MASTER

Reining time
reusing Vlisco’s ketelhuis

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Reining Time
Reusing Vlisco’s Ketelhuis

Rik Verhalle

"Industrial Water Street"
Graduation Report
2nd March 2012
dr. tg. G.I. Curruli &
dr. tg. J.G. Wallis de Vries
Reining Time

Reusing Vlisco’s Ketelhuis

Rik Verhalle

Eindhoven, 21.03.2012
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## Reining Time

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Chapter 1.

Introduction
Approaching Vlisco
dealing with a graduation project

During the graduation project 'Industrial Water Street' many things have been researched, written and designed.
This report is a conclusion to all of those things.

The project 'Industrial Water Street' was close to being cancelled, since there were too few students to properly fill all the offered ateliers. 'industrial Water Streets' was due for postponement.
However, the other ateliers were for us, five students, falling short in terms of urbanism and theory.
We made the agreement that for teamwork on our side the project would still commence, with fewer students.
And now, at the beginning of this report and at the ending of our graduation I would sincerely like to thank dr. ir. G.I. Curulli and dr. ir. J. G. Wallis de Vries for their kindness and willingness to cooperate with us and for the inspiring meetings we have had.

Also I would like to thank my fellow students Dominique Geelen, Milou Piethaan, Myrthe Buijs and Cyriel Prinsen for the best graduation time I could have possibly asked for.

Rik Verhalle
To start doing research means reading about subjects you previously did not know enough about. 'Industrial heritage' in the case of 'Industrial Water Street'.

From the book 'The image of the city' by Kevin A. Lynch we had gotten the idea to research our place of interest, the canal zone of Helmond, by interviewing people and ask them to draw maps, based on their own vision on their city, Helmond. These maps were combined to one powerful map, a so-called Lynch map.

We then tried to get to know Helmond by ourselves by capturing the city vibes, each in a different manner. I wrote, for example, different texts about each location. These were combined into a network of description, photo's, stories and video's.

The next phase of the graduation was to get to know more about industrial heritage and the reuse of it.

Milan is a fantastic city for doing research on industrial heritage since it has been a very industrious city in the past. In current times the city has shifted more to an tertiary economy and many factories have been abandoned.

The trip included visits to Milan, Venice and Turin. Each of the cities showed us different approaches.

Based on literature and experiences in Italy a scheme was devised in which different possible strategies were brought back to three extremes: to renew, to restore and to refrain from anything.

Following were a set of motivations of why to start a reuse project in the first place (social, economical, aesthetical and historical reasons). Finally a combination of these two was captured in a third scheme, showing that some motivations lead to certain strategies.

With all five students we used our newfound knowledge of Helmond and industrial reuse to make a masterplan for the city. In it, a route alongside the canal is created that serves as a backbone to the city, connecting the most important zones of the city, including the textile producing company 'Vlisco' that will shrink in the future, leaving the city with several unused factory buildings.

Vlisco and the future vacant buildings became our focus during the second part of the graduation project.

During this design process, two colleague students and myself conceived a masterplan for the new Vlisco site within the idea of the masterplan for Helmond.

We then, also carefully each chose a building to redesign.
These designs for the chosen buildings are the most personal of the entire graduation project. Many things have been discussed and thought over together, especially the masterplan of Helmond and the masterplan of Vlisco.

In the book ‘Kanaalzones b5: Helmond’ a detailed report of our research on Helmond and the masterplan for the city can be found. We made this book together with students that did a master studio that focused on Helmond parallel to our project. The masterplan that was derived from the research will be treated in the chapter ‘Threading places’. Subsequently the masterplan for Vlisco can be found in the chapter ‘New Vlisco’.

The next chapters will deal with theory about patina and good use of public space previous to the design of the new Vlisco and the new Ketelhuis.
Research question

*the story continues*

Something peculiar struck me when I visited Milan. The factory behind the Fondazione Pomodoro was overgrown with ivy. It gave the otherwise not so special building a romantic look and it made me think of Aztec temples and Sleeping Beauty's castle. It was the kind of natural decoration of an ordinary place which made it one of the most enchanting places I saw during the entire week.

This notion made me wonder about ways to show the passing of time in a positive manner, which in turn will lead to the distinction of five specific forms of patina. These will be explained in the chapter 'Patina'. These five elements of remembrance are a tool to design buildings: buildings that already have stories to tell or those that will tell their stories in the future will benefit greatly from this tool. It is important to continue to tell these stories to maintain or create meaningful spaces.

So how can this 'tool' be used? How can these stories be continued, and not slip into historical oblivion? In other words: How can a meaningful connection between the past and the current situation of a building be established with the help of patina?

An architect could ask himself this before starting a reuse project or even a 'normal' project since patina does not only matter to buildings that 'have been' but also to the buildings that 'will be'.

To answer the question for myself, I took on the study case of Helmond, the Ketcuis in the Vlisco area to be specific. It is a wonderful, mysterious building in the heart of the Vlisco site where I tried to recapture some elements of the past in different ways, but always having its future use in mind.
fig. 1.1 The life and death of a building.
The province of Noord-Brabant, in the Netherlands, plays an important role in the Dutch economy. The five biggest cities have undertaken a communal project, forming a network city called 'Brabantstad'. The biggest cities of Noord-Brabant partake in this project: 's-Hertogenbosch, Tilburg, Breda and of course Eindhoven. But the smallest of the five, Helmond, is often overlooked, even though it has almost 90,000 inhabitants and has a surface of more than 50 km². Its history is one of survival and hard labour. The castle (fig. 1.2), which many in Helmond see as the most prestigious building of the city has been neglected, torn down, rebuilt and occupied for several times in the past centuries.

The main products of Helmond through the ages have been textiles and metal crafts. However, other cities, such as Haarlem, always outshone Helmond at producing top quality fabrics. Since the beginning of the industrial era Raymakers and Vlisco have been leading companies in Helmond textiles. Both are still active in producing textiles. The city has grown much since.

Helmond since long has had a negative reputation. The textiles that were produced there were brought to Haarlem, because Helmond was looked down upon in comparison to other textile oriented cities. In present times, people from other cities, or from Helmond itself too (fig 1.4), describe the city as a place where you would rather not stay. It is a place inhabited by riff-raff.

The odd thing is that together with Eindhoven, the city is part of the smartest region in the world, the so-called 'Brainport'. The High Tech Automotive Campus (HTACampus) and the planned Food technology Park are responsible for this merit.

Eindhoven gets appraised for the success of Brainport, Helmond however, does not succeed to step into the same spotlight.

1 www.brainport.nl visited on 01-02-2012
fig. 1.2 The castle of Helmond

fig. 1.3 The canal, an industrial remainder

fig. 1.4 Men hanging out in the city centre
Fabric and factories

West African haute couture from Helmond

Helmond was known for producing different textiles: sheets, cloths and table linen.\(^1\)
One of these factories was Vlisco (fig. 1.5), established in 1846. It grew large in the years to come.
Later, Vlisco, adapted to a changing situation and shifted to producing textile more suitable for the West African market for countries such as Togo and Côte d'Ivoire.
The company uses a wax colouring technique (fig. 1.6) to create beautiful exotic prints (fig. 1.7) that are in wildly in demand in West Africa.

The fabric and wax rolls each have their own production route over the terrain of Vlisco. The wax rolls are made of copper with patterns carefully etched into them. The wax is applied to the protruding patterns only. When new prints are being developed, the copper rolls can be recycled.
The fabric is stored until it is ready to be used. The textiles are first bleached until they become crisp white. They move to another section of Vlisco where the wax is applied.
The parts without applied wax are dyed and are left to dry. This process is repeated until the fabric is finished.
Usually more than one layer of colour is applied. When the textile prints are finished they are ready to be cut, wrapped and sent to Africa.

The designs and prints are treated as top secret, because rival companies are always looming to steal away new motives and designs.
The fabrics of Vlisco are worn by the most famous and most prestigious West Africans and can be compared to a ‘Dior’ or ‘Versace’. The important difference between the two is that Vlisco only produces the textiles and not the clothes. African buyers often have their dresses or cloths handmade by a personal tailor.

In Helmond, however, Vlisco is not seen as something to be proud of by most.\(^2\) It is known for a rather impenetrable wall around the factory. It is known for the smells and for the pollution it produces.
When asking people about the factory they cannot exactly say where and how big Vlisco is. Many people have said during the interviews\(^3\) that they would not mind seeing Vlisco being demolished. Vlisco remains ambiguous in place, shape and products as well.
For safety reasons they ward off all intrusion so a look inside is rare.
Even the Vlisco shop is difficult to reach and only people who have heard of it could come there if they wanted. The relation with the city becomes lost.

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Fig. 1.5 Logo of Vlisco

Fig. 1.6 Copper rolls for wax printing

Fig. 1.7 Vlisco textile
Ketelhuis

reheating the kettles

The Ketelhuis (Boiler House) is a unique building in the midst of the Vlisco factory area. With the front part being built in 1913 and the later add-ons in respectively 1927 and 1937 its unique features survived for almost a whole century thus far.

Its function to the factory terrain was like a heart to the body; pumping the factory’s most vital fluids and gasses to all Vlisco buildings. To do so, many tubes and pipes have been built over the years, all stemming from the Ketelhuis.

Vlisco has always been an enclosed enclave in Helmond. Walls and high buildings on the borders are the proof of this attitude. In this enclave the Ketelhuis takes in a different position. Through decorated facades and its visibility in the entire industrial zone, it so strikingly stands out at the centre of Vlisco.
chapter 2.
Theory
“Patina is everything that happens to a building over the course of time. The small cracks in the window, the walls on which graffiti has been applied, the trails of rust of an iron nail, the greyed wood, the oxidized metals. All these things add up to create a softer look, subtle color changes, a character. Patina is built from all the effects, natural and man/made, that create that weathered look on old buildings.”¹

In the essay ‘Sleeping Beauties’ old, forgotten buildings are depicted as sleeping and architectural reuse can wake them. This should be done gently in order not to kill the beauty of the old building. Patina, or aesthetical decay, can be a tool to do this. Patina cannot be fake or reproduced, therefore patina is a proof of authenticity. Once patina is removed it is lost forever. The main ingredient of patina must surely be time.

Patina can be afflicted either by man or by natural effects. The change of the colour of wood to a certain shade of grey, when hit by rain and sunlight, will take years. Traces of shadow are also quite visible then, because the deeper shade of brown will tell. Scratches on the walls next to the light switches or drawings on exterior walls are typical done by people.

But it takes time in order to see the remnants of use. The soft scratches on a floor, walls, window frames are patina made by man. Before the graffiti artist feels sure enough to clad a building with his tag some time passes as well. If the building is not deserted or left, then the building would be cleaned in some way or another.

The goal of displaying patina when using it for architectural designs, is to make people aware of the time that has gone by. Visitors, inhabitants or passersby can see that a typical reused building is not a young girl but a lady that has aged with grace.

Patina tells stories of places, of people and of events past. Is it a coincidence that we often cherish old buildings? The most loved buildings in Amsterdam are the old houses on the ‘grachten’. The location is not the only reason that these houses are loved so. There are plenty new houses on the ‘grachten’ that are better insulated and which are far better equipped for twenty-first century living than the seventeenth century houses next door. The antique houses are popular because of the history of which the building speaks: “Here once lived a wealthy merchant.” and: “this room is where the ladies drank imported tea from the colonies”.

Even the old construction can tell a story. Large wooden beams tell that

¹
the building was made in a time in which concrete was not yet available. Such things can feel outdated but can set the atmosphere of a space.

In the essay I discuss five different categories of patina, each of these categories can help telling the story of a building in their particular manner. These categories are: Ruinous marks, Artefacts, Natural Forces, Art & Graffiti and finally Nostalgia, which will be explained hereafter. Also, further in this report, a chapter will be dedicated to the patinous design of the new Ketelhuis.

The division in five categories was not only necessary to separate different narrative elements of time but also to broaden and pin down the definition of patina in a more structured manner. The word patina is used in different fields of expertise, such as chemistry where it only refers to oxidised metal, antiques, history and architecture. The new definition of patina that makes use of the five different types is not only valid within the field of architecture but here I will only focus on the application at these notions to architecture.

Patina can be used by architects and designers. Thinking about how something will age and how it will look, feel or smell after ten years of use might seem far fetched to some architects. My aim of suggesting designing with patina is creating places where people can wonder, explore and feel a history. This can make you wonder about times past or other things. It can evoke a certain feeling of nostalgia, and should be guided by the designers that are reusing buildings in one way or another.

The idea of purposefully choosing materials that are known for ageing beautiful or for designing walls that can be clad or overgrown does not lessen the power of patina. They are the tools for an architect who thinks not only about the present state of a building, but about a building's future, history and the connection between the two as well.
1. Ruinous marks

Ruinous Marks are the stains, the ruins, the broken stones. It can be dirty without the filth. When a building is falling further in decay, there might be broken walls, windows, doors or other elements. The question soon becomes whether the building is not starting to become ruinous instead of patinous. Ruinous elements have to be restored in order to be properly used again, with elements that show patina this is not necessarily the case.

The broken roof and the rattling window frames are elements that could be elements of a scary movie. Often these qualities are overlooked and erased, but to consider using these qualities and turn them to your favour is the better option. Not all smudges are negative. As Mohsen Mostafavi explains1: "The mouth kisses, the mouth spits: no one mistakes the saliva of the first for the second. Similarly there is nothing necessarily impure about dirt. What must be determined are the conditions under which a surface marking is experienced as a stain."

An example as to how to incorporate ruinous marks in a building can be found in Vals, Switzerland. Peter Zumthor has built his world famous thermal baths in a mountain there.

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1 On Weathering. The Life of Buildings in Time, Moshen Mostafavi and David Leatherbarrow, 1993

(fig. 2.2) In a particular hallway near the sauna’s little fountains protrude through the wall. Water flows through a small opening over a metal plate. In time it has left trails of rust in beautiful natural patterns on the wall.
fig. 2.1 Rainous marks on the Keivelhuis

fig. 2.2 Peter Zumthor’s Therme Vals fountain with trails of rust

fig. 2.3 an crumbling wall
fig. 2.4 OMA’s Zeche Zollverein makes use of artefacts

fig. 2.5 OMA’s Zeche Zollverein makes use of artefacts

fig. 2.6 A moving platform on old tracks in Fondazione Pomodoro
2. Artefacts

Objects, parts and scraps that have been used once but are now abandoned, can be reused again. Transforming an artefact into something new, will bring back its former use into remembrance. Edensor says: "The objects, places and traces found in ruins highlight the radical undecidability of the past, its mystery, but they simultaneously invoke a need to tell stories about it." An artifact is connected with a place, if not alone for the same forces that have been working on it both, like the wind, cold or draught, but even more in spirit.

A nice example is found in OMA's Kohlenwasche Museum in the former industrial area Zeche Zollverein in Essen: soot stains the walls of the former coal washing factory and the old machines are now used for displaying purposes. (fig. 2.4) Both examples are patina, respectively of ruinous marks and the use of artefacts. Everything has remained the same for all those years that the factory has been unoccupied. Only the function has changed, from industrial machine to fashionable display in a museum.

Another example in the neighbourhood of Tortona, Milan, is an old factory complex where on a small inner courtyard old tanks were on display. Once tanks for water or other liquids now becomes a décor for a small lunch café. The tanks become artefacts. (fig. 2.5)

Different kind of artefacts can be shown to the public, like the tanks in Tortona, to give an idea what happened and bring back the idea of hard labour which took place in these factories. The use of artefacts is a very direct manner to tell tales. Machines, doors or even a simple desk can shape the environment in which they are found in.

The combination of an artefact with the right surroundings can make all the difference. It can both work estranging or complementing: put heavy machinery in a sterile white room to let the machine speak for itself. Or leave it in more original settings to shape a dialogue between the old and the new. Artefacts can be reused for all imaginable purposes: machine parts turned into lighting, old desks become new tables or old water tanks could serve as aquaria.

In Milan's Fondazione Pomodoro, an old turbine factory, heavy lifting tracks are now used to move a platform on which art is exhibited. (fig. 2.6)

Artefacts can be interesting, practical and fun.

1 Ruins: Spaces, Aesthetics and Materiality, T. Edensor, 2005
3. Natural forces

A building covered with rampaging plants. A green with red house of blossoming ivy or ancient walls with little tufts of moss growing in small cracks.

Nature takes hold of buildings that are neglected in one way or another. Ivy is often a wanted plant, but it takes years for them to cover up a whole wall.

In that sense the presence of time is noticeable on these places. It has to be time that allowed these plants or mosses to grow. The mere presence of these algae, plants and other green elements is architectural patina for it reminds us of times past.

It is not just the green that can take over a building, it can also be water or an animal population that gives away the natural settlement of time in a place.

Water can leave traces of rust or lime and can cut through stone given enough time.

Dripping water, flowing jets and their sounds. Uncontrolled water is unnatural to buildings and wet or even dried up puddles can be proof of a building's sleeping state.

Likewise, animals too are sometimes proof of a dormant state of an edifice. Owls, bats, rabbits or other animals can become a testament of passing time. Birds have to get used to a place before they nest. And a bat population is not likely to settle in a very busy building.

The latent power of natural forces in architecture has been picked up by many architects or artists.

To some designers ivy is not a raw and uncontrolled force but rather a vertical garden. To mistake nature in buildings for gardens is to think all cats can be petted. Gardens and nature are intrinsically different.

Robert Harbinson explicates this in 'The built, the unbuilt and the unbuildable' as follows: "Gardens are places which flirt with allowing art to disappear which seem to embrace principles hostile to form of any kind -irregularity, change, an urge to destroy. This is the kind of hubris of gardens, to think that they would really improve on or collect the unruliness of natural forces and make a scene of it like a play in which the actors were all wild animals". ¹

The sense of time is most strongly present when the feeling that a gardener has to cut or mow the vertical lawn every week or so is missing. Nature -in the end- will conquer the built environment. Its first traces are the patina of nature.

¹ built, the unbuilt and the unbuildable, R. Harbinson 1993
fig. 2.8 graffiti in Area 51, Eindhoven

fig. 2.9 public art in Tortona, Milan

fig. 2.10 Lee's Palace, Toronto, makes use of graffiti
4. Art & graffiti

Like plants, algae and trees are a natural patina, so can art and graffiti be patina afflicted by man.

A building that has been vacant for years is bound to be tagged by graffiti. Some old, deserted buildings even have artists moving into them, or using the buildings for (illegal) parties or so. It is not uncommon to find the remnants of these events scattered around these buildings.¹ Expressing yourself will always be part of human life, and these deserted places are like a white canvas to the creative mind of a graffiti artist.

The art that is applied on the walls of these empty buildings act as a memory of the former vacancy of the building. It is a direct link to the past and does not always need to be removed. It can be a part of the building, a bit of its past.

A fine example can be found in Eindhoven's Strijp S. The enormous indoor skate hall was not always a skatehall. Before it was left empty, it used to be a factory space where different types of machines were made. In the years after the departure of Philips from Eindhoven, a group of skaters occupied the terrain secretly, making area 51 their hideout for a while. The walls were covered with graffiti.

When Strijp S was opened to public and area 51 was turned into a real skating hall, the graffiti was not cleaned up. Instead graffiti artist and kids from different schools were invited to create some more graffiti in the 30 m long entrance hall. (fig. 2.8) It is not only suitable for the function of a skatehall, it also adds to the idea of the in between time that the building had to cross when it underwent a drastic functional change from factory to skate hall.

The same strategy is used in 'Lee's palace' in Toronto, Canada, a music venue hall where every while the exterior is painted by new artists. (fig. 2.10)

In the fashion district of Milan, Tortona, different buildings have been decorated by artists. One piece was very intriguing: a piece of cloth draped on an exterior wall (fig. 2.9). It seemed to want to say that fashion took over the industrial zone. It shows that art on buildings does not necessary has to be graffiti to be patinous.

¹ Ruins: Spaces, Aesthetics and Materiality, T. Edensor, 2005
5. Nostalgia

Nostalgia is an odd thing, with the slightest sight, a touch or a smell a deep emotion of remembrance and a longing for some past can be evoked. Nostalgia is not patina in the direct sense of the word, for it is not scratch nor stain. It is not necessarily an object that has been used as such nor is it something that is applied on a surface. Nostalgia for buildings can vary wildly in its appearance, meaning that it is everything that evokes the memory of a building's past life. Nostalgia as patina is typically non-material and conceptual of nature.

Architects often play with the notion of a building's past life and how a certain history can come back in their new design. It is about remembering the old function of a building by new interventions. This can be done with the use of a product the factory used to make or on other manners that are reminding of that history.

A monument can evoke the same sense of history. The actual building, the place has irrevocably gone, but a stone, a statue or another alien object has the function to remind us of something that happened and is now lost to us.

In architecture these monuments to time lead to a certain nostalgia.

A fairly recent example is the market hall annex hotel Yusuhare Marche in Koch, Japan. (fig. 2.11)

The architects Kengo Kuma & associates explain their choice for thatch as a facade material as follows:

"Yusuhara is widely known as the town facing a main road used by Sakamoto Ryoma, a high-minded warrior of the region who contributed to the initiation of the Meiji Restoration (big political reform). Along the road, there existed a number of greenrooms called "Chad Do" for travelers, which functioned not only as restrooms but also as a kind of cultural salon, serving teas free of charge. As an attempt to respect this history, we used thatch as the material, which is deeply related to "Cha Do," which worked as a medium to connect the past with the present."1

The architect seems to want the visitors to recall a historical narrative and they do so by reflecting on the past with a choice for a certain material.

The use of artefacts, materials or other elements that are not connected in any other way than a conceptual historical one but strongly evoke the feelings of past events or past times is nostalgic patina.

1 http://kkaa.co.jp/works/community-market-yusuhara/ visited on 25-01-2012
Fig. 2.11 Yasukura community market, Koch, by Kengo Kuma
Life between industries

theory on possible activities

There is no need to explain the difference in quality between a random junk yard and the Piazza del Campo in Siena, Italy. (fig. 2.12). However, even important public spaces in cities, such as de Piazza del Campo, can differ greatly from one another in quality. But how can we create a qualitatively good public space?

Jan Gehl speaks in his book Life Between Buildings about the contemporary opposite of a successful public space:

"Great distances between people, events, and fun actions characterize the new city areas. Transportation systems, based on the automobile, further contributed to reducing outdoor activities. In addition, the mechanical and insensitive spatial design of individual building projects has had a dramatic effect on outdoor activities."

In the book, Gehl further notes that unvaried programs, oversized squares and streets, poorly chosen entrances and a surplus of fast traffic lead to poor quality public spaces.

Another leading idea in his book is that "Something happens because something happens."

With this statement the author means that perceivable activity lead to more activity. When they are able to see people walk, dance or eat, others people will tend to do the same. Conversely, the absence of noticeable activities leads to a further stagnation in public activity.

Mark C. Childs gives advice on how to work out these ideas in his book Squares: A Public Place Design Guide for Urbanists.

Different people have varied needs and designers of squares should try to accommodate to different needs. Therefore it is important to create a zone around the centre of attention which Childs refers to as the 'frame'. People can safely watch other people without having the feeling that they themselves are being observed. The public square can be seen as a place where people go to see and be seen. The centre of such a square usually functions as the square's 'main stage'. The further you are away from the central spot, the less active the people become and the less they are the literal 'centre of attention'.

On Piazza del Campo, for example,

1 Life Between Buildings, Jan Gehl, Danish press 2006. pag 46
2 Life Between Buildings, Jan Gehl, Danish press 2006. pag 75
3 Squares: A Public Place Design Guide for Urbanists, Mark C. Childs, University of Mexico Press 2006, pag 124
this frame is indicated by bollards on the borders of the square. (fig 2.13) In between these bollards, the quiet public life takes place, such as the meeting of friends or the small talks of elderly men that come here to look at their city's main square. People often stay here for longer periods of time.

The centre of the square is either used for small performances, annual festivities or for brief stays. It is the place where the people standing in or near the frame look at.

For the new Vlisco site this means a number of things. First, Vlisco, in the chain of areas alongside the canal route, has its own strong qualities, that distinguish it from the other areas. It is an industrial zone with a lot of concrete, big buildings and a clear function. To change any of these central qualities would detract from what makes this industrial zone interesting in the first place.

However, that does not mean the warnings of Gehl and Childs should be ignored. Activity should be on display, which could mean that places in or around buildings need a certain degree of openness to the curious views of visitors. There should be places that act as the stage and places that act as the frame.

(fig. 2.13) The frame can be created with simple elements such as roofing or objects such as a pond, because people can use places like these as shelter to observe their surroundings from.

The square should be lively and its size should be proportionate in order not to make it seem vacant of activities. Liveliness can be achieved by showing different activities or by adding elements like fountains that appeal to more than one of the senses.

In contemporary design the scale for public spaces is often disproportionately oversized. Squares and roads often seem desolated because there are too little people for too much space.

Using and maintaining the right scale for an industrial, urban area can add to the idea of an area where you can wander around without feeling lost. For Vlisco this means that the dispersion of the visitors in the area does not require new big roads but maintaining the smaller streets in order to produce a more intimate feeling.

4 Life Between Buildings, Jan Gehl, Danish press 2006. pag 151
"Main stage"

fig. 2.13 hollards at Piazza del Campo, Siena
chapter 3.

Urban Plan
From both the observations and the Lynch-map research we held in the earliest stages of the graduation can be concluded that there is little coherence between the main points of interest in the city centre of Helmond. Due to the varying characters of the districts in the centre, the city is experienced as fragmented by its inhabitants.

More use was made out of the canal in earlier times, when it was important for the functioning of the city's industry. Nowadays, its function is of a more recreational nature. The canal together with the Traverse divides the centre into four areas. Where the traverse has a very strong presence both as a connective element from east to west and as a separator between north and south, the canal could be a stronger element, bringing balance to the directions. By enhancing the role of the canal, the four different districts can be connected. The canal could function as a backbone for the city in order to mend the incoherence of Helmond.

The most enclosed district in Helmond is the Vlisco area. People are aware of the historical and economical value of Vlisco, but the area itself is not appreciated. A bland wall surrounding a significant part of the terrain, an inaccessible interior and a dislike of some of the buildings prevent that Vlisco becomes part of the fabric of the city. The industrial heritage could be of great value to the city of Helmond when the Vlisco company is going to shrink and the area could be partially opened up.

The proposed vision for Helmond creates unity within the city by employing the canal as an ordering element.

The canals binding potential is further exploited by the development of a canal route along the city-centre and southern parts of the canal.

The proposed canal route is shaped by a series of interventions. (fig. 3.1)

Starting from the north: the Havenplein will retain its unique, lively character and will connect to the plans for the new city centre.

South to the Havenplein (1), the route crosses the canal and involves the adjacent areas on both sides (2). By continuing this from the north side of the Traverse to the south side, the four areas relating to the intersection of the Traverse and the canal are joined together. In addition to this, the transition from the one side of the Traverse to the other is eased through finishing the building block started on the north side on the south side of the traverse (3). This continued
fig. 5.1 the canal route shown in a model
fig. 3.2 Havenplein, represented in a conceptual model

fig. 3.3 Castle area, represented in a conceptual model

fig. 3.4 Visso area, represented in a conceptual model
building block gives a visual sense of cohesion in the related areas. Moving further south from the Traverse and through the castle gardens (4), the intervened Vlisco area is opened up and integrated in its surroundings (5). The route ends in the south where it meets with the new train station (6). At this point the route continues into a square, similar to how the canal is punctuated by a harbour. This harbour recalls the industrial harbour which once used to be there and can be used at the same time for more recreational or commercial purposes such as a 'pan cake boat'.

close to the water

Along the canal route, the relation between the water, the route and the adjacent area varies as the character of the elements differs. At the Havenplein at the North end of the route the current relation between the square in the water is retained, bringing people to the water by the means of slow steps. (fig. 3.2) In the area around the Traverse the canal binds the four quadrants together. In relation to this, a new level towards the canal is introduced by the addition of aprons on both quays. Further south, the relation with the water turns to a mainly recreational one at the castle gardens with a fluid transition between water and route. (fig 3.3) Fishing jetties add to the recreational value of the canal and bring the water even closer.

This informal relation is reversed when coming to the Vlisco area with an industrial character. Here, height differences will be bigger and transitions more abrupt. (fig. 3.4) When coming upon the station square, the relation to the water is comparable to that at the Havenplein, though of a more industrial character. This difference in character is for example found in boats turning the water into a functional space for a restaurant for instance.

allowing visits

The area is now entirely enclosed, no visitors are allowed, photographs are prohibited and the walls separate Vlisco from Helmond. Thus, in order to connect the different parts of Helmond, along the canal, Vlisco will need to open up. Vlisco itself is downsizing to a third of what they are using now, since they use far more space than is actually required to operate. We would relocate them to the most reachable side of the area, to the Verlengde Stationsstraat. This means that the buildings of Vlisco will become vacant. We wanted to execute the masterplan of Helmond further by tackling its main problem, namely the Vlisco area.
fig. 3.5 Train connection between Eindhoven and Helmond in 15 minutes

fig. 3.6 Vlisco area alongside the canal route
New Vlisco

Enter the grid

Strijp S is focused on product design, such as tables, lamps, stools and more furniture. It also focuses on ideas, concepts and innovations. Fashion is a part of these innovations, but Strijp S itself does not have a podium to display these innovations in fashion. Helmond is an old town with a history in fabric. Vlisco, Raymakers and a rich history of other textile producing factories makes it ideal to showcase new designs, fashionable, innovative textiles and work by upcoming talents and students.

Vlisco's industrial character is formed by the size of the buildings, the use of materials and the industrial artefacts. The buildings appear to be randomly placed on the Vlisco site. Each building has its own internal logic, but as a whole the site is an urban labyrinth.

The alleys, the dimensions of the street and buildings and the angular placement of the buildings contribute to the mysterious character of Vlisco.

It is time for Belmond to step into the spotlight. People have a need to proudly say that they are from Helmond. By linking the new Vlisco fashion area directly to Eindhoven and its prestigious Strijp S project, Helmond steps out of Eindhoven's shadows. Instead of competitors, Helmond and Eindhoven can create a symbiosis: Eindhoven as leading city and Helmond as its supporting little sister. It only takes up to fifteen minutes to get from Strijp S to the new Helmond central station. (fig. 3.5)

Belmond deserves more than it gets.

The soon to be vacant Vlisco area is disconnected from the city; it is a bit of a mystery to many inhabitants of Helmond. This mysterious and industrial character is something we do not only want to maintain but also want to emphasize in our further designs, while at the same time opening the area up to the inhabitants of the city.
In the Vlisco area, seemingly random patterns of 2 x 2 m concrete slabs with metal edges are found in certain paths. (fig. 3.7 - 3.9) These tiles might be useful to the factory workers but to anybody else they appear to have been laid randomly on the floor. Bricks have been placed in between the tiles to fill the gaps. This somewhat unclear routing has a particular charm. The Vlisco factory workers have left their traces with these rusty, concrete slabs, but also the way the factory works is visible with these paths and squares. Removing them is not an option, for with losing them an interesting element of the story of the site would evaporate. The tiles thus need to be incorporated in the new urban design. To introduce a new structure that can capture the whole of Vlisco means to bring order in this so-called chaos without dictating the audience where to go. The idea is to let the Vlisco area be a fun area, a labyrinthic place of mystery and discovery.

On the border line where these two grids collide, the collision manifests in a triangular pond. The pond contributes to the unambiguous shape of the newly formed main square in the centre of the Vlisco area. The pond can be used for ice skating in winter and has a small fountain in summer. (fig 3.10) The edge of the pond is just high enough to comfortably sit on. As such, it becomes part of the ‘frame’ that Mark Childs mentions in his work. Apart from the framing function, the pond is a clear reference to the canal, flowing just behind building 1911.
fig. 3.7 Old and new tiles in the Vissco area

fig. 3.8 tiles in the alley towards the Ketelkais

fig. 3.9 detail of tiles
Fig. 3.10 new pond in villa area
fig. 3.11 the route + 1 creates a part of the ‘frame’
building adaptations

The Vlisco buildings will be reused as part of the masterplan. Some buildings can be entirely reused, such as building 1911, gebouw Noord and the Ketelhuis. Some of the other buildings will receive a new facade and only one building, gebouw Zuid, will be completely renewed. (fig. 3.12)

The three buildings that will get a new facade have reusable structures in the interior but lack functional exteriors. They will be clad in brick or concrete to adapt to the industrial look of the rest of the site.

Gebouw Zuid, the only completely new building, has two faces. The north side faces the Vlisco area and the south side the new station square. The old building was not only structurally insufficient, but also lacked the ability to adapt to both sides. Hence the entire building will be renewed in a style more suitable for both Helmond and Vlisco, using bricks as the main material. The new building resembles gebouw Zuid, but with a few adaptations. First the division between two significant parts of gebouw Zuid has been kept, but relocated to create a more balanced building with enough room for apartments. This was also done in order to create a climax in height at the south west corner of the building block. It gives a signal about what happens behind the building. About halfway along the new gebouw Zuid an opening appears towards Vlisco. Walking on the canal route you get a glimpse of what lies on the other side. This might on its own persuade the visitor to enter the Vlisco area.

When you have reached building 1911, another significant change of the old gebouw Zuid with the new gebouw Zuid becomes apparent: where the building first was knotted it now has gotten a sharp end. This was done to complete the enclosed feeling of Vlisco by completing its strong borders and to strengthen the setback of building 1911. This now makes it the official entrance to the new Vlisco area.

functions

Vlisco was a factory that produced colourful textiles for the high end African market. The new Vlisco area will keep focusing on textiles and fashion to distinguish itself from other similar reused industrial regions, such as Strijp S in Eindhoven. Because they will focus on this niche while Strijp S focuse primarily on product design, they can cooperate without having to compete.

The new Vlisco area will function as an enclave within the city, separated by two large buildings, gebouw Noord and gebouw Zuid. The functions will vary from fashion studios in the alleys to a hotel in building 1911 and even
fig. 3.12 Existing buildings, renovated and completely new buildings in the masterplan
fig. 3.13 functional overview in the masterplan
fashion education in gebouw Noord. The buildings will have a balanced mixed use, since there are apartments and smaller shops for ecological groceries. (fig. 3.13) Most of these ecological food shops will be located in the new market hall, building 7 on the map. When you have bought food in the market hall, you can sit at the public tables at building number 10.

The new gebouw Zuid has studios on the western Vlisco side, and high commercial functions, such as McDonalds, Hema and la Place on the south side towards the canal route. The ground floor of this section of the building will have a higher ceiling than the rest of the buildings in this particular area. The back of the eastern part of gebouw Zuid will be used for parking on two levels, of which one is underground. Above ground floor level spacious apartments will be built with a beautiful view over the canal.
**fig. 3.1 Map of the route of the textiles**

**fig. 3.15 Tiles of the fabric route**

**fig. 3.16 Patterns used in the fabric route**
Above and beyond

two routes

The New Vlisco area shall be accessible when building 1911 opens her doors for the public. This will be the first proper introduction to the area. Instead of ‘that walled factory’ it can slowly become a part of the public life of Helmond. With steady pace the area will be transformed into an area where people can have fun with, work with and learn about textiles and fashion.

The question for the urban scale then is, how to treat the area. What are its characteristics and how can we preserve and strengthen those?

As argued earlier, Vlisco appears to be a chaotic industrial zone. It seems that they have built additions whenever and wherever they saw fit, instead of having a clear plan for the whole factory zone. In contrast to other industrial zones it feels like a labyrinth, though it is only a small industrial zone.

The new tile patterns will rein the chaos for a bit, but more can be done to reveal the special features of the renewed area.

When Vlisco will be reduced, the presence of the African textile producer will still be almost tangible, not in the least because they will overlook the New Vlisco area as the neighbours of the new area.

However, to keep the Vlisco heritage present in the abandoned area and in order to playfully guide people around the new Vlisco area, two paths have been derived from the Vlisco past. These two paths will enhance the labyrinthic effect while encouraging people to explore the area as well as tie the past to the present.

1. Fabric Route

The first route is the new Fabric Route. The new tiles make for structure and connect the buildings of Vlisco with each other, while still speaking of the work that has been done by using the old tiles. The area is one to wander through and to discover, but some structure still could help finding the right direction.

Vlisco uses the wax print technique. Simply put, when printing textile, everything that is not going to be coloured has a layer of wax being put on. This can be done several times to create multicoloured fabrics.

The process starts at the fabric storage (fig.3.14) and then moves to the bleaching. When the textiles are crisp white they are going to be waxed. A pattern is added and the textile is ready to be dyed. The wax is then scraped off and another waxprint can be added. The textile has to dry and finally it can be made ready to send to Africa.

The concrete tiles are seemingly scattered around the area. (fig. 3.15) These tiles however, are specially made and represent the different stages of the Vlisco production. (fig. 3.16) they could act like stepping
stones. Starting at building 1911, where only the white lines are etched in the concrete to represent the bleaching. In the distance it would be possible to detect the next set of tiles, near the Ketelhuis, where the patterns are excavated in the concrete, thus representing the added wax. The third set of tiles are the ones that are near the wax print building, where the colours were added. Here the tiles are also coloured. The last phase that is represented is the phase where the textiles had to dry before being shipped to other continents. A special concrete technique makes it possible to see patterns of Vlisco only when they become wet. When the concrete dries up, the patterns vanish again. These tiles can act as a guide for people New Vlisco but don’t force anything.

2. Route + 1

Based on the network of tubes and pipes stemming from the Ketelhuis a route on approximately 5 meters high has been designed. Following the direction of the most important pipelines, the route forms an +1 boulevard over the area in the shape of the letter T.

The T-shape originates from the Ketelhuis. The Ketelhuis had to have a central location in the Vlisco area. Because of practical and economical reasons, the pipelines should be as short as possible.

There are three staircases connected to the route + 1, on each end of the T-shape there is one. Near the new route for Helmond a meter or so of the route + 1 extends above the path. (fig. 3.23) It is an invitation to enter the area. The staircase remains hidden (fig. 3.24) until you have entered the area and there, around the corner of a building, the staircase is revealed, ready to give access to another level of experiencing the area.

Another staircase is based on the huge tanks that are being kept in the southern part of Vlisco. They are almost 10m tall. (fig. 3.26)

And finally, at the far end in the corner in between 'gebouw Noord' and the Ketelhuis another staircase reveals itself. (fig. 3.25) It is only visible for a part, so that it invites the spectator to explore this new direction.

The route + 1 is meant to give a little extra to the area. People who wander around the New Vlisco area to discover its new possibilities. The route and the staircases are made of perforated steel lattices. Very light weighted they can be hung on most of the surrounding buildings. Also there are already steel columns present at the Vlisco area.

The route is supposed to give the visitors a little extra. It should feel rewarding to walk up the stairs and walk around on a higher level. The visitor gets special treatment: an exposition mainly accessible via this route in Gebouw Noord and a unique
fig. 3.19 routing in the masterplan

fig. 3.20 tubes on the Ketelhuis in the current situation

fig. 3. route proposed based on the old tubes
fig. 3.23 view on the route +1 from other side of the canal
look in the kitchen of the Ketelhuis restaurant. Also a glimpse of the baths and bath heating machines of the bath house also in the Ketelhuis.
The plates of the route + 1 are easy to look through, if you’re standing on top or underneath them. The lattices are strong enough to carry all people, but steel feels thin and light. Like walking through the air.
The pipes and tubes of the old Vlisco are not functional anymore. Many tubes are removed, they block the view on buildings like the Ketelhuis.
There are so many of them that they obstruct. Combined with the route + 1, however, they are a guide to the area. Carefully giving direction and gently steering. They also guide the visitor on the route + 1 with its sight lines. (fig. 3.27)
chapter 4.
Ketelhuis
New Ketelhuis

new design goals

The Ketelhuis stands fierce in the centre of Vlisco. As argued, it has its function as a distributor of fluids and gasses to thank for its central location.

The building does not only stand out because of its central location, but also because of its height. As shown in figure 4.1 the Ketelhuis is the only building in the centre of Vlisco with a height well above 12 meters. In fact, the third boiler room is 15 meter and the second boiler room even 20 meters tall. The Ketelhuis stands out from many distances.

It further stands out in detail. (fig. 4.3) the Ketelhuis has rich details in the brick facades. The three boiler rooms must have been done by the same architect, whose name is unknown, because the facades of the three main buildings of the Ketelhuis have the same elegance in contrast with a surrounding that is mainly purely industrial and has little ornament on display. The surrounding buildings consist of steel plate or concrete. The last built addition to the Ketelhuis is done in brick as well. They have been painted white and the facades are strict and clean and look nothing like the older parts of the Ketelhuis.

The old buildings have a warm aura: the deep red colour of the brick, the pure materiality and the overal shape make it almost a ‘sweet’ building.

The shape of the three older parts is particular: the ensemble of the three original Ketelhuis compartments have the general shape of a stair (10, 15 and 20 meters). The buildings around the Ketelhuis seem to have reflected the height of the Ketelhuis. The tall Gebouw Noord is only slightly taller than the Ketelhuis. The height of the first boiler room (counted without the saddle roof) is also reflected in the Technical department’s height (7 meter) across the street and the neighbours have an average height of 8 meter.

Like the building, the function too, could be the centre of the Vlisco area. In a neighbourhood that revolves around textiles, clothing and fashion, it is sometimes needed to come together to have a drink, to laugh and to not think about work. It is time to literally take of the fashion and have a refreshing dive in the new bath house.

I have decided, because of its centrality and the interesting old function that the new Ketelhuis is going to function as a place where people get together. A place for the people in the area in the first place and second for the visitors. A place to unwind after a day’s hard work.

The building’s oldest space, the first boiler room, will become a restaurant and a bar. A place where small performances happen or where a local band could play. A long bar, comfortable seats and different works
Fig. 4.1: Heights of Vlisco

Fig. 4.2: Historical grouping of boiler rooms in the Ketelhuis

Fig. 4.3: Ornament in the brick facade
fig. 4.4 current situation of the Ketelhuis

fig. 4.5 new situation of the Ketelhuis
of art.

Upstairs, a slightly more formal place where there is a weekly special for less than 15 euro’s and you would rather have a fine red house wine than a fancy glass prosecco.

When you look through the window to the west, the rooftop garden on the adjacent building shows the vegetables that are probably on your plate. The market hall and the bakery in 1911 provide for the rest of the ingredients.

A huge half round window with a diameter of more than 2.5 m, takes in a central place in the room. It is right above the entrance and could connect the lower with the upper floor if the floor would be opened up.

restoring the uniqueness

One of the bigger problems of the present Ketelhuis is that it is a hotchpotch of different buildings ‘glued’ together.

Though there is a rough division between two styles visible. The first, second and third boiler rooms make up for the first style, which can best be characterised as richly clad in ornamented brick with large windows.

The second part only comprises the fourth boiler room, which is about the same size as the first three together. The facades are also made of brick, but painted white. It lacks the ornament and detail the other boiler rooms have and misses the large windows that give the other part such an open character.

In between the two parts is a hall. It is a mixture of both styles, for it has the reddish brick walls but lacks ornamentation.

I propose to give way to both ‘styles’ by removing the hall in between and separate the buildings from each other. (fig 4.5)

This way one building is derived that is made of the first, second and third boiler room and will be the true centre of attention in the Vlisco area.

The second building consist only of the fourth boiler room. It has a white painted brick facade and few windows. This building can become a complex with fashion ateliers.

The alley that will appear in between adds to the labyrinthic effect of the new Vlisco terrain. (fig 4.8)

transshipments

The exterior area of Vlisco is mainly horizontal articulated. The buildings are wider than they are tall, the grid of tiles creates a plane that stretches to the far rear of the terrain and the route +1 and the tubes are all directed in a clear horizontal direction.

Because of the typical heights of the different parts of the Ketelhuis, it somewhat has the shape of a stair. A stair that is going up. A vertical statement.
The interior of the Ketelhuis also has a strong vertical articulation. Especially in the second boiler room with its majestic height and the many concrete columns standing like a forest in the room with kettles as the crown of the concrete trees. The large windows and the vertical load bearing structure in the first boiler room have the same effect.

In the new Ketelhuis these dramatic spatial qualities can be used to create an even more engaging space. The verticality of the interior forms a contrast with the horizontal exterior. In this, the entrance is a place of dialogue and a border where the horizontality of the exterior space is transshipped to a vertical articulation of the interior space.

In between the first and second boiler room, a third boiler room is built. This room does not have the columns, windows or tallness of the other two rooms. Especially the ground floor is in many ways the exact opposite of the first and second boiler room. The space is narrow and long. It is dark and made of concrete, instead of light and made of bricks.

To go from the first to the second boiler room means another shift in direction. Another transshipment, yet this time the transshipment is from vertical to a horizontal space. Upon entering the second boiler room, which is the bath house, the horizontal articulation of the narrow hallway goes back again to a strong vertical articulation.

The transfer in these directional systems creates dramatic effects. Going from the light and spacious bar to the dark and narrow entrance hall of the bath house is a titillating experience. Yet from the hallway to the bath house is also rather impressive.

These effects (going from exterior to interior space and from first to third and from third to second boiler room) are the moments I want to strengthen in my design in order to create an engaging, exciting and fun place to be and to go to. (fig. 4.6)

In my design for the new Ketelhuis I have chosen to accentuate the verticality and horizontality per boiler room. (fig 4.7)

For the first boiler room, I have chosen to create a vide that accentuates the height of the first boiler room and focusses the attention on the church-like half round window.

The addition to the first boiler room and the room itself have been joined by forcefully breaking down the walls that are standing in between these rooms. Two different styles are then joined, while the remnants of the opening up are still visible.

The third boiler room has a horizontal character. By lowering the ceiling even more with a firm piece of Vlisco textile.

The dark atmosphere is accentuated
fig. 4.6 vertical to horizontal transshipment

fig. 4.7 accentuating the horizontal and vertical direction
fig. 4.9 section of the first boiler house (vertical)

fig. 4.10 section of the third boiler house (horizontal)

fig. 4.11 section of the second boiler house (vertical)
by the use of a shimmering black mosaic on the floor, that gives a sense of mystery to the hall. The same mosaic is used in the bath house and is a leitmotif towards the baths.

Then, finally, the second boiler room, gives a big finale to the journey through the Ketelhuis. Its height is impressive, especially after the narrow hall, with its 20 meters. Concrete columns stand in the room and there is a concrete construction standing against the back wall, used to carry the kettles.

The black shimmering floor continues from the hall and reflects these mighty columns. It thus accentuates the height even more. The water, with its natural reflectiveness, has the same effect.

The baths are now in the concrete construction and one would have to go all the way up to fully experience the baths as well as the majestic space.

**peeking through**

The functions of the first and second boiler rooms are clear: respectively restaurant/lounge bar and a public bathing house. The in-between third boiler room, with its narrow hall, is for the dressing and undressing when visiting the bath house. And on the third boiler room’s first floor, the machines (for the bath house) and the kitchen (of the restaurant) are located. In the original Ketelhuis there is hardly any connection between the three boiler rooms, because the first and the second boiler rooms were built as separate buildings. The third was merely placed in between.

The construction is also different in orientation from the first and second boiler room.

If the building is going to function as a whole, the wholeness must be clear to the visitors.

Openings in the walls create a visible, audible, fragrant connection between the kitchen and the restaurant and visitors of the bath house will be able to see the machines and tubes that heat and circulate their baths. (fig 4.13) Visitors on the Route +1 will get a sneak peek of the kitchen through the one window and a glimpse of the machinery for the bath house through the other window. (fig 4.14 & 4.15) The baths will be protected from intrusive looks because of the tall machines. They have considerable height to shield the bathing people from unwanted visual contact. Yet they create a tension between seeing and not seeing. The machines are on display and they perform a dance, in which the water and the air are being heated, cleaned and circulated.

In the new alley, in between the two parts of the old Ketelhuis, the walls have no windows. In the new design I created several windows. The new windows resemble the original windows on the other side.
fig. 4.12 opening up the Kotelhuis

fig. 4.13 creating voids and new windows
fig. 4.14 view to the machines of the bath house
of the building. The window frame, however, is made black instead of the typical yellow all windows in Vlisco buildings seem to have. Glossy and black, in my design, stand for new elements. (fig. 4.8)

Another window for peeking can be seen when one goes from the bars to the toilets. People looking through the window only see the machines, not bathing persons. But a dialogue is created between the two parts of the building.

The sink in the toilets has one drainage hole for both men’s, women’s, bar visitors and bathers. A small opening above a large sink prevents people from actually seeing each other, but suggests the company of the others by seeing their water run into the drain.

The vide in the restaurant floor connects the bar area with the restaurant area.

The new Vlisco area is a place where you can get lost and can discover new places. The new Ketelhuis also is a place of small discoveries.

reining time

The Ketelhuis is almost 100 years old and has seen much in its life as a building. Instead of brushing its age away, the use of patina can add to the sense of mystery and tells of age and years gone. The next chapter will focus on the five types of patina in the new Ketelhuis.
fig. 4.17 the chipped remainders of what once was a wall

fig. 4.18 concept of water pouring on a wall

fig. 4.19 how the water influence the wall
Firing up the kettles

restoring the boiler house to life

In the chapter 'patina' five different types of patina were mentioned. These being: Ruinous marks, Artefacts, Art & Graffiti, Natural Forces and finally Nostalgic Products

Most of these types of patina have been incorporated in the design of the exterior space of Vlisco and/or the new Ketelhuis.

1. ruinous marks

In the new Ketelhuis the 'ruinous marks'-type of patina is showing in two different interventions.

Walls that are removed leave chunks and clumps of brick. This will not be removed, but will show the history of the removal of certain parts of walls. (fig. 4.17)

Water from tubes in the baths flows directly against the brick wall, accelerating the natural process of deterioration and leaving a trail in and on the wall. It is encouraged that algae grow there to enhance the patterns of the water on the wall. (fig 4.19)

Also the natural colour change is part of the patina. It all adds to the visibility of the water.

The vertical flow of the water accentuates the vertical articulation of the bath space.

And the use of the pipes is also a form of nostalgic patina. This will be explained later.
2. artefacts

Objects, parts, scraps that have been used once, but are now abandoned can be reused again. Transforming an artefact into something new, will bring back its former use into remembrance.

The new Ketelhuis features artefacts also. It uses old pipes, old boiler kettles and the old installations to create a new ambiance while remembering the old function, the boiler house.

The copper kettles that were once used for industrial processes will now be turned into baths. (fig. 4.20)

These have been found in the Ketelhuis and reused. They have a diameter of approximately 3 meters and have a special glow. Of course the first type of patina is also present here.

Also, the pipes of the Ketelhuis are incorporated into the bar. Old materials or objects get a new function.

Finally, the sauna’s are made in old machinery as well. Cube-like heating equipment that once served to heat up the boilers and turbines can now be reused as a sauna.

The exterior spaces of the new Vlisco zone also incorporates the old tubes as a road sign and as a testimony to time. The ‘route +1’ is based on this system of old tubes which are in that sense artefacts.
Fig. 4.26 reused old copper kettles
3. Natural forces

The Ketelhuis is a collection of different buildings, glued together. Boiler houses from all eras joint in one grotesque building.

My strategy to remove a small, central part of the Ketelhuis, and with that action splitting the whole up into two different buildings, each with their own age and identity, also leads to creating a new alleyway.

This alleyway was never meant to exist in the original plans. It leaves the walls bare. Fortunately, most walls were built as exterior walls, since most units of the Ketelhuis were built separate and joined later by additions, such as the part that is to be removed.

Nevertheless the middle section, made of concrete, not brick, leaves a 'wound' in the whole, since it is clearly out of place. Something only time can heal.

The bandage to this wound is a plant called Virginia Creeper or 'Parthenocissus quinquefolia'. A vine that can grow on dark places and does not need the extra support other members of the ivy family need. (fig. 4.21)

In time it is set to cover most part of this building. Where it is first an 'intruder' it will be later part of the building, being part of the new story of the new Ketelhuis.

It also has a beautiful red autumn colour, so each visit to the new Ketelhuis alley will be different from the last.
fig. 4.21 a new exterior wall covered with creepers
fig. 4.22 tubes and pipes for air and water
4. Nostalgia

The Ketelhuis was the motor of the factory. It pumped vital fluids and gasses through an incredible network of pipes. It was the heart of the factory.

To go back to the past and remember what the building was originally built for is a mental kind of patina. The idea remains.

Taking a bath in what you know is an old boiler tank makes the experience more exciting. The bathing experience becomes slightly more adventurous and fun. To create this tension between old and new, many design decisions have been made, and they all build up this dialogue.

Most of these elements, the artefacts, are of certain age, multiple decennia old. The idea of the once heated heart that pumped water, gas and electricity to the entire terrain can be accentuated by also adding new elements that can be seen as references to the old function. (fig. 4.22)

For the new function of a bathing complex many new machines have to be placed to heat up, control and pump around the water and to cool, moist, dry and heat the air. They will be placed on the spots of older machines that were used for the old Ketelhuis. So putting new machines, with comparable functions - heating up water - on places of the old is a reference to the prior function.

New pipes and tubes emanate from the new machines. Instead of putting them away from sight they can be seen from all baths, creeping over the wall like the ivy outside.

The goal of Vlisco is to produce the typical wax printed textiles. Using these textiles in the interior of the Ketelhuis and in the exterior of the new Vlisco zone.

The textiles will be shimmering black, as most new additions will be.
The architectural interventions done at the New Ketelhuis are rather subtle in nature. To transform an old boiler house to a new bathing house with a restaurant is not so far fetched as what might seem at first glance.

The structures to carry the water, the kettles and the devices that were once used are also very suitable to carry the baths and sauna’s.

The boiler rooms that are now separated by blind walls seem like different buildings when regarding the interior. To create a unified building the three different boiler rooms had to be connected. This is done in two manners, namely by creating openings in the separating walls to connect two boiler rooms with each other and by creating a route for the bath house that starts in the restaurant. (fig 4.32)

The route begins with a ticket booth in the bar area (fig. 4.26) then goes through the changing room hall, to the bath house and up to the tepidariums, the luke-warm water baths. The route is overall recognisable since it is covered with black mosaic.

Other elements that have been added mainly have the colour black. For example: the windows that are being placed in the wall towards the new alley strongly resemble the old windows with the typical yellow window frames (fig. 4.23 - fig 4.25). The new design has a black coating instead of a yellow one.

I chose these materials to strengthen the new unity of the Ketelhuis further. By adding a certain colour and texture to new interventions in the building, the interventions become recognisable as such. The difference between different times becomes visible, thus the old parts remain old whereas the new parts can be new. Though the new interventions can mimic the present building elements on which they are based in a very direct sense, there is no discussion about what the new building elements are.

**materials**

The construction of the old Ketelhuis is mainly made of concrete, the columns are very present in the second boiler room and form one of the main highlights of the building. The richly ornamented exterior walls are made of a brown-red brick. The same material has been applied to the interior walls which are less decorated than the facades. The brick wall on the interior covers some of the concrete construction in the first boiler room, giving the impression that the architect had the feeling that he needed to hide the raw concrete of the ornamented Ketelhuis with bricks. The heavy floors in all boiler rooms are also made of thick concrete,
which are needed to carry the large machines.
The windows have a yellow metal frame, that is typical for Vlisco. The doors are also made of metal and seem heavier than the windows but they have the same yellow finish as the windows. The old kettles that are turned into baths are made of copper and take in a distinct position in the second boiler room.

In the new design for the Ketelhuis, almost all of these materials remain the same. However, changes to the floors have been done to create specific atmospheres that simple concrete floors could not create. The restaurant and the bar have new parquet floors to create a warmer environment to have drinks and dinner in. (fig. 4.26)
The bath house and the changing room corridor are completely different from the restaurant. Instead of warmth they convey a sense of mystery and serenity. The floors are covered with the black mosaics that I have mentioned before. They mirror the height of the concrete columns so the columns seem to become even longer than they already are. (fig. 4.27)
The edges of the Bath House are not covered in mosaic but are left open instead. A metal gutter catches the water that drips to the ground and carries off the water to the central water collector from where it is cleaned and pumped back again. The gutter has LED lights incorporated. the rough brick walls are being lit when it is getting dark which adds to the sense of mysteriousness. (fig. 4.30)
The pipes that are needed to heat up and clean the water are not hidden but are put on display. They have the same appearance as the mosaic floors since the aluminium and steel tubes have a black and shiny coating. The new tubes are placed alongside the brick walls and add to the feeling of height of the new Ketelhuis.
To prevent people from injuries balustrades have been placed alongside the edges of the floors of the bath house. They are made of glass, but have metal supports holding the glass plates in position (fig. 4.29, 4.31). Since the supports are made of metal and have a vertical direction and the glass plates are horizontal in direction but are transparent, the balustrades as a whole have a vertical direction and thus add to the feeling of height of the bath house.
Another recurring material that is used in different places in the new Ketelhuis to shield places, such as the entrance of the bath house and the corridor behind the counter in the new Ketelhuis alley, from intrusive views, is the dark textile which is similar to the textiles that Vlisco produces. (fig. 4.26)
Mosaic (black and shiny)

Metal drainage gutter (500 mm)

LED lights

Hollow core slab (150 mm)

fig. 4.30 Floor in the bath house scale 1:20

Aluminum Stake (50 x 1170 mm)
- with incision for glass plates

Glass (one sheet) (850 x 1500 mm)

Putty

Wooden beams (70 x 170 mm)

Hollow-core slab (150 mm)

Aluminum Angle-Brace (100 x 100 mm)

fig. 4.31 Ledge scale 1:20
In conclusion, all materials are chosen to strengthen the specific qualities of a room. The choice for the colour black and the shiny finishes of the materials are meant to connect the different spaces of the new Ketelhuis with each other by creating a unity in the looks of the new materials and guiding the visitor to the baths. (fig. 4.33 - 4.34)
Uncovering the Ketelhuis

*piercing through walls*

fig. 4.32 isometric section
fig. 4.33 map of the ground floor 1:200
construction

The construction is made out of concrete columns in different sizes of which the ones in the first boiler room are clad with brick and the other columns are on display.

Since the third boiler room was built in between the first and second boiler room, the span of the third boiler room is from the first to the second boiler room. The room did not need much support. The machines however, did need much support. These concrete columns have been used to support the new machines of the bath house, the floors or the baths themselves.

For the new Ketelhuis no new constructions are going to have to be build with the exception for the pool (fig. 4.32). Because the original Ketelhuis has been built to handle enormous tanks of water and other liquids it is safe to presume the foundation of the Ketelhuis is sufficient to carry the new baths and other elements.

These conditions lead to low costs when transforming the old Ketelhuis in the new Ketelhuis.
In a bath house many problems with moisture may occur. Therefore it is important to have a plan on how to deal with unwanted water and moist in such a place, thus the first thing to investigate is what those problems could be for this specific case.

The old Ketelhuis used to be a boiler house which means many kettles have been used to cook water and other products in. Steam, gasses, water and damp are normal conditions for a boiler house which thus means that placing baths in a boiler house does not necessarily have to be a problem. The Ketelhuis' oldest part, the first boiler room, has survived almost a century since it was built.

The most problematic area of the baths are the baths that have a very high or a very low temperature, respectively the caldarium and the frigidarium. These two baths have been built inside an old kettle to create an closed atmosphere where the outside temperature cannot affect the inside temperature too much and vice versa. (fig. 4.36)

The other baths are exposed to the air in the Ketelhuis. The hot and damp air will drift to the top of the room where it will drift to the sides to cool down. The moist will condense on the walls where the drops will slide to the floor. The gutter will carry the moisture away.

The floor has been slightly tilted so that the water will always flow to the sides into the gutter system. The walls have proven that they can endure moist over the years so they do not necessarily need extra protection from the moist.

It is to be expected however, that the water in the course of time will leave trails in the wall and algae could grow on places that have a constant supply of water. These are anticipated and should be seen as patina. The contrast of the slightly weathered old walls with the lights from inside the gutter and the sharp black floors make it an exciting environment. It would be unfortunate to remove these interesting marks of time.
fig. 4.36 condensation diagram
Dining at the factory

*a narrative exploration*

A big yellow door seems to be the door to the Ketelhuis restaurant (fig. 4.37). When you enter there are many things that are noticeable, like a small platform for a singer or a band later this evening, an opening to the first floor that also shows the roof and a bar built from what seems to be old tubes. Next to this room is another room that is separated with columns of which the edges seem torn like crumbled bricks.

After a first drink at the bar you can take the stairs up to the next floor. (fig 4.38) Some people are having diner already and through the window in the wall you can see that the cooks are busy preparing nice meals. (fig. 4.39)

When you look outside you can see a garden on the roof of the adjacent building which provided at least for some of the ingredients on the menu. Behind the cooks large machines are on display. They belong to the bath house in the same building.
The entrance to the bath house is located in the restaurant.

A person would enter through the old doors, entering the first boiler room.

A video creates a visual relation with the first floor, where the restaurant is located. Downstairs people are having a drink and a young woman plays guitar and sings soft songs on a small stage. Two men are playing chess near the stairs.

There is a wooden ticket booth in the back of the room. Black cloth is draped behind it hanging from the ceiling. Next to it, against the wall is a small stair, covered in black mosaic. The small tiles reflect the lights of the bar.

A ticket to the bath house is not expensive. Upon paying the fee you get black soft towels from the girl in the ticket booth.

You take the two steps and you find yourself to be behind the black curtains that you saw behind the ticket booth. A tall but rather narrow entrance gives way to a hallway of about 15 m. It is quite dark in there, in contrast to the bar. The ceiling is much lower than before. The same dark cloth is hung on the ceiling, and the black mosaic reflect the light from the end of the tunnel. Doors on the left are the entrances to the changing rooms.

When you took of your clothes you can store them in the metal lockers in the wall in the hall.

At the end of the hall there is more light, it seems you would have to go there.

After you turn around the corner a enormous space unveils itself.

Columns of concrete stand in the room and in between a pool where people are relaxing. The showers are next to them on a small raise on the floor.

The water pours down from black tubes. Many more of these are to be seen. They grow over the wall like ivy.

From some of the tubes more water escapes. The water flows down over the walls leaving trails on moist.

After the shower you can take the stair up, to the first bath. The caldarium, or hot bath, is your first stop. Stay in one of the rebuilt copper kettles for as long as you can take. Take the stairs up to view everything from above and enjoy the tepidariums. One regular, the other one with different aroma's that also partially fill the rest of the room with a nice smell. (fig 4.40)

From there it is back again to the closed baths. Now the frigidarium, the cold bath, is due for a visit.

After a cold dive it is back down again for perhaps another shower, the greater bath (fig 4.41) or around the corner, to the sauna's.

After all of that, the exit is marked by black pipes as well. When all dressed, a nice warm meal is ready at the restaurant. Finally, after a last drink
fig. 4.43 layout of the baths
at the bar, the evening continues outside in the New Vlisco area, the Cacaofabriek or in the city centre.

Going to a communal bath is a practice that people have done for centuries. The Romans, the Turks, the Japanese and the Fins are famous for it. In Dutch culture going to spa’s and sauna’s is gaining popularity.¹

The bath house in Roman times was a place where you would meet your friends, have political discussion, have a bite and where people met new people. A place for everyone.

The Ketelhuis baths is a place where you would go for a few hours, not an entire day. A place where you could socialise and relax, more or less as in those ancient days.

The structure of the bathing sequence is based on the Roman bathing complexes.²

There was always a warm water bath that was over 40 degrees. This is called the caldarium. Calda means ‘warm water’ in Latin. After the warm water, typically came the lukewarm water, the tepidarium. In these baths, the Roman would stay the longest. Finally, a short visit to the frigidarium, the cold water bath, was paid.

Playing sports was part of the ancient bathing ritual, sometimes there even was a sweating room, the so called Laconicum. In the new Ketelhuis there are also ‘laconicums’, two sauna’s. (fig 4.45)

Even in a smaller bathing house, like the Ketelhuis, there are plenty options to go to when paying the baths a visit. I chose for baths because of the story they tell: the old kettles turn into baths.

But more importantly, I chose these baths because they have a communal character. They invite people to sit together. The baths provide enough space for five persons per bath. (fig 4.43)

The idea of a bath house is fascinating to me, especially in a new area like the new Vlisco area, that focuses on fashion, clothing and textiles. To enjoy the baths one has to take off the fashion and the clothing.

¹ Graduation M3 report ‘Badcultuur’, 2011, TU/e
² Baths and Bathing in Classical Antiquity, Fikret Yegül, 1992
fig. 4.44 Taking the stairs up to the next bath.
chapter 5.

Conclusion
At the beginning of this research project I asked myself: 'How can the story of a building continue? How can a meaningful connection between the past and the current situation of a building be established with the help of patina?'. This is not a question I can easily give an answer to, but I have tried to explore possibilities in the case study of the Ketelhuis in Helmond.

Adding a sense of discovery and mystery to a place or building has been important to me in particular for as long as I am studying. So during the design process I focused on trying to get to the spirit of the area and of the building. The area clashes in that sense that it is a very strict and rational place where you can hardly go, but at the same time it has beautiful buildings to offer in a seemingly chaotic pattern.

The design of the exterior space focuses on the mystery Vlisco has to offer but tries to lessen the chaos in favour of a connected area. The design is both playful and industrial, like the original Vlisco area and can help let Helmond step into the spotlight for once, because it seeks a connection with Eindhoven and has something new to offer to a wide audience.

The metaphor of the Ketelhuis being the heart to Vlisco is how I derived the function of a communal bath house and restaurant for the new Ketelhuis.

To me this is in a way the spirit of the Ketelhuis: a beautiful, old building in the centre of a disordered industrial area. From that notion I wanted to integrate the idea of patina even further in the design and tried to use minimalist interventions to accomplish great changes while keeping the spirit of the old building 'alive' so the Ketelhuis can continue telling her story and can gracefully age even further and start a whole new adventure.

If I would have more time to do an intensive research on patina I surely would focus more on materials and their architectural meaning. During the research phase of this graduation project I came across many different books on how to avoid algae, moss, stains etc., but no books on how to make use of them to benefit a design. On the theory on weathering little has been written as well, even though the subject is fascinating for architects.

For Helmond I hope they can find a way to make full use of the new Cacaofactory, if for some reason our plan for Helmond cannot be executed, because I do think Helmond has more to offer than most people think, like the beautiful textiles of Vlisco.
Summary
'reining time'

The Netherlands are full of old and vacant industrial buildings that can be repurposed and reused in one way or another. However, the historical character of these buildings is often interesting enough that simply demolishing the building and rebuilding in the same spot would be a waste. At the same time, the kind of reusing of buildings needs to accentuate the kind of historical importance these buildings have and the stories they tell.

One of the elements that can play an important role in accentuating the historical aspects of a building is the use of patina, or aesthetic decay and remembrance. I propose that this tool can be of great importance to design buildings: buildings that already have stories to tell or those that will tell their stories in the future will benefit greatly from this tool. It is important to continue to tell these stories to maintain or create meaningful spaces. So how can this 'tool' be used? How can these stories be continued, and not slip into historical oblivion? In other words: How can a meaningful connection between the past and the current situation of a building be established with the help of patina?

To answer the question for myself, I took on the study case of Helmond, the Ketelhuis in the Vlisco area to be specific. It is a wonderful, mysterious building in the heart of the Vlisco site where I tried to recapture some elements of the past in different ways, but always having its future use in mind. In order for Helmond to shrug off its negative image they need to (re)structure the city. Helmond is a city with many different areas that seem to have lost connection with each other. A proposal to tie these areas together alongside a route next to the canal made clear that the exotic textile producer Vlisco plays an important role in the city centre. Now it is seen as an enclosed enclave in the city, but in the new master plan it will play a vital role to connect the city to Eindhoven and the other cities of Brabantstad.

A grid of large industrial tiles is proposed to connect the individual buildings of Vlisco with one another without the area losing its labyrinthine quality. Two walking routes were designed as well: one that follows the old tubes that can be found over the entire site, the other a series of special tiles in the aforementioned grid that reflect on the production process of Vlisco.

As mentioned, a very prominent building inside the Vlisco site is the monument ‘the Ketelhuis’ (boiler house). The almost 100 year old building is built up out of many different boiler rooms. In order to repurpose the building, and in line with its previous function as serving as the central boiler house of the old industrial area, the Ketelhuis will get a new function as heart of the new Vlisco area as a bar, restaurant and contemporary communal bath house. In line with these new functions, a separation has been made to create two separate buildings instead of one big unclear one. Within the primary building itself, the three main boiler rooms are
- in contrast to the exterior of Vlisco, vertically articulated, a dramatic quality that is strengthened in the new design by creating a moment of transhipment from the vertical to the horizontal and vice versa by using an already present narrow hall.

The use of patina plays an important role in the design. Since the oldest part of the building has been built in 1913, the building has many stories to tell. The use of old tubes and kettles, the old construction and making use of the rooms that are already available, all create a link to the past. The use of Virginia creepers on an exterior wall and the ruinous marks caused by water in the bath house are links to the future. For the Vlisco area as well as the Ketelhuis the designs are quite simple but effective, because the link with the past has been so strongly valued.

Both designs are playful and add to a sense of possible discoveries, something that can benefit the future visitors of the Ketelhuis but in the long end also the area and even the city.

It becomes clear that by making use of patina, buildings can convey their stories and become more interesting and playful than other buildings that might have been built anew.