

Reflection paper graduation project 'The Fertile City'
Raising Food Awareness Through Architecture

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Msc Graduation Reflection

Technical University Delft

Reflection Report

Dutch Housing Graduation Studio
Architecture and Dwelling
Faculty of Architecture and the Built Environment
TU Delft

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Preface

This reflection is a part of my graduation studio of the chair of Dwelling at the Technical University of Delft.

My architecture graduation project is a part of the master track Dutch Housing. The assignment of the Dutch Housing graduation studio is to design a housing project that fits into the scenario of the city of the future. How do we want to live in the city of the future and what kind of buildings do we need to allow for that.

The first semester of the graduation year was dedicated to do a research about a self-chosen topic for the future city of Amsterdam and to do an in-depth analysis of the project site. During this stage several researches have been done according to a specific method or approach for each research. The second semester of the graduation year was dedicated to the translation of the research into an actual design. However, research was still an important part of the project alongside the design and its elaboration. In this reflection I will use short substantiated explanations to clarify the results of the research in relationship with the design.

I would like to thank my mentors, Pierijn van der Putt as my research mentor, Theo Kupers as my design mentor and Ferry Adema as my building technology mentor for their tutoring and support during my graduation process. With special thanks to my research mentor Pierijn van der Putt for tutoring and supporting me with writing this reflection paper. I would also like to thank my family and friends for their believe in me and support during my study and especially during the graduation year.

Jino Fattah

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Introduction

My architecture graduation project is a part of the master track Dutch Housing Studio. The assignment is to design a housing project that fits into a scenario of your own making for the future city of Amsterdam, considering how we want to live in the city of the future and what kind of buildings we need to allow for that.

The first semester of the graduation year was dedicated to do a research about a self-chosen topic for the future city of Amsterdam and to do an in-depth analysis of the project site. During this stage several researches have been done according to a specific method or approach for each research.

During the second semester of the graduation year the design phase has been started where the design is determined as an answer to the outcome of the research. In this second phase research was still an important part of the project alongside the design and its elaboration. In this reflection I will use short substantiated explanations to clarify the results of the research relating to the design during the graduation year. The reflection is in a form of text with diagrams and illustrations for clarification.

The diagram on the next page presents the several phases during the graduation semesters. In this report I will reflect on the relation between research and design for each phase. This will show what kind of research methods and approaches have been used and to what extent these methods and approaches did or did not work out.

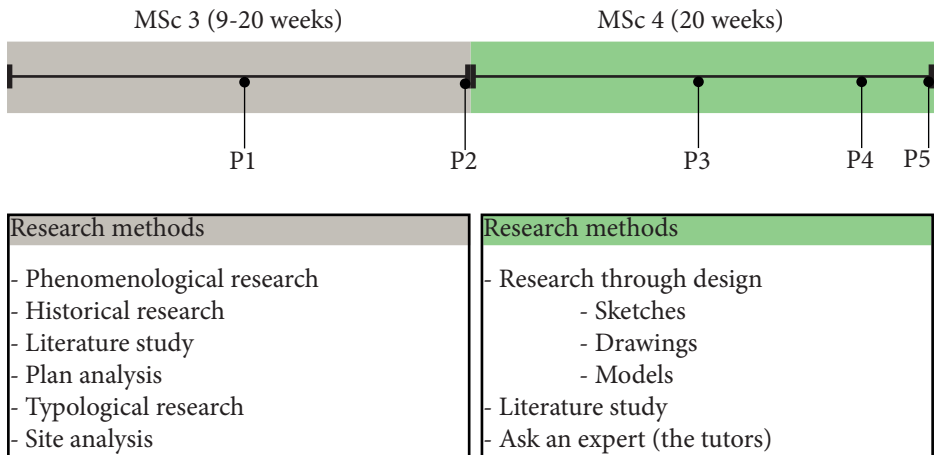


Figure 1. Graduation process

The relationship between the topic of my graduation project and the studio topic is the ‘city of the future.’ ‘The city of the future’ is the topic of the Dutch Housing Studio and the topic of my graduation project is related to this topic since I see the future city as a place where citizens are able to grow their own food and to not be reliable on external sources. Since the chair of Dwelling is about making living places, the topic is also dedicated to the future city related to living spaces.

The ethical issues and dilemmas I have encountered during my graduation project is feeling the responsibility to do something about the impact of food mass production on our planet and also on the health of human beings. Through the building design I tried to bring people closer to this hot topic that we currently face and raise their food awareness by making, amongst others, winter gardens where food can grow, a crucial part of the dwellings.

It is expected that the world population will grow to 10 billion people by 2050 with majority living in cities. In Europe it is estimated that 80% of the population will live in cities by that time. As more people are going to live in cities, the demand for food in cities will also increase enormously. Today food is developed in a mass globalized system which causes a long distance between the production and people consuming it. The globalized food system separated food production from its consumers and therefore the relationship between people and their food is being lost. People do not really have any idea how and by who their food is produced and where it comes from. The aim of this project is not to solve this unsustainable global food system, but rather to make people aware of what is going on and how our food model has been transformed through decades. This will make people aware of the big impacts the controlled food system has on the climate, their food and therefore their health and even their wallet. This represents the relationship between the graduation project and the wider social, professional and scientific framework.

The research and design results could be used as an informative document for students and professionals who are seeking information about this subject. Since raising food awareness and especially in cities and in combination with dwellings is not a very common building typology, this document could contribute to develop new and inspiring solutions and ideas about this topic. Although researches inside the architecture fields may not always be fully done according to the scientific framework and so my research too. Any scientific research must allow any other person to do the same research following the same methods used and come to the same results. In the architecture field this is not the case since many other, not fully objective, factors like own interpretation play always a big role in selecting and processing the information.

Chapter 1. Reflection on the first semester

As mentioned in the introduction, the Dutch Housing graduation studio's assignment is to design a housing project that fits into a scenario of your own making for the future city of Amsterdam, taking into account how do we want to live in the city of the future and what kind of buildings do we need to allow for that.

To be able to answer this question I tried to determine what kind of challenges and needs the future cities will face and specifically the city of Amsterdam. I considered global issues that we have to deal with today and in the future. One of the major issues that future cities have to deal with is among others the food problem. The way that we are producing food and its negative impact on our planet and the health of people attracted me to focus on this issue for my graduation topic.

Prior to this, the project site was researched and visited. The research approach was a phenomenological approach based on experiencing the place and translating this into sketches as shown in the sketch at the next page. This approach is very subjective and could be experienced very differently by every single person since we have different interpretations. Although this approach felt a little vague at the beginning, it helped me to get an impression of the site.



Figure 2. Phenomenological approach of exploring the project location

After defining the topic one of my approaches to get more information about the topic was to do a historical research. In this journey I focused on how old cities used to produce food in the past or how they brought food into cities. At this point I was too much focused on investigating the development of food production in relation to cities from very beginnings until nowadays. What I miss in my approach, something I found out later during the P3, is that I miss a historical research about food production or growing food in relation to dwellings.

In addition to the historical research I did also literature study to gain more information about the topic. Literature study has been one of the biggest approaches during the entire graduation year. I gained a lot of information about how unsustainable our current food production system is and what are possible ways to do this better.

It also helped me to define my topic and formulate a research question. I learned about how cities and buildings can contribute to create a more sustainable way of food production. This brings me to next point I was dealing with during my research; I had to ask myself the question do I see future cities as a place where food production is brought into cities and where it takes place inside the city, or do I see future cities as a place that raise food awareness between its citizens and at the same time contribute to a sustainable food production system by creating possibilities for people to take action and be part of the food system again. With support and advise of my tutors I chose the latter, approximately couple of weeks before the P2.

I wanted to create a building where the inhabitants could take an active role in growing their own food, doing this as a hobby, while at the same time the building also contributes to a sustainable food system where there is enough place for food production at a high level, to provide all inhabitants enough vegetables, fruits and spices during all seasons of the year. This put me into a design challenge of how and where in the building make places for this functions to take place. After making a lot of models and sketches to depict some ideas, I presented the last version during the P2 where I put on the third and fourth level of the building a greenhouse as shown in the picture below.



Figure 3. Building model with the greenhouse on the third and fourth floor

Before making the proposal for the P2 I also did plan analysis. It was very hard to find examples of residential buildings in combination with this topic and therefore the plan analysis didn't give a direct related input to my own design, but served more as inspiration for the design.

At last site analysis was also one of the approaches I used during the first semester of graduation. The phenomenological research I did in the beginning helped me to select the project site. The green character and the prominent location of the site led me to decide to choose this location for the graduation project.

In my proposal for the P2 and later during the second semester I tried to strengthen the green character of the site and implement it into the project design as represented in the following diagrams. At first I wanted to include the Frederiksplein into the project and to involve it in the design, but fortunately my tutors advised me to not do this since the project site is already very big. My choice for this site encounter two sides, one is that the location is very suitable for this topic as mentioned before and the other side is that the size of the location is very big, which took a lot of time and effort to get a grip on and make a proper design.

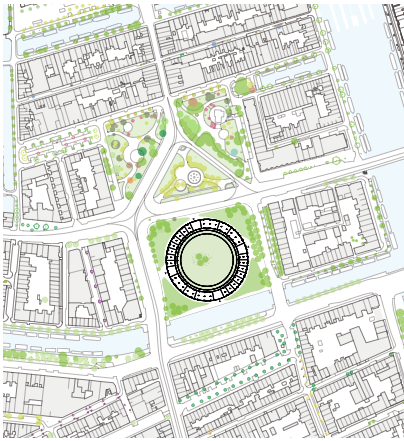


Figure 4a. Strengthen the green character of the project site

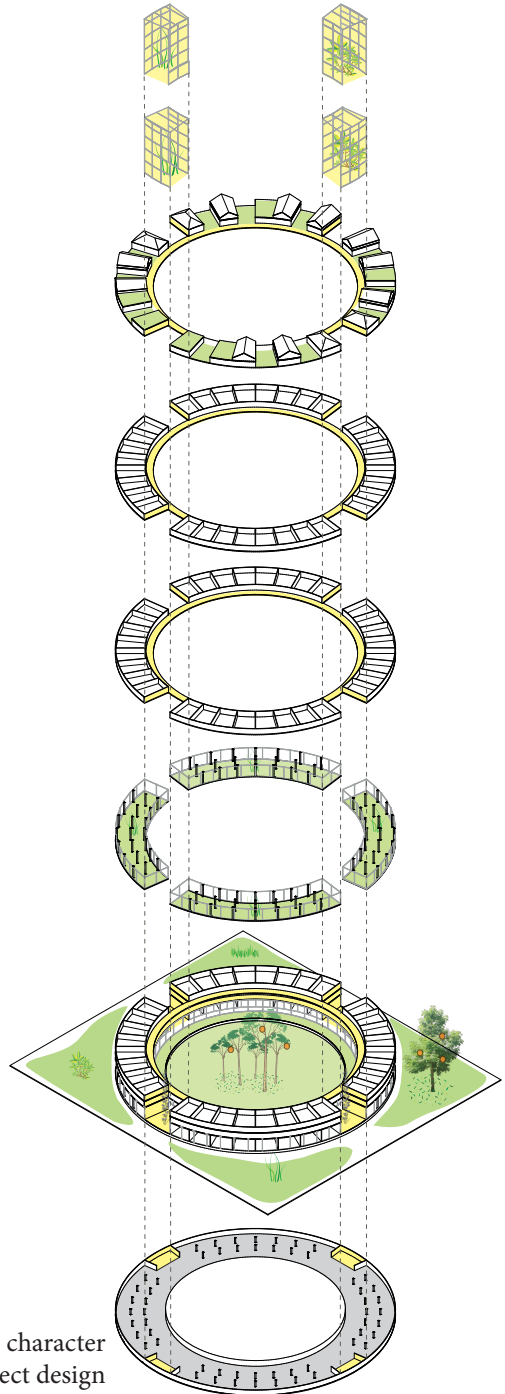


Figure 4b. Implementing the green character of the site into the project design

Chapter 2. Reflection on the second semester

To create a building where the inhabitants could take an active role in growing their own food and while at the same time there is also place for food production at a high level, put me into a design challenge of how and where to fit this in the building design.

To let the inhabitants participate in food production, I wanted to design the greenhouse, as a place where food production could take place at high level and at the same time as a place where the inhabitants of the building could also grow their own food. The sketches and drawings below depict some of the design options. I wanted to do this in order to create an active way for people to get involved in the food system again as an answer to the research question I defined earlier during the first semester.

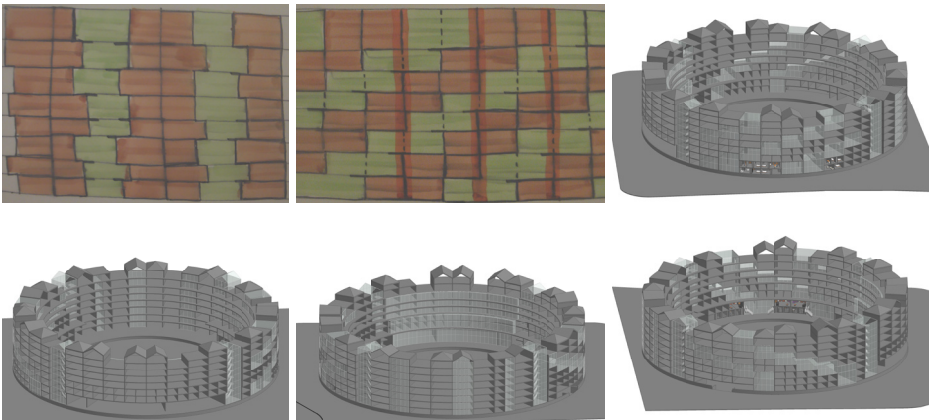


Figure 5. Combination of the greenhouse and vegetable gardens as one place

After getting feedback from my tutors and doing more research through literature study and through design by making sketches and drawings, I found out that it is very difficult to combine this two ways of producing food together. It would not be safe and easy for the inhabitants to participate in this environments since a greenhouse with high level of food production is not easy to make very accessible for the inhabitants. And by making it more accessible for the inhabitants, the greenhouse will lose its high level of food production.

This brought me to the next step in the design process to think about what kind of green spaces I want to create in the building and where to place them, see figures 6, 7 & 8. I wanted to provide each dwelling or apartment a place for growing their own food during all seasons throughout the year. I chose for a conservatory or a winter garden as a vegetable garden to be a part of each dwelling, since people can grow their own food inside regardless of the seasons.

On the other hand there is a greenhouse with the capacity to provide all the inhabitants of this building fruits, vegetables and spices. There is also a collective courtyard and public spaces around the building with place for urban farming and vegetable gardens.

There are many things that I have learned from my graduation project and studio and one of the most important aspect that I have learned is to implement different elements in a project properly, on the right place and in a coherent way. I have also learned to bring different functions together in one project and in a way that they serve each other and are linked as parts of a whole.

The remaining weeks until P4 consist of hard work of finalizing the remaining drawings and products. It is important that the products represent the quality and ideas of the project. The period after P4 until P5 is meant for making presentation models and drawings that could support the p5 presentation.

Verschillende soorten groen:

- 1- elke woning heeft een eigen verticulin waar eetbare planten binnen in elk seizoen groeien (hobby)
- 2- woonlagen op de begane grond hebben ook buiten voor de deur een eigen moestuin
- 3- collectieve moestuinten in de binnentuin
- 4- tassen voor verticale farming (productie)
- 5- de trappenhuizen waar eetbare planten aan de wanden groeien
- 6- openbare groen voor de omgeving, waar eetbare planten en fruitbomen groeien

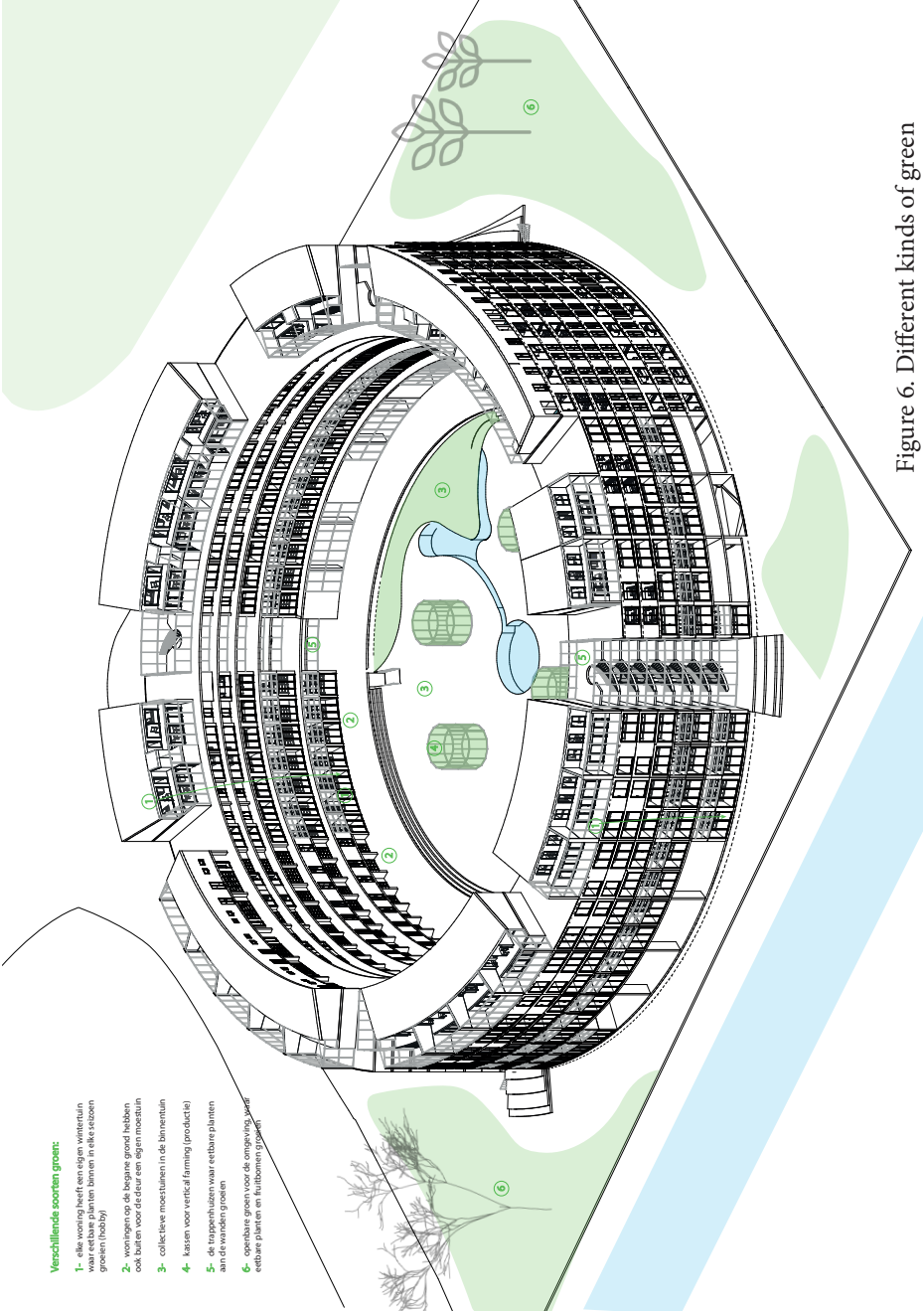


Figure 6. Different kinds of green



Figure 7. The conservatories/ winter gardens/
vegetable gardens

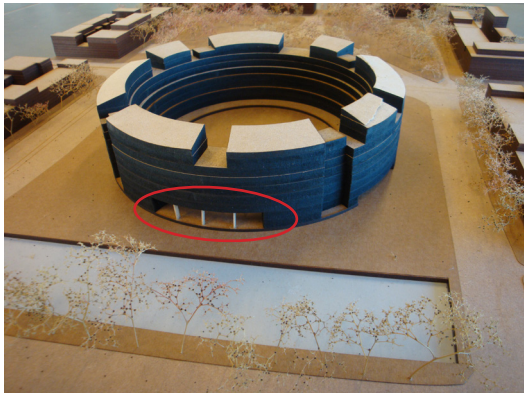


Figure 8. The greenhouse