The Place to Celebrate Individuality

A study of personalization in secondary territory space in elderly residence

Baoky King Yang Huang

Tutors: Birgit Jürgenhake, Lex van Deudekom, Frederique van Andel

Individuality, Alan Todd

Research Report

AR3AD110 Designing for Care: Towards an inclusive living environment

In this aging society, containing a growing number of older people (55 years old and above) in housing is becoming a challenge. On the one hand, the currently existing housing does not have the design and equipment that the elderly need; on the other hand, the cost of building elderly homes and providing care goes beyond capability.

One effective solution is to create a building environment that the elderly can adapt to and empower them to blend into the community, which is the primary goal of this studio. This graduation studio is called "design for care: towards an inclusive living environment."

The studio is aimed at focusing on creating a daily environment for the elderly in need of care. Students of the studio are asked to discover the actual needs of the elderly in daily life. We researched the topic that speaks to this specific need. The research results will be used to design an elderly house and the living environment, including the neighborhood, public places, and spaces that fulfill the need of the elderly.

This research report is part of the graduation studio. The research focuses on the need for personalization of the elderly.

Fig. A-1 Collage of Observation Exercise,
Drawn by Researcher.

Fig. A-2 Collage of Wheelchair Experience
Drawn by Researcher.

Fig A-3. Excursion to Elderly Homes, Photographed by Researcher

At the beginning of the studio, we did observation exercises and wheelchair experience. These exercises taught us to see and feel for ourselves, which helped us discover the needs of the elderly.

Before visiting the care homes, we assumed that CARE was the most crucial issue. However, excursions to a couple of elderly homes have shown me that care is no longer the only factor that matters. More and more care homes focus on aspects that fulfill the higher needs of the elderly, such as comfort, community, and independence. These aspects have become the central concept in the design and operation of these elderly homes.

Preface | One-week Stay in Hoeverstaete

To understand the target group, Mark Neuteboom and the researcher had the opportunity to stay in an elderly home for excursion purposes for five days from September 20 to September 24, thanks to the help of Habion. This housing association focuses on housing the elderly.

The elderly home that we stayed in is called Hoeverstaete in Alkmaar, Netherlands, with around 186 residents with an average age of 80. Before the stay, we kept an open mind and without any hypothesis before we were there.

We decided that the most precious thing that we could gain from this experience is to get the chance to communicate with the elderly. We decided not to focus too much on the architectural space but to try and discover the needs by interacting with the people themselves.

In terms of the research method we undertook during the stay, we decided to start observing and initiate casual conversations to gather generic impressions and information while also gaining their trust. Secondly, specific topics were put forward based on the observation results in the first two days. Thirdly, we included informal or formal interviews and questionnaires further to identify their personal needs in their living environment. Finally, we used the method of photo series as a tool to reveal a pattern. These methods were applied to gain preliminary results and inspire further research.

Fig A-4. Photo of Hoeverstate, Source: Internet

Preface | Discovery in Hoeverstaete

Observation - The observation took place in the common room. Various activities happen here, such as coffee, knitting, and painting, and most of the residents come by at around 10:00 A.M. for coffee time. People from the neighborhood were also welcome to volunteer or participate.

At morning coffee time, the researcher observed that people were always enthusiastic to talk to Mark, who participated in their morning coffee; the people coming into the room waved to and greeted everyone and became the visual center; most people were chatting in groups of 2-3. These are signs that residents feel used to expressing themselves and being recognized.

Interview- In some interviews, formal and informal, the need to express themselves was discovered. Interviewee 1 was an educated lady interested in politics and current events. She says that she wanted to talk to people about this stuff and not stay in the past; Interviewee 2 was an artist who had collections worldwide and lived in many places. She said that she took her collection wherever she lived because it made her feel at home. She also stated that a place to yourself is significant. Interviewee 3 was a part of the committee in the residential home and took pride in contributing to the community. The researcher discovered that people need to express themselves through these interviews, which occurs in many ways.

Questionnaire - Residents in the elderly home attach great importance to public and private space, but the opinion varies greatly regarding the space in between. Generally, people do not attach much importance to it. However, in certain exceptions, some people note "extremely important" next to the checkbox.

Fig. A-5 Photo of Common Room, Photographed by Researcher

Fig. A-6 Photo of Interviewee, Photographed by Researcher

Tab. A-1 Questionnaire, Designed by Researcher

Please score the importance of the factor in your living environment from the range of 1 to 5.

1. **Nice Activity Room.** Average 4.60, Varience 0.7

2. **Place for Visiting Family / Friends.** Average 4.48, Varience 1.3

3. **Comfortable Apartment.** Average 4.44, Varience 1.0

4. **Greetings in the Hallway.** Average 4.0, Varience 0.7

5. **Communication with the Residents.** Average 4.32, Varience 1.1

6. **Care and Help.** Average 4.20, Varience 1.7

7. **Comfortable Outdoor Space.** Average 4.12, Varience 1.4

8. **A Variety of Activities.** Average 4.00, Varience 2.2

9. **A Place for Creation Production.** Average 4.00, Varience 2.2

10. **View of the Apartment.** Average 3.96, Varience 1.4

11. **A Place to Claim Individuality.** Average 3.80, Varience 2.3

12. **Communication with Neighbors.** Average 3.00, Varience 1.7

Photo documentation - The researcher hypothesized that the space between the public and private shows the most potential in celebrating the individuality of the elderly. Intuitively this personalization in the "public" space is a signal of individual expression of the elderly, a chance for them to tell the neighbors or visitors: "who am I, what do I like, what have I experienced."

When answered what it made them feel to decorate or furnish their living environment, residents responded that that it made them feel like it was their place. They were always super enthusiastic to talk about the stories behind them. For example, in the photo here on the rhight, this photo was taken by her children, these were the flowers that she liked, and some were from visitors; the flower pot is from China, and then she starts talking about her love of Chinese culture. Therefore, by expressing their individuality, memories were reactivated, conversations were stimulated, and new stories were created.

Fig. A-7. Door-Front Decorations, Photographed by Resaercher

Fig. A-8. Photo of Door-front Area Taken in Hoeverstaete Elderly Residence. Photographed by Researcher.
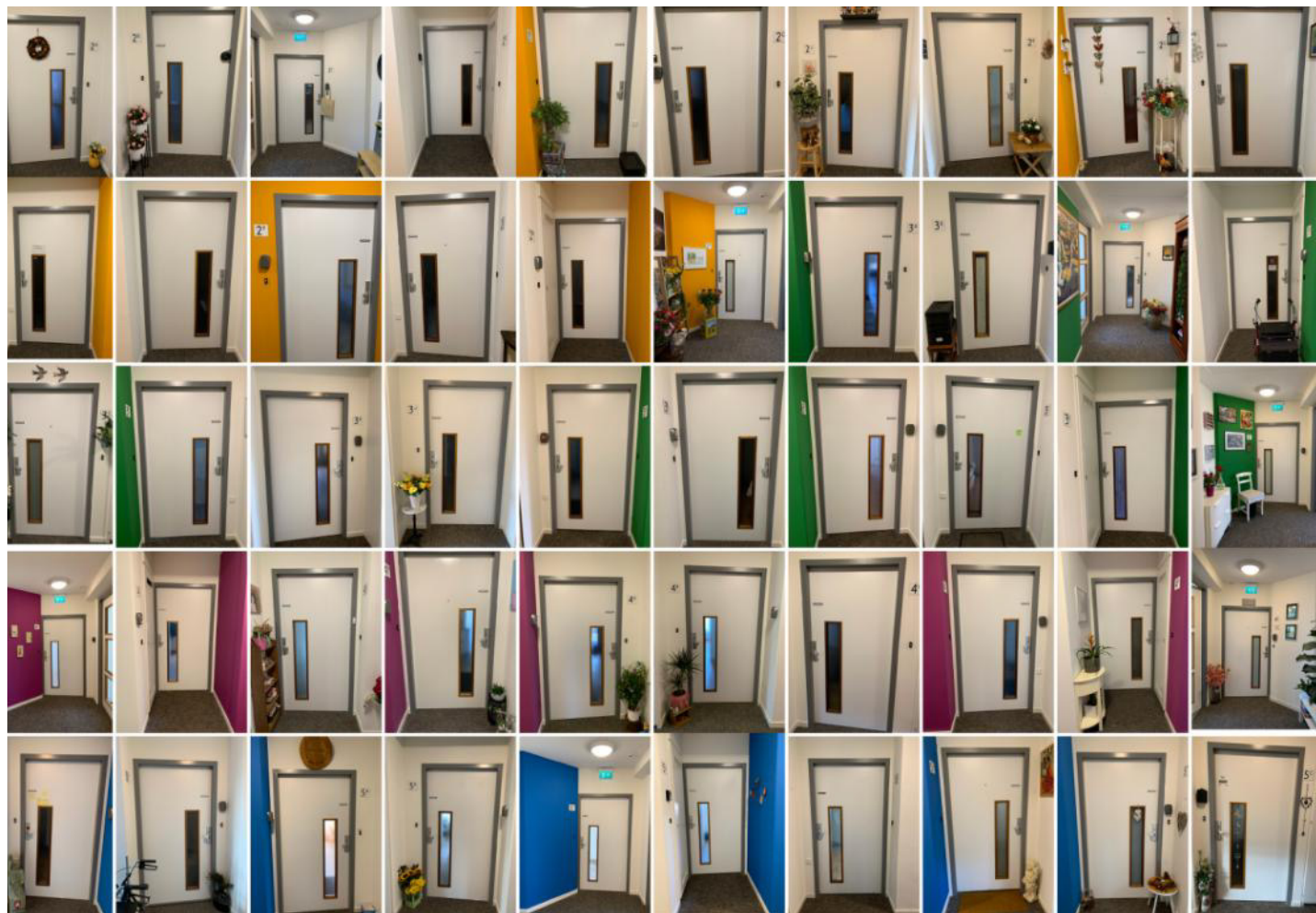
The research I conducted was about **the personalization of secondary territory in elderly residence.** The secondary territory is a concept put forward by Altman, meaning the territory that is shared by only a part of the group and that is between public and primary territory. Personalization means taking specific actions to turn the non-private space more personal. Actions include placing personal items, placing decorations, painting colors, and so on.

Abundant research has shown evidence that personalizing space help the elderly in physiological, psychological, and social aspects. However, most of this research focuses only on the primary territory, while the secondary territory is where the elderly place personal items to enhance the sense of home and communication between neighbors who share the secondary territory. This was indicated by preliminary research in my excursion to an elderly home.

I was inspired to focus on this topic when I discovered that many elderly choose to put personal items in front of their door. Reasons vary. Some stated that they do this to make the space more excellent, some say it represents themselves, and some say it offers an opportunity to start conversations with neighbors.

This phenomenon not only appears in front of their doors. Personal traces could be found in hallways, lounges, and shared kitchens - spaces that I later discovered, through literature review, belong to the genre of secondary territory. I did interviews and questionnaires to ask the residents whether they believe personalization in such spaces is necessary. I discovered a real need for the elderly to claim their individuality. However, it also came to my notice that the mainstream design in elderly residence currently neglects these needs and does not offer enough opportunity for the elderly to do so. This is why I wanted to research this topic to help the residents and administrators raise awareness of this issue and help designers fulfill this need for the elderly residents.
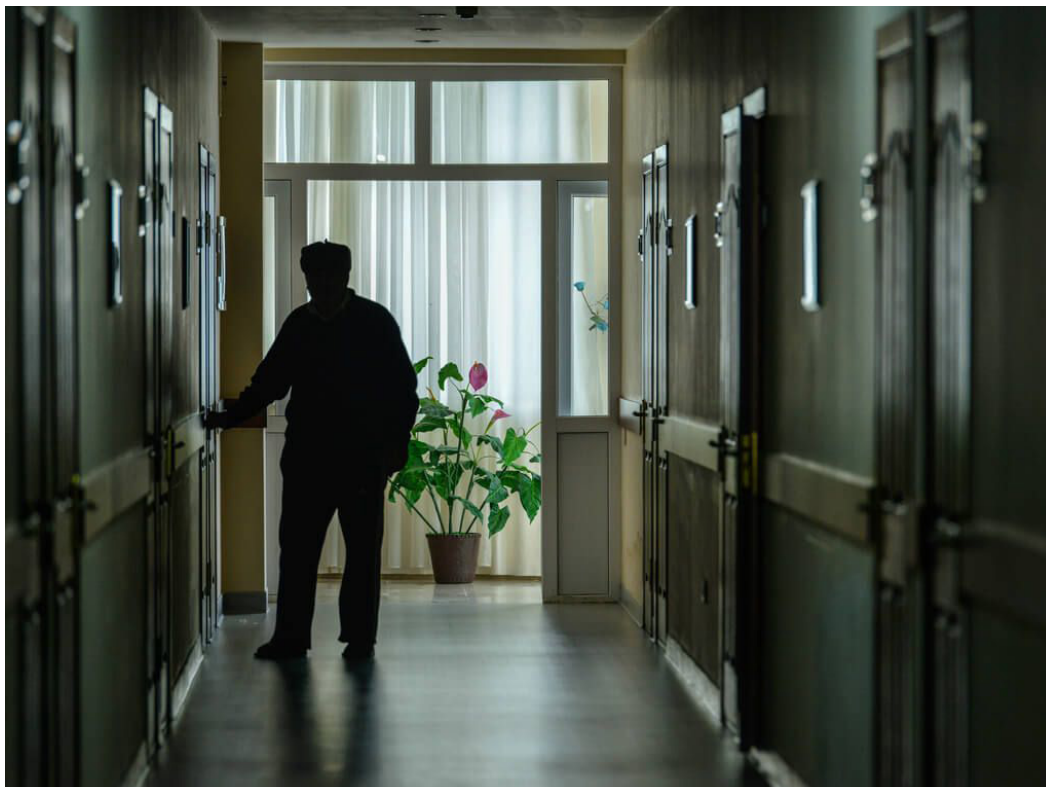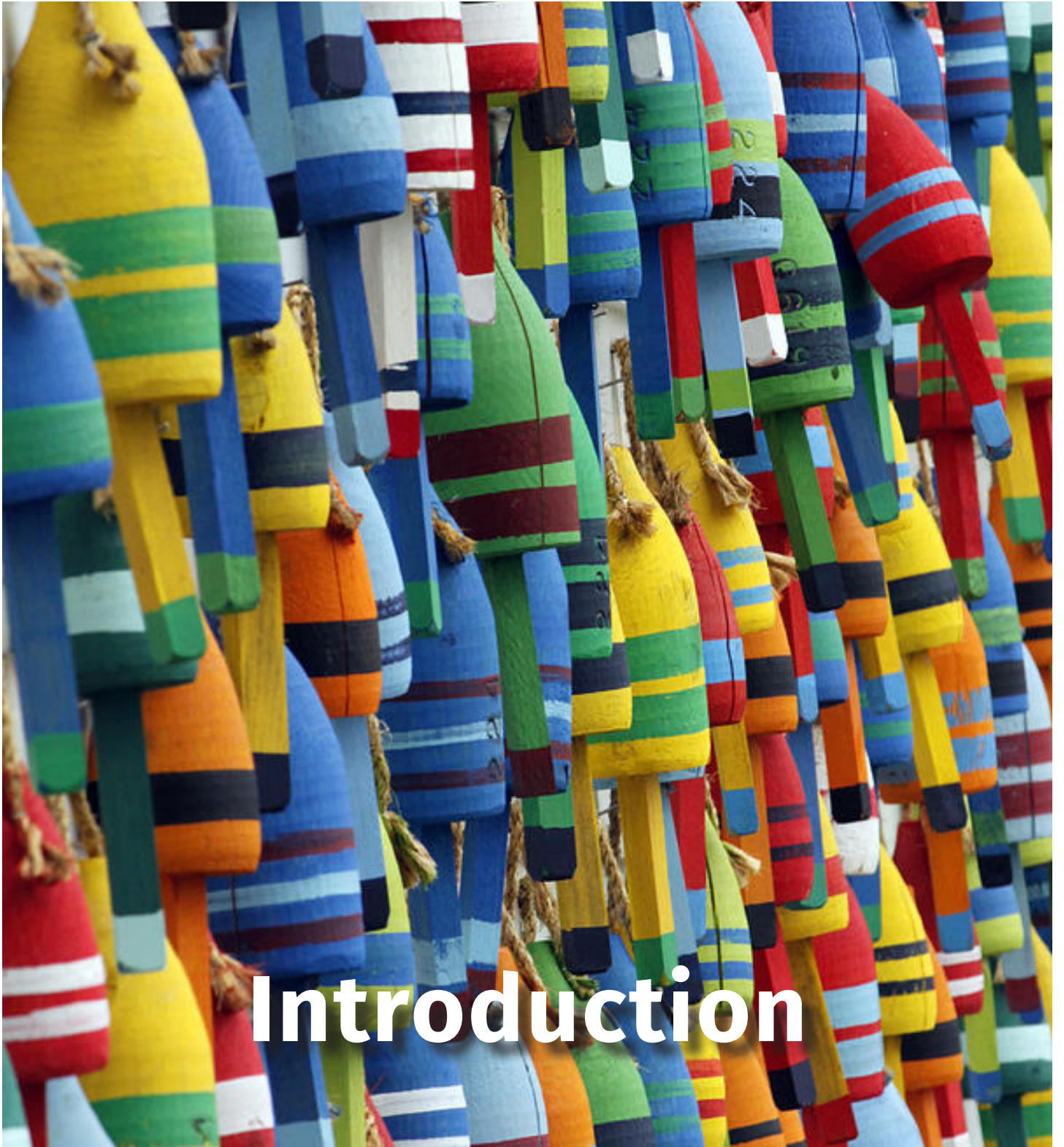

Fig. A-9. Unified Space for Individuals. Source: Internet.

Index | Content

Index | Content

Introduction

In 1975, Altman stated that primary, secondary, and public territories are distinguishable by the significance to an individual or group, the extent of ownership, the amount of personalization, and the defense activities in it if offended.

Type of territory	Explanation	Examples
Primary	Used almost by the individual or group, usually in the long term.	A persons or family's domicile (e.g. house, flat or room within shared premises).
Secondary	Used regularly by the individual or group, but shared with others.	A person's favorite seat in a library; a group of friends' preferred table in a Canteen.
Tertiary	Shared spaces to which everyone has right of access and use.	Parks, waiting rooms

Tab. B-1. Different Levels of Territories' Hierarchy by Altman(1975).(Iranmanesh, A. 2012)
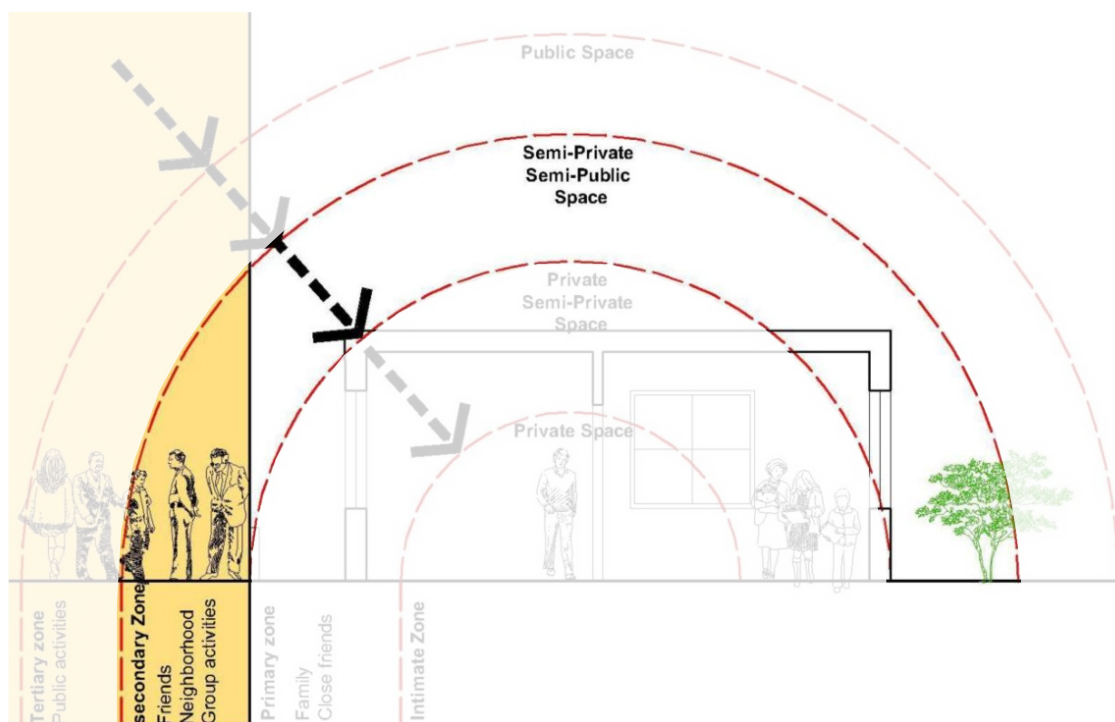
Fig. B-1. Different Zones of Territorial Behavior, Based on Altman Theory (Iranmanesh, A ,2012).

Similarly, Porteus(1977) and Brower(1976) also believed that these aspects were crucial in the idea of territory, and theyeach identified three territories. Porteus stated three types of territories: personal space, home base, and home range, and Brower differentiated three types: personal territory, community territory, and free territory. However, other scholars had different opinions on how territories should be classified. Lyman and Scott (1967) classified territories into interaction territory and body territory; Sharkawy (1979) and Lang (1987) spotted four types of territory: the attached, central, supporting, and peripheral.

In this thesis, Altman's theory of territory was adopted.

Characteristics

The secondary territory has the following characteristics (Hall, T.E., 1969; Burger. J, 1980; Zubaidi, F, 2019; Altman and Chemers, 1984): significant to both individuals or groups; only accessible to part of the people; the people using it can only claim a small part of ownership; there are signs of personalization but not as much in the primary territory; the amount of individuality expression significantly more than that in public spaces, less than that in private spaces; defense actions or emotion are shown when it is violated and when other neighbors do not react to it.
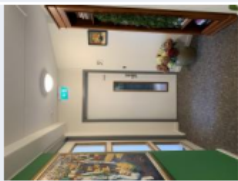
The secondary territory has a different meaning on different scales. Based on the characteristics of the secondary territory, some examples of secondary territory space are discovered and pointed out on four different scales: city, neighborhood, street, and building, as shown in the table below.

	Public Territory Space	Secondary Territory Space	Primary Territory Space
City	City Park, Squares	Neighborhood Parks	Residential Blocks
Neighborhood	Neighborhood parks	Inner Courtyards, Streets	Building groups
Street	Side walks	Alleyway between the front yards	Architecture
Architecture	Common Rooms	Hallways, Shared Terrace, Kitchen for the floor	Rooms

Tab. B-2. Examples of Public, Secondary and Primary Territory Space in Different Scales. Drawn by Researcher.

The research of secondary territory space in this thesis is focused mainly on the scale of street architecture. This is because one of the main aims of this research paper is to generate a design guide for elderly home design with the conclusions. This research results will also be used as a reference in a future design-by-research by the researcher.

Much research on secondary territory has been conducted by researchers on definitions, characteristics, and effects (Hall, T.E., 1969; Burger. J, 1980; Zubaidi, F, 2019; Altman and Chemers, 1984). The table in the next page integrates the results of these research and shows a comparison of primary, secondary, and public territory in different aspects.

	Primary Territory	Secondary Territory	Public Territory
Photograph			
Examples in the Scale of Architecture	Private Room	Hallway	Entrance Hall, Courtyard
User or Actor	Individual	Small-Group	Big Group
Exclusivity in Use and Accessibility	Exclusive	Not too used exclusively by a person or group of people	Used and entered by anyone
Permanency of Ownership	Permanent	Temporary	
Degree of Control that occupants have over use of a place	Dominant Control	Periodic Control	No Control
Size	Small	Mid-Sized	Large
Function	Identity, Personal	Social Regulation System	
Visual Exposure	None	Weak	Strong
Level of Overlapping of Recognition	None	Weak	Strong
Personal Involvement	Strong	Weak	Weak
Defense Activity to Neighbors	Strong	Weak	None
Defense Activity to Non-Neighbors	Strong	Strong	Weak
Closeness of Daily Life of Individuals or Groups	Strong	Weak	Weak
Frequency of Use	Strong	Weak	Weak

Tab. B-3. Comparison of Primary, Secondary and Public Territory in Different Characteristics. Drawn by Researcher.

The table above allows the secondary territory space to be recognized. Of all the different genres, the four most important, highlighted in the table above, to distinguish territory are the following:

1) **Exclusivity in Use and Accessibility.** If the space is used by more than an individual (or a single unit) and not used by all groups, then it can be considered a secondary territory. This can be read in the plan by observing the hierarchy of space and physical borders.
2) **Degree of Control that occupants have overuse of a place**. Users have periodic control but not dominant control over secondary territory space.
3) **Personal Involvement**. Personalization elements in secondary territory space are less apparent than primary and more than that of the public. Compared with the elements in the primary territory, those in the secondary territory have a different function. They are usually used to provoke conversation and strengthen the sense of territory.
4) **Defense Activity.** In secondary territory, the defense strength would be different against neighbors and non-neighbors if the space was offended: weak or non-defensive against neighbors and strong against non-neighbors. When a user of secondary territory has defended the space, other users tend not to defend against the offender.

Fig. B-2. Illustration of Maslow's Hierarchy of Needs. Sourse: Internet

The Maslow's Hierarchy of Needs and Trend Shift in Elderly Home Design

Maslow's theory states that humans are motivated to fulfill their needs in a hierarchical order. The trend shift in elderly residence design also follows the same rule.

The focus on design of the residential homes for the aging population has shifted since the 19th century to now. The trend in the design of residential homes is clear: aspects that are higher in Maslow's hierarchy of needs was focused on when the lower part of needs in the pyramid is fulfilled.

Trend Shift in Elderly Home Designs

Traditionally the residence home was only an institutional tool to solve social problems like dependency or safety. The sole purpose of the elderly home in the 19th century was to provide the elderly with shelter and daily meals (Willocks, Peace, Kellaher, 1986). Residential care for older people in the UK originated in the 19th century Poor Law asylums, which provided a harsh regime of custodial care designed to deter and stigmatize people in need. Most residential homes for older people were provided by local authorities, following government design, policy, and practice guidelines. Institutionalized design with extensive public areas and multiple-resident rooms was applied in the architectural layout to minimize the burden of supervision for care staff (Barnes S., 2006).

In the early 1950s, architects started to respect the social needs of the elderly such as the feeling of belonging and comfort, by avoiding institutional design features (Willocks, Peace, Kellaher, 1986). Large domestic homes became less dominant when residential homes became a choice rather than destitution for the elderly (Bland. R, 1999). With the break-up of the Poor Law in 1948, a "hotel relationship"(hotel manager and his guest) in the elderly homes became more popular. As stated by Means and Smith(1983), people would no longer go into homes because of destitution but from choice, using their retirement pension to pay local authorities for their care" (Means and Smith 1983).

In the 1960s and 1970s, new regulations fulfilled the esteem needs of the elderly. The focus on mental health in the academic world stimulated multiple authorities to introduce regulations and standards, such as the building note in 1962 and the subsequent revision for it in 1973, recommending smaller homes with self-contained units to improve the living environment of the elderly (Willocks, Peace, Kellaher, 1986; Barnes S., 2006, Bland. R, 1999). Concepts like group unit design, self-contained unit, and family groups also came out. In 2001, the Department of Health in Britain included requirements for privacy and activity access in elderly homes in the National Care Standard (Barnes S., 2006).

Fig. B-3. Almshouse in London Town, Anne Arundel County, Md. in the 1930s, history of nursing homes. Source: Internet.

Fig. B-4. Presbyterian House, Retirement Hotel, St. Petersburg, Florida, 1955. Source: Internet

Fib. B-5. Foothill Acres Nursing Homes, Neshanic, New Jersey, circa 1965 . Source: Internet.

The Upcoming Trend

Self-actualization is what the elderly are longing for now after the lower needs on Maslow's Pyramid are fulfilled to some extent.

Ever since the late 20th century, the self-actualization need of the elderly has been taken into account in architectural design due to the research result on aspects like personalization, privacy, awareness, and community (Barnes S, 2006). In the past two decades, we have built nursing homes that encourage the elderly to bond with the community and not exclude them from society, such as the elderly home Hoeverstaete in Alkmaar in our excursion, whose goal is to become an active residential community.

Personalization and Self-Actualization

Research has shown that personalization plays an essential role in the self-actualization and well-being of the elderly. Brunia S. and Hartjes-Gosselink, A identified three needs for personalization in 2009: the physiological needs, the social needs, and the psychological needs. Moreover, Hanson, J (2001) revealed the need for identity and individuality expressed in his research on material, decoration, and furnishings in care homes. Furthermore, Langer, E.J. and Rodin, J. (1976) stated that having choice and enhanced personal responsibility positively affected the well-being of older people, especially in an institutional setting such as typical residential care housing for the elderly.

As one of the crucial components of self-actualization, personalization is becoming one of the most upcoming trends in elderly home design. In 2003 Barnes and fellow researchers put forward the Sheffield Care Environment Assessment Matrix, or the SCEAM, that contained 11 domains to measure the characteristics of an elderly residence and lead the design to fulfill the higher needs of the elderly.

Personalization in Secondary Territory

When it comes to the need for self-actualization of the elderly, it is in the secondary territory that personalization plays the most vital role. Although personalization occurs mainly in primary territories, it is where the signs of individuality are not exposed to the other residents. Therefore, it has barely any positive effect on strengthening a sense of home, expressing individuality, or stimulating conversation. On the other hand, the public territory is the space for collective groups rather than individuals, and little trace of personalization could be found.

In the secondary territory, the subject of activities are individuals who are loosely associated and have not yet formed a collective group. As Zubaidi F (2019) has stated, "Secondary territories have ownership cognition that one individual does not own, others can enter and see as a credible user, and users of the space control it only periodically." All personalization elements are exposed and turn the non-private space more personal, which creates a sense of belonging. Personalization in such space empowers the residents to make it their place, instead of a general place for the elderly, where they were put together despite different preferences and choices.

Problem Statement

In the research on five different elderly homes, Popham, Carolyn, and Orrell, Martin (2012) discovered that personalization was a frequently mentioned focus theme in interviews with the residents, family carers, staff, and managers. However, while scholars have recognized the importance of personalization in elderly homes, this need was still neglected in the elderly residence's design.

Currently, the architectural design of the homes does not offer enough personalization elements and space to fulfill the current need for the residents to claim their individuality. While each of the elderly have individually different needs, elderly homes provide unified and almost identical space for their residents.

Although many academians conducted much research on the definition, characteristics, and role of secondary territories space in elderly homes (Archea, J, 2016; Altman, 1975), few have systematically analyzed the secondary territory in spatial aspects. Concerning the influence of secondary territory on personalization, scholars have been neglecting the secondary territory and focusing on primary territory(Willocks, Peace, Kellaher, 1987; Costa, M., 2012; Kinney, J.M., Stephens, M.A.P., & Brockmann, A.M., 1987; Brunia, S., Hartjes-Gosselink, A., 2009).

Research Question

The main research question of this thesis is: "How can space in secondary territory enhance or restrict the personalization for residents in elderly residences?"

Sub-questions include:

1. What are the characteristics of secondary territory space in residence for the elderly? What are typical examples of secondary territory space in elderly residence in the scale of architecture?

2. How do the residents use the secondary territory space in a highly personalized elderly residence? What do they conceive of the secondary territory space?

3. What elements are the most important in the secondary territory for the residents to claim their individuality? How can the secondary territory space enhance personalization behavior?

Research Goal

The final goal of the research is to create space that encourages the elderly residents to express themselves and offers the opportunity for them to connect with the neighborhood.

Elderly
The term "elderly" describes the people aging over 55 in this thesis.

Elderly Residence
A building containing residential function with an average age over 55. "Elderly Residence" in this thesis is not equivilant to "care home". It is a residential building whose building and living environment is designed for the elderly to adapt.

SCEAM
Sheffield Care Environment Assessment Matrix, put forward in 2013, is a systemmatic way to measure a elderly residence in 11 domains, including personalization. The results of each of the domains will be reflected through a score- SCEAM score.

Personalize/Personalization
The action of making something personal or individual. In this thesis the main topic "personalization in secondary territory" means making the none-private space more personal by different approaches.

Self-Actualization
Self-actualization is the full realization of one's potential, abilities, and appreciation for life. This notion is at the top of Maslow's hierarchy of needs.

Methodology

This research will be mainly carried out with qualitative research methods, and different methods will be applied to answer each sub-question. The image above shows the methodology and expected results from the research.

For the first part of the research, plan analyses were conducted to identify typical types of secondary territories. Twenty-five cases of elderly residence from all over the world were chosen and studied. The secondary territory in all 25 cases will be identified based on a table of definitions and characteristics and then highlighted in the plan. The essential characteristics of the secondary territory and typical types of it can be observed. The method was chosen because plan drawings contain the most information concerning spatial usage. The significance of space to different users and the extent of ownership could be read through plan drawings directly or indirectly(by looking at the distance of private rooms to the secondary territory or by looking at the hierarchy or gradience of space).

In the second part of the research, to identify behaviors and conception of the secondary territory of the users, Field study is the primary method. The most "personalized" cases (rated according to Sheffield Care Environment Assessment Matrix(see image below)) were selected and investigated in-depth, as stated above. For the behavioral study part, a behavioral mapping is drawn to reveal what people do and which people use what space. Data are collected through observation. Another part of the research in this part is conception, where interviews on site are conducted. Interviewees were asked how they make sense of their circumstances, decorations, behaviors, activities, and emotions in the secondary territory. Field study was applied as the primary method for the following reasons: information online does not show the actual usage of the space. The researcher observed the personalization elements in the secondary territory space by field study. Furthermore, the actual activity in the secondary territory and defense act against people outside of the territory can only be experienced during fieldwork.

The physical/ spatial elements that enhance personalization in the secondary territory were further investigated in the third part of the research. This part of the research is carried out by photo documentation, which further helps with spacial analysis and element counts. Photo documentation is an excellent way to record and convey first-hand information about what the residents do with the space. This part of research will focus on the elements in doorfront as well as private street.

These three parts of the research combine to help generate a design guide for secondary territories in the elderly residence that encourages personalization and fulfills the need for the elderly to celebrate their individuality.
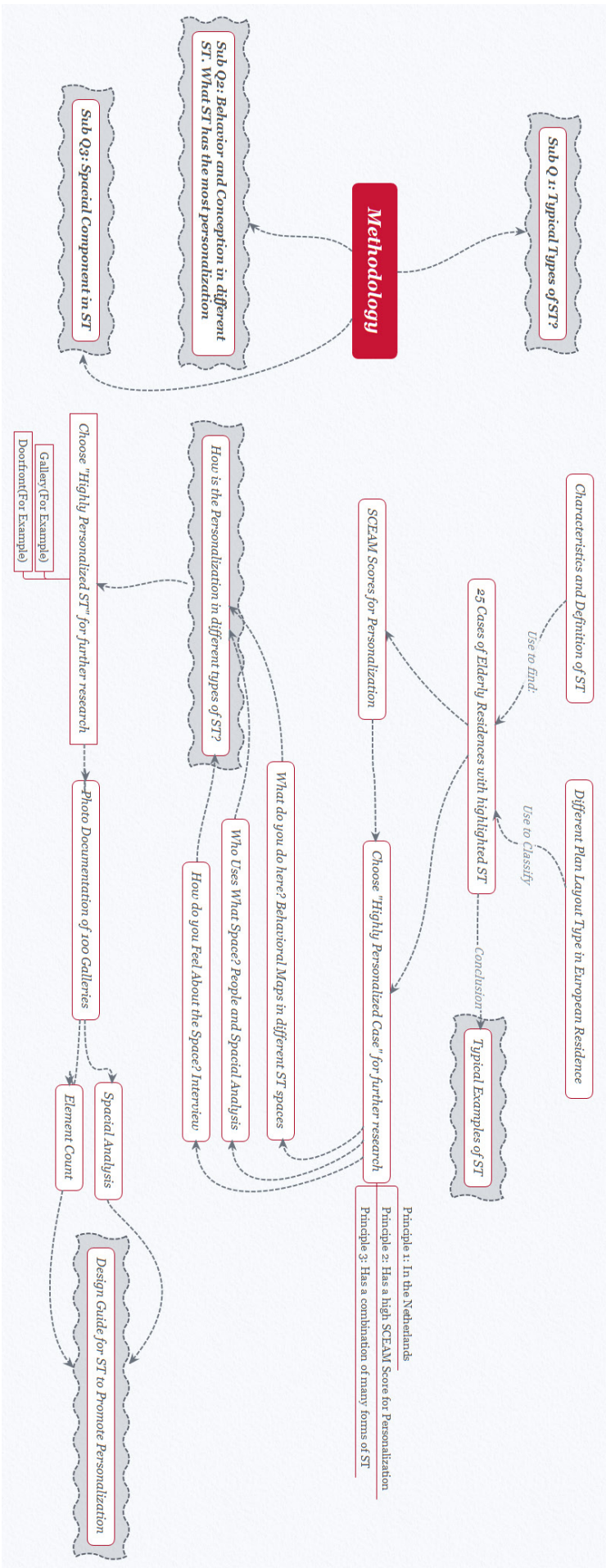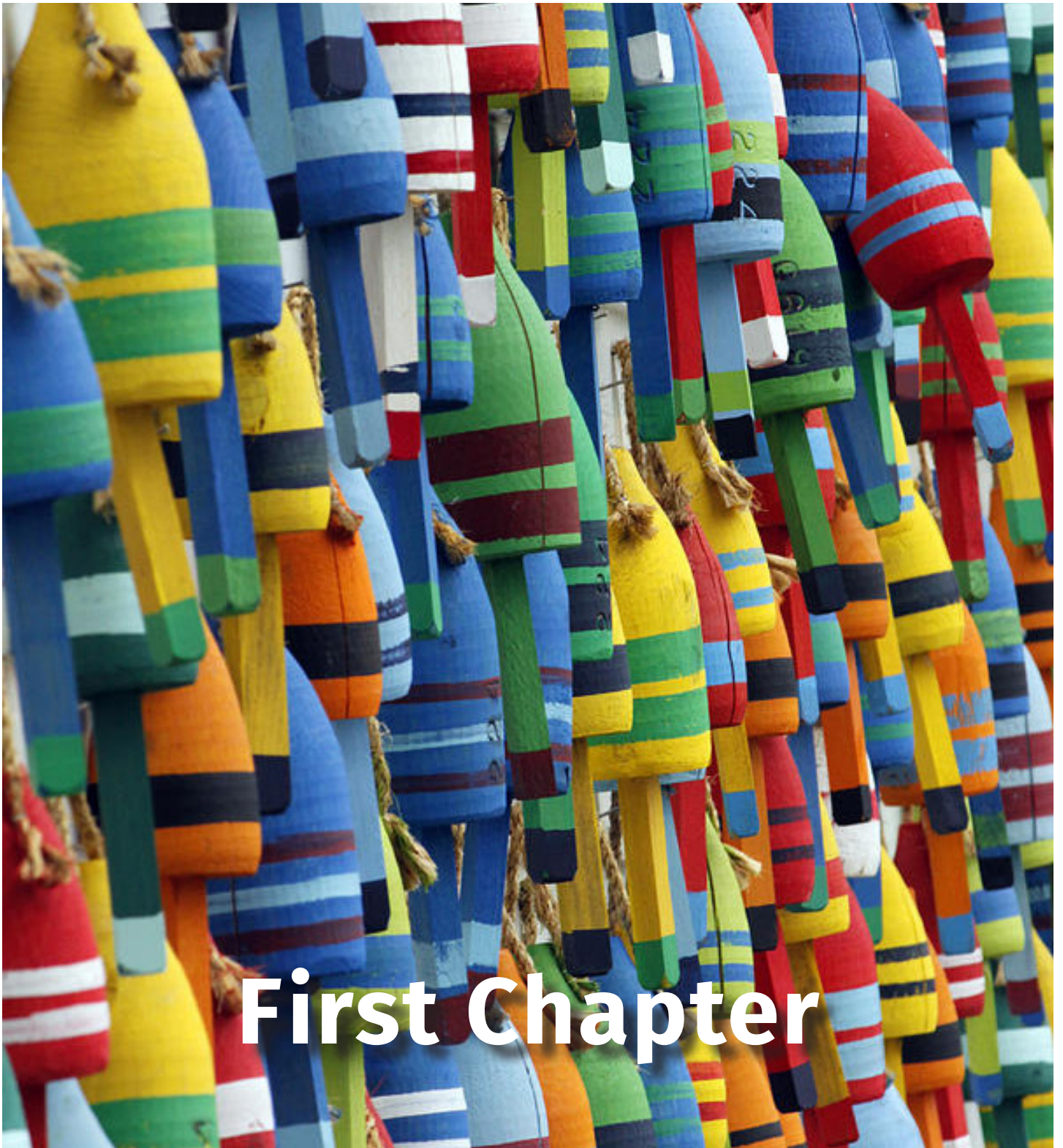
Fig. B-5. Methodology. Drawn by Researcher.

First Chapter

Spatial Characteristics of Secondary Territory

Identifiying Secondary Territory in Plan Drawings

The first part of the research is to identify typical types of space that fit the definition of Alter's and other researchers' definitions and characteristics of the secondary territory. These are for the following reasons: By determining physically existing spaces as secondary territory, analysis for the spatial aspects and on-site research in further steps of research is made possible. Furthermore, the classification of secondary territory in the content of spatial types adds depth to the concept.

Shown in Table B-3, is the comparison of primary, secondary, and public territory in different aspects. With the help of this table, it is possible to identify space through plan drawings. As Friederike Schneider (2011) stated, "A floor plan represents the interpretation of a certain notion of living," the connection of rooms, function, path, sight lines, and even social interactions can be recognized through floor plans.

A space is recognized as a secondary territory if the space is accessible to more than one unit or individual while not being accessible to all of the residents. In some cases, physical borders (walls, doors) indicate the isolation of the space from the main entrance hall and other public spaces. Then the space will still be considered a secondary territory even if all residents can access the space. Another case is when a space is not owned but normally occupied and used by a single unit, for example, door front or front garden without fences. It is also considered secondary territory because it is still visually exposed and partially accessible to neighbors.

Figure 1-1 shows the secondary territory space in 25 chosen cases of elderly residence. The plans chosen here are either the ground floor or first floor, depending on where secondary territory appears most in the building. The result is used to identify typical types of secondary territory space and point out secondary territory space characteristics.

Fig. 1-1. Twentyfive cases of Elderly Residence with Highlighted Secondary Territory Space. Drawn by Researcher

Hallway
Alzheimer residence for the "Foyer la Grange" · Mabire Reich

Hall
De Rokade · Arons en Gelauff Architecten

Fishbone Hallway + Doorfront + Lounge + Room + Terrace + Courtyard
Home for Dependent Elderly People and Nursing Home · Dominique Coulon & associés

Hallway + Doorfront + Lounge + Terrace + Rooms
Residential Care Home Andritz · Dietger Wissounig Architekten

Hallway + Doorfront + Lounge + Room + Terrace + Loggia
Retirement and Nursing Home Wilder Kaiser · Durschinger Architekten, SRAP Sedlak Rissland

Hallway + Shared Kitchen + Connection Corridor
The Nursing Home at Olerus · TCU Arquitectos

Gallery + Lounge + Elevatorhall
De Comporast · HVE Architecten

Hallway + Doorfront + Lounge + Rooms
Health Centre and Houses for Elderly People · IPOSTUDIO Architects

Hallway + Lounge + Room + Terrace + Loggia
Housing for the Elderly · Oscar Miguel Ares Alvarez

Hallway
WoZoCo · MVRDV

Hallway + Lounges + Room
Elderly House in Rikuzentakata city "Hakkoryo"
· DDG, The University of Tokyo Architectural Planning & Design Lab

Gallery + Doorfront
De Ronding · OIII Architecten

Hallway + Lounge + Terrace
Nursing Home Elltteto · 2by4-architects

Hallway + Rooms
SAMS Center for Elderly People · Lacroux Chessex

Hallway
H Apartment · Yohei Kawashima Architects

Hallway + Lounge + Room
Elderly Residence Mas Piteu · Estudi PSP Arquitectura

Hallway + Terrace
Houses for Elderly People, Alcácer do Sal · Aires Mateus

Gallery + Doorfront
"Zilverzijde" Social Housing · Atelier Kempe Thill

Hall
Baskethalen Residential Complex · Max Dudler

Hallway + Frontyard
Competition of Housing Block in the Finnish Forest · Schauman & Nordgren Architects

Private Streets + Courtyards
Social Complex in Alcabideche · Guedes Cruz Arquitectos

Private Streets + Entrance Courtyards
New Folies 41 Apartments · SCT Estudio de Arquitectura

Streets in Inner Courtyard and Back Yard
30 Senior Housing · Bastiaan Jongerius Architecten

Alleyway between Frontyards
Court-housing Cortinghborg Groningen · Architectenlenjen

Courtyard between Houses
Hoogvliet · VMX Architects

Typical Types of Secondary Territory Space

Different types of secondary territory space are counted from the 25 chosen cases of elderly residence in Figure 1-1. Here are the results (the number in the bracket behind each type of secondary territory space means the times it appeared). The most typical types of secondary territory space are hallway (17) and gallery (3), door front (6), lounge (9) and function room (7), private street (2), and inner garden (4). Other types of secondary territory space that are less typical and less seen in elderly residences include elevator halls, connecting corridors, terraces, loggia, and alleyways between the front yards of terraced houses.

Below is a table with definitions and visualize the most typical types of secondary territory space. The spatial elements in these secondary territory space will be further analyzed in the following chapter.

Secondary Territory Space	Conceptual Diagram	Photo Example	Definition and Relationship with Secondary Territory
Gallery			Any covered passage that is open at one side, such as a portico or a colonnade. Most galleries are secondary territory space.
Hallway			A generally long and narrow room that connects other rooms. Most hallways are secondary territory space.
Door Front			The space in front of and outside the door, usually appears together with hallway or gallery. It is a public space that is usually personalized. Most door fronts are secondary territory space.
Lounge			Living room or small open space that is open to the circulation space. Lounges contain all sorts of activities. Only part of the lounges, those that are only used by a particular group of people, are considered as secondary territory space.
Function Room			A room that is closed to the circulation space by doors. Function room provide all sorts of activities. Only part of the function rooms, those that are only used by a particular group of people, are considered as secondary territory space.
Private Street			Streets within architectural groups and only private to a certain group of people. Private streets are considered public territory space in the scale of architecture but secondary territory space in the scale of street.
Front or Inner Garden			There are two cases for inner gardens: a garden within architectural groups or one inside a building. In the first case, inner gardens are considered secondary territory space in the scale of street. In the second case, secondary territory in the scale of architecture, provided that it was only used by a particular group of people, otherwise public territory space. The same applies for front gardens.

Tab. 1-1 Typical Types of Secondary Territory Space. Drawn by Researcher

Layout Characteristics

A few layout characteristics can be discovered with the help of Figure 1-1:

First, this image reveals that the secondary territory space has a significant overlap with the circulation area (hallway or corridor). The circulation area usually connects multiple private rooms and the public area, which means that it is between public and primary territories, making it a secondary territory space. Moreover, most circulation areas are usually used by only a specific group of people, and actors that do not belong to the group might receive defensive emotions or actions. However, circulation area and secondary territory space are not equivalent. On the one hand, some of the circulation areas are accessed by all users or only a single unit of residents, which makes them belong to the public or primary territory. On the other hand, some areas, such as function rooms and lounges, which are not circulation areas, are also considered secondary territory space.

Second, compared with that of primary and public territory, the space of secondary territory shows a strong tendency to connect, as can be observed from the widespread blue marks that stand for secondary territory in image 9. Specifically, secondary territory spaces are the gallery/hallway with another gallery/hallway, gallery/hallway and door front, the gallery/hallway, and lounges/function rooms.

LARGE OVERLAP WITH
CIRCULATION AREA

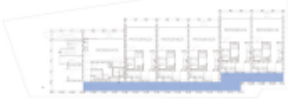TENDENCY TO CONNET WITH
ANOTHER SECONDARY TERRITORY
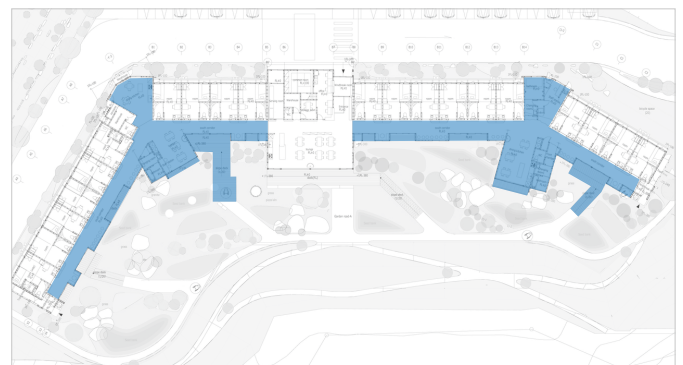
Fig. 1-2. Layout Characteristics of Secondary Territory in Elderly Residence. Drawn by Researcher

These two characteristics resulted in the secondary territory's consecutive and widespread plan composition layout. More information concerning the plan composition will be discussed in the next section.

Plan Composition Type

There are two elemental plan compositions of secondary territories: Line and Plane. Every plan layout could be abstracted into these two compositions or a combination of the two. Based on this, six typical types of plan composition were established: Line, Plane, Line+Line, Line+Plane, Plane+Plane, and Complex.

Composition	Conceptual Diagram	Example	Characteristics
Line		Hallway H Apartment - Sohei Kawashima Architects	The secondary territory takes up minimal space, and is highly overlapping with circulation space. Apart from access, the activity here is usually spontaneous.
Plane		Courtyard between Houses Houyelot - VMX Architects	Plane-shaped secondary territory has the potential to contain more activities than linear ones. The activities here is usually purposed.
Line+Line		Hallway + Doorfront + Lounge Housing for the Elderly - Oscar Miguel Ares Alvarez	The linear secondary territory spaces combine together to form a fish-bone-structured territory. This provides more choice in circulation and creates a hierarchy in secondary territory. This composition type is the most wide-spread and mainly appears in residential buildings with a large number of small units that needs more area for circulation.
Plane+Plane		Hallway + Lounge + Courtyard + Terrace + Doorfront Residential Care Home Andritz - Dietger Wissounig Architekten	The plane shaped secondary territory spaces sometimes are connected, sometimes are detached with each other. This composition type has a clearly defined space as secondary territory and enhances the sense of belonging as well as the defense act in it if offended.
Line+Plane		Hallway + Lounge + Room Elderly Residence Mas Piteu - Estudi PSP Arquitectura	This composition of line and plane shaped secondary territory space is the most adaptive in containing different programs.
Complex		Hallway + Room SARRS Center for Elderly People - Lacroix Chessex	This composition is a combination of two or more of the above, and although it is also adaptive in containing different programs, the territory is less structured, which could cause confusion for the residents about the route in the building and whether the space is permitted for them to involve.

Tab. 1-2. Plan Composition Type and Characteristics of Secondary Territory in Elderly Residence. Drawn by Researcher.

Proportion of Secondary Territory

The area proportion of the secondary territory on the ground floor or first floor of 23 out of the 25 cases was calculated (two of the cases were left out because they were on the neighborhood scale). The results are shown in the bar graph below. Note that the numbers will be lower if the proportion is calculated with the area of the whole building. This is because which floor plan is presented in Figure 1-1 is already decided based on the proportion of secondary territory, so the proportion of secondary territory on different floors tends to be lower. In cases with inner gardens or front yards, the area will also be calculated in the total area as a denominator because it is also territorial space in the building scale.

As shown in Figure 1-3, an overwhelming majority of the cases (22 out of 23) have 5.8% to 35%. Over half of the cases' secondary territory have 10%-25% on the ground floor or first floor (13 out of 23).

In one specific case, Elderly House in Rikuzentakata city "Hokkori-ya,"(Figure 1-4), the area proportion exceeded that of other cases and reached 41.07%. The building was divided into two parts by the main entrance and public activity room in the middle, making the function rooms, lounges, and hallways in the two separate "wings" private to only those living in the wing, hence the high area proportion of secondary territory in this case.
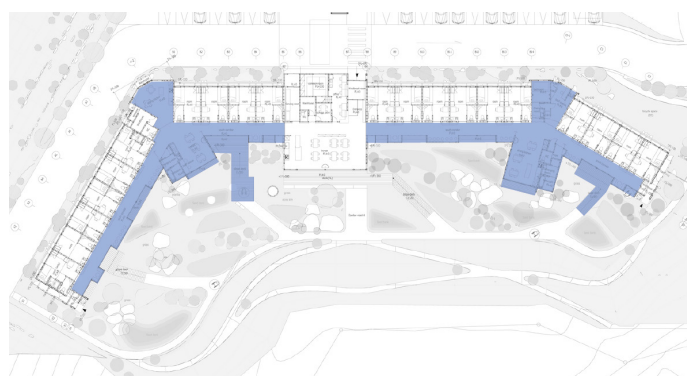

Fig. 1-4. Plan of Elderly House in Rikuzentakata city "Hokko-ri-ya" with highlighted Secondary Territory. Drawn by Resaercher.
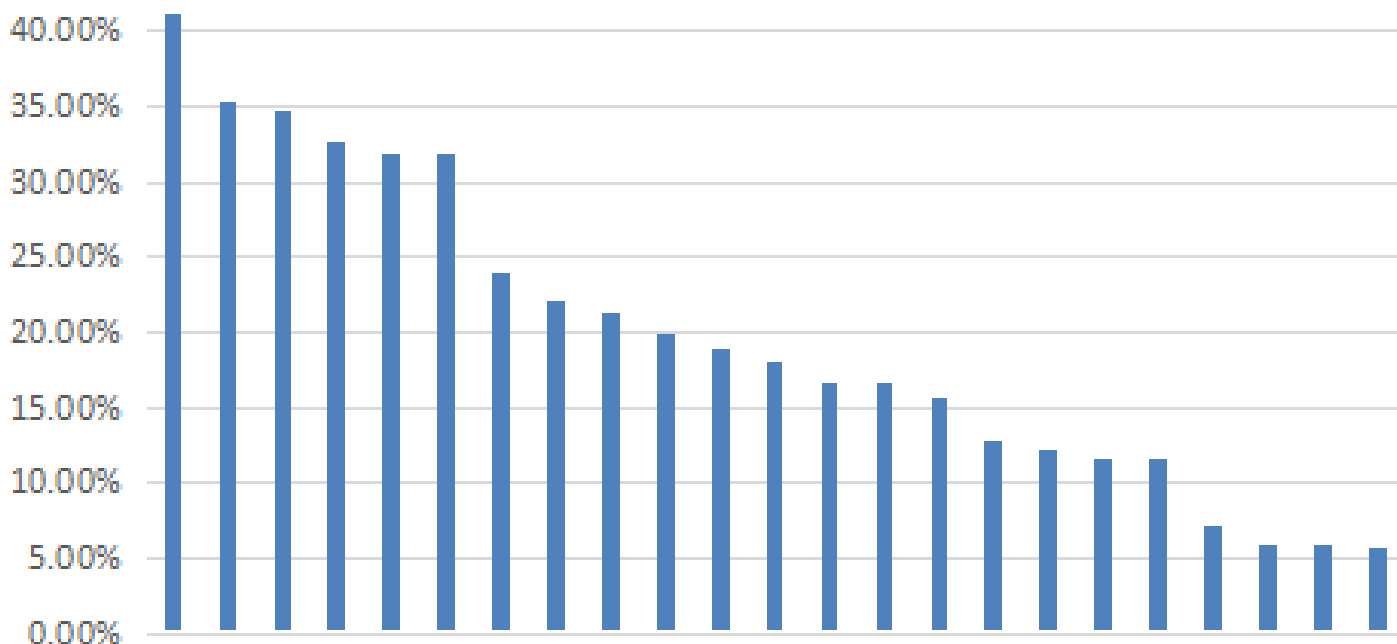

Fig. 1-3. Proportion of Secondary Territory in the Ground Floor or First Floor (Area of Secondary Territory in Ground Floor or First Floor/Area of the Floor). Drawn by Researcher.

The statistics indicated two apparent switches in the curve in certain regions: from 25% to 30%, and from 7%-11%, where none of the cases have that proportion of secondary territory on the floor, dividing the cases into three groups according to the different proportion of secondary territory - Large (30% and above), Medium (10%-25%), and Small (Below 8%).

| Example	Size	ST Layout	ST Space	Proportion
Hallway + Lounge + Courtyard + Terrace + Doorfront Residential Care Home Andritz - Dietger Wissounig Architekten ST Proportion:30.04%	Large Secondary Territory	line+plane	Hallway+Room+Lounge	41.07%
		Compound	Hallway+Room+Lounge	35.25%
		line+plane	Hallway+Terrace	34.77%
		plane	Innercourtyard	32.60%
		line+plane	Hallway+Lounge	31.93%
		line+plane	Hallway+Lounge	31.74%
		plane+plane	Lounge	30.04%
Gap				
Hallway + Doorfront + Lounges Housing for the Elderly - Oscar Miguel Ares Álvarez ST Proportion: 18.95%	Medium Secondary Territory	line+plane	Hallway+Room	23.90%
		compound	Hallway+Frontyard	22.04%
		line+plane	Hallway+Room	21.26%
		line	Hallway	19.89%
		line+line	Hallway	18.95%
		line	Hallway	18.06%
		line+plane	Hallway+Lounge	16.71%
		compound	Hallway+Room	16.69%
		line	Gallery+Doorfront	15.64%
		line	Gallery+Doorfront	12.76%
		line	Hallway	12.27%
		compound	Private Streets+Courtyards	11.51%
Gap				
Hall De Rokade - Arons en Gelauff Architecten ST Proportion:5.80%	Small Secondary Territory	line	Alleyway	7.21%
		line	Hallway	6.03%
		line	Elevator Hall	5.86%
		line	Elevator Hall	5.80%

Tab. 1-3. Secondary Territory Area Proportion and Types of ST Layout. Drawn by Researcher.

This table indicated a relevance and relationship between secondary territory proportion and secondary territory plan composition as well as types of secondary territory space, which could explain the gaps:

1.The buildings with large secondary territory usually consist of hallways and lounges or function rooms. The most dominant secondary territory space is plane-shaped, and the secondary territory plan composition is usually compound, mainly line+plane or plane+plane.

2.The plan composition in buildings with the medium-sized secondary territory is mixed. However, the most dominant secondary territory space is linear-shaped and similar to large-sized-secondary-territory buildings; the plan composition of the secondary territory is also compound, mainly line+plane or line+line.

3.Buildings with small-sized secondary territory have only an elevator hall or an alleyway, a simple form of a line that acts solely as circulation space in the building.
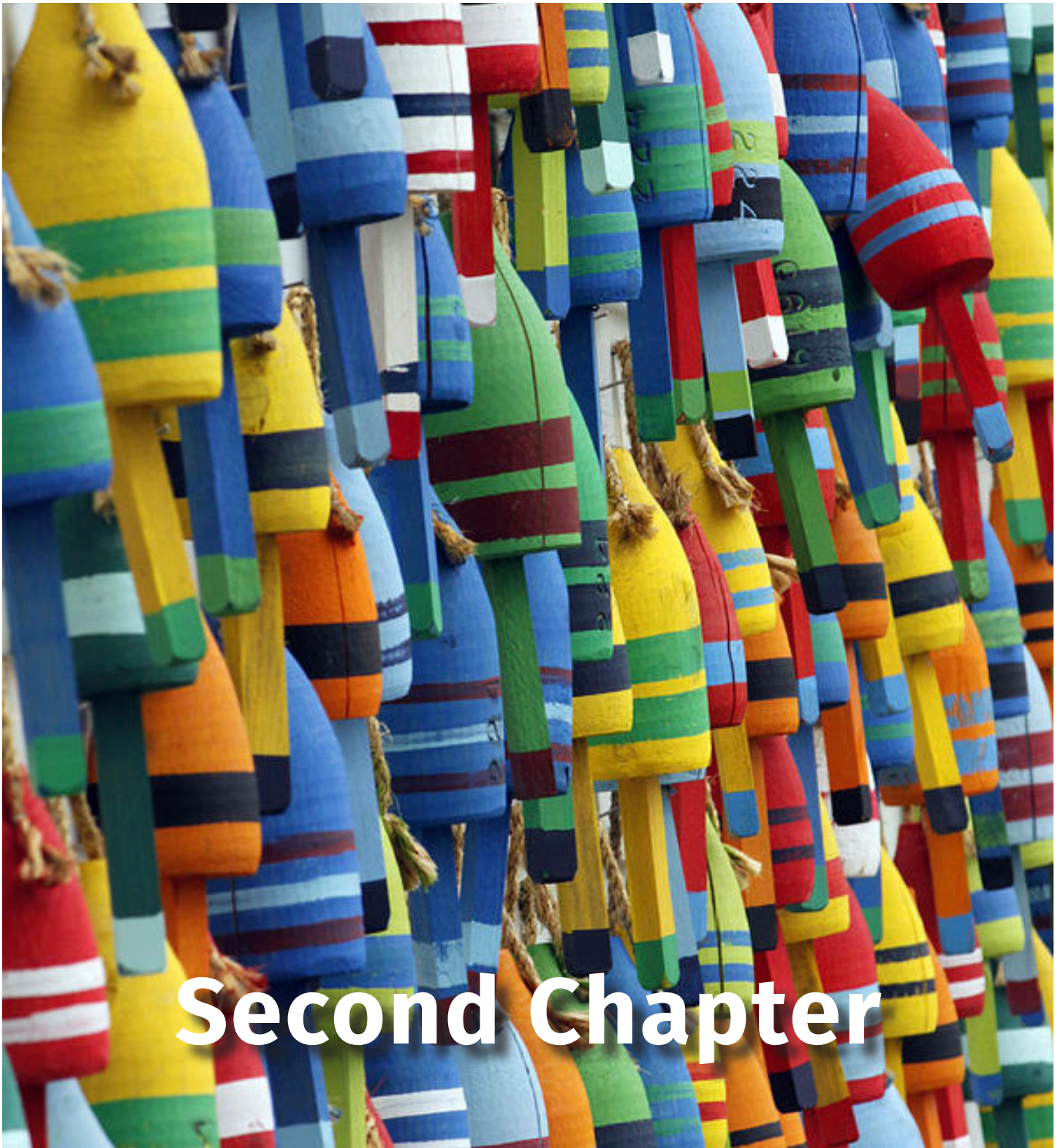
Second Chapter

Bahavior and Conception in Secondary Territory

This part of the research will mainly focus on how the people use the secondary territory space.

Three cases from the twenty cases in figure 1-1 were chosen for further research on site. There were three principles for choosing the cases: A high SCEAM score for the personalization scale, location in The Netherlands, and typical types of secondary territory, preferably a combination of multiple types. The cases that were chosen were: De Componist in Den Hague, Zilverzijde Social Housing in Den Hague and Nursing Home De Roef in Rijssen.

Case	A. De Componist	B. Zilverzijde Social Housing	C. Nursing Home De Roef
Photograph			
Secondary Territory Space Type	Gallery, Private Street, Front Garden	Hallway, Gallery, Door Front	Hallway, Function Room, Lounge, Terrace

Tab. 2-1. Three Cases for the Research on Behavioral and Conception Study in Secondary Territory of Elderly Residence. Drawn by Researcher.

The personalizatoin SCEAM scores for all cases is shown in appendix A.

Behaviors in Secondary Territory Space

The behaviors in different secondary territory spaces of the three cases were recorded for 2.5 hours from a distance based on observation. The bahaviors were recorded in the early afternoon (before 5:00 p.m.) on weekdays, and the results are shown in Table 2-2.

Secondary Territory Space Type and Number of People	Behavior and Frequency
Gallery(35)	Circulating(28), Chatting(8), Greeting(5), Looking Outside(4), Calling(3), Stretching(1),
Hallway(17)	Circulating(17), Greeting(7)
Door Front(11)	Sitting(9), Watering Flowers(3), Drinking Coffee(3), Chatting(2), Reading(2), Drawing(1), Seeing Visitors Out(1), Decorating(1) , Napping(1)
Lounge(7)	Sitting(4), Chatting(4), Sporting(2), Reading(1), Feeding Bird(1)
Function Room(12)	Sitting(8), Chatting(4), Drinking Coffee(4), Reading(3), Cooking(2), Eating(2), Cleaning(2), Knitting(1)
Private Street(9)	Circulating(7), Unloading Groceries(2), Walking the Dog(2)
Front Garden(9)	Circulating(7), Sitting(2), Gardening(2), Smoking(1), Stretching(1), Unloading Groceries(1), Sun-bathing(1), Moving Things Around(1)

Tab. 2-2. Behaviors in Different Secondary Territory Space. Drawn by Researcher.

First, there is a variety of activities in the secondary territory. As a territory zone between the public and primary territory, its activities include both private and public activities.

Second, the table indicated that secondary territory space types could be classified into dynamic and static, based on whether the primary behavior is circulating or sitting. Gallery, hallway, private Street, and front garden are dynamic, while door front, lounge, and function room are static. These two types of secondary territory spaces contain different types of activities. Generally, on the one hand, dynamic secondary territory space includes activities that are usually considered less private, such as chatting with or greeting neighbors; on the other hand, static ones include more private activities, such as drinking coffee and reading.

Third, in the dynamic secondary territory spaces, the activities in some hallways are much less varied compared with the other secondary territory types. This may be due to the following facts:

1. The width-height proportion of the hallway is too low;
2. There is poor lighting in the hallway, so the activities that require lighting are discouraged.
3. There is no opportunity in spatial terms for decoration, and no windows in the hallways, causing the lack of interactions between neighbors.

Similarly, in the static secondary bary territory spaces, compared with door front and function rooms, some lounges' activities are much less varied. This may be because some lounges lack borders and have little privacy compared with function rooms, front gardens, and private streets. Therefore, people are less likely to participate in private activities that usually take place in these static spaces.

All of the behaviors in the secondary territory could be classified into three types - Interaction with the physical environment, interaction with people, defense activity. By classifying these behavior, it is able to understand and measure how the secondary territory space is used by the residents. Moreover, the deep motivation of each behavior are revealed.

Interaction with physical environment includes behaviors such as circulating, sitting, reading, watering flowers, and unloading groceries. Interaction with people includes behaviors such as greeting people, chatting, and seeing visitors out. Defense activity includes behavior such as calling administrator, supervising the offender, and asking about the purpose.

In most of the cases, interaction with people happens within neighbors who share the secondary territory space, while defense acts are usually directed against non-neighbors or complete strangers. However, the subjects of these two types of behavior is not definite. In rare cases, interactions could also be forwarded to non-neighbors, and defense activities could also be against neighbors.
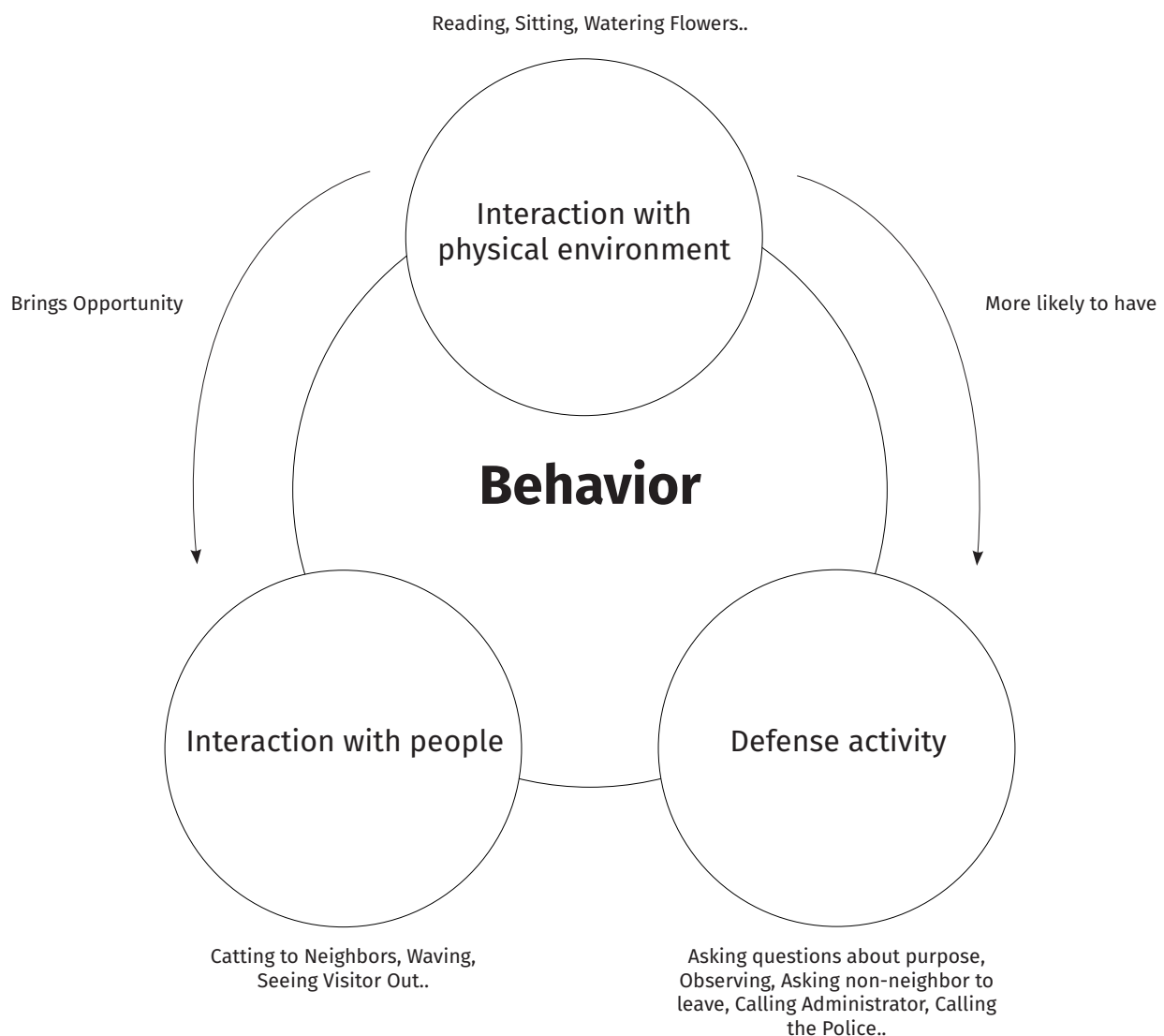
Reading, Sitting, Watering Flowers..

Interaction with
physical environment

Brings Opportunity

More likely to have

Behavior

Interaction with people

Defense activity

Catting to Neighbors, Waving,
Seeing Visitor Out..

Asking questions about purpose,
Observing, Asking non-neighbor to
leave, Calling Administrator, Calling
the Police..

Fig. 2-1. Three Types of Behavior in Secondary Territory. Drawn by Reseaarcher.

There is a relationship between these three behavior types. Interaction with physical environment brings more opportunity for interaction with people to happen, due to longer time exposed in the secondary territory. People who have more interaction with the physical environment are more likely to initiate defense act against offenders.

In terms of conception, all the behaviors that occur in the secondary territory space help the residents form personal space. The more they interact with the physical elements, the stronger sense of belonging they have. And the more sense of belonging they have, the more they interact with the physical elements in the space. In this context, defense activity could be interpreted as maintaining the personal space. Similarly, interaction with people could be interpreted as bonding with neighbors who share the secondary territory, which in turn strengthens the sense of belonging.
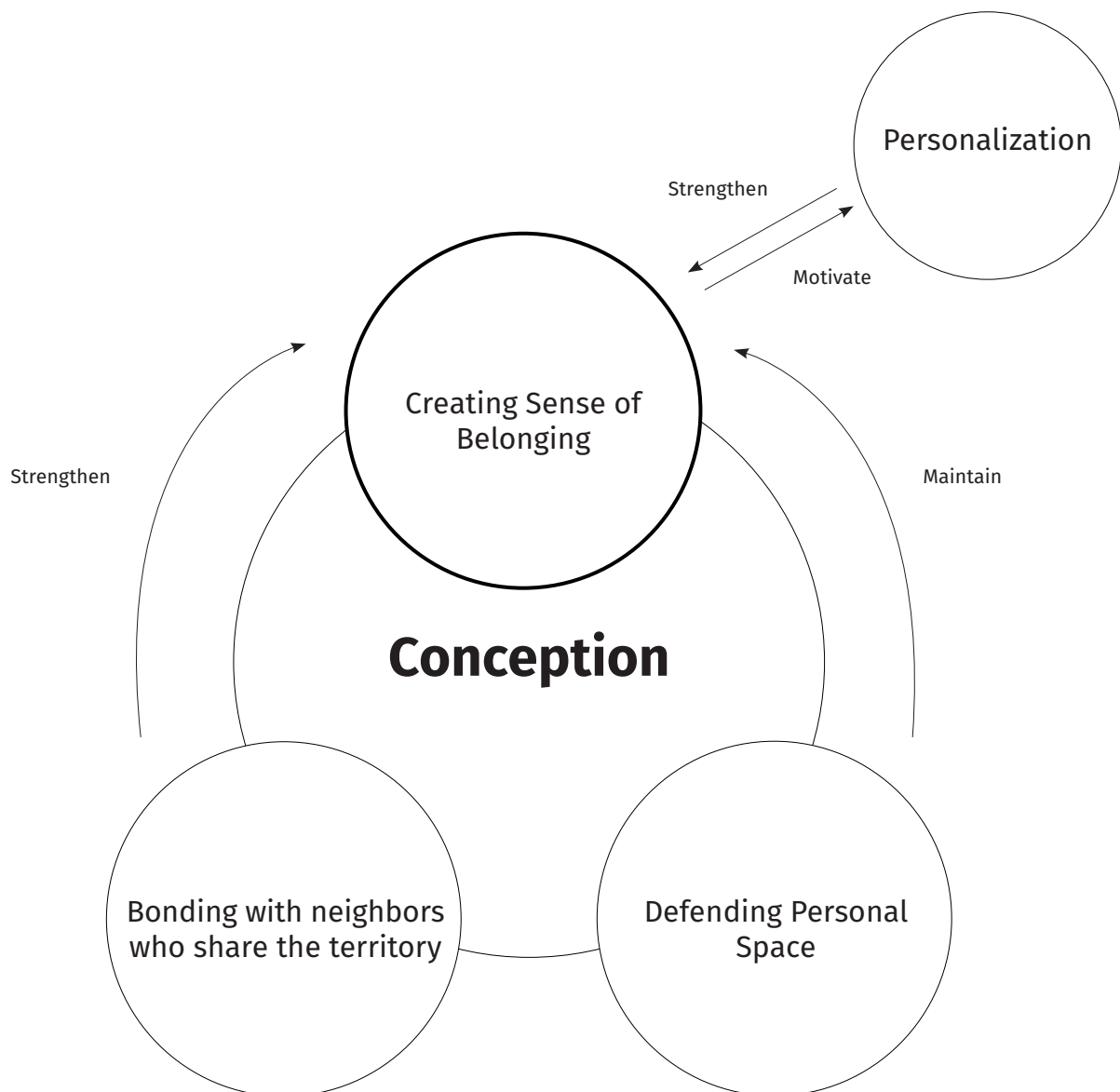

Fig. 2-2. Conceptions in Secondary Territory. Drawn by Reseaarcher.

Below is a scene of Case C, different secondary territory space are marked in the figure. In further discussions, the two gardens (one inner garden and one sunken front garden) is named secondary I territory. The small open space adjacent to the two gardens is named secondary II territory.
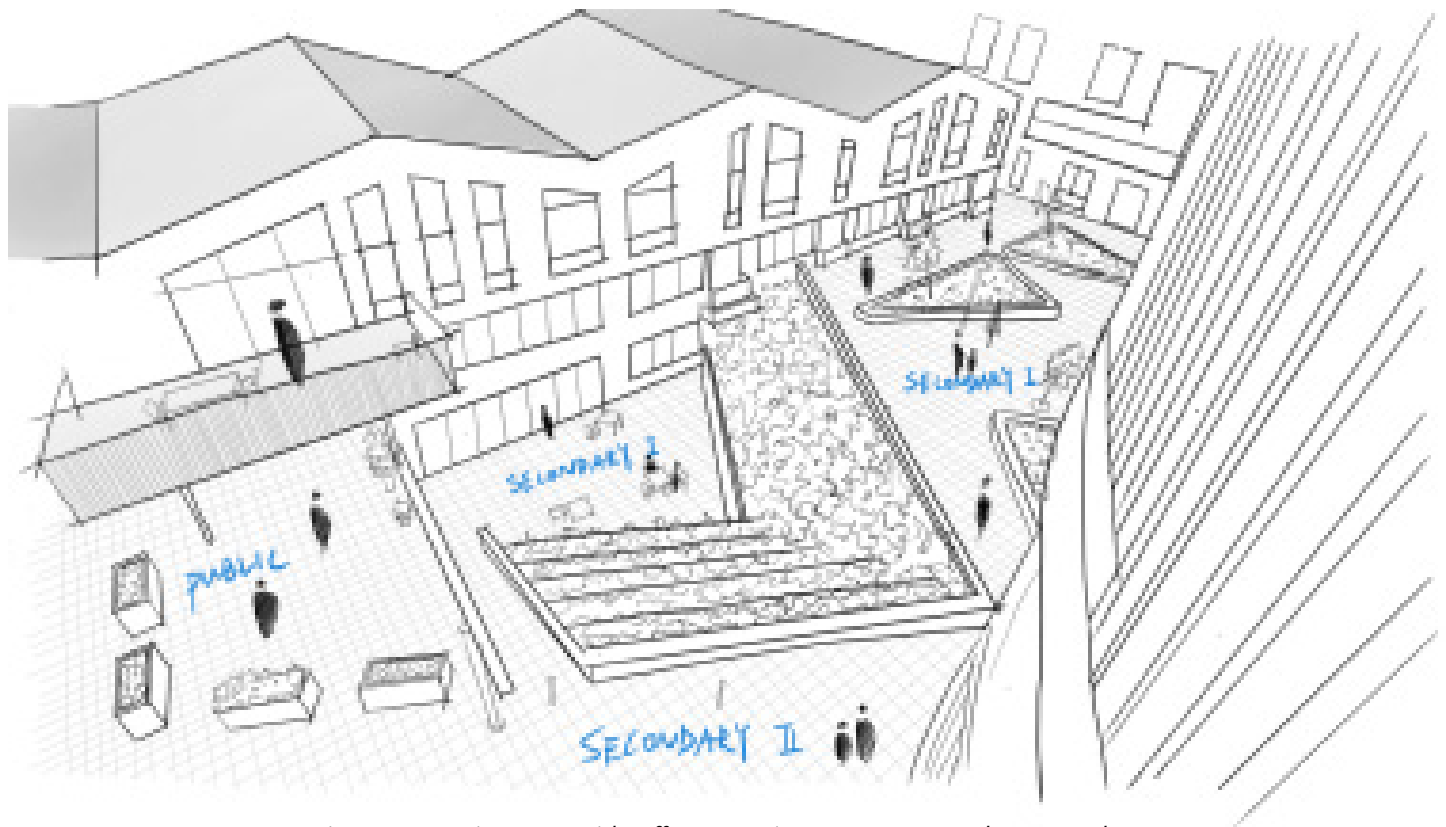

Fig. 2-3. Scene in Case C with DIfferent Territory Space. Drawn by Researcher.

In the field research, it was discovered that different behaviors occur in different territory space. The difference not only lies between public and secondary territory spaces, but between two different secondary territory spaces as well. In this case of Figure 2-3, the behaviors in Secondary I territory and Secondary II territory space present totally different patterns.

First, the interactions with the physical environment and the people in Secondary I Territory were significantly more than Secondary II Territory.

Second, it was also discovered that the degree of personalization followed the same pattern as the number of interactions. Meaning where there are more personalized elements in the territory space, there would also be more interactions with both the physical elements and the neighbors. Consequently, the defense activity would also be weaker.

Third, during the case study process for research of secondary territory, different levels of defense acts also occurred in different territory spaces. When the researcher was at the front garden (Secondary I) in Case C observing the ornaments in each window, a woman asked what the researcher was doing and called the administrator to deal with it. When the researcher was doing research in the open space (Secondary II), although asked what he was doing, the residents did not show any signs of irritation. They even encouraged the researcher by tapping on the shoulder.

The fundamental reason that these secondary territory space show different patterns of behavior is because they have different number of users. As illustrated in Figure 2-4, as more users are accessible to the same space, the responsibility to defend or maintain the space is shared and split, hence weaker defense act and less interaction with the people or physical environment. This resulted in the weakening of the sense of belonging.

When the sense of belonging is weak, the users do not feel the need or, more importantly, the privilege to personalize the space by putting decorations or ornaments. **Therefore, the degree of personalization is inversely proportional to the number of users.**
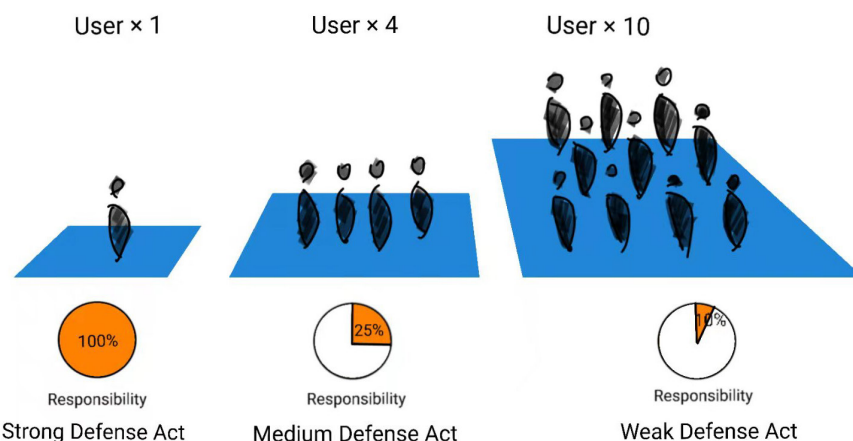

Fig. 2-4. The Relationship between Number of Users, Responsibility and Defense Act. Drawn by Researcher.
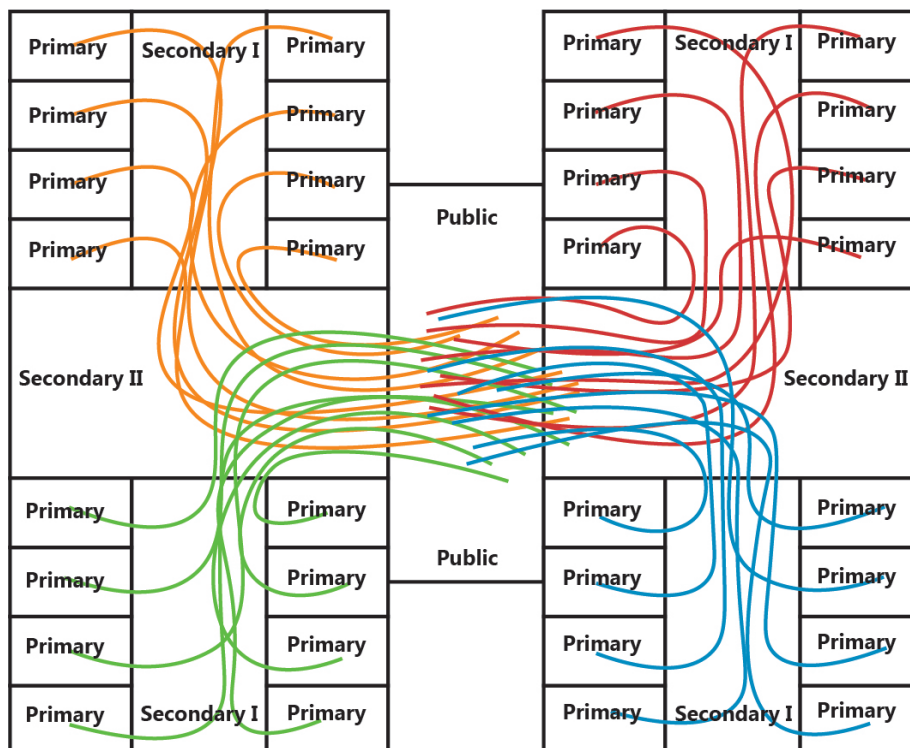

Fig. 2-5.Illustration to Show Relationship between Number of Accessible Users and the Gradience of Territory. Drawn by Researcher.

As shown in Figure 2-5, in residential design, the circulation of residents cases differenciation in number of users in different spaces. **This naturally creates a gradience of territory.**

The images below show some scenes in the three cases. The blue writings mark out the spatial elements in the space and behaviors of the users. The red writings are either quotes from the people in the scene, or the author's observation, about their feelings on site.

The purpose of this is threefold. Firstly, it provides extra evidence to support the relationship between personalization, the sense of belonging and the gradience of secondary territory spaces. Secondly, it is a preliminary step to understanding what elements usually apperar in different secondary territory spaces. Thirdly, it shows first-hand opinion of the residents on the space, which helps establishing correct understanding of their conception, and generate the design guide that either solves existing problems or keep good quality of the space.

This space is on the ground floor of Case A, De Componist, isolated by a height difference by a short wall and handrails to the field outside. Furthermore, this space is only used by residents of three units and is only accessible through a locked door, so it is a private place. While the privacy was appreciated by one of the residents, another stated that this makes it inconvenient for him to meet other people. All residents from the three units have worked together to make this corridor less dull with flower pots, picture frames, and chairs on the outside, and artsy curtains and attractive ornaments inside the window.

Fig. 2-6.Private Corridor in Case A. Drawn by Researcher.

On the other side of the building, there is an open space only used by the residents in two of the four buildings that compose De Componist, which is approximately 75% of the total residents. Compared with the private corridor, the signs of personalization are obviously insignificant in such a secondary territory. Most interviewed users stated that this place is too empty and is usually just walked by it. However, when asked why they did not decorate this space, they responded that this is not their place to decorate. On the upside, the clear borders and roofed space made it a secluded, quiet, and safe place for people to hang around.
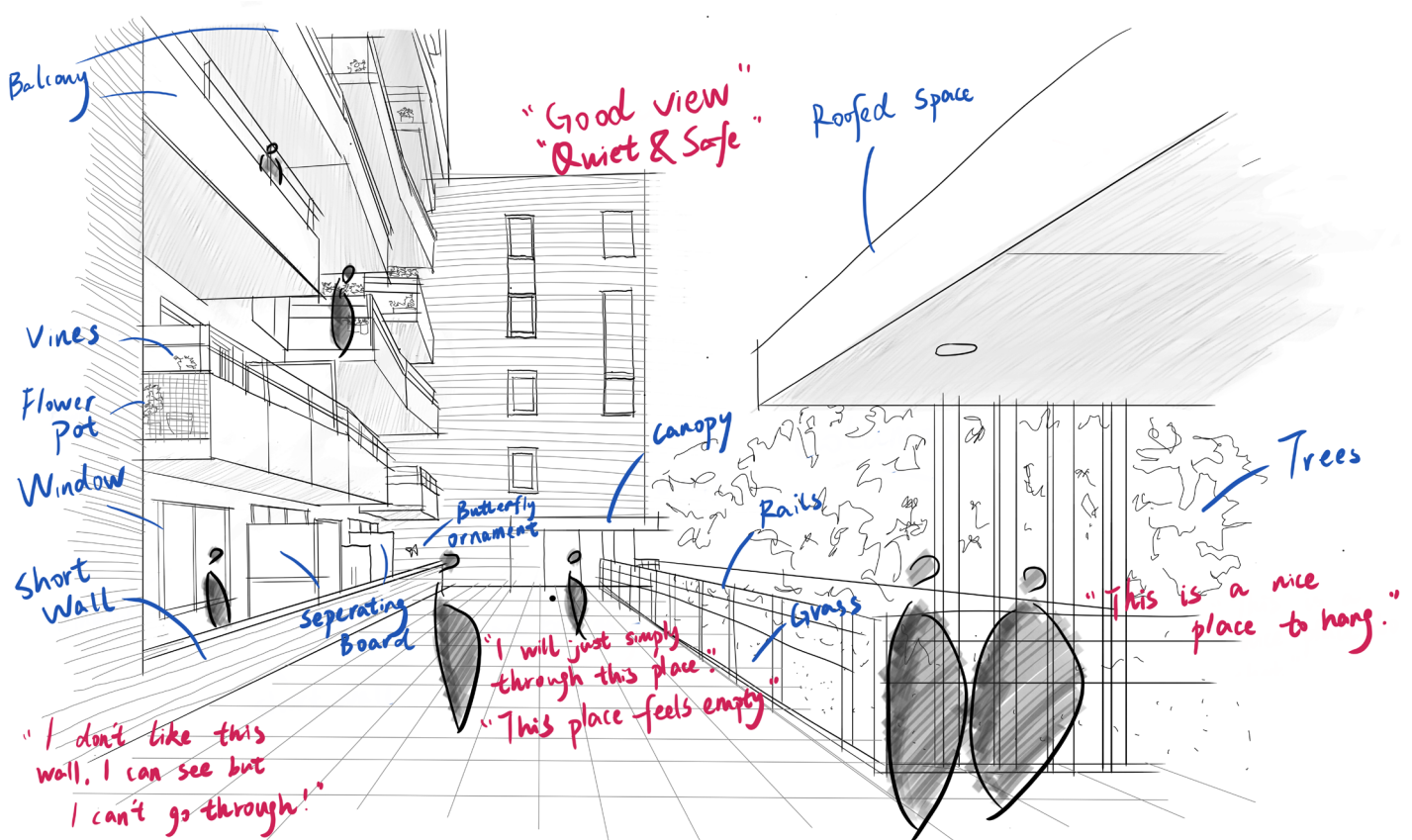

Fig. 2-7. Front Garden in Case A. Drawn by Researcher.

In Case B. Zilverzijde Social Housing, on each floor, 16 units of residents share a gallery, and in front of each door, the façade folds in, creating door front space for all of the units. There are clear signs of personalization in these spaces. Specifically, there are plants, shelves with decorations, furniture, and ornaments inside the window, which sometimes stimulate conversation and tell the story of the owner. For example, during the interview process, the interviewee started to mention her love for French culture when the researcher showed interest in the statue of the Eiffel Tower, which she put behind the window to display. To sum up, the residents feel both responsible and pleasant to have this place for themselves to make better, "to make a door more like a door," quoting a resident.
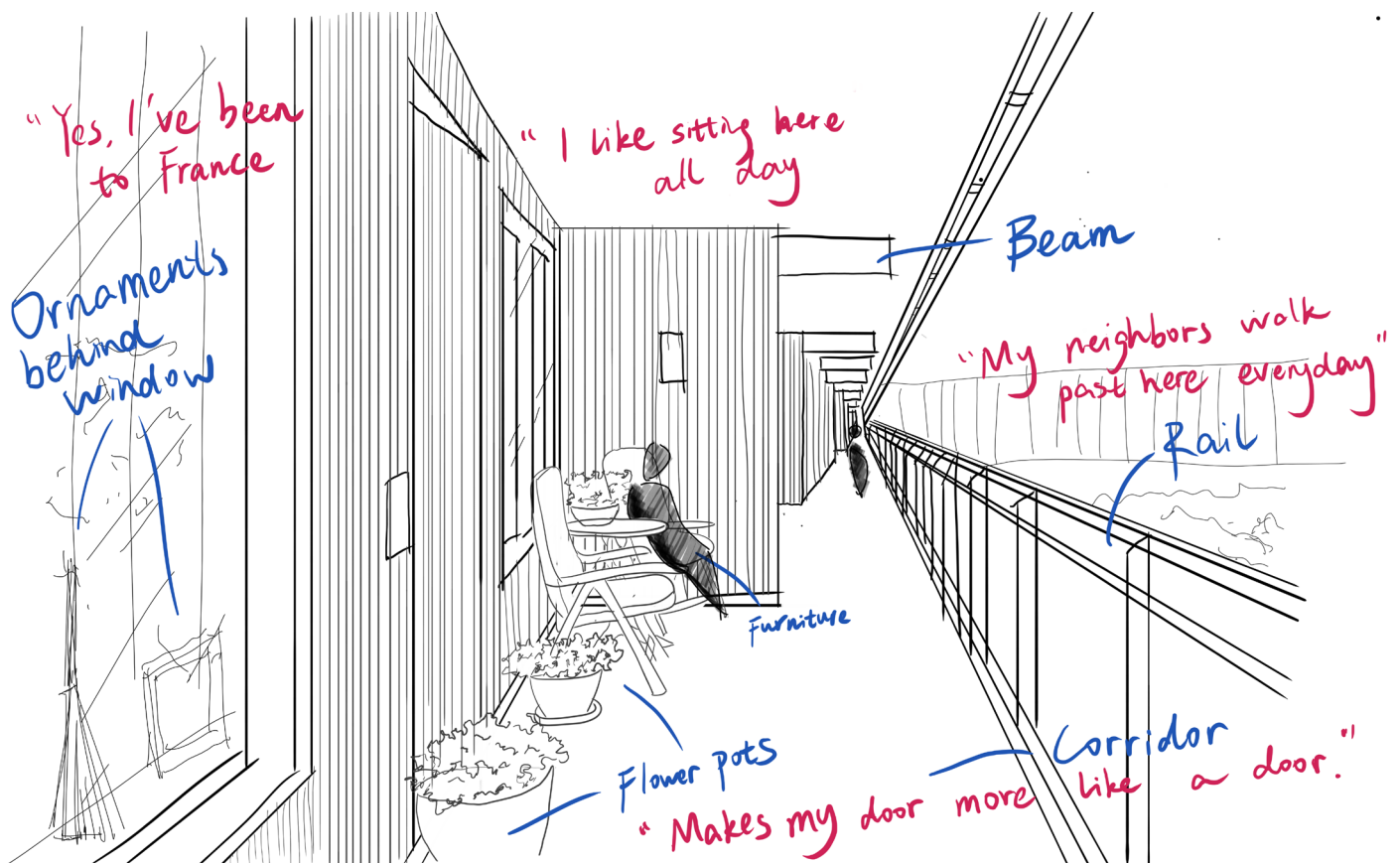

Fig. 2-8.Gallery and Door Front in Case B. Drawn by Researcher.

In the hallway in Case C, Nursing Home De Roef, some places are enlarged in the hallway and form mini-lounges or activity corners. The original design carpeted some of the space, where users of this space use these spaces at their will. As shown in this scene, the users of the hallway created a mini library corner, a sports corner, and a birdcage with the help of the community and administrator, creating a vivid space with a variety of activities. During the interviews, a resident stated that he does not feel too self-conscious doing sports because this place is not too public. Furthermore, it was also suggested that the natural lighting from the skylight and French window was crucial in making this place favorable to the residents.
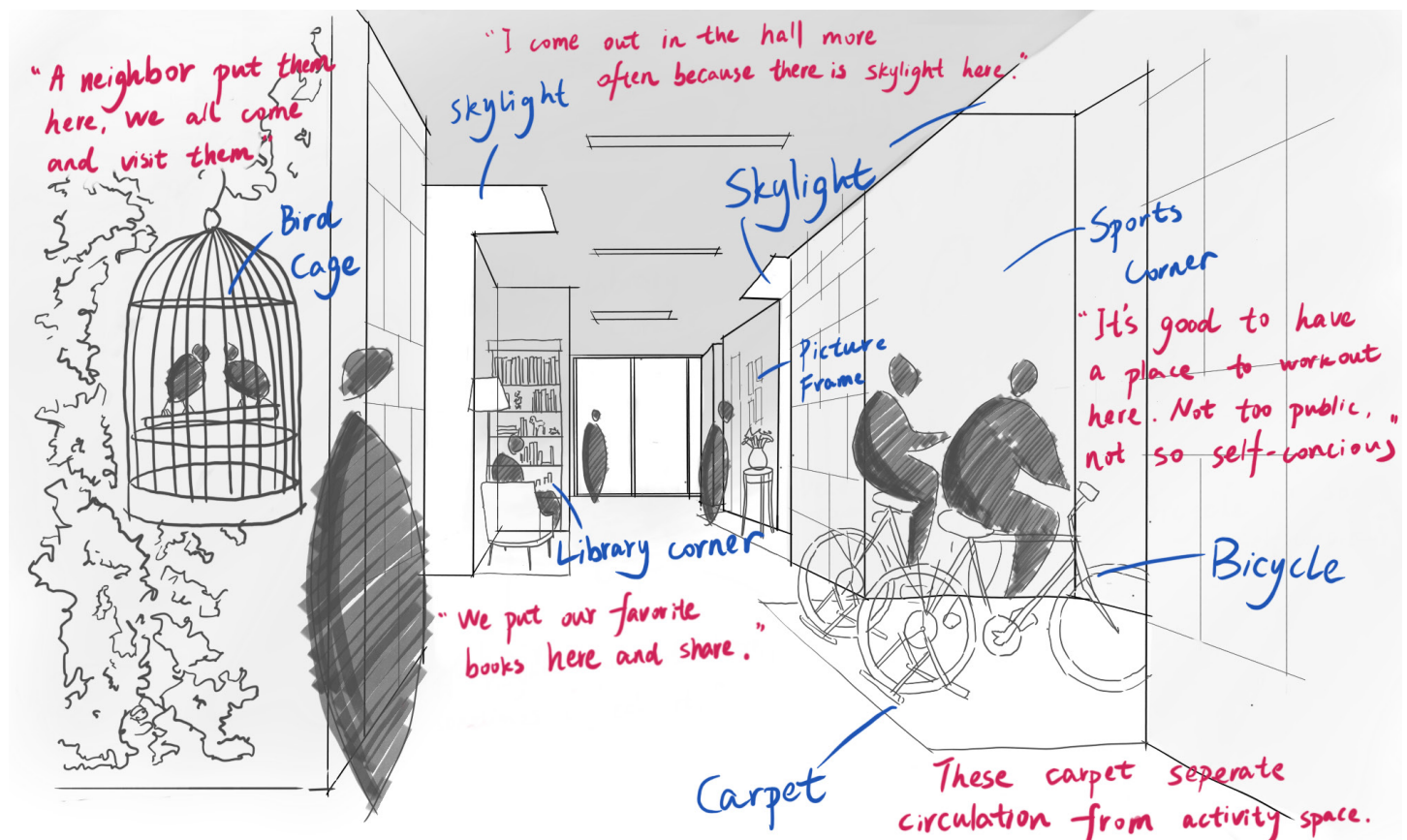
Fig. 2-9. Hallway and Lounge in Case C. Drawn by Researcher.

In one of the buildings of Case C, the carved-out part became a terrace and secondary territory space for the residents in the building on the scale of the street. This provided the neighbors with a place to chat and hang around. The roofed area creates a "sheltered" space and a sense of belonging for the users here. People spontaneously put decorations and furniture here to make it more personal.

Fig. 2-8.Terrace in Case C. Drawn by Researcher.

Third Chapter

Physical Elements for Personalization

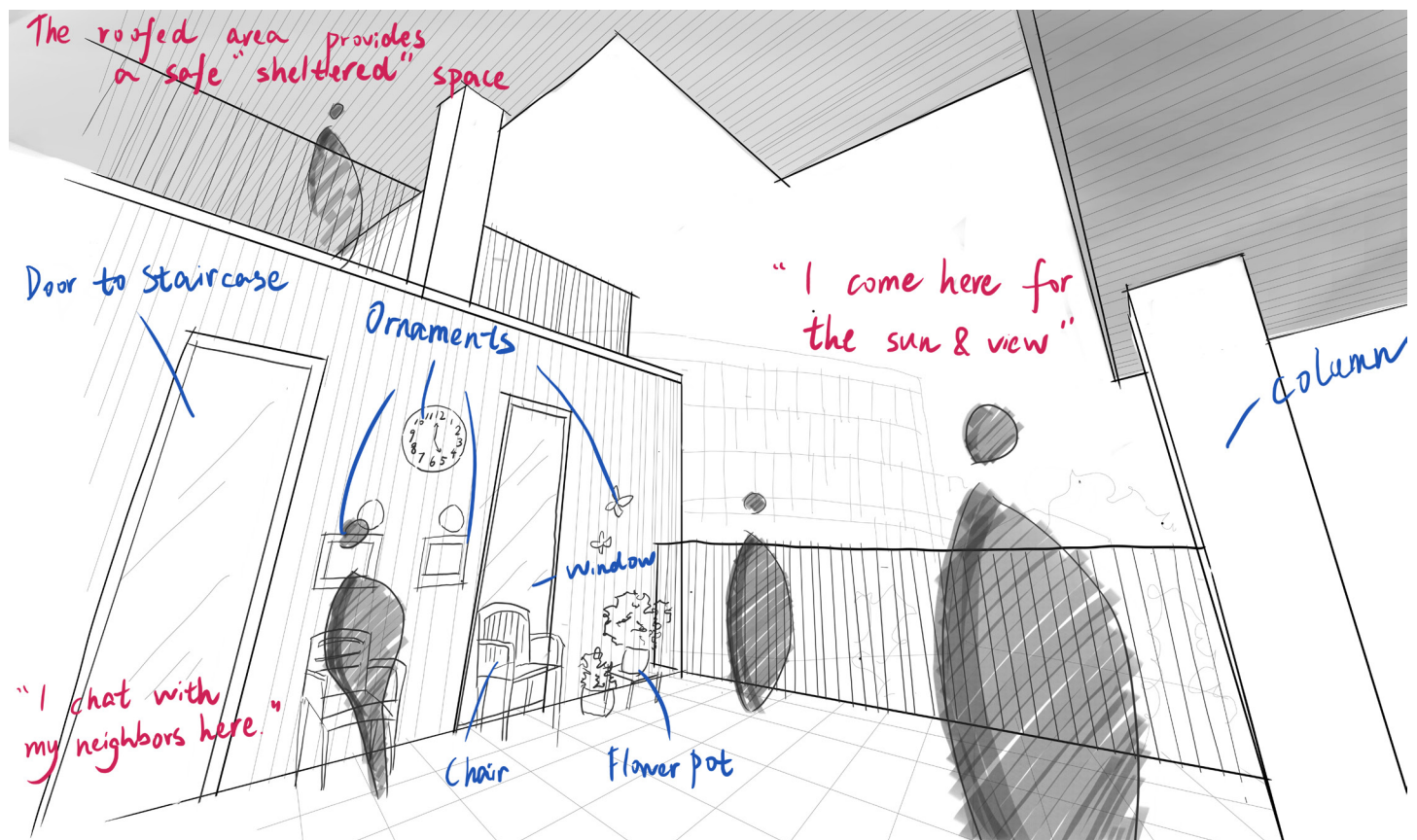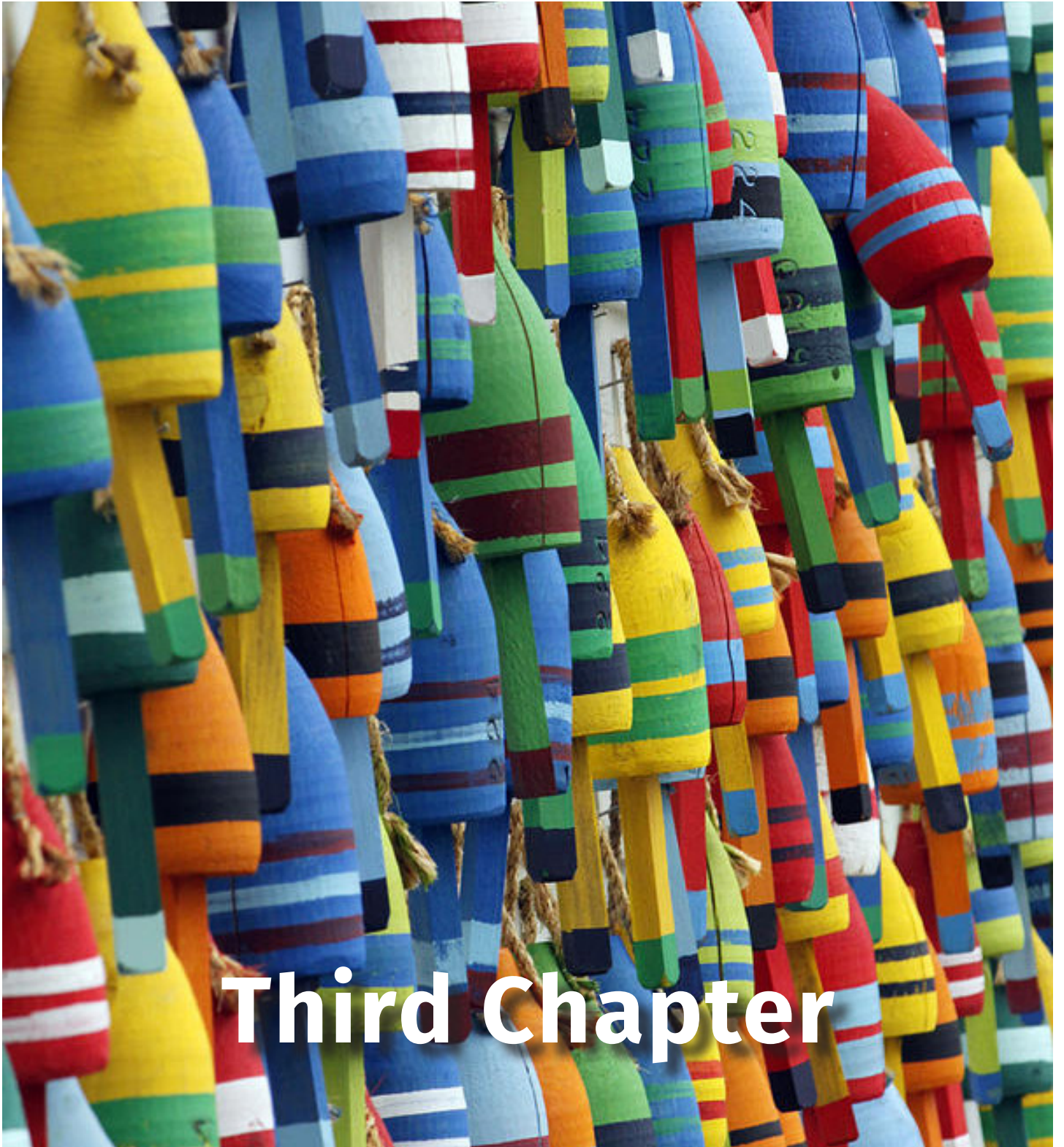In the third part of the research, spatial elements will be extracted from photos taken from Hoevestaete in Alkmaar, and photos taken in elderly neighborhoods in Delft. Two specific types of secondary territory will be researched on, doorfront and private street.

The spatial elements in doorfront, front garden and gallery are analyzed. The spatial elements are analyzed on the following aspects: influence on personalization, location and spatial requirements.

Personalization Elements in Doorfront Area

Out of the 50 doors in Hoeverstaete (shown in Figure A-8), 31 were personalized. Out of the 31 personalized space, 21 of the units had planters or flower pots, 6 had shelves or tables, 3 had wheelchairs, 1 had a chair, 20 had ornaments hung from hooks on the walls or doors, and 2 had door mats.
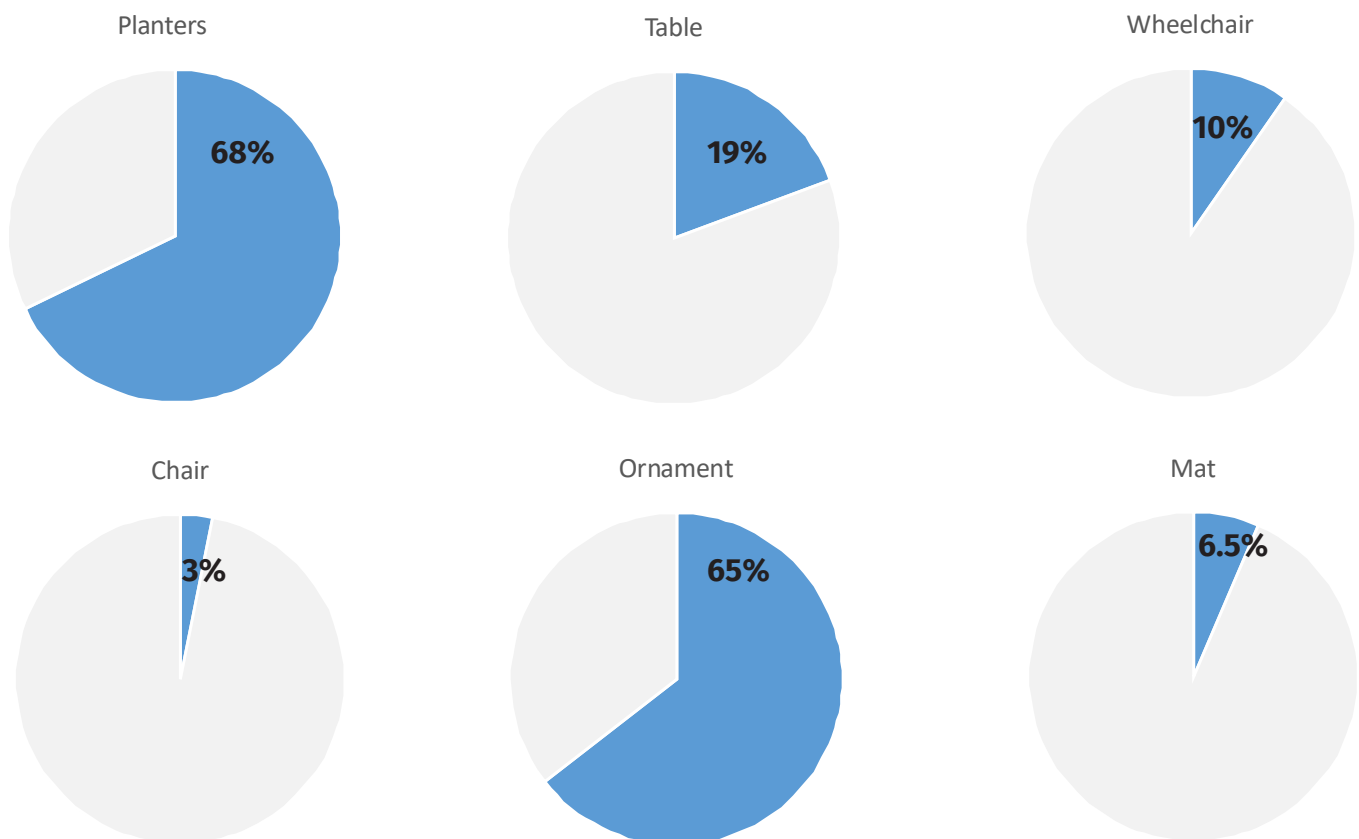

Planters	Table	Wheelchair
68%	19%	10%

Chair	Ornament	Mat
3%	65%	6.5%

Fig.3-1. Percantaage of Spatial Elements in Doorfront Areas. Drawn by Researcher.

plantors is one of the most common personalized element in doorfront areas. It appears in as much as 68% in the units that personalized the space.

Influence on Personalization

Plants have different forms, colors, and size. So the combination of different planters could create very different spatial effects. The choices made by the residents relects the aesthetic taste of the owner. Moreover, the residents can easily replace the plantations in the space, and the quality of the space will be changed instantly. Therefore, the residents could easily create a personalizaed space in this secondary territory with plantors.

Fresh plants require work, such as watering and trimming. These activities keep the residents outside their primary territory and creates more opportunity for interaction between neighbors.

Location

As shown in Figure 3-2 one other advantage of plantors is that they could be placed almost everywhere - residents could place plants in the vases on the ground, pots supported by a shelf, and even pott connected to the wall through hooks.

Spatial Requirements

Plantation, as a personalization element, is adaptable in different spaces. For a space to contain plants, these are the following options:

1. Some plants are in need of sunlight, so natural light is an extra to place plantors.
2. Have enough space on the ground or the shelf to place the vase or the pot.
3. Have wall that allows hooks or nails to support the vase or the pot.
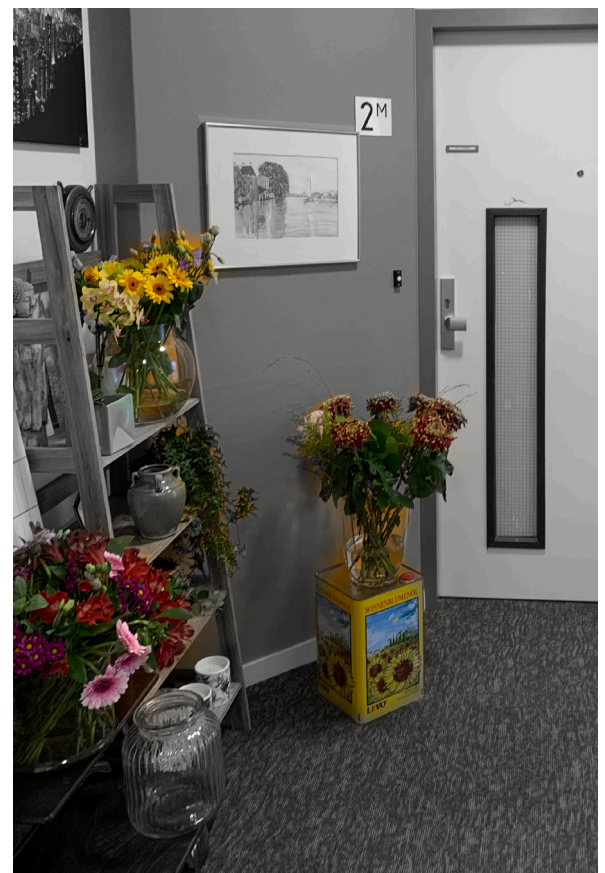

Fig. 3-2. Plantations in Doorfront.
Drawn by Researcher

Ornaments are the second most common personalized element in doorfront areas. It appears in as much as 65% in the units that personalized the space. Ornaments include decorative objects, picture frame, and so on.

Influence on Personalization

Even compared with plants, the ornaments have more variations in terms of forms, colors, and size. So it shares most of the advantages that planters have in personalizing the space.

The major difference is that ornaments do not require that much of work, so they do not have positive in initiating interaction between neighbors.

However, ornaments stands out from being totally different from unit to unit. They are a display of collection, journey, and hobby, which can stimulate conversation very easily. Users of secondary territory space who are already interacting with one another are more likely to communicate longer if there are ornaments in the space.

Location

Ornaments are located mostly on the walls, tables , and shelves. Only when the space is too small for a shelf or table will they be placed on the ground.

Spatial Requirements

1. Blank walls to hang pictures.
2. Space for shelves or tables.

Fig. 3-3. Ornaments in Doorfront.
Drawn by Researcher

The function of tables and shelves are irreplacable, because it can allow there to be more plants and ornaments. However, Tables and shelves only appear in 19% of the units that has personalized elements in their doorfront, ranking third. The reason why the percentage is so low is because in most cases, the spaces in front of the door is not sufficient to place a table or a shelf.

Another function of the table and shelf in the doorfront is that the elderly can put groceries or bags down before entering the room.

Influence on Personalization

The main function of tables and shelves is to contain and arrange plants and ornaments. Therefore if the spacial condition permits to place such furniture, the level of personalization will significantly increase.

Location

Shelves and tables are mostly placed on the ground, close-by the door. In some cases, they are integrated into the design.

Spatial Requirements

1. Sufficient Space in front of the door.
2. In rare cases, the shelves can be nailed to the wall.

Fig. 3-4. Plantations in Doorfront.
Drawn by Researcher

Apart from the mainstream physical elements mentioned above, there are also some special elements that influences the personalization differently and have different spatial requirements.

To be specific, for example, placing chairs in the doorfront leads to the longest time of interaction, but they require the largest area and static space with clear borders.

When there is sufficient space, they tend to personalized the space to their fullest extend. As observed and demonstrated in the previous part, residents use the same type of secondary territory differently. They use the space accordingly based on the shape, proportion and size of the space.
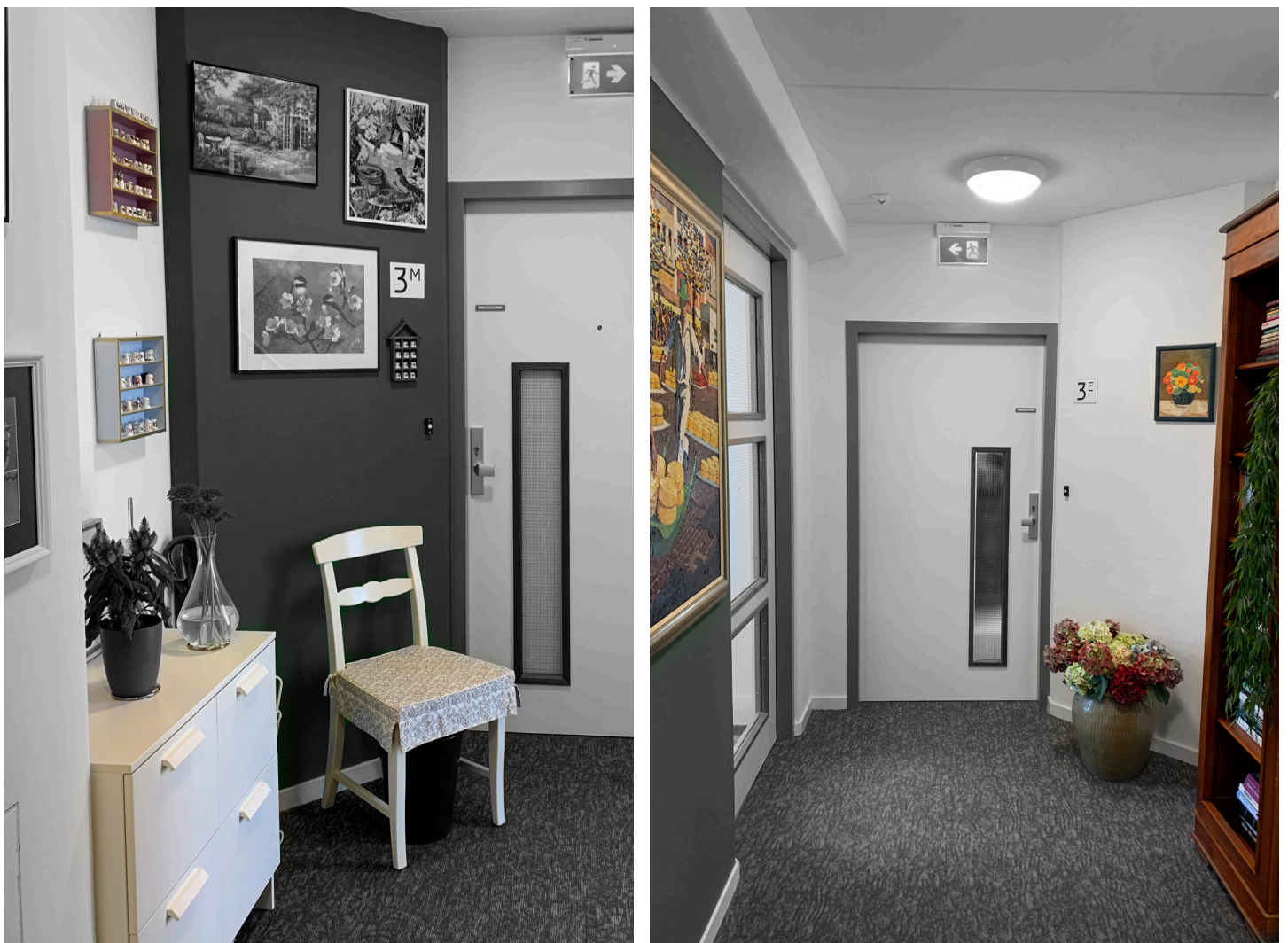

Fig. 3-5. Highly Personalized Space in Large Doorfront.
Drawn by Researcher

Personalization Elements in Private Street

Terraced house and town houses takes up a large proportion of housing in the Netherlands, and private street is the secondary territory space that this type of dwelling have in its living environment. Therefore, investigating into the personalization elements in private streets allows the design guide based on the analysis to be more generic and applicable in most cases.

Windows

Concerning personalization, windows are the most crutial elements in secondary territory. It offers opportunities for the residents to interact with the space and the people in multiple levels. To be specific, windows sills can be used as a display shelf; windows can show different curtains; windows show part of the interior; windows provide visual connection between the people indoors and outdoors.

Shown below is the image of a window with empty bottles of sriracha sitting on the window sill.

Fig. 3-6. Window with Sriracha bottles sitting on the window sill.
Drawn by Researcher

Fig. 3-7. Ornaments on the Window Sill.
Photographed by Researcher

Bay Windows

It is discovered that compared with normal windows, bay windows enhances the personalization more, especially when the window is opening to the air. This is because they bring more physical and visual contact between the primary and secondary territory, which motivates the residents to place ornaments or plants, so that the secondary territory space is further personalized.

However, this influence of personalization gets weaker in higher floors. This is because in higher floors, the ornaments placed on the bay window are no longer visible from the outside, and the residents feel less motivated to decorate.

Fig. 3-8. Personalization in Bay Windows

Borders

In private streets there are gradience between public and primary territory. This is usually achieved with the help of clear borders. Clear borders define the space better, and strengthen the territorial feeling, resulting in creating a stronger sense of belonging for the residents which motivates them to personalize the space. Clear borders also make space more static so that the activities in it could be more private.

The form of borders can vary from change of pavement to solid walls. They both are clear borders , and each have different advantages. The change of pavement does not cause trouble in accessiblity, and solid wall makes the space more personal.

Fig. 3-9. Clear Borders in Private Street
Photographed by Reseaarcher

Flower Bed

Flower bed is one of the elements that are commonly seen in private streets, but they are usually in the public territory space along with other greenery.

However, when the flower bed is close to the building, it may be considered a element in the secondary territory space. In these cases, only the users of the secondary territory space feel the the privilege to use and the responsibility to maintain the flower bed.

Fig. 3-10. planters along the Street close to the Building
Photographed by Reseaarcher
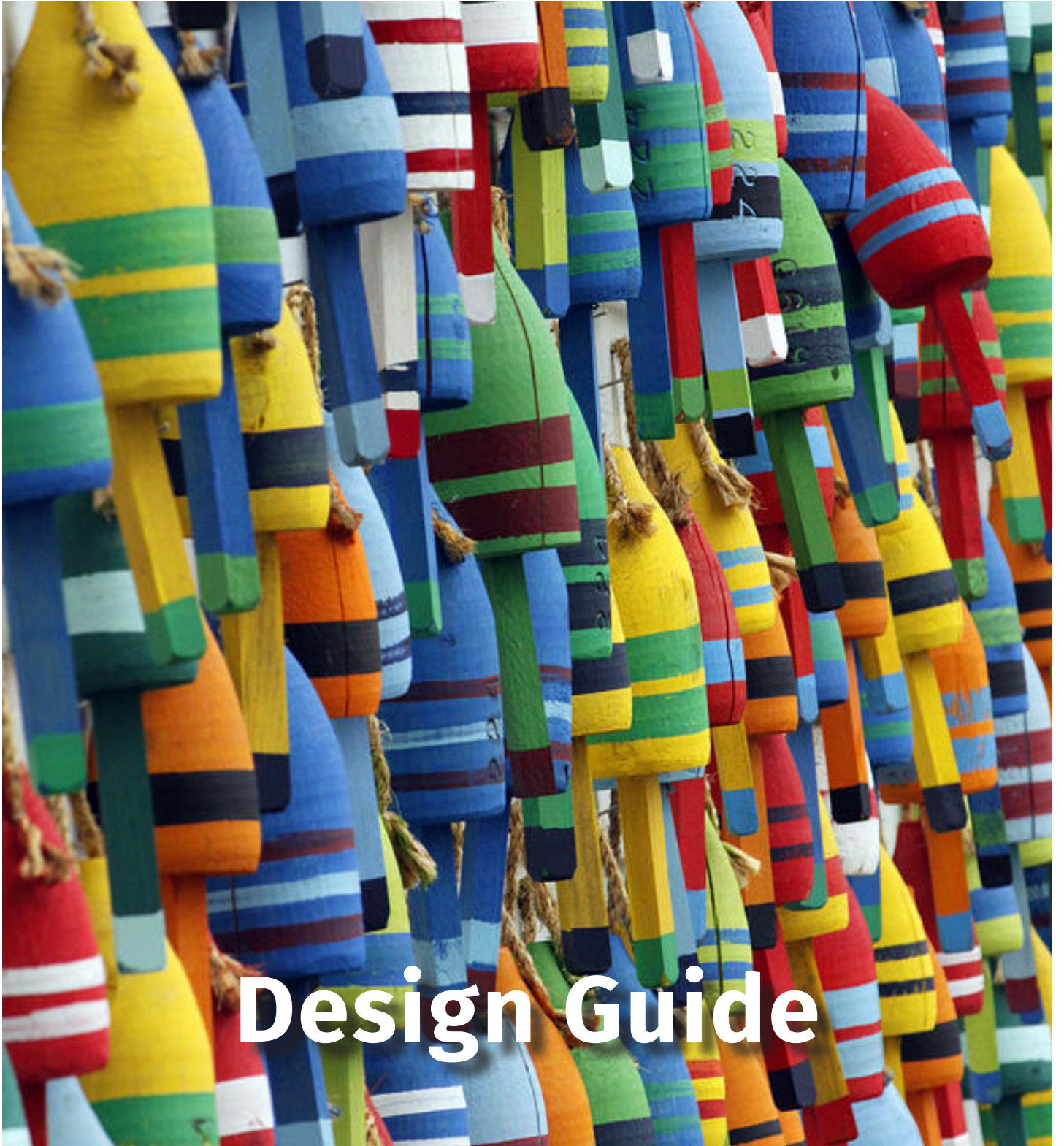
Design Guide

Design Advice for Secondary Territory, Program, and Spatial Design

With the help of the research results, a design guide is developed to create a secondary territory space that encourages the elderly to claim their individuality. The criteria are mostly based on whether it could enhance personalization in the secondary territory.

A.1 Create a Gradience of Seconday Territory

When there is a gradience of secondary territory, the transition from public to primary territory is more smooth, which strengthens the sense of belonging. Secondary territory with different number of users can contain different activities and different spatial elements. By creating a gradience of secondary territory, there is always a suitable place for all kinds of activities to happen without feeling self-conscious or lonely. For example: Doorfront - Elevator hall - Main Hall - Entrance Courtyard - Main Courtyard.

A.2 Have a combination of different types of secondary territory space

This is to enrich the spatial experience and to contain more types of different activities and physical elements. The combination of different types of secondary territory space also offers the residents with a choice in routing, which helps the elderly establish self-actualization.

A.3 Use Line+Plane or Plane+Plane Plan Composition

In the line+line type plan composition, it is to their limit to contain both static and dynamic activities, which are both significant in the life of the elderly; on the other hand, they do not offer the choice of route for the elderly, the control of which is crucial in personalization.

The two elemental compositions, line and plane were also ruled out. In addition to the two reasons above, these two plan compositions lack territory gradience, strengthening the sense of belonging in primary and secondary territories.

On the contrary to these two simple compositions is the complex plan composition, which is also not suggested because its structure is too complicated for the elderly.

Therefore, it is suggested to choose the line+plane or plane+plane plan composition.

Composition	Line	Plane	Line+Line	Plane+Plane	Line+Plane	Complex
Conceptual Diagram						

Fig. 4-1. Plan Composition of Secondary Territory. Drawn by Researcher.

A.4 Use Medium Sized Secondary Territory

The size of the secondary territory in a building is suggested to be medium, with the area proportion of secondary territory between 10% - 25%, based on the following reasons.

On the one hand, buildings with a large area proportion of secondary territory have a generally low personalization SCEAM score. On the other hand, investors of elderly residents are usually reluctant to pay for such a high proportion of secondary territories.

Although smaller secondary territory usually results in higher personalization SCEAM scores, this is mainly because the SCEAM gives a high weight to private rooms. These buildings usually have more area for private rooms and, consequently, more rooms contain personalization items. This is also ruled out because a small secondary territory is not able to contain or display enough personalization items to celebrate the individuality of the residents.

A.5 The Number of Users should be between 2-4

When the number of users is between 2-4, the space is most personalized.

B.1 Incorporate Functions with Circulation
Although secondary territory space has a large overlap with circulation area, it has been proven that if function is incorporated, the users are more likely to interact with the physical environment more often. When the intreaction with the space is increased, the interaction with the people sharing the secondary territory space is likely to increase. Then the sense of belonging is created, which brings motivation to personalize the space.

B.2 Include Unconventional Programs
Apart from basic programs in the elderly residence like living rooms, offices, and dining rooms, some programs are needed by the elderly but are not typically seen in elderly residence. personalization of the space. These programs could enrich the life of the elderly and increase communication between the neighbors, creating a stronger bond within the community. For example: reading space and sports corner.

B.3 Include Multifunction space
Multifunction space offers the residents and administrators choice of what the same space could be used for. This offers the residents choice, which brings the subjectivity to the space. The behavior of choosing activity is personalizing the space.

B.4 Include Informal space
Informal space means the space is not defined. They can also offer residents and administrators choice of program. What's different is that informal space does not have clear borders like walls or change of pavement. It has a higher flow rate and the users feel more casual in this space. As a result, informal space can contain casual activities and brings unexpected interaction.

B.5 Set Function Spaces in Different Size
The function spaces are advised to be established in different sizes and preferably different openness to contain all sorts of activities in different levels of publicness.

Project: Sentul Aged Care Community Center by KIRK
Fig. 4-2 Bench and Open Space in Hallway.

Project: Los Angeles Jewish Home
Fig. 4-3. Multifunction Room Used for Painting.

Project: Kendal on Hudson by DiMella Shaffer
Fig. 4-4. Reading Room.

Project: Sentul Aged Care Community Center by KIRK
Fig. 4-5. People Gathering in the Informal Space.

Project: St Bede's Extra Care by PRP.
Fig. 4-6 People Sitting in Small-Sized Meeting Place.

C.1 The Space should not be too Narrow

The space's width-height should preferably be over 0.5 (such as a hallway) if both sides of the space are closed. The space's width-height should be over 0.4 if one side is open (such as a gallery).

C.2 Lighting in Secondary Territory Space

The space should be well lit, either by natural or artificial lighting.

C.3 Create Roofed Open Space

In open or outdoor spaces, a roof or pavilion would create a safe zone that attracts the elderly.

C.4 Choice in Color and Material

Regarding color and material, a simple, unified theme should be applied so that it is tolerant of and not take the thunder from personalized items of all colors, sizes, and shapes.

It is suggested to include materials on the wall that allow nails, so that photos and ornaments can be hung.

It is suggested to include materials on the wall or the door that allow paint, so that the residents can paint on the wall or the door.

C.5 Border Design Advice

There should be clear borders for secondary territory. This enhances the concept of territory and makes the space more structured for the elderly to comprehend which spaces are for them to maintain.

The borders should also avoid causing trouble in accessibility unless for the sake of safety. It is suggested to avoid using height difference as a border between two spaces.

The borders should avoid causing trouble in visibility unless for the sake of safety or privacy. It is suggested to avoid using solid borders such as high fences.

Project: Romero & Vallejo by AFASIA
Fig. 4-7 Well Proportioned Gallery.
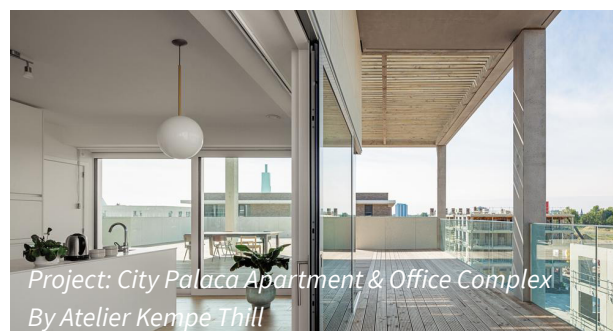
Project: City Palaca Apartment & Office Complex By Atelier Kempe Thill
Fig. 4-8. Well Lit Gallery.

Project: La Balma, Cohousing by Milena Villalba
Fig. 4-9 Material and Color Enhances Personalization

Project: Sentul Aged Care Community Center by KIRK
Fig. 4-10. Borders Created with Paving Change.

Project: Villa Mokum by Kampman Architecten
Fig. 4-11. Clearly Defined Secondary Territory.

C.6 Window Design Advice

It is suggested to have windows between the primary and secondary territory. So when the residents put something against the window it can work as a display in the secondary territory.

It is suggested to place elements to contain personalized elements such as shelves or window sill in windows between the primary and secondary territory.

When the window is not facing the secondary territory, it is suggested to design bay windows. Residents are tend to place ornaments on bay windows than window sill.

C.7 Furniture Design Advice

It is suggested to have shelves or nichesso the residents have a chance to put something on display.

It is suggested to design some intergrated furniture in secondary territory space. This is to keep the uniformity of space.

Leave space for furniture to be placd by the residents in informal space. They are to decide what the space can be used for.

C.8 planters Design Advice

Leave space for planters to be placed.

Another possiblity is to integrate plantations into the design to encourage the residents to personalize the space in an active way.

C.9 Other Design Advice

The display of personalization should be made easily visible to neighbors.

It is preferred to have places where the residents could participate in the design process. Art corners and whiteboard walls, for example.

Project: Future Sølund by C.F. Møller Architects

Fig. 4-11 Windows Facing Secondary Territory Space

Project: House of Shibokuhoncho by SUVACO.

Fig. 4-12 Bay window and personalized Elements.

Project: Tsukushi Nursery School Foresta Karankoro By UID ARchitects

Fig. 4-13. Niches in the wall.

Project: Sentul Aged Care Community Center by KIRK

Fig. 4-14. Integrated Bench and planters in Gallery.

Conclusion & Reflection

Conclusion

In previous studies, most studies in the field of secondary territory have only focused on psychological terms rather than spatial terms. Furthermore, although the issue of personalization has been brought to our focus nowadays in elderly residence design, no single study evaluated the possibility of secondary territory space to enhance it. Therefore, this research aimed to reveal the characteristics of secondary territory in spatial terms and develop a design guide for the secondary territory that would enhance the personalization. The central question is, "how can space in secondary territory enhance or restrict the personalization for residents in elderly home residences?"

The research inspected three main aspects of secondary territory: spatial characteristics, behavior and conception, and spatial elements for personalization. The results of the research can be divided into three main parts.

Firstly, based on a table of definitions and characteristics of primary, secondary, and public territory integrated with the existing research on territories, the secondary territory space is identified in the scale of buildings and streets for 25 cases of elderly residents. From this, the following conclusions were drawn: a. There are seven typical types of secondary territory space: Hallway, Gallery, Door Front, Lounge, Function Room, Inner/Front Garden; b. Secondary territory typically has a continuous and widespread layout; c. There are two basic types of plan composition (line and plane) and four compound types (line+line, line+plane, plane+plane, complex); d. The area proportion of secondary territory varies in different buildings, and this is mainly related to the plan composition type of the secondary territory in the building. Most buildings have a proportion of secondary territory from 5.8% to 35%.

Secondly, based on observing and informal interviews on three selected cases in the Netherlands, with the help of some emotion maps and illustrations used to visualize, the following patterns or conclusions of the behavior and conception of the users in the secondary territory were revealed. To begin with, in secondary territory space, there are a variety of activities, both public and private, dynamic and static. Moreover, it was discovered that people have a different sense of belonging and responsibility in different secondary territory spaces, which was later stated to be strongly related to secondary territory's gradience. To be specific, there are different levels of secondary territory, determined by the number of users, to which the strength of defense act, the responsibility to maintain the space, and the signs of personalization are inversely proportional.

Third, with the help of scene drawings and photo documentation, it was discovered that the essential elements in reflecting residents' individuality in the secondary territory in elderly residence are windows, ornaments, and plants.

Based on the research results, a design guide was developed that helps design by focusing on the secondary territory and encouraging the residents to claim their individuality. The design guide covered aspects including types of secondary territory space included, choice of plan composition of the building, the proportion of secondary territory, program suggestions, gradience of territory, number of users, spatial design key points, and elements.

Based on the research results, a design guide was developed that helps design in putting more focus in the secondary territory and to encourage the residents to claim their individuality. The design guide covered aspects including: types of secondary territory space included, choice of plan composition of the building, proportion of secondary territory, program suggestions, gradience of territory, number of users, spatial design key points, and elements.

Reflection | Limitation

Some limitations in the research must be acknowledged.

Firstly, the subjectivity in the research can not be entirely eliminated. Most of the methods applied in the research were qualitative, such as observations and photo documentation. The subjectivity in interpretation is inevitable without speaking first-hand with the users. To solve this problem, the researcher conducted informal interviews with residents. These conversations, on some level, prevent the conclusion from becoming far-fetched. However, while they help understand the way the users behave in the space, the subjectivity of the residents will be brought into the research. People from different residential buildings may have different thoughts, and even people sharing the same secondary territory space may hold different opinions. Considering this, the researcher made sure that at least three users of the same space were interviewed to minimalize the subjectivity.

Secondly, the number of samples is not enough. The research must be conducted in multiple spaces to reveal behavior patterns in different secondary territory types. Unfortunately, this pulls the focus away from in-depth research into one specific space. Due to limited time, not enough samples in each case were gathered. As a result, in some parts of the research, the induction of the research results may be too unilateral. In light of this, the researcher combined quantitive methods and logical reasoning to strengthen the posed theory.

Reflection | Future Prospects

This research is a start on relating the secondary territory with the concept of personalization, one of the primary trends in elderly residence design. It puts forward typical types of secondary territory, analyzes the space's behavior, and points out physical elements that enhance the personalization. It is possible to continue this research in three directions in further research.

Firstly, research how secondary territory influences the other aspects that relate to the self-actualization of the elderly, such as community relationships. The general characteristics of secondary territory were integrated into the first chapter of this thesis, which provides a theoretic framework for research in different aspects.

Secondly, research a specific type of secondary territory. The research in this thesis has put forward different types of secondary territory space and revealed that behaviors, conception, and spatial elements show different patterns in these spaces. However, the research focused on the generic conclusions of personalization in the secondary territory. Future researchers can focus on specific types of secondary territory spaces, such as a gallery, and carry out in-depth research.

Thirdly, verify if the conclusion still stands in non-elderly housing. This research was inspired by personalization in elderly housing, and all of the cases studied are elderly residence. Whether the conclusions of personalization in the secondary territory in elderly residence will be transferable to other types of housing remains a question. Future researchers can investigate personalization in the secondary territory of other types of housing.

The research aims to extract typical types of secondary territory space based on the definition and characteristics of secondary territory space and deconstruct its compositions in both behavioral terms and spatial terms. Eventually, the role or influence of the secondary territory on empowering the elderly to claim their individuality will be discovered.

The research significance of this research is twofold. Firstly, with this research on secondary territory space, awareness of its role of it will be raised. The elderly would be more encouraged to express their personality and claim their individuality, which was proven to be beneficial in terms of physiological, social, and psychological needs. The organization will be more aware of treating the group as a sum of individuals instead of a collective group. The designers would be more conscious of creating spaces with more possibilities to adapt to the different needs of each individual.

Secondly, the research would help generate a design guide for secondary territory spaces in elderly homes, a space that celebrates each older person as an individual. Possible directions include customized space, movable space, or space to contain decorative elements.
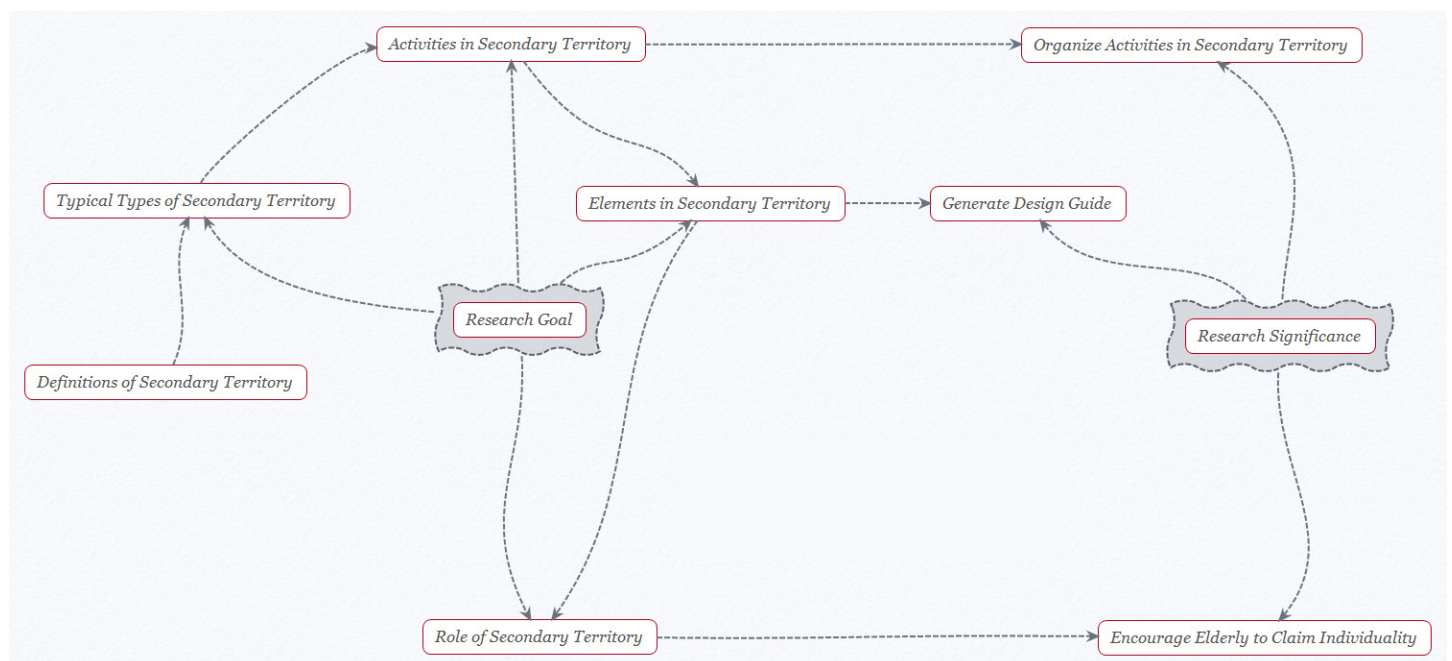
Reference & Appendix

Reference

Altman I. The Environment and Social Behavior: Privacy, Personal Space, Territory, Crowding. Monterey, CA: Brooks/Cole; 1975.

Archea, J. (2016). 1 The Place of Architectural Factors in Behavioral Theories of Privacy. Directions in Person-Environment Research and Practice (Routledge Revivals), 1.

Barnes S. Space, Choice and Control, and Quality of Life in Care Settings for Older People. Environment and Behavior. 2006;38(5):589-604. doi:10.1177/0013916505281578

BLAND, R. (1999). Independence, privacy and risk: Two contrasting approaches to residential care for older people. Ageing and Society, 19(5), 539-560.

Brunia, S., & Hartjes Gosselink, A. (2009). Personalization in non territorial offices: a study of a human need. Journal of Corporate Real Estate.

Costa, M. (2012). Territorial behavior in public settings. Environment and behavior, 44(5), 713-721.

Edney, J. J. (1976). Human Territories:Comment on Functional Properties. Environment and behavior, 8(1), 31-47.

Gram-Hanssen, Kirsten & bech-danielsen, Claus. (2004). House, home and identity from a consumption perspective. Housing Theory and Society - HOUS THEORY SOC. 21. 17-26.

Goffman, E. (1978). The presentation of self in everyday life (Vol. 21). London: Harmondsworth.

Hanson, J. (2001). Continuing to care: Shaping identity through the material culture of the home.

Harris, H., & Lipman, A. (1980). Social symbolism and space usage in daily life. The Sociological Review, 28(2), 415-428.

Howell, S. C. (1983). The meaning of place in old age. Aging and milieu: Environmental perspectives on growing old, 97-107.

Iranmanesh, A. (2012). Territorial Aspects of Place Definition: Exploring the Gap Within and In-Between Territories.

Joanna Burger, Territory Size Differences in Relation to Reproductive Stage and Type of Intruder in Herring Gulls (Larus argentatus), The Auk, Volume 97, Issue 4, October 1980, Pages 733–741

Kelman, H.R., Thomas, C. Transitions between community and nursing home residence in an urban elderly population. J Community Health 15, 105–122 (1990). https://doi.org/10.1007/BF01321315

Kim, U., Triandis, H. C., Kâğitçibaşi, Ç., Choi, S.-C., & Yoon, G. (Eds.). (1994). Individualism and collectivism: Theory, method, and applications. Sage Publications, Inc.

Kinney, J. M., Stephens, M. A. P., & Brockmann, A. M. (1987). Personal and environmental correlates of territoriality and use of space: An illustration in congregate housing for older adults. Environment and Behavior, 19(6), 722-737.

Reference

Leonie, & Kellaher. (1983). Caroline godlove, lesley richard and graham rodwell, time for action: an observation study of elderly people in four different care environments. social services monograph, university of sheffield, 56 pp. 2, isbn 0907484 02 6. Ageing & Society, 3(2), 263-265.

Parker, C., Barnes, S., McKee, K., Morgan, K., Torrington, J., & Tregenza, P. (2004). Quality of life and building design in residential and nursing homes for older people. Ageing & Society, 24(6), 941-962.

Popham, Carolyn; Orrell, Martin (2012). What matters for people with dementia in care homes?. Aging & Mental Health, 16(2), 181–188.

Rapoport, A. (1990). The meaning of the built environment: A nonverbal communication approach. University of Arizona Press.

Rodgers, V., & Neville, S. (2007). Personal autonomy for older people living in residential care: an overview. Nursing Praxis in New Zealand, 23(1), 29.

Willcocks, Dianne; Peace, Sheila; Kellaher, Leonie .(1987): Private lives in public places: A research based critique of residential life in local authority old people's homes. Taylor & Francis.

Zubaidi, F. (2019). Types and Patterns of Territory in The Traditional Settlement of Ngata Toro. Journal of Architecture&ENVIRONMENT, 18(2), 123-134.

Category	Question	Alzheimer residence for the "Foyer la Grange" / Mabire Reich	De Rokade / Arons en Gelauff Architecten	Home for Dependent Elderly People and Nursing Home / Dominique Coulon & associés	Health Centre and Houses for Elderly People/IPOSTUDIO Architects	Residential Care Home Andritz / Dietger Wissounig Architekten	Retirement and Nursing Home Wilder Kaiser / SRAP Sedlak Rissland + Dürschinger Architekten	The Nursing Home at Oleiros / TCU Arquitectos
Lounge	Does the wall space allow for personal items? is there an appearance of personal items on walls?	0	1	1	0	0	1	1
	Is there shelving for ornaments? Appearance of personal items on shelves?	0	0	1	0	0	0	0
	Is there an appearance of personalized furniture(variety of different chairs)?	0	1	0	0	1	0	0
Bathroom	Is there storage space for personal toiletries? An appearance of personal toiletries?	0	1	0	1	1	1	1
	Is there appearance of choice of decor?	0	1	1	0	1	1	1
	Is there appearance of choice of curtains?	1	1	0	0	0	0.5	0
	Is there appearance of choice of carpet?	0	1	0	0	0	0.5	0
	Is the call system available at various points in the room without trailing cord?	1	1	1	0	1	1	1
PersonalRooms	Is there an appearance of personal furniture?	1	1	1	0	1	1	0
	Does the wall space/decor allow for personal items? Is there an appearance of personal items on walls?	0.5	1	1	1	1	1	1
	Is there space to stand ornaments, TV and/or radio?	0	1	1	1	1	1	1
	An appearance of these items?	1	1	1	1	1	1	1
	It there appearance of choice of bedcover?	1	1	0	1	1	1	1
	Is there adequate clothes storage space? (wardrobe min vol 1.12 m³ and drawers min vol 0.30m³)	1	1	0	1	1	1	1
	Is there cupboard space other than wardrobe and chest of drawers?	0	1	0	0	0.5	1	0
	Is there space to personalize approaches to private rooms / appearance of personalized approaches to private rooms?	0	0	0	0	1	0	0
	Is there an appearance of personalized doors to private rooms? (fittings, colors, photos etc, name alone does not count)	0	0	0	0	1	0	0
Layout of the building	Is there an appearance of resident choice of display in the circulation space?	0	0	0	0	1	1	0
	Is there storage space for spare furniture?	0	0	0	0	0	0	0
	Is there space for all residents to store their own wheelchairs near the dayroom?	0	1	0	0	0	0	0
Garden	Is there the appearance of personalized areas?	0	0	0	0	0	0	0
Plan	Are private rooms more than 2.7 m wide?	0	1	0	1	1	0	1
	Average	0.26	0.71	0.35	0.17	0.65	0.57	0.52
	Total Score	5.5	15	Unidentified	Unidentified	13	12	11
	Location	France	Groningen, The Netherlands	France	Italy	Austria	Austria	Spain

Appendix A | Personalization SCEAM Score

Project	Location	(status)	Score	Count
"Zilverzijde" Social Housing / Atelier Kempe Thill	Den Hague, The Netherlands	—	0.67	14
Baakenhafen Residential Complex / Max Dudler	Hamburg, Germany	Unidentified	0.56	
Finnish Forest Housing Block Competition / Schauman & Nordgren	Finnland	Unidentified	0.64	
Social Complex in Alcabideche / Guedes Cruz Arquitectos	Portugal	Unapplicable	0.80	
New Folies 41 Apartments / SCT Estudio de Arquitectura	Spain	Unapplicable	0.71	
30 Senior Housing / Bastiaan Jongerius Architecten	Edam, The Netherlands	Unapplicable	0.81	
Court-housing Cortinghborg / Groningen Architecten|en|en	Groningen, The Netherlands	Unapplicable	0.88	
Hoogvliet / VMX Architects	Rotterdam, The Netherlands	Unapplicable	0.50	