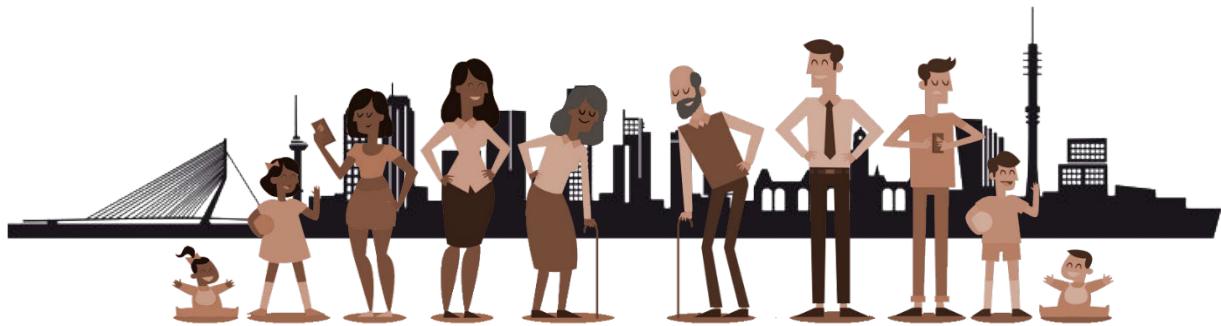# Growing Up & Growing Old in the City.

Intergenerational living in a residential urban complex.

Research Plan

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Preface

This document is a research plan made for the course "AR3A010 Research Plan". It is a part of the graduation trajectory of the MSc in architecture at the TU Delft. The specific studio for which this plan is made is the Advanced Housing Graduation Studio, Dutch dwellings.

The goal of this research plan is to present my research proposal and to explain how the research will be structured and conducted. This research plan will form the basis for a research report that will inform the design assignment that is the other part of the graduation trajectory.

The starting point of the research is the studio theme "Designing for modern households, building a city for everyone". The main question the studio therefore wants to answer is: "How do we provide suitable, affordable housing for a diverse population?"

The Netherlands is currently facing an overloaded housing market. This has the consequence that many people can not find a suitable dwelling. To solve this issue the government made the plan to build one million houses. Apart from the quantitative problem of too little houses it is now important to figure out what type of houses to build. Where should the houses build? For whom should they be build? How do these people want to live? Only then can we make certain that the houses we build have the potential to solve the problem.

My personal fascination with the topic starts from the realization that while buildings are often designed as static objects, their inhabitants are very much evolving. As we move through the different stages in life, we require different things form our dwelling, our building, the neighbourhood, and the city.

Our living environment plays a crucial role in the way we live especially in the most vulnerable parts of our life when we are growing up as kids or when we are nearing the last stage of our life where we again start to lose our independence. Therefore, I want to design an intergenerational building that pays special attention to these two phases in our life to see how architectural design can assist us in these phases of our lives.

For this project, the design part will take place in the Merwehaven a former harbor area in the city of Rotterdam. The municipality of Rotterdam has set the goal to transform this harbor area into a residential neighborhood. For this area I together with the other participants of the studio have designed an urban masterplan. From this urban plan each one of us has chosen one plot with an urban block that will be further developed into an architectural building design.

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Topic introduction

In the coming years, the amount of elderly people in the city of Rotterdam will increase. Like in many other European cities this is due to increasing life spans and the post war increase in birth rates. Between 2019 and 2035 the amount of people 65+ years of age is expected to grow from 97.000 to 129.000 (Municipality of Rotterdam 2019).

Due to improvements in healthcare and living circumstances, the elderly of today live longer and stay active longer. With the growing elderly population, the healthcare costs will be increasing and to reduce costs the government has been scaling down on institutional healthcare. With legislative changes in 2015 (Wmo2015) the government separated living and care. Where in the past people with minor issues would be eligible for institutional care, they would now receive the required care at home and (Aanjaagteam Langer zelfstandig wonen 2016).

Based on the idea that many elderly citizens want to remain autonomous, independent, and self sufficient the government made de following assumptions: people want to live at home independent as long as possible. They can and want to pay more for professional aid and support. They can receive much more help form informal caretakers in their own social circle. The use of technology will support elderly citizens at home and compensate for increasing physical and mental limitations (Doekhie 2014).

This means that the government expects a new level of self-reliance from the elderly citizens. In one way being able to organise your own care at home can be an advantage because it can be completely tailored to your personal needs. But what the assumptions fail to acknowledge is that the elderly citizens are not a homogeneous group and not all of them have the capacity to organise their own care and be completely self-reliant (Doekhie 2014). For these people also alternatives need to be found.

For the elderly to live independent longer they need to be able to adapt their home or be able to move to more suitable dwellings that they can continue to use also with diminishing health and mobility (Ministry of Health, wellbeing and sports 2018). In the current housing market finding these dwellings to move to can be difficult as smaller affordable housing is also popular with other groups like students, singles, expats, and refugees. A second issue is that adapting all the dwellings to fit all the different types of limitations can be difficult and expensive. Someone in a wheelchair will need different adaptations than someone with poor vision or someone that has dementia and that is why a personal approach is advised(Aanjaagteam Langer zelfstandig wonen 2016).

Apart from the care and housing problem what is also important is that with the disappearance of institutional care also some of the daily activities for the elderly have disappeared. The elderly citizens of today will have to take much more initiative to maintain a social circle and as they get older and spouses, relatives and friends pass away this might be increasingly difficult. The danger of isolation and loneliness start to play a role here and society should not look

away (Aanjaagteam Langer zelfstandig wonen 2016). This is also the point were there is the opportunity to come up with different ways of housing the elderly. Ideas like clustered living with nearby care can be an option but also the traditional courtyard housing type with private dwellings and collective shared spaces can offer a solution. Being part of a community can provide a safety net and ensure that elderly citizens receive help on time when they need it (Ministry of Health, wellbeing and sports 2018).

At the same time there is a parallel trend of families with children having difficulty with finding a suitable house in the city. A quarter of all households in the four big cities in the Netherlands consist of parents with children. From this group at least two thirds are unhappy with their current homes and are struggling to find a more suitable one (Keesom 2013).

In the past families with kids would often move to the outskirts of the city to live in the suburbs. Now there is a new generation of city dwellers that like to stay in the city eighter because they grew up there or because they came for their studies an found a job in the city. This is a new type of family were both parents work and share the care for their children while having a busy social life. Then there is also a large increase in single parent households as they make up about one third of the family households in the city. Both these family types can benefit greatly from a strong social network where they live to help raising their kids (Keesom 2013).

These new urban families enjoy the many urban amenities and having short distances between their job, schools, childcare, and their homes, but many find the urban dwellings too small and worried about the lack of safe and green areas in their neighbourhood for their kids to play (Laarman and van Dam 2018). Families bring live to the city, they play, work, move, relax and consume in the city providing income for retailers, libraries, swimming pools, sport societies, theatres and cinema's and many more. Having them leave the city because of lack of suitable housing is therefore not desirable. To give families more perspective for living in the city more attention must be paid to figure out how to accommodate their dwellings needs.

The houses being build should suit them better in size, organization, number of rooms, living environment and costs. The lives of current families living in the city is completely different from those living there 50 years ago, kids have less brothers and sisters but more toys to play with. At the same time kids play more often inside due to television and computers but also because a lot of play space has been taken over by cars. For families, safety is especially important, not only from traffic but also from criminality and vandalism in the neighborhood as children growing up are more vulnerable. For the development of children, it is especially important that they can safely extend their range of play over time to develop their motor and social skills. This requires having safe play spaces for children of different ages within 500 meters of the dwelling (Keesom 2013).

The solution seems simple provide large houses with a garden for each family. The only problem is that this is not possible in the city as space is limited and the square meter price is very high. With the current housing market also leaving the city is not an option for many families so a new solution needs to be found in the city. Family apartments can be a part of this solution. By stacking dwellings inside a building block more dwellings can be provided. Apart from the dwellings also collective spaces are deemed important to provide extra

functionality that does not fit anymore into the dwelling (Municipality of Rotterdam, City development 2017).

To find out what is needed to make good family apartments the municipality of Rotterdam organized a contest to come up with design ideas for new urban dwellings for families in the city (Municipality of Rotterdam 2015). From this contest a few themes were distilled that kept coming back in many of the 150 submissions. Themes in order of popularity were flexible floorplans, collective outdoor spaces, private play space for each child, bike storage, roof gardens, vertical streets, privacy, extra storage space and a spacious entry hall. These are therefore important aspects to take in consideration when designing new dwellings for families.

As the municipality of Rotterdam has the inclusive city as one of their key values for a sustainable city (Municipality of Rotterdam 2020), it is important to have a city suitable for people of all age groups. It is here that the opportunity arises to come up with new dwelling types and new ways of living that can support and adapt to the changing lifestyles of elderly citizens and families in the city. And it is here that I think there is a potential to look at an intergenerational residential urban complex that can address the needs of both young and old but also provide something more in the form of a community from which both groups can benefit.

Keywords

Intergenerational living, Inclusive city, Aging in place, Child friendly city, Community forming, Autonomous living, Transformations through life phases

Problem statement

The current housing stock in the cities no longer fits well with the demands of families nor the elderly citizens. Therefore, apart from building more houses we need to figure out what type of houses are needed. To do this it is important to take a closer look at the changing life trajectories, identities, and societal need of these groups to understand what has changed and to come up with new schemes, types and methods of dwelling design that fit better with their current lives.

Research questions

Main question

What are the changing life trajectories, identities and societal needs of elderly citizens and families with children? How can housing design answer these needs and incite a positive rewarding encounter for both groups?

Sub questions
- How can housing design support elderly people to remain autonomous while living at home as long as possible and how can it cater to those that might desire a more communal way of living?

- What are the daily routines and use patterns of elderly people living in a dense urban setting and what formal and functional features of the building and the urban surrounding can support them?

- What are the daily routines families with children living in a dense urban setting and what functions in the building and in the urban surrounding can support them with raising the kids?

- How to design for a multitude of modern family compositions, and how to do this in a way that is flexible enough that it can accommodate change in composition but also in lifestyle as the kids grow older?

- What are the similarities between elderly and families with children when it comes to living requirements and what are the main differences on the scale of the neighbourhood, building block and dwelling?

Design questions

Main question

How to design a residential urban courtyard block in the Merwehavens in Rotterdam for families with kids and elderly citizens in such a way that they can benefit from each other and can form communities while minimizing the potential nuisance caused by different lifestyles?

Sub questions

- What are the different types of dwellings needed for elderly citizens and families with children regarding size, organization, autonomous living, and flexibility?

- How to organize these dwellings in a courtyard block while keeping into account solar orientation & daylight entry, view and stacking of structure and installation shafts.

- What type of circulation systems would be good for accessing dwellings in a courtyard block while at the same time allowing for encounters between neighbours and a good connection to the collective and public spaces?

- What public and collective functions would suit the need of families and elderly citizens in an urban block? What size should they have and where should they be placed in the building?

- What is a good way to integrate green outdoor spaces into a courtyard block?

Research methods

For the research I will use two methods: literature research and case study analysis. For the literature research I will make use of news articles, journal articles, reports and books. For the case studies plan drawings and images that are made available by the different firms that designed the projects will be used. Also, I will look at written explanation of the building either from the architects themselves or from different project reviews.

The first part of the literature research will be the introduction in which news articles and reports are used to show the current relevance and urgency the topic. Also included will be research conducted by architects from different firms in which they looked at how different families and elderly citizens live in the city and used this information to come up with different design concepts that can be implemented during a design project. In this part it is crucial for the reader to understand why there is a real necessity to improve upon the way we build for elderly citizens and families in the city and what the benefits of doing this in an intergenerational building block can be.

For the second part of the literature research the goal is to further define the user groups in this case the elderly and the families, defining their challenges and defining their needs on the scale of the neighbourhood, the building block, and the dwelling.

The third part will consist of case study analysis. This part will focus on plan analysis of four selected case study projects. This analysis will result in conclusion drawings that show the main principles of the projects in order to compare them to each other to find out what are the differences and similarities and to be able to notice trends between the buildings.

Case studies

I have selected four projects to analyse. Two of the projects are intergenerational buildings. One project is for elderly only and one for families only. Three of the projects are located in the Netherlands, one in Austria. The buildings were realized between 1998 and today. One is still under development namely "The Family".

These were the selection criteria and the chosen projects:

- The projects need to be a midsize residential block made for an urban environment corresponding to the design assignment to extract as much relevant information as possible.
- The projects need to be designed for intergenerational living or for one of the target groups elderly citizens or families with children.
- The projects should preferably have a courtyard typology.
- The projects should be mainly located in The Netherlands in order not to overlook country specific design requirements.

Intergenerational residential complexes

Multi-generational housing - Vienna, Austria - Franziska Ullman & Peter Ebner, 1998-2000
De Eenhoornblokken - Amsterdam, Netherlands - Korthtielens architects 2018-2021

Elderly residential complex

Gelaagd Hof- IJburg, Netherlands - ANA architects – 2000-2004

Family residential complex

The Family – Delft, Netherlands – ANA architects – 2018-under development

Multi-generational housing

De Eenhoornblokken

Gelaagd Hof

The Family

The plan analysis will focus on the following elements:
- Types of collective and public functions in the building
- Different dwelling typologies in the building (clustering, bay with and depth)
- Configuration of functions and dwellings in the building
- Division of private, collective, and public space in the building
- Routing in the building and placement of dwelling entrances
- Floor plan layout of the dwellings with notable features

Relevance

Intergenerational living is an up-and-coming topic. Within the field of architecture there is a lot of research to be found on how to design for elderly people and also how to design for families but the mixing of these two specific target groups is something that is not yet seen often in the Netherlands.

As it becomes more important for cities to be inclusive, a good building design can be important to serve as a bridge between different generations, to avoid alienation between different groups and to allow exchange of information and values in order to create mutual understanding.

How to integrate these groups into a building and also figuring out what functions they can share and how to stimulate community forming between different generations is something that has just started to be explored. So, this research could contribute to filling a gap in architectural knowledge on how to combine the families with children and elderly in one building.

I also looked a bit outside the field of architecture, and I found one very interesting study from the field of social and behavioural sciences. This study "Together Old and Young (TOY)" (Fitzpatrick 2013) explores the benefits of intergenerational learning involving young children and older people. Even though intergenerational living is not directly intergenerational learning, it is obvious that within communities of people living together a lot of informal learning takes place and values, and knowledge does get exchanged between different generations. This means that a lot of the benefits from intergenerational learning might also be applicable to intergenerational living.

Reflection

During the writing of this research plan I have had some struggle with phrasing the problem correctly. With the feedback that I got I realized that what I initially wrote down as the problem was just the top layer and that there were many more interesting questions underneath. I also found it particularly difficult not to generalize and to take certain things as a given and I hope that in this version the things I wrote down are a bit more nuanced. I also had some issues separating the design assignment from the research assignment. My research questions were initially more design questions and it only through the feedback over time that I came to understand that one focuses more on finding solutions to problems while the other is more about understanding the larger scope of a problem.

For the research questions I tried to keep a good balance between the two groups and also to keep them similar for both groups in order to get comparable results. Also, during the research phase and while looking for sources it will be important to have a good balance between the research done for each user group.

For the relevance I looked at the field of architecture but also tried to look outside architecture. I have some reports in social behavioral sciences about the importance of intergenerational learning that makes a good argument for increased contact between young and old people, but as the research is already quite extensive and time is limited, I decided not to dive too deep into these sub-fields.

In the first version of the research plan I included a planning but as we are now only two weeks away from the P2 it did not seem necessary to include in new planning. For the planning the case study analysis went well I managed to get it done in the time I had assigned to it. For the research I found myself a bit cramped for time, between doing the case studies, revising the research plan and working on the concept design the time I expected to have was pretty limited. This means that I did not have the time to go through the many sources I have collected as thoroughly as I would like yet, but as we have more time after the P2 to work on the report I think this will get done eventually.

Initially I had the plan to conduct interviews with two different architecture firms. After sending them several emails and contacting them by phone one told me that they did not want to participate and that I can use what they have written in their reports. The other firm told me that they were busy and to resend my request by mail, but they never got back at me. So, with this result I decided that it was better to focus on the reports in order to make the best use short time still available.

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