REFLECTION PAPER - 'TIMBER TOWN'

MASTER OF SCIENCE ARCHITECTURE, URBANISM & BUILDING SCIENCES

PERSONAL INFORMATION

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INTRODUCTION

This reflection paper will focus on the process and phases up until the P4 presentation of my graduation project: 'Timber Town'.
This reviewing and reflecting on different stages (Q1, Q2, Q3 and Q4) of the graduation is guided by five aspects in chronological order:

The relationship between research and design

Elaboration on research method and approach

The relationship between the graduation topic, the studio topic and the master track architecture

Elaboration on relationship between the graduation project and the wider social, professional, scientific framework

Ethical issues and dilemmas I have encountered

The graduation studio is part of the chair of Heritage & Architecture. The subject of the project is a (former) industrial area in Winterswijk which is the result of the textile industry. This industry used to fulfill the core function of Winterswijk's prosperity, but now lays (partly) unused an deteriorated. Next to the church, the Raadhuis and a music school 'Boogie Woogie', the industrial area in Winterswijk is appointed as one of the (partly) abandoned heritage sites within the KaDEr project.
The province of Gelderland founded the KaDEr project in order to redefine their strategy in the field of heritage, since restoration and transformation of heritage is becoming a common future interest. The project is a collaboration between the Province of Gelderland and the Faculty of Architecture of the Technical University of Delft (Zijlstra, 2018).

In the first place it was very interesting for me to work with a real 'client' as there was a close collaboration with the municipality of Winterswijk due to the KaDEr project. Presenting and exchanging information with them is a good way of practicing communication and presenting skills. My aim for the project is to show new insights in the instrinsic values of heritage in Winterswijk and to convince the municipality and the owners of the Morsepoort (project area within the ensemble) that a fruitful and durable future is a possibility.

The industrial area in Winterswijk

Q1

Analysis
An extensive group analysis was conducted in the first weeks of the project, categorizing the results in three topics: Architecture (AA), Building Technology (TA) and Cultural Values (CV).

The approach of the research was driven by the approach of Heritage & Architecture, where the findings are summarized in the so called 'Cultural Value matrix'. As input for this matrix, on the one hand the layers of Brand are used and on the other the values of Riegl (Kuipers & de Jonge, 2017). We decided to use the different layers of Brand as chapters in the report and tried to focus on five building typologies of our interest, to try to narrow the research down and only specify the characteristics and values needed for our designs. Reviewing this approach, the focus on these buildings was a good choice because it gave us the tools needed to formulate our design starting points. On the other hand, structuring the chapters based on the layers of Brand (Brand, 1994) might not have been the best choice, since it was sometimes hard to categorize certain findings which slightly slowed down the speed of the process.

Base of the design starting points
To conclude the analysis, we summarized the whole into Obligations, Opportunities and Dilemmas which are to keep in mind when designing and can form the base of the design starting points. From the Obligations, Opportunities and Dilemmas I derived these values that I appreciate the most of the industrial ensemble. This helped with keeping focus throughout the whole project.

Here I also noticed that besides the extensive research on the buidlings themselves, additional research was necessary in order to find a suitable target group and programme, as is shown in figure 1. Now there was a clear goal set for research after P1.

Q2

To try to keep track of my progress and to bundle all of my research together, it was right after P1 that I started working on my Design Portfolio. Literature research, references, sketches, notes and remarks form this document. Up to P4, this document was updated almost every day. Working in such a way very much guided me through my own process and sustained a good way of reflection.

Getting familiar with the assignment
With having defined the target group and programme research as the first action to do after P1, I was first interest in industrial areas in general and how these are again brought to life after its orginal function has left the building(s). As Eva de Klerk explains in her book 'City as a Shell' where she takes the NDSM wharf as an example, it can be very important to let users of a building contribute to building itself. In this way an old industrial area can slowly grow to be an inclusive success story (De Klerk, 2017). This was a big inspiration for me at the beginning of the project.

Research and design: programme and functions
Afterwards I focused on Winterswijk and its actualities, where I found out about the demographic decline and read booklets and papers about it. The first aim was to try to find a way to counteract this, where I chose for an approach with a mixed use area. Then I looked into the characteristics of the Achterhoek and its business climate, where the research led to the idea of involving the manufacturing industry into the project. The third topic was the topic of circularity and my own interest in this.

Then I combined these three topics into the idea of Timber Town, as shown in figure 2.

Design starting points
A lot of the before described aspects were then combined into the five design starting points (figure 1):

1. Strengthen the urban situation and involve the hinterland
2. Cultural value intervention strategy
3. Install mixed-use functions, with a focus on timber craftmanship
4. Add to typologies, a new layer of time
5. A focus on circular and durable interventions.

With these starting points I could further elaborate on the design and take position on multiple different topics throughout all different scales. At this point I had a broad idea on how to implement the different design starting points. Especially on the bigger scale, there was a grip on how to treat the new routes and what the atmosphere of the place should be. This I very much tried to express in my P2 presentation.
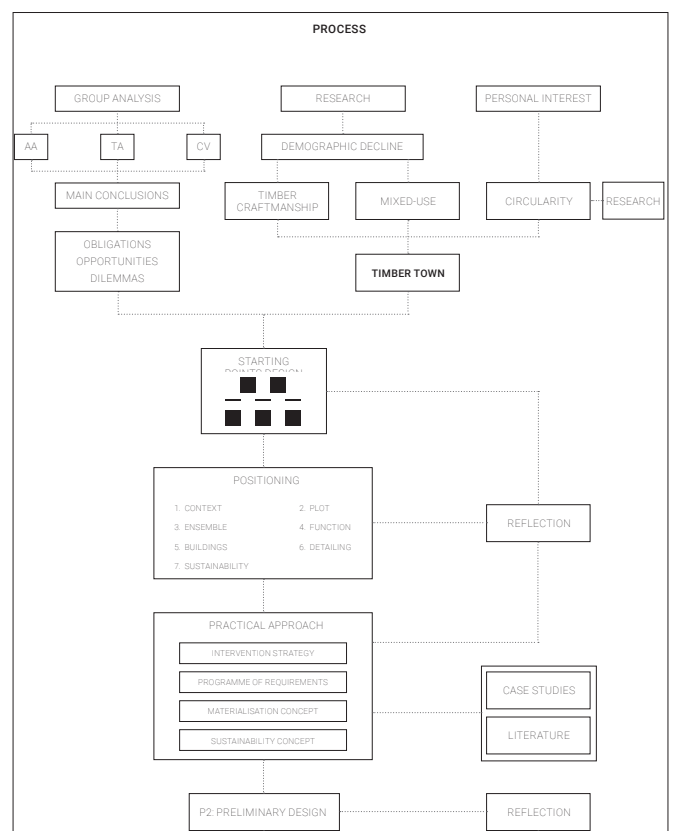

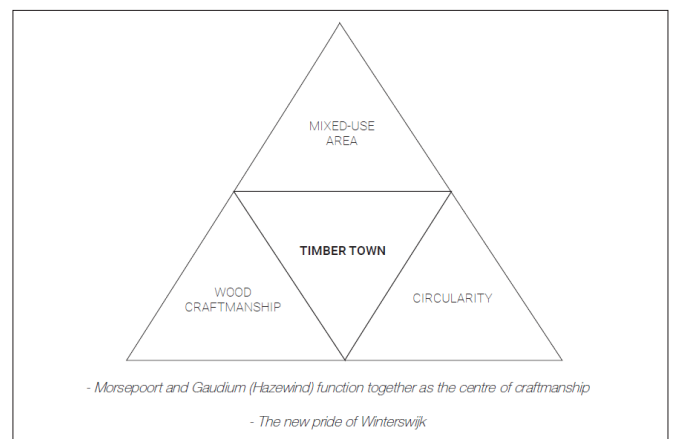Figure 1: Research and design method in Q1 and Q2 (Own image)

Figure 2: The idea of Timber Town (Own image)

Feedback P2
In my P2, I tried to explain the masterplan and research leading up to this thoroughly. The tutors confirmed that it is an ambitious, but complicated and broad plan. Therefore it is very important to focus on a specific part (building) and to work from there. Also they said to again look at characteristics and values of the buildings and base a strategy on that.

Q3

To find a focus point
I went back to the values: the creek, the typologies etc. And decided that the focus of Timber Town should be the timber workshop situated alongside the proposed new route from the village centre towards the hinterland. A suitable building type had to be chosen, where I took a closer look on the different typologies and decided to link that to the function of the timber workshop and related programme. I picked the hall with the hyperbolic paraboloid concrete shells, since it is rare in itself and has an interesting and solid structure. The more subtle and lower shedroof building across the street could host additional functions.

Research and design
I then soon started to make a model of the hyperbolic paraboloid roof building. In one way to get to know the building better, in the other way to start to test the functional layout of the workshop. Here I noticed the strengths and the limitations of the building based on orientation, height, structure, size, openness/closedness, and spatial quality. Additionally, an excursion and case study on the Openbare Werkplaats in Amsterdam very much helped to divide the space into a certain zoning, based on functionality (process) and the required machines and noise. The model was also used to test different options on how to shape the façade and entrance and the interplay between them. Ultimately the model was the starting point for defining a functional layout and zoning (important for a functional building), but also to think of the spatial experience. While thinking of functionalities within floorplans and sections, a lot of research is done on materialisation (timber) and climate systems. Together with the values of the building, the idea was born for only necessary permanent interventions on the façades, and a demountable (modular) structure on the inside of the building fitting into the topic of circularity and leaving the buildings partly untouched.
In this stage precedents were of great importance, where a lot of research has been done. This resulted in a global idea on the façades, structure, extension and climate. Although, at this point it was a bit hard for me to grasp the essence of the project.

It was only until two or three weeks before P3 that, with the help of Hielkje (my main mentor), I started coming up with a main concept for Timber Town. Here I also realized that a lot of research was done on multiple topics and there was a vague idea on all aspect in my head, but a clear concept and idea was lacking. Rethinking the whole project I came to important aspects/characteristics of the project:
-       The project has to be developed through phases
        (certain flexibility)
-       Timber is the main focus of the project and
        should be articulated and motivated better. The
        ensemble is bundled together by a 'smart timber
        wrap' shaping the façades.
-       Reusage of materials is gaining importance and
        should be shown in materialisation and atmosphere.

Feedback P3
In my P3, I tried to test the story of the different stages and put a lot of time and effort in that. The story was transferred, but came across as more of a business plan. Luckily I recieved a lot of feedback on this. After P3, I analysed this feedback thoroughly

and turned them into action points. The main themes were to work more on the combination of the economic perspective and the cultural value perspective, to focus on the architectural idea of the different spaces and to investigate the technical aspects and refining different elements and parts. Therefore I first started to make a 'test' P4 presentation, which helped me to guide my to the products I needed to tell my story for P4.

Q4

Rethinking the design starting points
With composing this 'test' P4 presentation, soon I realized that a revision on the design starting points was needed. This was the first topic of a series of topics where I reflected on in Q4 and which I will elaborate on more. I came to the conclusion that only four of the starting points were still relevant and that I somewhere had to add the economic aspect. Because it is linked to the mixed-use programme, I decided to combine mixed-use and the economic approach.
While thinking of the essence of the project, something was still missing: throughout designing I very much tried to create a certain coherence within the ensemble of the Morsepoort. This was already noticeable in the materialisation (diverse ways of using timber as cladding throughout the ensemble), but also the climate concept (shared heat/cold storage) and in general the whole approach of looking at the area as growing and the buildings complementing each other. Therefore the design starting point of 'creating synergy' was added. It helped to crystalize the project even more, from the big scale on the level of the Whemerbeek to the smalller scale of detailling. Also I noticed that one of the design starting points was not as explicit and was merely something that was the result of the whole design, not necessarily a starting point or goal in itself: adding a new layer of time.
The following design starting points then formed the base of the P4 presention:
1. Strengthen the urban situation and involve the hinterland
2. Cultural value intervention strategy
3. Install mixed-use functions, with a focus on timber craftmanship
4. Creating synergy within the ensemble
5. A focus on circular and durable interventions

Research and design: testing
To be able to tie the knots together, more research needed to be done on several subjects. The subjects on which the tutors had given their feedback had priority. In this phase it consisted mostly of (architectural) precedents, materials and their specs and examples of technical details. Also the focus was again on the functionality of the building. What would be the best configuration of the machines? How would people move? And also: How about noise? Important was to refine these kind of aspects to create a coherent and complete story and to make the building suitable for the users. In the end this is a bottom up approach, where the users are invited to think along and to make the space their own.
It was also in Q4 where the 3D model came to gaine importance, especially because now a lot of architectural decisions had to be made. A lot of different aspects where tested: the roof shells, multiple façades, sunpaths and shading, lighting and the architectural appearance in general (Figure 3). This way of research by design very much helped me to be able to make the decisions. Also using my Design Portfolio, I could prepare my tutoring well and present a coherent and continuous story every week.

Simplification
As mentioned above, functionality became an important topic in this stage of the design process. Reflecting on the state of the design on that point, some aspects were too difficult for the functionality and usability of the building. Sometimes too expensive, sometimes not easy enough to use, sometimes too much focused on the esthetics only. Therefore I decided to simplify multiple aspects of the design on multiple different topics, which I personally think very much strenghtened the design itself and the design choices made.
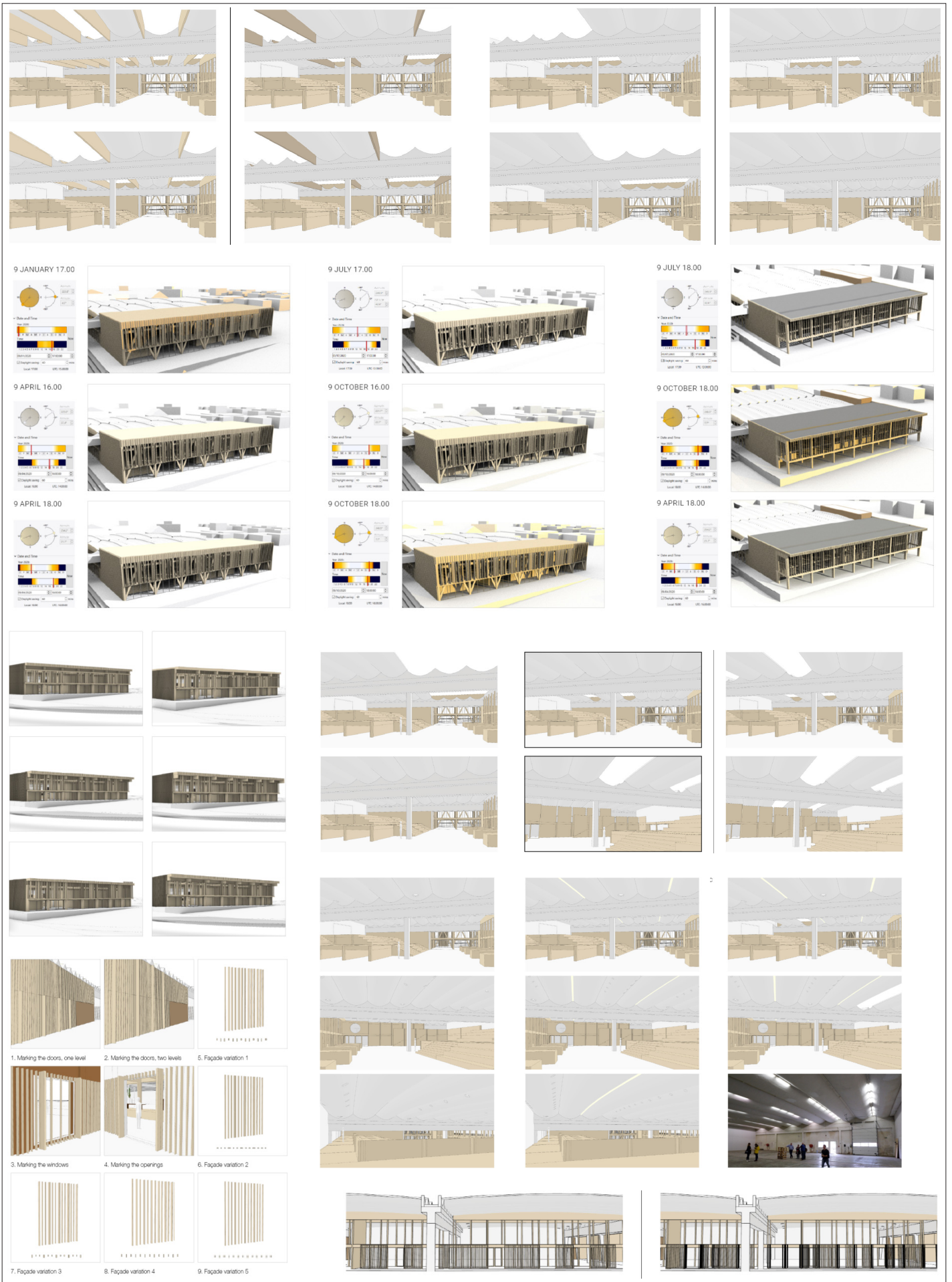
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1. Marking the doors, one level

2. Marking the doors, two levels

5. Façade variation 1

3. Marking the windows

4. Marking the openings

6. Façade variation 2

7. Façade variation 3

8. Façade variation 4

9. Façade variation 5

Figure 3: Testing and using the 3D model (Own images)

A realistic story

With finalizing the design, I tried to gain as much information as possible to make sure that I had all the required knowledge. Herefore I contacted the municipality of Winterswijk and the Waterschap Rijn & IJssel for more information on the creek. This very much helped me to put my design into a realistic framework and to reconsider the design of the public space that I had so far. Again here I was simplifiying the public space alongside the Whemerbeek and new interventions were designed partly according to the vision of the municipality. I also realized that I found the idea of presenting the design in the most realistic way very appealing. For the project to fit into a small town like Winterswijk and to be a possible way and vision of transforming these kinds of heritage areas, it is important to keep in mind the current situation, its characteristics and the vision of the muncipality. That also very well suits my whole approach on developing this area economically with different stages over time.

REFLECTION ON RESEARCH AND METHODS

Reflecting on the process and methods as described above and showed in the schemes (Figure 1&4), there was not just one approach or road that I tried to follow. A lot of different research methods and tools were used to form the base for the design and design decisions. Furthermore, looking at the schemes, it becomes very appearant that during my process, there was a lot of reflection. Especially after P3, I was constantly reconsidering the design at that stage and asking myself questions: are the design starting points followed? Why did I design something in a certain way and what is the reasoning? How can the building become more functional? How can the building become more easy to use? In the end I believe that it made my design stronger.
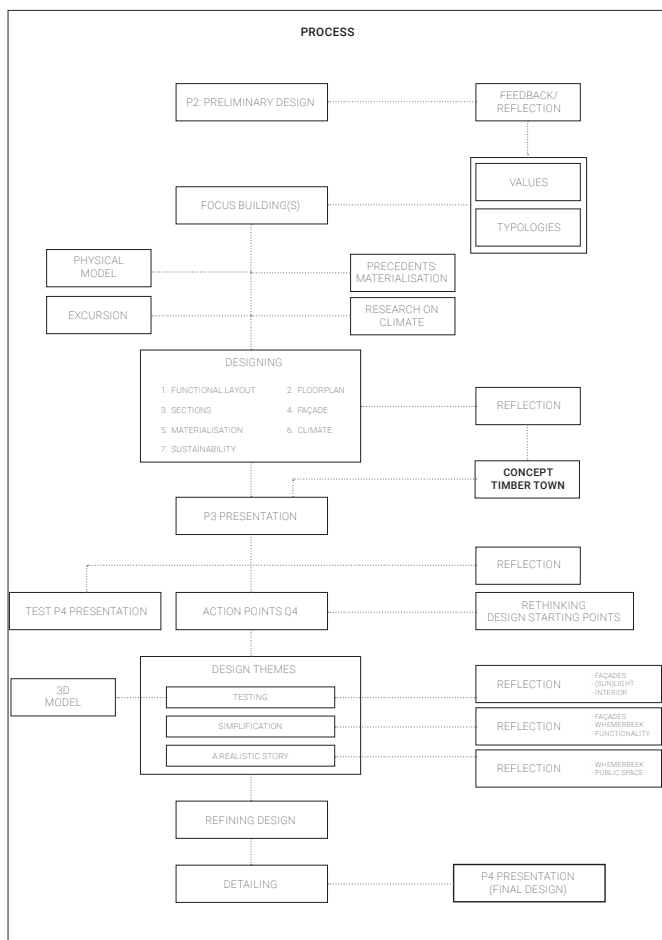

Figure 4: Research and design method in Q3 and Q4 (Own image)

THE RELATIONSHIP BETWEEN THE GRADUATION TOPIC, THE STUDIO TOPIC AND THE MASTER TRACK ARCHITECTURE

As written on the website of the TU Delft about the section of Heritage & Architecture: "Transformation of cities and buildings is one of the main themes in architecture today. An appropriate balance between the old and the new is a fundamental interest for contemporary design in architecture. Heritage & Architecture is concerned with preservation and renewal in existing architecture. The research by design concentrates on the architectural and technical aspects involved in the growing need for the conservation and transformation of buildings, including those of cultural significance." (TU Delft, Heritage & Architecture, n.d.).
In this respect, the section of Heritage & Architecture is involved in the KaDEr project to come up with a new strategy for heritage in Gelderland and to think of a future perspective for abandoned buildings in the province (Zijlstra, 2018). That transformation of cities and buildings and finding an appropriate balance as described before, is a specific topic here, where the province of Gelderland and the region of the Achterhoek have their own characteristics and unique heritage. Also the studio 'Revitalizing Winterswijk' of the section Heritage & Architecture has its own specifics. The village of Winterswijk is an island within a beautiful landscape where tourists love to go, but the village also deals with demographic decline. The challenge here is to come up with a strategy and a design which can benefit all of those aspects and to show how urban interventions and architecture can be the key for transforming buildings that have lost their function.
I believe that my graduation topic in the shape of Timber Town is an appropriate project for Winterswijk. In the first place because a bottom up approach and a mixed-use area is proposed for the transformation of the industrial heritage, which can counteract demographic decline. In the second place the function of a shared timber workshop and related programme links to the manufacturing industry, which is very large in the eastern part of The Netherlands. The strategy of dealing with the heritage is made as realistic as possible, due to the different stages of development which are designed and the inclusion of the municipality's vision and ideas.

ELABORATION ON RELATIONSHIP BETWEEN THE GRADUATION PROJECT AND THE WIDER SOCIAL, PROFESSIONAL, SCIENTIFIC FRAMEWORK

Research
The research conducted in Q1 is bundled in an extensive analysis report of 270 pages and consists of literature research, historical research and site observations. It is based on the Cultural Value matrix, developed by the section of Heritage & Architecture of the TU Delft. "The matrix is specifically intended to guide students in detecting the essential qualities of the heritage buildings in their present state and to understand them better in relation to the historical evolution" (Kuipers & de Jonge, 2017). After we had put the multiple values into the matrix, the next step was to assign different levels of significance to the values. The result was a large list of Obligations, Opportunities and Dilemmas, which was very helpful for us. Indeed it helped in "communcation and differentiation during the next steps of our value-based design from built heritage process" like Kuipers and de Jonge explain in their book (Kuipers & de Jonge, 2017). But on the other hand I thought that it was difficult to connect these directly to the first design steps and it took a while for me to figure this out. For me it was important to understand that the results of the matrix should be more of a guideline, and that from there I had to define and crystalize the values that for me would be most important to capture within this project and that would stand at the forefront of the design, instead of the ones that are more present in the background. If I now read the Obligations, Opportunities and Dilemmas in the analysis report, I think that all of them are respectively included into the design.

Approach on viability
This project can show how an area ilke this can grow from the inside out, where it only needs an investment of the municipality at the beginning of the process to start revitalizing the area. Therefore there is an increase on viabilty and credibility embedded in the project. This is linked to the cultural value strategy on how to slowly develop industrial heritage sites in the Achterhoek like the site in Winterswijk.

Approach on inclusiveness
By making the area mixed-use in the first place, and in the second place inviting multiple types and groups of people to the area, the first step to inclusiveness is made. Also a lot of initiative is taken to incorporate the users of the area into building and shaping the area themselves.

Approach on circularity
Within the more professional and scientific scope, the project contributes to a sustainable future because it focuses on the topic of circularity. The phenomenon of circularity is a very broad and therefore I will try to explain circularity in Timber Town according to three themes:
- Modularity
- Sustainable use of timber
- Reusing materials

- Modularity:
As stated in a report from the TU Delft, adaptive building and circular building are strongly connected. Within this idea of adaptive building, incorporating standardized elements within our building practice can be very beneficial. Next to causing less impact on the environment and a smaller CO_2 footprint, the approach is also economically attractive (Geldermans & Rosen Jacboson, 2015). Timber Town fits into this approach. The modular structure of the interior is fast to produce, easy to mount, possible to extend and the structure is repeatable. In this way it would be possible to expand the life span of the structure in the first place, or in the second place to give it a new life somewhere else. With also involving the users in this process, they are given flexibility to deal and experience the building themselves.

- Timber as a building material
Wood is one of our oldest building materials and certainly one of our most sustainable, since it is the only material on earth that can compensate for the exhaust of its own production process (Waugh Thistleton Architects, 2018). Therefore, nowadays the importance of timber as a building material is gaining importance. Multiple buildings with completely timber structures, roofs and infill are designed and being built in the Netherlands (Architectenweb, 2020)(NOS, 2018)(HAUT, n.d.). Building with timber is the future: "If the terms naturalness, comfort and ecology are considered in the context of using materials for building future-oriented architecture, then it becomes apparent relatively quickly that this must concern the raw material wood" (Stora Enso, 2017). In that respect, 'Timber Town' can contribute to a sustainable future.
Also governments are aware of the developments in the field of timber building and acknowledge its importance. The French government for example, has announced plans for 2022 in which the government wants to implement a new sustainability law where all new public buildings will have to be built from at least fifty percent timber (Crook, 2020).

- Reusing materials
 The reuse of materials is also gaining importance. For example, the concept of building passports (Madaster Foundation) is introduced by Thomas Rau to make the reuse of materials easier (Rau, 2019). Also multiple architectural firms completely focus on the reuse of materials in their projects, like Superuse Studios. They write their vision on their website: "A design is not considered as the beginning of a linear, but circular process: A phase in a continuous cycle of creation and recreation, use and reuse." (Superuse Studios, n.d.)

In 'Timber Town', the reusage of materials is present in multiple different ways. Bricks from the few demolished buildings or façades are reused in the design of the public space. All other materials are directly transported to one of the buildings of the ensemble where there is a first start of the Circular Shop: a shop where used materials are sold to begin a second life in a new structure. The modular elements of the Creative Cubicles which the renters of the space can compose themselves, will include reused window frames and other reused materials are to be found on even a smaller scale.

On the scope of Winterswijk, the project is also contributing to awareness of sustainability. The project cooperates with multiple initatives in the surrounding area on the topics of wood and reuse, and makes the topic of circularity visible to the public. This is also a desire from the municipality of Winterswijk.
Scientifically, the project is part of the KaDEr research project: Living Lab - XL - Urban - Winterswijk. In this way it also contributes to the bigger picture of revitalizing heritage in the province of Gelderland in a sustainable way and exchanging knowledge on this topic.

ETHICAL ISSUES AND DILEMMAS I HAVE ENCOUNTERED

Cultural value analysis
Working on structuring our analysis' findings by the 'Cultural Value matrix' sometimes occured to be more difficult then thought of at first sight. Especially prioritizing the different values was very difficult for us, because initially the approach tries to be objective, but sometimes we came across thing that we had to decide more based on a feeling.

The project itself also involved some ethical issues, mainly on the people and users of the area. I always have loved this quote of Jane Jacobs: "There is no logic that can be superimposed on the city; people make it, and it is to them, not buildings, that we must fit our plans" (Jacobs, 1958). In his book 'Architecture, Ethics and Globalization' Geoffrey Galt Harpham writes about the same issue. He puts forward the example of Frank Lloyd Wright, who not only designed buildings but also furniture. These not too comfortable design objects and their use were then monitored by Wright himself, to see if people would actually sit on them and if the users confomed to his patterns. Galt Harpham opposes this approach and stresses that it should not be the architect to steer the people into a certain direction or way of life, but "the building must envision human dwelling, and must make itself hospitable to it" (Galt Harpham, 2009). Translating this to my own project, I think the goal has been to come up with a more bottom-up approach instead of imposing a great and extensive extraordinary masterplan. The phased approach allows the area to grow slowly, where there is room for choices to be made along the way, based on the demands and wishes of the clients and users. Also on the smaller scale the user has always had a central focus, partly also because the timber workshop is a functional building. The adaptability and flexibility of the interior structure allows for the users to make changes to the building and the Creative Cubicles will have to be composed by the renters themselves, creating a great sense of involvement with the building(s).

REFLECTION ON THE PROJECT APPROACH

Frankly, I notice now that while researching and designing, I kind of lost the idea and inspiration that I got from 'The city as a Shell'. In the meantime I was searching for a good story line or concept to make the idea of Timber Town stronger. It is good to realize that maybe the solution was already there in my head, and that I sometimes just have to take a step back and go through the pages of my Design Portfolio to see what my initial thoughts on aspects of the project were. Additionally I learned a lot from using my Design Portfolio as a guide throughout the project, and I am sure that I will take this way of working with me when I graduate from the TU Delft.

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