

# UNDERSTANDING HERITAGE BUILDINGS

## Involving the user

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I INTRODUCTION

“Disciplines rarely benefit from working in isolation, particularly when it comes to research: different perspectives allow you to think differently about places”.<sup>1</sup> These perspectives are research-methodological approaches and can help to understand a certain problematique or a phenomenon. Using a methodological approach while doing research, will guide the research process, as it will influence what information is taken into account, researched, evaluated and implemented.<sup>2</sup> The course *Research Methods* explores different ‘systems of knowledge’ and made me aware that a certain methodology can change the way how I see and analyse the built environment. In the heritage and architecture track it is important to do a thorough analysis of the building(s) or site in advance, in order to substantiate interventions later on in the design process. While looking into the use and appearance of the building(s), the former user isn’t part of this analysis. Within the built environment, it is the user in which I have always been interested in, so I was looking forward to the lectures on praxeology and spatial narratives. In the design studios I think we sometimes overlook the user when we design and “by studying the *praxis* of architecture one can develop an eye for the actual users of the building and not the imagined ones”.<sup>3</sup> So for this thesis research, I wanted to explore the influence of praxeology on the analysis of my design studio.

My design studio focuses on the redevelopment of a former military production terrain situated near Zaandam. The military production terrain, called Hembrug, produced ammunition and weapons for over a century, but is now shut down and deteriorating. The production terrain started with three large factories for the production of weapons, cartridges and ammunition, see image 1. The factories were fenced off from each other, so they each had their own entrance, production halls and warehouses. Over time the factories expanded to the North, West and East side of the terrain and for every new weapon or cartridge, a new building was built. When a product was no longer needed, the building was demolished again and sometimes replaced by another building. Due to these changes, it becomes difficult to retrace the former functions of the buildings, as well as to retrace how the employees moved from building to building to keep the production process going. It is valuable to know the employees’ routing on site, as this shows how the buildings were interrelated to each other in the production process. This interrelationship is something I want to preserve in the new design, as it shows the former function of the site. The site has over a hundred buildings, so I focused on analysing the expansion of the weapon factory, which was situated in the West, and how it was related to the factory. I tried to retrace the functions of the buildings and the employees’ routing around them by using a typological and praxeological approach. This resulted in my research question: *How can the functions of the buildings of the military production terrain Hembrug and the routing of the employees be retraced, by using a typological and praxeological approach?*



Image 1. (Left) Three factories: 1. Weapon factory, 2. Cartridge factory & 3. Ammunition factory. (Right) Expansion of the weapon factory. Own illustration, 2019.

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### II A COMBINED APPROACH

The military production terrain Hembrug is no longer operating, so using a typological and praxeological approach for this research can help to understand the past. Investigating the 'old' and the 'new' requires the researcher to use several methods in order to obtain evidence from a moment in time, which is not his' or hers.<sup>4</sup> To collect information of the past, I can make use of "several methods for collecting empirical materials, ranging from the interview to direct observation, to the analysis of artifacts, documents, and cultural records, to the use of visual materials or personal experience".<sup>5</sup> The research methods that I have used are studying maps, on-site observations, interviewing and narrative writing. The first thing I did, was studying old maps of the site, which I found in the Dutch National Archive. With this quantitative research method - collecting data to find objective information and patterns<sup>6</sup> - I was able to get an overview of when which building was built and when which one was demolished. By using the tool chrono-mapping I was able to display the layers of time of the site. I chose to pick years that represent important events on the production terrain, see image 2.



Image 2. The transformations of the expanded site of the weapon factory. Own illustration, 2019.

Subsequently, I did an on-site observation and looked at the existing buildings to define types in order to determine what function they had. This method is context led as it focuses on the context: the military production terrain. I found that there were three types of buildings: the first one had a longitudinal volume with a steel structure; the second one had a square volume with a brick and steel structure and the third one had a rectangular floor plan with a wooden structure and a gambrel roof, see image 3. There was only one building of the third type, so it had to have another function than the rest. By comparing the buildings with each other while looking at their structure, size and shape I could retrace their functions: production, storage, office or utility.

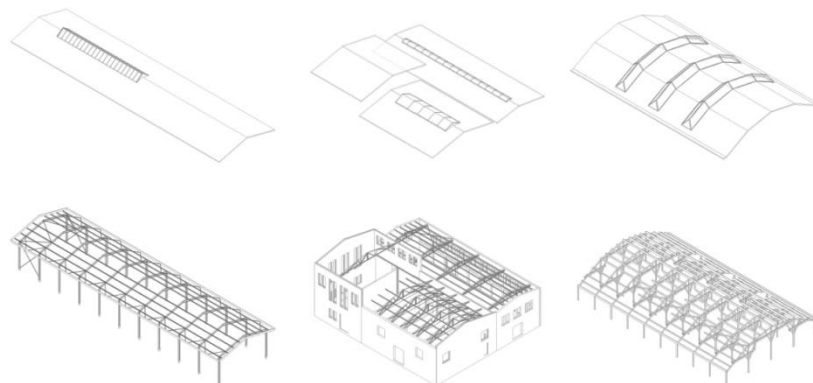


Image 3. Three types: (Left) steel structure with gable roof, (Middle) brick and steel structure with gable roof, (Right) wooden structure with gambrel roof. Own illustration, 2019.

To understand the interrelationship between the buildings and how the employees experienced the site, I interviewed former employees of the production terrain. By using this qualitative research method, I could get interpretations from a subjects' perspective.<sup>7</sup> Via the public area manager I was able to contact three former employees which were willing to help. I prepared questions such as: "Can you describe a typical working day at Hembrug?" and "What was it like at your work station? Cold? Noisy?" One of the men explained to me, as if it was yesterday, how he entered the site with his bike and parked it in the bicycle shed, and then went to the washing hall to change his clothes together with 170 other men. There was a guard at every entrance and they were frisked every time they went in and out of the terrain. He described how noisy the machine halls were and that there was an enclosed smoking area as they were working with explosives. This gave me a unique insight in how the area would have sensed like, back in the days. With this information I was able to make a sketch of how the employees moved around the terrain. Furthermore, I was able to write a narrative on how the terrain was experienced.

### III STUDYING THE APPROACH

One of the first steps of the research was classifying building types by looking at their size, shape and (kind of) structure, but with the theory of Antoine-Chrysostome Quatremère de Quincy and Jean-Nicolas-Louis Durand I continued to look at the position of the buildings and structural modifications as well. The extended theory on the methodology typology is going back to the eighteenth century and historiography recognises Quatremère de Quincy and Durand as central pioneers of the modern conception of architecture in which ideas were developed on typal and typological abstraction.<sup>8</sup> This architectural abstraction was done with consideration of history, context and culture.<sup>9</sup> Nowadays, there seems to be a different conception of typology: "typology is a matter of classifying forms and functions as simply and unequivocally as possible".<sup>10</sup> The architect Bruno Zevi defines typology as "purely diagnostic and trivial forms of types determined entirely by function".<sup>11</sup> This perception is completely different from the theories of Quatremère in which a type is part of a typological series that is determined by function *and* configuration, as well as that it "contains the possibility of infinite variation and structural modifications of the 'type' itself".<sup>12</sup> This insight had an impact on my research as I, at first, had this misconception of the concept of typology. I had to broaden my perception of a 'type' and by doing so I discovered that the buildings at the waterfront were prestigious and ornamented and that the large halls behind them had no ornaments. The buildings hidden in the forest had an earthen wall around them, what turned out to serve as a protection for explosions. Furthermore, there were different variations of the steel (roof) structures. I wouldn't have learned this by only looking at the shape and the kind of structure of the buildings.

Another aspect that I have learned, was how to implement praxeology in order to understand how the employees would have moved around the production terrain. Bruno Taut used this methodology in his book *Die Neue Wohnung* (1924) to research how women moved around in the kitchen, as he wanted to make a practical and better functioning layout. Margarete Schütte-Lihotzky and Christine Frederick looked into the same movements for their designs, in order to make the household work more efficient.<sup>13</sup> They all drew floor plans with arrows showing how the woman would move around. I tried to make a similar drawing, showing how the employees entered the site and moved from building to building, see image 4. By making this drawing I was able to display the interrelationship between the buildings, which helped me to understand what role a building played within the production process.

The method of writing, which can be used within the methodology praxeology as well as phenomenology, evolved over the past century from descriptive writing about design intentions to emphatic writing to stimulate the reader's architectural imagination.<sup>14</sup> Before the Modern Age, words were used to describe functional and technical aspects as well as conscious design decisions. From the Modern Age onwards, a more personal and imaginative approach to writing was used. This can be found in the writings of architects such as John Ruskin, Frank Lloyd Wright, Adolf Loos, Le Corbusier and Alvar Aalto. These writings guide the reader's imagination to create and experience the building in

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his/her mind.<sup>15</sup> Another architect that made use of this method is Louis Kahn. “His writings are examples of how an evocative metaphoric or poetic verbal formulation can make the reader see and feel an architectural phenomenon”.<sup>16</sup> An architect who uses this method nowadays is Rick Joy. In his descriptive text on a resort hotel, he manages to let the reader experience spaces of the building, without mentioning dimensions or structures. He captures sensory experiences such as sound, smell and temperature differences. With this method he uses “the capacity of words to stimulate architectural experiences”.<sup>17</sup> I used the interviews to gather information from the former employees, which I translated into writing a narrative of the site, seen through the eyes of a former employee. I wrote a poem, which displays the sensory experiences of the former employees and their wish for the redevelopment of the terrain, see appendix 1.

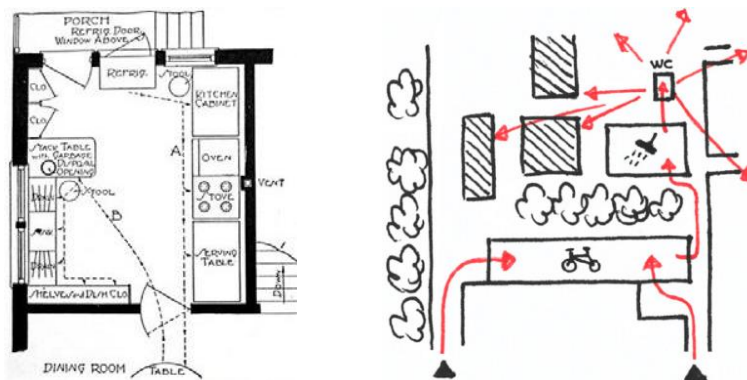


Image 4. (Left) Kitchen design by Christine Frederick. Retrieved from *Household Engineering: Scientific Management in the Home*, 1915, Chicago, USA: American School of Home Economics. (Right) Routing employees from the entrances. Own illustration, 2019.

## IV POSITIONING

Werner Oechslin, a professor at the Institute for History and Theory of Architecture in Zurich, states in his article *Premises for the Resumption of the Discussion of Typology*, that architecture nowadays focuses on methods oriented towards the outer appearance; the image of architecture.<sup>18</sup> When using a praxeological approach along with a typological one, the former user can play an important role in understanding the building's qualities. In the Heritage track we assess these qualities and value them in order to support design decisions later on in the process. This assessment is done by using a 'value matrix', in which students have to analyse aspects of the building or site, such as the skin or structure, and then give a value to it. The goal of this matrix is to find the *unique* of a building in order to value assess it. Finding and defining types isn't part of the matrix, so to understand the former functioning of a site archival studies are used. This is a good start, but to my opinion a typological approach would be more effective. A photograph or video can show you the function of the building, but most likely this is not available for every building on site. By using a typological study, the type can be understood and therefore compared with others to determine if it is the same or different.

The topics territory and urban atmosphere were introduced at the beginning of the lecture on investigating spatial narratives. These topics were positioned towards experiencing architecture: territory - understanding how people experience their territory's atmosphere; urban atmosphere - experience as a potential tool to properly calibrate the relationship between inhabitants and the built environment.<sup>19</sup> I wanted to capture the urban atmosphere of the Hembrug terrain in order to understand the relationship between the employees and the buildings. I did so by interviewing the former employees and asking them to describe how they had experienced the site. A presented issue in the lecture was that atmospheres can be very vague. It is highly subjective and cannot be expressed with numbers. In my research, I noticed that the experiences of the site differed for every employee, resulting in different outcomes. Furthermore, in the lecture on praxeology, it was stated that an ethnographer is never a 'neutral' observer.<sup>20</sup> This can be said about any kind of anthropological observer, as we unconsciously use ourselves as a reference point. As I got different answers to my

question on how the site was experienced back in the days, I unconsciously added my own experience of the site nowadays to these answers as well. If I had asked the employees to write a poem, it would have been different from the one I wrote, as I interpreted their experiences in my own words. Nevertheless, I think it is important to write about atmospheres as drawings cannot explain how a space is truly experienced; they are unable to transfer sensory feelings. Therefore, it is important to use writing as a method to understand a context or architectural problem. It will help to let the reader create and experience the context in his/her mind. So for the Hembrug terrain, writing can address the emphatic aspects of the past as it cannot be experienced anymore nowadays. Unfortunately, writing on atmospheres isn't part of the matrix. It is seen as less valuable than the other categories, so it is often left out. Nevertheless, I plead for involving atmospheres in the analysis of the terrain, as *different perspectives allow you to think differently about places*.

To conclude, a thorough analysis is important in the heritage and architecture track. However, the former user isn't part of this analysis. I think we sometimes overlook the user in the design process, so by using a praxeological research approach, the former user can be taken into account as well. This will lead to more valuable information than when only a typological approach is used. So, to answer the research question: *How can the functions of the buildings of the military production terrain Hembrug and the routing of the employees be retraced, by using a typological and praxeological approach?* The methods interviewing and narrative writing, coming from a praxeological approach, helped to understand the terrain from a subjective perspective, whereas the methods on-site observations and studying maps, coming from a typological approach, helped to understand the terrain from an objective perspective. The approaches form together an understanding of the problematique: retracing the functions of the buildings as well as the routing (and experiences) of the former users.

**END NOTES:**

- 1 Ray Lucas, *Research Methods for Architecture* (London: Laurence King Publishing Ltd, 2016), 9
- 2 Chair of Methods and Analysis, *Methods and Analysis, Lecture series Research Methods* (Delft: Faculty of Architecture and the Built Environment, 2019), 4-5
- 3 Marieke Berkers, *Praxeology, Investigating Social/Spatial Practices* [Lecture]. (Delft: Faculty of Architecture and the Built environment)
- 4 Linda Groat and David Wang, *Architectural Research Methods*. (Hoboken: John Wiley & Sons Inc, 2013), 175
- 5 Norman Denzin and Yvonna Lincoln, *Handbook of Qualitative Research*. (Thousand Oaks: Sage Publications Inc, 1994), 3-4
- 6 Gitte Sommer Harrits, "More Than Method?: A Discussion of Paradigm Differences Within Mixed Methods Research." *Journal of Mixed Methods Research* 5, no. 2 (Aarhus: Aarhus University, 2011): 162
- 7 Linda Groat and David Wang, *Architectural Research Methods*. (Hoboken: John Wiley & Sons Inc, 2013), 69
- 8 Sam Jacoby, "Typal and Typical Reasoning: a Diagrammatic Practice of Architecture," *The Journal of Architecture* 20, no. 6 (London: Architectural Association School of Architecture, 2015): 938
- 9 Sam Jacoby, "Typal and Typical Reasoning: a Diagrammatic Practice of Architecture," *The Journal of Architecture* 20, no. 6 (London: Architectural Association School of Architecture, 2015): 957
- 10 Werner Oechslin, "Premises for the Resumption of the Discussion of Typology," *Assemblage* 1 (Cambridge: the MIT press, 1986): 37
- 11 Werner Oechslin, "Premises for the Resumption of the Discussion of Typology," *Assemblage* 1 (Cambridge: the MIT press, 1986): 38
- 12 Giulio Carlo Argan, "On the Typology of Architecture," translated by Joseph Rykwert, *Architectural Design* 33 (Munich: C.H. Beck, 1963): 565.
- 13 Marieke Berkers, *Praxeology, Investigating Social/Spatial Practices* [Lecture]. (Delft: Faculty of Architecture and the Built environment)
- 14 Juhani Pallasmaa, *Urban Literacy, Reading and Writing Architecture*, by Klaske Havik (Rotterdam: NAI Publishers, 2014), 7
- 15 Juhani Pallasmaa, *Urban Literacy, Reading and Writing Architecture*, by Klaske Havik (Rotterdam: NAI Publishers, 2014), 8
- 16 Juhani Pallasmaa, *Urban Literacy, Reading and Writing Architecture*, by Klaske Havik (Rotterdam: NAI Publishers, 2014), 12
- 17 Juhani Pallasmaa, *Urban Literacy, Reading and Writing Architecture*, by Klaske Havik (Rotterdam: NAI Publishers, 2014), 13
- 18 Werner Oechslin, "Premises for the Resumption of the Discussion of Typology," *Assemblage* 1 (Cambridge: the MIT press, 1986): 37
- 19 Klaske Havik, *Investigating Spatial Narrative* [Lecture]. (Delft: Faculty of Architecture and the Built environment)
- 20 Marieke Berkers, *Praxeology, Investigating Social/Spatial Practices* [Lecture]. (Delft: Faculty of Architecture and the Built environment)

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### V APPENDIX

Do you know me?

Do you know who I am?

I was once surrounded by water.

A peninsula, called the Hem

I was built to make weapons.

Trained to be lethal with one shot.

I worked with loud machines,

And it was always so hot.

But can I be honest?

It was never my intention,

To kill with my creations.

I did it for your protection.

I served a long time.

Now I'm injured and old

Left alone to deteriorate.

My work put on hold.

So will you help me?

And take over my task.

Care for my remains.

That's all I want to ask.

Make me revive again,

And give me my peace.

Take care of my scars.

It won't be with ease.

I can picture a new me.

Bring a smile on your face.

I'll show you around the terrain,

Which is a green and open space.

Still, I want to protect.

Like I always did.

Maybe not the army guys,

But someone with small kids.

I will teach these little fellows.

On the history of my life.

Starting at the beginning,

With the production of the M95.

So now that you know me.

Can you see that I am more?

I might be an old man.

But I am more driven than before.