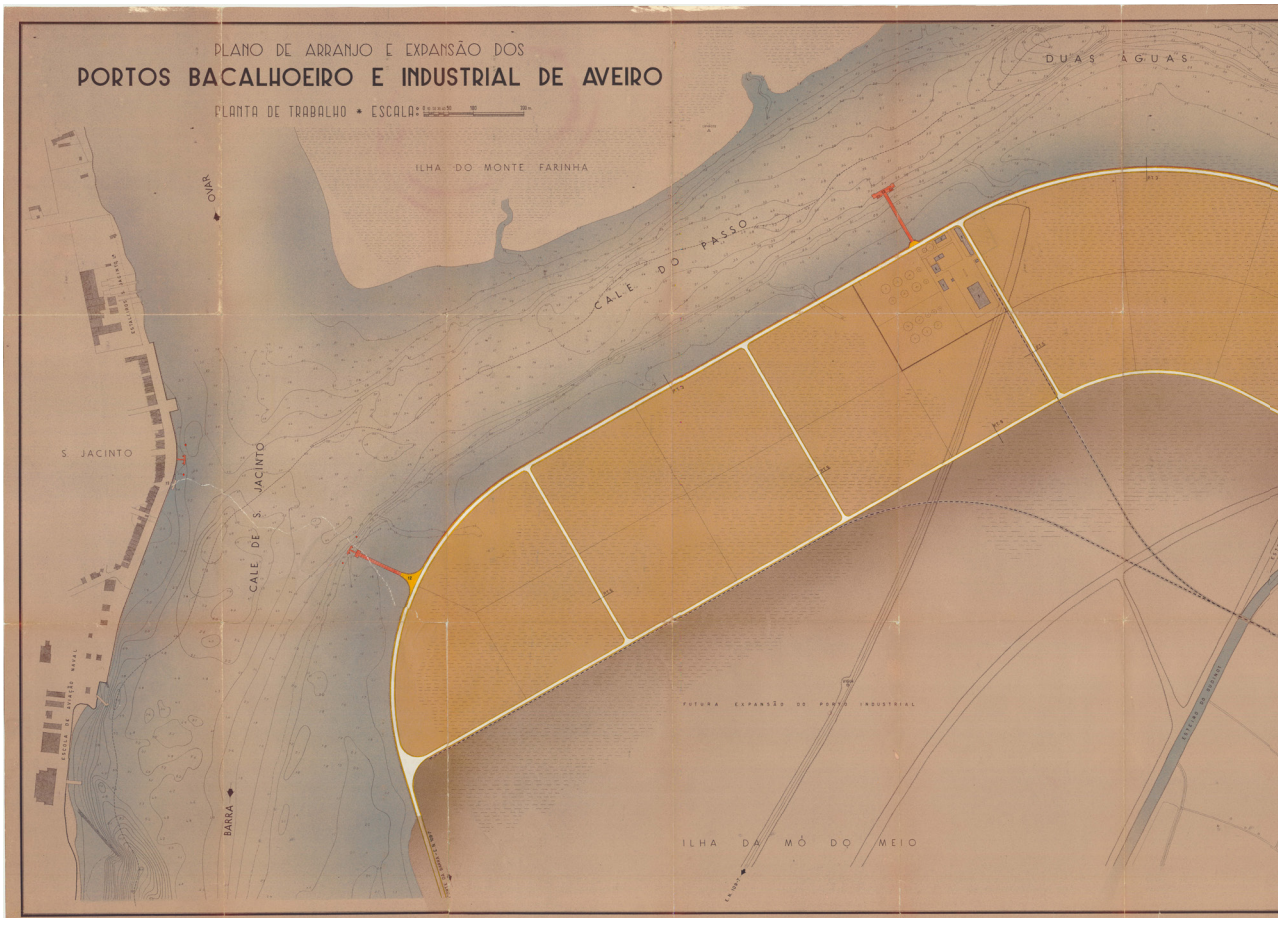

FIGURE 12 Unrealized plan of expansion of Aveiro's harbour, 1956. Courtesy of Administração do Porto de Aveiro

Depleting cod resources

Cod live on rocky slopes and between boulders and only reproduces when they reach three years old, their eggs developing over a period ranging from days up to weeks in open water before becoming larvae that drift towards the shore for several months. Juveniles take months to years to grow into adults, their preferred habitat being the eel-grass and sandy gravel bottoms not far from shore, after which they return to the boulders where they finally become fully-grown adults and reproduce. This cycle is a complex ecosystem that oscillates with the seasons from shore to open sea. Although its overall functioning is still relatively obscure to scientists, it is commonly acknowledged that large, several-year-old cod are crucial in establishing the required ecological balance to rejuvenate their populations. Without larger cods other predators move up the chain to dominate the ecosystem, making it harder for the younger specimens to thrive.

The period from the 1950s to the 1970s is known as "The Glorious Thirty", and fisheries also took part in this euphoria (Gascuel, 2019, pp. 42–6). The post-war years experienced a combination of an expanding market for fish consumption, increases in technological capabilities, and an exponential growth in catches, whereby most countries saw the consumption of salted cod replaced by frozen cod. The economic profits were large, but the pressure on fish stocks resulted in a catastrophe, with overfishing compromising not only the

physical survival of various species but also the economic survival of fisheries themselves. Needless to say, the low-tech and relatively primitive Portuguese fisheries were not the main culprits in the depletion of the Grand Banks. The second half of the twentieth century experienced a further boost in fishery technology, encompassing everything from boat design and propeller systems to sonar that could localise schools of fish underwater, and from the fishing gear and high-performance nets to refrigeration systems. These latter freezing techniques thrust the scale of fisheries to unprecedented heights (Harbron, 1962). Notorious on the Grand Banks were the Soviet Bloc factory ships that processed their catches on the high seas, operating as floating logistical hubs to serve the fishing boats, which would rarely see their home ports. All-year-round factory-ship fishing at the outer limits of the continental shelves decimated the entire elder fish populations, and ultimately cod stocks on the Grand Banks of Newfoundland collapsed completely.[18]

18 By this time several countries had claimed sovereignty over the seas around their continental shelves. In 1958, under the auspices of the United Nations, treaties were signed defining strategies to secure "sea law," a concept finally established in 1982 with the definition of Exclusive Economic Zones (EEZs) that came into force in 1994 with the United Nations Convention on the Law of the Sea (UNCLOS). The "Cod Wars" between Iceland and the United Kingdom (the first between 1958 and 1961, the second between 1972 and 1973) illustrate this post-war reconfiguration of maritime legal limits, but also the shift in British fisheries from Newfoundland to Iceland and other regions where cod was still abundant.

Portuguese fisheries never kept pace with this technological progress. Its fleet included a handful of trawlers equipped with sonar, radios, and high-performance nets, but they mixed the new technologies with the tried-and-tested past practices, still operating long-liner luggers with a combination of motor and sail propulsion, and using refrigerators for bait but not for freezing the catches. This atavism reflected both the incapacity to invest in fisheries (especially after the outbreak of the colonial wars in Africa, which drained the state's financial reserves) and the intractable ideological will to preserve and maintain otherwise obsolete "traditions." As for the *Casa Portuguesa* and *fado*, cod represented a nationalist glue in forging cultural consolidation through food. Despite all the gastronomic diversity from the north to the south of Portugal, cod was inculcated and promoted as a unifying national dish during the dictatorship. Unwilling to forego the ideological, iconographic, and social control that cod granted the political regime, the outdated Portuguese fisheries continued sailing until the 1970s, when fewer and fewer operators finally became willing to risk the dangerous and ruinous seasons. Finally, with the Carnation Revolution of 1974, long-distance cod fishing ceased, and the processing facilities started to acquire cod from other countries, especially Iceland and Norway.

What happened to Gafanha da Nazaré?

The lowlands of the southern branch of the Aveiro Lagoon are known as Gafanhas. They were formerly occupied by agricultural fields fertilised with seagrass from the lagoon, a complementary activity to the predominant inland agricultural sector and other local industries, such as the important pottery factory. Until the 1930s the dunes on the coastal sandbar, where the sardine *arte xávega* fishing communities settled, were more like sand deserts until a pine forestation programme was initiated to stabilise the shifting terrain. The rudimentary roads that crossed this landscape were sparsely dotted with small communities that served the variable demand for labour.

The growth of Gafanha da Nazaré's specialised cod-fishing port from the 1920s onwards led to a growth in regional population. The cod-processing facilities can be described as having negotiated their occupancy with the agricultural terrain in the form of low-cost drying racks, which were usually seasonally rented. Once the peripheries of the port were fully occupied, other random drying facilities were installed on the coastal sandbars of Costa Nova and São Jacinto, only to be later abandoned when no longer needed. On the port side the shipyards fell into bankruptcy in the 1980s and a periphery road was finally built, amalgamating the wharf with its waterfront. In the 2000s, with the help of European funds, a railway and new road infrastructures were built in its interior stretch facing the former agricultural fields, now transformed into a carpet of alow-density suburban housing. Meanwhile, most of the former cod-processing facilities were converted into warehouses, with a few companies adapting their operations to import fresh cod to be salted and dried complying to modern hygienic methods. Two newly built specialised cod-fishing boats are docked on the harbour and still undertake annual cod-fishing seasons to Norway. At the same time the codfish harbour itself has been engulfed by the growth of the Aveiro port, with logistics platforms and ro-ro terminals, but also including a local fishing port and recreational wharfs. Unlike the fenced-in and gated zones of the continuous sequence of the commercial port, the cod-fishing port has remained an open and easily accessible area (Figure 13). This ambivalence and its convenient position in relation to the motorway system have made it a preferred site for small companies and industries to operate from, merging the forms of new warehouses and offices with the remains of the former cod-fishing companies.

1

2

FIGURE 13 *13.1.* Gafanha da Nazaré north embankment, public access to ferries, 2019.
13.2. Gafanha da Nazaré, food processing facilities, 2019.

Gafanha da Nazaré's cod-fishing port originally grew adjacent to the road connecting Aveiro to the ancient fort, where the Barra Canal was opened and then the beacon installed. This area has now been colonised by seasonal seaside tourism, slowly urbanising the dunes from the canal towards Costa Nova, with the former fishermen's settlement becoming a second-home urban community. Post-war attempts to confine the urbanisation of Ílhavo to within a formal, closed and centralised layout were ultimately unsuccessful, and the former agricultural centre has come to epitomise the sprawled communities that have spread throughout Gafanha's lowlands and along the seaside. As the cod fisheries collapsed, supplanted by a new economy based on services and tourism, this urban sprawl was further accentuated by the overlay of new road-infrastructure networks.

Codfish architecture?

Rather than bearing the architectural imprint of a specific fish, the form of Gafanha da Nazaré port seems more the result of circumstantial decisions. The links between the fluctuations in natural resources, the nationalist politics of socio-cultural construction and the related development of urban sprawl are subtle, but they do exist. It was the naïve understanding of marine ecology and the zeal to build a distinct propaganda apparatus that precipitated the persistence of an out-of-date fishing culture.

Social reasons – not biological ones – determined the low-tech strategy of Portuguese fisheries and the consequent loose form of Gafanha da Nazaré's port. More significant investments in the industry would have resulted in more up-to-date fishing techniques – and an effectively predatory pursuit of ever-larger catches – as well as in a purpose-designed wharf and the establishment of a formal relationship to its environs and surroundings. On the other hand, the collapse of the fisheries in the 1970s ushered in a period of abandonment and a struggle for survival that led to public access and mixed port functions – unlike other areas of the port that were designed and rebuilt as autonomous units with limited access and single functions.

The concentration of codfish operators in Gafanha da Nazaré also resulted from a distribution of political power (i.e. the location of the central regulatory board). Still, cod processing did generate a specific landscape, different than, for example, sardine processing. Whereas the latter prioritised canning factories and fostered a more industrialized context, the former presents an ambivalent quasi-agricultural scenario embodied in its cod-drying racks. And although the drying racks of its heyday have clear affinities with other Atlantic cod-fishing landscapes, its own specific location resulted from the opening of the canal, the proximity of a shipyard and the existence of fishing knowledge. If there is an identifiable common relational denominator between natural resources and architectural form, it is to be found in the similarity between the Newfoundland cod bays and the wooden Portuguese sardine settlements on the dunes.

The links between ecological dynamics and urban processes are subtle and not simple to trace, with the complexity of the elements of the equation blurring any attempt to establish direct relations of cause and effect. The case-study narrative presented above is, by its nature, incomplete and tentative but nevertheless provides a vital pointer to direct further future research in that what ultimately emerges is a picture of an identifiable socio-ecological system that responds to the dynamics of a fishing-port landscape, thus providing a hypothesis on which to trace a larger marine history of urbanism.

Acknowledgements

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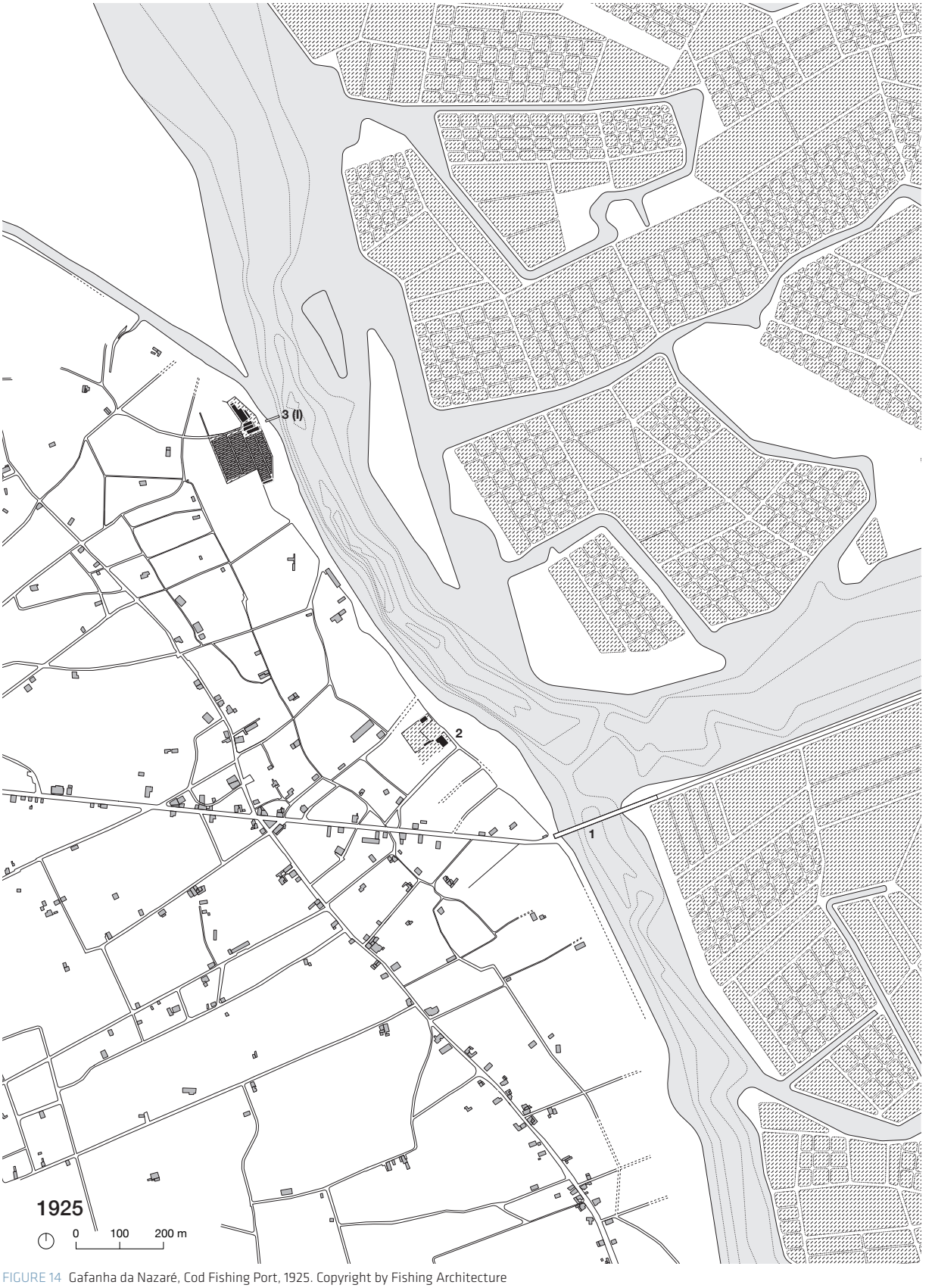

FIGURE 14 Gafanha da Nazaré, Cod Fishing Port, 1925. Copyright by Fishing Architecture

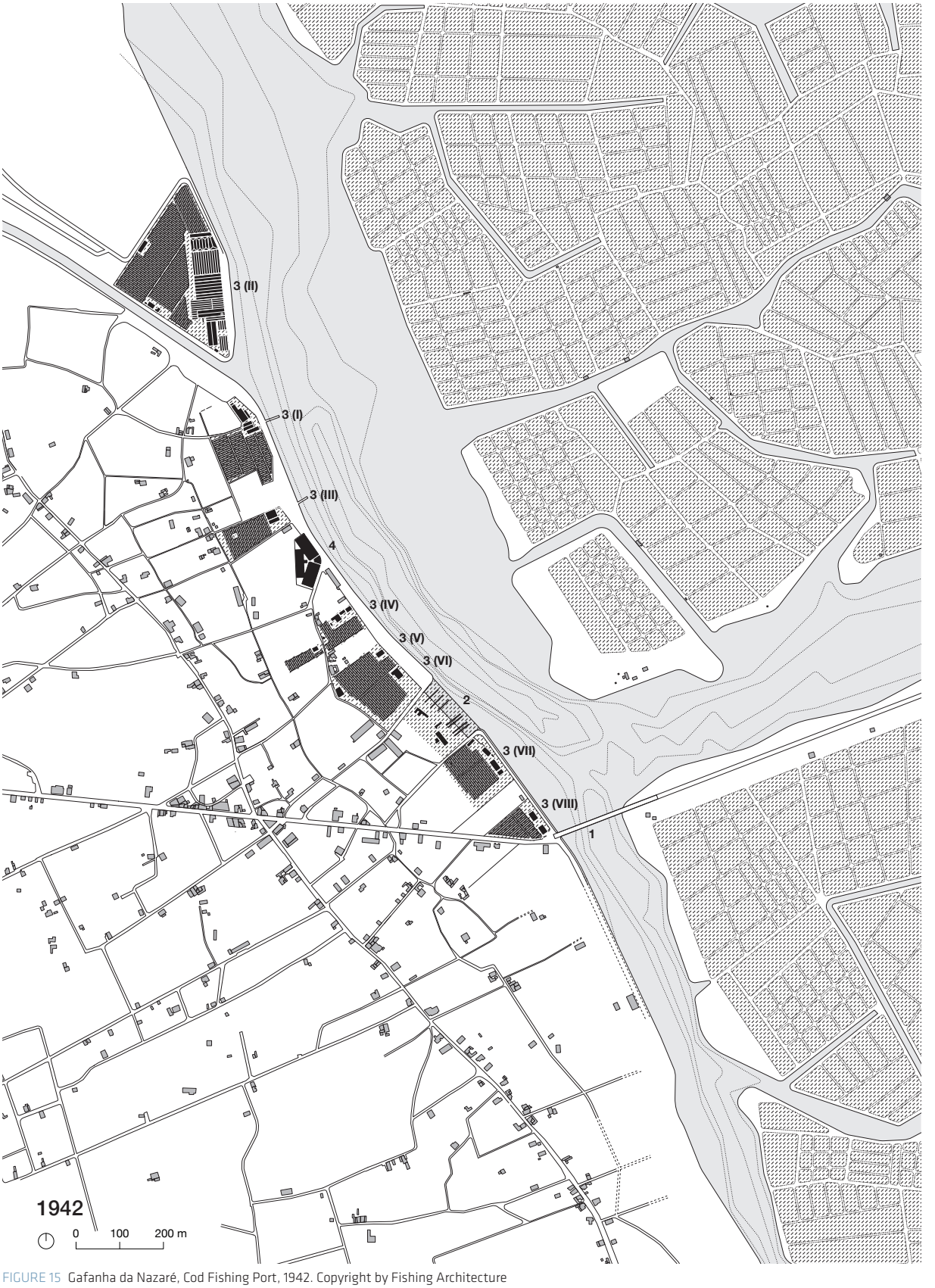

FIGURE 15 Gafanha da Nazaré, Cod Fishing Port, 1942. Copyright by Fishing Architecture

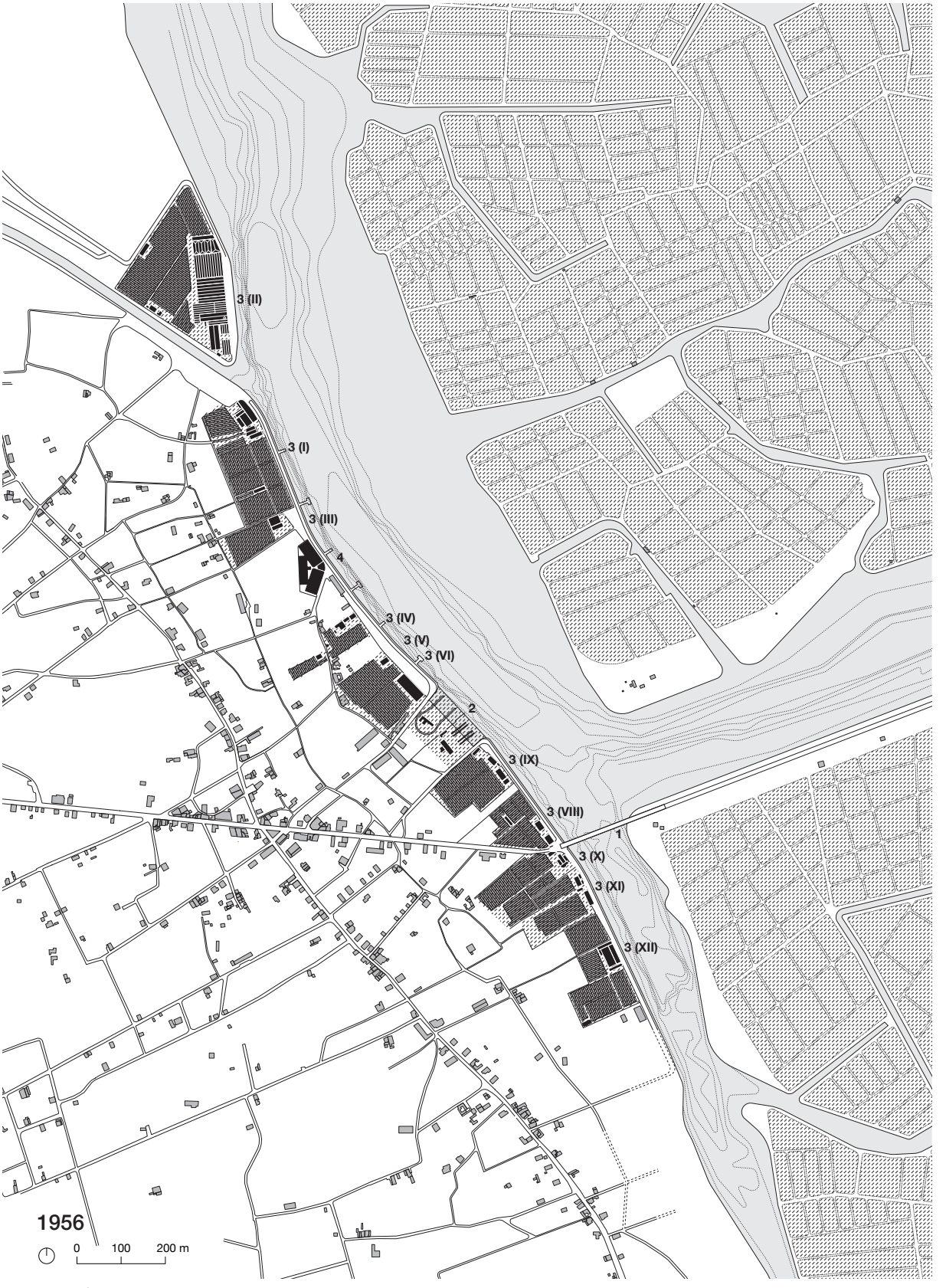

FIGURE 16 Gafanha da Nazaré, Cod Fishing Port, 1956. Copyright by Fishing Architecture

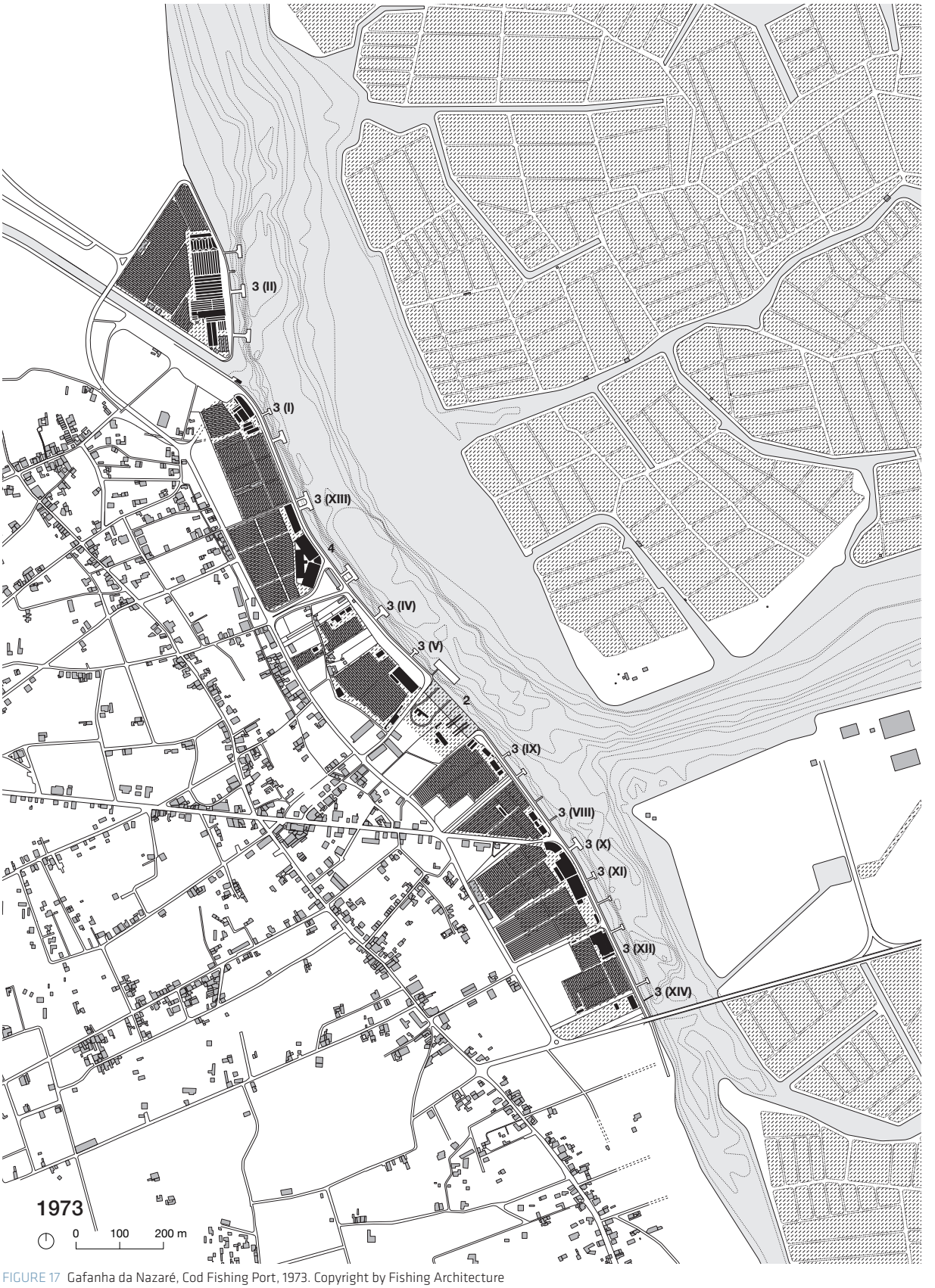

FIGURE 17 Gafanha da Nazaré, Cod Fishing Port, 1973. Copyright by Fishing Architecture

FIGURE 18 Gafanha da Nazaré, Cod Fishing Port, 2010. Copyright by Fishing Architecture

Legend figures 14-18

1 – Cale da Vila Bridge
2 – Bolais Mónica Shipyards
3 – Codfish Drying Facilities
(I) Testa & Cunha
(II) Empresa de Pesca de Aveiro
(III) Seca do Capitão Santos
(IV) Seca de Vaz / Brites, Vaz & Irmão
(V) Seca de António Pascoal e Filhos
(VI) Seca do Capitão Corujo
(VII) Ribaus e Vilarinhos
(VIII) Parceria Marítima Esperança
(IX) José Maria Vilarinho
(X) José Maria Vilarinho
(XI) Sociedade Gafanhense
(XII) Indústria de Pesca Aveirense
(XIII) Empresa de Pesca Ribau
(XIV) Sociedade de Pesca Miradouro e Friopesca
4 – Cod Trade Regulatory Commission
5 – Indústria Transformadora dos Produtos de Pesca / Fish-processing Industry

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Port City Architecture

Reading Paintings as an Architectural Design Method

Fatma Tanış

[1] **Delft University of Technology**
Facuty of Architecture and the Built Environment
Delft, the Netherlands

Abstract

This article addresses the role and the importance of the 19th-century narratives and depictions of port cities in contemporary architectural design with a specific focus on paintings. In the last decades, cities the world undertook a large number of urban regeneration projects along waterfronts. In this way, vacant sites on waterfront areas became an opportunity to apply contemporary architectural design; however, many of those projects resulted in generic buildings failing to establish relationships with their landscape, environs, and the history of port cities. High-rise buildings, for instance, began to dominate waterfronts in many of the port cities (e.g., in London, Liverpool, Rotterdam, Baltimore). The land was simply used as a "site" by developers, and the contemporary architectural design failed to address the specificity of the architecture and caved in to the demands which had little to do with the possibilities of place. This article showcases a library and concert hall project realised in Bodø, Norway, to provide insight into an alternative model, where the architecture is situated specifically in response to the port condition and acts as a mediator between port, city and landscape.

An interview with the architect Daniel Rosbottom, founder of the architecture firm DRDH which designed the project, provided insight into the design process. As Rosbottom elaborated broadly, a 19th-century painting of church San Giorgio Maggiore in Venice h, by the English painter J.M.W Turner was used as an inspiration for the design process. The embedded knowledge in the painting informed the project at various levels and turned a site into a place on the waterfront of Bodø. The design process analysis reveals similarities and significance of paired relations between artworks and architectural design and hints that the remedy of the contemporary architectures in port cities may lie in port cities' own (immaterial) resources.

Keywords

contemporary architectural design, port city, port city architectures, Bodø, waterfront regeneration projects, narratives, urban cultures, port city culture

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Port cities since the early 20th-century

Since the 1960s, vacant waterfronts of port cities have been in demand as sites for urban redevelopments and contemporary architecture. These developments fundamentally aim to rehabilitate and regenerate former port areas, abandoned port-related spaces that became derelict in the 20th century. Waterfronts have been a place for a set of different and evolving experiences since the first projects in North America. The waterfront regeneration projects undertaken between the 1960s and 1980s resulted in hotels and office buildings often located in tall buildings, aiming for economic transformation (Shaw, 2004). The subsequent projects (i.e., London Docklands, Rotterdam Kop van Zuid) have been through the same process. After the 1990s, projects like Barcelona Port Vell and Genoa Porto Antico prioritised the development of cultural facilities. One of the most recent developments, the Hamburg Hafencity project, has pluralised the functional programme focusing on mix-use buildings, leisure facilities, luxury housing, and cultural facilities. In addition, the process has improved in terms of organisation of the development projects (from single actor, stakeholder to multiple actors, including public-private partnerships), the architectural design, the way architects' involvement in the projects (from single architects to the competition-based designs) (Tanış, 2016a).

Waterfronts have always been privileged areas before the decline in the 20th century. The return to waterfronts and the increasing application of waterfront regeneration projects in the contemporary era is evidence in acknowledging the value of waterfronts that has been ignored for a few decades during the 20th century. While recent urban developments on waterfront areas in port cities offer an excellent opportunity to develop and implement contemporary architectural design approaches, most of the transformation projects in port cities resulted in some generic buildings Danish architect Jan Gehl suggests that the buildings in port cities are looking like expensive perfume bottles (Gehl, 2012). Developers, stakeholders, and decision-makers have often considered sites along the waterfronts as an opportunity. The priority for the developments has been given to the rehabilitation of urban places economically and socially. The response of many cities to their derelict waterfronts, is reminiscent of the post-war architecture, which developed buildings hastily to recover war wounds. Notably, the 20th-century architecture of port cities reveals the lack of established relationship between their landscape, environs, and historical identity (Tanış, 2016b).

A Gap in Port City Research and its Drawbacks in Architectural Practice

The lack of relationship between many present-day architectural projects in port cities and their unique contexts projects a gap in port city research. Scholarship in the field of port city research has paid much attention to port and city's reciprocal influences on one another with a specific focus on port-city interface and infrastructural advancement. A part of the scholarship evaluated the port-city relations by analysing how port and city are splitting in line with the technological and economic developments (Hoyle, 1989). Another body of work focused on re-establishing relations between the operational port and the city.

In addition, some scholars addressed the waterfront regeneration projects and their governance (Daamen and Vries, 2013; Schubert, 2014). Finally, a part of the scholarship focused on the evolving basic port facilities and addressed how port cities have been interconnected at a functional level to run global trade (Hein, 2011). However, prominent scholarship on the studied field has overlooked the specificity of contemporary port city architectures. Particularly the question of how to design in port cities in the contemporary era has remained unaddressed. Only recently, less than a handful of works hope to start discussions under the overarching theme of port city architecture (Tanış, 2016; Tanış, Erkök, 2016; Tanış, 2020).

Although port cities distinguish themselves from other cities due to their particular character, waterfronts became a "site" for developers due to the gap in the field, coupled with emerging waterfront development

projects. The notion of the site defines as "the spatial location of an actual or planned structure or set of structures (such as a building, town, or monuments)" (site (n.d.) in Merriam-Webster's collegiate dictionary). This article attempts to stimulate discussion on port cities' specific character while providing a methodological insight into port cities' architectural design, aiming to turn the "site" into the "place". In contrast to the site, the notion of place offers a deeper understanding and has an existential connotation. We can understand "place" as "an integral part of existence". It is a "manifestation of man's dwelling" and locates architecture between earth and sky and within its landscape (Norberg-Schulz, 1980, 10). In the analysis of the place, its character plays an important role. According to Norberg-Schulz, the concept of character is related to a place's material and formal constitution (Norberg-Schulz, 1980, 14). The material constitution of a port city has been resulted from multifaceted human and non-human encounters due to vast interactions between other port cities. Consequently, different technical knowledge, building materials came into contact with the existing building tradition and building materials of the city incorporating the natural environment (see Tanış, 2021); thus, port cities have a unique character.
Norberg-Schulz criticised modern buildings for not relating themselves to their landscapes, environs, and historical identity (Norberg-Schulz, 2000, 19). The direct engagement of buildings lies in establishing relations between topography, their surrounding landscapes and natural context (Norberg-Schulz, 1971, 24-27). Similarly, British architect Quinlan Terry reflects in the same line of thought: "Architecture depends on function, durability, order, humanity, nature and beauty. Modern architecture has none of these things." (Terry, 1976). The return to building along waterfronts and the tendency of building constructive relationships on the contrary of the post-war modernism stands as a concrete acknowledgement for building the relationship between present-day and the port cities' historical qualities that evolved under the maritime and port city cultures. In this respect, universality is an essential dimension of the place-making process[1]. This universality and the embedded knowledge were hidden in port cities' representation. Paintings function as a nexus for bouncing knowledge and cultures of port cities. Paintings produced until the 20th century naturally focused on the waterfronts where the international exchange between diverse port cities have composed an integral part of port cities. The only way to reach Venice was the boat until the advent of the railway in the 19th century. The universal condition regarding spatial construction of port cities in this way captured in the paintings. Principles of port city architecture that succeeded to establish human's relations to their environment in a historical way are timeless. Such historical depictions of port cities can inform architectural designers today.

Port City Architecture in the Contemporary Era

In quest of contemporary design approaches for situated architecture in port cities, this study emphasises that port cities need to be understood in their interconnected historical context considering both architecture and their representation. This approach is neither historicism nor nostalgia for port cities' past. Until the 20th century, the development of port cities carefully interpreted the landscape and established links between individuals, culture, nature, and society through architecture. In developing a specific port city character, local features such as topography, climate, city's spatial relations with land and water body played an important role. Reciprocal links between architecture and representation significantly contributed to the unique development of those cities (Tanış and Hein, 2020, pp. 44-45). Interactions between port cities developed different viewpoints on port cities to understand them as a whole. Particularly two groups of people readily understood the relations between architecture and representation: Merchants, one of the

1 For further elaboration, please see the chapter "Universality" in Norberg-Schulz (1997).

groups, had a detailed understanding of building port cities and their representation in promotion for trade. The other group consisted of travellers who depicted port cities and their specific aspects in their works. Port cities and their urban life have attracted the gaze of strangers and were inspirational for travellers, including painters and novelists. They created a large number of artworks. Not only should artworks be understood as a cultural product, but also, they need to be considered as a source of knowledge and insights that could still guide port cities' architectures and urban matters. Therefore, this study introduces consulting to port cities' artworks as a way of thinking in contemporary architectural design towards a unique and site-specific, or, more preferably, situated architecture in those cities[2]. Finding the remedy for the generic architectural results in port cities through artworks is also a tendentious way of explaining port cities' particularity.

FIGURE 1 Bodø (Wikimedia commons).

2 Please read Haraway (1988) for further insights on situated knowledge.

FIGURE 2 Bodø in the late 19th century (Unknown, ca.1890-ca1900).

For this inquiry, this article focuses on the design process of an award-winning project[3] Stormen Cultural Complex consisted of a library and a concert hall in Bodø. Bodø is the second-largest city in Northern Norway. Particularly after Bodø became a market city, kjøpstad in old Scandinavian, in 1816, the town was known for its active trade. The term kjøpstad referred to the city's importance as a port city and indicated the active participation in the trade and export of materials (Hansen, 2015). In 1940, The Luftwaffe bombed Bodø and destroyed around six hundred buildings in the city. Upon this event, Bodø was hastily built, like many other cities affected by wars. Consequently, the city's present-day urban environment is mainly composed of lightweight prefabricated housing as a part of post-war architecture dating back to the 60s and 70s (Olcayto, 2015, 32). This urban condition makes the selected project very appropriate for this article as a starting point. What makes the selected project even more significant is using a watercolour painting in the design process. Architects Daniel Rosbottom and David Howarth are the founders of DRDH Architects in London. Professor and architect Daniel Rosbottom, whose interview and lectures have been informative and insightful for this article, lives in London, works in London and Delft amongst other cities in different countries. DRDH became interested in embedded knowledge in artworks for their designto imagine the atmosphere of a place which the architects had not visited earlier. Considering the quality of Northern lights and their effects on the materials and colours of the building in relation to the atmospheric conditions, architects sought ways to establish a relationship between the building and the viewer across the water. In the case of Stormen Cultural Complex in Bodø, their analysis has benefitted from a painting of the Tate Collection in London. Joseph Mallord William Turner's depiction of the Palladio's San Giorgio Maggiore titled San Giorgio Maggiore Early Morning has been influential for the project from the decision on mass, façade order, void and solid composition to the choice of the materials and its colour. DRDH's design approach provides a particular perspective to reach the specificity as the counterpart of the generic results in port cities.

3 The project's success has been internationally recognised and awarded with several recognitions that include the Norwegian Award for Building Design 2015, Building of the Year 2014, Architects' Journal, five best buildings of 2014, The Telegraph, Highly commended, and AR Future Projects Awards 2010 (URL-1).

FIGURE 3 San Giorgio Maggiore Early Morning, Joseph Mallord William Turner, 1819.

In this perspective, this article is ordered by following the role of the paintings in architectural design. Throughout the article, the painter and architect are considered similar in the artwork's composition and the architectural design. There is but one difference: the painter captures the knowledge of the existing building with its landscape and embeds it in his frame, whereas the architect unfolds the embedded knowledge in the frame and transmits it into the architectural design process and creation of a new building. The study starts by explaining the roles of both the painter and the architect. First, it touches upon the significance of being a stranger in the context. Then, it zooms into the design process of the project in Bodø by focusing on underlying patterns that led to unique architectural design while aiming to reveal the relationship between the artist and artwork, architect and architecture. It then continues with reflecting on the project with the notion of monumentality, one of the main concerns DRDH carried for the project. In conclusion, the analysis of the design process reveals the paired relations between artworks and architectural design.

Embedded Knowledge in the Artworks for Architectural Design

The Gaze of Strangers: The Value of Being Stranger to the Context

Foreign travellers who were strangers to cities produced most of the visuals that include maps and paintings. Foreign cartographers, naval engineers and navigators drew numerous maps, particularly to better-known port cities along their journeys, for instance. Cartographer and engineer Charles E. Goad founded his firm Charles E. Goad Ltd. in Canada. They produced numerous fire insurance plans for industrialised cities that varied from Manchester to Izmir to Istanbul. Another example of these productions

could be the engraving and paintings on Izmir. Numerous visuals are depicting the land-ward looking view of the city, and almost all of these artworks produced by foreign travellers, including French traveller and naturalist Joseph Pitton de Tournefort (1656-1708), French cartographer Henri Abraham Chatelain (1684 - 1743), and Dutch painter Abraham Storck (1645 – 1710). Orientalist painters are great examples of such compilations.

Given the short time of their contact with the city, in artworks, most of the time, the painters have sketched their works very rapidly. They completed it upon their return home. The productions in short-time periods result from the freshness of the context and painters' agility to compose their frames. This process also requires being selective, what to depict, what to exclude from the context. There is a pre-conditioned knowledge and experience that allows us to capture the themes. Painters were often trained in art schools in Europe. The painter of the selected artwork for the design project was English Joseph Mallord William Turner (1775 – 1851), who studied in the Royal Academy of Arts. His works received praise from the British art critic John Ruskin (Turner, 2000). His background and precise understanding that captured the port cities selected fragments in his frame have been very appropriate choices for the design approach of DRDH. Similarly, this feature also exists in architects, given their educational background, experiences and intellectuality. Both architects and painters carry pre-conditioned knowledge, and they arrive at the context as informed individuals.

The condition of being in-between brings value to the architectural project and design process. The culture, climate, history, practice and typicality of Bodø were different from the London-based architecture firm DRDH's knowledge. The research done by DRDH was the primary phase for engaging with the project. This process included reading about the contextual background, learning about the city's history and the building types. The architects recognised the value of being the stranger to the context; DRDH operated in similar positions of travellers, particularly while they were making themselves knowledgeable about the city and its urban context. According to Rosbottom, the underlying reason for the significance of being a stranger is freshness. A fresh pair of eyes helps to grasp the context quickly, allowing building connections and relationships with dimensions that guide architects and urban designers. People may become blind to their surroundings or context, Rosbottom adds (D. Rosbottom, personal communication, June 14, 2019). Indeed, the realities of cities do not seem apparent to the inhabitants as much as they are visible to strangers.

A traveller would value and capture different elements than the city's citizens. That traveller's mind is in an absorbing mode, and they often make themselves informed through multiple channels before they arrive in cities. So do the architects.

Towards the Library and Concert Hall Project in Bodø

FIGURE 4 The location of the Concert Hall (Stormen Concert Hall) and the City. Library on map (URL-2).

The master plan competition launched for designing Bodø's Cultural Quarter was the precursor to the project of the library and the concert hall (URL-1). The architects' comprehensive understanding derived from the freshness of the context brought the first prize to DRDH in 2008 in this competition. According to the brief of the master plan, participants were given autonomy for placing buildings (i.e., a concert hall and theatre, a new city library and a small maritime museum) in the city (URL-3). DRDH placed those buildings in vacant port sites in the urban centre close to the waterfront. The concert hall and the city library aim to address the water and the city while embedding the cultural buildings into the everyday experience of the city. This approach was not recognised by many participants, as Rosbottom explains his surprise during the interview. According to him, this thought was self-evident as an answer to the question. In the present day, Bodo is the end of many journeys, and it is the end of many forms of transport, including the train station and bus stops. Architects unravelled the complexity of infrastructural developments in port cities and translated into the changing perceptions, such as the arrival from the land to the same location along the waterfront extends the perception of the building. In fact, in the second half of the 20th century, waterfronts became places where the buildings were perceived both from the water and the land (Taniş and van der Hoeven, 2019, 170).

FIGURE 5 The Stormen Public Library (courtesy The Guardian).

Following the first prize award for the master plan, DRDH was invited for the second architectural competition, for which they again won the first prize. The concert hall's functional program covers three auditoriums, two small performance spaces and supporting functions (URL-4). The library has community functions that include the performance space, a gallery, a multifunction room, a café and a children's library on top of the building. The spatial generosity of those buildings offers public spaces to the city. For instance, the library's main floor can be used as a public square and provides space for large public events.
All bookshelves in the library have wheels to be easily moved and effectively use the space (D. Rosbottom, personal communication, June 14, 2019). In a project consisted of 6.300 m^2 of library and 11,200 m^2 of the concert hall (DRDH Architects), architects worked at every scale, from fabric to urban fabric, as Rosbottom puts it. This large project started in December 2012 and completed in November 2014.

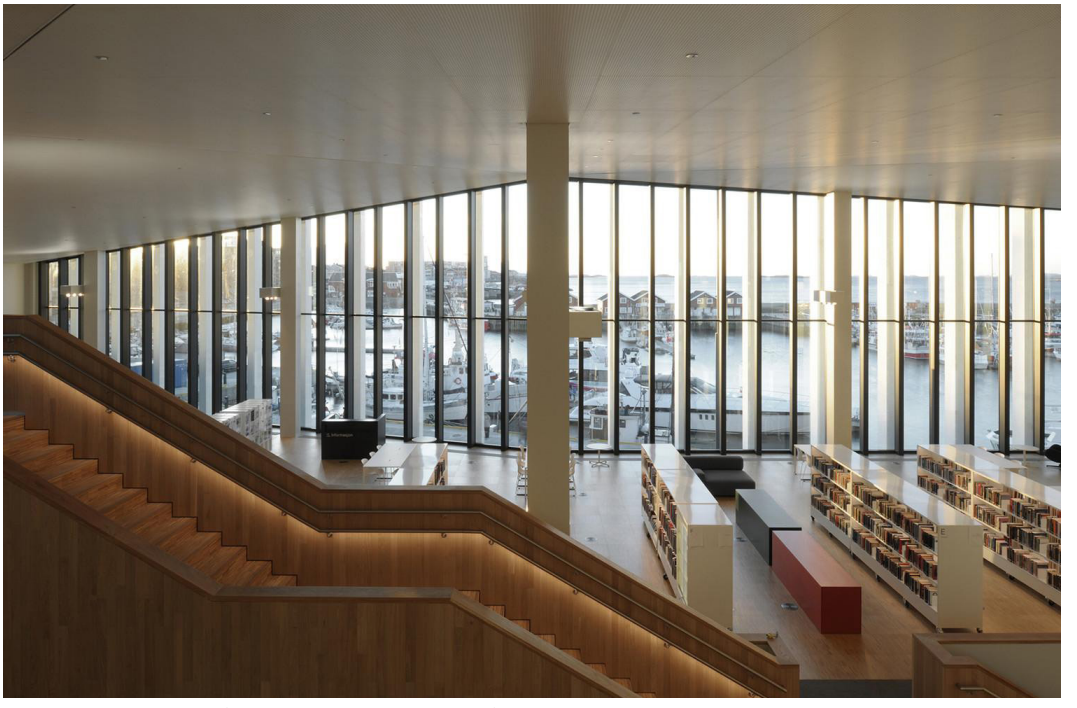

FIGURE 6 The Public Library (image courtesy of David Grandorge).

The location of the buildings and well-established links between buildings and their landscape plays a vital role in the project's success. Through the glazed façade, the main spaces of the library create a dialogue between users and the harbour (URL-5). A café is located on the street directly connected to the city. The building, therefore, has become a backdrop to public life, as Rosbottom suggests (D. Rosbottom, personal communication, June 14, 2019). Rosbottom stresses the urban role of two buildings in dialogue with one another as much as they are dialogue with water and city. Stormen Cultural Centre has expedient spaces to build up over time. Rosbottom explains the agency of the building that should be capable of consolidating to bring the coherence to be invisible.

Additionally, the monumentality of the building is a way to embody a collective memory of citizens. Collective memory is a socially constructed notion (Halbwachs, 1992). The collective memory is a shared memory and linked to history (Ijabs, 2014). The collective memory of port cities is not limited to a group of people or citizens of a single city. It encapsulates a shared culture amongst other port cities, reinforcing familiarity and laying a common ground for port cities. That familiarity created a universal condition and urbanity. In return, it is essential to get a sense of belonging and being familiar with diverse cultures (D. Rosbottom, personal communication, June 14, 2019). In this perspective, the architects aimed at creating heterogeneity and bringing back the qualities that were not necessarily there before. They did this by linking the collective activity of inhabitants to the Stormen Cultural Center.

Finding the Form of the Monument

Daniel Rosbottom referred to monumentality as an essential aspect of their project. The functional program and the agency of the building is one part that constitutes the monument. Another essential part is the physical construction of the building, and its representative qualities mirror San Giorgio Maggiore's qualities. The norms of the monument remain fundamental for its architectural design. The function and the purpose of the buildings may change throughout history, but establishing relationships with their surroundings will remain alike. The monumental buildings mediate the everyday experience, a backbone of the building's

monumental character. Palladio's 16th-century church was the central figure in Turner's 19th-century painting. Regardless of its function (e.g., a place for worship, cultural centre etc.), the embedded knowledge in the artwork regarding the monumentality carries invaluable insights that architects can use for present-day monumental buildings. These insights include the composition, the use of light, the site choice, and the perception of place and space.

The use of the artworks in the design process shows that deconstructing the relationship between the artist and the artwork enables a reflection on the contemporary understanding of port city architectures. The painter captured a moment from the sea looking towards the land. The kinetic movement of the boat they are on and how they approach the city leads to the cinematic approach in the architectural design. DRDH used this approach to compose the mass of their buildings. The church's many façades were flattened as looking like a single continuous façade in the painting. Many layers of façades are compressed into a single façade. This aspect became very present in the final form of the DRDH's project in Bodø. Under the guidance of the depiction, DRDH aimed to form two buildings that would be seen from the sea as a single consumer form. The cinematic approach understood from the painting also leads to registering the experience of moving through the city, as a counterpart of Le Corbusier's perception from the aeroplane, the idea of the urban structure understood as a whole from a distance (D. Rosbottom, personal communication, June 14, 2019). DRDH cut the corner of the building to provide a terrace to the inhabitants, reaching the building from the land site. In this way, the architects weaved buildings into the urban fabric and the everyday life of inhabitants, as this is an essential aspect of the monument to provide space for experiences to be embodied in the collective memory of citizens.

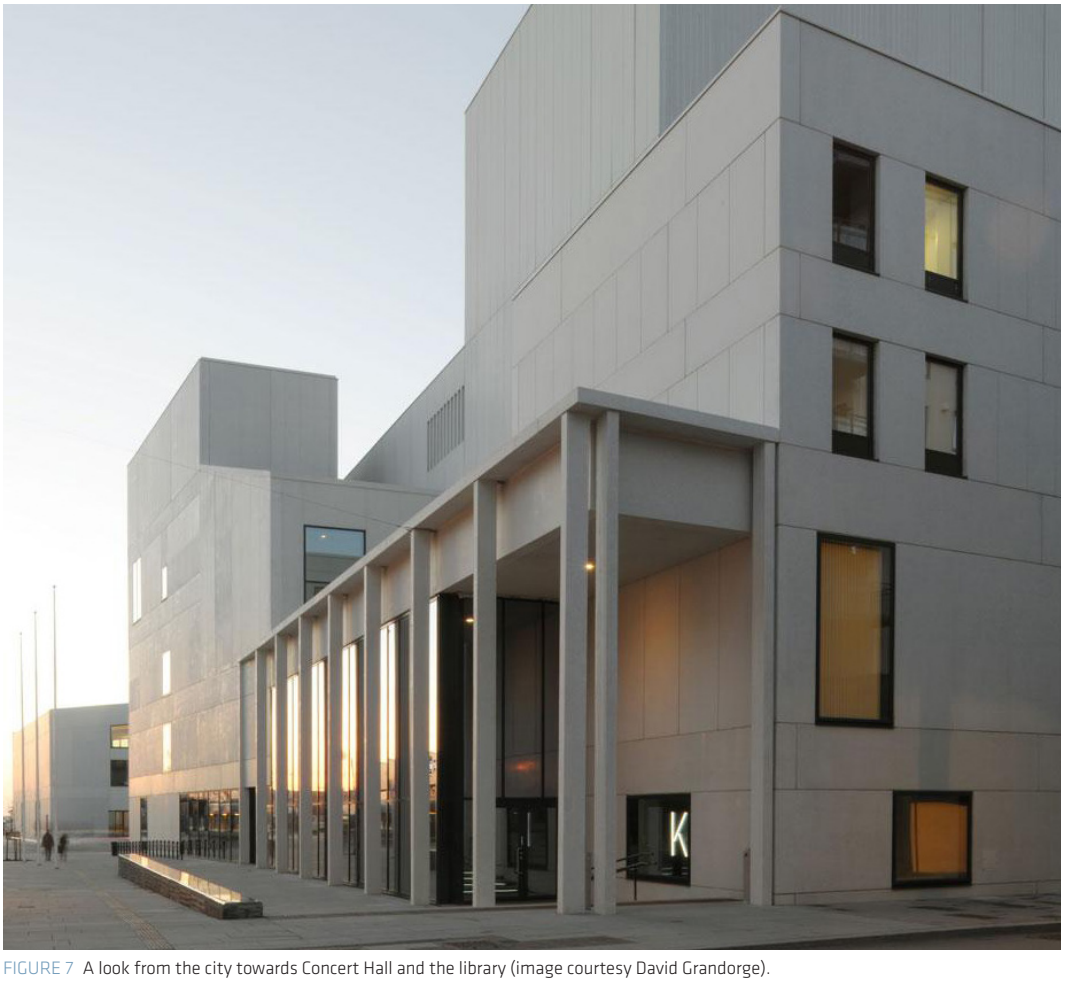

FIGURE 7 A look from the city towards Concert Hall and the library (image courtesy David Grandorge).

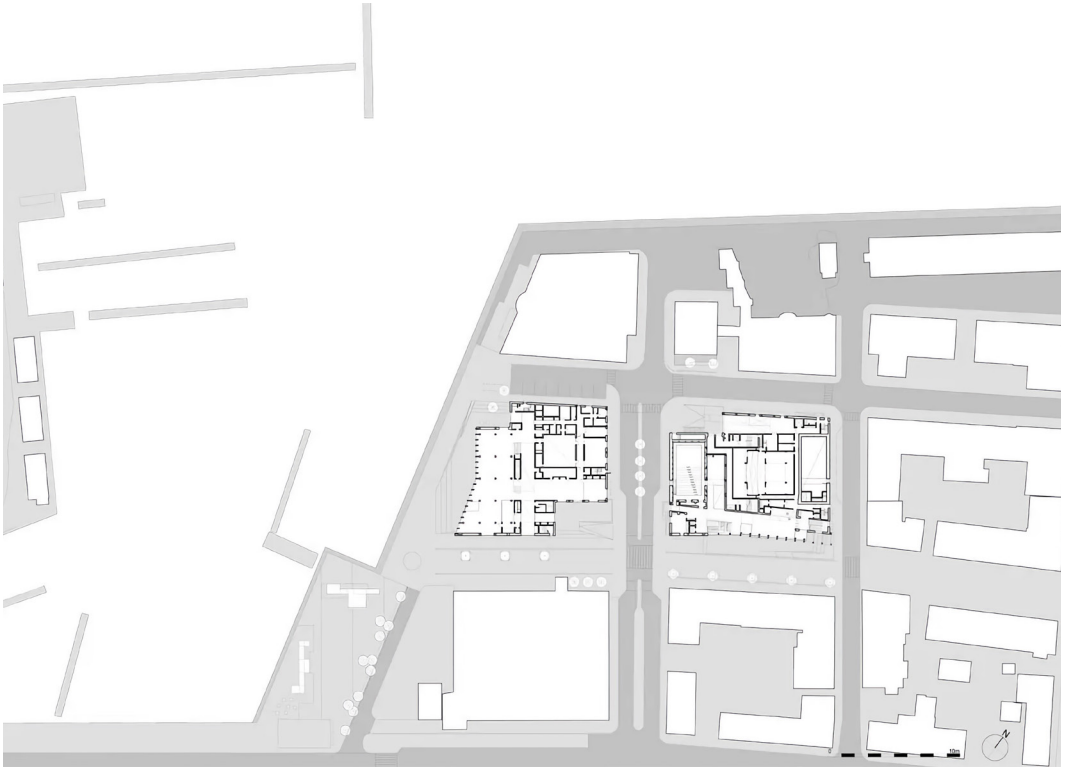

FIGURE 8 The site plan of the library (on the left-hand side) and the concert hall (on the right-hand side) (courtesy: DRDH Architects).

FIGURE 9 Library and Concert Hall Buildings from the harbour (image courtesy David Grandorge).

Local characteristics of Bodø, such as climate and geographical conditions and building tradition, have been essential determinants in the design process, particularly for the quest of the longevity of buildings. Bodø is in the Arctic Circle. Being close to the North Pole naturally leads to cold winters and cool summers in Bodø. The weather and the superb natural lighting condition were essential parameters for the material choice of the building. There are two different approaches for the outer and the inner construction of the building. The technical application of building material also refers back to the monuments. Building a public monument has more responsibility to last longer. Many post-war buildings were prefabricated concrete constructions. Therefore, they were contingent and unable to deal with its environment, particularly Norway's extreme natural conditions (D. Rosbottom, personal communication, June 14, 2019). The material choice in this project was also a critique of the contemporary architecture culture. Building materials last for about twenty-five years nowadays, says Rosbottom. Building next to the sea means also dealing with salt, humidity, and extreme climate conditions that lead to substantial temperature changes in the case of Bodø. For this reason, considerable research is done together with the Norwegian research institution to develop prefabricated concrete as a solution to the climate (D. Rosbottom, personal communication, June 14, 2019).

Apart from the technical aspects regarding the building should meet requirements for its longevity, the light in the painting has inspired the material choice. Turner painted the San Giorgio Maggiore across the lagoon in the very early morning with hazy gold light. Bodø is in the Arctic Circle. Therefore, the city has white nights; the sun does not set from June to July (URL-6). DRDH tested several materials on the light. The choice was on reflective material. They saw that the building was never in the same colour during these tests, how the light reflected differently in the facade and how the colours varied. The colour was changing as the sky changes. In this way, DRDH consolidated the representative value of the building. Yellowish-white was appropriate for the colour choice, particularly for its reflective characteristic.

Additionally, white was dominant in Norwegian architecture. As Norberg Schulz explains, white could light up long winter nights and somehow hold the sun. Therefore, the material choice had several purposes. For instance, on the ground level, continuity was necessary for the urban scene, the post-war neighbourhood built with creamy concrete. Thus, the yellowish-white coloured material was an appropriate choice. In this way, DRDH also hoped to acknowledge the inherited architectural culture in their buildings (D. Rosbottom, personal communication, June 14, 2019).

Historically, Norway has a strong building tradition connected to the natural environment. The historic settlements of the city took their root from the balance of the individuality and interdependency of the Norwegian culture (Rosbottom, 2020). The primary concern of architecture was to build a relationship between the individual and culture, nature, and society (Rosbottom, 2020). Daniel Rosbottom reflects on the current condition of the broken relationship that existed historically in Norway. Rosbottom indicates the responsibility of contemporary architecture and agrees that the projects like Stormen Cultural Center in Bodo have the power to recalibrate the relationship between the city and its waterfront, as this study aims to stress (D. Rosbottom, personal communication, June 14, 2019).

Additionally, Rosbottom refers to the architect's role in understanding how to stitch the urban fabric, disrupted through the 20th century (D. Rosbottom, personal communication, June 14, 2019). Cities change over time. Rosbottom points out that intention and value are the keys to consider for an architect. Port cities have unique urban conditions. The architects' ethical responsibility is not to ignore the colonial history, extreme social differences, cataclysms of world wars, and present-day challenges such as climate change to make a valid contribution to the body of architecture that cities inherited (D. Rosbottom, personal communication, June 14, 2019). Thus, rather than a finite outcome, DRDH planned a monumental building that would remain speculative and make things valuable over time, even those that are not necessarily considered as valuable at the moment (D. Rosbottom, personal communication, June 14, 2019).

Conclusion

This article demonstrated how port cities and their architectures have evolved under changing technologies and socio-political conditions. This study attempts to bring gravity to the architectural design in port city research by pointing out the generic problem in port city architectures. It provided insight for contemporary design approaches by establishing a relationship with port city's architecture and cultural products of these cities. In this regard, this study showcased the design process of the library and a concert hall located in Bodø, Norway, under the guidance of the painting of Venice. The artworks, evident from the painting, are nexus for bouncing knowledge kept and preserved in frames. The painter's background (the informed and educated traveller) mirrors the relationship between the architect and the project. Mobility in the architecture profession, working in a place that one is a stranger to, may bring the unseen to the surface. It is an additional value for the architectural design not only for the port city but at large. The painter also represented users of the city. The position he took to capture the painting reveals how inhabitants and transients perceived the building.

Port cities have widely inspired the artists, and artworks have inspired the port city architecture in return. Using the painting, the project of DRDH provides a keen perspective on how the representation of port cities and art productions may inform the designer today. Given the value and character that the port cities carry, designing the waterfronts must go beyond the mere generic results, and the "site" needs to become a "place." In this matter, this article exemplified the selected award-winning project to provide insights on the relation between architecture and urban narratives and artworks that might play a crucial role in contemporary design approaches in port cities. The representation of the city was captured when the waterfronts were still privileged areas. It also caught the urban realities that addressed: the question of monumentality, the changing context and functions in port cities, the shifting perception of the waterfront, the impact of the representative value on architectural design, and the material culture. The study also clearly intends to invite further studies to unveil the role of the artworks and urban narratives in other projects realised in port cities. The use of a painting in architecture allows us to establish cultural relationships amongst port cities. Working with the artwork provides an intriguing working channel to work for situated architecture. It also offers an alternative way to regionalism and provides a solid perspective for avoiding generic architectures in port cities. DRDH's design approach reassures that the remedy of the contemporary architectures in port cities lies in the own resources of port cities.

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