Graduation Plan

Forms and functions of the postwar dwelling facades

Esmee Mlihi, 1352911
Graduation Plan

Title:

“Forms and functions of the postwar dwelling facades”
: Insulation improvement with aesthetic awareness

Personal information

Esmee Mlihi
1352911
Julianalaan 2A
2628BH Delft
Netherlands
esmeemlihi@gmail.com

Studio:

Transforming housing heritage Rotterdam, AR3AR111
ir.P. Graaff, ir.L.G.K.Spoormans, dr.ir.W.J. Quist

Delft, 14-01-2014
The ‘Vogelbuurt’, a dwelling area in Rotterdam south, is an example of the post-war dwelling stock. It represents the heritage of the modernists, who’s position was dominant. Their ideological top-down designs were a suitable solution for the housing shortage of that time (Rocco 2013). Currently, this post-war dwelling stock is dealing with multiple problems and therefore needs to be redeveloped (Priemus 1996, p.36 ; Macdonald 2001, p. XX).

The aim of my graduation project is to solve the following two urgent immaterial problems of the “Vogelbuurt” by modifying their related material factors in such a way that the existing qualities are remained.

1 : The high energy consumption of the post-war dwellings, through by the absence of Insulation.

2 : The neglected reputation of the post-war dwelling areas, were the aesthetic properties of the built environment are the related material factors.

“How can a redesign (1) improve the aesthetic and Insulation properties of the façades in the ‘Vogelbuurt’, and represent at the same time a solution for the generic post-war dwelling stock in the Netherlands?” (2)
Both the aesthetic and the Insulation properties are overlapping each other in the façade. Exactly here, a physical redesign can influence both material factors and their related problems. This effectiveness is the first reason why I will take the façade as my physical research and redesign frame.

Secondly I have a personal fascination for the technical and aesthetical relation within architecture. The façade is in my opinion the place where aesthetical and technical questions are inseparable.

The third and last motivation to choose the façade, is the most pragmatic one. During my architectural education at the TU Delft, the façade was placed at the background. That is why I want to give the façade more priority in my last year of education. With the aim to improve my designing skills in technical detailing related to a conscious knowledge about the aesthetical effects on all scale levels.

The goal of my graduation project is to deliver the following products:

5 façade redesigns at different locations in the “Vogelbuurt”. The different locations have to represent the possible differentiations in material, political and programmatic background of the redesign area.

An “argument toolbox” to value the façade redesign towards the energetic and aesthetic problems of the “Vogelbuurt” and more generic, the total post-war dwelling stock.
Process

**Method description**

I will design by research and research by design. (Zijlstra 2013) To develop my redesign and research I will use the practical and theoretical research question. So I can focus on the Insulation and aesthetical properties of the facades in the “Vogelbuurt”. And at the same time the theoretical question will indicate the generic and theoretical problems on the scale of the total post-war dwelling stock.

To develop an answer to these theoretical questions, I will investigate scientifically theories. I will assess and analyse what is already done. I will use these generic theoretical knowledge to provide a suitable answer for the practical and specific problem. On the other hand these specific design based questions will function as an example for the generic (Rocco 2013). It will also help me to formulate in which specific field I want to search in the generic literature. Therefore this twofold, theoretical and practical, can enforce each other.


Ulrich Knaack, L. H., Thaleia Konstantinou, Hansjörg Wieland (2012). Reimagining housing Rotterdam NAI010

Zijlstra, H. (2013). @MIT BK Education with a perspective Delft, TU Delft
Reflection

**Relevance**

Approximately 13% of the Dutch total energy use goes to the heating of the dwellings. The insulation state of the dwellings before 1969 are the most problematic. (Priemus 1996, p.36) An improvement of the insulation properties of the post-war façades will therefore directly lead to a significant decrease of the national energy consumption (planet), climatic improvement (people) and decreasing of energy bills of a significant part of the dwelling stock (profit).

An integral approach of functional and aesthetical improvement with the awareness of existing qualities, has also the advantage of durability. “If we succeed in resorting a building’s spirit in one or other way and create a building that is appreciated and requires less operating energy, and hence less carbon emission and low operational costs, we have addressed all relevant aspects. The result is sustainable - because we consider the project as well as the user, and if the user likes the building, they will treat it well and it will survive longer - a very sustainable approach!” (Ulrich Knaack 2012, p.8)

Developing the “argument toolbox” can make all the actors related to the post-war redevelopment more aware of the energetic and aesthetic changes. It will give them an fast and clear overview of all the arguments.

In combination with the 5 facade redesigns in the “Vogelbuurt” the value of the “argument toolbox” will be made visible into concrete and inspiring examples.
Both products can improve and speed up the redevelopment process of the total post-war dwelling stock which is our urgent contemporary task.

Time planning

The R-MIT GPS planning will be my the guideline for the my design by research and research by design process. It will provide me an overview of the workload and my position within this R-MIT GPS planning. During my graduation year I have no extra personal obligations such as extra exams or minors.

P1
I have used the first quarter to do a throughout analysis of the physical and theoretical context of the “Vogelbuurt” and to formulate the existing qualities and staring points of my redesign.

P2
In the second quarter I have developed an “argument toolbox” and a variety of redesign directions in the shape of spatial concept models based on this “argument toolbox.”

P3 / P4
During the last semester I will improve the “arguments toolbox” by defining the arguments more precise with exact data based on case studies and literature.

Simultaneously I will work out the most suitable spatial concept models to 5 detailed facade redesigns in the “Vogelbuurt” with different material, political and programmatic backgrounds.
During my P3, P4 and P5, I will reflect on my redesign by referring to my research report, position paper and of course the “argument toolbox.”

P5
To assess if the thermal and esthetical problems are solved and the existing qualities are remained. Or in the words of Susan Macdonald and Paul Meurs. I will analyse if the significance of the post-war dwelling buildings is not diminished and if they are become suitable for our modern daily life. (Macdonald 2001, p.34, Meurs 2013)
**Relevance Position Consider**

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Relevance</th>
<th>Position</th>
<th>Consider</th>
<th>Reconsider</th>
<th>Reflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>13</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
<td>29</td>
<td>30</td>
</tr>
</tbody>
</table>

**Presentations**
- Talking, Imagination, Writing
- Slide, Notes, Drawing, simplified (+pdf)

**Read and check**
- Graduation Manual
- Assessment book
- Thesis
- Reflection paper
- Track Architecture
- Reflection paper (+pdf)

**Research Methods**
- Lectures Series Tom Avermate (sl/pa/dr sl/pa/dr sl/pa/dr sl/pa/dr sl/pa/dr)

**Research**
- Situational
  - Urban plan/present/future
  - Architectural + time
  - Art press

**AKAR140**
- Existing / Re-use
  - Analyse: Values, Meaning and Context
  - Conclude: Starting points for (RE) Design

**AKAR022**
- (Cultural) Heritage
  - Design
  - Preliminary Urban plan
  - Architectural plan
  - SYNthesis

**AKAR100**
- Final
  - Urban
  - Architectural
  - Technological
  - SYNthesis

**Overview**
- Overview
- Table of Content
- Graduation Plan
- Site slow
- Structure slow
- Arch.
- Time frame
- SYNthesis
- Worked out
- Urban
- Architectural
- Technical
- SYNthesis

**Appendices**
- Graduation Manual
- Table of Contents
- Graduation Plan
- Site
- Structure
- Skin
- Space plan
- Planning
- Content
- Report
- Why Start with WHY

**Why**
- Start with WHY
- 10 Laws of simplicity

**Values**
- Stuff
- Planning
- Content
- Report

**Analyses**
- Modifying (re) rushing existing structures
- Infrastructure, exposure, and providing education
- TRUST In simplicity we trust

**Fac. of Architecture**
- Graduation Plan
- Research Report
- Presentation book
- Graduation Thesis

**RP draft**
- TIME
- Reflection
- Officially hand in

**RC**
- TIME
- R
- D

**Edition: 28 Aug 2013**

**MIT GPS: Graduation Project Structure**

**Starting points Analyses**
- Context - Design - Evaluation
- Openness simplifies complexity.

**Design**
- Awareness
- Values
- Justify

The synthesis of all aspects determines and justifies the results

**THI MAKES THE ®MIT DIFFERENCE:**

- Shearing layers of change
- Modifying (re) rushing existing structures
- Time
- Intervention
- Transformation
- BE

**Recall:**
- Study the Past
- Know the Present
- Organize organization makes a system of many appear fewer
- Predict the Future

**Why**
- Start with WHY
- Reduces the shortest way to achieve simplicity is through thoughtful reduction.

**Three keys for simplicity**
- Stuff
- Planning
- Content

**Interaction needed**
- Ph/2/3/4/5 presentation
- Officially hand in

**Legends**
- R
- P
- P
- Program
- Pro press
- Prem press
- Worked out
- Urb
- Arch
- Tech
- SYN

**Time Synchronisation**
- THIS MAKES THE ®MIT DIFFERENCE:
- TEACHING or PRESENTING
- REDUCE: The simplest way to achieve simplicity is through thoughtful reduction.

**Definition**
- SIMPLICITY
- PREDICTION
- COMMUNICATION

**ريسونية والاعتقادية**
- NEVER forget to repeat yourself