

Reflection

Master of Science Architecture, Urbanism & Building Sciences

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Introduction

The current building environment has a lack of adaptability, which means that buildings are often demolished and rebuilt. In almost all cases, biological and technical materials are mixed by using glues, adhesives or wet seals, therefore materials can hardly be reused, if at all.

After demolishing, there are not always instantly new permanent plans due to an unfavourable location for example, which can lead to unused areas. These areas can stay untouched for years even for some decades, while there is a shortage of housing for starters and students for example.

These challenges led to the following research question:

“How can we build and place remountable and portable buildings for starters and students that can adapt to a site specific context on temporarily unused areas in Dordrecht, without mixing biological and technical materials?”

Relationship between research and design

The first semester of the graduation year was mainly focussed on defining a problem statement by using a personal technical fascination as a hypothesis, which is used as a guideline for the research and design process. The research started off with a broad case study, which is analysed and eventually used as a main starting point for the design. The challenges or improvements of existing concepts led to the ambition of leaving a positive impression on and near the unused areas and the ambition of a completely remountable dwelling.

More input for the design came during the thematic research phase. This phase gave specific measurements and tactics how to realize remountable and portable dwellings, but more importantly, it forced me to define my own definition of remountability, because there is no universal definition within the field of the built environment.

Designing from this starting point during the second semester made me aware of the narrow maneuver space, due to specific building code rules. This led to the challenge of designing an aesthetically pleasing portable system, but keeping all the specific measurement rules in mind. Therefore the whole process and relationship can be summarized as a research that formed a framework with specific requirements, which have been gradually evolved architecturally into the expression of joints and remountability.

Graduation project topic in relation to the AE studio

The AE graduation studio gave freedom in the setup of the project and it gave the opportunity to work with a personal technical fascination. The project location can be either chose by selecting a relevant suggested location or by suggesting your own site. There are also three categories in which the project can be positioned, namely flow, stock and make. The first category is more focussed on the flow of materials, energy and people. Stock is focussed on the use of the existing building stock and the last category is focused on the production method and development of materials for existing and new applications.

My project fits in the make category, since the building process was one of the most relevant issues when building portable dwellings for temporarily unused areas. I immediately knew from the first moment of the graduation year, that I would love to use remountability as my technical fascination and proposed a situation in which remountability could offer a solution. This is a direct translation of professor Asselbergs first question which was: "If technology is the answer, what is the question?"

At and around the P2 I received feedback that suggested a more outgoing or expressive translation to give strength to the concept and the design. This led to a more explorative attitude and it pushed the project to a nearly finished concept that could be directly built.

Graduation method compared to AE studio methodical line of approach

The AE studio focuses on the integration of technology in architecture by working with a specific technical fascination. This fascination is explored in the research paper and is thereafter implemented into the design.

The implementation of technology, which is key to the methodical line of inquiry for the AE studio, led to the approach of investigating what have been done in the field of remountability and temporary architecture and searching for potential solutions or solutions that could be improved. By pushing the boundaries of what already has been done, I became aware of why certain solutions aren't realized yet. This resulted in a broad exploration of what could be done and which solutions could be improved. This specific approach was ideal for the improvement of the current market, but it most certainly guide me to specific realistic solutions rather than more risky alternative concepts that have never been tried before. This has to do with the technical implementation, coming from the AE approach.

I learned to work as an architect and an engineer at the same time. This process conquered many contradictions in the research and design, which made me realize that this duality was the hardest challenge in my design and in many other projects in the built environment. The technical approach comes as close as possible to realized project, which makes the results useful as a source of technical and architectural solutions and useful for further development. The technical approach has also challenged and altered my architectural design skills by focusing on the appearance of certain details that had to be both functional and appealing.

Unfortunately I couldn't make the prototypes I would have like to make due to the risks of the Corona-crisis, but I instead focused more on a detailed exploded views to show how elements are being jointed technically and aesthetically. The prototypes would have been helpful and more convincing in making clear that certain elements are truly remountable.

The project in its wider context

The project can be placed in several relevant topics regarding housing shortage, temporarily unused areas and circular challenges. The reduction of the housing shortage with temporary dwellings for example relevant, because on 'Prinsjesdag' (2019) is announced that 15.000 'flexwoningen' (flexdwellings) will be built on top of realizing 75.000 houses per year. This asks for an improvement of the limited market offer, which is often judged as temporary container build.

Remountability is furthermore a relative new design approach to tackle the circular challenges. The research on this topic is still limited and there is no universal definition nor evaluation method to compare possible solutions without testing it in practise and the research work that has been done is moreover intended for the field of product development, which makes research even more necessary within the field of the built environment.

I have been recommended to focus on the evaluation of the remountability together with some fellow students by my research tutor. At first I wasn't completely convinced that this was the most important issue, but shortly after his proposal I realized that designing for remountability could be almost worthless if you can't prove that one alternative is more efficient than another. This have made me also realize that the definition or ambition regarding remountability is highly important to find suitable solutions for this technical challenge, in our journey towards a circular economy.