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

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Product

Problem Statement

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 fallowing 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, trough 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.

(1)

R-MIT redesign approach, to make the build environment suitable for our modern daily life with the added value of preserved qualities. Meurs, P. (2013). Lecture series Heritage Development, AR3Ar071. Lecture. Delft, TU Delft

(2)

The practical part of the question is design based. It focus on the Insulation and aesthetic properties of the facades in the "Vogelbuurt". The theoretical part of the question reveres to larger scale, the total post-war dwelling stock in the Netherlands.

Research question

"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)

Research and redesign area

rea 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.

Argumentation of choice of the studio	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.
Goal	The goal of my graduation project is to deliver to fallowing products :
	5 facade 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 facade 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.

Literature and general practical preference

Avermate, T. S., L. Engel, H (2013). AR3A160 Msc3 Lecture Series: Reaearch Methods and Design Practices. Delft, TU Delft

FARO, A. e. (2011). "Smaaktest Haarlem." Retrieved 21-22-2013, 2013.

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Mitrovic, B. (2001). Philosophy for architects New York Princeton Architectural Press.

Nico Nieboer, V. G., Anke van Hal, Sasha Tsenkova (2011). Energy efficiency in housing management conclusions from an international study Enhr Conference Toulouse, enhr

Priemus, H. (1996). "Dubieuze vorraad, Milieubeleid vooral richten op oudere woningen " Bouw(11): 36 -38

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Rocco, R. (2013). Epistemes and Intellectual Discourse. Hearing. Delft, TU Delft

Stuhlmacher, M. (2001). "Architectuur van het dagelijkse leven " De Architect 32 72-75(137).

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 improvements 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 success 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 asses 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)

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Starting points Analyses Create durability by (re-)using existing structures developing expertise and providing education from the attitude of awareness and respect related to context, culture, heritage and change in time by research by design and design by research = ©MIT Design Evaluation Position				STRUCTURE STRUCTURE					WhyStart with WHY(Sinek, 2009)WhatContentWherePlaceWhenin TimeThree keys for simplicity(John Meada, 2006)AWAY More appears like less by simply moving it far, far away.OPEN Openness simplifies complexity.POWER Use less, gain more.									 10 Laws of simplicity (John Meada, 2006) REDUCE The simplest way to achieve simplicity is through thoughtful reduction. ORGANIZE Organization makes a system of many appear fewer. TIME Savings in time feel like simplicity. LEARN Knowledge makes everything simpler. DIFFERENCES Simplicity and complexity needs each other. CONTEXT What lies in the periphery of simplicity is definitly not perpheral EMOTION More emotions are better than less. TRUST In simplicity we trust. FAILURE Some things can never be made simple. THE ONE Simplicity is about sustracting the obvious, and adding the meaningful 							

The synthesis of all aspects determines and justifies the results



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Relate Translate Surprise (John Meada, 2006)

TEACHING or PRESENTING

BASICS are the beginning REPEAT yourself AVOID creating desperation INSPIRE with examples NEVER forget to repeat yourself (John Meada, 2006)