ELDERLY HOMES — ANTHROPOLOGICAL RESEARCH TO ACHIEVE AN ARCHITECTURE FOR THE ELDERLY

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Abstract

The **objective** of this conference paper is to report on the idea of combining visual anthropological research methods with architectural design processes in our masterclasses. We argue that the person whom we design for should be the first to focus on getting in depth information. We aim to show that this methodology may lead to unexpected results and helps the students to design new concepts for elderly living environments.

Background is the urge of housing the growing numbers of elderly, especially care dependent elderly. Locally and globally we are moving towards an aging society. This fact has severe implications for the organization of care and residential housing. Existing housing designs as well as public spaces generally are not well-equipped for accommodating growing numbers of elderly. In the Netherlands the demographic transition to an aging society runs parallel with transitions in the policy and practice of elderly care, which moves away from institutional buildings towards a more informal support network. As the chair of architecture & dwelling of the Faculty of Architecture first masterclasses working on this topic were set up 1,5 years ago. After an intensive phase of research the students translate the findings into a design for a new home for elderly with and without care.

The **research questions** that will be addressed in our work concern the everyday life of residents (and professionals and visitors of elderly care centers). How do older people move, use and share spaces? How do (sub)communities work in residential care settings? And how do personal worlds relate to the outside world of the city and the neighborhood?

Methodologically, the focus of this paper lies on the everyday life of those in care centers. We introduce three scales as a research frame: the body - the home - and the neighborhood, connected to the activities of the elderly. Aim is to understand, document and visualize the needs and living conditions of elderly today, to collect these data in a pattern language for the design of elderly homes, as well as translate this into architectural design.

The **results** give a first idea of our work with students by showing a selection of the material students came up with. In the conclusion some preliminary findings of a fieldwork study will be shown.

Keywords: Aging society | anthropology | pattern language | architecture of care | neighborhood

Introduction & Objective

A 'Pattern Language' as a guideline to design for the elderly

This paper concerns an exploratory study of the social and spatial living environment of the elderly which is done with a masterclass of the Faculty of Architecture. To understand and even change paradigms of care and develop new concepts for housing the aging society, there is a need to know more about the influence of the elderly body and mind and the perception and use of home spaces among older people. Therefore, the design discourse of architecture is connected with the human centered research of anthropology and the field of practice of elderly housing.

The goal of this long term study is to develop a 'Pattern Language'[1] as a guideline to design for the elderly, in which places and spaces, movement and actions of the elderly in everyday life are collected visually, and to come up with inspiring concepts for new homes for elderly. This will be elaborated within the time of several masterclasses. The guideline brings together research and design and has the intention to act as a contribution in the debate about and the development of new housing concepts in care for the elderly. The masterclass was developed in close cooperation with the Dutch housing corporation Habion, which is specialized in elderly care housing. The research studies are supervised by the author in collaboration with the anthropologist Dr. Leeke Reinders from TU Delft and lots of support by Peter Boerenfijn, director of Habion, who offered us access to his elderly homes to do research there. This is a

search for new ways in which perhaps cohabitation relationships might take care of others, including the elderly. The wish is to shift the emphasis from care to residential and living concepts.

In this paper the theoretical and practical starting points for research on 'the pattern language' of the social and spatial organization of the everyday life of dependent elderly people and their support networks is described. The research focuses on the design of indoor and outdoor spaces, social relations and neighborhood networks. The intention is to acquire a finer-grasped insight into the living environment of the elderly by looking at the everyday living environment from their perspective, by observing, talking and walking with them.

The first masterclass is finished and a second and third is ongoing. The students were able to stay in several elderly homes, they had come back days and even made friends. The first outcome concerns sketches and photographs with observations and interpretations of the living of the elderly.

The final guideline is part of a long-term research project in which the goal will be a catalog that lays a comprehensive foundation and presents first proposals for new housing models for housing and care design. This paper elaborates on the method in which anthropological research is combined with architectural design processes and it reports on the first findings of fieldwork study on the everyday life of elderly in Dutch care centers to show how observational studies brought the students to insights they wouldn't have got without it.

Background & Theories

The process of aging

The process of aging is a global phenomenon. We soon will have more older people than children and more people at extreme old age than ever before [2]. Globally "The number of people aged 65 or older is projected to grow from an estimated 524 million in 2010 to nearly 1.5 billion in 2050, with most of the increase in developing countries." [3]
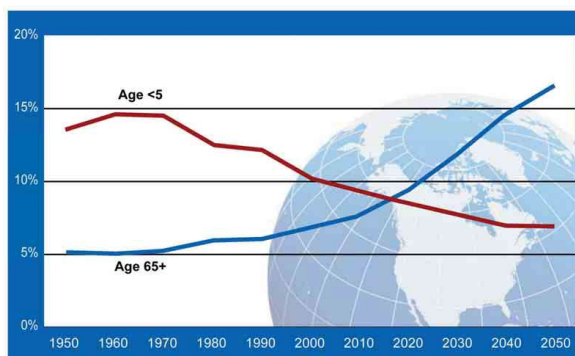

Figure 1. Young Children and Older People as a Percentage of Global Population: 1950-2050.
Source: World Health Organization. (2011). *Global Health and Aging*, p. 2.

We already can foresee that it will increase the demand for primary health care and long-term care. Our environment will need to be made age-friendly. Also, older people can still contribute, within their family, their local community or to the society in broader sense. We have to rethink the way we live together, the way in which care and housing must be organized and the way elderly still can contribute to society. Not only the reachability and accessibility of public spaces and facilities deserve attention, but there is also a need for new ways to integrate elderly and care in our society. We already can see the appearance of a shift in the policy of housing for the elderly from inpatient care, institutional settings and large-scale care complexes to private homes and small-scale organized care facilities. The plea is to arrange that care dependent elderly can live in their own homes and neighborhoods as long and as independently as possible. This process of 'staying at home' and having less care institutions and at the same time 'socialization' appeals greater demands on the independence and autonomy of the elderly, their own contribution, and their care-givers and supporters. Numerous initiatives have been taken to move elderly care from institutional settings to the more informally organized support networks in districts and neighborhoods. However, there is little insight into the use of space and the daily activities of the elderly and how knowledge can be incorporated into the design and the (re)development of the built environment. At the same time, the question arises of how the care and support of the elderly can be brought into the local contexts of the city, district and neighborhood.

Aging in the Dutch context

Due to the general appearance of a shift from institutional settings for housing combined with care to the current trend of staying much longer at home, specific problems arise in the Netherlands in housing elderly people in need of care. In particular, the elimination (meaning no governmental financial support anymore) of the so-called *retirement homes*, which were built on a large scale during the period of the post-war housing shortage and the welfare state cause

problems. In 2013, the Foundation Berenschot predicted the demolition of 800 of these welfare state retirement homes [4], meanwhile it was already clear that the older population is expected to triple the number of over-85s over the next twenty years. The post-war retirement home should make room for home and informal care. Elderly living in retirement homes where even sent back home as a consequence of lack of financial support. Municipalities, housing corporations and developers therefore face the question of how to deal with the existing stock and infrastructure of these buildings. Can these large-scale housing complexes of the elderly be integrated into surrounding neighborhoods and be used in the future?

Housing corporation Habion, who's real estate is concentrated on the target group of older people (12,000 units, average age of residents 80+), supports this research. Habion is looking for innovation for its real estate. This becomes clear when you look at their transformations of a few 'old-style' retirement homes, such as the project *'t Kampje in Loenen*, where a library, a community center and a collective kitchen for the neighborhood are located within the walls of an existing retirement-/nursing home. Their transformations focus on using the existing real estate differently, often bringing the neighborhood into the building. This is done by giving the local society the facilities to give structure to the desire to grow old, asking what people need for it, and to what extent people want to shape it themselves.

Figure 2. The library of the elderly home 't Kampje in Loenen with on the right side the open corridor and the entrance to an apartment. Source: B. Jürgenhake

New concepts for the architecture of elderly living

In architecture a search for new residential concepts for more vulnerable older people started since 1990. One of these models is the *collective living* which can be found in different countries and in numerous forms. In the United States, numerous *assisted Living Residences for seniors* were built. They are similar to the Dutch retirement home. These are housing models for older people who want to retain some form of independence (a little apartment of 45 m^2 with a little kitchen, bathroom, living- and sleeping room), but can ask for care, often situated on the ground floor (*figure 3*). In Germany residential communities were developed as a model in which elderly people can continue to live in their neighborhood because homes are made life-proof and care can be purchased locally.

Such initiatives are based on the concept of *aging in place* with care in the immediate living environment. During the 2000s in the Netherlands *Residential Care Complexes* were established (*WoZoCo's – figure 4)* in which housing and care were separated, but care can easily be purchased through the service center which is in these complexes. The biggest difference with the *Dutch Retirement Home* is the market-size of the houses and the disconnected care.

Figure 3 and 4. On the left the Dutch "old style" Retirement Home from the 50th and 60th and right a Residential Care Complexes (WoZoCo's) built around 2000. Source figure 4: https://www.mvrdv.nl/projects/170/wozoco

In addition, we see new forms of living on a small scale such as the Multi-Generation Home, the Home House (a home combination of students and the elderly), the Kangaroo House (fig.5), the Knarrenhof (fig.6), and the Sheltered living in a former care home. For temporary care we know the Care Hotel and for the luxury residential care variant the Care Villas. In psycho-geriatric care the concept of Warm home has been developed: small-scale residential and care facilities for people with dementia, such as De Hogeweyk in Weesp (built in 2008), a nursing home with 23 small living groups for elderly people with dementia (fig.7).

Figure 5. Kangaroo House – Figure 6. The 'Knarrenhof' A living complex around a courtyard.
Source: Harkes, D. & Witter, Y. (2018). *Bouwstenen voor de toekomst*, p. 28. Printed by Aedes-Actiz. Kenniscentrum Wonen-Zorg. *Kangaroo House*

Figure 7. De Hogeweyk in Weesp – living for people with dementia. Source: B. Jürgenhake

Methodology

Research Question

Our research is a search for living in which the emphasis may shift from care to living. The main questions are: How do elderly people use their home and immediate living environment and what does this mean for the design of the spaces? What role do collective spaces play in the use and design of private and public spaces? Crucial elements in the research are the relationships between private and public spaces, between neighborhood and communities, and between the elderly and their supporters.

The research method

As Luigi Buti writes "The best source of information is the person for whom the designer is designing the product. And the best way to unearth this information is through market surveys […]. But they tell us very little about more subjective things."[5] We realized that relying on data from scientific literature would not bring the students into the real life of the elderly. In an earlier master pilot about loneliness among elderly, the research was built up very much by literature, the opinion was almost determined before visiting the elderly and most of the results were predictable. This showed how important a direct contact with the elderly themselves in an early stage of the research may be, because of the more or less unconditioned perspective the student has at the beginning of the research phase.

The scales of the body – the home – the environment: As we have the ambition to develop a catalog of results for the architectural design of elderly dependent on care, comparable and comprehensive data are needed. Within some similarity of the care dependent elderly, we may learn about their daily routines and spatial needs. The range of an elderly person in need of care becomes smaller (300-500 meters). It is therefore important for them to have meeting moments close to home. Activities cost energy. At the same time elderly do have a network outside their home. The design of a new concept for a home with care requires knowledge about the daily habits, activities and routines, routes and rituals of the elderly and their supporters from close to fare distance.

When Alexander made his 'pattern language', he distinguished between towns, buildings and construction. Because of the limited distances a vulnerable elderly will take in daily life we choose for the three levels: The body – the home – the environment. On the level of the body, the influence of the body (and mind) on the experience and the use of space (visual, touch) needs to be understood. The level of the home is an important level of action in daily life. Questions concern the use and preferences of spaces. The research on the environment focuses on the relation between indoor and outdoor spaces, private, collective and public domains, social spaces in the neighborhood. These levels will be set up in the catalog as well, and each situation will be shown by a photograph, an extended capture explaining the problem, and a possible solution in with a text or drawing.

The first fieldwork shows that lots of activities of vulnerable elderly are bound to the own room and the house, much less to the outside. Therefore, we suggest for next courses to distinguish as well between activities of the daily routine – frequent activities (ones or twice a week) and sporadic activities (ones or twice a month). With these levels the spaces according to the activities, and the meaning for the architecture may get clear.

Visual anthropology of living: Fieldwork and direct interaction with the target group has a very important place in the research. L. Reinders had experience using visual research methods like photography and photo rapportage in a study done in Brussels, where photo sessions and interviews were taken [6]. Interviews were done to get into contact with the elderly and win their trust, whereas the photos show sequences of the activities in their spaces [7]. We decided to let observation be a main tool of the research, supported by interviews. To collect the data, drawing, sequential photography, soft mapping or other pictorial techniques may be used. To make photographs comparable, the same angle had to be taken for several situations. As Collier states it, the benefit of photograph is that "any number of analysts can read the same elements in exactly the same manner."[8] However, we realized that in order to keep the privacy of the elderly, faces on photographs had to be blurred. In this pilot, students did not dare to take photographs of persons so much, in an ongoing course students over-draw the photos to make them anonymous (figure 13 shows an over-draw).

Analysis of the material: Series of photographs with the same topic will show easily the exceptions. Research on the spaces the elderly come across in everyday life can be done by using architectural drawings as this is a very common tool for architectural students. Analytical drawings can show general and specific findings, for example the analytical drawing of the common places for furniture (figure 11 – lay-out basic apartment).

A template to support fieldwork: We realized that students should and will have their own ideas about what kind of data to collect and wanted to leave space for the unexpected, but we developed a guideline that can function as a template for the research. Table 1 contains a clear structure with the three scale sequences, supported by questions. Table 2-3 contain levels of activities which we developed later, for the next course. The use of the visual anthropological method developed from the conviction that the daily life of people is a rich source of inspiration and that the visual way of noting is more direct and helpful for architectural students.

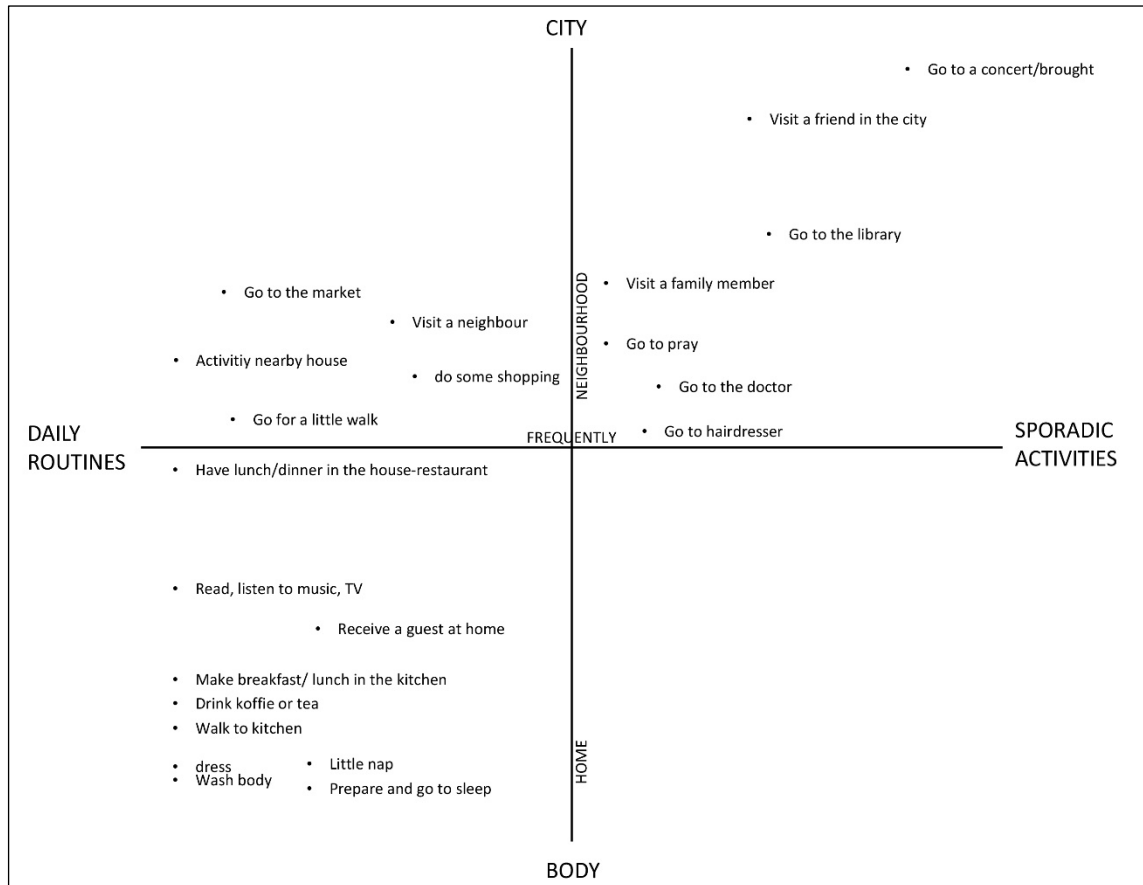Figure 8. The body – the home – the wider environment. Source: B. Jürgenhake

Table 1. Questions to support the fieldwork

The three scales:	1 - The body	2 - The house as a room for action	3 - The relationship with the wider environment
	The influence of body (and mind) on use and perception of space The sensory experience of space (visual, touch)	How do older people use their home? What influence does aging have on the interior? Which rooms / spaces become important or redundant? Which routes and areas of use arise in the home? What are the daily customs and rituals of the elderly at home and where are these performed?	How do indoor/ outdoor spaces relate to each other? How do private and public domains relate to each other? How big are social distances for these people? How far does the environment of elderly people (care needing) extend? How do support networks emerge? Which routes and roads do they cover and which places do they use? How do older people orientate themselves in the city?

Table 2. The different activity levels

The activities on three levels:	Assignments
The daily routine washing and dressing, eating up to the moment of going to sleep at night	• Visualize the activities directly concerned to the body. • Ask about the visual and haptic perception of space • Investigate where these activities take place. • What kind of space is that? • Where and in what kind of space?
Frequent activities Walks and visits ones or twice a week	• Investigate where these activities take place. • Visualize the space.
Sporadic activities Walks and visits ones, twice or three times a month	• Investigate where these activities take place. • Visualize the routes and the spaces.

Table 3. Activities and their places (an example of the analysis)

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                                        CITY
                                                            • Go to a concert/brought

                                            • Visit a friend in the city


                                                    • Go to the library

                        N           • Visit a family member
                        E
        • Go to the market          
                        G           • Go to pray
            • Visit a neighbour      B
                                    O
    • Activitiy nearby house         U          • Go to the doctor
                • do some shopping   R
                                    H
        • Go for a little walk       O
DAILY                               O   FREQUENTLY   • Go to hairdresser   SPORADIC
ROUTINES                            D                                      ACTIVITIES
    • Have lunch/dinner in the house-restaurant



    • Read, listen to music, TV

            • Receive a guest at home

    • Make breakfast/ lunch in the kitchen
    • Drink koffie or tea
    • Walk to kitchen            H
                                 O
    • dress      • Little nap    M
    • Wash body                  E
                • Prepare and go to sleep



                                        BODY
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The structure of the course

The study was part of an architecture masterclass (Spring semester 2018, 16 weeks, 2 day parts of contact per week, 14 students) with the design assignment of new ideas for the transformation of two Dutch retirement homes. In the first week we visited both homes and some examples of realized transformations, like 't Kampje (figure 2). We asked the students to note the user groups and what kind of functions they come across. In the second week we started to acquaint the students with the research method of visual observation by showing different examples how observation can be done by photography, film and sketches. We used film material made by William Whyte [9] and by Bent Hamer, his film 'Kitchen Stories' illustrates the different distances a researcher can take. We asked the students to do try-outs with these different distances. Main literature we offered was Collier's Visual Anthropology, Stanczak's Visual Research Methods [10], Makay &Reinders, and the studies of the architects Alexander, Gehl [11], and Hertzberger [12]. Next to this we showed film fragments, photography and examples of mapping.

We introduced photographers like Michael Wolf, who worked on different scales, from body to city. In week three we elaborated further on the methodology and the three scales of *body – home – environment* were determined as basis for the fieldwork. We discussed the different activity levels but wanted to keep this open for exploration. Fieldwork was done in week 4 and students had two more weeks and come-back days to finalize their fieldwork. The students showed the results in week 7 and discussed what this means for architecture. After the next four weeks students came up with first ideas for a transformation of one of the two buildings. The course ended with a final presentation of their design.

The fieldwork

By means of a three-days stay and two come-back days, the students collected data about the daily life of the elderly. Besides that they came up with information about the professional care and informal care-givers. While staying in the elderly houses the students realized that some information could only be observed (like unconscious movements and habits), while other came from the talks. Seven students and two teachers stayed in a nursing home in the city of Amsterdam, seven in a nursing home in Hilversum. In this paper the retirement home in Amsterdam will be documented (see figure 3).

The elderly were average 80+ and all dependent on care. A closed department of dementia, situated in a low-rise building, was excluded for our research. The elderly we participated with, live in a high-rise building and hire a two room apartment. Between low-rise and high-rise is a middle zone situated, which is the communal part of the building.

It contains a restaurant, bar lobby and sitting area, as well a small shop and leisure space. Meals are brought to the rooms or, if possible, the elderly go down to the restaurant.

Inside the Building
Because the case itself is consisting out of three individual buildings, it is only logical that the loadbearing constructions of these three buildings differ from eachother.

High-Rise
The fourteen levels high building has a construction consisting of loadbearing walls and no beams. This means a redesigning of interior walls is going to be difficult.

Low-Rise
In contrast to the highrise, the lowrise building has alreay undergone a renovation and the building is now more accessible for further change.
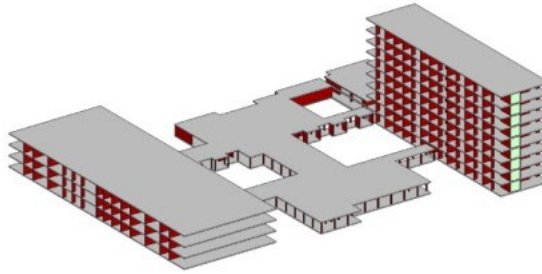
Figure 9. Overview of the nursing home, drawn by Sinan Aydin

1 – Scale of the body: Most activities were bound to the own apartment or the house. Although private rooms have similar floor plans, the use and decoration of space show many differences. When people are in a wheelchair or use a walker within the room, the room is set up more spaciously. By placing the apartment layouts on top of each other, a number of striking elements appear. First, people use all the wall surface. People place furniture against the wall and the window, which makes the balcony inaccessible. Second, often a corridor is created between the entrance door and bathroom door at the edges of the apartment.
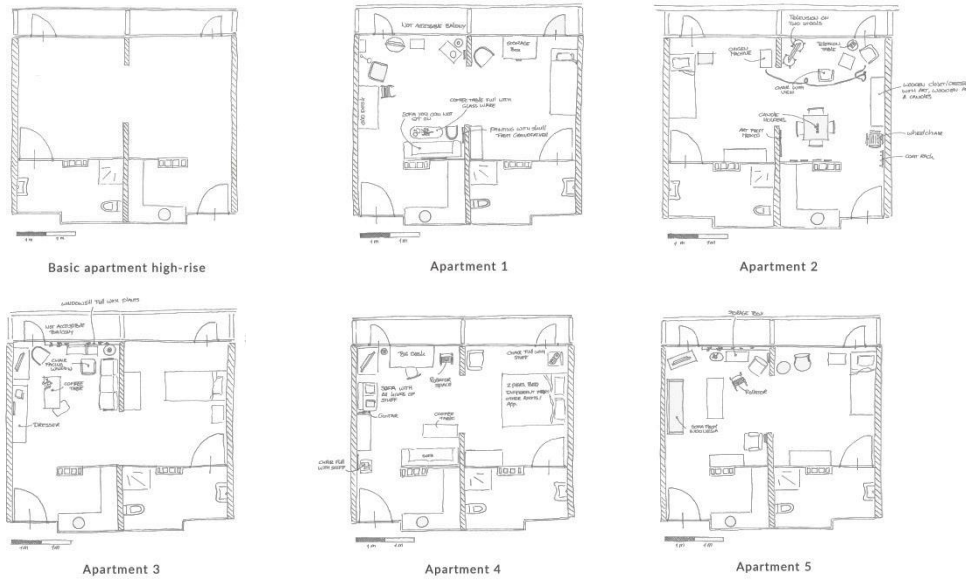
Figure 10. Different interiors of the same floor plan. Source: Different interiors of the same floor plan by Gitta Tolboom
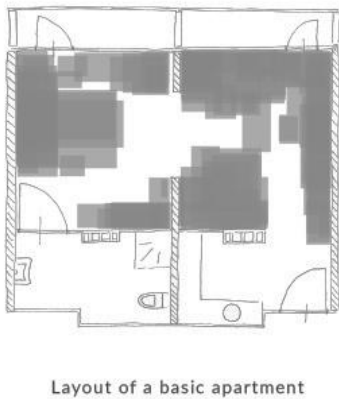

Figure 11. Analytical drawing and description of the common lay-out. Source: Different interiors of the same floor plan by Gitta Tolboom

2 – Scale of the home: The students started to understand the 'house as a room for action' by talking to residents about their daily routes within this complex. Residents generally follow specific pathways that lead directly from their private room to the service area on the ground floor, but don't use different parts of the building. Most of the day, the communal parts of the building remain empty. Some people who come for evening dinner wait a few minutes in the lobby. Only a few will make a chat or come for a drink.

The high-rise building has long hallways that are slightly differentiated by coloured panelling. One student photographed all corridors in the same way. Entrance doors to the private little apartments have no differentiation at all except the name boards and the personalized mailboxes. Students observed the emptiness in all hallways, no photographs, no place to meet. Neighbours scarily know each other.
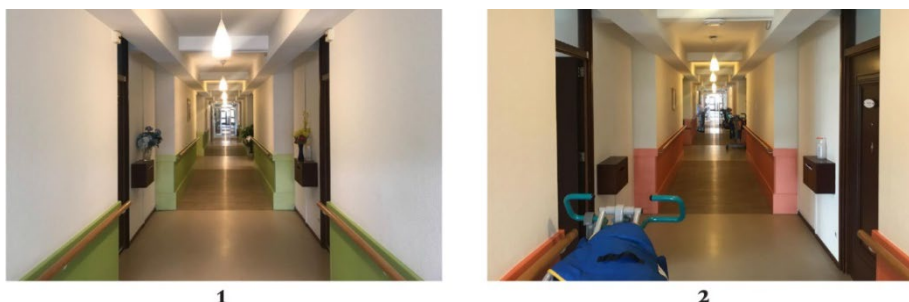

Figure 12. Selection of series of long hallways (the student made 12 photographs). Source: Selection of series of long hallways by Dobrava Kicinska

The students observed that most decorations in the collective rooms on each floor and throughout the building include flowers and plants, some of them fake. Many decorations contain abstract forms but are also brightly colored. Some images of animals are used as decoration or entertainment, like a fish in the aquarium and a parrot in a cage. Animal themes also appear in teddy bears, toys and sculptures placed in different parts of the building. These decorations are often associated with children. In general, decorative objects seem to be spread coincidentally around the building (One student photographed all decorations).

When it comes to the private domain, there are interventions of decorations, such as the mailboxes near the entrance doors of private rooms, on which plants and objects are arranged by the elderly. However, a hand disinfection bottle, used by caregivers, stood on lots of the private mailboxes.

Figure 13. Series of different mailboxes. Source: Series of different mailboxes by Mark Breman

The three garden patios were not used. Asking why, the residents explained that they were windy and uncomfortable places to sit down. Walking through the corridors, especially one on the backside, several places were seen where laundry was collected in carts or mattresses were parked to be picked up. It clearly was a working route and not an access route to gardens. The interviews the students held showed that people are not active, and not motivated to be active.

3 – Wider environment: The building is directly next to a large park area which is inaccessible for most elderly living in the care facility. Most functions in the neighbourhood are located beyond a radius of 250 meters and thus difficult to reach by older people. Residents miss the connection and the atmosphere of the city they have lived in (Amsterdam). One resident who was born in the North of the Netherlands expresses a need for these sorts of rustic views. Asking her how often she is taken to the park, the woman stated she hasn't been in the park for two years, as it is difficult for her to come there. Barriers like a four-lane street and a bridge which is impossible to take for her by wheelchair make her dependent on the help of others. When she was taken to the park by us, a little train rail track for kids-tours through the park made it impossible for her to move around in the park.

Figure 14 and 15. Taking an inhabitant to the park – mission almost impossible. Source: B. Jürgenhake

Conclusion

The topics the students focused on were supported by the three scales, the body, the home, and neighborhood. The study showed us how especially the observation brought them insights they wouldn't have got only by talking to the elderly. More time is needed to collect information by asking family members and professional care as well. Students ended up with first suggestions for ideas about the living of the elderly, which need to be further developed.

- **Taking a break:** Niches for resting are very important in- and outside the building

- **Recognition** of well-known places like entrances, are important as well as clear and good readable signs.

- **Make short hallways:** Long corridors should be avoided. People experienced difficulties in orienting themselves in those spaces.

- **Readability** and **identity** are important advice. All the mailboxes were decorated by the owners. Personal post boxes should stay personal.

- **Stimulate interaction!** The building itself did not stimulate interactions. It was very much introvert and centered around unused patios. One student proposes an interior pathway as a series of scenic views, to the children's playgrounds next to the elderly home, to natural features and the people passing by.

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