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Heritage & Architecture | Revitalising Heritage:
Hembrug

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Introduction

Hembrug is a former military industrial area in the port zone of Zaandam. The Hembrug area is situated between the 'Noord Zeekanaal' and the 'Zijkanaal G'. The terrain was the heart of the military production industry in the Netherlands around the twentieth century. Over the years the buildings have become vacant and the terrain has been abandoned. The challenge is to redevelop this terrain, which is situated in the direct proximity of the capital city Amsterdam, into a lively area that houses several new functions, mainly residential.

On this Hembrug terrain several building ensembles can be found, one of them is "de uitwisselzone" (firstly introduced by "Palmbout"). The name "uitwisselzone" was used to define the ensemble. In the research it is translated it into the "Changing zone" of Hembrug. In this zone a spatial exchange emerged in the density of the buildings. When production of cartridges started growing, buildings that were seen as unfunctional were demolished and often the new created open spaces were filled with buildings again. This interaction of dilution and compaction resulted in the ensemble we see nowadays, which is named after this development of buildings.

The goal in this project is to redevelop (a part of) the Hembrug area and in my project, this is the Changing zone. The challenge is finding an appropriate solution and language that on the one hand keeps the characteristic atmosphere and on the other hand is creating a well-designed living environment while keeping an eye on sustainability. This leads to my heritage

position: conserve as much as possible, new additions can be made to make the ensemble liveable for the new target group and its new function. All interventions should be done in respect of the existing. The main starting position I chose for this design project consists of three general starting points in relation to heritage:

1. Preserve as much as possible
2. Demolish only parts that have a low value or decrease the value of other buildings
3. Additions and interventions should enhance the coherence and strengthen the values.

Next to this the two following points are also important:

- A. A new added time layer should be in line with the existing layout
- B. When adjustments are made, they should be clearly made visible.

Nowadays, the population is still growing fast and in 2050 2/3 of the people will live in cities. Therefore, space is becoming scarce and dealing with the existing becomes a more present theme in the built environment. The focus of architecture needs to be on unlocking and retaining the qualities that are already there. The key lies in redeveloping the exiting built environment in a smart and more effective way. Dealing with the existing can take place in three different ways: reduce, reuse and recycle (Petzet, Heilmeyer and Overmeer, 2012). My main focus in the Changing zone ensemble and the Hembrug terrain is on 'reuse'. This alongside with reduce: firstly, by looking what is already present and what is of value without alteration

leads to the new framework. Elements that do not meet the requirements of the framework will be demolished and recycled as much as possible. The new programme function and target group erupted from the social necessity to give home to fast growing group of elderly people with a physical care demand. This differs from the original function of the ensemble: industrial production place. In my personal opinion this new programme has also to meet up with the need for building in both a sustainable and in an (social) inclusive way (see figure 1).

This paper reflects on the results of the graduation project so far (P4), both on the research and on the design.

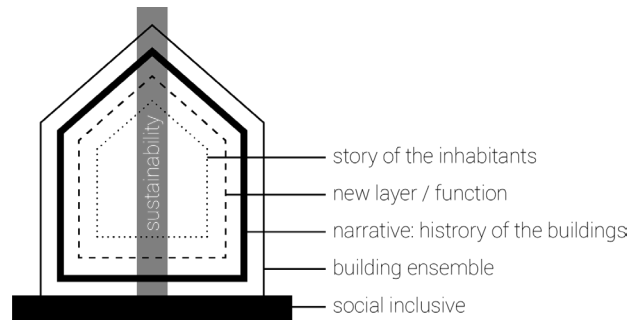


Figure 1: Building layers (own illustration, based on Stewart Brand: sharing layers)

Aspect 1

The relationship between research and design.

The graduation project started with a group research and analysis of the Hembrug area and mainly focused on the Changing zone ensemble. The main research question was: "What is the coherence in the Changing zone?". At first sight, the Changing zone looks really complex and diverse, but all the buildings are somehow interrelated with each other. For me this question was quite soon explicit and well formulated. During the P1 phase this question was researched and answered in the end. In this P1 phase the question was not changed, but main research question was further substantiated. This was done by my own determination of the definition and formulation of the word "samenhang" of the original question. "Samenhang"/ or Coherence: "The way that or the situation in which two or more things are connected, or affect each other and fit together" (page 9 in the analysis booklet).

The question of how the ensemble fits together is answered in this research on different levels. An important tool used in the chair of Heritage and Architecture is the cultural value matrix. This matrix combines the layers of 'How buildings learn' by Steward Brand with 'the heritage values' defined by Alois Riegl and some other added values.

This mapping tool can be filled with relevant texts and images. This in order to identify the different values, both tangible and intangible. Using this tool in the research, some (parts) of the buildings in the Changing zone were highly valued and others low. The interrelation and the ensemble as a whole were valued high. Through this research the conclusion is drawn that elements of the ensemble cannot be seen on its own, but are all somehow interrelated with each

other. By doing this analysis I gained a better understanding of this complex ensemble, and started to appreciate the buildings and the building site even more.

	RIEGL +	AGE value	HISTORICAL value	INTENTIONAL COMMEMORATIVE value	NON INTENDED COMMEMORATIVE value	USE value	NEW-NESS value	(relative) ART value	RARITY value (+)	OTHER relevant values (+)
BRAND +										
SURROUNDINGS / SETTING [+]										
SITE										
SKIN (exterior)										
STRUCTURE										
SPACE PLAN										
SURFACES (interior) [+]										
SERVICES										
STUFF										
SPIRIT of PLACE [+]										

Figure 2: Cultural value matrix (Kuipers & De Jonge, 2017)

Although later additions of the ensemble were valued low and described as detonating buildings, I would describe my first approach as preservation and conservation. This by repeating some steps used in the history of the ensemble (mostly from a functional point of view): when buildings became dysfunctional they were demolished and when there was need for more space buildings were erected (see starting points 1, 2 and 3 above).

At the end of the research phase and focusing on what the coherence is in the Changing zone, a general design question was formulated: How to deal with this coherence? In short this meant emphasising on certain elements, bringing back key

features or demolishing some parts of the existing layout. By choosing the new function of the ensemble "a complex for elderly with supporting functions" and choosing a new target group "elderly with a physical care demand" also new questions arose. These questions ranged from: "what are the demands and wishes of these elderly?", to: "how to create the entire Hembrug area social inclusive?" Also, some important spatial questions arose like: "how to transform the buildings originally designed for the production of cartridges into a suitable, parcelled living environment for people with a physical care demand?" This led to the main design question: "How to deal with the coherence between social inclusiveness and the Changing zone?". To answer these questions, I did some field research to care homes in Amsterdam (het Amstelhuis and Kraaipan). I also spoke with students from other departments who have a different view on dealing with elderly and their needs. A lot of different publications and design competitions have been published about how to deal with elderly living in the city. Different tv documentaries are made about getting old and staying happy. Also, a recent manifest kept me occupied.

My design shows that the Changing zone can be transformed into a new function that gives an answer to both parts of the design question. On one hand it gives an answer by creating a pleasant living environment for both the residents of the ensemble and the residents of the Hembrug area and let the residents of the ensemble therefore stay part of society. On the other hand, the design justifies the cultural historical values of the Changing zone ensemble.

One of the main conclusions from this research is that the housing of elderly is a hot topic in the current societal discussion. New developments need to give an answer to the current demand of the rapidly double ageing society (double ageing society means that the elderly population is growing, and that they tend to live longer as well). Something needs to be changed in the elderly care, but also a lot of people have a different opinion about what is a good idea and what is not. Therefore, my solution will not be generic, but it will help to create a pleasant living environment for the elderly in the neighbourhood of Zaandam and Amsterdam.

Aspect 2

The relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A, U, BT, LA, MBE), and your master programme (MSc AUBS).

Changing the program from the production of cartridges into homes for elderly, leads to quite a transformation. Not only does this mean enhancing the readability of the building, but it also means creating a comfortable living environment. The main strategy is to preserve as much as possible and demolish only when strictly necessary. New additions or infills can be made, but should be reversible and therefore I chose to construct them all out of timber. Using timber as main material is chosen from a sustainable point of view, because it is an authentic and honest material. Timber is also a reference to the past because some of the demolished buildings were made out of timber. By using timber as a contrasting material to existing brick this makes visible what is new and what is old (sub-starting points A and B above).

The main dilemma and question in my design is: "how to transform the buildings originally designed for the production of cartridges into a suitable, parcelled living environment for people with a physical care demand?" The relevance in this question is the high valued aspects of buildings and the new function placed in the ensemble. Sometimes creating a comfortable living environment goes hand in hand with strengthening the values of the building, for example the rhythm in the façade by adding new window openings. On the other hand, this sometimes means 'losing' elements which are valued high, for example the brick patterns both inside and outside. Adding new windows is also an irreversible project. Once the bricks are gone, it is most unlikely to change it back to the current state.

In a wider context designing and dealing with existing buildings in an existing built environment is something very relevant, both in and outside the chair of Heritage. There are a lot of vacant buildings, including monuments, ready to be transformed. It is always a question how to deal with its context and its history and finding a balance between keeping the existing and finding an appropriate new language for the new function.



Figure 3: Demolished building 513 , with wooden structure (Steenhuis & Meurs, 2010).

Aspect 3

Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

During my research I read a lot and researched different reference projects. At the beginning of the studio I read all the three books of the Heritage department. They thought lessons like: "There is no standard solution for a good intervention. Starting point for the new development are the existing qualities" (Meurs, 2016) or "The vernacular, somehow imperfect character of the existing, should be the starting point to develop a line of intervention, using the solutions found in the past for making the existing durable, sustainable and suitable for living a modern life." (Van Hees, Naldini, and Roos, 2014). Further on in the research I focussed more on the target group. The book of Jan Baars gave insights in the way people get older and also some miss misunderstandings about elderly: "Het is de kunst van het ouder worden om de problemen niet te ontkennen, niet vast te willen houden aan een levenswijzen die niet meer goed passen bij je veranderende situatie, maar je ook te onttrekken aan de ingeburgerde vooroordelen en zoveel mogelijk je leven te blijven leven". A breakthrough in my research process was a document of the municipally of Amsterdam: my target group shifted from vital elderly people to elderly with a physical care demand.

Doing research is not only about reading: buildings and the perception of the built environment can only be sensed by actively taking part, which means going on an excursion. During the graduation studio I went on different excursions which were not only to the location of the project, Hemburg. Different excursions to different renovation projects in Dordrecht, Eindhoven,

Amsterdam and Tilburg. Always with the same questions in mind: "what was the redesign strategy?", "what values were incorporated?", "which design rules were used?" and "what is the relation between the old and the new?" At the beginning of the studio I became acquainted for the first time with similar heritage projects: the KNSM island and Rijkswerf Willemsoord. I researched Willemsoord, which used to be a shipyard for the Royal Navy of the Netherlands. Over time it got transformed. From the way in which is dealt with the main values and the area focus of Willemsoord I gained my holistic understanding of a similar heritage site and it influenced various considerations I came across in Hemburg.

Aspect 4

Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

The relevance of my project is two folded. On one hand dealing with the existing buildings. A lot of the existing buildings are left vacant or do not meet the current requirements to function to its full extent. This means finding an appropriate solution to give these buildings their purpose back.

On the other hand, dealing with elderly and their demand for care. The trend is that elderly have to stay in their homes for as long as possible. However, in some cases this is not possible anymore. As I already mentioned above this is very a current topic. This is mainly due to the separation between care and housing in 2014/2015. Almost every week new articles, manifests and documentaries arise, in which the answer of how to deal with the double aging society wildly varies.

Designing homes for elderly inside a vacant building complex can solve two relevant topics. The identity of these old buildings can provide support for the elderly. The atmosphere of the ensemble can work therapeutically. In this way both the buildings and their inhabitant elderly people can have a beautiful, extended life (see figure 4). The existing ensemble contributes to our collective memory. Instead of designing from scratch (tabula rasa) it will keep the history of the Hembrug terrain alive. The combination of the old ensemble with its own narratives, together with the elderly inhabitants with their own stories, will reinforce each other (Kuipers, 2010).

The contribution of my design project to the academic world is that current topics as social inclusiveness, in light of the increasing elderly society, and sustainability can be well incorporated in complex heritage dilemmas.

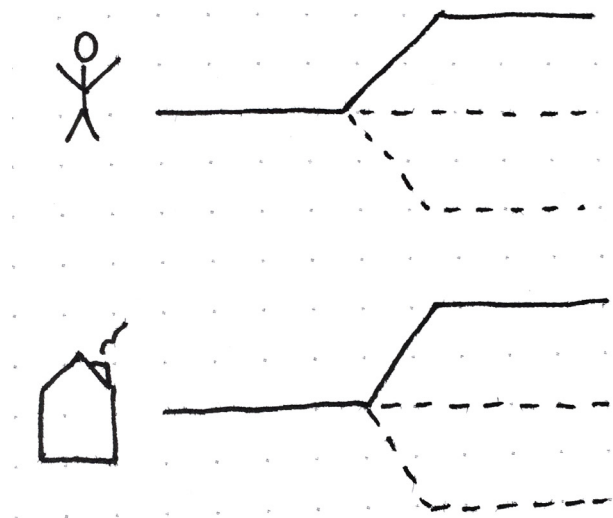


Figure 4: Extended life cycle (own illustration).

Aspect 5

Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.

As already mentioned above the main paradox in designing this elderly complex is keeping the values and authentic atmosphere of this ensemble and at the same time design a comfortable living environment. The key is where to preserve and where to change elements in the buildings, in order to make it on one hand liveable for elderly and on the other hand preserve the building as much as possible. The buildings were originally designed from a functional point of view and not designed to live in. This dilemma manifests itself in designing a good indoor climate versus preserving architectural details (brick patterns, original windows, rooflights, timber flooring, etc.). It also manifests itself in the question about the accessibility (readability, height differences, entrances). The solution partly lies in designing with reversibility in mind (using timber), demolishing as less as possible and echoing the architectural language in both the floor plan and the rhythm of the facades.

The main starting point remains: keeping what is already there. The only time I deviated from this starting point, is when I created a comfortable living environment (readability, climate control etc.) for target group. For instance, I choose to insulate the apartments from the inside. This will be at the expense of the brick pattern on the inside, but the character of the outside of the building remains visible.

In the cathedral, the same dilemma manifests itself. The cathedral is the most characteristic building of the ensemble. In this building architectural values prevail over a pleasant indoor climate. The elements that are no longer original (the window and the roof) will be insulated, but all the walls and beams, both inside and outside, remain in their current state. As a consequence of this conscious decision, a higher energy burden is needed in order to create a pleasant indoor climate.

Despite the fact that the entire project has not been financially calculated, I do believe that the design is feasible. The design does answer to both of the design starting points and provides an answer for current needs.

Due to the nature and size of this ensemble, together with the chosen programme, only a part of the ensemble is worked out to a certain level. However, this offers possibilities and starting points for follow-up (sub) studies. Questions that can be answered in the next phase are: "How can social inclusiveness be shaped and worked on further in the less detailed parts of the ensemble?" And "How can one ensure that social inclusiveness is the leading element for the other parts of the entire Hembrug terrain that will be developed?".

Literature

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