

THE INCLUSIVE CITY, *RESIDENCE OF REUNION*

Reflection Report

Dutch Housing Graduation Studio
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I. Research Reflection

In this report, I will reflect briefly upon the research conducted for my graduation project in 5 aspects. By request of the studio, the first aspect 'the relation between research and design' will be further elaborated in the second part of this report: the studio reflection.

Aspect 1: relation between research and design

The relationship between research and design is very explicit in the Dutch Housing graduation studio. Beginning the studio with 5 months of research before delving into the design resulted in a solid framework at the start of the design phase. Without research, design decisions are hard to validate, and therefore, most of my decisions have been based on some kind of research. This could have been something as simple as looking up requirements in the Building Regulations, attending a lecture, or going for a walk and suddenly noticing a particular aspect related to my own design questions at hand. However, other decisions have followed upon extensive literature studies or several weeks of model making. This 'research by design' was a process where small steps in the process were continuously influenced by small bits and pieces of research and where the design decisions slowly took form over the course of several days.

Since we are part of a scientific education institution, we can reflect on whether this conducted research can be called scientific research. I will elaborate further upon this aspect by highlighting several stages of the design and the accompanying research methods in the 'studio reflection' that follows these 5 aspects.

Aspect 2: relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS).

My graduation topic: dwelling design for refugee families relates to the studio topic 'between standard and ideal' since it seeks a balance between a social ideal: architecture that reunites refugee families and provides these different dwelling cultures with housing that suits their needs, and simultaneously manages to stimulate integration by activating its inhabitants and establishing a link between the surrounding city and the arriving party, and the standardization that is an integral part of dwelling design. Creating a maximum of diversity within these boundaries will result in a certain validation that what you are designing is somewhat grounded within dwelling practice. Since my dwellings will be social housing, this standardization can also contribute to designing affordable dwellings. The design is elaborated on both dwelling and urban scale (the latter being part of a more overall topic research; no urban design is made) touching upon construction, climate design, and detailing, thus linking the entire master program (AUBS) together in one project.

Aspect 3: 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 the work.

Several types of research have been applied during the graduation studio. For instance literature research, case studies (typological research and plan analysis), morphological research and phenomenological research. For my own research to be of scientific relevance, it should add to the existing pool of knowledge and be conducted in a scientific manner.

The dwelling studio encourages both the conduct of case studies and the use of typology as a tool or method specifically. Dwelling design is largely based upon precedent research: students do not need to re-invent the wheel, but can look at examples throughout history where similar topics have been tackled to get a better grip on the project. The (prescribed) case study

I conducted during P2 is based on a research question and accompanying hypothesis. The projects are chosen according to a set of criteria that are relevant for my graduation topic, these criteria hint at the level of subjectiveness during the case selection: the plan analysis takes only certain types of buildings into account. This can help categorizing the research into a specific ni. The method is described, therefore, the research can be validated, and recreated by someone else. Therefore, this research is in my opinion scientifically relevant.

The scientific relevance of other research method will be discussed in the studio reflection.

Aspect 4: elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

The project is a design for refugee families and children, specifically adapted to fit the high pressure on the housing market in Amsterdam whilst simultaneously taking a stance against some of the current trends in refugee architecture (specifically the 'container-architecture') Therefore, the presented solutions would be less relevant in. for instance, low-density neighborhoods or as a cheap and temporary solution. However, the broader scope of this graduation project: designing compact floor plans for multicultural families, can be repeated and re-applied in other projects. My research into different dwelling cultures resulted into a type of floor plan which can be used by families from different era's of the world, and still be implemented in cities which require less spacious solutions.

Another transferable element in the project is the design for refugees. Designing for this target group resulted in design suggestions for a plinth that functions both as a binding factor between the city and its new inhabitants, and offers places to

learn, work, and exercise, contributing to a more successful and healthy integration.

The last element is designing for children. The needs of this target group manifested itself mostly in the design of the ground floor and materialization of the project. Seeing the building 'through the eyes of the child' resulted in a more lively environment on eye height, using openwork brick for instance. These multicultural floor plans and the measures to accommodate refugee families and children can be transferred to other projects, and thus build upon and add to the existing framework of precedents in dwelling design. Furthermore, the literature and case study research conducted into these topics can be used by others as a set of criteria, principles or suggestions for their own design

Aspect 5: discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if appli-) elaborating the design and (iii) potential applications of the results in practice

Due to the chosen topic and accompanying target group of the project, opposing values or criteria often surfaced. However, not all of them were ethical issues, and a lot of them could be solved through research and design. However, one of my biggest ethical dilemmas surfaced during the facade design of the project.

My research during the P2 period into Syrian dwelling culture, or, more specifically, into the adaption of dwellings by immigrants from Syria to fit their own dwelling preferences often touched upon the aspect of privacy, and the contradistinction between the 'outward' facing dwelling of western dwelling culture (large windows allowing the outside to blend in and become a part of the dwelling and vice versa) and the more inward orientated dwellings of the (middle) eastern dwelling culture (dwellings closed to the outside, with windows placed above eye-height for instance, but framing light and secluded courtyards on the

inside).

These preferences resulted into an ethical dilemma during the facade design of the project. Since I was designing for an uncertain target group; (theoretically refugees can come in from any part of the world), contradictions between dwelling culture had already surfaced. Solving this was of course the challenge of this project, and had resulted in elaborate floor plan design research. In the facades I had originally intended to establish more or less privacy as desired by the occupant by 1) allowing outdoor spaces to be 'opened up' or 'closed' from the waist up and 2) design facade openings in bedrooms from the waist up.

However, since the floor plans were compact, bedrooms often only met the minimal requirements, resulting in a width of 1800 mm for a single-person bedroom. Designing a high and narrow window would have resulted in a dark, poky room.

To solve this issue, I had to rely upon my own knowledge as an 'architect' and compare that to the findings of my target group research to be able to make a decision. Eventually, as a designer, I decided that the effects on the inhabitant (less daylight, room appearing even more narrow) would outweigh the wishes for privacy, since privacy still could be achieved by closing the curtains, but more daylight or a more spatial feel could not be implemented by a (relatively) uncomplicated everyday action.

Other decisions made prior in the design process related to privacy and transitions made this decisions a bit easier, the fact that there were no bedrooms located on the ground floor for instance. However, making this decision still felt like making a compromise over the heads of (parts) of the target group.

2. Studio Reflection

In this studio research reflection, the relation between research and design is further explored. Several design decisions accompanied by the research used to validate these decisions will be discussed. Since my design was mostly influenced by multiple research methods at once, I chose to divide this report into design themes instead of separate methods. This way, a more accurate reflection on my process will be possible, since no method can be seen as standing on its own.

I will reflect upon the scientific relevance of some of the used methods, using the text “Methoden en Technieken van Onderzoek” by Van der Voordt (1998), as a guide. The key words of this text are methodology, objectivity, relevance and verifiability,

Looking at these keywords, I can state beforehand that literature research and plan analysis are more objective types of research, especially when using a set of criteria accompanied by a research question and/or hypothesis, whilst others, based on experience or intuition, are more subjective.

In my opinion, architecture itself is always subjective, since the designer, when presented with two solutions that will both fit the prescribed conditions, will always choose the one that appeals most to their own taste. The same goes for my process, research is mostly done to validate certain decisions or used as a starting point or principle to implement into the design. This means that objective research will lead to subjective decisions, therefore, I think architecture itself is not a very scientific profession. However, architecture can connect scientific research to a broader cultural, social, spatial, economical or political context.

I. flexible family dwellings

This research was part of the research report that had to be handed in during the P2.

methods used: case studies, literature research

A study of precedents can help gaining insight into how other designers tackled topics similar to your own. To conduct a useful case study, a precisely defined research question or research goal can help to establish the most fitting drawing methods, and to choose suitable projects. I selected this Method to elaborate further upon since for me personally, this research was the most fitful, and even though I liked the final results (the written P2 documentation) it turned out to be not as relevant for my final design as I had expected.

During this stage of the design process, the topic, and therefore also more or less a target group and general aim of the design should be established for the case study to be of real use for your own graduation design. During the week of the first introduction of this assignment, my goal and target group were not specified; I had written a manifesto that advocated Amsterdam as the inclusive city: specifically building dignified architecture for vulnerable target groups. At that stage, previous research and feedback on the P1 resulted in the choice of refugees as a target group for my project, accompanied by the aim "to create a humane architecture, that provides a feeling of self-worth and that fulfills an exemplary role in her treatment of the vulnerable." The manifesto opposed the idea of any 'excuse' architecture, such as containers hidden away at the peripherals of town.

At first, I mainly browsed projects inhabited by refugees or other vulnerable target groups to gain some inspiration in what to 'research' exactly. I was trying to (almost forcibly) formulate

a research goal that could provide solid design principles for my future project, since some of my previous research would sometimes end up being interesting, but not very relevant for the specific stage of the design at hand. I considered researching symbolism (rites of passage) , but was afraid this would not result in concise principles in the time frame we had. Another subject to research that entered my mind was the topic 'clustering'. This was mentioned as having been done by previous students that had also researched vulnerable target groups, and one of my study colleagues also considered delving into that topic. At the time I was not really sure what to cluster; different buildings, with similar people? Different People within similar buildings? And my first steps were to look up some suitable reference projects. That already proved to be difficult, since the buildings I discovered seemed to either not house the correct target group, or were not clustered at all.

To ensure I would not get lost, and ended up with suitable projects I decided to establish a few criteria the projects should fulfill.

The buildings had to:

1. Be built for refugees
2. Contain a similar density or be located within a city
3. Be newly constructed, so not a transformation

Specifying refugees as a target group already resulted in difficulties: most examples were of complete different density, temporary, a transformation, or had no documented drawings to study.

Some projects seemed pointless to research, since they were exactly the examples of the architecture I tried to avoid. The books 'Refugees Welcome: Konzepte für eine menschenwürdige Architektur,' and 'Making Heimat. Germany, Arrival Country : Flüchtlingsbautenatlas.' were able to provide me with a nice

overview with 'go's' and 'no-gos' for projects that all shared a similar price range. These projects did provide me with good design principles for the literature study that I was conducting simultaneously for the research report, however, none of them were suitable for the plan analysis.

This stage is a good point to measure my progress. The difficulties I experienced within the research mirrors the difficulties I was having trying to 'define' my project. During a tutoring session, the instruction to specify "What kind of refugees?" provided me with a break-through. I particularly wanted to build for children, since they are especially vulnerable and likely to suffer most during the asylum process. Therefore, I specified the target group into 'refugee families'. With this notion, I dismissed all the previous projects I had considered for the plan analysis. Of course, they remained of value for other stages of the design and provided me with a good framework of examples and principles, which I bundled in the literature research part of the research report.

conducting the plan analysis

The focus on 'Families' gave new incentive to the case study. I studied different texts discussing families within the city and the topic flexibility surfaced as a new point of interest, since I was building for a variable target group (families consist of different sizes). Having decided upon flexibility as a vocal point, both the project and the research gained momentum. I briefly analyzed several flexible family housing projects, and finally selected three of them to be included in the documented case study as part of the research report.

Most of the (possible) projects were selected from the Floor Plan Housing manual, based either on tips of tutors, my own frame of reference, or the section of the book that supplied a short history of flexibility within dwelling floor plans. Choosing them from

this book ensured I had all the drawings necessary for the plan analysis, thus avoiding further (fruitless) searching for suitable drawings. However, choosing this approach also resulted in certain limitations: I did not conduct a lot of literature research into flexibility, which could have led to a choice of projects based on suggestions from several sources. Now, my choice was mainly based on four sources only, with the suggestion of the tutor being (coincidentally) documented in the manual as well. The other two sources being a lecture on social housing in Wien, and my own knowledge on the topic. During the final selection, I tried to document three projects that, in my mind, showed different ways of implementing flexibility; however, selecting these projects from another 'selection' in a way, and based on my own subjective opinion, has made the resulting case study less scientific.

The research did include a description of the method, a research question and a hypothesis. Therefore, the plan analysis is methodological and verifiable. The objectivity and relevance can be questioned, mainly because the selection method of the case studies. If the selection had followed a more extensive literature research it would have been a more relevant study within the existing field of knowledge of the profession. Now, I feel like the research was mostly relevant for my own project only.

Looking back, an earlier decision to specify my target group could have led to a more extensive research into flexible housing, now, the time that remained was also a decisive factor in how long I spent on literature research into this topic. However, I think that a 'getting side tracked' before deciding upon a final topic will always be part of conducting research, especially within architecture.

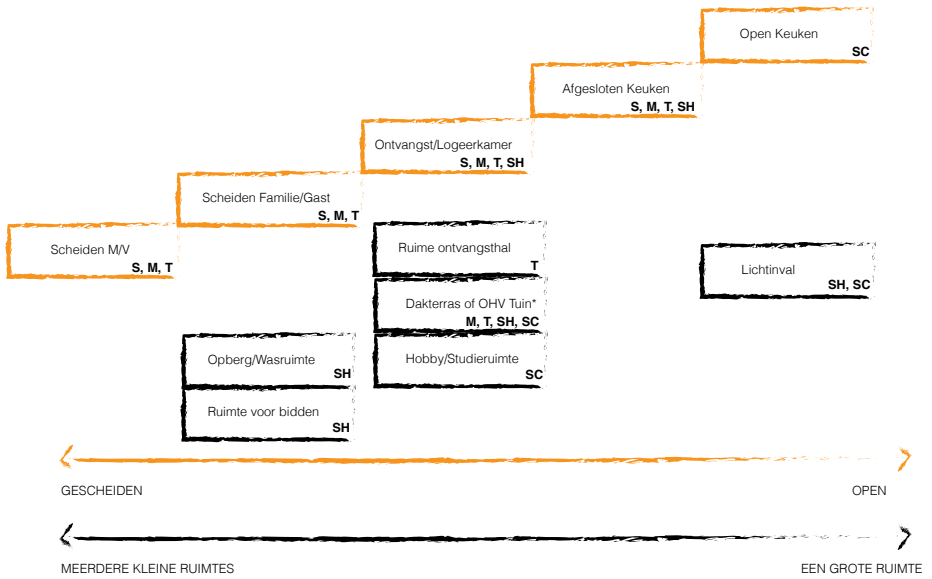
Influences on the design

The plan analysis method requires drawings that specifically highlight your research theme or question. (Additional drawings in my case). These were made by drawing the selected projects in 3D model. This method is very time consuming, therefore it is not very likely to change your choice of projects 'last minute'. Since you want your drawings to look perfect, you invest time into modeling balconies and facade elements that do not matter for the research question at hand, but I felt were still necessary to:

1. Make a nice and visually convincing drawing
2. Give the reader a sense of the general shape of the building.

The conducted plan analysis led to the conclusion that 'when looking to save space' only the principle of one of the selected buildings was applicable. This conclusion came shortly after I had decided that when building for refugee families in the city, building compact and saving space were important issues. This conclusion followed the morphological research into the building mass, which took place only a few weeks before the P2. I had already almost finished my plan analysis at that stage, so when I discovered that saving space was essential, the drawings were already almost finished. The conclusion of my chosen plan analysis projects seemed to pinpoint that a lot of projects required large bay widths and a lot of space to be able to provide a flexible concept, and the conclusion of my morphological and target group studies hinted at the use of smaller bay widths.

In a way, the plan analysis came too early in the process. The literature I read afterwards, and a few of the projects I had not selected for the plan analysis turned out to be the ones useful for my final design.



Research after P2

Research after the P2 became more purposeful. Most of the time, I had a specific goal in mind. This does not imply a structured approach, but the more the building took shape, the easier the research could be focussed into a specific direction. This notion is visible in my own reflection report, since the research after P2 can be described briefly, with direct results on the design.

II. multicultural family dwellings

methods used: case studies, literature research, research by design

After the P2, I re-evaluated the chosen bay widths in relation to the target groups. Since refugees can come from different parts of the world, the appropriate step would be to create a type of floor plan that could facilitate diverse dwelling culture preferences.

The bay width I had decided upon during P2 was a construction width of 7800 mm and a dwelling width of 3900 mm. This decision was mainly based on the aspect of affordability; the dwellings would be social housing and therefore needed to be compact. However, new literature and case study research into different dwelling cultures touched upon the different grades of preferred privacy: with on one side the wishes for a light, open floor plan with open kitchen, in the middle the wishes for a closed kitchen, and the possibility of separating family life from guests, and at the other side the preferences for separating man and woman, and even separate circulation.

Applying these wishes into the existing bay width, I soon discovered that the dwellings would be too narrow to achieve the wished level of separation. To get from one room to another, two other rooms always had to be passed through. Therefore I decided to change the bay width to 5100 mm. The final floor

plans were designed using research by design, implementing the mentioned principles established from literature and case study research and developing them until the resulting spaces were up to satisfaction.

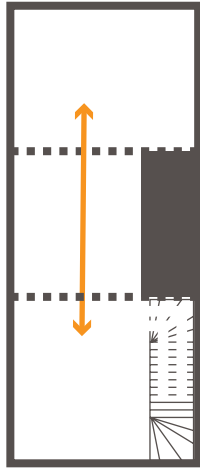
Halfway during this research by design phase, I found an article where the preference of separating rooms by multicultural families was mostly attributed to being able to, for instance, watch television in separate rooms, whilst separating man and woman is mentioned as being only customary in very orthodox Muslim families. At this point, it was possible for me to make a better estimation on what wishes to include in the floor plan. It made it possible to reflect on my drawn options, and create even better spatial lay-outs that did not feel as poky as when the entire circulation would have been separate, whilst still implementing the more important preferences.

III. building mass tower

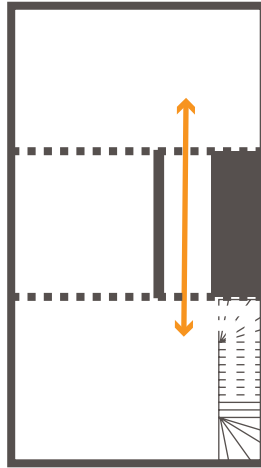
methods used: research by design: model making, precedent research

The tower, situated at the edge of the location facing the water, had maintained a relatively simple rectangular shape from P2 onwards. The only exception being a minor set back on both sides of the building plinth. Through several models, I tried to research what shape (whilst still maintaining the chosen bay widths and corridor widths) would be a bit more elegant than the current design.

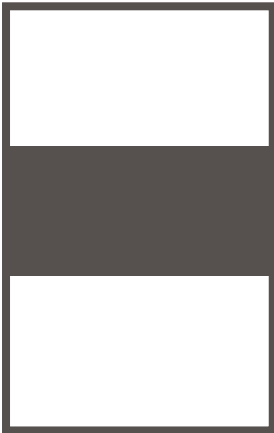
Since the tower access flowed directly into the galleries of the connecting linear block, I had already made the decision to highlight that small corridor by using a glass facade during the P2. Starting with two options that seemed more 'one shape' to the eye and working towards an option where both sides alongside the corridor would be two separate blocks (an option that was more theoretical than practical), I tried to judge whether



3900 mm bay width



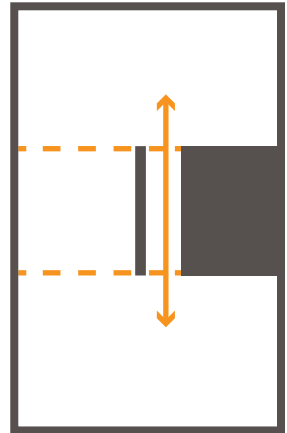
5100 mm bay width



The new floor plan consists of an utility core, located in the middle of the plan, where the toilet and kitchen are located.



open floor plan configuration



closed floor plan: divided into three rooms (the kitchen being one of them)

the P2 decision to highlight that corridor was correct.

In the end, I decided to carve small part out of the building at the location of the corridor, thus achieving a more elegant building shape, and an even more prominently visible access system. The setback in the plinth would also be added at the front of the building, to connect the plinth directly to the carved out plane of the tower.

These design decisions have been made based upon research by models (both in sketch up and physical models) and references that provided me with several ideas which shapes could be tested in the first place. The final decision was made intuitively, after seeing the building shape in its surroundings (sketch-up) and placing it adjacent to the other buildings on the project plot. This research was a subjective, non-scientific research, but based upon my 'spatial expertse' 'knowledge of shapes', 'feeling for scale' and 'artistic intuition'. Even tough these are non-objective criteria, they are still an important part of architectural education. In my opinion some decisions that are part of a project can be made by relaying more on ones senses and tastes, without immediately resulting in a questionable design as a whole.

IV. facade: mass and materials

Methods used: research by design, model making

To decide what colours and materials would fit the project best, I started by going back to my location analysis to see which materials were common in the surrounding buildings. Brick in varying shades of greyish brown was a prominent material, and for my initial research into facades I started with these tones as a basis. I wanted to highlight the entrances of the dwellings, which were shaped into niches, so that was another factor I took into account during these colour experiments.

I tested several possibilities: highlighting the plint in another



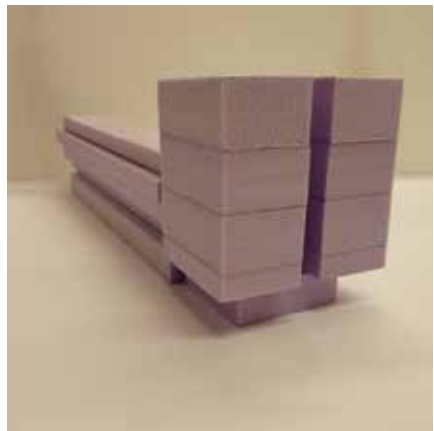
narrow connected shape, wider plinth



wider connected shape, narrow plinth



carved out option, narrow plinth



entirely separated option, narrow plinth



final selection for the linear blocks: one material with highlighted niches



colour (or material), highlighting the upper maisonettes in another colour (or material) and used more or less contrasting tints. During the research, I discovered that the readability of the building was a reoccurring theme in my testing. I tried to either divide the building into plinth and upper levels, or tried to highlight more private space by using different tints. Having established this, I decided to keep this notion in the back of my mind during future facade design sessions.

IV. facade linear blocks part 1

Methods used: research by design, model making, precedent research

To make a decision between several options I had drawn (partially based on precedent research) for the south-east facades of the linear blocks (the side where the private outdoor spaces are located), I made facade fragments on scale 1:50 to be able to estimate and see the several depths of the design. I came up with several options that all tried to find an answer to one of the design principles I wanted to maintain in regards to the balcony: which I aimed to be a space that could function as an extra room or 'winter garden' and thus had to be enclosed. I had three options in mind:

1. One more horizontally, with columns only going up to the second floor.
2. One where the facade functioned as a second skin
3. And one where the facade was set back on the top floor.

After making the models, the first thing I noticed was the fragile look of the columns. I changed their dimensions in my drawings and then decided on continuing the third option. This facade was very readable, something I had kept in the back of my mind since my previous research. The large facade openings (no columns in between) signaled the presence of a loggia. The setback the presence of a roof-terrace or roof-winter garden. The smaller facade openings identify the presence of a living room or



more horizontal option



facade as building skin



facade as building skin: setback on upper level

bedroom behind them.

V. facade linear blocks part 2

Methods used: research by design, drawing

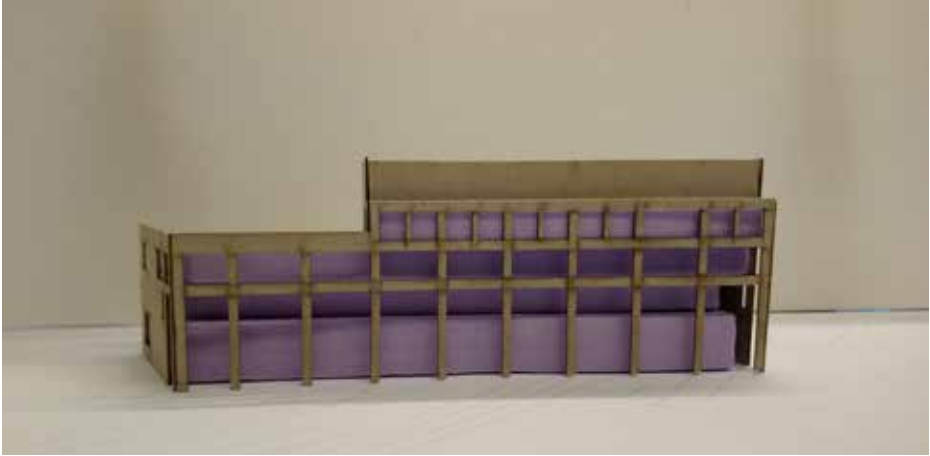
At a certain point, when assembling the 1:200 model to see the design as a whole, the two facades of the linear blocks (the north-west facade and the south-east facade, with the galleries being located on the north-west side of the buildings) seemed a mismatch. To make the project more coherent, I tried to find one language for both facades, by implementing the grid of the south-east facade on the north-west side (see next page for illustrations).

VI. facade tower

Methods used: research by design, model making

To test several facade options for the tower, the designs were placed into the 1:200 model to be able to see how they would connect to the other facades, and whether the design would still be perceived as a coherent whole. The window openings were partly based upon the grids used for the linear block facades, and partly came to be as a result of the interior floor plans of the tower. The final decision was based on what would fit the project best as a whole (see next page for illustrations).

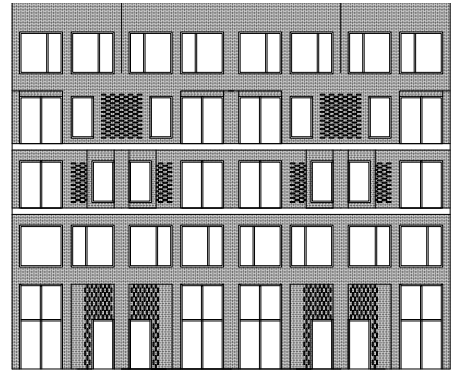
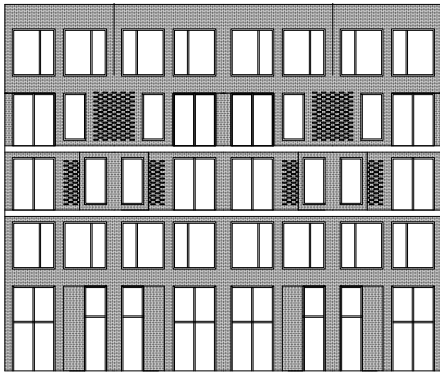
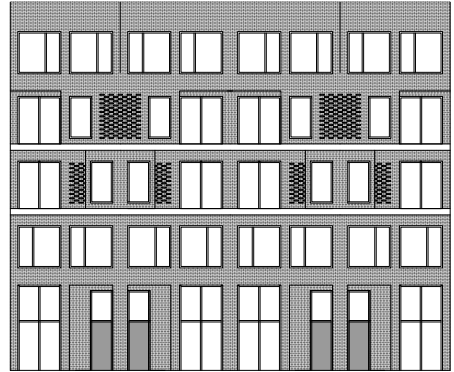
These final design themes used mainly the research by design method, though sometimes inspired by literature or precedent research. This kind of research is not scientific, and we can ask ourselves whether this research is such an integral part of designing itself that it cannot be seen or identified as separate research anymore, but only as the discipline that is designing itself.



facade south-east side



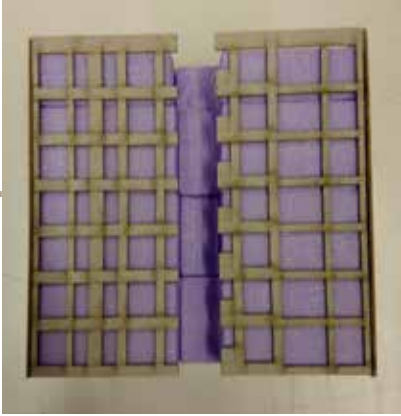
facade north-west side



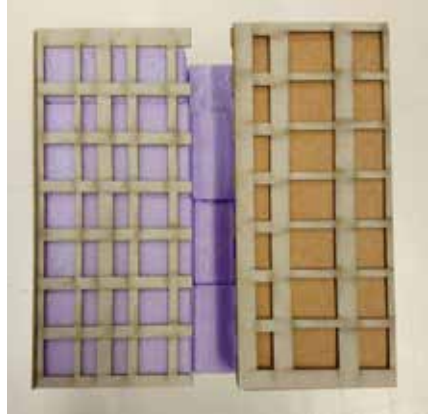
different options for north-west facade



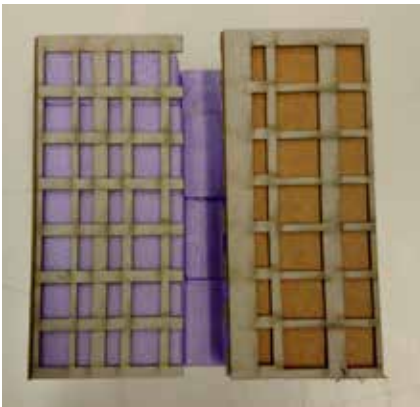
final design north-west facade



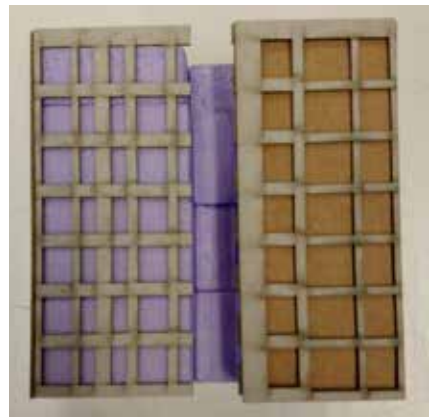
three large openings, corner window



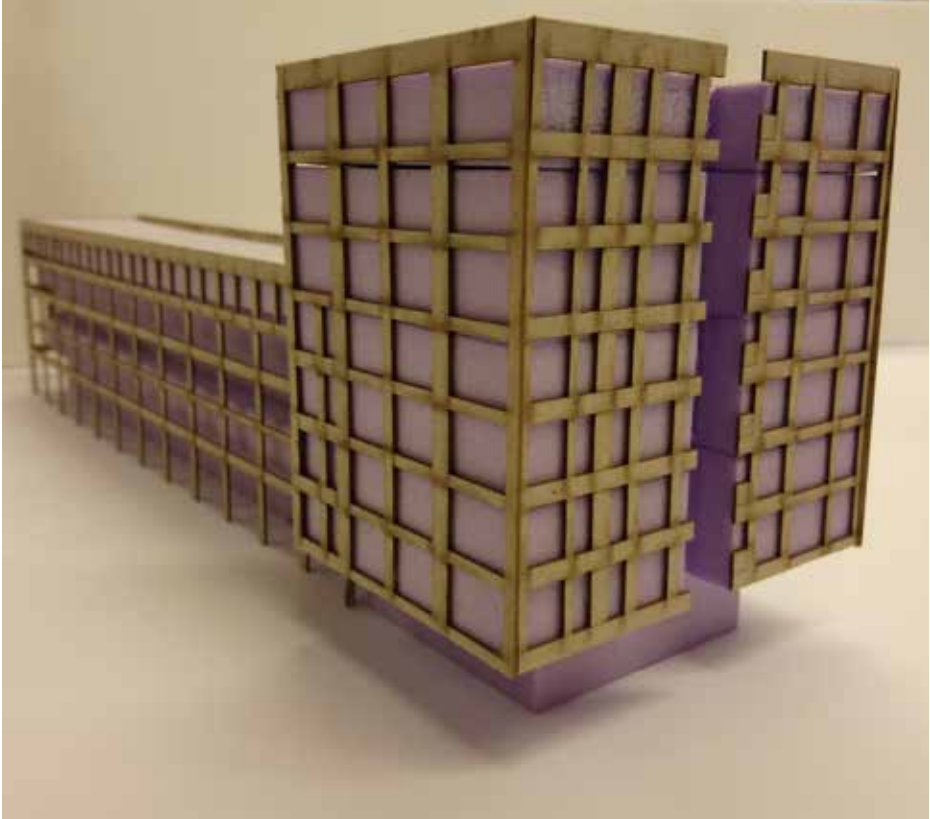
two larger openings



carved out option, narrow plinth



three large openings



selected facade positioned in model

3. Sources

van der Voordt, T. (1998). *Methoden en technieken van onderzoek*. Retrieved december 6, 2018, from: TU Delft

