

It's never too late for a new beginning

A living environment for the Young-Old
Reflection



It's never too late for a new beginning

A living environment for the Young-Old
Reflection

Name Sebastiaan Nieuwenhuizen

Student number 4396405

Graduation studio Dutch housing

1st mentor Theo Kupers

2nd mentor Pierijn van der Putt

3rd mentor Ferry Adema

Delegate Monique Arkesteijn

Date April, 2021

	<i>Introduction</i>	7
	<i>Structure of the report</i>	8
	<i>Defenition of research</i>	8
	<i>The importance of research for architecture</i>	9
	<i>Categorization of research methods</i>	11
	<i>Discussing my research methods</i>	14
Content	<i>Conclusion</i>	27
	<i>Other aspects</i>	29
	<i>Notes</i>	32

Reflection



Introduction

Architecture is a complex field of expertise. An architect is expected to combine knowledge from many different disciplines into a single design. The design of a house for example is at least an outcome of the combination of knowledge about structural engineering (it is supposed to stay upright), sociology (people are supposed to live in it), economics (it should be affordable) and building physics (it should have a desired indoor environment). Besides all this, it should also look 'pretty' enough so that people want to buy it. This combination of knowledge and design is what convinced me to study architecture. I always stated that the reason for me to study architecture was because it combined science with design. "You are not just occupied with theoretical studies but you also design things that could actually be build." Now at the final stage of my education at Delft university of Technology I can look back and reflect on this balance between design and research. In the bachelor they teach you how to combine research and design. The curriculum was made up of courses that make you acquainted with certain sciences and they were followed by design courses in which you should prove that you're able to combine these in a suitable design. In the master you are more free to choose which scientific areas you want to study and how these will be represented in your design. The graduation project has the role of a piece de resistance in which you show how well you are able to combine a great variety of research and design into a single project. This research paper is written to make this relation between research and design explicit. On the one hand this will show the reader a glimpse of what is happening within my design process; why are certain decisions made? This can help to understand how I work and therefore give the reader the possibility to judge if my work is trustworthy. On the other hand will this reflection help

me to get a better grip on the relation between design and research; which research methods were effective for the design and when in the design process are certain research methods most effective? This will help me in the future to be more aware of the different types of research and when in the design process to use them.

Structure of the report

To make the relation between research and design in my project explicit it is firstly needed to explain the basics; what is research exactly and why is it important to implement research into architectural designs. Some written literature about architectural research is will be briefly discussed to answer these questions. Secondly I will introduce six main research methods stated by Theo van der Voordt, who wrote a paper on research methods and techniques. This categorisation will help to discuss different types of research done within my graduation project. For each of the methods a brief general description will be stated. Thirdly I will discuss the research I have done. For every research method I will discuss what I have done, what kind of results this method gave me, how these results influenced my design and what the strengths or weaknesses were of the way I used the research method. I will end my paper by trying to conclude what pattern I observe in my own research, and what useful conclusion I can draw after reflecting on the relation between research and design in the process.

Defenition of research

Cambridge dictionary describes research as a detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding.¹ So rese-

arch is in even easier words: looking into a subject so that you learn something new. This is something that all of us do all the time. Somebody who compares adverts on price and quality is already doing research according to this definition. Van der Voordt states that in these situations we rather use the phrase “look up something” and use the phrase “research” for more complicated matters. Van der Voordt continues that not all research is scientific. For research to be scientific it needs to meet a couple of criteria. Firstly scientific research is a diligent and systematic inquiry. This means that the research method is effective, you do not use more instruments than necessary. Secondly the research must be objective. This means that the research should not contain personal views and judgements and other researchers should get the same end results. Thirdly the research needs to be verifiable. It needs to be clear to others how the researcher came to the conclusions. Fourthly the research must be valid and reliable. The research is repeatable and has the same results when the research is conducted in the same circumstances. And also no external influences have an effect on the results. Finally it needs to have a scientific relevance. In other words it needs to contribute to the knowledge and development of the discipline. Scientific research is thus collecting, editing and analysing information with a methodical, objective, verifiable, valid and reliable approach. The goal is to understand and clarify the reality and to make it more manageable.²

Importance of research in architecture

Designing is something different than doing research. Where a design tries to solve a problem in the future, research tries to describe and explain the present.³ The relation between research and design in general is that research provides knowledges or an application which

can support or verify why you would choose to design in a certain way. For every decision in a design process a small research is done to determine which possibility is the best. Common questions in an architectural design process are: how do I make my building fit in the context?, what is the optimal size of the dwellings? What type of material will I use? How do I get access to the building? The goal of this kind of research is to use a theory to inform a specific design. Research can also have different goals. The goal can be to expand a theory or to create a new theory.⁴ By giving people an insight in the used research in your design process they can verify if your design is reliable.

Not all decisions in a design are based on research. Some decisions just seem logical to the designer and therefore just happen. L. D. Isenman tittles this phenomenon as intuition. She states that intuition has a contrasting meaning, but is an essential component in a research process. Firstly intuitive can be used to imply that something is clear and obvious that the argument is straightforward and unchallenging. Secondly the word intuition is often used instead of the word hunch. In answer to a question for example, it is common to say, "My intuition is such and such." This means that such and such comes to mind after only a quick reflection. The speaker may have no idea why such and such came to mind. Other hunches are backed by partial data or analysis. The word intuition used in this way suggests that either all or certain of the relevant information is unavailable or shrouded. Thus, intuition suggesting hunch means something opposing to the use of the word, meaning clear and completely independent of further analysis. Finally we also use the word intuition to suggest that a pattern, logical sequence, or understanding appears to the mind as a whole, that the whole is seen in a single instant. Intuition as a sense of the whole contrasts with the idea of intuition

as a hunch, in which parts of the argument are shrouded or unavailable. Intuition as a sense of the whole is closer to the more trivial use of the word, in that the perception is clear and complete, a package deal as it were. However, except that such insights just seem to appear in awareness, there is no clear reason how you get these insights. Rather to the contrary they are often completely new and involve multiple levels of interrelated understanding. Sometimes the phrase “an intuitive leap” is used to suggest that a conclusion a number of steps beyond where the issue stood appears in awareness, but the intervening steps are inaccessible.⁵

While discussing the used research methods in the third part of this paper I will discuss what the goal of the research was and how this influenced the research method. Subsequently I will discuss whether there was an instance of intuition.

Categorization of research methods

There are various types of research. To categorize the research I did in my graduation project I will introduce six main research methods, which are mentioned by Van der Voordt.⁶ These six research methods are following:

Literature studies:

This research method entails systematic analysis and evaluation of different research results and interpretation of others.

Analysis of statistical material:

This research method is mostly about the analysis of facts and figures.

Survey:

Research into many characteristics of a large number of research units. It contains a lot of data which is gathe-

red by the researcher himself . Commonly questionnaires are used to gather the data. Interviews and observation are also methods to gather the data.

Content Analysis:

This research method involves the analysis of written articles, lectures or visual material, such as images, movies and clips. The aim of this research method could be to filter out trends and developments over time or to detect a point of view.

Secondary analysis:

Renewed analysis of existing research material. The analysis should be done with a new method, to make sure that you get new information. It is also possible to conduct similar research with the same material, but from a different point of view. This could lead to new results.

Experiment:

A research method in which measurements are taken, subsequently a change is made to the values after which again measurements are taken. In this way the results of different values can be compared and a conclusion can be drawn.

In the next part of the paper I will categorize the research I have done according to the previous six main research methods and discuss my research in this order. However the research I did was not explicitly based on these categorize. Therefore not al the research will fit in one of these research methods. This research will then be introduced with the use of other literature to elaborate on this type of research.

Facing page
Chosen target group



Discussing my research methods

Selecting a topic

The graduation project starts with the most important, or at least most decisive, decision you make in the entire project: the choice for the main topic. A good topic is social relevant and interests you enough to work on for a year. Secondly the topics researchability is important, because if you choose a topic that is unknown to the scientific or architectural world it is very difficult to do reliable research in such a short time period. In order to come up with a relevant topic to the changes in the society and the built environment I read a lot of newspapers, online news articles and looked into recent population studies. After reading these documents I selected the empty nester as my main topic. Empty nesters are people from who the children have left the house. The group of empty nesters are relevant to society and the built environment, because they are often seen as the solution for a jammed housing market. In an ideal situation empty nesters leave their bigger 'family' homes and move to smaller apartments. But in reality most of them stay in their 'family' homes. This mismatch between the ideal situation and the reality was what interested me in this topic. Finding a way to encourage the empty nester to leave their family home was what drove me to do further research into this group. After the selection of this topic I started to delph into research papers about the empty nester and their housing requirements. This didn't result in the findings I was hoping for. I only found documents that confirmed that most of these people only wanted to stay in their current homes until their health decreases. Because of these limited findings I broadened my target group with retirees. A group of people quite similar to the empty nesters but with one major difference: the empty nesters still have a job, while retirees are obviously retired from their job. This switch opened up a vast amount

of precedented research as the retiree is a subject that has been of interest for a long time now. These groups together are categorized as active elderly or young-old and this is also how I refer to this group throughout the rest of the paper.

Literature studies

Literature studies played a major role at the start of my graduation studio. By systematic exploring research done by others on the topic of the young-old I was able to acquire the required knowledge to create a theoretical base. Later on this theoretical base was used to formulate principles for my design. I will discuss two different literature studies in the following paragraph.

The first literature studies I did was a comparison of research of different sociologist and professors in architecture. In their research they stated how the stage of life of the young-old came to existence, how the young-old is characterised and how the forms of social collectivity in life's later years have transformed. By comparing the theories of different sociologists I tried to find a complete and reliable overview of the way of living of the young-old. This research pointed out what the important factors are in the social relations of the young old and how this could affect the desired living environment:

In the third-age the centre of peoples social relations will shift from work-related to social related activities. The large majority of the third age will live independently, apart from their children and other relatives. Neugarten summarizes what this could mean for the wanted living environment by the Third age: 'The needs of the Young-Old in housing, location and transportation will be increasingly affected by the decisions they make with regard to the use of leisure time. The large majority will be living independently, apart from children and other relatives.

This fact, combined with the desire to find interesting things to do, will lead them to seek environments which maximize options for meaningful pursuits. The extent to which age-segregated communities will increase depends, presumably, upon the extent to which the Young-Old will be provided opportunities for meaningful community participation in their present locations.'

These findings provided me with a guiding theme on which I could base my design decisions.

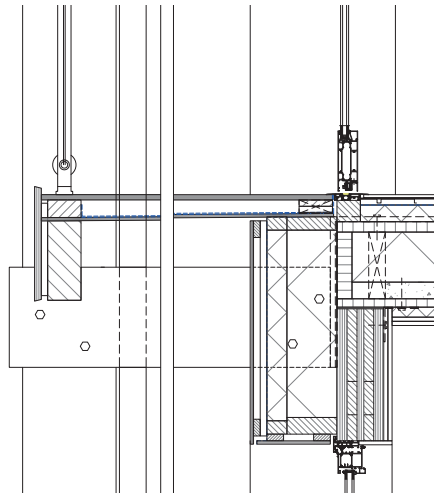
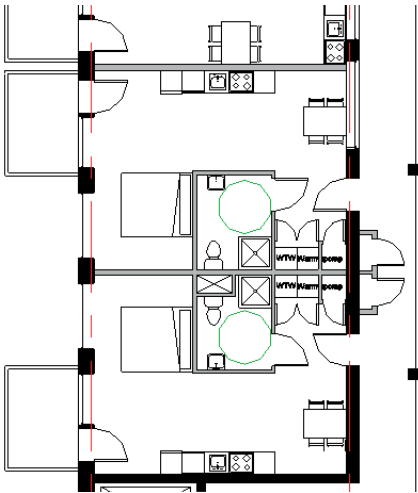
The second literature studies I did was a comparison of governmental policies regarding the young-old. The goal of this research was to give an overview of how the government wants to deal with the young-old and what kind of policies they have regarding them. The results of this study were that the Dutch government promotes the idea that elderly can grow old in their own environment and that thus the living environment needs to be suitable to age in. They also recognize that this means that they need to provide opportunities for meaningful community participation in their present locations. These findings supported the findings of the previous discussed literature study and pinpointed some points of attention for the design. People need to be able to grow old in their own home. This had direct consequences for the design. A couple of examples are: the use of wheelchairs has become normative for the proportions of the design; The doorsteps are so detailed that it forms no obstacle when someone becomes less able-bodied.

This research method provided me with lots of background info about the target group, which inspired me to do further research. Especially the literature research into the sociological studies gave me clear insights about the young-old that I probably would not have

Facing page

Possible usage of leisure time in the design





Interventions in design to make it able to grow old in the dwelling











had if I had done research in a different way. Looking critically at how I used different sources for this comparison I need to mention that I got most of my information from one source, namely the doctoral thesis of Deane Simpson: *Third age urbanism: retirement utopias of the young-old*. The first reason for this was that Dean Simpson gave a very clear overview of multiple sociological studies towards the young-old. The second reason was that other recent publications kept referring to this same doctoral thesis. And the final reason was because of a lack of time I wasn't able to investigate more different sources. Nevertheless this doesn't mean that the results are untrustworthy as Deane Simpson's work is generally used as a benchmark for further research.





Analysis of Statistical material

Next to literature research towards the way of life of the young-old I also did an analysis of statistical material. In this research I analysed lots of different outcomes of different surveys and interviews by statistical analysis companies, property developers, trend forecasters and social marketeers. They all tried to determine if the young-old have an inclination to move to a new house, for what reason they do or do not want to move to a new house and what the properties are of their desired living environment. I looked at both quantitative research and qualitative research, as both kinds of research offer different results. Quantitative research focuses on a bigger group of people, is thus more reliable and results in generally applicable statements. While qualitative research focuses on smaller groups of people, is thus more focused on validity of the results and not on generalizability.⁷ So by analysing and comparing the results of both quantitative and qualitative research I tried to find both general and more explicit results. This research resulted in a vast amount of reasons why the young-old want to move out and what their desired requirements are for their living environment. The diffe-

Uncomplicated retiree	
	Low educational level
€	Below average income
	Appartment, terraced house
	< 90 m ²
	> € 800 / month

Well-aged middleclass	
	Middle educational level
€	average income
	rental appartment, corner or terraced house
	90 - 135 m ²
	middle expensive rental or owner-occupied

Elite class	
	High educational level
€	more than double over average income
	Penthouse, detached living, multiple storey appartment
	> 135 m ²
	> € 700.000

Well-deserved appreciator	
	Middle to high educational level
€	average till double average income
	Corner or semi-detached house
	90 - 135 m ²
	> € 800 / month middle and expensive sale

rence between this research and the literature studies is that the analysis of statistical material resulted in the more physical and economic requirements of the preferred living environment of the young old, while the literature studies resulted in a description of the social collective demands of the young-old. This study helped me to explain why it is necessary to design new houses for the young-old and it directly influenced my dwelling design as the results state what kind of requirements and financial possibilities the young-old have. By comparing the findings of all these different researchers with their own angle of approach towards the topic I tried to find the most complete and reliable answer on the research questions. The danger with this research method is that you overload yourself with too much information and that it becomes difficult to draw conclusions. By constantly structuring the different findings I was able to keep a good overview and in the end draw conclusions.

Survey:

Because the wide arrange of surveys related to the young-old I found online, I deliberately chose not to conduct my own survey, but to analyse the existing results. Nevertheless I did visit some acquaintances who can be categorized as young-old and who live in residential complexes which are designed for people in a later stage of life. As these where more or less casual

Above

Categorisation of household groups based on the analysis of statistical material

visits I didn't report my findings in writing or in drawings, so I wouldn't categorize this as research. However these conversations and walking around in these dwellings were useful for me to get a better feeling with the assignment. I can not pinpoint aspects in my design which can be traced back to these conversations, but I have no doubt that subconsciously it did had an impact on my design.

Content analysis:

To get a grasp on the design location and the vision of the municipality of Rotterdam for this area, we (my fellow graduates and me) have conducted a content analysis. The goal of this content analysis was to define a vision which could be used to design an urban masterplan for the designated area of 'Keilekwartier' in Merwe4Havens in Rotterdam. For this analysis multiple instruments were used. First of all an officer of the municipality informed us with a presentation about the area. Secondly we visited the area and made pictures of it. Thirdly we analysed the current situation by the use of drawings. Fourthly we analysed municipal documents about their proposed plan for the area. Finally we analysed referenced projects similar to proposed plan for the area. All these analyses resulted in a clear overview of the current situation of the location, clear insights in the proposed plan of the municipality for the location and possible design solutions for the new urban plan of the area. We used all this information to design an urban plan for this area. This urban plan provided in the end guide lines for the design of the residential complex.

Experiment:

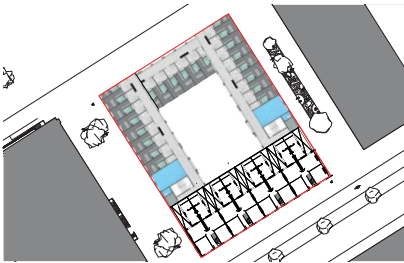
During my graduation studio I did a couple experiments. I will highlight two of them in the following paragraphs.



Above

*Before and after screenshots
from the study at eye-level*

Firstly I conducted a context led study to design the mass of my building. For this experiment I used Enscape a virtual reality rendering plugin which allows the user to transfer a 3D model into virtual reality. This makes it possible to virtually walk through your design. The goal of the study was to define a building mass that fits the surrounding, with a special focus on proportions, voids and bulges and daylight. The experiment was done on the basis of a study performed on eye-level. A route from outside the district towards the building was outlined. Along the route the building becomes more visible and its relation towards the urban context changes. The aim was to adapt the building mass to enhance or counteract the buildings relation with the context. Central to this assignment were the relationships between light and dark, void and solid forms and the scale of the building and human measure. I researched this by subsequently walking through the virtual model, changing the mass according to my findings, to walk again through the model to check the changes. This continued until I was satisfied with the mass of the building. In my current design the result of the study is not recognizable. In the end I did not continue with this mass, because after I chose the type of dwellings and the access system, this shape did not fit anymore. This study did not result in any outcome, but it helped me to see that virtual reality can give you a more immersive way of looking at your design. It is more clear what the effect of your interventions in a design are then when you look at conventional 2D drawings. The research itself was very subjective and it is difficult to describe why I made all the changes to the building mass. It is quite subjective why a certain void is to big or to small or why the proportions look good or not. To turn this in an objective study, a large group of people should walk through the model to choose which option is better, but even then it is questionable if your result is viable.



Above
Results of the quickstart

Secondly I conducted a study towards the possible configuration of different dwelling types on my building plot. This study was called the quickstart and was meant to give a quick overview on what configuration of different dwelling types are possible on the building plot. This study made use of floor plans of reference projects. The method of this study was to firstly cut reference projects in pieces, to subsequently arrange the pieces of different reference project on the building plot to make a logical floorplan out of all these different projects. With a logical floorplan I mean that the access systems of the different projects are connected and that every dwelling has access to daylight. Thereafter it was studied how the different projects could be stacked upon each other on the specific building plot. The study resulted in a single building merged from parts of other buildings, with the created floor plans and a 3D rendering with merged facades. This study provided the basis for my design. The shape, access system and some dwelling types resulting from this study are still recognizable in my current design. The study helped me to determine the possibilities which I adjusted to fit to my guiding theme and other research results. Critical point to this study is that I cannot determine why I placed the different pieces on the places that I put them. I just did what was possible and seemed logical.

Case studies/research of precedents:

The final research method I used in my design process is the study of precedents. This is the most common form of doing research in architecture. Groat & Wang state that the development of particular structural forms or building materials over the centuries is the outcome of trial-and-error experimentation, systematic observation, and application of such building principles to other building projects.⁸ So historical precedents are used as source material and to prove that the chosen design choices are valid. In my design process I used the

analysis of precedents for multiple goals: as a theory to inform a specific design, to expand a theory and to create a new theory. I will discuss three different types of analysis of precedents from my design process in the next paragraphs.

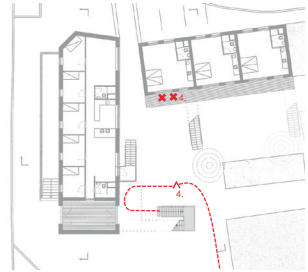
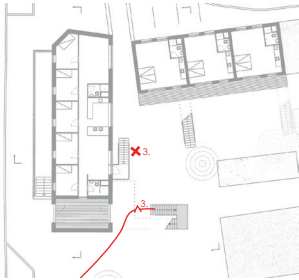
The first method had the goal to expand my theory about the young-old. I decided to analyse projects designed for the young-old to find out how these projects deal with the social collective needs of the young-old. I compared the projects by making analytical drawings for each project. I typically made drawings for each project on the scale of the building block. After further inquiry it became clear that some projects demanded an analysis on the scale of the building block while others demanded an analysis on the scale of a district. For some sections were needed while for others floor plans were sufficient. Exemplarily for this kind of differences in types of drawing per project is my analysis towards amenities that support social collectiveness for the young-old. Here I investigated three completely different projects. These were: The Villages in Florida, USA, Parkside Retirement Homes in Bangladore, India and Kreilerburcht in Rotterdam, the Netherlands. Because of the enormous difference in project size, the conclusions per project were best shown in different kind of drawings. The facilities are clustered in a district in the villages. The facilities are scattered across multiple floors in the Parkside retirement homes. The facilities are located near each other in Kreilerburcht. In addition to these drawings every project was introduced by a piece of text, which explained the ideals behind the projects. Finally some pictures were added to give the reader a better understanding of the project. This way of analysing the projects was rather unorganized. I did not get a better understanding of the projects and it gave an overview of different possibilities on how to organise facilities in a building/building block/urban area, but it

didn't result in clear conclusions.

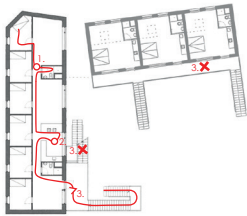
The second method for the analysis of precedents was used for the broader research into social collectiveness in residential buildings. This was a research that we executed collectively with the entire project group. The aim of the research here was to create a theory on which parts of a design would encourage encounters between the residents. The analysis started in the same way as in the previous discussed method by making analytical drawings to get a better understanding of the projects. The difference between the methods was that in this method for each project we imagined to be a person who lives in this building. In this way we predicted, based on our own experiences, how multiple people on a daily basis move through the building. This resulted in a drawing with the movements of imaginative people and the places where they would encounter one another. Finally we would describe these places in writing and with some photographs. By comparing the results for different projects we could conclude what the typical places in residential buildings are where you would encounter your neighbours and what these places had in common. This research influenced my design such that I picked some elements from different designs and integrated them in mine. For example the idea from OCMW Nevele of opening the facades towards the main access route to the dwellings to enhance visual contact between the residents is something that I integrated into my design. This research had a very clear structure and it was possible to draw clear conclusions. Looking critically to this research method you have to conclude that it is not an objective and therefore valid research. It would have been much more valid if we visited several projects and observed where residents encountered one another, instead of imagining where people supposedly encounter each other. Unfortunately this was not possible because of the covid-19 virus and the restric-

Facing page

Typical result of a single project of the study into social collectiveness in residential buildings.



Ground floor



First floor



tions that came with it. Another shortcoming with this research was that it was difficult to discuss among each other how exactly we wanted to document the different projects, because we all needed to work at home. This resulted that all the projects were analysed in a slightly different way, what made it more difficult to compare the projects and draw clear conclusions.

The final method for the analysis of precedents was used during the more designing phase of the graduation project. I haven't truly documented this research but it has had a significant impact on my design. During the entire project I projected several different dwelling plans from existing residential buildings in my design. It started with the previous mentioned quickstart. This exercise resulted in a base idea of how many dwellings and which type of dwellings could fit on the plot. Next when I was convinced of my main constructional scheme I repeated the exercise by placing different existing dwellings with different sizes in this constructional scheme. This provided me with some possibilities on how to arrange dwellings with different sizes in my building block. After I was convinced of the dwelling sizes I made an overview of different existing dwellings with roughly the same sizes as the dwellings in my design. This provided me with different possibilities on how to arrange the organisation of the floorplan of a single dwelling. This same principle was used for the detailing. By analysing multiple exemplary projects, I provided myself with possibilities on how it is possible to design the different connections. So for most of the major design decisions from the largest to smallest scale I primarily analysed existing projects to find out what the design possibilities are. In the end I merged certain elements of several projects to achieve the desired result.

Conclusion

As stated in the introduction this reflection is written to give the reader a glimpse of what is happening within my design process and to help me to get a better grip on the relation between design and research. It tries to answer the questions: which research methods were effective for the design and when in the design process are certain research methods most effective. In the previous sections I reflected on the specific methods I used by mentioning their impact on the design and their values and limitations.

The first thing I noticed while writing this report was that experiments and case studies were done throughout the entire project, while the analysis of statistical information, literature studies and content analysis stopped at a certain moment in the process. The reason for this was probably that the analysis of statistical information, literature studies and content analysis facilitated me to form a theory on the young-old. The experiments and case studies provided me with options on how to implement this theory into a design. So while the theory was more or less finalized at the halfway point it also meant that I stopped using certain research methods. However the experiments and case study analyses continued because they formed an essential part of converting the theory into a design.

The second thing I noticed was that the analysis of statistical information, literature studies and content analysis were more objective studies, while the experiments and the analyses of case studies were more subjective studies. This probably also has to do with the different aim of the studies. While creating a theory I really tried to base all my choices on research. While converting the theory into a design intuition seemed to take over some times. The choices I made while doing this kind

of research may have seemed subjective at times, but looking back I realized that they mostly were based on underlying reasons that for example had to do with efficiency. I see this intuition as a result of my education at the faculty of architecture. From the bachelor on you are trained in combining different kinds of research into a design. While at first this seemed as an almost impossible assignment, now at the end of my education it starts to happen unconsciously. This skill will only develop over time, while getting more experienced during my professional career.

Other aspects

The relationship between your graduation project topic, the studio topic, my master track, and my master programme.

The graduation studio, Dutch housing, part of the Dwelling chair, focuses on an inclusive city. In an inclusive city all residents should be able to find an optimal living environment. At the moment there are still certain groups of people whose optimal living environment is absent or not in abundance. The young-old are one of these groups. My project to design a residential building for the young-old in the city is an attempt to right this wrong. This is also in line with what the architecture track tries to achieve: Teaching encourages students to develop creative and innovative building projects that use design as a means to deal with the technical, social and spatial challenges encountered in the built environment.⁹ This is what I tried to do in my project, creating a new form of housing which fits the target group, the location and is technically possible. The project also includes for example urban design and building technology, as many of our issues cannot be solved from a single field, but have to be approached from many angles.

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

My research is done towards a changing perception of old age. This has created a new phase of life, the young-old, where people do not have responsibilities towards work but are still healthy and active. These people have in the past been moving towards 'retirement utopias' and so have segregated themselves from society. Governments and municipalities still see value in these people because they bring a lot of knowledge and experience to the city and have more time to

actively devote themselves to their neighbourhood. The task at hand is to design living environments in the city that also suit the needs of these people. By designing a suitable living environment for these people it would give this group of people their rightful place in the city. Hopefully the way I approach this issue can be used as a strategy beyond my own project, however I won't know the exact results since the project is entirely theoretical.

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

The most prominent ethical issue I encountered in the research was the question if it is acceptable to designing retirement utopias. History has shown that these 'utopias' are very popular among the young-old, because lots of them have moved to these kind of projects. These projects had been based on the freedom from the responsibilities of the other phases of life. But it resulted in the segregation of an entire age group from society. You could state that the people who moved to these areas abandoned their responsibilities toward the rest of society as a whole. My design is a reaction on this issue. With my design I try to provide a living environment for these people in the city so that these people stay a part of society.

Notes

- 1 **“Research”**, definition according to Cambridge dictionary. Accessed 1-3-2021.
<https://dictionary.cambridge.org/dictionary/english/research>
- 2 **Voordt, van der, T.**, Methoden en technieken van onderzoek (Delft: Publikatiebureau bouwkunde, 1998): 2-3
- 3 **Groat, L., Wang, D.**, Research methods (New Jersey: John Wiley & Sons, Inc., 2013): 26
- 4 **Groat, L., Wang, D.**, Research methods (New Jersey: John Wiley & Sons, Inc., 2013): 138
- 5 **Izenman, L.D.**, Toward an understanding of intuition and its importance in scientific endeavor. (Baltimore: Johns Hopkins University Press, 1997): 395-403
- 6 **Voordt, van der, T.**, Methoden en technieken van onderzoek (Delft: Publikatiebureau bouwkunde, 1998): 12
- 7 **Voordt, van der, T.**, Methoden en technieken van onderzoek (Delft: Publikatiebureau bouwkunde, 1998): 12
- 8 **Groat, L., Wang, D.**, Research methods (New Jersey: John Wiley & Sons, Inc., 2013): 6
- 9 **“Master track Architecture”**, definition according to TU Delft. Accessed 2-3-2021.
<https://www.tudelft.nl/onderwijs/opleidingen/masters/aubs/msc-architecture-urbanism-and-building-sciences/master-tracks/architecture>



S.M. Nieuwenhuizen

Master of Science Architecture, Urbanism and Building Sciences, TU Delft 2021