

## **Failure or success**

# **The impact of industrialisation and de-industrialisation on port cities in Europe**

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*Understanding of the present scene [in ports] is impossible without reference to the past... – James Bird (1963)*

In 1797, when the French troops entered Venice, the old *Serenissima Republic* came to an end. From that time on she became the plaything for other powers, first French, then Austrian and finally the Italian monarchy. However, at the end of her existence, the former economic and political power had already faded away. During the eighteenth century the Republic only was a shadow of her former position. In that way Venice was comparable to many port cities in the past. Ostia, the former port of Rome and Bruges, in Belgium, all shared the same fate. Changing geographical situations leading to a more difficult entrance of the port could lead such cities into oblivion.

Because the majority of the European port cities were not situated directly to the seashore, they could be influenced by the deposit of sediments on the river streams, changes in tidal flows and the coastline. Amsterdam lost its former position due to the banks in the former Zuyderzee during the eighteenth century. However later technological possibilities could give a second chance to its port. Amsterdam could be linked to the North sea during the nineteenth century by the construction of a canal and that helped to revive the port function, but it never got the same position it had during the seventeenth century. In the Netherlands its position was taken over by the city of Rotterdam, a port city which was of minor importance during the ages before the nineteenth century, but which could obtain better connections to the new industrial parts of its hinterland and also had a direct link to the sea.

Nevertheless success or failure always is a relative cultural construction that is based on comparative perceptions of reality. Changing political, economical, geo-morphological or technological circumstances could bring an end to the advantages of former positions, disrupting flows of persons and merchandise that sustained the success of port cities. Those changes were understood differently over time by different actors. In the industrial period, as states were shaping themselves in relationship with markets, people and merchandise, the instruments of control over these flows were understood as an important form of power. Fiscal policies aimed to favour national port cities. An important change e.g. was the end of the monopoly over the South American overseas trade that some port cities, like Lisbon and Seville, had until the Napoleonic wars. The end of the

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old colonial regime in Spain and Portugal had a strong negative impact on the ports that had the benefit of this colonial exclusivity. In this sense although fiscal protection continued to exist, freedom of trade developed and contributed to the growth of the flows of goods and people that passed through those ports.

Later Modern Imperialism could have a strong effect on European port cities too. Marseille e.g. had a profit from the increasing French influence in Northern Africa during the 19th century (Bonillo and Borruey, 1992). The construction of the Suez canal (1869) also favoured its port. From 1824 to about 1870 the Dutch port cities were stimulated by the colonial trade and shipping with the monopoly of the *Nederlandsche Handel-Maatschappij*, the continuation of the former East Indian Company (VOC).

Port cities were and are a specific kind of urban artifacts. They are gates in larger networks linking their hinterlands to broader functional settings (Ducruet, 2007). That's why not all settlements by the sea became port cities. It is also the reason why even port cities of which the trade was in decline due to the so-called continental system of Napoleon—cities like Hamburg could recover quickly as “grand entrepôt de l'Allemagne” (Magasin Universel, 1835) in particular after the foundation of the *Deutsche Zollverein*. Opposite to that cities like Amsterdam or Stockholm lacking the hinterland, had a more difficult time, because they had to concur with Rotterdam or Gothenburg respectively.

Related to the sea as they were the most important economic activity of port cities was maritime and trade. It gave them a very special character and flavour as well as specific social structure and urban form. Sailors and immigrants had a great impact on local population and in early modern times the flow of population into and out of port cities was larger than in other types of cities. Although mortality was high, as populations could be vulnerable to diseases from elsewhere, ports had an important contribution to urban growth (Lawton and Lee, 2002).

But besides the economic activities which were the basis of port cities (trade and shipping), other related activities played an important role too. Industries like shipbuilding and repair, sail and rope making, mills and biscuit production, and later machine construction and all kinds of industries related to shipping and trade, like the refinery industries (sugar, tobacco etc.) were quite important and sometimes influenced the labour market and social structure of the city. In particular in those industries an important female workforce could exist.

Port cities were very dependent of trade cycles, changes in consumption patterns and power over the seas. Their vulnerability to economical changes was greater too. The sense of success and failure was also more general as result of the presence of foreigner merchants and sailors as well as the voyages of local merchants. Comparisons with other cities were made frequently. Industrialisation had strong effects on port cities as we will try to demonstrate in this paper, but it was as such only a stage in the development of port cities and their success or failure over time.

Broadly speaking for the European port cities in general we can detect three or four stages in their development:

- The dominance of Mediterranean shipping during Antiquity. Although elsewhere port cities must have existed (e.g. the ports of Portugal important for the import of specific metals from the British isles) due to the political situation the Mediterranean (with the Black Sea) was the most important sea for trade and transport.
- With the decline of the Roman Empire the position of Mediterranean ports didn't stop (port cities as e.g. Venice, Byzantium/Istanbul, Genova, Barcelona were important until the 16th century). However slowly during the Middle Ages the importance of as well as Atlantic as North Sea (and Baltic) shipping increased. The center of gravity went away from the Mediterranean towards Western Europe (Spain, Portugal included) in particular at the moment that the trade via the Silk Road stopped to be important for Europe.
- From the sixteenth century onwards the center of gravity slowly moved more into the direction of the northern parts of Western Europe, a development which favoured in particular the Dutch and English port cities.
- This tendency was strengthened in particular since the coming of industrialisation since the eighteenth and nineteenth century as we shall see, although some specific particularities existed.
- Finally during the last stage in which de-industrialisation as well as technological changes and globalisation port cities changed their character.

In this paper we shall try to research the effects of industrialisation and de-industrialisation together with globalisation processes on the position of port cities in Europe.

## **Industrialisation**

Although mankind used machines and instruments for production already for ages, the social and technological changes that took place since the middle of the eighteenth century and specifically the introduction of the steam machine had important effects. Not any longer man was dependent of wind, water, animal or human power to drive other engines. With the help of mineral resources as coal and later oil it was possible to deliver greater power. It became possible to enlarge production enormously. But together with the increase of production, problems of capital investment, diffusion of technological knowledge and fight over the dominance of markets occurred. Although coal was available in other parts of Europe, it was in particular the coal belt running from the British isles, over Northern France, Belgium, Germany to Poland which developed into an industrial region

during the 19th century. Coal was in particular important to the new iron industry, but coal became the fuel of the ships and locomotives too.

Because the infrastructure for an easy access to coal mines was not available everywhere, in general this area had the advantage of a whole series of navigable rivers. Although road construction was important since the eighteenth century, they were not so suitable to transport heavy loads. Canals were, the less expensive solution to transport coal but since the first decades of the 19th century railways were also available. The technical knowledge, the metallurgy, and the capitals to invest in railroad construction were available in the same zones. One of the first countries using those advantages was England where capital for investment was rather abundant.

It was possible now to link port cities with their hinterlands by canals and later by rail, bringing down the prices of the transport of bulk goods. A series of port cities in the North West of Europe gained with this situation. Some were already important for a longer time, as Hamburg, Bremen and Antwerp. Others as Rotterdam and Liverpool becoming important more recently but generally before the Mediterranean port cities could benefit from those advantages.

More continental countries like France developed a strong network of roads since the end of the eighteenth century. Canals and railways linking Paris to the main port cities started before the middle of the nineteenth century and were favoured by the desire to preserve the dominance of a capital situated not directly near the sea. However the linking of the mining and industrial parts stayed behind. State investments were more important in France and this country could export its model of investment in the communication and transport system to other countries. Such benefits were not so easy to obtain in the Mediterranean countries or in the Iberian Peninsula. The lack of capital was the main reason for that, but it can also be explained by a lack of demand for transport which would make them profitable. But geographical circumstances did not help either. In particular in the Mediterranean countries the geographical and climate circumstances obstructed a better use of the hinterland by waterway. In Spain the difficulties to construct canals could not be surpassed in the nineteenth century and the train was the only available solution to feed cities like Madrid. It was an expensive solution that could only have significant economic expression after 1860. The Spanish desire to bring political integration of the whole Peninsula was opposed by the Portuguese. As a consequence the railway network reflected the national territory diminishing the scope of the “natural area” of port cities like Lisbon.

However it is clear that not only geographical circumstances played a role in the shift of the centre of economic gravity and the related situations of and the effects this had on port cities, also new political relationships like the coming of the modern nation state and new forms of colonisation had their effects too. In general national governments more and more tried to homogenise their territory. For that purpose they favoured national companies in several ways. This was in particular clear for the shipbuilding industry. Concentration of the wharves not only could bring down prices and could help in an international competition, but also could make it possible to construct a naval

fleet at lower costs (Cataruzza, 1988). But also other companies like railway companies were sometimes involved in this policy. The unification of Germany led to the making of one railway company and the German government tried to favour the German port cities with lower tariffs for transport. But in some ways Germany was an exception, because in the British isles railway companies stayed separately and in France attempts to unify them stranded and four railway companies were finally left over each with its own tariffs and regulations. Only in the 20th century the SNCF could take over those companies. A port-city like Marseille was, in this context, unable to get low tariffs that would allow the survival of heavy metallurgy (Rocayollo, 1992).

Although the construction of railway lines influenced the position of port cities (Antwerp e.g. had a profit from the connections to the new developed French industrial area near Longwy after 1871) and for some time the construction of a specific type of ports was very popular (the railway port, a narrow harbour in which ships were loaded and unloaded directly on the quays), it was the use of waterways with their cheap possibilities of transport which finally gave the breakdown. Port cities with a river connection with their hinterland in particular profited mostly. New techniques made those rivers navigable and together with the use of steam tugs and motor ships contributed to that process. And also here it were the port cities of North Western Europe that showed the largest growth, in particular for bulk loads of iron, ore, coal, grain and other foodstuff, because they had a larger hinterland together with an important growth of the population there (Wiedenfeld, 1903).

The railway port, which was a dominant type of port for about 30 years, became obsolete for this reason at that time. It were the new so-called river ports, large harbours in which the ships were anchored from where they were loaded or unloaded from and to river barges with the help of new machines like elevators and floating cranes, that became now the predominant type. Only for passengers transport (an important branch of industry until WW II) quays were still important. A part of this transport was for the large number of emigrants either to the colonies as to other parts of the world. The poorest of them for a long time used sailing ships (which also long time were used for the transport of cheap bulk goods like guano etc.) for that purpose, because the costs of traffic was lower.

Together with those visual changes the labour market in the ports changed importantly too. Specialised insurance companies, stevedores, and other office clerks increased in numbers. Although the number of dockers still increased as a result of the growth of shipping, their share in the total workforce of the ports diminished. Although the general growth of the population of those cities was astonishing, it made those port cities more and more vulnerable for the vagaries of the international business cycle. Whereas in the past shipping was very much a seasonal phenomenon, it now it became dependent of the business cycle only. This already started in the 19th century, but became clearly visible during the Great Depression in the 1930ties. Of all the Dutch cities the unemployment rate in Rotterdam was highest in that period.

It was for that reason that already in those years thinking about diversification of economic activities in port cities started. With the help of national subsidies nearly everywhere a policy of construction of larger passenger vessels started hoping to get a larger part of the expected transatlantic transport of passengers after the depression (a policy which afterwards was doomed to fail, because of the outbreak of WW II and the fast growth of aviation after the war). The second option of diversification, the construction of large scale processing industries (in particular for chemicals and petrol) seemed less vulnerable, but after some time also this option was less profitable for the local economy than it was expected. This type of industry demanded a very skilled labour force which not always was available and the oil crisis of the 1970ties showed also the vulnerability of those industries, because oil producing countries more and more took over the processing themselves. During the same period also another core industry in port cities, shipbuilding, started to decline. Although national governments tried to stop this decline, it seemed impossible to compete against lower costs elsewhere. In the end this kind of industrial policy seemed to be doomed and only very specialised ones could survive. It led to high costs and greater unemployment of the unskilled or semi-skilled labourers.

### **Internal effects of industrialisation**

However, not only the industrialisation process as such had an impact. New technologies in shipping itself as well as in the shipbuilding industry and in the transfer of goods had their influence. Docks, cranes and elevators contributed importantly to a greater speed in the loading and unloading of goods. Steam was used increasingly for driving and ships were built with iron and later steel instead of wood. In many cases this led to a concentration in the shipbuilding industry, because the greater investments as well as the pressure of national governments (the greater demand for 'modern' navy ships only could be satisfied by selling commercial ships too). Although already during the pre-industrial period the neighbourhood of the shipbuilding industry with their rope and sail components could have a specific character (examples could be found in the East of Amsterdam in the 17th century and in the Arsenale of Venice), the concentration and the use of new technologies had a very specific impact on the structure of the port city during the nineteenth and partially the twentieth centuries.

In a nutshell they reflected the developments elsewhere in port cities. Whereas living near to the port and the river was a privilege of the rich before the nineteenth century, since that time it became the 'privilege' of the labourers. In many cases the larger houses of the more well-to-do became offices with clerks now. It not only was the result of the increase of administrative jobs in the port, which reflected the growth of tertiary jobs and a greater division of labour, but also the effect of the deterioration of neighbourhoods as a result of industrialisation and a larger impact of transport.

Although industrialisation changed the urban structure, culture and social character of the port cities), some other features did not change so much. The traditional food processing industry stayed and even got a greater impact due to increasing demand for food of the growing European population and the increase of imports from overseas. Sometimes it even gave new opportunities for female labourers to escape the poverty of a marriage with a sailor (with shifting incomes) or housekeeping work in the houses of the rich which we mentioned already. However this was not an lasting situation. Already between the world wars new job opportunities for females were created and in particular after WW II it became clear that the traditional port industries not any longer could rely on this relatively cheap labour force. Immigration from poorer areas (firstly in Europe and later from outside) were seen as a remedy, but finally this policy only delivered a temporary solution. A process of de-industrialisation set in which not only hit the large industries in the industrial areas, but also the port cities.

### **De-industrialisation**

Industries are dependent of several factors as technology, labour, capital and materials. A change in one of those factors will inevitably led to changes in the industrial structure itself. Since the late 1970ties a decline of basic industries in western societies took place. Coal mining, the iron- and steel industry and textiles, for more than a century the pillars of industrial societies came into crisis. Although national governments tried to break this decline, the outcome of this process of de-industrialisation became inevitable. The recruitment of a cheaper labour force from elsewhere couldn't stop the move of an important part of those industries to other areas. Port cities with their industries were touched too.

A well-known example was the decline of shipbuilding industry. In the end only very specialised parts of this industry could survive. Even the traditional port industry, cargo traffic, was effected. The process of mechanisation, standardisation and other increases of productivity led to a decline of the number of traditional dockers, whereas at the same time the number of administrative jobs in logistics increased. Although this development resulted into a series of labour conflicts in the 1980ties, the outcome was that port cities underwent a metamorphosis and not only that, but their economical position deteriorated too. The newer transport industries demanded high-tech services with specialised skills, but those services contributed less to the aggregate employment.

### **Functional and spatial division**

For centuries ports and port cities were linked to each other spatially and functionally. The port was the reason for the existence of a port city and shipping and handling of goods were done within the city. Cities grew as result of the increase of shipping and trade and in most cases the

commercial centre was near to the port. The spatial proximity of urban area and port was a matter of necessity due to the level of technology and the nature of trade. Loading and unloading as well as transport itself was labour intensive and control of it by shipowners and merchants only could be done personally. Even the local manufacturing industry was dependent of shipping and transport.

However with the increase of transport and the changes in technology the original tie between city and port became loser. In particular during the second half of the nineteenth century new ports had to be constructed. Docks and railway links couldn't be made within the traditional port vicinity. New social and spatial divisions arose. The elite of the port city traditionally living near to the ports, slowly stopped doing so. Too much traffic and noise were seen as an impediment for them. Their houses were used for administrative tasks. Only the labour class stayed near to the newly developed and ancient ports, because there still wasn't a regular labour market and distances between work and living must be short. Many of the jobs were temporarily and even work for sailors had to be found in coffee or ale houses etc. near to the ports. Even trained labourers in the shipbuilding industry mostly lived near their work. This situation broadly speaking lasted until WW II. Although between the two world wars some specific living quarters were developed, sometimes with some kind of garden city approach as *Wandsbek* in Hamburg or *Heyplaat* and *Bloemhof* in Rotterdam, but all of them relatively still near to working and in the case of Heyplaat specific meant for labourers of the shipbuilding industry.

After WW II this spatial linking of work and living came to an end. It became easier to travel to work, but not only working conditions changed. Perhaps a greater impact changes in logistics and traffic had. Roll-on, roll-off traffic was introduced and the coming of the standardised container asked for different approaches of shipping and ports. Not any longer the port city could provide those facilities within its boundaries. The demand for deeper entrance for larger ships meant a necessity to construct harbours nearer to the sea which were linked to motorways and large areas for chemical and petrol industries. This resulted in the end of the centuries old functional link of port and city.

Although some local authorities had some kind of influence on the development of those port facilities, functional division became a reality (Benacchio et al., 2001, Hoyle, 1989). Not only the former ports of the early modern period lost their position, but the same was true for the ports of the industrial period. Port cities were confronted with large areas in decay sometimes with living quarters with lower class inhabitants (sometimes mostly immigrant labourers).

An answer to this decline seemed to be the so-called *waterfront development*. Warehouses and factories were transformed into apartment buildings and lofts to attract more well-to-do inhabitants. It was a part of urban policies which is called *Gentrification*.



## Gentrification

The concept of *urban gentrification* refers to changes in urban society in which more well-to-do people buy property in low income and working class areas. As a result of this process the average income in those areas increases and family size decreases. The original inhabitants (poorer residents) could not pay the increased rents, house prices and property taxes and were forced to leave the area (although sometimes local politics could at least put some impediments to that). Often old industrial buildings and warehouses are converted to residential houses and shops and new types of businesses delivering services for a more affluent class of consumers come into existence.

The concept *gentrification* attracted much attention in the social science literature. Hamnett (Hamnett, 2005) cites several reasons for this interest:

- It was an interesting area of research for a new generation of sociologists and social geographers in the period 1970-1985, because the concept could be related to the classical theory of urban development formulated a.o. by Burgess and Hoyt. According to this theory the internal spatial division of cities in economic terms was the result of the relationship between the prices of real estate and proximity to the center. Low income groups in these areas were dependent of the immediate vicinity of the central business and service center (the Central Business District or Core) and had to live in high densities.
- The concept of gentrification was developed in a fundamental debate between the supporters of *humanistic geography* (and the *new cultural geography*) and the adherents of the structuralist-oriented *societal critical geographers and sociologists* (social critical geography). Briefly between an approach from the demand side (*consumer behavior*) and an approach based on the supply side (*producers of real estate developers, investors in urban real estate market*).

Both approaches can be seen in the work of important geographers in the decades after the 1960ties: gentrification as a result of the flow of capital on an urban level and gentrification as a result of personal preferences.

## Gentrification as a result of personal preferences

In 1980 David Ley published *Liberal Ideology and the Post-industrial City* in which he mentioned a number of important social changes at the end of the 1960ties (Ley, 1980). Sociologically a strong increase of the service labour force took place. Blue collar work was replaced more and more by white collar work. Besides that a stronger governmental interference with urban developments and the coming of a new middle class with a specific taste contributed to a demand

for renewal of former urban areas in decay. In this essay and in later work one may find in particular the theory of gentrification as a result of changes in demand.

### **Gentrification as a result of the flow of capital on an urban level**

It was in particular Neil Smith (Smith, 1979) who paid attention to what he calls the dominant role of the providers in the real estate market. In his opinion that also explains the fact that some neighbourhoods were put in the process of gentrification and others not. Because more and more firms and (small) businesses removed to the suburbs and the increasing age of the houses in inner city areas enlarged the differences between realised real estate incomes and potential ones in such a way that reinvestment becomes more interestingly. Capital owners and institutions see more and more possibilities to start revitalisation. Not so much persons with a certain taste, but capital should be the motor for gentrification. Although he nuanced his views a bit later and also gave weight to demand, he still spoke in the 1990ties of *urban revanchism* to stress the idea that gentrification went parallel with the banning of less well-to-do and marginalised urban inhabitants.

As said the *waterfront development* is part of the process of gentrification in general. Perhaps the most well-known example is the London Docklands in which the former East Side of the city was transformed in an luxurious living and office area even with an airport and a railwayline. However, also elsewhere such developments were made from Rotterdam, Liverpool to Boston and Sidney. In some cases this policy was successful and the former link between the city and the sea, which was broken by the industrialisation, was restored as in Barcelona, but in Trieste the former port city of the Habsburg monarchy, the entrance to the water still is hided by industrial areas. Waterfront development was partially an answer to the decay of urban areas in general, but within port cities the pressure to make this policy in particular was related to the decline of the old port areas of the industrial period.

The effects were that more well-to-do inhabitants detected the pleasures of living near to the water again (something that was quite normal for the elites unto the industrial period) and that it was possible to renovate areas in decline, but one can debate if the overall idea of social mixture of those areas (urban renewal as social policy) in the end was successful. And more importantly if this new impulses to economic activities in the end will rescue the (industrial) port city from its economic decline. The new developed ports with which the link was weak or even non-existent delivered economic growth, but hardly work, whereas the waterfront areas demanded less unskilled work too.

## The role of globalisation

In 1969 the general director of the port of Antwerp, Vleugels, wrote: “*port regions seem always to have been at an advantage when compared to those regions which not situated by the sea or on rivers*”. It was a statement stemming perfectly with the neo-classical theory of industrial location. Since that time the effects of a process that has been called *globalisation*<sup>1</sup> proved that this general statement is not true. Abundant material showed that the regional benefits derived from seaports and in particular the local impact of containerisation diminished (Vallega, 1996). However, globalisation is not a new phenomenon. Although vehement discussions exist if this is a recent and modern phenomenon (Conversi, 2010), some authors plead for an older history. Some facts as the link between urban centres in the Hellenistic world, the Silk Road, the Muslim world (all sometimes called *archaic globalisation*), and during the 16th and 17th centuries the expansion of Portugal, Spain, the Netherlands and England (also called the *proto globalisation*) and modern imperialism together with industrialisation at end of the 19th century point at earlier periods of exchange and interlinking (see also Antunes, 2006). It is clear that port cities in general gained enormously by these processes, because they could enlarge their foreland and link that with their hinterland. But there could be losers too.

The developments during the last decades show that port cities in Western Europe can be vulnerable to changes in the transport flows now too. For centuries it was the Atlantic Ocean which linked the most economical developed parts of the world, but slowly a dramatic shift in the transport streams over the world became visible during the last decades as a result of demographic and economic changes and a shift in geopolitical power relations. Whereas in the past Atlantic shipping dominated, it is now the Indian Ocean and the Pacific which has the largest number of ships. Singapore, Sjanghai, Mumbay all show an enormous growth. Although in Europe some of the ports like Rotterdam, Antwerp are still influential, thanks to their hub function, but their position is vulnerable too. And also here the traditional link between port and city has been broken.

In general one can say that:

- Transport chains were concentrated and relocated;
- Maritime industries and their suppliers moved to other regions;
- Ports no longer need cities;
- Markets need ports, but no longer need port cities.

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<sup>1</sup>Although the term is rather unclear and vague, in general it has been used to describe the integration of national economies into the international economy. However it can be used for processes of interchange in sociocultural, technological, biological and political factors.

This development not only is visible in the decline of the traditional port areas within the port cities and the development of those areas in other places, but also in the character of employment. Global competition will make it more difficult to maintain positions, but also will make it debatable how far port regions still can contribute to economic growth as they did in the past. Although this development already is visible in the larger ports in Europe (Rotterdam, Antwerp, Hamburg, London), it makes the position of the smaller ones like Gijon, Bilbao, Trieste, Bremen, Southampton, still more vulnerable. Although port authorities try to change the tide there in different ways, until recently the success of those policies wasn't always clear.

And there is a second not unimportant effect. The perils of global economic development also can have influence on the climate which can result in a greater vulnerability of port cities. Rising sea levels can be a direct threat, which demands a greater protection, but also environmental balanced situations can be broken. A well-known example can be found in Venice where the *Marghera-Malamocco* navigation channel in the lagoon which was made in the 1960ties, not only contributed to a greater risk for flooding, but affected the lagoon environment too. The making of new port areas seems to have quite high costs and within the European Union nowadays there is a policy that effects on the environment must be compensated somehow. However, member states try to avoid those agreements sometimes as can be seen in the recent measures of the Dutch government relating the deepening of the *Wester Schelde* (the entrance of Antwerp to the sea).

## Conclusions

Although port cities played an important role in urban history, their position was not always unchallenged. Dependent of economic, demographic, geographic or political changes port cities could loose their eminent position. The examples of cities in decline are numerous. In Europe a general shift from the Mediterranean to the Atlantic coast and later to the North Western parts took place. Sometimes technological or political measures were used to stop the decline, but they were not always successful over a longer period. Inevitably some cities lost their position, although some could maintain themselves. This process was visible importantly during industrialisation.

But industrialisation was not a final stage in the development of port cities. More recently due to globalisation the position of the Western European port cities is at stake. Traditional industries came into decline and perhaps more important due to changes in transport technology the traditional link between port and city was broken. New port areas were developed outside the traditional city boundaries and the character of dock labour changed too. And, moreover as result of changing demographic and economic circumstances the position of European port cities diminished compared to port cities in other parts of the world.

## References

- Antunes, C. (2007), *Population Growth, Structural Development and Economic Growth: Amsterdam and Lisbon in the Seventeenth Century - a Comparison*.
- Benacchio et al., (2001), *Port Financing and Pricing in the European Union: Theory, Politics and Reality* in: *International Journal of Maritime Economics*, Volume 3, Number 4, 1 December 2001, pp. 368-386(19)
- Bird, James (1963), *The major Seaports of the United Kingdom*.
- Borruey Renée, Jean-Lucien Bonillo (eds.) (1992), *Marseille, ville & port*.
- Burgess, Ernest (), *The Growth of the City: an Introduction to a Research Project*.
- Cataruzza, Marina (1988), *Arbeiter und Unternehmer auf den Werften des Kaiserreichs Volume 127 Veröffentlichungen des Instituts für Europäische Geschichte Mainz*.
- Conversi, A. et al (2010), *The Mediterranean Sea Regime Shift at the End of the 1980s, and Intriguing Parallelisms with Other European Basins* PLoS ONE 5(5): e10633. doi:10.1371/journal.pone.0010633
- Ducruet, César (2007), "A Metageography of Port-City Relationships", in James J. Wang et al. (eds.), *Ports, Cities, and Global Supply Chains*.
- Hamnett, (2005), "Inward and Upward: Marking Out Social Class Change in London, 1981--2001", *Urban Studies*, 2008, 45.
- Furtado, Nuno, (2011), *A contentorização de Ponta Delgada, Tese de mestrado ISCTE*.
- Hoyle, B. (1996), *Cityports, coastal zones, and regional change: international perspectives on planning and management, international perspectives on planning and management*.
- Hoyle, B.S. (1989), "The port—City interface: Trends, problems and examples", *Geoforum*, Volume 20, Issue 4, 1989, 429-435
- Lawton Richard, Robert Lee (eds.) (2002), *Population and Society in Western European Port Cities, c. 1650-1939*.
- Ley, David (1980), *Geography without man. A humanistic Critique*.
- Smith, N. (1979), "Toward a Theory of Gentrification: A Back to the City Movement by Capital, not People". *Journal of the American Planning Association* 45:4, 538–48.
- Mendoza, A. G. (1992), «La modernisation des transports dans la Péninsule Ibérique au XIX siècle», *Histoire, Economies et Sociétés*, n° 9, 145-156.
- Pinheiro, Magda (2011), "Le port de Lisbonne entre deux empires", in *Towns and Communications*, Vol. II, *Communications between towns*, 371-384.

- Polónia, Amélia (2010), «European seaports in the Early Modern Age: concepts, methodology and models of analysis», *Cahiers de la Méditerranée*, nº 80, pp. 17/39.
- Rocayollo, (1992),
- Sousa, João Figueira (coord.), 1997, *Cidades, Portos e Frentes de Água*, Lisbon, pp.242.
- Sousa, F. and Alves, J. F. (), *Leixões: uma história Portuária*, Porto.
- Vallega (1996), *The Mediterranean after the 1995 convention. The historical sense of a turn around point.*
- Van Dijk, Henk, and Pinheiro, Magda (2003), «The changing face of European ports as a result of their evolving use since the nineteenth century», *Portuguese Journal of Social Science*, pp. 89/103.
- Vleugels (1969), cited in: Hall, Peter, Jacobs, Wouter (2009), *Ports in Proximity*, Notteboom, Ducruet, Langen de (eds.), *Ports in Proximity. Competition and Coordination among adjacent Seaports.*
- Weimer, Arthur M., Hoyt, Homer (1939), *Principles of Urban Real Estate.*
- Wiedenfeld, Kurt (1903), *Die nordwesteuropäischen Welthäfen: London, Liverpool, Hamburg [etc.] in ihrer Verkehrs- und Handelsbedeutung.*