

Remnants of a pre-industrial past

Inventoring traces of the pre-industrial wood-processing industry in the Waterdriehoek



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Introduction

On the 6th of November 1299, Count Johannes I van Holland and Count Johannes van Avesnes granted Dordrecht staple rights. This meant that all goods that were transported over the rivers Merwede and Lek had to be offered on the market of Dordrecht first before they went anywhere else.¹ The favourable location of Dordrecht, at the intersection of the east-west trade route from the German Rhineland to England and the north-south trade route from the Hanseatic cities to Flanders, had already caused Dordrecht to establish itself as a trading city. The staple rights reinforced and secured this status.² Significant for Dordrecht was the trade of wine, grain, and wood.³ The latter had already started in 1287 when the first known report was made of a German wood raft flowing down the river to Dordrecht.⁴ This marked the beginning of Dordrecht as one of the most important Dutch centres of timber trade for more than six centuries.⁵

Wood transport and trading were clearly visible in Dordrecht. The rafts, which in the 18th century could reach three hundred meters in length and 45 meters in width, but were often smaller,⁶ were navigated by hundreds of workers.⁷ Having arrived in Dordrecht, the rafts were stored on the rivers for dismantling. The beams were then sent to 'balkengaten' - harbours for beams, literally translated to 'beam holes' - in Dordrecht and the Biesbosch to be stored and later traded.⁸ This whole affair must have been impressive, even in the past, as is evident from the large number of paintings in which this process is central.⁹ Almost thirty per cent of the wood was sold to clients in Rotterdam and approximately twenty per cent stayed in the region of Dordrecht.¹⁰ The wood transport and trading were nicely captured in an engraving by Bendorp in 1785, see Figure 1.

The wood-processing industry too, had a visible impact on Dordrecht and its surroundings. To be further processed, the beams were sawn, which was done with sawmills from about 1600 onwards. In 1730, 27 sawmills decorated the skyline of Dordrecht.¹¹ The sawn wood was then used to make various products, with shipyards as the most important client

1 Van Herwaarden et al., 1996, p. 80

2 Benschop et al., 2013, p. 12

3 Van Herwaarden et al., 1996, p. 82

4 Van Prooije, 2005

5 The importance of Dordrecht as wood trading centre fluctuated through time and was influenced by economic, political, and natural (changing course of rivers) circumstances. A detailed description of this process can be read in the articles by Van Prooije, 1992 and 2005.

6 Van Prooije, 2005

7 Benschop et al., 2013, p. 35

8 Frijhoff et al., 1998, p. 45

9 Many paintings of the transportation, storage, and dismantling of the wood rafts in Dordrecht can be found in the book 'Dordrecht 1650-1800' by Ten Veen (1992).

10 Van Prooije, 1992

11 Van Prooije, 1992



Figure 1. Commission agents from Dordrecht with their wives on their way to the wood rafts which are being dismantled. In the back, sawmills can be seen. From "Regionaal Archief Dordrecht," by K.F. Bendorp, 1795 (<https://beeldbank.regionaalarchiefdordrecht.nl/search/detail/id/72AF7B7FDC39A82C6A24A2B0102B9DA8/showbrowse>).

for the sawmillers.¹² The presence of wood in combination with the fishing and trading industries caused the shipbuilding industry to thrive in the surroundings of Dordrecht.¹³ The availability of wood was so important that some shipyards even had their own sawmill.¹⁴ Industries related to the shipbuilding industry, like shipbreakers, mast-, pulley-, rope-, and sailmakers, were active too.¹⁵ Industries not related to shipbuilding also used wood, including wainwrights, coopers, brush-, furniture-, hoop- and clog makers.¹⁶

Most of the companies in the latter industries were small, with an average of five employees around 1850.¹⁷ Often, simple furniture, brushes, hoops, and clogs were made at home, but larger workshops for traditional woodworking also existed at the end of the 19th century.¹⁸ The existence of the hoop- and basket makers in the area was a result of the osier beds in the surroundings.¹⁹ These were swampy fringes of rivers in which people planted willows. The coppice was used to produce hoops for barrels, baskets for storage, and it was even used by the wainwrights.²⁰

12 Müller, 1995, p. 4

13 Van Herwaarden et al., 1996, p. 196

14 Belder, 2005, p. 28

15 Kwast, 1919, p. 12

16 Müller, 1995, p. 6, 13, 15, 18, 19, 20, 26; Kooij & Sleebe, 2000, p. 26, 27

17 Müller, 1995, p. 3

18 Müller, 1995, p. 19

19 Müller, 1995, p. 26

20 Müller, 1995, p. 6

As a result of the Dutch Industrial Revolution, many industries changed radically. The shipbuilding industry changed from making wooden ships to composite ships (around 1870-1880) to iron ships (from around 1890). Before the Industrial Revolution, designs of certain ships could remain unchanged for generations,²¹ and shipyards remained the same for centuries as well.²² But during the Industrial Revolution, new techniques and materials were introduced, new types of ships were made, and the shipyards grew in size and layout.²³ The other wood-processing industries were modernised and mechanised later than the shipbuilding industry, for these industries were dominated by many small businesses²⁴ and the economic situation until 1890 did not lead to companies making large investments.²⁵ From 1890 onwards, the majority of small wood-processing businesses mechanised, which often resulted in a change or complete disappearance of a craft.²⁶

The Industrial Revolution did not mean, however, that Dordrecht completely lost its relationship with the wood-processing industry. Around 1900, timber was still traded on the yearly timber auctions, but the German wood had largely been replaced by wood of Norwegian, Russian, and American origin.²⁷ The wood was still being sawn in Dordrecht but with steam sawmills instead of wind-powered sawmills.²⁸ And the clients changed as well. Railway companies, for example, needed wooden railway sleepers to construct the Dutch railway network, a product of the Industrial Revolution.²⁹ The sleepers needed to be treated, to prevent quick deterioration in the open air. New processes, like the carbolineum-treating of the wood, led to the establishment of new companies. At least two carbolineum-treating companies were founded in Dordrecht: one by local entrepreneurs and one by a railway company.³⁰ Dordrecht continued to be a centre for wood trading and processing but in a completely different form.

21 Kuiper & Teunisse, 2000, p. 2.2

22 Krietemeijer, 1971, p. 10.4

23 Kuiper & Teunisse, 2000, p. 2.5

24 Müller, 1995, p. 36

25 Sprenger, 1993, p. 11

26 Müller, 1995, p. 15

27 Kooij & Sleebe, 2000, p. 48

28 Kooij & Sleebe, 2000, p. 45

29 Müller, 1995, p. 10

30 Kooij & Sleebe, 2000, p. 45

Problem statement

Many of the shipyards and buildings in which the pre-industrial wood-processing industry took place do not exist anymore, fading our memories and stories of that time. There are many reasons why buildings and sites of the pre-industrial wood-processing industry have disappeared.³¹ Firstly, the old properties sometimes were non-profitable and their existence prevented the growth of the businesses that owned them. This led to the company demolishing the old building to make way for a new one or the company relocated, after which new functions and buildings occupied the vacated site. Secondly, the municipality could also urge companies to move, to make way for new developments on the plots. Thirdly, the abundance of wood sometimes led to destructive fires, burning down the old buildings. Fourthly, dike reinforcements, which have occurred regularly in the area around Dordrecht, led to the demolition of several buildings which have housed the wood-processing industry.³² Other reasons, like lack of successors or bankruptcy, could also have been causes for the abandonment of shipyards and properties. Finally, 'balkengaten' were sometimes filled because their function was lost when tropical wood was imported, which did not need to be stored in water.³³

Inquiries with the province of South Holland, the National Cultural Heritage Agency (Rijksdienst voor het Cultureel Erfgoed: RCE), historical societies, and other institutions have shown that there is no inventory of what is left of the pre-industrial wood-processing industry in the area around Dordrecht. At the time of writing, it has been more than a decade ago that the province of South Holland started an initiative to explore the cultural heritage of the Waterdriehoek, the area around Dordrecht.³⁴ The study includes former industrial buildings and aims to protect, develop, and experience the cultural heritage. Since the wood-processing industry has played a significant role in the history of the area and the province wants to explore and utilise the remaining industrial heritage, an inventory of what is left of the wood-processing past is needed. That is why this research will be centred around the research question:

What are the physical remnants of the pre-industrial wood-processing industry in the Waterdriehoek?

31 The first three are discussed in Müller, 1995, p. 71, 72

32 An example of a building that had to make way for a dike reinforcement was the wainwright workshop in Zwijndrecht (De Jongh, 2018). Moreover, personal communication (October 20th, 2023) with the Historical Society of Sliedrecht has revealed that the only remaining industrial barns there were demolished during the dike reinforcement of 1994-2000.

33 Berger, 2001

34 The Waterdriehoek consists of three rivers and their shores in the province of South Holland: the Beneden Merwede, the Noord, and the Oude Maas next to Dordrecht.

The research will be split into two parts, one focusing on the landscape remnants and the other focusing on the architectural remnants of the wood-processing industry. More specifically, remnants of shipyards, balkengaten, harbours, or other structures which were initially made to store and process wood are possible findings for the landscape inventory. Sites that initially fulfilled another function and only later were used by the wood-processing industry, and historical activities which left no physical traces in the current landscape will not be inventoried. Moreover, this research will not include osier beds, because they have already been inventoried.³⁵ In short, the first subquestion is:

Which remnants did the pre-industrial wood-processing industry leave behind in the landscape of the Waterdriehoek?

The second part will focus on buildings that were used and/or made by the pre-industrial wood-processing industry. According to Müller (1995, p. 72), the buildings used in this industry were often made from wood themselves because “the resources were easily obtainable, the technological know-how present, and perhaps it played a role in showing the companies’ identity.”³⁶ To ease the search, this inventory will primarily focus on wooden pre-industrial buildings. If found, non-wooden buildings used by the pre-industrial wood-processing industry will also be included, as well as wooden buildings not used by the wood-processing industry, but which are a result of the presence of this industry. This broadening of the scope is foreseen to be needed because at first glance there do not seem to be many wooden buildings from this period anymore.³⁷ So, the second subquestion is:

Which buildings that are made for or are the result of the pre-industrial wood-processing industry are left in the Waterdriehoek?

Besides finding the remnants, the proposed research will also go into the history of them. The third and final subquestion will therefore be:

What were the inventoried sites and buildings used for and by whom were they used?

³⁵ Schepers, 1989

³⁶ Müller, 1995, p. 72

³⁷ Historical societies, through mail, and the inhabitants of the area, through local newspapers and a local radio appearance, have been consulted. Although many people have been reached, only two barns were found: one was demolished in 2015 and the other is from a company that started after the Industrial Revolution.

Research Methodology

The two different inventories require two slightly different research approaches. The buildings will be sought with the help of the local community, local experts, literature, and targeted field research. The local community has been asked to look for wooden buildings in their surroundings through local newspapers, their websites, and a local radio interview.³⁸ Until now, this method has led to one barn being found, which has unfortunately been demolished. More articles have been sent to other local newspapers, but they still need to be published. Local historical societies have also been consulted, which has resulted in finding information about other wooden barns, of which one remained. Shortly, a presentation will be given at a gathering with experts in the field of the Waterdriehoek, which will hopefully result in more data. Literature about the history of the villages in the area and the city of Dordrecht might result in finding some more properties. The study of the Monuments Inventory Project (Monumenten Inventarisatie Project: MIP) has resulted in finding one monumental wooden barn in Ridderkerk, and the study of the reports of the Industrial Heritage Project Office (Projectbureau Industrieel Erfgoed: PIE) has resulted in finding a demolished wooden building of a wainwright in Hardinxveld-Giessendam.³⁹ The final method is a targeted field research in the Waterdriehoek by bike, as biking allows for visual scanning for wooden buildings while covering larger distances relatively quickly. Old maps indicate where buildings were situated in the pre-industrial period. In the villages, the urban planning was characterised by ribbon development along dikes. These lines will be

³⁸ Multiple newspaper articles by Haitsma Mulier, 2023; RTV Papendrecht, 2023

³⁹ Müller, 1995, p. 72

Figure 2. Fieldwork route and areas of interest. Adapted from "Google Maps," by Google, n.d. (<https://www.google.com/maps/@51.8391321,4.6908472,19191m/data=!3m1!1e3?entry=ttu>). Copyright by Google.



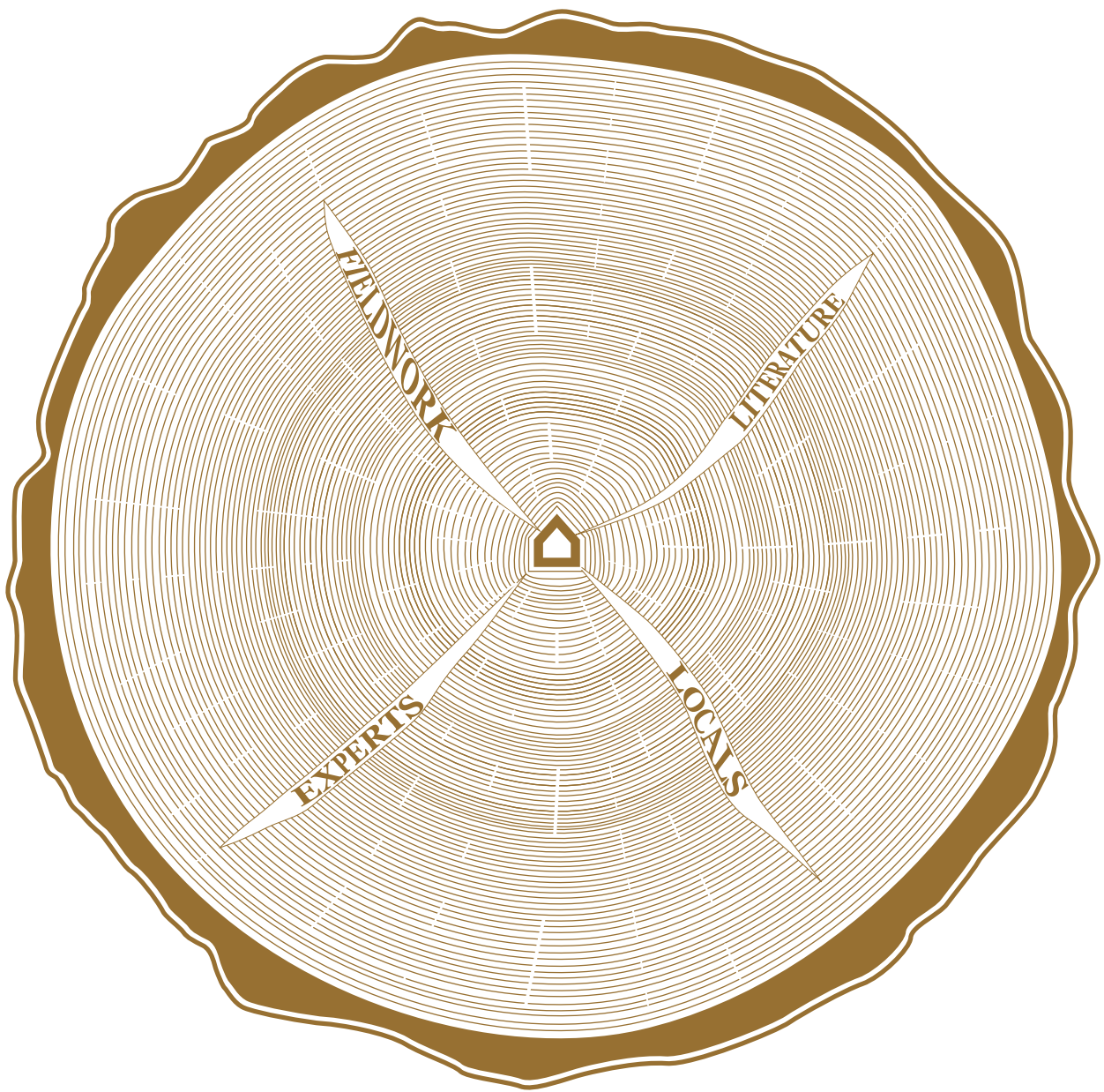


Figure 3. Research diagram for the building inventory. The cracks with the research methods and sources will guide me to the pre-industrial buildings related to the wood-processing industry in the Waterdriehoek.

followed during the fieldwork. But sometimes the quest will deviate from the lines because areas of former harbours, village centres, or former wood-processing centres need more exploration. In Dordrecht, the route follows both the shore and the 19th-century southern city border, since these are areas known to be used by the wood-processing industry.⁴⁰ The route including the lines and other areas of interest is shown in Figure 2. Figure 3 depicts the research diagram for this inventory. The cracks in the tree trunk will lead to the heart of the tree: pre-industrial buildings related to the wood-processing industry.

The inventory of landscape remnants requires an approach based on literature and maps. Books on historical shipyards in the Waterdriehoek will be studied to find descriptions and/or maps of former shipyards. Furthermore, old maps will be studied, with the help of an expert, to find locations of pre-industrial shipyards, balkengaten, and other landscape interventions connected to the wood-processing industry. Thereafter, contemporary

⁴⁰ Frijhoff et al., 1998, p. 48



Figure 4. Research diagram for the landscape inventory. Old maps will be compared to contemporary satellite imagery. When the puzzle fits, remnants are found. Baselayer from "Beeldmateriaal," 2022 (<https://opendata.beeldmateriaal.nl/pages/downloaden>). Puzzle map from *De Ouwe Werf* (1st ed., p. 29), by B. Belder, 2005, map made by J. M. van der Mall, 1842.

satellite imagery will be compared to the literature and maps to find the possible remnants. This comparison is visualised in Figure 4 as a puzzle combining old and new maps.

If not found during the inventory, historical information about the remnants could potentially be found in land registers, historical newspapers, and by asking locals, current owners, and historical societies.

The inventory of buildings related to the wood-processing industry brings forward the most ethical issues. The voluntary character of the participation of locals and historical societies means that the research should not solely rely on them. The research is therefore also based on multiple sources of literature which form the starting point of the inventory. The literature, however, consists of a preselection of information. Not all information is in the literature. That is why fieldwork is needed, to look for the primary sources in real life. The fieldwork poses its own ethical issues since it is only carried out along specific routes and in certain areas. The selection of sites may rule buildings out which are not in these sites, and

structures might be hidden behind other buildings as seen from the public road and thus be overlooked. While it is impossible to see all the buildings in the area, the route is based on historical maps, which reduces the chance of missing out on pre-industrial wooden buildings. A final ethical issue is a conflict of interest. One historical society already asked to stress the importance of a remaining wooden barn to prevent it from demolition. Other societies and locals might also have wishes. While their help aids the research, it may not influence the outcome of the research. Clear and honest correspondence to the helpers will set realistic expectations. However, their concerns can be expressed as such in the research.

The inventory of landscape remnants poses less ethical issues. The dependence on historical maps and literature could complicate the quest because the right sources might not exist or be found. Help from an expert on maps will reduce this risk.

Relevance

The results of this research will hopefully contribute to the larger research in the Waterdriehoek area that has been initiated by the province of South Holland. The inventory is needed to be able to increase the awareness of the inhabitants and visitors about the pre-industrial wood-processing history of the region. The trade and processing of wood once was one of the most important economic drivers of Dordrecht ⁴¹ and influenced the industry in the villages around it. The remnants make this history tangible and, if utilised correctly, support the transmission of this story. Moreover, the research will reveal why certain structures in the landscape, urban planning, and buildings are the way they are, helping future management and development of places.

The research will also contribute to the design that will be made for the entrance area of Kinderdijk as a graduation project. It will help understand the value of a wooden barn that stands in this entrance area. Is it unique? The research can introduce me to experts in the field of wooden structures, who can help me find out the value of the structure of the barn. This will influence the choices related to the conservation of the building and can inspire the redesign.

Word count: 2446

⁴¹ Ten Veen, 1992; Van Prooije, 1992

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