

P4 Reflection

Connecting the Tangible and the Intangible

Introduction

In this reflection the preliminary results of the research and design in the graduation phase of the studio Global Housing – Addis Ababa Living Lab (2020-2021) will be evaluated. The product, the process and the planning will be discussed. The aim is to look back and reflect on what did and did not work in the graduation phase. This reflection will touch upon the research method used in the graduation studio and the argumentation behind it. First some background info is given on the studio topic, then the assignment of the studio is briefly explained. After this the research methods used during the first semester of the graduation year is explained, followed by research methods used in the second semester of the graduation year. After this the preliminary result will be presented, followed by the feedback of my tutors and lessons learned during this year. Once this is done, the narrative zooms back out and discusses the following aspects:

- Relationship between research and design
- Relationship between the graduation project, the studio topic, the master track architecture, and the master program (MSc AUBS)
- Scientific relevance
- The transferability of the project results
- Ethical issues and dilemmas
- The period after the P4

Finally, this reflection ends with a bibliography.

Background

Ethiopia is a country on the eastside of Africa, with around 115 million inhabitants (World Bank, 2020). Its capital is called Addis Ababa, with around 5 million inhabitants (United Nations, 2019). Every year people are moving from the suburbs of the country to its capital (United Nations, 2018). Besides this, the United Nations predicted that the population of the capital itself will also grow. Addis Ababa needs to host these people and its own citizens, and this causes tension on the housing market, especially on the social housing market since one of Ethiopia's main challenges is poverty reduction (World Bank, 2021). The government of Ethiopia and more specifically that of Addis Ababa introduced a resettlement program, which 'primarily focused on short-term efficiency (speed and affordability), which resulted in housing policies and design-decisions which have produced problematic living conditions.' (MSc 3 Course Manual Addis Ababa Living Lab 2020/2021, p.5)

The Assignment

Following the above mentioned, the assignment during the MSc 3 and the MSc 4 (graduation year) was to research and design housing solutions to improve the livelihoods of Addis Ababa's urban dwellers.

The approach (research methods) used during MSc 3

Although 'research by design' implements designing right away and finding solutions/ conclusions by doing so, it is never a tabula rasa when a design process starts. There is always some background info needed to start the process of research by design. That background info was given to us during the first semester (MSc 3). We started off with analyzing what a dwelling means to us by doing an assignment called 'Graphic Anatomy of the Home'. In this assignment we dug in our memory and described the places where we lived/ dwelled in. For me personally this assignment introduced the

term 'community' because the different dwellings in which I grew up were community based (living in an AZC, living with extend family members and living with a community called 'students'). Simultaneously with this assignment we analyzed precedents. These analyzed projects were social housing projects from different geographical contexts from the last century. I Analyzed the project CUPA (Centro Urbano Presidente Alemán) by Mario Pani, this so called 'city in a city' project taught me how a small community can be created in a bigger community and how the prefix 'Social' to the word 'Housing' can change over time. After these two assignments, we centered our focus on Addis Ababa. Whereas the first two assignments were close to us (Graphic Anatomy) and the general patterns in the world of social housing (CUPA), the second two assignments gave us more information on social housing in Addis Ababa. We analyzed some of the condominium projects in Addis Ababa and collected and organized all the research which was done by our colleagues in the previous years for the Addis Ababa Living Lab Graduation Studio. The study into the condominium housing system again brought the term 'community' to my mind and how in a neighborhood the sense of a community can be lost due to short-term efficiency solutions in architecture. The organization of the research done by students in the previous years thought me how complex the situation is and that there is no one solution which can fix all the problems.

After the assignments described above, we did a charette. In one afternoon, we had to propose a new housing standard, which was to be implemented as an alternative for the IHDP (condominium projects/ present social housing solutions in Addis Ababa). This assignment came with two restrictions: 1. The urban typologies were not allowed to change. 2. One site of the chosen condominium project needed to be changed (either the 20/80 or the 40/60). In some way this was the graduation project, but in a very short time frame (one afternoon). This forced us to be sharp and quick and immediately after this charette we had to propose a design hypothesis. *In which I addressed how the sense of detachment from a place and alienation can be solved by reintroducing the term 'community and neighborhood' in architecture and more specifically in the IHDP projects.* To conclude: different methods were used in the MSc 3 to do research and to start off the research by design process in the MSc 4. We did an auto-ethnography, typological research (case studies), and contextual research. Along side these methods for research we also did literature review.

The approach (research methods) used during MSc 4

The research methods used during the second semester of the graduation year were mostly literature review and contextual research. With literature review is meant the revision of the literature pieces described in the Research Plan:

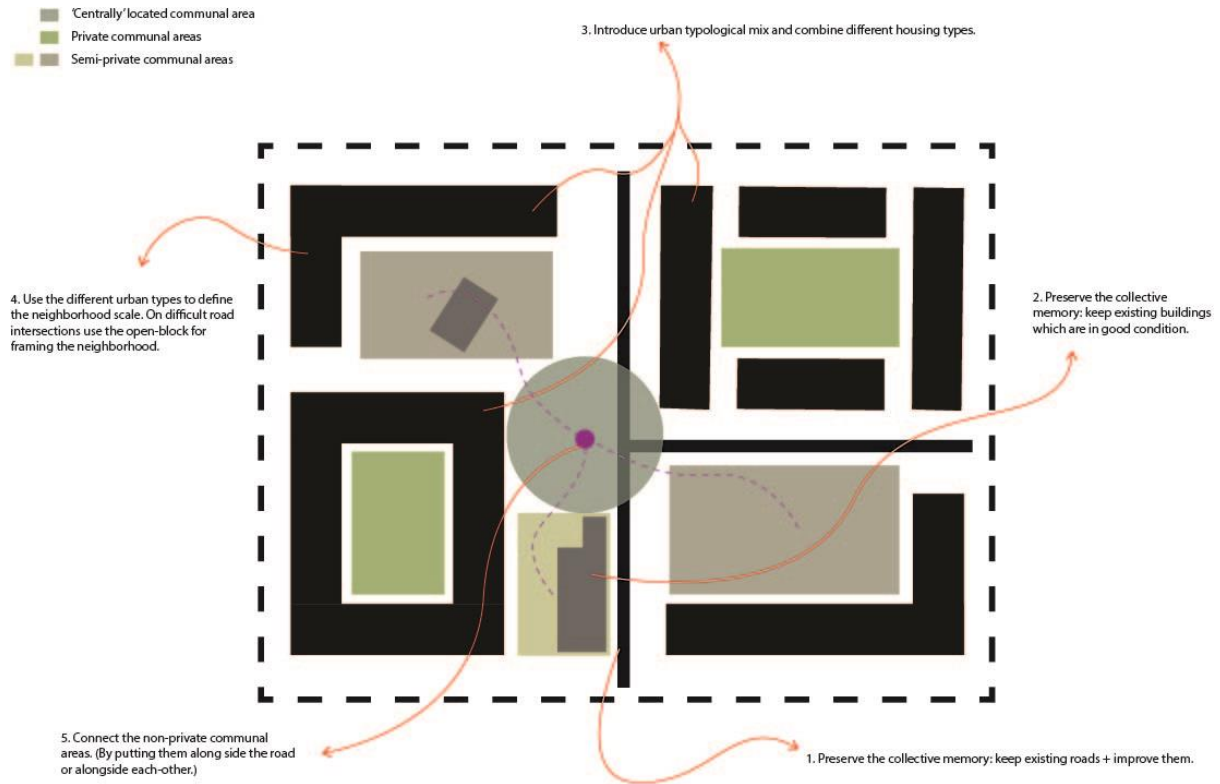
- 'Perspectives on Neighborhood and Community: A Review of the Literature' by Robert J. Chaskin.
- 'Mental Health and the Built Environment: More than Bricks and Mortar' by David Halpern.
- 'Healthy and Community Design' by Lawrence Frank, Peter Engelke and Thomas Schmid.
- 'Stress, social support, and the buffering hypothesis' by Sheldon Cohen and Thomas Ashby Wills.
- 'Mental Health and the Built Environment in Making Healthy Places' by William C. Sullivan and Chun-Yen Chang.

These literature pieces were already revised during the first semester and again used in the second semester. With contextual research is meant the same thing as with the literature review. These two types of methods were used during the MSc4 only to *add* to the information which was already gained during the first semester. For the most part in the second semester my focus was on design. Each time I would get stuck, I would go back and revise the information gained during the first

semester. Where the focus during the first semester was 'design by research', the focus in the second semester was 'research by design'.

Preliminary results

The best way to discuss the preliminary results is by showing the concept of my design:



This image shows 5 basic principles according to which I designed my masterplan, and which give a non-exhaustive and a hands-on answer to the research question (How to design social housing with a strong connection between the community and the neighborhood in Addis Ababa, Ethiopia?) Each principle is based on the findings of 'research by design' and 'design by research', this will be clearer in the next few paragraphs, where I explain each principle and argumentation behind it.

First principle: Preserve the collective memory: keep existing roads and improve them. This principle is based on the research I did in the first semester of this graduation studio, in my Research Plan I discuss how a community is a connection between individuals who will act collectively and share a collective identity and how this can be attached to a physical place (Chaskin, 1997). And one of the places where this collective identity takes a physical shape are the streets of the city. The (field)research of my colleagues done in the previous year's show how the inner streets are social spaces. By simple erasing these streets and building new roads this collective identity will be erased, which is not desirable and can cause the lost feeling of identity.

The same way of thinking applies to the second principle: Preserve the collective memory and keep exciting buildings which are in good condition. These buildings have a story to tell and are part of the collective memory.

The third principle is also based on the research in the first semester. After doing extensive research on the condominiums, one conclusion that followed was that within the IHDP there was no urban typological mix. The same building was copied and pasted all over Addis Ababa. This third design principle in my concept is a simple solution to a more sustainable design. One simple ingredient which can be added to for example the IHDP and which will immediately make a difference. When the assignment of the charette was done this was one of the important findings.

The urban typologies (black buildings) shown in the diagram above are based on the social spaces described by my colleagues in the previous years. The most important place where social interaction could happen was the courtyard of the old sefers (See booklet colleagues 2016) and to reintroduce this social space these three urban types are introduced with each their own courtyard. Each urban type is meant for a different income group. The enclosed courtyard for the lower income group, the semi open courtyard for the middle-income group and the open urban courtyard block for the high-income group. This is done because of the different daily activities of each group. The lower income groups are more likely to spent time on the ground level due to their way of income generating (drying seeds, cooking and both to produce goods which on their terms can be sold), whereas the higher income groups are less likely to earn their money by selling dried seeds or self-made food which is produced in the open spaces in the courtyard. So, their courtyard is less enclosed, and their courtyard is meant as a less 'active' courtyard, a place where people can linger for relaxing activities (whereas the courtyard of the lower income groups is a place where people can also socially interact by at the same time do work.)

The fourth design principle is based on the practicality of the masterplan. The design proposed in the graduation studio should be a solution to mass housing, like the IHDP. The idea is that this masterplan/ design can be implemented all over Addis Ababa to different locations with the same characteristics as the location I choose to develop. Hence to make the masterplan more practical and easier to implement elsewhere the fourth principle was introduced: Use the different urban types to define the neighborhood scale and use on difficult road intersections the open urban block for framing the neighborhood because that's the easiest block to reshape. (When old roads are kept, this can cause challenging intersections.) The neighborhood scale should be defined because if the neighborhoods are too big, interaction is less likely to happen (Sullivan & Chang, 2011).

The fifth principle is also based on findings of Sullivan & Chang (2011). They give the example of a walkable green area to be a great place to promote face to face contact and this on its term to promote a strong connection between the community and the neighborhood (Sullivan & Chang, 2011).

Feedback and lessons learned

The diagram shown above was created after I had failed for my P4 the first two times. The diagram turned out to be a very important part of my graduation and I didn't have it the first time doing my P4. When I failed the second time for my P4 my tutor Nelson Mota asked me some questions and one of the questions was something along the lines 'how is your design implemented to other areas/ locations in Addis Ababa'. This question helped me a lot to further develop my project and to create the above presented diagram. It summarized my findings, it made me think on a larger scale.

Without me knowing it, this was a crucial part of my design and my tutors kept on asking this. But somehow, I struggled to understand this. Their message kept on missing me.

I felt that I in fact did address this, but when Nelson asked me this question out loud, I realized I did not explain this to the reader/ to the tutor/ to anyone. I only had explained this diagram in my head

to myself and because I understood it, I kept on continuing and kept on going. To the point that my tutor needed to stop me and say to me: 'You need to go a few steps back, to go even more steps forward.' The lesson I learned here is funny enough one which I was pointed on many times before: your information is received by the receiver once you actually *give* them that information. I struggled during my graduation to convey my message and I underestimated the power of a single drawing/ diagram.

Another question my tutor kept on asking me and with which I yet again failed to understand the idea behind the question was a question along the line of 'what are the significant differences between the three urban typologies (the buildings meant for the different income groups)'. This question also helped me significantly! It forced me to pinpoint exactly what I mean with the different urban typologies being for different groups. It helped me to think out of the box and to ask myself the question: what else is important to the higher income groups except the square meters of a dwelling. During the last few weeks before my (third time) P4, this question fell finally into place when during the last tutorial session Nelson explained to me how 'a rich person' lives. Now I can exactly pinpoint what the differences are between the dwellings I designed for the higher income groups and the dwellings I designed for the middle and the lower income groups (See P4 report).

These are just two questions of the many questions Nelson Mota and Harald Mooij asked and they have all helped me one way or another and I am thankful of them for sharing their knowledge with me and for broadening my horizon.

Relationship between research and design

The program of the graduation year was to some extent set out to be research (MSc 3) and after that design (MSc 4). Although in the last week of the MSc 3 we did design (the charette & design hypothesis), for the most part the research was the focus of the first semester. In the second semester of the graduation year this was the other way around. I personally found this very helpful, because I could make logical design decisions. However, during the second semester I noticed the method changed: from the focus being on 'research by design' to 'design by research'. Each time I would get stuck, I would go back and do more research. This would happen each time I found it difficult to continue. At the end I found myself going back and forth between design and research and the other way around. Looking back on it, this approach worked perfectly because it meant only going a few steps back to go more steps forward (as my teacher said). I learned from my project that switching on and off to 'research' and then to 'design' or the other way around sometimes means reinventing the wheel and that this process never really ends and that there is always room for improvements and that this can be very frustrating. I learned however that this is 'part of the job'.

Relationship between the graduation project, the studio topic, the master track architecture, and the master program (MSc AUBS)

The relation between the topic of my graduation project and the studio topic is that my graduation project has the same topic as the studio topic: The government of Ethiopia implemented since 2005 a so-called Integrated Housing Development Program (IHDP), which started off in Addis Ababa, the capital of Ethiopia. Among other goals, the goal of this program was to create 400 000 condominium units (UN Habitat, 2011). The principles behind these goals were to build houses on a large scale for people of the lower income groups within Ethiopia and with this to promote homeownership. Even though the goal of the 400 000 units was not reached within the five years that was set out for the IHDP, building low-cost houses at a very large scale was successfully achieved within this program, the costs of construction per m² was about 77 USD (UN Habitat, 2011). In the private sector this number would be 193 USD for the same quality.

However, the IHDP has encountered some design problems. The units and the urban design are not responsive to the needs, activities, and lifestyle of the occupants. The newly built condominium sites are alienating and detaching occupants from their community. 'Most occupants are accustomed to living close to the ground and so adjusting to life in multi-storied apartment blocks is proving a challenge.' (UN Habitat, 2011, p. 41) Living close to the ground means having space and a connection to the community (UN Habitat, 2011). The lost connection with the community and the neighborhood is the specific problem my graduation project engages with and exactly this is also part of the studio topic.

The relation between my graduation project and the master track Architecture is that my project is an *architectural* solution to the problem proposed by the studio. It is not merely the designed building that is opposed as a solution, more so the design *process/concept*.

The relation of the graduation project with my master program is that while doing all the things mentioned above, I gain knowledge about architecture, urbanism and building sciences and this will prepare me for my role in society as an engineer and later as an architect. Besides this and as mentioned above this assignment specifically will prepare me for my future dream job, which is working in developing countries (Afghanistan) and designing social housing for the urban poor.

Scientific relevance

Affordable housing for all is a basic need as is described in the Sustainable Development Goal 11 (SDG) of the United Nations. Hence it is of crucial importance to ensure access to adequate, safe, and affordable housing for everyone everywhere. But what does 'adequate' and 'safe' mean? And specially in the field of architecture? Architecture for example plays an important role in our mental and physical health and hence it is relevant to ask the question: How does architecture play a role in this and to what extent? So, having a place to live is important, but also having a 'good' place to live is important and the literature on this topic is bulky.

This question (How does architecture play a role in our mental and physical health and to what extent?) has been asked many times before, but the answer is not always given with a design project and more specifically not in the context of Addis Ababa. This is relevant because Addis Ababa is the capital of a developing country, so the constraints that the graduation project deals with are big. In Addis Ababa, Ethiopia people are focused on the basic needs of a human being (SDGs), so the quality of these needs may sometimes be overlooked, as we saw with the newly built condominium sites. Whereas in the developed countries people are not so much focused on the SDGs, so the question 'How does architecture play a role in our mental health and to what extent?' is a different question, in those parts of the world. My graduation project fills exactly that gap, by asking the same question but for a different place and with the foreknowledge that community and neighborhood are determinant factors in designing 'good' architecture. So, this graduation project will contribute to the earlier mentioned bulky literature, by asking the same question, which is asked many times before, but with one big exception: what to do when the resources are limited and, in a place, where people's focus isn't designing a strong community (or designing a healthy environment)?

The transferability of the project results

The five basic principles which are shown earlier is a great (short) summary of the overall findings of the project. The idea behind these basic principles is that they can be implemented each time when a new location with the same characteristics is chosen to be redeveloped. (Locations with the same characteristics are all inner-city areas which are appointed in the strategy map of the municipality of Addis Ababa for housing renewal with no major nature elements such as rivers or steep hills.) These set of principles will promote each time a site-specific design. In contrast to the IHDP the designs made according to these set of principles will each have a different 'appearance', with a more

responsive connection to the needs of the dwellers who live there. The same approach is implemented as with the IHDP because the proposal in this graduation project also promotes the famous cookie-cutter principle, except the cookie-cutter is each time now slightly changed and deformed. So, instead of copying each time the same building now the same 'proces' (five principles) are copied and pasted everywhere. And because the five principles respect what each site has to offer (keeping exciting authentic old buildings and routs) the approach is less of a tabula rasa approach it is a more holistic approach accentuating what is already there and connecting it with the new (new urban typologies). These urban typologies can be copied everywhere, but each time these urban typologies are changed based on the site-specific characteristics. (Sometimes these typologies are bigger, sometimes smaller, sometimes narrower, sometimes higher, sometimes they interact with the old, preserved building next to it and sometimes with the old preserved building behind it.)

Ethical issues and dilemma's

My solution to design with the community and the neighborhood in mind, is translated into a project which isn't like the IHDP, where the buildings are copied and pasted allover Addis Ababa and hence where the architectural buildings are always the same. It is a much more holistic approach to the community, which is already present there and because of that my design proposal (solution) creates a different neighborhood each time. This brings many social advances with it, as discussed in my research plan, but at the same time it might be not as efficient as the IHDP. Creating each time, a new neighborhood is time consuming (a thorough research of the places has to be made each time) and not always affordable.

The period after the P4

After the P4 I will be working first on finalizing the project(drawings), I expect this to take no longer than one week. After this I planned to make three models: one model on an urban scale (1:5000), one model of the building on its own (1:100) and a third model for BT to show a significant section of the building. This last model will probably have a scale of 1:50 or 1:20. I have planned this to take no longer then 2 weeks, since I have planned to use the laser cutter which is faster than cutting everything by hand. After this I will probably have one week still left and during this week I will eighter relax/ take some time off before the P5 or I will try to finalize my personal portfolio with which I can apply for jobs after the P5.

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