

## REFLECTION

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Heritage and Architecture Graduation Studio  
Revitalising Heritage / Plots in the Woods  
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## **INTRODUCTION**

A graduation studio within Heritage & Architecture is about designing with existing buildings and context, in this case, the Hembrug area. A terrain situated between Amsterdam and Zaandam, which was originally a military production site. In the past it was completely enclosed and after being abandoned nature took over. This resulted in a very green site, which is located close to the water, with more than fifty monumental buildings (Steenhuismeurs, 2010). Nowadays, the site is slowly opening up and in transformation. At the start of this transformation, Palmbout (2015) developed a spatial vision and development strategy in which they divided the Hembrug area in multiple building ensembles.

The goal of the Heritage project is to redevelop a part of a chosen ensemble on the Hembrug area, which is for this particular graduation project 'plots in the woods'. It consists of small-scale buildings in a natural haven. It was in the past a closed area within the enclosed area, where the buildings formed a production process together. Nearly everything was based on functionality and on minimising the risk of explosions and fire. The challenge is to find a solution for the dilemma of maintaining the characteristic values of the existing while making the buildings ready for the future. This paper reflects on both the research and the design of the graduation project.

## RELATION RESEARCH AND DESIGN

During the first semester an extended analysis of the existing buildings and context, on all different scale levels, as a group of buildings and as individual buildings, was conducted. The main research question was: ‘How does the functional design approach practiced by the ‘Artillerie Inrichtingen’ presents itself in the ‘plots in the woods?’’. This research question might be surprising, because when visiting the ensemble, functionality is certainly not the first thing that comes to mind. The small pavilion buildings seem hidden in the greenery, separated by narrow strips of water, creating more a romantic than a functional military atmosphere. The aim of the research question was to find out what is functional on site, what is not and especially why, by means of analysing the bigger context, the production process, the design of the landscape and the design of the specific buildings.

BRAND +	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 [+]
<b>SURROUNDINGS / SETTING</b> [+]										
<b>SITE</b>										
<b>SKIN (exterior)</b>										
<b>STRUCTURE</b>										
<b>SPACE PLAN</b>										
<b>SURFACES (interior)</b> [+]										
<b>SERVICES</b>										
<b>STUFF</b>										
<b>SPIRIT of PLACE</b> [+]										

Figure 1: Value Matrix (Kuipers & De Jonge, 2017)

Formulating this question was complicated, but by analysing and finding answers it became possible to determine the values needed for the Value Matrix of Kuipers & De Jonge (2017). This matrix combines the layers of Steward Brand and Alois Riegl and shows the values according to three levels of significance. These levels were afterwards used in the significance mapping of the landscape and the buildings, adding a better understanding of the ensemble as a whole as well as smaller elements. Finally, these values were translated into opportunities, dilemmas and obligations for a possible re-design.

The conclusion from the extensive research and all collected information is that the functional design approach has added to the character on site and the constant change offers potential for a re-design, but when designing with heritage it is about a fine balance between new and old and finding a fitting heritage position. While learning more about this unique ensemble my admiration for the buildings and landscape made my heritage approach immediately preservation and conservation, but by learning that the constant factor of the ensemble was change, it made me slowly realise that it is oke to make substantiated changes to make the buildings sustainable and ready for the future.

After the research on the existing ensemble, more research was conducted. Partly connected to the new function and target group: a burn-out retreat, in which the wellbeing of the users with a burn-out is very important. This resulted in research questions like: “How do you treat a burnout?”, “Which aspects have an impact on the health and wellbeing of people?” and “What are completely natural materials?”. Furthermore, research covered topics such as the WELL certificate, biophilic design, monastic architecture, health-care and retreats, and circular and sustainable design, to answer the main question: “How to transform vacant industrial buildings into a functioning and comfortable health institute while maintaining the heritage values?”

Until the end of the graduation project research on the existing buildings and context will still be done. The Heritage triangle, consisting of Design, Cultural Value and Technology, shows that you need to integrate all three elements to make a well-considered design. For example, a designed space needs to have windows that can be opened. First, research needs to be done on how exactly this window is built according to the building methods of the corresponding time. After understanding the technology, decisions need to be made on the values of that window. Both, the research on Cultural Values and Technology, will probably have a big impact on the final design.

## **RESEARCH METHODS AND APPROACH**

In the field of Heritage and Architecture are multiple methods developed to do research in a consistent and academic way. As mentioned in the previous chapter is one of these the Value Matrix, other methods are ‘Colour Mapping’ the values by Suzanne Fischer or ‘Chrono Mapping’ the year an element was added. These methods are part of the objective four-step analysis method by Kuipers & De Jonge (2017), used in the first part of the research of this graduation project.

After the first part of the research was conducted I focused more on the target group, the wellbeing of people and a sustainable design. I read for example the books “Één lijn in de eerste lijn bij overspanning en burnout” (Verschuren et al., 2011) about how to treat a burn-out, and “14 Patterns of Biophilic Design” (Browning, Ryan, and Clancy, 2014) about biophilic design. Furthermore, I filled in the WELL Certification tool (International WELL Building Institute, 2018) to see the impact of for example light and sound in a design on the wellbeing of the users. This research resulted in a better understanding of the target group and its demands and needs, but it was also important in developing a line of intervention. This led to the statement: at least 75% percent of the added materials during this intervention should be

natural. This fits to the wellbeing of the users, but is also benefiting the planet. Additionally, I read the book 'Reduce, Reuse and Recycle' by Florian Heilmeyer (2012) resulting in a better understanding of the strategies and terms within Heritage and Architecture and a more substantiated Heritage position and scheme.

However, doing research is more than reading alone, architecture has to be experienced. This resulted in the visit of multiple reference projects to be able to understand the Heritage position, the preservation of values, the contrast between old and new, the use of materials and the climate concept of a particular project.

## **RELATION PROJECT, MASTER AND THE WIDER CONTEXT**

In the studio of Heritage & Architecture the transformation of existing buildings is the main topic, but nowadays the transformation of cities and buildings is an important theme within the entire field of architecture and not only reserved for a few unique buildings. The tremendous amount of vacant buildings in the Netherlands and abroad that do not meet the current requirements and the search for a sustainable way of dealing with these buildings resulted in this interest within the field of Architecture. Next to this, in the studio Heritage & Architecture it is about the combination of the existing site and the proposed transformation, but as is the case in all studios in the Master track Architecture at the TU Delft the design should work in an architectural, technical and sustainable way.

However, next to the relevance of finding a solution for vacant buildings is the relevance of the chosen target group of this graduation project. Life is becoming faster and people are continuously striving for more or better. Resulting in more people getting a burn-out, especially in the age of eighteen to thirty-five (Nationale Enquête Arbeidsomstandigheden, 2018). The two aspects compliment each other: a target group in need of slowing down, while revitalising the green and enclosed 'plots in the woods'.

Another relevant theme is sustainability. A change in how we treat our planet is needed and the building industry, architects and scientists can and should have a big impact on this. This graduation project approaches sustainability through primarily continuing the lifespan of existing buildings and making them more durable. In addition creating a circular system and adding mainly natural materials.

## **ETHICAL ISSUES AND DILEMMAS**

By doing research on existing buildings and in this case, a former military production site, sensitive historical documents can be encountered. This makes it important to approach the information in a critical and delicate way.

The 'plots in the woods' ensemble consists of multiple small buildings characterised by three typologies. Because of these typologies I had to deal with three different sub-projects with each their own values and strategy. Finding the right balance and bringing these together to form an integrated design created multiple dilemmas. Next to that, is the overall Heritage responsibility of keeping the values and authentic atmosphere of the existing and on the other hand changing elements to create a pleasant indoor climate.

The final design solution is not generic, not every function will be able to fit, but the program is adaptable. For example the restaurant can be a restaurant for the whole Hembrug area and not only for the burn-out retreat. Another possibility is to use the bedrooms of the retreat as hotel rooms or even as small studios with a communal restaurant. The existing buildings are adaptable, made durable and their life span will be extended. In addition, the program and the interventions are designed in a way that the ensemble can for example have one owner or multiple tenants who create a community together. This makes it interesting for project developers or investors.

Because of the quantity of the buildings on the Hembrug area and in specific the buildings on 'plots in the woods' not all buildings are designed in a detailed scale. However, the strategy per typology is proposed and the other buildings within a typology could follow the same strategy. The graduation project can also lead to new studies and design solutions on for example the wellbeing of users, or the approach of using natural materials for all interventions and redesigns on the complete Hembrug terrain or for instance other projects.

## LITERATURE

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