
REVITALISATION OF AN HISTORICAL INDUSTRIAL PORT DISTRICT - THE GOODS STATION DISTRICT IN ANTWERP

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Built after the city expansion in the 1860s-70s, the former goods station district in the north of Antwerp, near the historic port, was once dominated by nations and warehouses. At the end of the 20th century, the harbour activities moved further northwards. As a consequence, building promoters got interested in the vacant warehouses because of their valuable, large plots near the centre of the city. Their safeguarding is endangered by the speed and intensity by which the urban space is being redeveloped. However, the warehouses are a key element for the revival of the neighbourhood. This paper aims to provide a scientific base to support their preservation and adaptive reuse. It analyses the planning history of the district over the past 150 years, defines the historical importance of the warehouses and assesses reconversions of warehouses and their changing integration in the urban fabric. The study aims to support qualitative redevelopment projects and therefore it is essential to revalue historic industrial buildings in the evolving city centres and to investigate how this valuable heritage can be preserved for further generations.

Keywords

historical industrial port district, Industrial heritage, warehouse, redevelopment, Antwerp

How to Cite

De Fosse, Marianne. "Revitalisation of an historical industrial port district – the goods station district in Antwerp". In Carola Hein (ed.) *International Planning History Society Proceedings, 17th IPHS Conference, History-Urbanism-Resilience, TU Delft 17-21 July 2016, V.03 p.045*, TU Delft Open, 2016.

DOI: <http://dx.doi.org/10.7480/iphs.2016.3.1252>

INTRODUCTION

Leveraging industrial heritage contributes to the success of re-purposed industrial areas. This is also the case for the former Antwerp goods station district located in the north of the city, nearby the historic port. This district was developed as from the 1870s, when new urban space became available after the demolition of the 16th-century city walls in the 1860s. This new industrial zone was, and still is, characterised by many impressive warehouses. In the course of the 20th century, multiple economical activities were relocated, following the development of the port towards the North. After a period of degeneration, the goods station district became a residential district. In 2012, the *Ruimtelijk Uitvoeringsplan 2060 (RUP)*¹ was published to guide future developments in the northern urban district of the city.

This paper analyses the planning history over the past 150 years of this specific district and is based on a literature study and archival research as well as in situ research. Cadastral information, urban cartography and historic address books allow to define and to understand the development and functioning of the district. Of particular interest is the *Inventaris Onroerend Erfgoed*, which is a digital inventory of immovable heritage (started in print in 1992, but digitally updated since 2007).² Besides, relevant research on Antwerps' warehouses was undertaken by historian Alfons Thijs and engineer Albert Himler in the 1970s and 1980s.³ Though, the studied district stayed out of focus in the past. Henceforth, additional archival research (urban building and environmental permits) was necessary to understand the historic significance of the warehouses. On-site investigations provided insight into the recent developments of the district. They enabled to evaluate the reconversion projects of the warehouses and the changing integration of the latter in the urban fabric. This critical assessment aids to support the preservation and adaptive reuse of the remaining warehouses, taking into account the expected impact of the RUP 2060.

CHANGING URBAN CONTEXT OF THE ANTWERP GOODS STATION DISTRICT

In the 19th century, the city of Antwerp underwent many changes. The industrial port activities flourished and the old city walls were demolished. The harbour evolved into a transshipment port, with the construction of many warehouses in the goods station district as a consequence.

PRE 1860: EXPANSION OF THE CITY OF ANTWERP IN THE 19TH CENTURY

The investments of Napoleon to expand the port of Antwerp during the French period (1792-1815) revived the harbour activities in the 19th century. From the 1850s onwards, Antwerp became an important commercial port.⁴ The city quickly faced two major problems: a shortage of space for port activities and a shortage of accommodation for the influx of related workers and their families. The existing infrastructure could not cope with the increased flow of goods. There were only five docks for loading and unloading, the storage capacity was far too low and the rail transport to the hinterland was inadequate.⁵ Moreover, many people migrated to the city because of the declining agricultural activities at the countryside and searched for new (financial) perspectives in the city. Simultaneously, the available living area intra-muros became insufficient, which led to a strong plea for the demolition of the historic city walls⁶ and to the further construction of illegal houses in the military perimeter extra-muros.⁷



FIGURE 1 The new building blocks are indicated in dark brown and follow the traces of the 16th-century city walls. The new goods station (1874) is not yet drawn on the map.

Between 1859 and 1864 a new polygonal fortification system, the so-called Brialmont fortification, was built at a distance of 2 to 2.5 km from the 16th-century city walls.⁸ The old fortifications were demolished shortly afterwards. The former military engineer Théodore Van Bever (1821-1875) created a master plan for the newly achieved urban space. The attached *mémoires* states that “the development of the port activities is the main goal”, thus to compete with other harbours like Amsterdam and Hamburg. The plan also included a semi-circular boulevard around the city, the so-called “leien”, based on the traces of the former city walls. The urban area along the boulevard was divided in building blocks by a grid of straight streets and sold to the *Société Immobilière d’Anvers*, which divided them into parcels to sell. Additional streets and buildings quickly filled the remaining area up to the Brialmont fortifications.⁹ (fig. 1)

During the French-German war of 1870-71, ships avoided French and German harbours and came to Antwerp. The harbour traffic of goods increased substantially and the harbour infrastructure, the railway network and the overall storage capacity proved again to be insufficient.¹⁰ Henceforth, the three docks were enlarged and five new docks were constructed. The goods station (1843) lacked space to expand because of its position between the old harbour and the city centre. Therefore, it was decided to construct a new goods station in 1874, located between the newly constructed docks and the new district designed by Van Bever on the old city walls. Warehouses established themselves in this district, which became the new goods station district. The goods that arrived by ship were stored in these warehouses before further transportation by train, or vice versa.

1874 - 1930: ANALYSIS OF THE GOODS STATION DISTRICT AND ITS WAREHOUSES

From the 1870s onwards, new warehouses and temporary timber sheds were erected in the port area and in the goods station district. The continuing economic expansion of the port and the shortage of accommodation in the city left their mark on the goods station district. Although the first houses in the district were built in 1869-70, the construction of buildings sped up only 20 years later.¹¹ Thanks to the almanacs it is possible to locate the already constructed buildings in 1888 and 1900 and to analyse the evolution and the character of the district.¹² (fig. 2) An additional study of the almanacs until 1960¹³, with a ten years interval, proves that the overall character remains unchanged. The shape of the parcels is derived from a cadastral map that dates between 1903 and 1911.

The two maps show clearly how the building activity progressed from the surrounding streets towards the centre, as can be seen on figure 2. Also, the building activity moved from the street corners, usually occupied by pubs, towards the middle of the streets. The port and the goods station were situated at the northern border of the district. Logically, there was a concentration of warehouses and pubs for the dockers in the Ellermanstraat, in front of the goods station. In the East, an already existing residential neighbourhood stimulated the implantation of taverns, shops, residences and working-class houses in the Lange Dijkstraat. This was also the case for the southern border, which is situated next to a square. The port's proximity was not only reflected by the warehouses at the northern area, but equally by the constructions of nations¹⁴ and by the population of the district, such as dockers, warehouse workers, commercial representatives, captains and sailors. From 1900 onwards the almanacs also mention the presence of many brothels.

The construction of houses in the southern area progressed at a much lower pace than in the other areas, though the parcels in the neighbourhood of the Leien were overall very attractive for the upper classes.¹⁵ The slower pace was also noticeable inside the district where since the 1870s almost exclusively large scale warehouses and nations were erected. It was commonly known that warehouse owners neglected legal and administrative directives, as well as regulations on hazardous and polluting industries.¹⁶ Because of fire hazard, noise and odour nuisance, urban nuisance and littering, new residents established themselves at the borders of the district. Only dockers' taverns located themselves inside the district on the street corners. Once the parcels at the edge were saturated, the ever-increasing population moved to the available space inside the district. Eventually by 1910, most of the parcels in the district were occupied. The presence of the port and the goods station, and consequently of warehouses and nations, completely determined the structure and the social fabric of the district.

HISTORICAL DEVELOPMENT OF WAREHOUSES IN THE GOODS STATION DISTRICT

Between 1870 and 1930, at least 32 warehouses were built in the goods station district, of which five were demolished. This paper analyses 17 still existing warehouses that are located at the street side. (fig. 3) Further research will have to deal with the remaining ten smaller warehouses, all built between 1900 and 1930 and located inside building blocks behind the owners' house or office.¹⁷

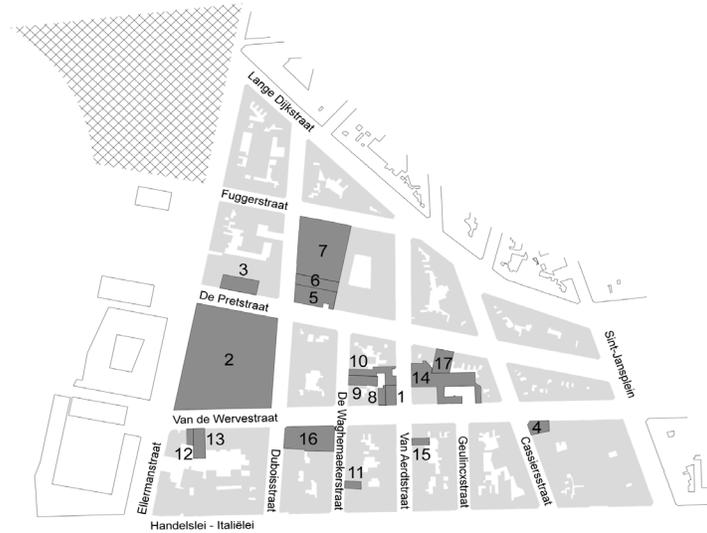
The new district near the port and near the new goods station was very attractive for nations and traders who constructed large scale warehouses in the area. *Katoen Natie* was the first nation that expanded beyond the old city area. In 1869 the company bought a piece of land right in the centre of the goods station district.¹⁸ Afterwards more nations settled down in the district.¹⁹ Also traders moved to the new district, like *Osterrieth & C°*, a German business family who built a large one-storey warehouse at the Ellermanstraat (1870s, demolished in 1910s) and three large warehouses Alfred (1881), Catharina (later Paolo, 1881) and Ernest (1881).



FIGURE 2 The goods station district has a mixed residential and industrial character: 1888, below: 1900.

Many nations and traders divided their warehouses in smaller entities to be rented to different tenants. The stored goods in the station district were divers. Many warehouses stored flammable goods such as coal, leather, animal skins, horns, wool, copal, rubber, gum and naphtha, as well as straw and hay. Some also stored grains, seeds and legumes. Brussels' warehouses built in the 19th and 20th century often had specific characteristics depending on the materials that needed to be stored.²⁰ This has not yet been observed in this Antwerp's district. The handling companies did specialise in specific goods²¹ and rented to tenants of the same sector, although they also rented their warehouses for the storage of other kind of goods. As opposed to the Brussels' warehouses, Antwerp's warehouses had multifunctional constructions suitable for a wide range of goods.

Because of the abundant availability of building surface in this district, not only big, multi-level warehouses were built, but also lower premises that could be upscaled afterwards. The most impressive example of this is the Magasins Argentins²² at the Ellermanstraat, a one level building that covers an entire parcel of 9000 m². (fig. 4) It was possibly built during the French-German war of 1870-71 and rebuilt in 1946 after being bombed during the Second World War. For nine of the 16 warehouses, the goods were lifted inside the building by a pulley on the façade, sometimes with a protective hood. The pulleys of three of these warehouses have been preserved.²³ The other warehouses had a hoisting shaft behind their façade through which the goods were moved.



1 1869 Headquarters Katoen Natie 31, Van de Wervestraat



2 1870s Magasins Argentins, Société Anonyme des Magasins Argentins



3 1870 Magazijn Elsen AJA Elsen, 5, De Pretstraat



4 1873 Headquarters Tabaknatie 66, Van de Wervestraat



5 1881 Magazijn Alfred Osterrieth & C° 50, Duboisstraat



6 1881 Magazijn Paolo Osterrieth & C° 46, Duboisstraat



7 1881 Magazijn Ernest Osterrieth & C° 11, De Pretstraat



8 1885 Graanmagazijn Private trader 51, Van de Wervestraat



9/10 1893 Magazijn La Nationale and other, Katoen Natie 36, De Waghemaekerstraat



11 1894 Headquarters Oude Buildragersnatie 8, De Waghemaekerstraat



12/13 1898 and 1908 Warehouses Private traders 4-6, Van de Wervestraat



14 1902 Headquarters Kraannatie 57-67, Van de Wervestraat 20-24



14 1903 Warehouse Private trader 22, Van Aerdstraat



16 1906 Headquarters Valkeniersnatie



17 1929 Boerenbond Between 34 and 36, De Pretstraat

FIGURE 3 Overview of the seventeen most significant warehouses and nations in the goods station district

Warehouses often have a simple facade in red brick with large gates and a strict rhythm of windows, only being interrupted by goods doors if the goods were brought in through the façade. The ratio windows-wall is very low to protect the goods and since light wasn't necessary to store them. By the end of the 19th century, as for civil architecture²⁴, the latest architectural styles were often applied for the facades of the warehouses to increase their prestige. This was also the case in this district. There are warehouses²⁵ in eclectic style and neo-classical style, and in the traditional neo Flemish Renaissance style with alternating layers of brick and sandstone with decorative wall anchors. It were mostly nations that opted to do so, but also Osterrieth & C^o carried out two of its warehouses facades in the latest styles. Finally, the Boerenbond warehouse has a sober art deco facade. The construction of the warehouses changed significantly during the second half of the 19th and the beginning of the 20th century. Also here, we trace back the general evolution from timber frames over iron and steel towards reinforced concrete frames. The Mariano & C^o warehouse (1872) is for example built up with cast iron columns. The last timber-framed warehouse, in the Kraannatie, dates from 1903.²⁶ Although two early building permits (1900) were found in the archives for the construction of coal warehouses in reinforced concrete, situated between the Dubois- and Ellermanstraat, it is unclear whether these warehouses were actually built.²⁷ The oldest still existing reinforced concrete warehouse, for the Boerenbond, dates back from a later period, namely 1929. It is also the last large warehouse that was built in the district.²⁸ During the twentieth century fire destroyed two warehouses and the Magasins Argentins were destroyed by V1 flying bombs in 1944.²⁹ All three were rebuilt with reinforced concrete structures.

In a report from 1874 on the fire safety of industrial buildings, Magasins Argentines is praised for the fact that it was completely isolated in relation to the surrounding buildings.³⁰ Also the one-storey warehouse of Osterrieth & C° (demolished) was separated from the building block by a street. Osterrieth did the same for Magazijn Alfred and Paolo, separated from the surrounding buildings by a covered passageway for loading and unloading.³¹ Many warehouses that stored flammable and/or hazardous goods had to implement specific regulations.³² Besides fire hazard, there could also be noise and odour nuisance.³³

At the end of the 20th century, the character of the district changed dramatically. The port had moved again northwards as a consequence of the increase of production and the technical developments in the shipping industry. The majority of the nations and traders left the district, other reorganised their activities and concentrated their offices in the district.³⁴ The district was hit by social unrest and deprivation as a consequence of the lack of socioeconomic opportunities. Still, already in the 1990s some warehouses as Magazijn Elsen, Alfred and Paolo were re-purposed by forward-thinking entrepreneurs.

CURRENT AND FUTURE REVALUATION OF URBAN ANTWERP WAREHOUSES

In the 1970s and 80s, almost every European city had to deal with the effects of urban flight and the upscaling of economy.³⁵ The European Union began to pay attention to the problems in the cities and the Belgian and Flemish government quickly followed and invest in urban development programs. Many plans and projects were elaborated and integrated into the Strategisch Ruimtelijk Structuurplan Antwerpen (strategic master plan Antwerp) in 2006. The government focused on the redevelopment of five areas, of which two are relevant for this paper: 't Eilandje, the neighbourhood of the oldest docks, consisted of abandoned warehouses in poor condition. In 2002 a new master plan was developed and today it is an attractive area with the museum MAS (2010, Neutelings Riedijk), restaurants, apartment buildings and expensive warehouse lofts. The second redevelopment project Park Spoor Noord (finalized in 2009) foresaw a park with space for community and city events on the grounds of the former goods station, which was closed in 2000 and demolished. Today the Artesis Plantijn University College, Customs and Excise of Antwerp and some apartment buildings occupy parts of the site. Both 't Eilandje and Park Spoor Noord have been important first stimuli for the redevelopment of the former goods station district, leading to the improvement of the socioeconomic situation.

In 2012, the City of Antwerp published the Ruimtelijk Uitvoeringsplan 2060 for Antwerp-North. This plan identifies the needs and shortcomings of the area. The RUP specifically mentions that the warehouses, which are concentrated near the former goods station, are part of the identity of Antwerp-North, colouring the urban fabric of this unique part of the city.³⁶ However, since this area came under the attention of project developers, the larger buildings and the buildings in the inner blocks are at risk to be torn down or irreversibly changed. Nevertheless the report offers a legal basis for the government to prevent building promoters from demolishing warehouses with heritage value (inside the building blocks).³⁷ The question rises whether all valuable warehouses in this district are listed. This research shows that at least two warehouses with heritage value in the goods station district are wrongly not on the list: the Magasins Argentins (1870s) and the Oude Buildragersnatie (1894). The importance of the first can be found back throughout this paper. The second one is a small warehouse and although the nation never expanded, it still survived the 21th century. Its façade with pulley has been left untouched, as has been its interior with all the original equipment. Until today it houses the administrative headquarters of the nation.



FIGURE 4 The RUP 2060 sets strong guidelines for the further development of the district

The impact of the RUP 2060 on the still existing warehouses is analysed to foresee which problems can occur with respect to the safeguarding of the warehouses and their specific characteristics. RUP 2060 focuses on five main principles: stressing the residential character of Antwerp-North and the necessity of a variety of housing typologies, defining strategic commercial axes, taking measures to increase green space, stimulating entrepreneurship and pinpointing project areas for strategic impulses.

The residential function of the neighbourhood, the first main principle, is not necessarily a problem for the warehouses, as long as their characteristics are respected and their new function is not dominant. Magazijn Elsen and Paolo are successfully reconverted into lofts and offices. The open floor plans of the warehouses are largely preserved and the structure is left uncovered. However the program of small apartments and an aparthotel does not enable to maintenance of the warehouse characteristics. The warehouses contribute to the creation of a variety of housing typologies but cannot house all typologies successfully.

The second principle is the limitation of trade and catering to some commercial axes and to corners of the building blocks, thus supporting the local economy without putting pressure on the residential character of the area.³⁸ Restoring the public functions, mostly taverns, in the buildings on the street corners would partly bring back the historical atmosphere of the old goods district. The Italiëlei will become a main commercial axis, the Sint-Jansplein a secondary axis and the Van de Wervestraat –with many warehouses– and the Lange Dijkstraat tertiary axes. This will put the warehouses back into the spotlights, but also bring them under the attention of project developers. Although most warehouses have already been given new, mostly fitting functions, this does not ensure their safeguarding. An exemplary reversion by architects Robbrecht and Daem in 1991-2001 concerns all the buildings of Katoen Natie in the Van de Wervestraat: the Valkeniersnatie, Katoen Natie, De National, Boerenbond warehouse and the warehouse next to it. The intention was to boost the neighbourhood and also to stress the importance of Katoen Natie. With respect for the industrial character, but without being afraid to make drastic changes like breaking down walls and floors, they included restaurants, shops, offices, conference rooms, apartments and a museum for textile in the different buildings.³⁹ The already existing internal street in the Valkeniersnatie not only provides daylight, but is also a public area as can be seen on figure 5.



FIGURE 5 Inner street of the Valkeniersnatie was made public by architects Robbrecht and Daem. Spaces for restaurants and shops are foreseen on ground level.

This last example illustrates how public space can be created and refers to the third principle: how to decrease the density of built space and to increase green space in the public areas and in the building blocks.⁴⁰ The RUP points its finger to the many extensions, storage places and warehouses that were built inside the building blocks. It proposes to buy and to demolish some problematic buildings and to divide the ground into private gardens. Whether or not to demolish a warehouse depends on the living quality of the surrounding houses and the heritage value of the warehouse. This creates a legal basis to prevent real estate developers from demolishing valuable warehouses.

In the fourth principle, the RUP states the importance of entrepreneurship for Antwerp-North: “it is useful that shops, warehouses and ateliers may still exist. [...] They provide jobs, generate a lively neighbourhood during the day and ensure that 2060 does not become a sleeping district”. In the past decades, young and creative entrepreneurs did find their way to the district. In 1989 a warehouse became an art studio with storage space for electronic devices. The reconversion needed minimal interventions, proving the warehouse to be a perfect venue. Other warehouses were converted into offices. In Magazijn Alfred, patios were inserted on the upper level. In order to bring daylight into the offices, a floor segment parallel to the façade was removed on all levels. An exceptional situation is that of the Oude Buildragersnatie and the Tabaksnatie, which still have their original function.

Finally, the RUP states that a new project for Magasins Argentins can be an impulse for the neighbourhood. The government has accepted none of the proposed projects so far. The importance of this warehouse must be stressed. A public, social and cultural function, which are still very much missing in this area, may put this warehouse back in the spotlights.

Indeed, although it was not included in the principles, RUP 2060 mentions that community facilities are missing. The warehouses with their open spaces are ideal venues for amongst others community houses, cultural or youth centres. Like the initial warehouses, the converted buildings offer the opportunity to be the centre of all activities in the neighbourhood.

CONCLUSION

The goods station district was once dominated by warehouses that were built by nations and private traders after the city expansion in the 1860s-70s. The evolution of the urban fabric was influenced by the predominant presence of the warehouses that were a constant burden for the surrounding houses, although they also filled the streets with their lively activity. At the end of the 20th century, the warehouses and nations moved further northwards, though some are still present in the district today. The residential function of the district became predominant. Recently, the district comes slowly back to life thanks to new redevelopment projects in its neighbourhood and the strong guidelines of the RUP 2060. The large open spaces of the warehouses are ideal to house missing community functions and also for new creative entrepreneurship. Although *Monumenten & Landschappen* must approve redevelopment projects of listed warehouses, additional research is necessary to identify the influence of the reconversion on the warehouse’s heritage value.

The revitalisation of the goods station district in Antwerp is not an isolated case. In the past decades, port cities around the world had to adopt waterfront revitalisation projects to deal with similar problems. As Hein states, all port cities had to fulfil the same functions to be part of the global network of port cities and international trade. In different port cities, many of these requirements are expressed in the realisation of similar districts and buildings (e.g. warehouses), though all were also influenced and shaped by their local context.⁴¹ The case of the goods station district offers an additional interesting perspective on districts that were not solely port districts, but at the same time an intermediate zone between the port and the station, entangled in the urban fabric of the city. The methodological and historiographical approach used in this case study may be an example of how to deal with once prosperous districts that were neglected at the end of the twentieth century.

Acknowledgements

This study received financial support from the Flanders Fund for Scientific Research (FWO).

Disclosure Statement

No potential conflict of interest was reported by the author.

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Bibliography

- Apostel, Katrijn. "Toelichtingsnota RUP 2060 Antwerpen". Stad Antwerpen, 2012.
- Bertels, Inge and Martens, Pieter. "Defunct defences: Antwerp's sixteenth-century fortifications." *Future Anterior, Journal of Historic Preservation History, Theory and Criticism*, III/2 (2006): 45-53.
- Bertels, Inge and Van Goethem, Herman. "Vergankelijke stedelijke ruimte" In *Antwerpen versterkt, De Spaanse Omwalling vanaf haar bouw in 1542 tot haar afbraak in 1870*, edited by Piet Lombaerde, 118-145. Antwerp: University Press Antwerp, 2009.
- Bertels, Inge; Bisschops, Tim and Blondé, Bruno. "Stadslandschap" In *Antwerpen, Biografie van een stad*, edited by Inge Bertels, Bert De Munck and Herman Van Goethem, 11-66. Antwerp: Meulenhoff/Manteau, 2010.
- City of Antwerp. *Risques commerciaux & industriels. Rapport sur les Magasins, Entrepôts et Risques Industriels de la Ville d'Anvers*. Antwerp: Ratinckx Frères, 1874.
- Devos, Greta. *Katoen natie 150 jaar (deel 1). Over kukhaken, pirrewitjes en natiepaarden*. Tiel: Lannoo, 2003.
- De Fossé, Marianne; Bertels, Inge; Vandenabeele, Louis and Wouters, Ine. "Understanding historical urban warehouses in Brussels: the architecture and construction of hay, timber, beer and textile warehouses." Paper presented at the TICCIH Congress 2015: Industrial Heritage in the 21st Century, New Challenges, Lille, September 6-11, 2015.
- Gils, Robert. "De Spaanse omwalling en de vesting Antwerpen" In *Antwerpen versterkt, De Spaanse Omwalling vanaf haar bouw in 1542 tot haar afbraak in 1870*, edited by Piet Lombaerde, 92-117. Antwerpen: University Press Antwerp, 2009.
- Hein, Carola. "Port Cityscapes: A networked analysis of the built environment." In *Port Cities: Dynamic Landscapes and Global Networks*, edited by Carola Hein, 2-10. London: Routledge, 2011.
- Himler, Albert. "Stapelhuizen en opslagplaatsen" In *Industriële revoluties in de provincie Antwerpen*, edited by Roland Baetens, 341-358. Antwerp: Standaard, 1984.
- Lorquet, Alix. *Stadsontwikkeling in Antwerpen*. Stad Antwerpen, 2012. http://www.ruimtelijkstructuurplanantwerpen.be/downloads/StadA_Stadsontwikk_DIGITAAL_DEF.pdf
- Plomteux, Greet and Steyaert, Rita. *Inventaris van het cultuurbezit in België, Architectuur, Stad Antwerpen, Bouwen door de eeuwen heen in Vlaanderen 3NB*. Brussel: Brepols, 1989.
- Plomteux, Greet and Steyaert, Rita. *Inventaris van het cultuurbezit in België, Architectuur, Stad Antwerpen, Bouwen door de eeuwen heen in Vlaanderen 3NC*. Brussel: Brepols, 1989.
- Prims, Floris. *Geschiedenis van Antwerpen VIII: Nederlandse en Belgische periode 1814-1914*. Brussels: Uitgeverij Cultuur en Beschaving, 1985.
- Thijs, Alfons. "Pakhuizen te Antwerpen in 1874, Een Balans van 100 Jaar." *Antwerpen, Tijdschrift van de Stad Antwerpen* 21, no. 1 (1975): 16-25.
- Vloeberghs, Guy. "De Antwerpse stadsuitbreidingen van eind 15de eeuw tot W.O.II. Ruimtelijke ontwikkelingen en hun maatschappelijke achtergronden." PhD diss., Nationaal instituut voor Bouwkunst en Stedenbouw, Afdeling Stedenbouw en Ruimtelijke Planning, 1986.

Image Sources

- Figure 1: Felix Archives, Digital Archive, Van de Kerckhove & Tessaro, 1868 [12 # 4197].
- Figure 2: Author
- Figure 3: Author
- Figure 4: Author
- Figure 5: Author

Endnotes

- 1 Katrijn Apostel. "Toelichtingsnota RUP 2060 Antwerpen", Stad Antwerpen, 2012.
- 2 Agentschap Onroerend Erfgoed. "Inventaris onroerend erfgoed." <http://inventaris.onroerenderfgoed.be>
- 3 Thijs Alfons, "Pakhuizen Te Antwerpen in 1874, Een Balans van 100 Jaar," in *Antwerpen, Tijdschrift van de Stad Antwerpen* 21, no. 1 (1975): 16-25. Albert Himler, "Stapelhuizen en opslagplaatsen," in *Industriële revoluties in de provincie Antwerpen*, ed. Roland Baetens (Antwerp: Standaard, 1984), 341-358.
- 4 Inge Bertels, Tim Bisschops and Bruno Blondé, "Stadslandschap," in *Antwerpen, Biografie van een stad*, ed. Inge Bertels, Bert De Munck and Herman Van Goethem (Antwerp: Meulenhoff/Manteau, 2010), 38-39.
- 5 Himler, "Stapelhuizen," 341.

- 6 Inge Bertels and Pieter Martens, "Defunct defences: Antwerp's sixteenth-century fortifications", *Future Anterior, Journal of Historic Preservation History, Theory and Criticism*, III/2 (2006): 49.
- 7 Vloerberghs, "De Antwerpse stadsuitbreidingen," 106.
- 8 Robert Gils, "De Spaanse omwalling en de vesting Antwerpen," in *Antwerpen versterkt, De Spaanse Omwalling vanaf haar bouw in 1542 tot haar afbraak in 1870*, ed. Piet Lombaerde (Antwerp: University Press Antwerp, 2009), p116.
- 9 Inge Bertels and Herman Van Goethem, "Vergankelijke stedelijke ruimte," in *Antwerpen versterkt, De Spaanse Omwalling vanaf haar bouw in 1542 tot haar afbraak in 1870*, ed. Piet Lombaerde (Antwerp: University Press Antwerp, 2009), p128.
- 10 Guy Vloerberghs, "De Antwerpse stadsuitbreidingen van eind 15de eeuw tot W.O.II. Ruimtelijke ontwikkelingen en hun maatschappelijke achtergronden" (PhD diss., Nationaal instituut voor Bouwkunst en Stedenbouw, Afdeling Stedenbouw en Ruimtelijke Planning, 1986), 129.
- 11 Based on the analysis of the number of building and environmental permits that were found for the district in the Felix Archives.
- 12 Almanacs are historical address books, published every one to three years, that provide for each building the name of the owner and its occupation or the function of the building. The first almanac that was analysed dates from 1888, when they started to order the address books by street instead of by the name of the owner.
- 13 After 1960, the professions of the owners and the functions of the buildings were not included anymore in the address books.
- 14 Nation is the Antwerp slang for a handling company. In this paper nation and handling company are exchangeable. Nations were responsible with their workers for the transport of goods from the harbour to the warehouses and vice versa. They also weigh, measure, treat and store the goods. Before 1870, they were all located inside the 16th-century city walls. Greta Devos, *Katoen Natie 150 jaar (deel 1). Over kukhaken, pirre-witjes en natiepaarden* (Tielt : Lannoo, 2003), 61.
- 15 The address book of 1888 says that only 23 of the 123 parcels on the Handelslei, located between the goods station and the Sint-Jansplein, were built. All the other 132 parcels on the Handelslei further away from the harbour were already built.
- 16 Devos, *Katoen Natie*, 73.
- 17 Amongst others: house of A. Eeckhout with warehouse on 9, Van Aerdtstraat and house of Smulders with warehouse on 52-54, Ellermanstraat. Respectively Building Permits 1904#2178 and 1928#31771, Felix Archive, Antwerp.
- 18 Building Permit 1869#554, 1869, Felix Archive, Antwerp.
- 19 Houtnatie nr. 1 (1874), Gistnatie (1885), Nieuwe Werknatie (1892), Noord Natie (1903), Valkeniersnatie (1906), Tabaknatie (1926), Toekomst Natie (1930s) and Graanhandel Natie (1930s).
- 20 Marianne De Fossé et al., "Understanding historical urban warehouses in Brussels: the architecture and construction of hay, timber, beer and textile warehouses" (paper presented at the TICCIH Congress 2015: Industrial Heritage in the 21st Century, New Challenges, Lille, September 6-11, 2015)
- 21 Katoen Natie specialised in the storage of wool, skins, rice and others. Despite its name, it by no means has a monopoly of cotton treatment. Devos, *Katoen Natie*, 65.
- 22 Year of construction is unknown. City of Antwerp, *Risques commerciaux & industriels. Rapport sur les Magasins, Entrepôts et Risques Industriels de la Ville d'Anvers* (Antwerp: Ratinckx Frères, 1874), 107.
- 23 The warehouse on 36 De Waghemaekerstraat (1893), Oude Buildragersnatie (1894) and Kraannatie (1902).
- 24 G. Plomteux and R. Steyaert, *Inventaris van het cultuurbezit in België, Architectuur, Stad Antwerpen, Bouwen door de eeuwen heen in Vlaanderen 3NC* (Brussel: Brepols, 1989), XXXII.
- 25 Only three architects of the warehouses are known, all with an extensive repertoire of houses in different neo styles: Edmont Leclef (1842-1902), Eugène Dieltiens (1855-1949) and Frans Claes (unknown).
- 26 Building Permit 1902#1331, 1902, Felix Archive, Antwerp.
- 27 Building Permit 1900#1011, 1900, Felix Archive, Antwerp.
- 28 Building Permit 1928#31244 and 1929#34661, 1928 and 1929, Felix Archive, Antwerp.
- 29 Devos, *Katoen Natie*, 163.
- 30 City of Antwerp, *Risques commerciaux*, 107.
- 31 Fire insurance map of 1895. Aug. Gervais, *Brandverzekeringskaarten, Noorden van de stad en haven van Antwerpen (1/1250)*, 1895, Felix Archives, 12#9029.
- 32 Magazijn Elsen: Building Permit 1874 25#1393, 1874, Felix Archive, Antwerp. Valkeniersnatie: Building Permit 25#29840, 1925, Felix Archive, Antwerp. Etc.
- 33 Studies indicate that the city council often takes the side of the warehouse owners when inhabitants oppose the storage of certain goods. In 1924, for instance, the city council proclaims that the storage of dried skins in the Magazijn Elsen "... spread little odour. Furthermore the premise is situated in the industrial centre rather far away from all inhabited housing". Building Permit 3315#320, 1924, Felix Archive, Antwerp.
- 34 Katoen Natie, Oude Buildragersnatie, Tabaknatie and Graanhandel Natie are still located in the good station district.
- 35 Alix Lorquet, *Stadsontwikkeling in Antwerpen*, (Stad Antwerpen, 2012), 11. http://www.ruimtelijkstructuurplanantwerpen.be/downloads/StadA_Stadsontwikk_DIGITAAL_DEF.pdf
- 36 Katrijn Apostel, *Toelichtingsnota RUP 2060*, 2012, p16.
- 37 Apostel, *Toelichtingsnota*, 17.
- 38 Apostel, *Toelichtingsnota*, 10.
- 39 Though it must be mentioned that a roof that could have been saved was replaced by a new roof structure. "Katoen Natie Headquarters," Robbrecht en Daem, accessed March 21, 2016, <http://www.robbrechtendaem.com/projects/offices-commercial/katoen-natie-headquarters>.
- 40 Each citizens of the goods station district only has 4 m² of green, private gardens and parks included. For Antwerp-North this is 10 m²/citizen, for the centre of Antwerp this is 35 m²/citizen. "Stad Antwerpen in Cijfers," Stad Antwerpen, accessed March 21, 2016, <https://stadincijfers.antwerpen.be>.
- 41 Carola Hein, "Port Cityscapes: A networked analysis of the built environment," in *Port Cities: Dynamic Landscapes and Global Networks*, ed. Carola Hein (London: Routledge, 2011), 2-10.