

Reflection Sarah Hermsen

Graduation Technologies and Aesthetics

In this reflection I will first introduce my final design concept, followed by an overview of my approach and planning during the past year. Afterwards I will reflect on the (broader) phases of the past year, ending with an overall reflection on my work and the studio.

Project abstract

For my graduation project, I have developed a design for a building with the function of a craftsmanship-knowledge center. Here, designers, builders, researchers, and commercial stakeholders come together to develop and share knowledge around sustainable architecture – initially focussing on building sustainably with timber to relate to the craftsmanship behind the traditional trusses of the farms.

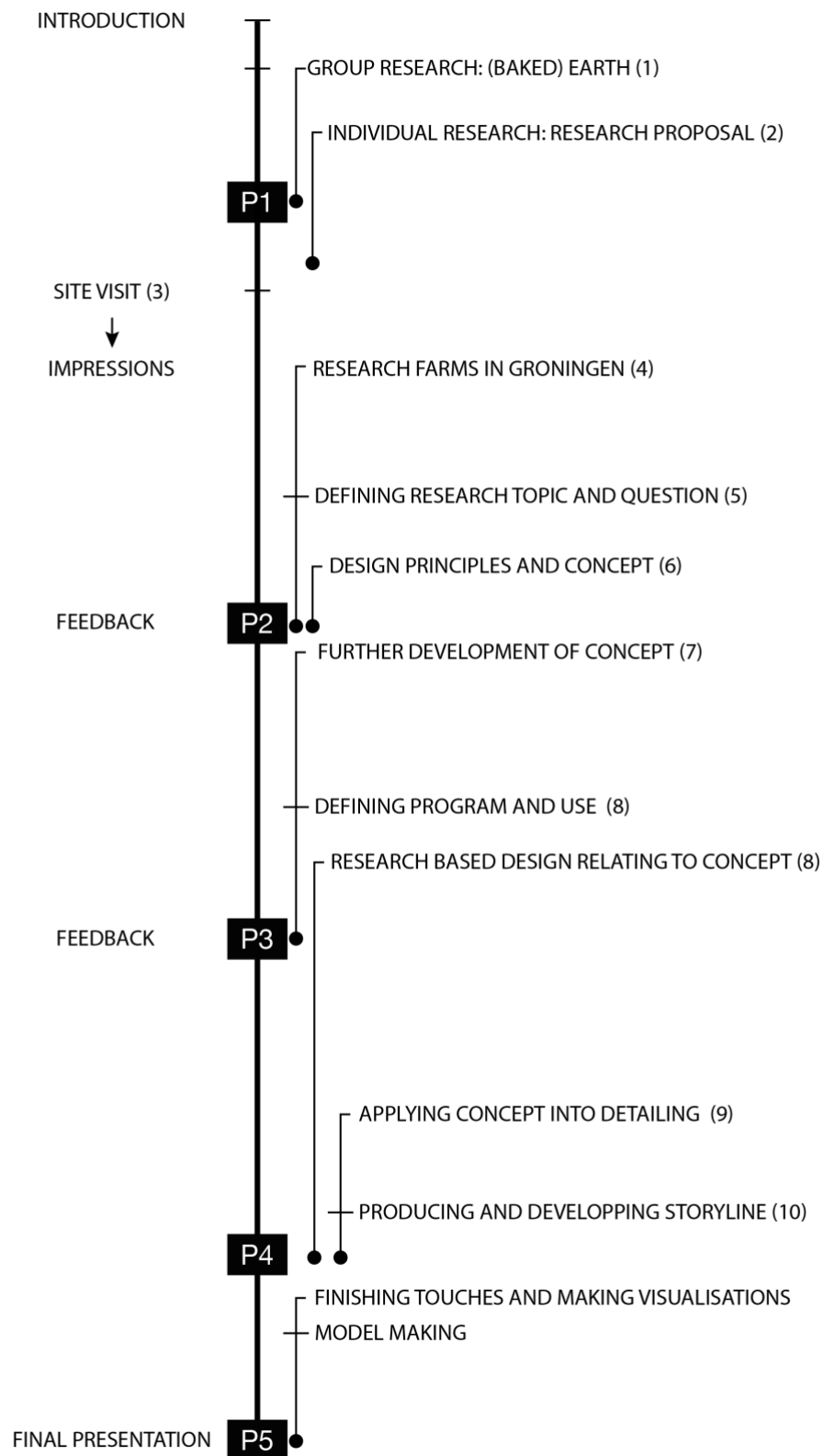
The building is characterized by traditional craftsmanship as seen in Groningen farm typologies and is flexible in multiple aspects: not only can it adapt in size to the users' needs, it also adjusts easily to current -changing- building methods. These adaptations do not deplete resources. The building reflects on the paradox that the consequences of sustainable innovation often isn't sustainable itself, due to the rapid succession of new techniques and materials, without considering time sensitivity (where something is time sensitive when it *is useful or relevant for only a limited amount of time*).

Both the use and the design of my proposed project is explicitly time sensitive. My thesis project aligns with the question that is continuously posed to master architecture students at the TU Delft: How do you balance sustainability, functionality, technology, and aesthetics when making design choices?

Approach and planning

During the past year I took several steps that show the process I followed. These steps are as follows, and clarified in scheme 1:

1. Doing research with two fellow students for several weeks on the history of building with (un)baked earth in North-West Europe, resulting in a timeline to aid in gaining an overview of the aspects that are useful in modern applications.
2. Simultaneously developing a research proposal, finding an interesting angle for the research through studying a broad scope of literature.
3. Site visiting in Groningen (determined by the studio), cycling around to gather impressions, for example of the landscape and materialization.
4. Doing research on farms in Groningen through literature, interviews and studying pictures of constructions: analyzing typologies and constructions.
5. Developing a research direction, based on the question: which aspects of the traditional construction in Groningen farms could offer potential value in modern sustainable architecture?
6. Establishing design principles and positions based on research of the heritage of traditional craftsmanship in farm building in Groningen.
7. Defining a building concept and functional program: choice for the principle of a canopy -related to the traditional Groningen farm roof- with space underneath for the program.
8. Connecting the concept to materialization: choice of materials, priorities within the program leading to choices for the floor plan and functional layout.
9. Implementing design principles in detailing: what visual effect do I want to create, what takes priority in the elevations (in every scale): what do I want to stand out/ be visible and what not.
10. Developing and producing drawings and structuring my presentation.



Choosing the graduation studio of Technologies and Aesthetics

I applied for and was assigned a 'Form studies' studio during MSc2 and had a good feeling about the overall way the studio's approach. Likely, this had to do with how the 'Form studies' chair is focused on seeing the consequences of design choices first-hand through model making. Furthermore, I was intrigued by the themes that were posed for this studio. I wanted to explore the smaller scale and detailing of technical design innovations. The aspect of relating aesthetics to (sustainable) techniques would make this more interesting and seemed a nice principle for my graduation project.

Incentive at beginning of research

At the start of the year, our first assignment required us to look in to biobased and sustainable building materials. Coincidentally, this made us examine what sustainability in architecture really means, also because requirements around sustainability are ever evolving. How do we know these 'sustainable requirements' won't evolve further? The evolving definition of sustainability alone reflects the constant development within the sustainability movement, also the case in the world of architecture.

There seems to be a trendiness to sustainable architecture, demands and trends alternate rapidly - partially due to the acceleration in innovation. *Greenwashing* and time sensitive structures are something to be aware of. The phenomenon of '*fashion in architecture*' that comes with the trendiness, could be characterized as unsustainable.

I find this an important matter to keep in mind as an architect. However, this seems to be a field of tension and there is no concrete answer to what is right and wrong. After all, innovation is needed for suitable solutions to be developed - and should be something to strive for, but is the way we do it currently the best approach? Not every innovation or architectural project is a step in the progress of the ongoing development of sustainable architecture. Some innovations might fail in the long run, have better alternatives or assist in creating desirable architecture. It can be argued that these innovations are still part of the process, a failed attempt leads to conclusions after all. But if this attempt isn't done in a sustainable manner - avoiding resource depletion and leaving a positive impact on the environment, the attempt wastes material and energy.

This discomfort and tension are the foundation for my need to create a position towards the overall innovation of sustainable architecture. I realise this is probably a lifelong question I will be aiming to answer. My graduation does take a position in this matter, as it considers the time sensitivity of a design and aims to avoid resource depletion while doing so.

With all this in mind, while being asked to research 'sustainable' building material and techniques for P1 - I ran into a certain discomfort: '*What I am researching now is useless, since there will be a successor to my project as soon as I finish my design.*' Struggling with this discomfort, I gradually came to realize there could be great value in analysing past building techniques. Some say the most sustainable designs are already existing after all - hinting at heritage and its lifespan.

Site visit

The point of view described above was in the back of my mind during the site visit. The location of the studio is the 'Reitdiep' area, a developing nature reserve connected to the Wadden Sea in the north of Groningen. I found the heritage at the location to be a remarkable part of the landscape. When thinking of a possible design in this context, I found the present heritage should be regarded and build upon. The roofs of the farm sheds stand out on the horizon and are part of the Groningen culture. The craftsmanship that the sheds are built with, have been in development for years and

knowledge has been passed on for years. This makes the heritage in the traditional roof structures of Groningen farms an interesting input for creating a position towards future innovation.

In history it took a long time before a new alternative technique was developed. This leaves room for reflection to draw conclusions and to realize the full -or lack off – potential of a material or technique. Nowadays, acceleration within our entire modern society, the time for reflecting on architecture methods decreases. Competing successors could already be on the horizon after all. This creates an environment in which knowledge isn't just developing, it might risk being wasted - which should be avoided.

Research phase

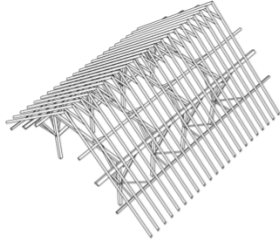
After the site visit, I realised that I wanted to look at past architectural innovation to see what is valuable for future innovation in (sustainable) architecture. This led to the following research question for my research for P2:

What can we implement from traditional timber craftsmanship of roof constructions of Groningen farms into modern (sustainable) building techniques for timber roof constructions?

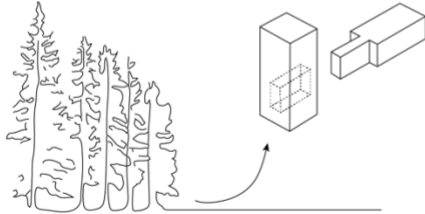
The process of narrowing down my research helped me in the overall process. This research question added to shaping a position as an architect towards a rapidly evolving discipline - with the consequences of aging knowledge and unsustainable developments - by analysing past developments. An answer was constructed by doing research on the farms as follows:

After assessing the typologies of the Groningen farms, some selected case studies were analysed. While looking into the (traditional) timber joints and building principles, I studied the context behind the construction through literature review. This way, I can understand better how the timber trusses were created and where their value lies. Furthermore, I made studies and analysis of the location and the farms origin. This helped in making sure that the design is grounded in its context. The following and design principles were made with the use of the conclusions from the research:

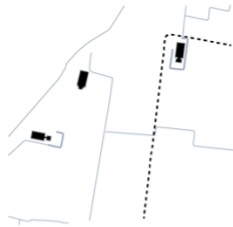
show heritage: traditional truss and consequences of said construction



relation to traditional way of building: visible building methods by use of unaltered materials



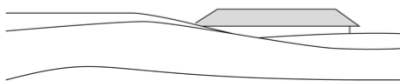
site relates to all three researched typologies



program based on traditional Guilds: space to share knowledge



roof landscape in Groningen



Since my research led me to these specific design principles, I started out with a strong context in and around which my design was to be developed. For example, the research led me to a particular location, where the three analysed typologies are located and aligned to the same road. Therefore, the relation between my design and the existing heritage – by having all three typologies in the same sightline - is strong.

The program followed from my position towards the tension I experienced during the set-up of my research, as mentioned before, and learning about the Guilds. Overall, the research of P2 shaped a strong concept from which my design developed rather comfortably. It shaped a foundation for the rest of my graduation project to which I could go back to while making design choices.

Especially the aspect of the time sensitivity and designing a building that provides an opportunity to be expanded, but also can be torn down without resource depletion, was an important design principle that came from the whole research phase. The position that I require myself to take as an architect is humble. I see my design as something that works for now, but maybe not forever. After all, what can be seen as sustainable is ever evolving.

Design phase

The main feedback on my P2 presentation and research was that I needed to be more specific. I tended to stay in too much of a hollistic way of thinking. This way of thinking didn't help me to narrow down my research at first, and caused a lack of structure as well.

Although this broad perspective of my concept slowed down the beginning of the research phase, it was this hollistic approach that shaped my concept in the end.

Together with this way of thinking came a romanticized view on my concept and the subject of 'craftsmanship'. Although this might have been an overpositive view on my concept, this hollistic approach made me reflect on my past education and my future as an architect, which was valuable on its own. This led me to make design choices (like deciding on materialization) that are based on how I position myself as a designer instead of what is trendy or asked by clients. This makes my way of designing sustainable, and not just the architecture that I create.

The feedback that I got motivated me to make choices and define my ideas through. I usually have a hard time with starting on this phase, so it was good that my tutors pushed me a bit in this.

Discussion

For this reflection I was asked to formulate two questions regarding the content of my work.

1. Could the concept of the traditional guilds, namely the way of looking at regulation and decicion making within the group of people that build, still have significance for the present architecture? After all, in the Netherlands, we are placing a stronger focus on the importance of the manufacturing industry and the people that have a *hands on* role in a craft. The attitude that I advocate would not only contribute to more awareness and less waste at that level, but could also become a group norm that skilled workers can unite and bond over. This is clearly not just an architectural question, but the existence of guilds (including the safeguarding of certain methods and attitudes during the construction process) can have an influence on how architects design and oversee construction processes. This would be one of the issues that could be explored and discussed in the craftsmanship-knowledge center that I propose with my design.
2. There is acceleration within our entire modern society, especially in the building industry, time is money. Therefore, time for reflecting on architecture methods decreases. Part of my proposal requires to stop this phenomenon and make time for the consideration: 'Is this reasonable and really a feasible idea?'. For starters, I think the government can play a bigger part in this. If sustainability in the built environment is truly important in its eyes, there has to be funding for innovation to take place in a sustainable manner. For example, taking time (and since time is money, having a fund) to set up guidelines beforehand – which everyone involved must adhere to – and reflection afterwards, helps in achieving sustainable building developments.
As I see it, sustainable innovation costs time, and therefore money, and this realisation needs to turn into actual approaches – with help from government originated guidelines and financing.

Overall reflection

The fact that the studio of Technology and Aesthetics was a pilot graduation studio under the Architecture chair was noticeable this past year. It made it necessary to have an ongoing conversation between tutors and students in developing a design and steer the design

process in the right direction. I enjoyed this, seeing as there was a continuous opportunity for reflection on the approach I took and therefore a strong focus on what worked for me, and what didn't. The downside to this is the uncertainty in the assignment and what was asked of the students. For example, during my P2 I presented a concept which related to the aspect of rising water levels, while this wasn't part of my research. I got feedback about this and together with my tutors we concluded I shouldn't include this in the concept per say and focus more on the time sensitive matter of the concept instead.

The T&A studio offered the opportunity to reflect on sustainability in architecture, and made me look beyond the common building methods. Therefore, I experimented and tested limits within my design that I otherwise wouldn't have spent too much time on. It made me touch the surface of finding an answer to '*why we build the way that we do*', which I expect to remain a question I aim to keep asking during my career as an architect. The duration of the graduation being a whole year provided precision of thinking. I was able to fully develop my initial thought process – whereas before in my studies I just went with whatever first came to mind and stuck to it.

Looking back, I would have liked to have started out earlier with a design approach in mind. This was especially difficult while working towards P1, since the research was a stand alone aspect, with no relation to design yet. I felt lost at the beginning, and had a hard time creating my own structure. When I finally found a course for my research, I tended to stay in too much of a hollistic way of thinking. My tutors helped me here, pushing me to make choices and be more specific. Choosing the amount of users in my building is an example of how being specific in what actually happens in my design.

While following the TU Delft Architecture track, I noticed the focus on- and the importance of combining the creativity of designing and the practical aspect of building techniques. Following an architectural concept through to every scale. During my graduation project I was constantly aiming to work in this way. The themes of the graduation studio rely on this as well. In general, I think the T&A studio focusses more on the tactonics and aesthetics of design in comparisson to other studios, where the focus might be more on the program or the social-economic aspects of architecture. Of course, these issues were *mentioned*, but not stressed like they might be in other studios.

Finally, the following period will be the last phase of my design. I am looking forward to finalise my design and make everything presentable. Making visualisations and making my storyline fully presentable is still something to be done. Additionally, there is still a need for some details to be determined. However, these are details, the full project and the concept behind it is solid enough to tie up those loose ends.