

MAKING THE INVISIBLE VISIBLE

Self-Assessment on Drawing an Historical Research

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I INTRODUCTION

Having an awareness of being able to actively influence your own research is essential. The method you use determines the outcome of your research and knowing how you can guide this will give you the desired results. Within the architectural profession the first phase of a project is chaotic and being aware of the right methods, tools and heuristic techniques can make this phase more orderly and give you a kickstart in the right direction. This course gave new insights into ways of doing research and showed that the influence you have on your own research process is way bigger than I realised before. If you are aware of the possibilities you can actually change and design it yourselves and make conscious decisions instead of doing research without realising what kind of method it is or if it is actually the smartest way to do it.

The article of Havik (2017) and the foreword of Pallasmaa (2014) on investigating spatial narratives and literary descriptions opened my eyes. They show that it is possible by only describing a personal memory of visits to a building to find shared themes in the architectural approaches of these buildings. Thus, having in this case an answer to your research question. Before having read these texts this way of researching felt too personal and not academically allowed. Unfortunately, this method was not fitting to my research, but I would like to try it during a different phase in my graduation.

Furthermore, the article of Hooimeijer et al. (2017) helped me to give a direction to my own research. Hooimeijer et al. (2017) are making the invisible visible by means of combining different layers in a drawing. Their method is more technical, but the principal of systematical processing of contextual information is the same. This gave me a better understanding of what I was doing.

The context of the research lays at the Hembrugterrein in Zaandam; in 1901 the production of weapons was moved from Delft to this terrain. Three different areas, with each their specific production process, were build. One of them was the munition area and this is the site my research is based on. It was an enclosed area where separate buildings formed the complete production process of munition. Every building had its own function and was a separate part of the process; this was due to reduce the risk of fire or explosions. The functions of the buildings are known, but these refer to very specific parts of the process. For example: compiling of shock tubes, or the filling and pressing of mercury detonators. To be able to understand this, the context of what exactly happened in which building and to make the production process visible it became necessary to research how munition was made in the past on the Hembrugterrein.

Within Heritage Architecture the goal of the research phase is to get a deeper understanding of the cultural values, the history and the significance of the buildings that will be transformed (Kuipers & de Jonge, 2017). Before starting the redesign it is important to understand the past of the buildings and the relationships between them. Why are they how they are? To grasp this for the case of the munition area on the Hembrugterrein it was essential to not just analyse the buildings, but to look further. The goal of the research was to be able to interpret the archival data of the functions of the buildings and to find a relation between them.

This resulted in the research question: 'How to make the invisible relations between the buildings visible?' The following questions helped answering the main research question: 'What parts does munition exist of?', 'Which buildings are on the site?', 'What are the functions of these buildings?' and 'What is the production process of the munition made on the Hembrugterrein?'

II AN HISTORICAL RESEARCH DISCUSSION

The first step in finding an answer to the research question is collecting data. The only possible way of doing this was through historical research, because the buildings were in use in the past. The definition by Groat & Wang (2013) explains what historical research involves:

Historical research brings into view something from the past. Because the "something from the past" is not empirically accessible, the history researcher must use various tactics for unearthing evidence from a time and a world not his or her own (Groat & Wang, 2013, p. 175).

Historical research is as explained by Ahmed et al. (2016) a qualitative research method because it helps to address questions on a specific situation in detail, with no numbers as outcome. A guide to my historical research is the intrinsic case study approach. It concentrates on a single phenomenon and the goal is to get a full and deep examination of the case (Berg & Lune, 2012). Munition was made all over the world, but the set-up of these particular buildings and how the munition was exactly produced here was the only thing that mattered for this research. It was about gathering enough information to understand the specific functions on this site and not looking further. The intrinsic case study approach involves a choice in what is to be studied.

The first step during the historical research was finding relevant data. Pictures of sections of munition and textual explanations of how munition was made and how to use them were found. Typical products produced at the pyrotechnics were the egg hand grenade and a grenade with shards and bullets. These were analysed further.

The second step was combining the relevant information into an explanatory drawing, by means of drawing as a research tool. Drawing is a tool commonly used during the design process, but less during research (Mäkelä et al., 2014). According to Schön (1983) is drawing for a designer a dialogue between the person and the drawing itself. Goldschmidt (2003) explains it as an extension of the mental picture, where new meanings and insights are found. This is partly the case for this research, but it is more comparable to that of the drawings done by anthropologists and biologists, which makes the research interdisciplinair (Dempsey & Betz, 2001; Lucas, 2015). To conclude, drawing by looking very closely, to identify, describe, understand and explain, not to come up with new ideas or to show design thoughts. Drawing is used here as a tool for collecting and explaining data and to go beyond the written analysis, see figure 1 and 2.

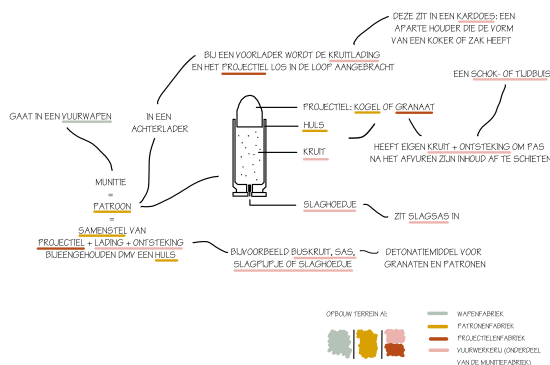


Fig. 1. Explanatory drawing of munition. © Valerie Arntz.

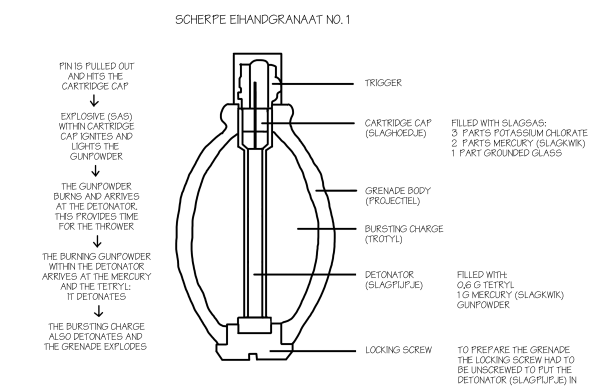


Fig. 2. Explanatory drawing of a hand grenade. © Valerie Arntz.

When the understanding of the different parts of munition was there, it became possible to combine this with a map of the site and the functions of the buildings and turn it into a diagram of the production process, see figure 3. Subsequently, the connections and interactions between the buildings could be put into another diagram, see figure 4.

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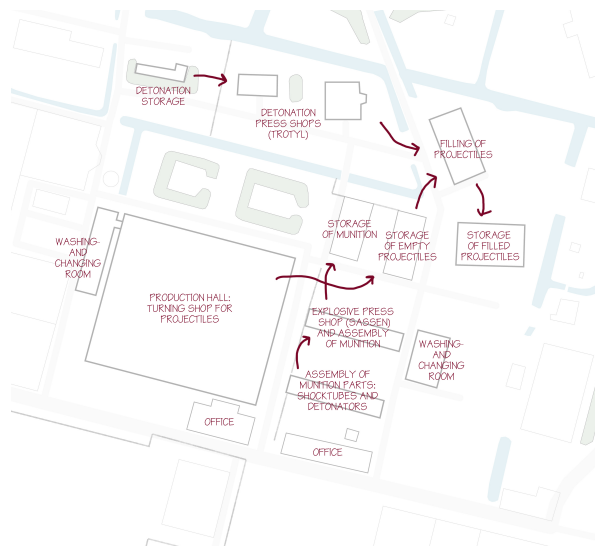


Fig. 3. Diagram of the production process. © Valerie Arntz.

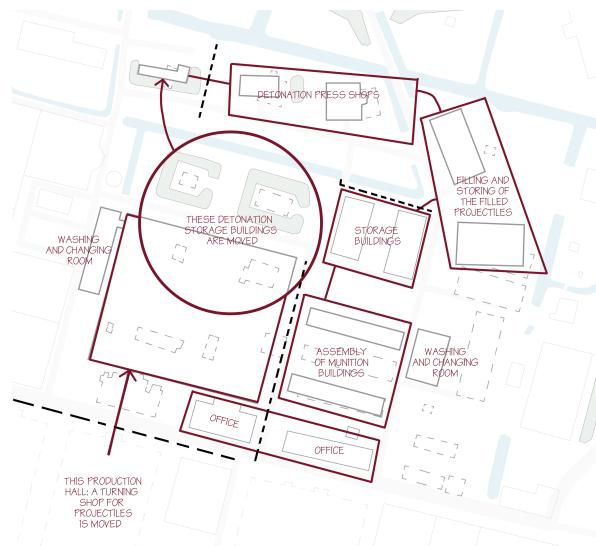


Fig. 4. Diagram of the building relations. © Valerie Arntz.

In conclusion, the invisible relations between the buildings are made visible by means of the research method: historical research with the intrinsic case study approach (Berg & Lune, 2012; Groat & Wang, 2013). The used heuristic technique is researching through the visual tool 'drawing'. All to peel off the multiple layers the main research question involves and to be able to build a system covering these layers.

When situating the research between the epistemic frameworks discussed in the course, it relates most to the framework discussed in the article of Hooimeijer et al. (2017) about territorial scales. They also showed the invisible, in their case under the ground, by means of analysing the different elements and combining that into a drawing. Similar is as well that her research topic was only retrievable by documents and not by looking at the materials, objects or people, as is the case in the heuristic framework of Hernandez (2019), the praxeology framework of Berkers (2019) and the material culture framework of Schreurs (2018). The other discussed frameworks of Gorny (2019) about typologies and of Havik (2014) about spatial narratives, were very interesting to learn about, but not relevant to my research question.

III AN HISTORICAL RESEARCH REFLECTION

According to Berg & Lune (2012) did the view towards historical research change recently:

An increased interest in social historical methods has been evident during recent years, which researchers attribute to the move away from a traditional focus on object positivism and toward a broader perspective that is more generally supportive of knowledge offered by historical research (p. 306).

Further on, Berg & Lune (2012) add that this new view towards historical research results in a broader understanding of human behaviour, since we do not look at it just from our own perspective, judgements and time anymore. An example is given of the essence of this broader view: the Hebrew word *nurse* translates to *sister*, something essential to know when researching this matter. In the book 'Architectural Research Methods' by Groat & Wang (2013) is a more theoretical change described: "A turn from macrohistories to paying attention to smaller segments: to the lives and, significantly, to the experiences of little people. Thus the cultural turn encourages focus on local, vernacular realities rather than, for instance, national histories" (p. 176). Groat and Wang (2013) also note in the conclusion that the main elements in historical analysis are not just the physical objects anymore, but also the space they are found in and what formed them. These changes are also visible in my research. It was necessary to have a broader view while conducting the research and to look at how munition was made in the past, with the techniques from the past. Furthermore, the research goes

beyond the physical objects and looks at the relations between them.

The use of visual methods in research is historically most used within anthropology and biology. In the past this was needed to record the observations done during fieldwork. However, when the camera became accessible to most people it replaced drawing. During the last years, a small interest into drawing came up again because of its typical characteristics (Heath & Chapman, 2018). When looking at the changes of the research tool 'drawing', Mäkela et al. (2014) explain that because of the complexity within drawing and using it for so many different things, the value of using it for research has just been acknowledged. Leading to discussions not only in the art and design world, but also in the whole scientific community. In the Heritage Studio is the method of describing something by drawing widely used and promoted. While drawing you look closer and see more details than while taking a picture. You are learning to look better. Dempsey & Betz (2001) describe this as: "An excellent way to describe an object is to draw it. Drawing improves observational processes, it helps seeing the details and subtle properties" (p. 271).

I completely agree with this. The focus on the practice of drawing within the Heritage Studio makes me realise that it is indeed true that you get a better grasp of things while drawing. I tried through textual analysis to understand the principle of munition, but because munition contains so many elements I could not follow it. It made me change my research tool into drawing and diagrams, even though the use of drawing in research all refers to physical things you can see. That is not the case with my research, the buildings are still present, but none of the functional objects and the relations between the buildings are present anymore. This makes it a non-traditional way of using historical research.

IV POSITIONING HISTORICAL RESEARCH

As Hooimeijer et al. (2017) state in their introduction plays the sub-surface a crucial role in the climate and global energy transition. It should be an integrated element of above ground planning and design by reflecting the relations visually. My research covers the same issue of making something invisible, but crucial and often ignored or forgotten, visible by showing the relations between them in a visual way.

Using historical research and combining that information into a drawing led to another drawing, which, together with new historical research, resulted in another drawing, which gave an answer to the research question. If I had used text as an outcome, as is often the case within traditional historical research (Berg & Lune, 2012), the relations would not have been visible as fast and easy. This is why I altered the traditional historical research of having text as an outcome and added the use of visual methods. In the end, the conclusion drawing of the functions and relations of the current set-up of the buildings showed the pragmatic philosophy and coherence of the terrain and gave a deeper understanding of why the buildings are how they are. Groat & Wang (2013) do explain indeed, that a historical researcher needs various tactics to find the evidence he or she is looking for.

My research approach is not the general approach within the Heritage Studio. Although the theme of the studio was about the goods produced on the grounds, most of the people focused on the general research to fill the Heritage Value Matrix (Kuipers & de Jonge, 2017). Researched are mainly the typology, the building style and technology, but they did not dive deeper into what actually happened. It is a lot harder to make the invisible visible instead of analysing for example the brickwork or the building style, but I think that you cannot start a transformation process without understanding what happened in the past and what the buildings stand for in society. I believe that the Heritage Value Matrix is important, but as a heritage student your research should go beyond the obvious and should give a broader understanding why a building has to be kept and transformed. This can help us further in the design process and provides an even better argumentation for future decisions.

The question rises why drawing is a tool commonly used during the design process, but less

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during research, as observed by Mäkelä et al. (2014). Why is research not seen as an integrated part of the design process even though research is used to find answers during the process? It still seems within architecture, and the Heritage Studio more in specific, that the research phase is at a certain point finished and the design phase starts. I wonder why.

To conclude, the research question was: 'How to make the invisible relations between the buildings visible?' Multiple questions helped answering this question what made it a historical research with the intrinsic case study approach and drawing as the heuristic technique (Berg & Lune, 2012; Groat & Wang, 2013). Each question followed up on insights found during the previous question. All to access evidence from the past, to find the facts and to make the relationship between the buildings become more apparent. I believe that using drawing as a research tool within the archival research method works excellent to explain relations and a process, for both the researcher and the reader. The multiple layers of the main research question were peeled off to build a system covering these layers in an understandable way and goes beyond the regular Heritage research.

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LECTURES DURING THE COURSE 'LECTURE SERIES RESEARCH METHODS', 2019:

- Berkers, M. on Investigating Social/Spatial Practices
- Gorny, R. A. on Investigating Typologies
- Havik, K. on Investigating Spatial Narratives
- Hooimeijer, F on Investigating Territorial Scales
- Mejia Hernandez, J. on Heuristics, Research and Design
- Schreurs, E on Investigating Material Culture and Culture of Materials