Graduation plan

Personal information

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Studio information

Studio	:	Architectural Engineering
1st tutor	:	Monique Smit
2nd tutor	:	Maarten Meijs
3rd tutor	:	Pieter Stoutjesdijk
External examiner	:	Rein Have
Motivation	:	I like to be able to build what I design and for that you need to know the engineering that is behind it. For me this studio is about DIY. Not that you will necessarily build it your-self, but that you know how it can be done.

Gradutation project

Title of the graduation project:
Geometric Wasteland.

Goal

Location:
Amsterdam Brettenzone

Research questions:
How can we, with the help of digital fabrication techniques, use reused and recycled brick material to achieve the char-acter and craftsmanship of old masonry work?

Design assignment:
How can we make a lookout tower from brick that provides a startingpoint for unorganized athletes to discover the Brettenzone in Amsterdam?

Process

Method description

Literature study

What is the current state of knowledge on the subject of…:

- …the history of masonry in the Netherlands?
- …the architectural value of masonry?
- …the reuse and recycling of bricks?
- …digital fabrication techniques and their potential for masonry design?

This literature study will help me to find out what is known and what needs to be researched further.

Case study

Architecture is a very visual study and you can learn a lot (or be inspired) by looking at the work of others. There aren't that many examples of digital fabrication in existing buildings, but there are lot of subjects related to it that are worth looking into:

- Bricks throughout history in the Netherlands.
- Pre-prefabricated masonry vs. prefabricated masonry.
- Examples of reused of recycled bricks.
- Digital fabrication techniques used in masonry like construction, stacking patterns, ornament carving etc…

Studying these types of solutions by others can help me in finding the solution that best fits my design and research questions.

Research by design

Research by design can be done by using a large array of techniques, but I want to emphasise that the use of mock-ups/models/prototypes will be a big part of this research by design. As mentioned in my motivation I want to be able to build it myself, mock-ups will help me to understand the problems and/or opportunities that are within my design.
Digital fabrication enables us to make what we design without having to be master wood carvers (for example); this makes it a good topic to combine with research by design.

Literature

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Reflection

Relevance

This graduation project deals with two problems. On the one hand there is the problem of the area of Sloterdijk that is a barrier in the network of the city of Amsterdam. On the other hand we have the problem of building material scarcity.
Sloterdijk is a barrier in the network of the city of Amsterdam, but also a barrier between Amsterdam and Haarlem (Brettenzone). The high (structural) vacancy of office buildings in Sloterdijk and the further development of surrounding areas such
as the Westelijk Havengebied ask for drastic changes within Sloterdijk, after all Sloterdijk is the infrastructural link that ties them all together.
Making Sloterdijk part of the surrounding networks will require interventions within its structure in the form of demolition, but also in the form of new structures.
Demolition brings us to the building material scarcity topic. We can't keep bringing our construction waste to the landfill, we need to find ways to reuse and recycle these materials into new building materials. For my research I decided to focus on the reuse/recycling of brick for three reasons. First of all I just like brick buildings.
Secondly brick is probably the most commonly used building material (façade cladding) in the Netherlands. Thirdly the lifespan of a brick is far longer than that of most buildings, so why not use them again instead of dumping them in the landfill.

Time planning