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TRANSFORMATION OF THE ODESSA WATERFRONT

Abstract

Odesa is a unique city: it is the third-largest city in Ukraine and the second in the Black sea region. During its short but eventful history, it gathered a variety of cultural layers within its boundaries, what had reflected in its architecture, urban life, and unique accent of its inhabitants. The city's waterfront is considered to be the Pearl of the Black Sea. Starting with the receiving of the Porto Franco status in 1819, Odesa was the economic nexus and the symbol of entrepreneurship in the Russian Empire. During the Soviet period, city and port expanded to reach the goals of the communist era. The paradigm shift in economic realms related to the transformation of the economy at the beginning of the 1990s shed light on the city's weaknesses. Water and air pollution, large industrial zones in the sea façade of the city, and lack of high-level infrastructure for tourists had transformed the image of Odesa into a regular post-soviet town in the conditions of the market economy. On the other hand, the newborn post-soviet and postindustrial citizens of Odesa have different priorities and do not necessarily think about the spatial problems. A comprehensive study, using the observations, literature review, and interviews, was conducted to describe the influence of the social realm on an urban form of the Waterfront. The result of the analysis supports the hypothesis of the study: the trajectories of the social, economic, and spatial development of the Odesa waterfront are not correlating with each other. Within this paper the possible scenarios and prospects for transformation of the urban waterfront of Odesa are discussed on the basis of the wider perspective of reshaping the post-soviet waterfronts.

Keywords: Sustainable development, post-soviet cities, waterfront evolution, post-industrial society.

PRZEKSZTAŁCENIA FRONTU WODNEGO MIASTA ODESSA

Streszczenie

Odesa to wyjątkowe miasto: jest trzecim co do wielkości miastem Ukrainy i drugim w regionie Morza Czarnego. W swojej krótkiej, ale bogatej historii zgromadziło w swoich granicach różnorodne warstwy kulturowe, co znalazło odzwierciedlenie w jego architekturze, miejskim życiu i wyjątkowym akcencie jego mieszkańców. Front wodny miasta uważany jest za Perłę Morza Czarnego. Począwszy od uzyskania statusu Porto Franco w 1819 roku, Odesa była węzłem gospodarczym i symbolem przedsiębiorczości w Imperium Rosyjskim. W okresie sowieckim miasto i port rozszerzały się, aby osiągnąć cele epoki komunizmu. Zmiana paradygmatu w sferze gospodarczej związana z transformacją ekonomiczną na początku lat 90. rzuciła światło na wady formy urbanistycznej. Zanieczyszczenie wody i powietrza, duże



strefy przemysłowe we froncie wodnym miasta oraz brak wysokiej jakości infrastruktury dla turystów, w warunkach gospodarki rynkowej przekształciły wizerunek Odessy w zwyczajne miasto postradzieckie. Z drugiej strony nowonarodzeni obywatele Odessy w okresie postsowieckim i postindustrialnym mają inne priorytety i niekoniecznie myślą o problemach przestrzennych. Aby opisać wpływ społeczeństwa na formę urbanistyczną frontu wodnego przeprowadzono kompleksowe badanie, wykorzystując obserwacje, przegląd literatury i wywiady. Wynik analizy potwierdza hipotezę badania: trajektorie rozwoju społecznego, gospodarczego i przestrzennego nabrzeża Odessy nie są ze sobą skorelowane. W niniejszym artykule omówiono możliwe scenariusze i perspektywy przekształcenia nabrzeża miejskiego Odessy w oparciu o szerszą perspektywę przekształcenia postsowieckich nabrzeży.

Słowa kluczowe: zrównoważony rozwój, postradzieckie miasta, ewolucja frontów wodnych, społeczeństwo postindustrialne.

Introduction

From the perspective of economic and social development processes, urbanized coastal areas are crucial. Apart from the fact that coastal areas, due to their nature, are very attractive to inhabitants, according to the United Nations conference, "More than 600 million people (around 10 percent of the world's population) live in coastal areas that are less than 10 meters above sea level"¹. The ratio of the urban coastal area inhabitants in Post Soviet countries is similar. However, as in the case of economic development, the re-development of post-port territories also has its limitations.

Despite all the social limitations, the question of economic and spatial transformation in post soviet countries is just a matter of time. The post-industrial areas are already being redeveloped in Ukraine² and Russian Federation. On the other hand, waterfront redevelopment projects are much more complicated than just revitalizing the post-manufacturing area. That's why, in the post soviet space, until now the only example of a successful waterfront reinvention is the oldest nexus of the oil industry - the city of Baku³. However, considering the overall tendency and the need for the innovations, there are no doubts that the trend will progress, and soon a lot of retreated industrial zones in the coastal cities will seek functional reinvention. This applies also the city of Odesa, discussed within this paper.

¹ Panipilla R., *Learning from the ocean report*, "Ocean conference", 2017.

² *Revitalization of the brownfields and public spaces: Ukrainian experience*, Together European Space, <https://euprostir.org.ua/practices/144084>, [Accessed on 28.08.2022].

³ Darieva T., *Modernising the waterfront: urban green, built environment and social life of the Baku promenade*, "Europa Regional", 2015, pp. 65–79.



1. Theoretical background

There is a wide range of literature reviewing Western countries' waterfront redevelopment. Most of them refer to the case studies. However, there are also elaborations that aim to summarize the previous researches^{4 5}. The topic of waterfront in urban areas was well discovered and theorized. Most of the summarizing theoretical elaborations are focused on the problem of a common background of the historical perspective, especially on the issue of urban seafront transformations in the 1980s-2010s. Regarding the strategies for future redevelopment projects, the academic society has a common position regarding the assumptions of the abovementioned projects; however, detailed solutions are often the subject of debate. Furthermore, the community of waterfront researchers produced a lot of articles regarding the problem of waterfront redevelopment in developing countries^{6 7}.

On the other hand, academic society in post-Soviet countries is currently being in the early phases of the problem definition, and the scientific elaborations that are being produced could be subdivided into three major groups by the scope of the elaboration:

1. Finding and analyzing one issue connected with the waterfront area. F.e.: the atmospheric pollution of the port area in Novorossiysk⁸
2. Speculating of port redevelopment perspectives. F.e.: the possibilities of the redevelopment of the Odesa waterfront⁹
3. Studying the already performed transformation. F.e.: the social impact of the waterfront revitalization in Baku¹⁰.

There are a lot of materials in web sources (websites) and gis maps as well. In addition, many historical maps are digitalized and easy to find on the web. However, there were no attempts to provide a holistic perspective on waterfront redevelopment in post-soviet countries, which was stated after a careful literature review.

⁴ Lorens P., *Obszary poportowe- problemy rewitalizacji*, Fundacja Instytut Studiów Regionalnych, Szczecin 2013.

⁵ Hoyle B., *Global and local change on the port-city waterfront*, "Geographical review", 2000, pp. 395–417, Figure 6, p. 405.

⁶ Hoyle B. *Urban waterfront revitalization in developing countries: the example of Zanzibar's Stone Town*, "Geographical Journal", 2002, pp. 141–162.

⁷ Dong L., *Waterfront development: A case study of Dalian, China*. MS thesis, University of Waterloo, Waterloo 2004.

⁸ Vyatkina D. A., Pashkovskaya A. A., *Assesment of the condition of the atmospheric air within the boundaries of Novorosiysk*, 2021.

⁹ Khalin V., Kiely N., *Degradation or regeneration? Prospects for developing the port-city interface in Odesa*, Urbani Izziv, 2019, pp. 129–143.

¹⁰ Darieva T., *Modernising the waterfront: urban green, built environment and social life of the Baku promenade*, "Europa Regional", 2015, pp. 65–79.



2. Post-Soviet Waterfronts - Common historical, social and geographical conditions

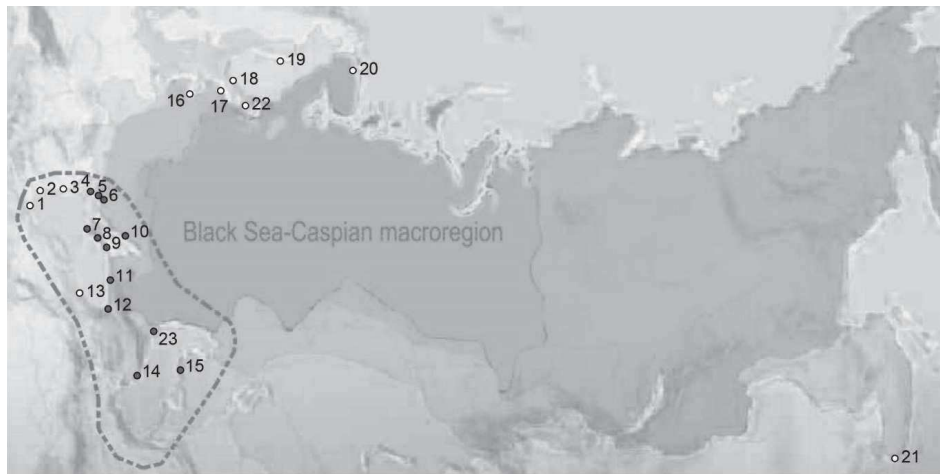
The justification for extracting particular cities' waterfronts from the set of other post-soviet cities on the seacoast is in the specific historical and geographical conditions. Russian scientific literature has a particular term for the geographical area of territories around the Black, Azov, and Caspian seas – Black sea – Caspian macroregion. The geographical conditions of the regions around the seas mentioned above are pretty similar, first of all, because of the influence of comparable midcontinental seas and similar climate. Moreover, about 14–10 million years ago, in Bessarabian times, there existed the so-called Sarmat Sea, which included the contemporary water area of the Caspian, Azov, and Black seas, which is reflected in the similarity in biodiversity of the waters listed in above¹¹.

When it comes to the anthropogenic realm, - the leading roles play the layers of cultural development of human settlements and states through time. The journey of $\frac{1}{3}$ of the analyzed cities starts in the Ancient Times; one was founded in Middle Ages, Russian Empire founded another five after taking over the southern territories from Osman Empire. They were small and unremarkable towns on the coasts of the seas, and Apart from the five ones that were erected by Russians, these towns were inhabited by different nationalities with different cultural backgrounds. However, the Age of the industrial revolution changed the game. It affected the most the development of anthropogenic activities the not only in the Black sea - Caspian macroregion but all over the world as we¹². Consequently, the most significant parts of the spatial arrangement of the cities and their waterfronts that will be the research subject were developed during the Times of the Russian Empire and the Soviet Union.

Figure 1. Cities with over than 100 thousands of inhabitants on the map of russian expansion from the XVIIth century untill the end of XX century and the borders of Black Sea-Caspian macroregion.

¹¹ Anistratenko O. Y., *Substantiation of the identification of the Sarmatian biohermal zoogeographic province (according to the Gastropoda fauna)*, 2009.

¹² Roberts B. H., *The third industrial revolution: Implications for planning cities and regions*, "Urban Frontiers", 2015, pp. 1–22.



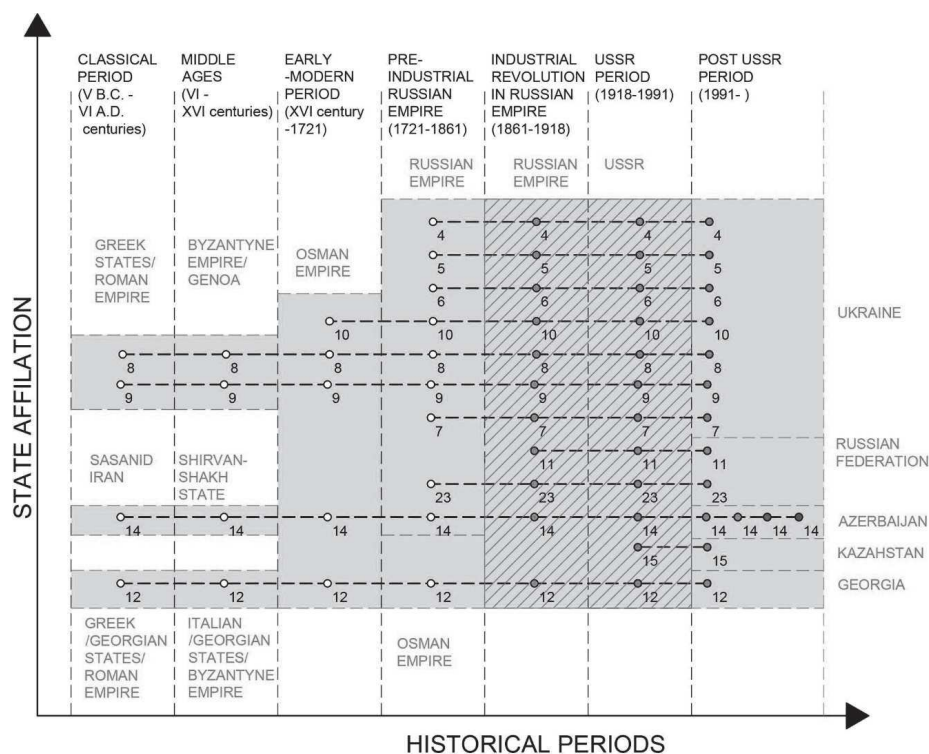
1 - Istanbul; 2 - Varna; 3 - Konstanca; 4 - Odesa; 5 - Mykolaiv; 6 - Kherson; 7 - Sevastopol; 8 - Feodosia; 9 - Kerch; 10 - Mariupol; 11 - Novorosyisk; 12 - Batumi; 13 - Trabzon; 14 - Baku; 15 - Aktau; 16 - Riga; 17 - Tallin; 18 - Helsinki; 19 - Oulu; 20 - Murmansk; 21 - Vladivostok; 22 - Saint Petersburg; 23 - Makhachkala

Source: Own drawing. The basis for the map – *Interactive map of the borders of Russian State*, Ria Novosti, [Accessed on May 2022].

While analyzing the social development of the cities, the times of the Soviet Union are more critical than the Russian Empire's ones. And the reason is not only the social inequality caused by the organization of the classes in the community in the Russian Empire. Unlike the Emperor's government, the Bolsheviks stimulated urbanization and education inside the Soviet Union, which catalyzed cultural development and unification. The concept of the Soviet citizen appeared then. Soviet urban citizens used a common language, worked and lived in similar conditions, moved to work on equivalent types of transport, and loved the same entertainment. Furthermore, the Soviet Government implemented an idea of a planned economy within the boundaries of the USSR, which literally left no chances for the development of specific and unique culture. All of the goods manufactured in the economy should have been pre-designed by Gos-Plan. That's why all the differences between the people of different nationalities and social and religious beliefs were erased after entering the cities. While Gosplan developed the same design for urban areas, those areas were used by people of the same views, culture, and predispositions all over the country.

Figure 2. Selected port city evolution through the perspective of the cultural and technological impact.





4 - Odesa; 5 - Mykolaiv; 6 - Kherson; 7 - Sevastopol; 8 - Feodosia; 9 - Kerch; 10 - Mariupol; 11 - Novorosiysk; 12 - Batumi; 14 - Baku; 15 - Aktau; 23 - Makhachkala

LEGEND:

- - primitive port/cities
- x - retreat from the waterfront
- - expanding port/cities
- x - redevelopment of waterfront
- x - modern port/cities
- x - renewal of port-city links

Source: own drawing.

Geographical and Social conditions influenced the spatial evolution of the cities on the Black, Azov, and Caspian coasts, creating a unique urban landscape. However, the major impact was performed during the last 150 years. Even though 30 years ago, the evolutionary branches of urban development diverged, they remain in similar conditions due to the inertia of the social development paradigm. However, the investigation of the historical development of the port cities must not only serve to find common characteristics but also differences between the quantity of post-soviet waterfronts. Therefore, it should be considered that only analysis of water interfaces, correcting for their differences, can affect the investigation's objectivity. In the next chapter of the research proposal, the smaller groups from all the port cities that are going to be the subject of the research will be picked-up.

3. Post-soviet port cities

From the strict engineering point of view, the waterfronts of the cities could be classified by their size and location concerning the coastline. However, it should be taken into consideration that, as we knew from the previous part of this paper, the 90 percent of the spatial arrangement of the port areas in front of the post-soviet cities was developed during the rapid industrial development. At that time, the only reasoning that mattered was economic. Both sociologic and environmental realms were influenced by economic demands and evolved due to economic influence on the industry. That's why economic typology is also added to waterfront classifications. This chapter aims to divide all twelve waterfronts that are supposed to be a subject of research into smaller groups, considering their spatial and economic characteristics, to develop better-customed waterfront assessment technics in the late phases of the study. The data about the waterfronts were gathered and arranged into a table (table 1).

Table 1. Spatial Characteristics of the selected port cities.

City	Sea / Country	Founded	Climate	Population, thousands of inhabitants	Waterfront generation	Situation of the port city	Spatial structure of the port
Odesa	Black Sea / Ukraine	1794	Humid continental climate	1016	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Mole based
Mykolaiv	Black Sea / Ukraine	1790	Humid continental climate	494	Modern port city	Port-city located the river mouth and developing along the coastline	Using of the coastline/ mole based
Kherson	Black Sea / Ukraine	1778	Humid continental climate	283	Modern port city	Island location	Bay based
Mariupol	Azov Sea / Ukraine	1778	Humid continental climate	461	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Moles/ Piers
City	Sea / Country	Founded	Climate	Population, thousands of inhabitants	Waterfront generation	Situation of the port city	Spatial structure of the port

Sevastopol	Black Sea / Ukraine	1783	Humid subtropical climate	449	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Bay based
Feodosia	Black Sea / Ukraine	IV century	Humid continental climate	67	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Moles/ Piers
Kerch	Black Sea / Ukraine	IIIV century BC	Humid continental climate	151	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Bay/ Moles
Ma-khachkala	Caspian Sea / Russian Federation	1857	Humid continental climate	572	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Moles/ Piers
No-vorosiysk	Black Sea / Russian Federation	1838	Humid subtropical climate	241	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Bay/ Moles/ Piers
Batumi	Black Sea / Georgia	1866 (VIII century)	Humid subtropical climate	169	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Mole
Baku	Caspian Sea / Azerbaijan	II century	Humid subtropical climate	2260	Waterfront redevelopment/ renewal of port city links	Port-city located on the coast of the sea and developing along the coastline	Piers/ Moles



City	Sea / Country	Founded	Climate	Population, thousands of inhabitants	Waterfront generation	Situation of the port city	Spatial structure of the port
Aktau	Caspian Sea / Kazakhstan	1961	Continental climate	190	Modern port city	Port-city located on the coast of the sea and developing along the coastline	Piers

Source: own elaboration

4. City of Odesa as a case study

Odesa is considered a pearl of the Black Sea. It is a big city with a long waterfront (around 30 kilometers). Odesa's waterfront could be subdivided into three independent parts:

1. Waterfront No1. The seafront of the so-called Peresyp in Suvorov District. Apart from its most south part - the industrial area of the Agrosilmash factory, most of the seafront of Peresyp is a long sandy beach. Behind the beaches, there are mostly single-family housing and industrial buildings.
2. Waterfront No2. The port of Odesa. The part of the waterfront closest to the old 19th-century urban tissue.
3. Waterfront No3. Waterfront of the Kyiv District of Odesa. The waterfront's spatial form consists mainly of the promenades and the beaches. In the modernistic Kyiv district of Odesa, the city waterfront is divided into a city park.

Figure 3. Subdivision of Odesa waterfronts by typology.



Source: own drawing. Underlay – Google Earth.

In the analysis of urban form, it is recommended to focus on the second city's waterfront – Odesa Port, as it is the main and the most significant industrial area of the sea facade of the city. In this place, the port city relationships depend significantly on the landscape structure: the 19th-century urban district is located on the hill, while the waterfront line is only a few meters above sea level. This landscape condition pre-determined the whole historical evolution of the urban form.

Figure 4. The 19th century urban tissue next to the port of Odesa.



Source: *Russia needs Odesa – mr Moskal*, Pervui Gorodskoi, <http://1tv.od.ua/news/4895>, [Accessed on 28.08.2022].

The city of Odesa was located in the South of the Russian Empire. The region was conquered by Russians during the Russo-Turkish War (1787–1792). In 1794 the city was officially founded. The standard strategy of the Russian Empire in conquered territories of unfreezing seas was mostly militaristic. It was also true for Odesa: after conquering the region, Russians had built a Gadzibean fortress in Odesa. However, after the first twenty years of Russian rule, Russians started an experiment of Porto-franco¹³ urban development. Foreign merchants were not taxed in Odesa between 1817 and 1858. It was a significant driver of port and city development in those years. In 1840, for example, the population of Odesa was comparable to Kyiv (around 40 000 inhabitants), another big city in the Ukrainian part of the Russian empire. After the Porto Franco status had expired in 1858, luckily, the next driver suddenly appeared – the Industrial revolution started in Russian Empire. In the next 50 years, it increased by ten times, and by the end of the century, around 500 k of people inhabited Odesa. In those times, the demographic structure of the emerging Odesa urban society was very heterogeneous. That happened for several reasons:

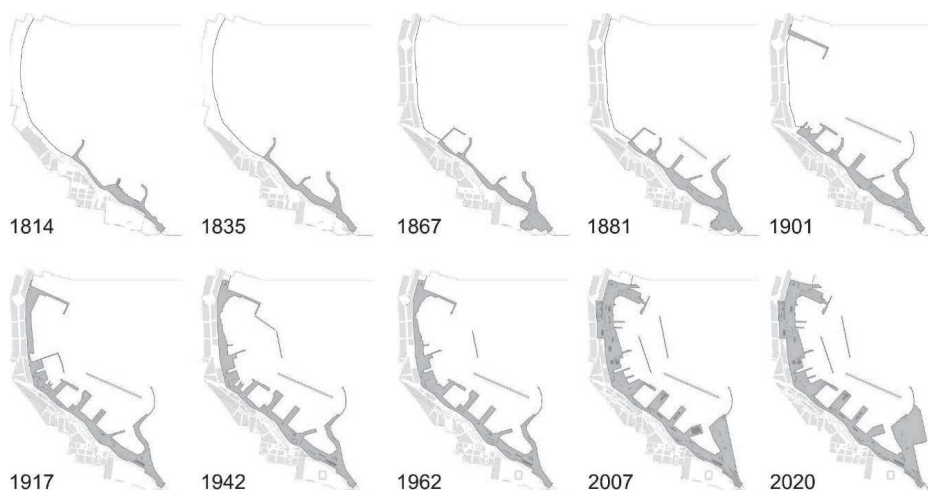
¹³ Tretyak A., *Porto-franco system in the city of Odesa*, "Odessa almanac. Deribasovskaya-Rishelyevskaya 23", 2005, pp. 6–14.



1. Geographical location. It was very close to the Bessarabian region, inhabited mostly by Moldovians, and the South of Ukraine, inhabited by Ukrainians accordingly. During the first wave of the industrial revolution, people from villages in these two rural regions moved to the city.
2. A Porto-franco status had activated the process of the urban port development that continued during the times of the industrial revolution. From the late 1850s, Odesa was considered the South gate of the Russian Empire. Consequently, a lot of Merchants all over the Empire arrived there. Among them were Poles, Jews, Georgians, Armenians, and Greeks.
3. As Odesa maintained its military function as the port, many Russian armed officers arrived in the city.

The social environment was so multicultural that there had appeared even a different dialect of the Russian language, known in every part of the Empire. The urban form was developing chaotically in such circumstances, mainly adjusting to the rules of the free market economy. However, there were a few attempts by the central government to create links between the city and the waterfront. One of the firsts was the world-famous Potemkin Stair, constructed in 1837–41. It is a symbol of Classical architectural form that makes it possible to lift on the 27 meters high slope. The second port city link was also related to the problem of the hill. In 1902, a Funicular was opened in Odesa, like in many Russian cities. It was a sign of technological progress and industrial advancement for the citizens.

Figure 5. Evolution of port of Odesa.



Source: own drawing.



During the times of the Soviet Union, Odesa Port had transformed a lot. First, the rules of free-market trade were replaced with the Planned economy by the Bolsheviks. Odesa Port became a crucial economic node in the southern part of the Ukrainian Soviet Republic. However, it kept its multifunctional structure: oil and grain terminals, marine passenger terminals, shipyard, and naval bay in Odesa port. After World War II, Socialists tried fixing the Odesa waterfront's homogenous industrial development. In 1968 within the concept of urban park development on Odesa hills, Soviet engineers designed so-called Dancing bridges that connect two hills (Figure 6). In an effect there had appeared a pedestrian zone on Odesa hills, thae is only associated with the 3rd waterfront of Odesa that is located on the considerable distance from the city center, and the central historical part of the city is separated from it with a spatial barrier in the form of roads and railway (figure 7). In the waterfront area in 1968, on the so-called New mole, the building of Maritime station was opened. It was connected with the space at the bottom of the Potemkin stairs with the flyover over the rails for pedestrians.

In the times of independent Ukraine, the rules of the free market economy returned its positions in the development of urban form. Unfortunately, spatial order and sustainable planning haven't been taken into account yet. However, during the last ten years, the understanding of the problems related to the port located near the city was admitted, and the public discussion had started. Nevertheless, until now, the vast majority of Odesa inhabitants do not consider port relocation. The old generation considers the port as the source of the city's development. The young generation is not going to spend their lives working as blue collars in the port, they prefer to develop their own business or work in creative sector of an economy. On the other hand, the problem of the redevelopment of the waterfront area in the priorities of the young generation is not even at the beginning of the list due to the lack of urban education and challenging conditions for personal development.



Figure 6. The Dancing bridge.



Source: photo by Virt Anastasia. Copyright transmitted to Andrii Polishchuk.

Current challenges of port-city relations are well presented in Vladimirs Khalins' research related to the problem of port relocation in Odesa¹⁴. Odesa is a large city with a big port with a turnover of about 598 613 TEU (2018)¹⁵. Its historical development has formed a large and unsustainable industrial zone on the city's waterfront. The biggest problem is that only about 10 percent of the central part of the waterfront is dedicated to pedestrians. However, a pedestrian should cross the fourth strip road to reach this area and then use a flyover to cross the rails (figure 7). Moreover, Odesa Port generates undesirable influence¹⁶ on the city itself:

1. Air, soil, and water pollution.
2. Noise impact on the city
3. Waste generation

¹⁴ *Should the port be removed from the Odesa? Reasoning of the "harbor workers"*. Regeneration of port territories, Study of the relationship between the city and the port, <https://khalinsite.wordpress.com/2018/06/17/%d0%bd%d0%b0%d0%b4%d0%be-%d0%bb%d0%b8-%d1%83%d0%b1%d0%b8%d1%80%d0%b0%d1%82%d1%8c-%d0%b3%d1%80%d1%83%d0%b7%d0%be%d0%b2%d0%be%d0%b9-%d0%bf%d0%be%d1%80%d1%82-%d0%b8%d0%b7-%d0%be%d0%b4%d0%b5%d1%81%d1%81/>, [Accessed on 28.08.2022].

¹⁵ *Ukrainian cargo turnover fell down*, Kyiavia, cargo, international logistics, <https://www.cargo-ukraine.com/ru/gruzoperevozki-v-ukraine-minus/>, [Accessed on 28.08.2022].

¹⁶ *Negative and positive factors at the port city interface*, Regeneration of port territories, Study of the relationship between the city and the port, <https://khalinsite.wordpress.com/2018/07/05/negative-and-positive-factors-on-the-core-port-interface/>, [Accessed on 28.08.2022].

4. Visual impact

In effect, all the abovementioned influence life and health of the citizens. Public indifference comes from its lack of education in environmental and social matters. While there are studies in developed economies that proof the positive influence of the touristification on the post industrial port areas¹⁷, critical local economic-political shapers – Odesa authorities are far from changing cities economic structure by moving the port and inviting the tourists for several reasons:

1. In their opinion, Odesa is already a touristic city. It hosts more tourists every year than every other Ukrainian city on the sea coast.
2. Moving a port away from the city is a brave and expensive move, which will require years of hard work together with investments. It could be challenging to find funding for Odesa waterfront regeneration now, especially considering that it is not the only problem in the social and environmental realm of the city.
3. Voters will not necessarily appreciate such a strategy of the local authority for the reasons mentioned above.

That's why nowadays, the only place for waterfront redevelopment debates is on the pages of scientific journals and in the conference rooms of the society of Odesa architects.

Figure 7. Spatial barrier between the port and the city.



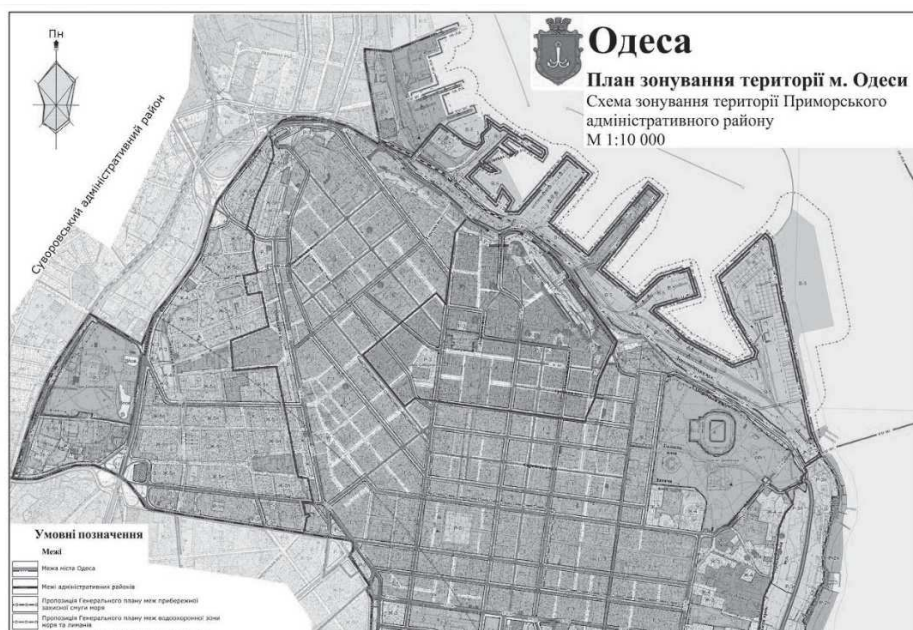
Source: *Bird's eye view of Primorsky Boulevard shown in Odesa (Photos)*, Courier of Odesa, <https://uc.od.ua/news/urbanism/1205786>, [Accessed on 28.08.2022].

As mentioned in the previous part of this paper, the General Plan of Urban development does not consider the relocation of the port of Odesa. Figure 8 presents the actual Urban Development strategy for the Central district of Odesa City. The grey color of the port territory suggests that the industrial zone will remain until 2031. It is argued with mainly economic reasons in the

¹⁷ Kaya E., *Touristification of Industrial Waterfronts: The Rocks and Darling Harbour*, "International Journal of Social and Business Sciences", 2018, pp. 237–243.

text of Genplan¹⁸. How will it impact the environment and, consequently, the health and lifespan of Odesa citizens? Scientific society is not optimistic regarding this issue¹⁹.

Figure 8. Current urban development strategy of Odesa city.



Source: General urban development plan of Odesa city, 2015.

Vladimir Khalin proposes a roadmap²⁰ for the central waterfront redevelopment of Odesa city. The first step of this project is redistributing the existing port structures (Figure 9). Luckily there are three big ports near Odesa that could take the logistics load of Odesa port. The next three steps consider replacing the port infrastructure with a civil one (Figure 10). The first stage will be implemented in 3 to 5 years, the second in 8-12, and the third in 10 to 15. In effect, half of the Odesa waterfront is supposed to be redeveloped. The plan is comparable to those from the 1980s in developed countries; however, as was noticed in the background chapter, - developing countries had their own

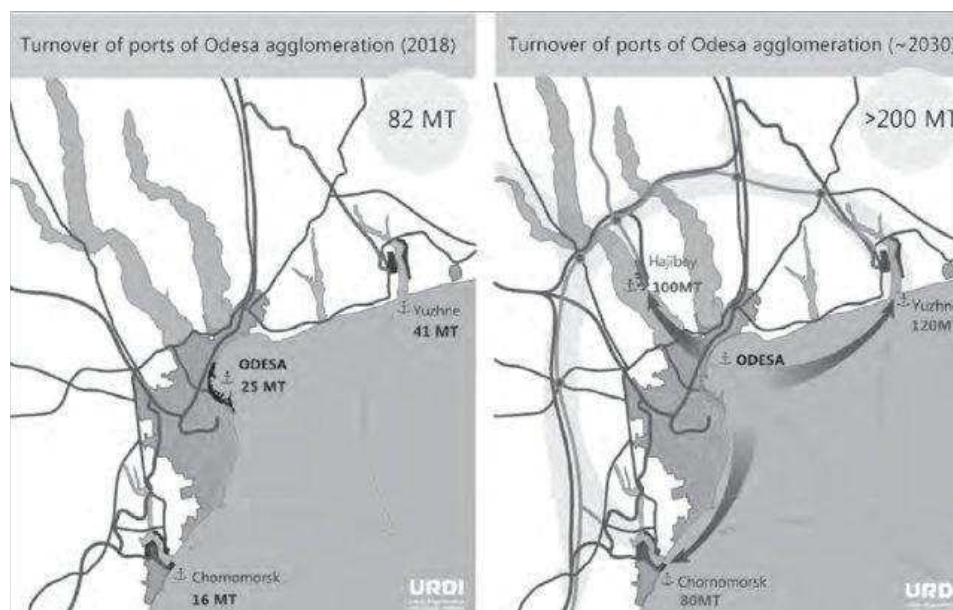
¹⁸ General urban development plan of Odesa city, 2015.

¹⁹ Orlova A. S., *Analysis of the factors that are shaping the ecological conditions in the Odesa city*, 2019.

²⁰ Khalin V., Kiely N., *Degradation or regeneration? Prospects for developing the port-city interface in Odesa*, Urbani Izziv, 2019, pp. 129-143, (figure 9)

rules for waterfront reinvention projects. In the conclusion part of Khalin's article²¹, there is a statement that without public discussion, no changes are possible on the city's waterfront.

Figure 9. A proposal for relocation of Odesa port.



Source: Khalin V., Kiely N., *Degradation or regeneration? Prospects for developing the port-city interface in Odesa*, Urbani Izziv, 2019, pp. 129–143 (figure 9).

²¹ Ibidem (figure 10).

Figure 10. Roadmap for the waterfront redevelopment in Odesa.

Map	Opportunities	Threats
<p>STAGE 1 3–5 years</p> <p>Odesa Sea Port</p> <p>Historical Center</p> <p>URDI</p>	<ul style="list-style-type: none"> Freezing new grain terminal construction projects Ban on transshipment of bulk cargo (clay, ore, chemical raw materials) Opening of the Platon Pier for social and recreational functions International architectural competitions for regenerating the waterfront within the boundaries of the historical centre Modernization of terminals in the northern part of the port 	<ul style="list-style-type: none"> Opposition from tenants of terminals and stevedoring companies Weak influence of municipal authorities on port authorities Poor transport and pedestrian access Difficulties with financing architectural competitions and design work State ownership of infrastructure, disagreement of private businesses
<p>STAGE 2 8–12 years</p> <p>Odesa Sea Port</p> <p>Historical Center</p> <p>URDI</p>	<ul style="list-style-type: none"> Gradual transfer of existing transshipment capacities to the ports of Yuzhne and Chornomorsk from the Quarantine and Military piers Connection with the Potapov and Military piers, taking into account the functioning of the railway Development of waterfront regeneration projects Cruise tourism development Construction of public facilities, landscaping 	<ul style="list-style-type: none"> Lack of coherent central and regional government policies Difficulties in reformatting transport infrastructure Weak influence of institutional mechanisms on project promotion Unpredictable political situation in the Black Sea region for the development of cruise tourism Complications with changes in the constitutional framework
<p>STAGE 3 10–15 years</p> <p>Odesa Sea Port</p> <p>Historical Center</p> <p>URDI</p>	<ul style="list-style-type: none"> Regeneration of territory between the Potapov Pier and the Quarantine Pier in terms of its social and recreational functions Modernization of the freight railway in the northern part of the port Construction of the north-south public electric transport line Construction of an interchange hub of a high-speed monorail near Central Park Development of public transport for regional sea traffic 	<ul style="list-style-type: none"> Projects yielding sufficient financial return. Balance between commercial and public buildings Constraints of traffic flows in the Peresyp district Housing and private property sites along the line of the projected electric transport Difficult geological conditions in the Central Park area Lack of moorings in the coastal areas of the Odesa agglomeration

Figure 10: Evaluation of the project stages for the port area regeneration in Odesa (illustration: Vladimir Khalin and Natalie Kiely).

Source: Khalin V., Kiely N., *Degradation or regeneration? Prospects for developing the port-city interface in Odesa*, Urbani Izziv, 2019, pp. 129–143.

According to Mr Khalin “...At the Department of Urban Planning, three or four diplomas are annually associated with the regeneration of the port area from Peresyp to the Quarantine Mole. As a rule, these projects involve the gradual replacement of the production function with a public and recreational one.”²² So the design elaborations on Odesa waterfront transformation are developing, and there is a lot of material that could be used in future.

However, it is hard to imagine that in the Ukrainian realm, there will appear a multifamily housing estate on one of the moles of the redeveloped Odesa Port. Their fate could be similar to Baku’s White city redevelopment project²³: there could be no economic base for such developments as in Oslo, and the new district will remain uninhabited. In this simple example, it could be stated that due to the lack of public debate, academic society is developing theoretical models that won’t match the needs of a real-world problem. Consequently, in case there appears to be some chance for waterfront redevelopment, there is a risk that these models will be applied, and the effectiveness of waterfront regeneration will be low.

Figure 11. Diploma Project of Galina Sima (рук. Савицкая О.С, Киселева А.В., Халин В.В.).



Source: *Egregores collision on city-port interface*, Regeneration of port territories, Study of the relationship between the city and the port, <https://khalinsite.wordpress.com/2018/06/17/%d1%81%d1%82%d0%be%0%bb%d0%ba%d0%bd%d0%be%d0%b2%d0%b5%d0%bd%d0%b8%d0%b5-%d1%8d%d0%b3%d1%80%d0%b5%d0%b3%d0%be%d1%80%d0%be%d0%b2-%d0%bd%d0%b0-%d0%b8%d0%bd%d1%82%d0%b5%d1%80%d1%84%d0%b5%d0%b9%d1%81/>

²² *Egregores collision on city-port interface*, Regeneration of port territories, Study of the relationship between the city and the port, <https://khalinsite.wordpress.com/2018/06/17/%d1%81%d1%82%d0%be%0%bb%d0%ba%d0%bd%d0%be%d0%b2%d0%b5%d0%bd%d0%b8%d0%b5-%d1%8d%d0%b3%d1%80%d0%b5%d0%b3%d0%be%d1%80%d0%be%d0%b2-%d0%bd%d0%b0-%d0%b8%d0%bd%d1%82%d0%b5%d1%80%d1%84%d0%b5%d0%b9%d1%81/>, [Accessed on 28.08.2022].

²³ *Baku: in hot pursuit*, Ilya Varlamov, teletype, <https://varlamov.ru/3164336.html>, [Accessed on 28.08.2022].



<https://www.researchgate.net/publication/358118411>. [Accessed on 28.08.2022].

5. Summary

Originally founded in 1794 as a fortress city on the southern borders of Russian Empire, Odesa soon was allowed by Russian government to use its geographical location as a trade advantage. The city used this source to develop and succeed in it. At the beginning of the XX century the major value of the city urban form was inherited by Odesa – 19th century urban tissue of the Central District of the City that was strongly connected with urban waterfront. According to Briane Hoyle Classification²⁴ at the moment it could be considered as a period of expanding port-city relations. During the communist epoque (1917-1991) Odesa waterfront evolved into the modern industrial port and the relations between port and the city changed consequently. The collapse of the Soviet Union gave the second chance for the Market based economic development of an urban form in Ukraine. However due to the fact that the direction of economic development in USSR had deviated from the mainstream for 74 years Ukrainians (and other post soviet nations) hadn't passed through all of the stages of capitalism development, including post industrial paradigm. The majority of society in the first decades of Ukrainian independence still relies on the industrial development paradigm. Thus, in conditions of lack of proper tools for urban development within the framework of market economy, during the first 30 years of the independent Ukrainian state both Odesa waterfront and city center have gained the worst acquisitions in public space. The rectangular-grid based city centre with low rise buildings was enriched by chaotic and unproportional new developments while old ones are stagnating or abandoned. In an effect a density distribution of the urban tissue in the central district of the city was corrupted. On the other hand the Industrial port even grew in size, taking new territories from the city and the sea(Figure 5).

However the experience of the Western countries suggest completely different direction of development. In the 1960s, in the developed market economies, the ships became more significant in size, and the economy was moving towards post-industrial transformation. As a result, the urban landscape of port areas in the cities in developed countries started to transform. Large ports were moved from the cities, and the metropolitan area became abandoned. This process is called "retreat from the waterfront." Large European and American municipalities were considering waterfront redevelopment in the 1960–1980s because of post-industrial economic transformation. After the successful space reinvention, an utterly new phenomenon appeared in developed countries –

²⁴ Hoyle B., *Global and local change on the port-city waterfront*, "Geographical review", 2000, pp. 395–417, Figure 6, p. 405



the renewal of port-city links and the development of the new urban form instead of polluted, noise-impacting and waste generating industrial zone. As presented in this paper, the waterfront of Odesa can be a subject of major transformation, especially in conditions of the post war redevelopment. As it was proved by western authors – the shocks in the market economy in a long run are positively affecting economic development (f.e. Great Depression or World War II) and Russian invasion in 2022 is a comparable example of such a shock.

To be consistent Odesa isn't the first city on the coast of southern seas of post-soviet countries, in which the process of redevelopment of the waterfront is analyzed by academic community. The Baku's waterfront redevelopment process is on far more advanced stage: the seafront of the Baku city is reinvented on the length of 7 kilometers to the Southern direction and 3 kilometers to the eastern one from the city centre, being one of the largest waterfront redevelopment not only in post soviet countries but in the whole world. However, the circumstances of the Baku seafront redevelopment are different: the process of transformation of public space in Azerbaijan is similar to Dubai one²⁵ and relies on the financing of the Government which receives funding from State petroleum industry. That's why the future redevelopment of Odesa waterfront, that will occur within the conditions of market economy, can also be regarded as a point of reference for many other post-soviet port cities, located on the shore of the Black, Caspian and Azov seas. This comes from the fact that – despite differences coming from specific size or location and development factors – these cities have similar origin and were facing comparable development processes. Therefore, the case presented – although being at the very beginning of the real processes of urban change – can serve as a sample of processes that are in store for other urban centers in the region. This relates also to the limitations and problems that are associated with it.

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