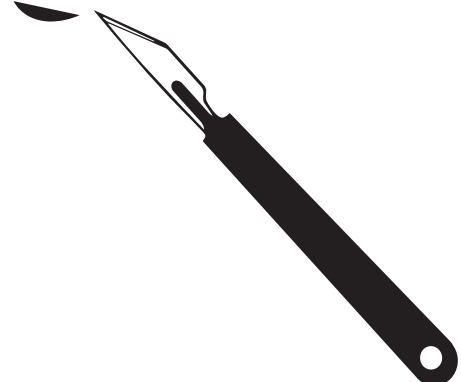


STRUCTURALISM



Graduation Reflection

Heritage and Architecture,
Faculty of Architecture and the Built Environment
Delft University of Technology

Jelle Hetteema
4141253
28-02-2019

INTRODUCTION

This paper accompanies the graduation project for the adaptive reuse of the Faculty of Humanities in Leiden, a building originally designed by Joop van Stigt and now up for a redevelopment (fig. 1-2). This project is part of the chair Heritage and Architecture, meaning the project focusses on the relationship between existing architecture and new interventions. This is especially interesting in this case, since the Faculty building can be seen as part of the Dutch Structuralist movement, which focused its architecture on being open-ended and reinterpretable, through the use of simple geometric units. This open-ended structure is omnipresent and lends itself for expansion. This graduation project proposes a theoretical approach to these structuralist buildings, in which the building is redesigned in order to show and expose the system on which the building is built. By subtracting from- and adding to the existing building, new architecture can conflict with the existing building through which the essence of the building is exposed.

ASPECT 1 // *the relationship between research and design.*

Design and research are interconnected. Even more so within this graduation proposal, since the incentive of the design is a theoretical research on new ways of intervening in existing structuralist buildings. The design is thereby used as an extension to the research. For the initial analysis research, the following research question was introduced:

Where and how is structuralism visible and experienced in the Faculty of Humanities?

This question helps to understand the principles and the development of the original building by Joop van Stigt. Four core principles of Structuralism were defined, namely the use of units, open-ended structure, the building as a city and the focus on social interaction (fig. 3). Within the Faculty of Humanities structuralism is mostly visible through the open-ended structure and orthogonal grid system. To build on this research, the research question is translated to a design question, which is in itself a research question tailored to maintain focus and a clear incentive for the design.



fig 1. Current inner courtyard Faculty of Humanities



fig 2. Current southwest facade Faculty of Humanities

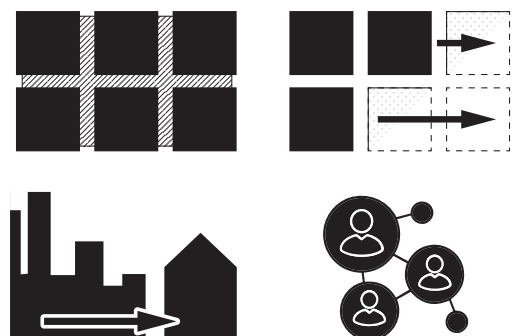


fig 3. Four core principles of Structuralism: Use of units, open-ended, building as a city and social interaction.

What is the underlying structural system constructing structuralist buildings, and how can this structure be reinforced?

By approaching the design as a research, through questioning and methodology, the design and research of the project are interwoven and blended. The outcome of this graduation project is therefore the designed result of a new method regarding heritage architecture.

ASPECT 2 // *the relationship between the graduation topic, studio topic, master track, and master programme.*

The chair of Heritage and Architecture is within the faculty of Architecture concerned with adapting the built environment. While other studios might transform an existing building as well, through this studio the focus is on the connection the old and the new architecture. This graduation project is in line with the intentions of the chair of Heritage and Architecture, since the incentive of the project is reliant on the relationship between the existing architecture and the new intervention. This project deals with the existing building on an architectural, technological and cultural level, thereby combining the fields of architecture, building technology and cultural value in one design. The field of Urbanism is also connected to this graduation plan, since the Faculty of Humanities is connected to the city and is part of a larger urban plan.

ASPECT 3 // *Elaboration on research method and approach chosen relation to the graduation studio methodical line of inquiry, and the scientific relevance of the work.*

The graduation project exists of both a research and a design. First a morphological and historical analysis is done through archival research and a literary review. These media generate knowledge on how the Faculty of Humanities and its surroundings were developed. Moreover, knowledge is gathered on structuralism in general and on the work of Van Stigt and the faculty of humanities specifically. This is done in order to place this work in the context of the architectural discourse of that time. This is all part of the methods as implied by the chair of Heritage and Architecture.

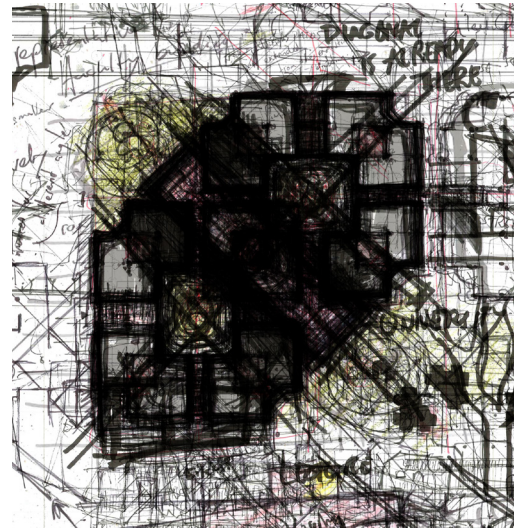


fig 4. Sketching of possibilities

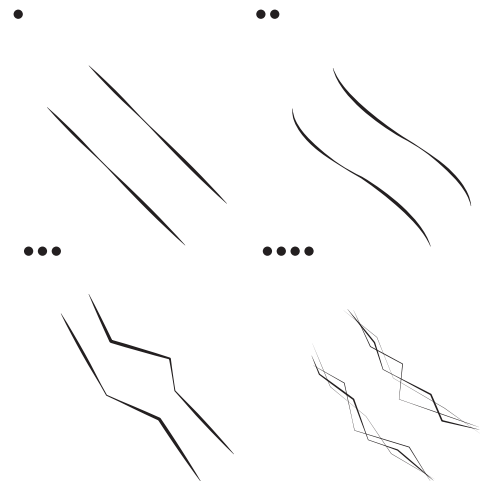


fig 5. Iterative design process

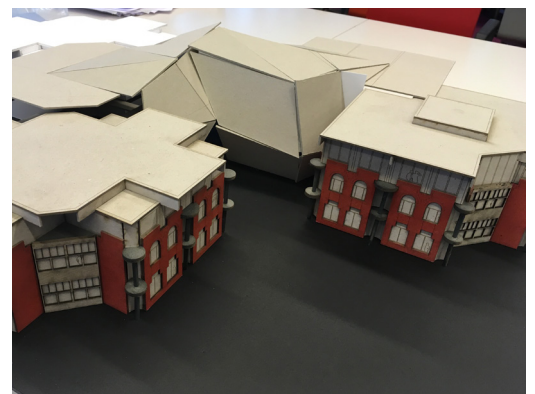


fig 6. Model making

What I pursued additionally, is building a theoretical framework, based on a literary review and formalised through an essay. Using metaphorical thinking and comparing this to the case of the faculty of humanities helps in choosing a clear approach or attitude in regard to the work of Van Stigt. In order to come to a design, this framework is finally tested through sketching of plans, sections and diagrams, 3d modelling and above all model making (fig. 4-6). These tools help in examining different possibilities and the spatial implications these design choices have.

ASPECT 4 // *the relationship between the graduation project and the wider social, professional and scientific framework.*

The project for the redevelopment of the faculty of Humanities in Leiden is not only a personal inquiry on how architects can deal with heritage. This is connected to the professional field of architecture. The perspective on heritage in architecture has changes over time. There are multiple theorists, architects and conservationists throughout modern history arguing over the fate of our built heritage, and several charters have tried to anchor universal guidelines for dealing with monuments. Ultimately, there is not one definitive way of dealing with built heritage. This graduation project therefore explores new ways of regarding heritage, not by empowering the new architecture over the existing building, but exposing the inherent qualities of the original design and creating a canvas for the original building. To do this, contrasting new idiom is added within the original building, thereby conflicting with the system of the building by Joop van Stigt and exposing the strict qualities of this system (fig. 7 and 8).

ASPECT 5 // *the ethical issues and dilemmas encountered in doing the research, elaborating the design and potential applications of the results in practice.*

Scrapping a building that is merely thirty years old, gives a lot of waste. This environmental impact cannot be neglected. However, in repurposing the Faculty of Humanities, sustainability also has to be kept in mind, since the building

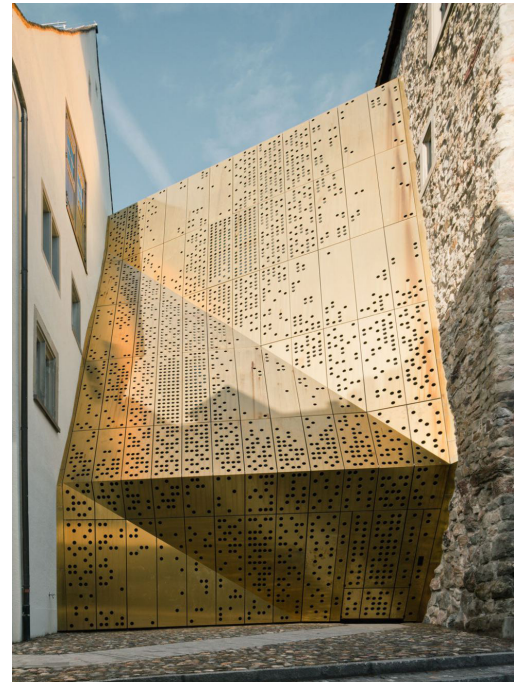


fig 7. Stadtmuseum Rapperswil-Jona MLZD architects

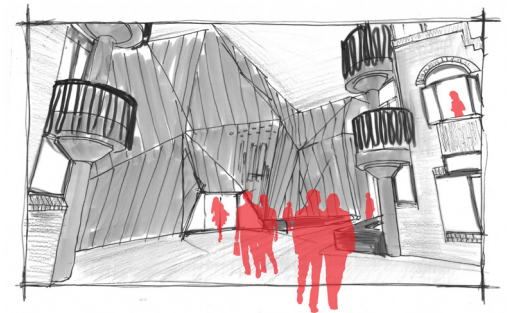


fig 8. Impression of design iteration

is not energy efficient in its current state. This means that conscious choices have to be made in order to limit the environmental impact of the building for the coming generations.

Removing the Faculty of Humanities has further implications. Demolishing the original building by Van Stigt – and to a certain extent demolition in general – is removing evidence of our past, and replacing it with a new record of the present. This does not mean that demolishing is implicitly bad, but it does show what consequences demolition of our built heritage can involve. Demolishing the Faculty of Humanities removes part of the character of the Leiden area. Through showcasing the inherent values of heritage, the past can be reappreciated and reused. This is especially fitting for a Faculty of Humanities, which is concerned with the past of our society and civilisation.

Reviving the past through new architecture is therefore a more sustainable way of dealing with our building, on an environmental level, but moreover on a cultural level.