

## Reflection paper

### Rotterdam Harbour Police: the concepts of openness and closeness applied to window openings

Diletta Wesel<sup>1</sup>

<sup>1</sup> Faculty of Architecture and the Built Environment, Technical University of Delft, Julianalaan 134 Delft,

#### 1. INTRODUCTION

This paper is a reflection on the graduation project within the *Adapting 20<sup>th</sup> century Heritage Vacant Heritage: Police Estate* Graduation Studio. This project focusses on the transformation of the Rotterdam Harbour Police station located at St. Jobsweg. The graduation studio focusses on Police Estates which will become vacant in the coming years due to the change of structure and services within the organisation of the National Police, transitioning to a more digitalised presence rather than physical presence in offices. In fact, in the coming 10 years approximately 700.000m<sup>2</sup> of the Dutch National Police real estate will disvested, and 30% of their real estate is in need of renovation. Out of ten buildings, the students had to choose one to work on during the year. I have chosen the Rotterdam Harbour Police. During this project I have chosen to focus on the concepts of openness and closeness applied to window openings. This topic has been chosen due to the particular impact window openings have on the Harbour Police buildings. These concepts are the pillars of the research conducted during the graduation studio. These concepts of openness and closeness have become relevant after having visited the station. In fact, this station is an ensemble of three buildings very different from each other. The smallest building was built in 1940, and it used to be a naval articles shop and a family home; the middle building, built in 1933, represents the first on ground Rotterdam Harbour Police office; lastly, the tall tower which was built in 1994 when the continuous extension of the port led to a growth of personnel and consequent need for office space for the Harbour Police. The research I have conducted aims to understand how window openings define a building's openness or closeness towards the surroundings and aims to define a method to help students and architects to choose window typologies according to desired openness or closeness. This method has been developed and tested while redesigning the Rotterdam Harbour Police buildings and altering their appearance.

#### 2. RELATION GRADUATION PROJECT TOPIC AND STUDIO TOPIC, MASTER TRACK AND MASTER PROGRAMME

Within the graduation studio student had the chance to choose between to approached: the Spatial Building Typology or the Touch and Feel approach. I have chosen to be part of the Touch & Feel line of research which focusses on the materiality of the buildings and points on revealing hidden values of material attributes and how these are perceived through senses. This is the result of my predilection in giving immediately, when looking at a building, particular attention to materials and construction details rather than to the whole building. Also, it is the result of not having had, during my studies, the opportunity to research and examine materials in depth. The topic I have chosen has a strong relation to the Touch & Feel field since I have focused on the openness and closeness of the Rotterdam Harbour Police station. Also, it is strongly related to the perception of space. While researching different window typologies I have been able to gain information about the materials, sizes, styles of window openings and how these have changed during time.

My graduation project focuses on the impact window openings can have on a building's openness or closeness. As mentioned, within the redevelopment I have chosen to focus on window openings and how these influence a building's openness or closeness. By conducting

this research, I have defined a systematic approach to intervene on existing window openings in regards with the desired openness or closeness of the building. In the future an increasing number of existing buildings will become vacant and will have to be transformed in order to accommodate new functions part of the renovations will affect window openings, which will have to be redeveloped or transformed. The approach I have used can be a straightforward decision-method to achieve the desired openness or closeness in renovation projects in which heritage buildings are involved. Heritage buildings have particular values which have to be taken into account when deciding to intervene on them. The project also relates to the master track Architecture, Urbanism and Building Sciences, since the site research (conducted on city district, neighbourhood, block and building scale) and the design also relate to the outdoor spaces surrounding the buildings, including the water of the Maas. Furthermore, the project also relates to technical aspects and the detail scale, mainly regarding the windows. This helped understanding what can and cannot be done when deciding to intervene, for example, on existing wall openings.

### **3. RESEARCH METHOD AND APPROACH**

In the beginning of the graduation studio the design and research were separate. In fact, the research 'part' started while within the design 'part' we had not chosen any building. In this phase we already had to come up with an initial research question or topic which we would have wanted to further work on in the following months. It is only once I decided what building(s) I was going to work on that I was able to make the Rotterdam Harbour Police part of my research. My research has been carried out making use of different research methodologies. In fact, besides the main research question (*How do window openings help define a building's openness or closeness towards the surroundings?*) a number of sub-questions had had to be answered with different approached. The first sub-question, regarding the styles and typologies of window openings present in the Rotterdam Harbour Police buildings, was retrieved making use of literature resources regarding window typologies and styles of windows in the 1930's, 1940's and 1990's. The results of this research have been utilised, together with archival research, and site research, to define the window typologies present in the Harbour Police buildings. In order to define the concepts of openness and closeness literature review was utilised, the most interesting article I have found is *The concept of openness in the Architectural context* written by Ayoub and Koba Yashi (2001). In order to define these concepts, they have related them to the human senses. This has been inspiring to me and has giving me the idea to relate these concepts and their connection to human senses to the windows typologies present in the Rotterdam Harbour Police station. Once I conducted this research and applied it to the window typologies, I have been able to comprehend the role the window openings play in defining the Rotterdam Harbour Police station. The way I have done this, could easily be applied on other window typologies present in other buildings to comprehend the role openness and closeness play and understand possible needed changes.

### **4. RELATION BETWEEN RESEARCH AND DESIGN**

After having applied the concepts of openness and closeness to the window typologies and having understood role the window openings play in defining the Rotterdam Harbour Police station, I was able to integrate my design in the research and vice versa by creating a straightforward decision-making method. This unfortunately happen quite late in the graduation project. This happened because in order to get to this point all the sub-questions needed to be answered and all the aspects of the research needed to be defined. I have been able to connect the research and design by applying a systematic approach to define the level of openness and closeness of the window openings present in the Rotterdam Harbour Police and consequently define, making use of a number of factors (condition of frame, condition of glazing, suitability for new program, level of openness or closeness, etc.), which I retrieved from analysing the retrieved drawings from the Rotterdam city archives, whether they had to undergo an intervention or not. By using this method, I have been able to determine that most

of the windows present in the 1933 building did not need any kind of intervention, whereas the windows present in the 1940 building, mostly due to their condition and typology, needed to be replaced, this mostly also applies for the windows of the 1994 building.

Once determined which windows needed 'some kind' of intervention, I looked at what was the problem they had. Some did not allow enough light passage, others had rusted frames, and other were fixed windows where I needed openable ones. After having defined the problem, I created a set of intervention possibilities and looked at their pros and cons. After an analysis of the possibilities, I would choose one and further develop it.

The research and design have met late in the process, but soon enough to be able to apply the research to my design. This happened because I started the research being, unknowingly, to ambitious and thinking I would be able to the design and research meet in the right moment. I had more research to do than I had thought, and I also have had to narrow down the research more than I had initially envisioned. In fact, in the beginning I thought I would be able to elaborate and conclude a method at the beginning of the design phase when, in reality, I created it while I was designing. However, by having created it while designing I have been able to swing back and forth between research and design being able to test and elaborate the method while designing.

## **5. RELATION BETWEEN GRADUATION PROJECT AND SOCIAL, PROFESSIONAL, AND SCIENTIFIC FRAMEWORK**

The graduation studio has as main focus the adaptation of 20<sup>th</sup> century heritage building. It has a strong relation with the situation we live in today. In fact, many buildings are becoming vacant and many more will be in the future. However, it seems people have an urge to continue adding new buildings without considering the existing. This graduation project is an example of how 20<sup>th</sup> century buildings can be redeveloped to accommodate new functions in the Dutch context. However, it can be taken into consideration in other contexts.

Moreover, building new will not always be possible. I am convinced this has become even more clear during this pandemic and the climate change we are witnessing. In fact, natural sources shortage has increasingly grown affecting many industries including the building industry. It is therefore important to understand the value of renovation and adaption within the building industry as well as in our daily lives.

## **6. ETHICAL ISSUES AND DILEMMAS**

Architects, whether they work on renovation projects or a new development, are faced with ethical dilemmas very often during their careers. Within the graduation studio I was often confronted with dilemmas regarding several aspects of the buildings. One of them is the renovation of the 1940 building and the consequent removal of the existing windows in order to create bigger openings to place new windows which suite the new function this building will accommodate. By doing so I would alter the existing building but on the other hand I would be give this unutilised building a new life. The big dilemma was to what extent should I intervene and alter the original openings? I have been able to make design decision, such as this one, by adopting a systematic approach and ruling out certain options rather than other ones. In the specific case of the window openings, I firstly analysed all of them and determined whether they're condition was acceptable and determined whether they would suite the new function. I then decided which of the windows needed to be replaced, which ones totally removed and which ones could remain. During this project I have always tried to think if certain intervention would be possible, costs wise, if this had to be a real project. Since it is not real, I cannot confront myself with numbers, but if were real dilemmas related to costs would play a big role.

Another dilemma which emerged during the design process was to what extent intervene in the alteration of the roof of the 1933 building. In fact, in this case my initial idea was to alter it in order to suite an exhibition space. However, the space underneath the roof was not suitable

for such a function since it was a dark space with low ceilings and was reachable only by stairs. The only way to create an accessible exhibition space would have been by elevating it, creating new and bigger window openings, and adding an elevator. This would have meant (partially) destroying the existing structure and adding a new one. This space and the roof had held prisoners during World War II, and I had valued them very highly because of their historical significance. So, the dilemma that arose was whether to keep the structure or intervene and totally alter it. In the end I decided to make changes in my functions disposition and to alter the roof in such ways it would maintain its value. This had positive results since I was further pushed to develop the exhibition space in the 1994 building and make positive changes in the disposition of the community centre.

In conclusion, during my graduation project I have dealt with several dilemma's concerning different aspects. I have learned to deal with the in a rational way and understood that it is always important to be able to explain why I have taken certain decision rather than others. I do firmly think this teaching will help me in the future.

## 7. BIBLIOGRAPHY

Ayoub L., Koba Yashi H. (2001). *The concept of openness in the Architectural context*. Architectural Institute of Japan. Retrieved November 20, 2021, from: [https://www.jstage.jst.go.jp/article/aija/66/546/66\\_KJ00004226333/\\_pdf/-char/en](https://www.jstage.jst.go.jp/article/aija/66/546/66_KJ00004226333/_pdf/-char/en)