DE WOON-MAKER

A BUILDING FOR MAKERS: WORKSHOP AND RESIDENCE.

Reflection Report

Miriam Walther
As part of my graduation project “De Woonmaker” in this reflection report I am looking back on the process and methods used. The graduation project as a whole academic year experience is the last project before receiving the title “Master of Science”. In this report I am also taking the chance to look back on my studies as a whole and how my work deserves to be called “scientific”. Therefore, I am going to reflect on the various methods I have used during all phases of the project, from finding the main topic to designing a building with technological details.
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A Building for Makers: Workshop and Residence.

REFLECTION REPORT
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After finishing my Bachelor of Arts at Münster School of Architecture in Germany, I came to the Technical University Delft for my master’s programme. Now I have arrived almost at the end of those studies with a graduation project stretching over a whole academic year. The first half of the project aimed to hand in a “Research Report” which includes the findings of the research on a personal topic as well as some precedent analyses and a first design idea. The second half is dedicated to the actual design. But although no “written product” in that sense is required, research will go on until the very end of the project, as it is closely linked to the design.

In the first part of this paper, I am going to reflect on my realization of the importance of research for me personally in my master’s studies as well as a general elaboration on the relationship between research and design in architecture.

In the main part I will list all methods that I have used during my research and describe how I have used them for my design. Although at different periods of the project I have used various methods, I am going to sort them per method in order to show how the aim in the design has changed over time and what each specific method has been used for at different times. Thereby, an overview of the methods becomes clearer and how the same method has been conducted for different topics. This is going to be supported by examples in form of pictures of field trips, models, sketches etc.

I am going to explain why I chose a certain method and what was the aim for my research and finally the design.

To conclude, I am critically reflecting on the research methods listed above and what I could have done differently. Finally, I am looking back at my former studies and projects and how I have become more aware of my way of working.

Additionally, I am going to answer four more question required for this paper by the TU Delft that include putting my research into a wider context and the methodology of the studio itself.
When I started my Master’s studies at the TU Delft I knew I was admitted at one of the top three ranked universities world-wide for architecture. But what does it mean to obtain a Master of Science there? Would it be more technically oriented than my Bachelor of Arts in Germany? No, not at all. It is about the scientific research which takes up a major part in the final thesis. It took a while for me to realize this, in fact, until I took the class “Research Methods”, where I had to write a paper reflecting on the methods I was using for my MSc2 project. In one of the first lectures, Jorge Mejía Hernández talked about his background as a Master of Arts before he started his research in Delft. He started in the chair of Public Buildings because he felt very familiar with morphological studies as a method which is used there a lot. I could relate to his comparison and found that my Bachelor studies were much more practically oriented. But I never had to write more than an explanatory text for a poster in my entire studies.

In this lecture series and while writing the reflection paper I realized a few things. First, of course I had used certain research methods regularly, but I wasn’t aware of it. Being aware of the methods that are used and how to use them is part of forming an academic attitude. Second, it is very useful to reflect on them halfway through the project in order to get a better overview and organize ideas. This also applies to this reflection paper which already helped me think about how to continue my research. And third, how the system of studios within the TU Delft works, that it is not only about topics like Dwelling or Public Buildings, but also the methods that are used within the studio. Therefore, it was hard for me to make a choice of studio, also because I think the division of studios is quite strict.

“Architecture is, by its nature, a complex, multifaceted field of study, meaning that no single approach can tell you everything you need to know.”


When I talked to friends studying physics, psychology or South-East Asian Art History I was not very convinced that my studies were scientific at all. Architecture is about design, so that is what I come up with by myself, don’t I? During my studies I found out that it is not so much about being the most creative genius but that each decision has a reason behind it, some that take longer to research than others. However, the grade of scientificity between several methods differs and therefore, more methods need to be conducted at the same time. Ray Lucas argues in his book “Research Methods in Architecture” that architecture is a very broad discipline, which is why we need to conduct many topics in order to understand how the space is used.

“Conducting research by simply doing architectural design is increasingly important to architecture, and represents an academic recognition of alternatives to the production and consumption of literature of ways of thinking.”


One main difference to other disciplines is that in architecture, some of the research is based on practice. Built objects serve as references and often it takes a while until it proves practicability. But one building in another place can work completely differently. And one problem can use many different references. But even if it were the same, the design will always be individual. So even if the outcome of the research is objective, the influence on the design will always

3 Lucas, R. (2016). Research methods for architecture, p. 8
differ. I think this is the main difference to answering a problem in physics. An objective truth is found which is then evaluated by other physicists, but it is either right or wrong.

Here I think in architecture, the interface between research and design is gradual. As mentioned above, the design process itself, which is critically reflected, is a type of research by itself. Some points like the maximum angle of stairs can be answered objectively since studies have been carried out and formed into a regulation. But what about for example the facade? Many arguments are valid here which lead to very different solutions. The surrounding and cultural background might lead to a brick facade while a focus on sustainability could lead to a different material, and so on.

My friend from physics questioned why architects should have to do this final thesis during their studies at all, since the smallest percentage of people will actually end up only in research. Of course, in praxis time is rare, but still I think that all design decisions are based on some kind of research. It is important to be aware, even if only one method is used, what this actually means for the design and therefore, at least this one time, a deeper, more complete research is necessary.

On the other hand, I think that design always contains personal experience, which is one of the reasons that make me passionate about architecture. Every person has a different background and therefore, every design must end up differently. To me, architecture is also about storytelling, which can also be considered a method, but certainly a subjective one.

Literature research is the most obvious and “classic” way of research. The whole first semester of the thesis was dedicated to this method and it was the main part of finding and reasoning for a topic. In fact, for me it was the first time in my studies that I carried out structured research for a project with the aim to come up with a design. Of course, in every project before I googled some part of the history of the site and the ethical background. I easily get enthusiastic and read about it, too but it was never a systematic research on very specific points of the topic. I explain this mainly with the lack of time in such projects of 8-12 credit points, but also with the way of working I was used to in my bachelor’s studies.

The initial idea of my research topic was rooted in my MSc2 studio in Public Buildings where I took a bottom-up approach in order to involve local craftsman into an urban development and later-on a temporary design which would evolve over time. I had started to read some papers by Bernard Tschumi about event architecture and a friend introduced me to the makerspace, a shared workshop concept, but there was no time to dig much deeper. However, I found the combination with dwelling would be a topic to investigate in a wider project, my master thesis.

Until P1, besides the site visit, literature study was the only method that I was using to come up with a topic of the thesis and to explain its relevance. I quickly formed some idealistic points in my head and tried to confirm this with my research. I got very enthusiastic about the topic I chose, which is essential in order to keep up the motivation for such a long period. Nevertheless, it became evident that there was no consistency and too many separate stories in order to explain the relevance of my project well. With the sad smiley grunting at me from my email and the set-up of the research report in a more structured way, I was able to form a consistent story and I realised myself what the research I had prepared before was worth. Once in order, I could look for the major points that were missing.

The literature research started out with rather philosophical books, taking the recommended book “Building and Dwelling” form Richard Sennett as a starting point. I got into two of his other books, more related to my research topic, “The Craftsman” and “Together”. Later, research became more specific to my topic, consulting the book Beyond Live/Work” from Frances Holliss which also got me into Jane Jacob’s “The Life and Death of Great American Cities”. While the first books gave me more idealistic reasons for choosing my topic, the latter gave me the historical background and relevance on different scales of the city for today (and the future). For me, reading philosophical books like the ones from Richard Sennett, opened a very new perspective on architecture. I enjoyed the lecture very much because, like the comparison of plans and perspectives, I think in contrast to e.g. a regulation book, the observations of Sennett show much more of the user’s point of view.

Since the topic was at first not directly related to the actual site in Amsterdam it was also an important factor in my story to point out why it is relevant in that specific place. The plans and documents of the municipality that I read closely as well as some polls on craftsmanship in the city of Amsterdam were the essence to root the project in Havenstad.

After P2, I continued my literature research in a reduced way. I looked into cooperative housing concepts in Zurich in order to support my
finance system in combination with the workshops rather than only housing. This is important for my design because, although it always has to make sense economically, some less standard design ideas can be incorporated. An example are the shared apartments for four people and an extra roof terrace. Also giving balconies to the small apartments of 38 m² is an extra value that residents are given since the outdoor space is legally required only from 50 m².

Also, within a year digging into a specific topic I came across many articles about craftsmanship in the city, which all supported what I had found out before and sometimes added valuable points. These were mostly related to small industry projects within different cities, lots of them in Berlin.

As mentioned in the beginning, I think that the literature study done for the research report is the most classic scientific research that can be done in order to come up with a design. I saw this confirmed for example in the latest “DASH” issue on working and living in cities which had a similar story in its essays as my own findings.

Research Report: Literature Research leads to a design question! Is the design question the answer to the first research question and then can be answered in many ways?

FIRST VISIT

On the first day of the graduation studio we met with the whole group in Zaandam, Northwest of our project area to have a look at the big model of the Urban development of Havenstad in Amsterdam. After that, everyone wandered around the project area to get a first impression. This visit was done before I had thought about much of the research and topics for the projects so I could get a “neutral” first impression. It was a sunny day and I took lots of pictures not knowing where exactly my project was going to be placed. I also took notes on sounds, wind and people. I summarized my first impression in a selection of three pictures and sketches on the three most present topics (see figure X).

This visit before starting with the design helped me in a few aspects. Only when being at a site, all senses are active and a grasp on the whole picture is possible. Furthermore, some things become evident. For example, I noticed all buildings were separated from the waterfront by a street. Later on in the Urban Design an accessible waterfront for only cyclists and pedestrians became a central topic. Another aspect was that there were almost no people over day. Some people in suits working at the offices were spotted but the area was rather dead. This supported a mixed used neighbourhood in order to activate it at all times of the day.

HISTORICAL RESEARCH

Preliminary to the urban design proposal, a very brief historical research on the project area has been carried out, mainly using historic maps of different times in order to get an idea about how the area developed. Thereby, the formation of piers and harbour basins could be understood.

ANALYTICAL MAPS

A first step towards an actual urban design was to draw analytical maps on certain topics, e.g. the waterfront with the help of some plans of the municipality of Amsterdam of Havenstad and current maps. The main themes could be supported by breaking down the main aspects into separate topics and showing them on maps.
Plan analysis is one of the most important tools for analysing precedents. However, the real, 3D experience of visiting projects always gives more impulsive and user-connected insight.

Very much by chance, while I was at a big family event with my grandparents, we stopped by the Holzmarkt project in Berlin for a coffee. I was in my very first research phase and still trying to clarify my topic when this project crossed my path. I was fascinated by the atmosphere and how it attracted so many people in such a short time of existence so that the project became a major precedent for the non-housing part of my project.

Once working on the project, I was more aware of what I was looking for so I was paying attention at different things with almost every building I entered asking myself questions like “How do I, as the public, enter the building?” “How do the people living here use the public functions?” I did that more specifically e.g. at the market hall in Rotterdam and I used the co-working space of the Melkfabriek in Hilversum. This, for example, has influenced the circulation for the dwellings in form of a gallery that provides views to the inner (working) courtyard.

With the class and our BT teacher we went to different buildings in Delft to look at some practical details like installation rooms, storage and fire escape stairs. Since the project was already quite far at this point, I paid more attention to the specific design questions I had at that time, like “How is the gallery attached to the building?” or “How deep should a balcony be so it can actually be used?” Still, we were quite surprised how well the elevated courtyard above a busy supermarket in the city center of Delft was working in order to have a more intimate living atmosphere and a sense of community. This supported my idea of making the roof of the makerspace accessible to be used as a shared roof garden.

Especially housing is something that everyone experiences everyday but floor plans are still rather abstract. I measured my living room and found out that it is 3.50m wide which is exactly my bay width. Experiencing this 1:1 makes it easier to imagine what the floor plan layout would mean for the actual end user.
One of the most influential methods used at all times during the research is precedent research. Almost all parts of a project can be found in already built or planned projects from other architects. Comparing many of them on certain topics is a very useful tool to answer questions on all scales of the project. This is also the aspect where the danger of the method lies: It is very important to pose the right research questions in order to analyse projects on the aspect that is wanted. For example, to find out how the relationship of public and private parts of the building is set up or the best measurements of a gallery, different aspects in a project or even different projects have to be considered.

Here, the method of analysing precedents is looking at plans and drawings of the buildings. Other methods of precedent research that I have carried out are field trips and picture collections.

The first precedent research was done in the group of students who were taking the graduation studio with me. It was an urban precedent analysis on Hamburg HafenCity preliminary to our own master plan design of the project area. Three other groups also investigated urban housing developments in harbour areas so that the findings could be shared in a booklet and used as a starting point for our own design.

On top of this, a course called “Research Seminar” was also part of the graduation studio. In this course, each student analysed a housing project on four scales: Urban Community, Pedestrian Precinct, Cluster and Dwelling Type. This helped me to systematically analyse one building and understand its structure on various layers. After that, in groups of three the essentials of these projects were “transferred” into an urban master plan in our project area. Unfortunately, due to the structure of the studies, this was done way after the actual master plan for the graduation project had been finished, as this was a good exercise to get a grasp on the area. However, this subject helped me to come up with a more structured research on the main precedents I analysed for the first part of my project.

One chapter of the research report included a plan analysis of 4-5 projects. After coming up with a design question in the first part of the research, I posed a specific research question for the plan

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**Fig. 5: Overview matrix of analysed reference projects**

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I organized the projects in a matrix on different topics of the relationship of public and private from a large scale up to a dwelling unit. With this system I could easily compare and evaluate the aspects in all projects.

However, even during the first part of the research, “side questions” are forming. And of course there are more than five relevant projects for my research. While not all of them can be analysed deeply on all aspects chosen in the matrix, this selection gives an overview on important topics for the initial design questions. In further design, questions become more specific, e.g. on how shafts approach the ground floor or on open emergency staircases and therefore other projects become more relevant. Since my building is a hybrid between an almost industrial and commercial building and a dwelling, I also looked at buildings that were either one or the other for specific questions on one of the parts.

As mentioned above, collecting pictures is a different method of analysing precedents. Here, it is more about the atmosphere that is created by not only one picture of a project but of many pictures and projects that give an image on a certain aspect.

I have created several pinboards on the internet platform Pinterest in order to organize the pictures on different projects. To give some examples, topics were “facades”, “galleries” and “built-in furniture”. With a certain picture in mind and the right search term, the board is filling over time. The platform then suggests images with a similar graphic appearance and soon an overall picture is created.

With this tool, projects can be collected and compared quickly. It directly gives a certain kind of visualization of one aspect. This can only be a starting point for a bigger topic like the facade to get some inspiration but certainly needs to be broken down to a few projects that are investigated further.

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Architecture for me is a lot about storytelling. There is a concept which has a storyline. Interviews have proven to support this storyline with a specific example. I interviewed a guitar maker in Amsterdam on the phone about his work and workshop at home. His answers helped me structure my research report in a way because he had, by chance, many aspects in his personal story that supported my choice of topic. He was even kind enough to send me pictured of his former workshop at his home where he started out with his business. This is also something that makes me enthusiastic about my own project.

After P2, I walked around in the city, in Leipzig (Germany), where just outside of the city centre, in a busy area, I visited several small maker’s businesses surrounded by dwellings. None of them actually lived directly next to their (work-) shop but they all lived close by. This time, my questions were a mix of very practical questions on the size of the workshop but also personal ones on whether they could imagine living directly around or financial issues. It was a quick way to verify some of my findings from literature in a specific example but also to be aware of certain issues. For example, a potter with a workshop and attached sales room is thinking about renovating the attic of the workshop to live there with her husband. This is according to her a financially driven decision but she would prefer her current apartment two streets away - close enough to check on the ovens but far enough to get some mental distance. Of course, one interview (or even six) is not representative for the whole group, but it raises awareness on topics that I have come across elsewhere in my research but did not consider closely. In my design including working and living in the same building, I concluded from her comment that a certain distance from work in the apartments themselves is more important than I thought before. Therefore, a clearer distinction has been made and it had a direct influence on my design.

In interviews it is very important to prepare well and to pose the right questions. Looking back, I certainly could have interviewed more people and my questions were missing out on asking what they would want from their home. My questions focussed more on the workshop part and the location of living but for a later designing phase a better idea about what makers would actually want from their apartment would have been more focused on the dwellings.
During my bachelor’s studies, all projects besides the final one, were done in groups of 2-3 students. There were two big design projects per semester, usually worked on in different groups. In this way of working, I always had to communicate, negotiate, brainstorm with another person. This was not always easy depending on the person, but I noticed during the master that this has helped a lot to not get stuck with one idea and to constantly question one another. Working on projects alone, it helps to talk about the projects with other students although they are not as involved in the topic as a project partner. It is even more important to question one’s own work at all times.

TUTORING
The regular meetings with the tutors provide quite a tight structure during the whole process and the tutors are also persons involved in the project from the beginning. Therefore, the tutoring is an essential part in structuring and reviewing the process. Since the three tutors all have their fields of expertise, I am better prepared for the meetings according to the points I would like to discuss in comparison to the meetings before P2 which were more general.

FAMILY AND FRIENDS
Showing research and design during the process to non-architects helped me to break some points that I got stuck on. As soon as one has started with the master project, everyone is asking “What are you doing?”. While this can be annoying, especially in the beginning, when the graduation seemed to be ages away, trying to summarize my topic proved to be quite hard for me. This became very obvious in P1 when I got a “wrinkle-smiley” warning me about my current state of the project. This hit me very hard and within the next few weeks, I had to get my story straight. I looked at other research reports and came up with several structures which I discussed with my father, who is an electrical engineer. Knowing me and my sometimes idealistic attitude, he helped me to be more critical on what is really important. Thereby, my research was much more focussed on certain topics. After some time, I got used to explain my project in a short way to non-architects which is very useful for the big presentations and its structure.

Concerning the design, non-architects take up more the position of the user which makes them able to point out some very instinctive reactions to parts that they find impractical or that they don’t understand. I notice that I sometimes get stuck in my principles and asking a friend about a specific point helps to verify or even drop the idea. An example was my idea to have a flexible room in between two dwelling units which could be rented independently or connected to one of the units. While some architecture friends found this a good addition to the concept, others were more sceptical because they directly took the perspective of the user and preferred to rather be more flexible within the apartment.

All in all, to keep the mind open and to stay motivated, for me it was very important, especially in such a long period of a project, to talk about it with professionals as well as “unprejudiced” people.
I take my sketchbook wherever I go. Sometimes, a design can start with a very quick rough sketch. But what does this have to do with research? For me, sketches are a first tool to test ideas, mainly in floor plan and section. The roughness of the sketch shows the most essential things as it is very reduced. If a drawing is made on the computer, it has to be measured specifically and more problems cross the way. I have been using sketches in all phases of the design. This also becomes evident when I look through my sketchbook which shows how the design developed since all sketches are collected there. It includes all scales and kinds of sketches: Plans and sections, axonometrics and perspective views as well as parts of technical drawings.

Especially when I developed the facades of the building, I jumped between scales a lot since everything was coming together. A detailed sectional sketch of how the balconies are attached to the structure, different possibilities of how the whole facade would look like from the outside in an axonometric view and bigger floor plans of sections with a distinction in colour for the materials got me much closer to a decision.

Since the workshops and public spaces are an essential part of my design, sketching was a first tool to test many set-ups of how to organize the functions living and working in one building. Having a collection of sections and floor plans gives a very good overview of many possibilities that then can be evaluated further.

Fig. 8: Sketch studies for volume and circulation

Fig. 9: Sketches of two facade options and an interior perspective

While plans and sections are the drawings that give an overview to the architect, some impressions are equally important to look at the image that is actually created for a person. Especially for the interiors of the smaller units I started out with a perspective sketch that I could refer back to for the atmosphere I wanted to create.

All in all, I noticed that my conceptual sketches are a very powerful tool to also communicate the most important points on a specific point e.g. during meeting with the tutors. Computer-drawn floor plans require a certain level of detail and completeness that hand sketches can leave out to talk about more fundamental things.
PHYSICAL MODELS

Physical models belong to the process of designing at all times. It starts with mass models made of foam, of the object itself but also of the surrounding to get a better grip on it. In this case, the model of the master plan that was designed in a group, actually exactly showed some problems with the building blocks at P1. With the existing model we went back to foam for the buildings in question and tried out more configurations.

Scaling up for P2 with my own building to a scale of 1:250 helped me realize that a major design feature, namely creating a two meter plinth underneath the ground floor, was failing its purpose. Since then, I have tested many other things with more models. I went back to the volume with 1.500 models and picked out one part of the building in 1.200 to build the facades. At this point, I lost the overview of how facade, material and building technology came together at this specific point. With the model, the concept was clear construction-wise and gave a very clear concept for the facade.

The physical task of making a model can show many things. Like a sketch, a working model is rather rough and therefore, to test things, it can be cut up and put together differently without being afraid of making it ugly. The process of assembling a more detailed model also has some effects on the construction of the building. If the model is really tricky or unstable, the construction has to be made clearer.

Since the beginning of my bachelor's studies I have used study models as a tool for my designs. In my very first semester, I was forced to have a new model every week for meetings with the professor. Although it seemed annoying at the time, it greatly influenced my way of using models as a tool during the design process, not “just” to communicate the idea with a nicely made model of the final project. I think especially in design, models are necessary not only for others to understand the project, but for the one who designs the build-
MODEL MAKING

While physical models include the crafting component which shows immediately when things get complicated and for me are always preferred, 3D models in Rhino offer a quick alternative to test out some things. This can be after some volume studies in foam in a physical model in order to have a look at more varieties or before making a physical model. In this case, some variations can already be excluded and only a few examples are tested in a physical model.

Fig. 12: Working models testing the facades in 1:200

DIGITAL MODELS

3D models are not my expertise and I only use it as a testing tool. Especially for volume studies considering the course of the sun, a digital study has proven a quick tool. However, this method can become endless as there are always more possibilities and with copy and paste it can be hard to set boundaries. For me, always considering digital and physical models parallely, I was able to keep the overview on my options.

As architecture in its whole is thought of in a three dimensional way, I am currently using ArchiCAD as a CAD programme, which directly does all drawings in 3D. In the future, I think every architect will work with these programs as they allow quick sections and perspective views. However, it is important to take the right angle in order to not miss the chance of checking different situations from an eye-level point of view instead of just looking from above.

Fig. 13: Test of volumes divided into working and living in Rhino
MODEL MAKING

The topic I chose for my Master's thesis is also an emotional one for me personally. I have always been handy and I enjoy making all kinds of things by myself. For my first student room of 15 m² in a shared apartment, I built a podest that "hosted" my bed in order to divide up my room into study and chill area and to hide the bed over day. I did not only enjoy designing and building it but also using it and it gave me some 1:1 experience with this kind of built-in furniture. Having lived in several small student rooms and studios since then gave me some experience with measurements and things that have proved handy or not while actually living there.

In my design proposal for P2 I missed this point and suggested a two meter high plinth which would block the view from an eye-level. Being aware of this, I have used my digital model much more to do a quick check from a different angle. This will be taken a step further in the future when you will just wear your VR glasses and walk through it. For now, the eye-level perspective on the screen is a tool to verify the ideas that came up in plans and sections.

PERSONAL EXPERIENCE

The topic I chose for my Master's thesis is also an emotional one for me personally. I have always been handy and I enjoy making all kinds of things by myself. For my first student room of 15 m² in a shared apartment, I built a podest that "hosted" my bed in order to divide up my room into study and chill area and to hide the bed over day. I did not only enjoy designing and building it but also using it and it gave me some 1:1 experience with this kind of built-in furniture. Having lived in several small student rooms and studios since then gave me some experience with measurements and things that have proved handy or not while actually living there.

When my research encouraged making smaller units for singles and new forms of shared apartments that would save space but still feel different than a typical student shared living constellation, I could use my own experience of what kind of built-in furniture has proved usable and how much space would be needed. Of course, this differs per situation.
Reflecting upon my research of the past eight months brings me back to the question of what research means for architecture and how this influenced my design. Lucas concludes in his book about research methods that architectural research looks out to other disciplines but the more practice-based research that for him truly belongs to architecture is often forgotten\(^7\). Even though I find literature studies and analyses evenly important, this might be the main argument why architectural research is often seen as less scientific than in other disciplines especially the ones of technical nature mainly found at the TU Delft. But, as Lucas states in his introduction, research in architecture also needs to be continued in order to make any progress.\(^8\) My design question was a “how”-question, which, after my reflection seems to fit with my practical design approach trying out different set-ups through models and sketches.

Back to the initial question of the studio, designing in the city of the future, I think that this progress is one of the most important aims in the master thesis: There must be a strong underlying concept which offers an innovative idea of, in the dwelling studio, forms of living. Coming back to the practical nature of architecture as a discipline, I think that one should not be scared to test new things, while closely evaluating the existing ideas. But, and here the idealistic part of me comes forward, how to make a change for the future without developing new ideas?

When I started this project, I was aware that especially the literature study and structured analyses would be a challenge for me. What I did not expect was how much I would enjoy this. While I had a hard time bringing my findings into a clear structure at first, I enjoyed the readings and being able to look at a specific topic from different aspects and thereby dig deeper into it. I believe that this background knowledge improved the quality of my design greatly and I will certainly use this experience for future projects.

All in all, I am convinced that my research for this assignment is rather complete with the methods and tools that I have used. However, there are a few things I could have done differently or added. I mentioned before that my literature study lacked structure in the beginning and that I would have liked to do more (planned) interviews. During the process, I came across many new arguments that supported my concept. However, there was not enough time to go deeper into every topic. It is also a challenge to put the focus on the right things and I think I managed this well in the end, but nevertheless, some aspects like the finance concept together with communal living are points that I find very interesting to look into in the future. After P2, when the design got more specific, there were many topics at once that all have some kind of influence on each other. So again, when is a facade study “done” and which things can be decided more quickly?

Furthermore, since my concept resulted in a mixed-use building, I would have liked to plan the public part more detailed as well. However, the focus in the studio lays on dwellings which needed to be considered in my time management.

To conclude, during my master’s studies and especially the process of the final thesis, I became aware that designing is constant research at all times and the two are closely linked to each other.

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1. The relationship between your graduation project, the studio topic, your master track, and your master program.

My graduation project relates to the studio topic, Dutch Housing and the City of the Future in a way that it tries to solve a problem of the current city by combining housing with a different function. The project itself evolved from my own interests but its topic can be related to all scales, from the city to a single dwelling. I think that this interdisciplinary aspect is also one of the things that the master program at TU Delft is known for and finally also one of the reasons why I chose to do my master’s studies here.

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

The studio of dwelling has a very strict structure of the whole process which is why, for example, the literature research at the start of the project and the plan analyses were carried out by every student in this chair. It was only after P2 that the focus shifted individually and here I came back to using mainly practically oriented methods. As stated previously in this paper, I believe that conducting many different methods makes architectural research scientific and usable as a reference for students coming after me.

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

During my research I came across more recent projects and writings about my thesis topic, most of them in cities like Berlin, Zurich and Vienna. Being informed about what is happening there and coming up with my own project in a different context, I see my design as part of the wider context, which will also be continued afterwards. For me personally, this means that the project will be part of my portfolio to apply for jobs, maybe even in one of those cities that inspired me. Additionally, the research will be available for coming TU Delft students to maybe take it as a starting point for another direction.

4. Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research (ii) elaborating the design and (iii) potential applications of the results in practice.

What comes up as the first dilemma in my mind is always money. If the target group is a financially weak one, how do you give extra value to the building without increasing the costs too much and where is it actually worth to spend this extra money in order to gain a valuable quality of space? Furthermore, as architects we always have to place ourselves in the users’ mind and in some way decide how we think they should live. This is of course dependant on the amount of additional research done closely to the user’s wishes but in the end, it is also a personal decision.

In practice, I hope that I can take the experience I gained from this project into my professional career and apply this concept in one way or another.
REFERENCES

LITERATURE


FIGURES

All photos and drawings that are not separately listed are made by myself.

Fig. 18: Screenshot of my personal pinterest board, www.pinterest.de, 03/2019.

Fig. 18: Hilhorst, Jeroen: private photographs of his workshop on the attic in Amsterdam, kindly provided by email, 09/2018.