**Reflection Paper**

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**MSc 3: graduation studio Heritage & Architecture:**

**MSc Architecture, Urbanism and Building Sciences**

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**Introduction**

The studio heritage and architecture: vacant police heritage, aims at revitalising existing police buildings that are included in the real estate portfolio of the Dutch police. Subsequently my graduation project focussed on the redevelopment of the Koudenhorn police station in Haarlem, a building that was originally constructed as a deacon house and was later transformed to accommodate the Dutch police. General research into the needs of the city of Haarlem showed that the city will focus on sheltering and providing new chances for homeless young adults in the Dutch society. The focus of the project therefor was to create new shelter spaces for both short and long-term accommodations of homeless young adults in Haarlem. Due to the focus of reintegrating this target group into society, a choice was made to integrate several public functions into the building that could be used by the inhabitants to explore different types of career paths. At the same time, this allowed the inhabitants to interact with the society of Haarlem. The building therefor now also accommodates public functions to allow the inhabitants to explore new job and life opportunities and to reconnect them with the public of Haarlem. In its current form, the Koudenhorn building is relatively closed off to the public. My graduation project focussed on creating a public character for the building by investigating how the future form, materiality and perception of the physical borders of the building could nudge people into the building. From my exploration of my graduation research, I concluded that this is largely influenced by the transparency of the border, a material characteristic that is predominantly present in transparent borders. In relation to the specific touch and feel research and design line of the Vacant heritage studio, I explored the perception of a transparent border as a border material to strengthen the relation between indoor and outdoor public spaces. This research paper elaborates on my research process and results and the relation between my research and my design. Furthermore, the relation of my graduation project and the larger social and scientific framework and my graduation in relation to the master track of architecture and the vacant heritage studio is discussed. Lastly, I reflected on the ethical issues and dilemmas I encountered while conducting my research and during the design process.

**Elaboration on research method and approach**

For this graduation project, a choice was made to mainly conduct research via a literary review of the application of transparent materials in architecture as well as the concept of space syntax. I made this choice because I noticed that there was a considerable amount of literature on the perception of transparency that I was very interested in, however this literature did not consider the influence of the perception of transparent materials on spatial relations. Since my graduation project focused on the spatial relation between functions with different levels of privacy, I decided to link this literature on the perception of transparent materials to existing literature on spatial relations. The work of Bill Hillier (2007) was mainly used to both define and analyze the concept of space syntax within the project and to create a connection on the concept of visibility in relation to space syntax. To further integrate the perception of transparent materials as a material into this concept, research into the physical and psychological characteristics of transparent materials was conducted by reviewing the work of Marquardt et al. (2015), Ziff (2004), McQuire (2013) and Rowe and Slutzky (1963). This led to the first results of the research which included possible implementations of specifically transparent facades to improve the relation between spaces. At this point these results showed that a full transparent border was necessary to reach an optimal effect for improving the space syntax within the building. Simultaneously a general architectural analysis was already conducted, and more importantly in relation with the heritage graduation studio, a value assessment was made following the methodology of Ana Pereira Roders and Loes Veldpaus (2014). This method used existing documentation on the Koudenhorn building and within this documentation the values were identified and categorized in the value categories of Roders and Veldpaus. These values were not subjectively identified. This assessment showed that the facades of the Koudenhorn were the most valuable aspect of the building, specifically focusing on the rhythm and symmetry of the windows and doors in the façade and the neoclassical ornamentation. At this point, this meant that for any transparent interventions in the façade that resulted from the general research within the graduation project it would have to be considered what the impact on the existing neoclassical order and rhythm of the façade would be.

At this point the first part of the research was finished and sufficient results were achieved to test the research results in the design of the graduation project. Based on these research results a preliminary design was made. The preliminary design managed to integrate the new façade intervention into the existing order and rhythm of the façade and therefor, glass corridors that improved the relation between the exterior and the courtyard of the building were created. However, since this was used as the starting point of the design, the relation between these interventions and the intended functions for the design did not connect. Both public and private functions were included in the design but the effect of the glass corridor on the relation between public and private was not properly considered. The reason why this was not considered is that I focused to much on using the transparent interventions and fitting them into the façade. A vital part was of the research was somewhat neglected at this point in the process. The research namely served the purpose of not only identifying transparent interventions, but it also questioned whether these intervention would benefit functions in relation to each other and not only the relation between the function and the exterior. As a result, the research and design project required a new approach namely, to use the intended functional layout of the design as a starting point and to subsequently consider where the transparent interventions could be used to add value to the building in relation to the space syntax of the building. The order of the façade was still one of the leading aspects of how the façade was shaped but could not be used as a starting point anymore because the relation between functions with different level of privacy was the leading factor in the design project

**The relationship between research and design.**

At the beginning of the graduation project, the relation between research and design was relatively strait forward. The research was initially used to identify potential implementations of transparent borders which could be used in the design and in turn, the design could validate whether these implementations were appropriate or not. Looking back at this approach, I see that at the time I thought the approach was successful since it was a method in which the transparent intervention would properly fit into the rhythm, symmetry and ornamentation of the existing façade. This resulted in the preliminary design. The preliminary design however, showed that the effectiveness of the transparent façade interventions was highly depended on the relation between public and private functions within the building. While in some way the methodology of identifying potential interventions, implementing them in the design and assessing whether the interventions were appropriate worked, it did show that it would not be the most effective way of achieving a satisfactory design. If I would have continued with testing these interventions in this way (meaning by using transparent interventions as a starting point), I would have to continue this process as many times until I reached a result that would somewhat fit with the public and private functions within the building. Following the feedback from the P2, I therefor decided that it would be best to reverse my research and design approach. This meant that I started my design experiments with the functional relations in the building and subsequently investigated how the transparent interventions could strengthen this relationship. By doing this, I did not have to continuously validate whether the transparent materials interventions would match with the desired functional relation within the design. Instead, I could now simply choose which interventions that I identified in the initial research were the most appropriate to use in my design. This insight showed me that within future projects, I can really benefit from determining upfront which element of the design should be the leading factor. In this project I became fixated on using transparent materials as this was the main topic of my research. However, by doing this I lost side of the reason why I wanted to implement transparent materials in the first place, namely, to strengthen the relation between functions with different levels of privacy. This relation was there for leading in my project and was complemented by my research on glass facades.

From my experience this shift in the design and research approach was largely influenced by the fact that this graduation project considers the redesign of existing buildings with existing embedded values. I still think that my initial approach could have worked in the design of completely new buildings since the form and the functional relationship within such a building can be freely altered to fit the with the purpose of creating an unhindered psychological border with the proposed transparent interventions. However, the existing situation and heritage values of the Koudenhorn building already dictate or at least limit the freedom of creating the desired functional layout within the building. I would therefor conclude that within heritage projects, one should always start from a functional perspective to see what best suits the existing building and from there one can argue which interventions are the most suitable for a new design.

**The relationship between the graduation topic, the vacant heritage studio and the master track of architecture**

Within the master program MSc AUBS, the master track of architecture strives to deal with challenges that occur within the built environment by designing on a building scale in relation to its urban surroundings. In addition, the Heritage studio seeks to face these challenges by looking at the existing building stock and to explore how these existing buildings can be revitalised to provide in relation to their heritage values to provide value for the contemporary and future built environment.

While i had some previous experience with heritage projects within the master track, this experience was notably different from how the graduation studio approached vacant heritage buildings. Within the Msc1 studio of Heritage and architecture, I was already challenged to identify the values of the existing buildings and to look at possible challenges and opportunities. This was however always done via a subjective assessment method. I was used to look at what I thought was important in a building and what I wanted to strengthen and maintain. The graduation studio introduced me to a new method of conducting a value assessment that was created by Loes Veldpaus and Ana Pereira Roders. Via this method, I was challenged to objectively asses what was mentioned as a heritage value from existing documentation and in addition categorize these values. This way of categorizing values (for example as an aesthetic value or as a historic value) helped to systematically determine what aspects of the building should be considered as valuable and how they should be considered as valuable. This last part relates mostly to the difference between tangible and intangible values. Before I joined the master studio, I was mostly used to look at the tangible values within heritage which mostly resulted in maintaining or strengthening these tangible assets. Within the heritage graduation studio, I discovered that the concept or idea behind the design of a building can be as important as- or more important than its physical asset. While I was still struggling with this shift during the graduation project I think that in the end, this allowed me to be more free in the design process and to see the opportunities in existing values rather than just looking at them as something that has to be preserved.

The specific track of Touch and Feel within the Heritage studio helped me to look at the use and implementation of materials within the design on a scientific level. Before I started the graduation topic I mostly made decisions on materials based on a personal preference or on some form of intuition. Specifically choosing a research topic that relates to the perceptions of materials helped me to be more conscious on the choice and application of materials within my designs on another level than by just considering what worked in relation to the climate and construction and what I thought was aesthetically pleasing. While this was mainly the case for transparent materials in my graduation project and I did not have the time to research the effect of all materials within my design project it is something it definitely provided me with valuable insights for applying (or purposefully not applying) a certain material and moreover a material in a certain manifestation in future projects.

**The relationship between the graduation project and the wider social, professional and scientific framework.**

Since the introduction of the concept of space syntax by Bill Hillier (2007), spatial relations have been broadly researched. With the further elaboration on the influence of visibility on space syntax by Hillier and Tzortzi (2006), the way that the physical transition (or border) between spaces is formed has become more important in relation to the overall research on space syntax. A border that allows for unhindered visibility while still providing a physical border is one made from transparent materials as stated by Marquardt et al. (2015). Transparent materials as a material is however mainly researched in relation to its physical characteristics regarding the building climate and the permission of light. Consequently, while there is research on the psychological perception of transparent materials, the psychological perception of transparent materials in relation to how functions within spaces are sequenced is a topic on which virtually no research is conducted. This research will therefor provide a connection between the perception of transparent materials a material in architecture and its influence on space syntax which in turn can be researched as an integrated topic by future researchers. Furthermore, the design process and final design of the graduation project will serve as a reference for how transparent interventions can be implemented in relation to space syntax. On the other hand, the design will also show how the conclusions that arise from the research are complementary to the spatial relations but are most likely to not dictate the spatial relation when an existing (heritage) building is considered. The research has shown that the values, form and functional programming of existing heritage buildings only allow the proposed interventions to be implemented to a certain degree.

**Dillemas and ethical issues**

The insight that the relation between functions with a different level of privacy should be leading in my graduation project clearly showed that my research could not be used to steer my design. Instead, the research provided the design with tools which showed what proportions the transparent border implementations could have in parts of the building that followed from the design.

The main dilemma that I therefor encountered was that for a long time I thought the different research tracks of my personal research into transparent materials, the heritage value assessment, the overall building analysis and the function analysis were mostly conflicting with each other. Before my P2 I mostly felt like I had to make compromises between these elements, and I did not consider the potential of them complementing each other. I therefore had to decide what was most important for me which were the functional relations of spaces with a different level of privacy and from that point I could better see how my research and the existing heritage values could optimize this relationship.

One very important topic considering the ethical reflection on my research and design was the difference between the end user and the predetermined private or public function of a space. One conclusion from the research namely was that a space did not necessary allow for a full transparent border simply because the function was public. Users might feel like they are on display when everybody can freely see that what they are doing. If a library is for instance considered as a public function, people who come there to study or read might want some privacy even though the space accommodates a public function. The main issue herein is that it is mainly the designer who should consider for which public spaces this is the case. If the designer simply applies a transparent border because the function is public than this might conflict with the preferences of the end user. An architect should therefor always consider whether optimizing the effect of creating a non-existing psychological border to optimize the relation between two spaces meets the needs of the end user.