



— #Reflection paper —

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REFLECTION PAPER
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Introduction

The reflection paper is an integral part of the graduation studio Architectural Engineering. This reflection on the personal graduation process is an important part of taking a distance from the design and looking critically at the process and product.

Choosing the UMC Amsterdam (location AMC) as my location for my graduation project comes from a direct experience before graduating and when I was younger. From a young age, I was already quite often in hospitals. In September last year I started with the Dwelling Studio. Just before starting that semester I had a cruciate ligament operation and had to rehabilitate intensively. Unfortunately, this was not easy to combine later on.

Although as a patient you are not initially concerned with what the hospital looks like. After all, you want to be well treated and get rid of your problems as soon as possible. But your first impression always stays in your mind and give a certain expectation. I noticed through the years that the identity of the hospital, the interior and exterior or even the view from the patient room had an effect on me. When visiting a hospital more often you are mostly around the entrance area or waiting rooms than in a patient room. This must immediately have an appearance of “you are welcome, you are in good hands with us.”. Instead of a medical machine or office.

With this in mind, my graduation project contains a research about the benefits of (re-)introducing nature, like trees, shrubs, vertical gardens and roof gardens to create a healing environment for patients, staff, visitors and students of the AMC but also for its surroundings, where it contributes to reduce ambient temperatures, retaining water, “passive” insulation of buildings and encouraging people to start exercising.

The design is in line with the research by opening the building to the park by the use of green elements and literally break open of the existing main entrance building and get a better connection with in the in- and outside.

Relationship between research and design

In the Architectural Engineering graduation studio, we start in the first six months by researching about your fascination. Fascinated or better called disappointed by the lack of green in the built environment, I designed a new main entrance of the AMC in which the integration of green and human-scale will play a leading role in both appearance and use.

The research should provide design evidence and also technical knowledge and support. At the start of the studio I felt for a long time that I had to show what the actual qualities and technical aspects of green were. But because I was so keen to show that green actually contributes to health of people and the city, my research may have become too technical and was lacking of design principles.

By researching different case studies about the integration of green in the design and to research how, where and why the green elements were used I was able to set up some design principles and elements. As a result, the effects can be divided into different scales: physical on human and building scale and on social and psychological on human scale.

Other studies came between the process of designing. These studies were primarily focused on technical issues as creating a steel tree column, how to support a span of 23 meters, the re-use of concrete elements and using them for concrete sandwich panels and more on design issues as the use and program of public space.

The relationship between the graduation project, studio topic and the master track

The Architectural Engineering studio is an innovative and creative studio in terms of issues and assignments. Where studios often work according to a fixed principle, this studio is more focused on the future and our new role as an architect. It deals with currents such as energy, food, water and resources, but also with how do you make it and what are the consequences if this is built.

There are three guiding approaches within the studio that are used to indicate a direction of the project: Flow, Make and Stock. My project is a combination of the Flow and make approach. The Flow approach in my project is about how people use space, how they enter the building and what do they do in the building. Furthermore, the Flow of green, with the main question: "What does it contribute to the created space?", was important. For example, its water resilient, air filtering and noise reducing qualities. But also, the re-use of the old facade is part of the Flow approach with the upgraded concrete precast facade.

The Make approach deals with the production methods for the use and development of materials and systems for the new intervention. The demolition of 3 (5 in total, including 2 service floors) of a concrete structure and wanting to keep the upper one was a big issue and interesting to find out how this could be made possible. And the construction and making of precast re-used concrete facade elements are necessary to understand, to replace the facade in phases.

Elaboration on research method and approach chosen in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

The studio started by presenting your fascination. Soon I noticed a certain aversion to the word "green". It is seen as an image or template and something that you can apply anywhere and at any time and the actual benefits were unclear or maybe unknown.

But more and more cities and hospitals see the necessity of applying green in the built environment. Due to the high demand in the housing market you see that green disappears and has to make place for buildings.

The AMC, which is mainly built with concrete, steel and glass, is such a large complex that in addition to its role as a hospital, it also serves as a small, self-contained city with a variety of amenities, different target groups and even its own university.

Most of the technical information came from literature study, which again got their information from literature studies and physical examinations. Because my design is focused on bringing the green into the building, it is also important to understand the atmosphere. By moving myself virtually as a visitor through the main entrance, I was able to make certain design decisions, such as the materialisation and spatial layout. In addition to that, the use of small sketch physical models helped to observe the functional layout and the shape of several public services as the information desk, the coffee corner and sitting areas. It was also a good method to understand the shape of the floating waiting area. After my first physical model I decided to change the shape of the waiting area, because I was missing the connecting with the language of forms of the created public space and the AMC.

Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

There is a trend worldwide that in cities green space has to make place for buildings. Amsterdam unfortunately also has a large share in this. However, cities like Amsterdam are becoming increasingly aware of the dangers of having green distinguished, which is why cities create a green report on how green can be brought back to the city. These reports contain mostly just numbers and percentages of how much green has to be realised.

With my project I tried to answer several questions. With the research I tried to provide an overview of the various options which are available to add green in an urban environment or building and what the effects are on human and city scale.

The project is also an answer to the question from the AMC for the TU Delft how their building can be made more sustainable and healthier. The AMC can serve as one of the first green hospitals.

My project did not come up with a specific product that specifically contributes to health or to the environment. But with the project I try to respond to these questions from the cities how green, in an architectural way can be used.

Discuss the ethical issues and dilemmas you may have encountered in doing the research, elaborating the design and potential applications of the results in practice.

The project is also to convince architects, contractors and clients that green in different aspects contributes to the health of ourselves, the city and the planet. Due to the large increase of inhabitants in the big cities, underdeveloped areas such as parks and tree edges are being built with new construction projects. In combination with the changing climate, the temperature and air pollution in the city are increasing. So green is distinguishing, and a concrete and steel jungle is coming back in return.

With the use of green, you can also act too fast and then it can appear as a sticky picture with no idea behind it. It is positive to use green and certainly needs to be stimulated more, but dosing is also a quality that strengthens the essence of green.

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Next to that, having a fixed location with a fixed program is something that can help you by creating a coherent design. But because of the size of the AMC I found it really difficult to decide which part of the AMC I wanted to redesign. This is what I experienced towards the P2. Until my P2 I was mainly focusing on the bed towers, but I also wanted to say something about the rest of the building. However, during meetings I often came back to this statement. As I earlier explained, a patient and visitors will be most of the time around the entrance and waiting area. And a hospital is not just for patients and its visitors, but also for its staff and students. So, your first experience on the ground level, in this case of the AMC when you park your car in the newly made Health Park. And then when you really enter the building you enter the concrete dark jungle.

During a visit to the AMC in the summer break, I felt instantly sick in the small main entrance corridor. That is when I finally decided to focus on the designing a new main entrance which also serves as a green lung and a point of recognition for the patients, visitors, staff and the students.

By working on the design, there were not many obstacles if something was possible or not. Because the construction of the AMC is oversized, it has no actual limitations except for the limitations that the material concrete entails. However, by demolishing 5 floors it does cause problems in order to maintain the top floor. These decisions must be made and it must be decided whether sacrifices are made. As a result, I have considered demolishing the upper floor, making it easier to make the structure. But this was for me not an option, because the architectonic value to use the top floor as a frame work for the entrance appearance was higher than the consequences in terms of construction. But I think that by keeping the top floor, an opportunity was created to do something interesting with the new construction underneath the floor.