REFLECTION PAPER
ON THE PROCESS OF RESEARCH AND DESIGN DURING THE GRADUATION

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HERITAGE BASED ADAPTIVE REUSE OF HOTEL SWARHA
*a sustainable alternative for shopping in the city center of Bandung.*

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INTRODUCTION
This reflection paper elaborates on the results of both the research and the design phase of the graduation project, focusing on the product, process and planning. It is structured around five key questions. The first question deals with the relationship between my research paper on climate technology and my final design proposal. Secondly, the balance between the theme of the aE-graduation studio and my personal project theme is addressed. Thirdly, The choice of method (how) and argumentation (why) that preceded the design project will be discussed. Next, I will elaborate the design project within the social context. And finally, the ethics of heritage will be discussed. This reflection provides an answer to the question of how and why the approach did and did not work and to what extent.
**GOAL OF THE RESEARCH PAPER**
Within my research paper I did a study on low-tech climate strategies in colonial buildings in Bandung. The aim of the research was to demonstrate that instead of newly constructed, expensive and energy-inefficient buildings, it is possible to fuse cultural heritage and a high quality of comfort by using passive design strategies in historical architecture.

**AMBITION OF THE DESIGN PROJECT**
My graduation project focuses on the main goal of the Intecture Bandung graduation studio, which is to revitalize a district in Bandung through the adaptive reuse of shared heritage and passive climate systems. Furthermore, my personal ambition is to empower local culture of fashion craftsmanship and create a sustainable alternative for shopping in the city center of Bandung. Designing both a fashion incubator and a public market has facilitated this sustainable alternative.
A key part of the research and design project was the trip to Indonesia. The purpose of the trip was to get to know the city of Bandung and to choose a location for the graduation project. The site that caught my eye is an abandoned building, presumably built in the era between Dutch colonialism and the declaration of independence. The building is known as "Swarha", and used to be a hotel with a tailor on the ground floor. It is located along the Asia-Africa road, the former colonial 'Grote Postweg', and overlooks the Alun-Alun Square. The building has great historical value and a tactical central position.

I took Hotel Swarha as a case study for my thesis, and examined its passive climate techniques. The analysis shows that the original modernist and rational design takes the tropical climate well into account. However, the current environment has changed dramatically and has isolated the building, reducing the effect of the passive climate techniques.

Because the building kept fascinating me, I took the challenge to redesign the former hotel and tailor. I also decided to take the liberty of including the empty plot next to the building to make an extension to the design. This extension is in line with the original Swarha building and continues over the existing structure, replacing the old roof.

With regard to climate strategy, I used the knowledge I gained in the research paper to make a contribution to the design. After analyzing the building it appeared that a solar chimney could be a good solution. But after a meeting with the climate instructor it became clear that a chimney would need maximum material and would produce minimal output. After consultation we made the decision to forget about the solar chimney and leave the building completely open. With the rationale that the existing building can be divided into small rooms and could therefore be mechanically cooled with minimal input and high efficiency. Involving the user in the regulations of the indoor climate leads to a greater likelihood of responsibility and thus less energy consumption.

The existing building has been optimised and adapted to modern standards. The new structure is fully open and has been designed according to passive climate strategies, allowing maximum ventilation with minimal technological input. In addition, a courtyard has been created facing both the existing and the new construction, with the aim of cooling the incoming air. It also provides buffer space for extreme weather conditions in the densely populated city of Bandung.

To conclude, the used method for my personal design project was a heritage-based approach to adaptive reuse. The research not only provided the initial orientation and argumentation of the graduation project, it also had a significant impact on the process, climatic concept and new structure of the design.
ASPECT 2

What is the relationship between the theme of the graduation studio and the project topic chosen by the student?

The theme of the architectural engineering (aE) graduation studio is to design architecture, based on a technical and scientific research. The architecture is integrally designed on climate, load-bearing structure and material consideration. Furthermore, the social and economical impact has to be taken into account. This collaboration makes a building into a holistically functioning system. Within the aE-studio there is the specialisation of Intecture, and there are three guiding approaches within the studio specialisation; Make, Flow and Stock. (aE studio course description 2018)

For my project I chose the context of Dutch-Indonesian shared heritage, in which I partly focused all three approaches, with the guiding theme being 'Make'. I started with the investigation of which climate technologies are used today and what knowledge appears to be forgotten. It turned out that forgotten climate technologies are found in Heritage, which makes heritage a great example of historical architectural engineering. My project is situated in a complex context and aims to give a layered answer to the studio question. The adjustments I have made in my design proposal are therefore straightforward and inexpensive. I have aimed for minimum use of resources and a maximum use of space.

How did I reach that goal?

The emphasis in my project lies first of all on the climate concept. In order to do a sustainable development of heritage I have first of all optimised the existing passive climate techniques of the Swarha building. Using existing resources like natural ventilation, harvesting rainwater and collecting solar energy makes the building more sustainable as it was before.

In terms of load-bearing structure and materialization, the existing construction is still in good condition and can be re-used. The new structure is constructed out of wood and other renewable materials. The interior spaces are flexible and adaptable to the changing needs of the buildings users.

The programme is chosen with a social approach, aiming at educating young entrepreneurs about the craftsmanship of the textile and fashion industry, in order to encourage innovative ideas for more sustainable fashion. The program is community based, flexible and resilient to change.

The economical approach is a combination of bottom up and top down. While being community driven, the managers will always keep in contact with the government, debating about funding, new sustainable business initiatives and growth opportunities for successful enterprises. The goal is to turn ideas into profit, while working towards a more sustainable future in fashion.

In conclusion, although my project is situated in a complex and layered context and somehow deals with all three guiding approaches within the studio specialisation, I feel most comfortable with the approach of 'Make'. The project is integrally designed on climate, supporting structure and material considerations. But it also takes into account the social and economic impact. The answer is therefore not uniform and is rather complex and layered.
ASPECT 3

What is the relationship between the methodological approach of the studio and the method chosen by the student for the design project?

The methodological approach of the aE-studio focuses on technological innovation in architecture and starts with the question: "If technology is the answer, what is the question?

With the city of Bandung as the only guideline, together with the studio group we started to map the city in order to find a way to our personal graduation question. By reading about- and analysing the city we got more and more grip on the hard data, but the current characteristics of the city remained abstract to me.

When we arrived in Bandung I was immediately overwhelmed by the beautiful and hectic city, and I tried to stick to the scientific approach we had used at distance. Being on site, I was impressed by the beautiful land- and cityscape, while being fascinated by the fact that the locals seemed to be more interested in spending their free time in large indoor shopping malls. These large malls are unsustainable worlds that are independently located in the city. At the same time, vacant historic buildings surround them. This contrast seemed ironic to me, especially with the fact that the city is undergoing rapid urbanization. I began to understand why the country was nicknamed "Indoonesia". In a hot a humid climate, this means that Indonesians prefer air-conditioning, everywhere. It was very clear to me that there was no lack of new technology in this city.

Gradually my research question began to form. The rich and varied history of Indonesia, knowledge of passive building techniques and craftsmanship seemed to be overshadowed by the desire for modern high-tech developments. The question that concerned me was how to remind locals of traditional ingenious solutions of passive climate systems and how to reappraise craftsmanship that seems to be forgotten.

The literature review and the mapping of the site allowed me to find my way and know the facts, but the leading method to work towards a more social and qualitative research approach involved the interviews, photographs and sketches that I have carried out during the visit to the site. To come back to the question, I'd rather reverse it and relate it to the context of the project: What is heritage? To which the answer clearly is: underutilised technology.

“Research through observation and on-site experience has helped me to go beyond the two-dimensional field of architecture. The qualitative research assisted me to document the social use and understand the complexity of qualities in public spaces; those qualities have characteristics that cannot be mapped or captured by a photograph on its own.”

(On the relevance of site visits. Mary lou, fall 2018)
ASPECT 4

What is the relationship between the project and the wider social context?

Bandung is a relatively young city built by the Dutch, it has a rich history in fashion and was known as the ‘Paris of Java’. After the declaration of independence, the city grew due to the growth of the textile industry. Because Bandung is renowned for its numerous universities, it counts many young and innovative inhabitants. Currently, the city wants to focus on the creative industry, in which the municipality is open to progressive ideas.

The goal of my graduation is to redefine the connection between production and consumption of the local fashion industry, to restore the cities' livability and provide an opportunity to redefine its own identity. The programme uses existing knowledge found in local stores, the perseverance of young creative entrepreneurs and the reuse of existing resources; the local economy will be improved while building waste will be reduced. The focus of the adaptive reuse of Hotel Swarha into a fashion incubator and garment market lies on improving accessibility, employment and sustainability.

These objectives will be achieved through the following down to earth design decisions. Firstly, in the socio-cultural context, it is important to focus on the flow of people around and about the building. A bridge is made to connect the building and other side of the busy street. The facade is inviting, the ground floor of the existing building is opened up and extended to the courtyard garden. The courtyard is an extension of the indoor market and gives room for expression and education. The courtyard garden is filled with relevant plants referring to the textile industry; the plants have an educational function towards the visitors and the learning entrepreneurs.

In the heart of the building are comfortable and flexible studio spaces created. There are lecture facilities to transfer knowledge and a library for education and documentation.

The new structure is completely open and has an adaptable interior for the changing needs of the users. Finally, the roof structure is also fully open and provides a panoramic view over the city and the central square. Because the roof is built over both the new and the existing building, craftsmanship and consumption are brought together.

In conclusion, the purpose of this graduation project in relation to the broader social context is to make use of existing knowledge of local companies and a low-tech approach towards the reuse of the building. It enables local fashion entrepreneurs to work in an accessible, safe and comfortable environment that reflects the character of contemporary Bandung.
ASPECT 5

What ethical issues have been encountered during the graduation process and may encounter in potential future practice?

During the research I encountered ethical issues regarding shared heritage. Investigating a building built in, or just after, a period of colonialism requires a well-considered approach. The biggest ethical question I keep asking myself is what I, as a Dutch architect, can contribute in a country like Indonesia, where the common history evokes a painful feeling.

Indonesia’s struggle for independence lasted a long time. Despite the fact that Indonesia had declared its independence in 1945, the Netherlands only agreed to it in 1949. A subsequent important event was The Asia-Africa Conference and was held in 1955 to discuss the future of their independence with associated countries.

The Swarha building was designed in the early fifties in the city centre, next to the grand mosque and opposite the main square. It was designed as a hotel for journalists who attended the Asia-Africa conference. But despite the historical value and central location of the Swarha building, it has been empty for almost 30 years. A reason for the vacancy is the fact that over the years the mosque has been extended many times and has slowly isolated the Swarha building.

During the design of the Swarha building I came across several dilemmas. The first question was how to renovate the building without losing respect for the large mosque and its community. In addition, when designing the building I was confronted with the problem how to combine a passive climate design with the present sound of the mosque, the noisy street and the humid, polluted air. Furthermore, I was confronted with an existing and a new construction, in which connections and routing are very important and hard to solve. The final dilemma regards the new program, which had to be carefully considered to ensure that the building is programmatically resilient and able to adapt to future changes.

Dilemmas expected in future practice, if the project were to be realized, would primarily focus on the socio-economical field. Think of ownership of the building, regulations of the municipality, requests of the mosque and demands of the police.

Involving locals to trigger renewed appreciation of heritage could prevent the vacancy of these types of buildings. My general conclusion is that, being a Western architect at a distance, I am not going to change the situation on my own. By involving people, the formal image can evolve towards a more accessible identity, which leads to a better understanding of the problems at stake.
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