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Co-designing Age-friendly Cities And Communities

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PHD THESIS
SIDSE CARROLL

CO-DESIGNING

AGE-FRIENDLY

CITIES AND COMMUNITIES

TOWARDS AN AGE-FRIENDLY SPATIAL PRACTICE

2020

The Royal Danish Academy of Fine Arts,
Schools of Architecture, Design and Conservation

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Acronyms and abbreviations

AFCCs	Age-friendly Cities and Communities
APEN	Activity and Health Enhancing Physical Environment Network
GNAFCC	Global Network of Age-friendly Cities and Communities
KADK	The Royal Danish Academy of Fine Arts, School of Architecture, Design and Conservation
MNT	Move the Neighbourhood
PD	Participatory Design
SDGs	Sustainability Development Goals
WHO	World Health Organization

List of visual narratives

ABSTRACT

This thesis inscribes itself in the discourse of developing Age-friendly Cities and Communities (AFCCs) from an architectural and a co-design perspective. Our society is changing, and two major societal forces are at the forefront: a rapidly ageing population and increasing urbanisation. This means that cities and communities are required to meet the needs and demands of this growing, heterogeneous and diverse ageing population. Architecture and design are important actors in this development; however, they are often not at the forefront of the discussion, which is mostly driven by health, social science and political perspectives. Hence, the objective of this study is to present a co-design and an architectural approach to the issue of AFCCs through an investigation of how an age-friendly co-design approach and spatial explorations can contribute to an age-friendly spatial practice when understanding and developing AFCCs. Further, this thesis seeks to explore the role of the architect in an age-friendly spatial practice.

Through exploratory, practice-based and participatory design research the study places emphasis on the process of understanding and co-designing AFCCs with older people of low socio-economic status living in deprived areas. Four empirical studies have been carried out and will be presented in three separate articles. The first article focuses on the 'go-along interview' as a method of involving older people in understanding their local neighbourhood in Copenhagen. The second article presents two co-design processes carried out in Copenhagen and discusses what makes the co-design process particularly age-friendly. The third article presents a co-design process carried out with older people and local municipal stakeholders in Greenland and focuses on the various stakeholder perspectives in such a process. The thesis offers practical and theoretical perspectives on how to engage older people in the development of AFCCs when working locally while at the same time addressing societal matters.

The empirical studies have been carried out in an interdisciplinary research constellation which spans across the fields of architecture, co-design, gerontology and anthropology. This is reflected in the theoretical positioning, where perspectives from environmental gerontology, co-design and spatial practice serve as lenses for discussing the empirical

data and the research objective. Topics across the fields include the spatialities of ageing, everyday life and spatial practices as well as resources, expertise and creativity with older people at the centre of these discussions.

This PhD thesis defines what can be understood as age-friendly spatial practice and demonstrates how older people and other actors can be involved in co-designing age-friendly spaces as well as exploring the spatial dimensions of AFCCs. The thesis discusses the significance of such collaborations and how they can contribute to updating and revising the image of ageing (internally and externally). It further discusses the role of the architect in an age-friendly spatial practice, which includes situating the profession in the everyday life of the older people and collaborating with seniors, practice stakeholders and different disciplines through socio-spatial, creative and exploratory working modes.

DANSK RESUME

Denne ph.d.-afhandling bidrager til diskursen om at udvikle ældrevenlige byer og lokalsamfund gennem co-design og en arkitektfaglig tilgang. Vores samfund gennemgår store forandringer og to drivende kræfter er i højsædet: En stigende aldrende befolkning samt øget urbanisering. Dette kræver, at vores byer og lokalsamfund kan imødekomme behovene og kravene fra denne voksende, heterogene og diverse aldrende befolkning. Arkitektur og design er vigtige aktører i denne sammenhæng, dog går disse fagligheder ikke forrest i denne diskussion som er drevet af sundheds- og samfundsvidenskabelige samt politiske perspektiver. Med denne afhandling, er målet at bidrage med en co-design og arkitektfaglig tilgang til denne udfordring ved at undersøge hvordan rumlige udforskninger og en ældrevenlig co-design tilgang kan bidrage til en ældrevenlig rumlig praksis, når man i fremtiden undersøger og udvikler ældrevenlige byer og lokalsamfund. Afhandlingen undersøger derudover, hvad en sådan ældrevenlig rumlig praksis kræver af arkitektrollen.

Gennem eksplorativ-, praksisbaseret- og participatorisk designforskning lægger studiet vægt på processen omkring at forstå samt at co-designe ældrevenlige byer og lokalsamfund med grupper af ældre mennesker med lav socioøkonomisk status, som er bosiddende i udsatte boligområder. Fire empiriske studier er blevet udført og præsenteres i tre separate artikler. Den første artikel fokuserer på 'go-along interviewet' som en metode til at involvere ældre mennesker i at forstå deres lokale nærmiljø i Københavns Sydhavn. Artikel 2 præsenterer to co-design processer fra samme område i København og diskuterer, hvad der gør sådanne co-design processer særligt ældrevenlige. Den tredje artikel præsenterer en co-design proces udført med ældre mennesker og lokale aktører i Grønland og fokuserer på de forskellige aktørers perspektiver omkring en sådan co-design proces. Afhandlingen bidrager med praktiske og teoretiske perspektiver på, hvordan ældre mennesker kan deltage i at udvikle ældrevenlige byer og lokalsamfund ved at udvikle lokalt og samtidigt adressere samfundsmæssige problemstillinger.

De empiriske studier er blevet udført i en tværfaglig forskningskonstellation med bidrag fra arkitektur, co-design, gerontologi og antropologi. Denne tilgang afspejles ligeledes i den teoretiske positionering, hvor perspektiver fra 'environmental gerontology', co-design samt rumlig praksis bruges som teoretiske linser til at diskutere det empiriske materiale

samt afhandlingens forskningsspørgsmål. Emner på tværs af felterne inkluderer rumlige dimensioner i forhold til aldring, hverdagsliv, rumlig praksis, ressourcer, ekspertise og kreativitet. Ældre mennesker er omdrejningspunktet i disse diskussioner.

Ph.d.-afhandlingen bidrager til diskursen omkring udvikling af ældrevenlige byer og lokalsamfund ved at definere en 'ældrevenlig rumlig praksis' samt at demonstrere, hvordan ældre mennesker og andre aktører kan involveres i at co-designe ældrevenlige rum samt udforske rumlige dimensioner af ældrevenlige byer og lokalsamfund. I afhandlingen diskuteres betydningen af sådanne samarbejdsprocesser og hvordan de kan bidrage til at opdatere og revidere aldringsbilledet (internt og eksternt). Derudover diskuteres arkitektens rolle i en sådan ældrevenlig rumlig praksis. Denne diskussion inkluderer at indskrive arkitektfagligheden i ældre menneskers hverdagsliv samt at samarbejde med seniorer, praksis interessenter og andre fagligheder gennem socio-rumlige, kreative og undersøgende arbejdsprocesser.

WHICH AIM?

MOVING BEYOND
AGE-FRIENDLY DESIGN SOLUTIONS

Photo from construction days in Copenhagen, 2017

PREFACE

As an architect, when I began my work in the research field of ageing, I would frequently receive requests from fellow architects in practice and from students asking:

> *'What kind of outdoor area would be good to design for older people?*
> Or *'What did you design, then?'*

In essence, the questions highlight two overarching issues: Firstly, the notion of how to perceive the ageing population from a design perspective is driven by a stereotypical norm that lacks nuances, and secondly, the architectural practice is mainly interested in design as solutions. I would typically respond that older people are as diverse as you and me, and hence it would be difficult to suggest a one-size-fits-all solution. What we designed was a co-design process with the older people.

In the following I shall present the age-friendly neighbourhood scale design solutions which were developed as part of this PhD project (please see the following pages). I have annotated the specific age-friendly dimensions in this context, both the social and the physical ones.

However, as these design solutions represent different context-specific outcomes that reflect different groups of older people, it will be more relevant to address the deeper issue of 'how' these design outcomes came to be, and 'how' designing with (not for) older people can be approached.

Translated into the context of this thesis: The co-design processes that we explored with the older people and other stakeholders and all the challenges and potentials that could be brought forward in order to qualify the age-friendliness of the many solutions that will continue to be developed in the future, perhaps through a more age-friendly spatial practice.

I will explore this matter through three co-design processes carried out in three different ageing communities, two in Copenhagen and one in Greenland. These represent explorations into co-designing with older people as well as into a continuous research process that has evolved through an exploratory approach. When this process started in Copenhagen, I had no

idea it would end up in Greenland; however this reflects an opportunity to explore a societal issue through a different local context, working locally to qualify the societal discussion.

The explorations certainly did not happen in isolation; I owe a special thank you to the many people who shaped this process in various ways. You will continue to encounter them throughout this thesis in the forms of 'collaborators', 'participants', 'stakeholders', 'we', etc.

Acknowledgments

A big thank you to my research partner Kamilla Nørtoft. Our collaboration has first and foremost been real and fun. Thank you for sharing research discussions and writings and for inviting me into your research network Ageing in the Artic at the University of Copenhagen, which made the exploration of the co-design process in Greenland possible.

Thank you to my friends and family for cheering me on and for letting me know when older people dominated my world too much!

AND most importantly, a massive thank you to those older people who dominated my world. Thank you for playing along, challenging me, questioning things, being equally straightforward, unpredictable, caring and fun, and for making this process incredibly exciting and adventurous from day one. You are all true characters!

Sidse Carroll
Copenhagen, January 2020

AGE-FRIENDLY DESIGN SOLUTIONS IN COPENHAGEN

Flower bed in comfortable standing height – also for people using a walker

Easy access from hard paving

Shelter from the wind

Central location that allows for neighbours to meet

A social meeting place for larger groups of neighbours

Transparent roof to optimise light

Wide paving outside pavilion for walking with mobility aids

Minimizing distances and connecting locations

Meeting places that invite longer and informal stays and where one can bring a drink

Add-on table for beverages combined with arm rest for standing up

Natural and warm materials for better tactility

Multi-side access – and parking for mobility aids

Flexible furniture for easy access and various social gatherings

AGE-FRIENDLY DESIGN SOLUTIONS IN COPENHAGEN

Social meeting place with hard paving accessible from street

Bird boxes to increase bird life

Attracting more birds to the area, to watch in the everyday life and to follow through the seasons

Centrally located meeting place for social gatherings with neighbours

Shade from sun and shelter from the wind

Meeting place where furniture does not restrict mobility aids to sit in the same place and hence allow for various social positions around the table

Furniture that is easy to get in and out of

Furniture that is fixed in order to prevent it from being stolen

AGE-FRIENDLY DESIGN SOLUTIONS IN SISIMIUT, GREENLAND

KUJAMMUT QAQQAMUT

TAKORLUUGAQ:

Qaqqami katersuuffiusinnaasoq, tassani inuit amerlasuut pinngortitamut qanittumiissinnaallutik aammalu qaqqat imarlu takusinnaallugit
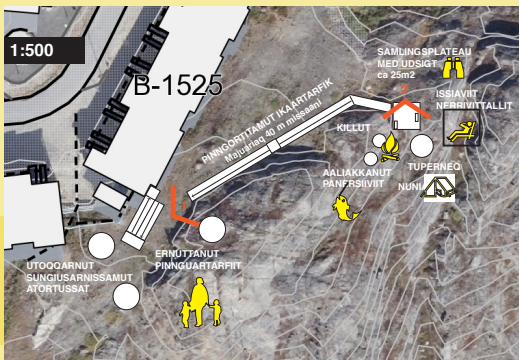
Playground for grandchildren to spend time with grandparents

Racks for drying fish

Stationary binoculars for watching the sea and whales

Meeting place to enable larger groups and families to meet and spend time in nature

Access to wild nature for picking berries and for camping

**Access to nature with
mobility aids and with
handrails**

Easy access from housing area

Photos: Kristina Würtz Poulsen

1. INTRODUCTION

1.1. Research challenge

Moving beyond age-friendly design solutions

Our society is undergoing rapid changes in terms of demography and urbanisation, and the number of people over the age of 60 will drastically increase over the next decade. This will greatly impact how society needs to respond to that from a political, economic and social perspective and also from a design perspective (Beard & Petitot, 2010; Buffel, Handler, & Phillipson, 2018; United Nations Department of Economic and Social Affairs, 2015; World Health Organization, 2015).

The discourse of designing age-friendly cities and communities (from now on referred to as AFCCs) is undergoing a change, where diversity and heterogeneity in ageing challenge design and designers to move beyond the biomedical and social care standards. As noted by Handler, age-friendly design is often equated to the principles of universal and inclusive design where the focus is on designing or adapting the built environment to meet the needs of all (Handler, 2018). In this regard age-friendly design often becomes the process of transforming a 'resistant' environment into a 'supportive' one (Kellaher, Peace, & Holland, 2004) resulting in design as a problem-solving practice, where barriers and needs are identified, solutions designed to address these, design recommendations made and design standards implemented. These standards do not account for the diversity of older people and local contexts and tend to focus on the bodily needs which often fail to respond to older people's agency in the design of AFCCs (Bates, Imrie, & Kullman, 2016; Handler, 2016, 2018). Scholars argue that as long as the conventional notion of ageing is perceived as physical, functional and biomedical health limitations the design responses will remain conventional and standardised and will fail to respond to older people's agency in the production of age-friendly urban spaces (Handler, 2018, p. 214). Handler (2014) operates with the term 'Alternative Age-friendly Initiatives' which suggests dealing with ageing initiatives in less confined and conservative ways. The shift recommends regarding the age-friendly city as much more than simply housing and outdoor spaces, rather as an approach that responds to a broader sense of age-friendly practices. Such practices include thinking of design in its fullest meaning of the term 'propositional', including temporary interventions, speculative design, retrofitting spaces and the participation of non-designers.

When developing AFCCs there is an increasing interest in and demand for involving older people in the process through participation (Buffel, 2015; Buffel et al., 2018; Lui, Everingham, Warburton, Cuthill, & Bartlett, 2009). However, there is a notable absence of design and architectural voices in these participatory processes, which are mostly directed from a political, health or social science perspective where a participatory spatial practice is not the aim. As AFCCs largely consist of spatial matters (social and physical) this leaves an opportunity for a conscious spatial practice where older people and participation become the centre of exploration.

My own motivation for this study is that I strongly believe that in order to create environments that reflect people's needs and aspirations we must give these people a place and a voice in the architectural debate – something I rarely experienced when practicing as an architect. In relation to the topic of this thesis: we need older people in spatial discussions firstly in order to create better AFCCs and secondly to build on and expand our own profession. The architectural profession offers the creative thinking to engage in, challenge and help to frame the future discourse. But we need older co-designers and other professions to explore this practice and what constitutes this practice with us.

This reflects another aspect of conducting research within this field which is to value older people as a societal resource and as contributors to and creators of our current society. Therefore, the motivation is to give older people a voice in 'how' they find it meaningful to be involved in designing (conversely how they do not), which is valuable for us as architects and designers, whether we work in practice or in research. Fields such as anthropology, geography and gerontology are much further ahead in terms of involving older people in investigating the many and diverse needs and aspirations of the ageing population. However, these fields do not possess the creatively driven and the propositional element of the design discipline, the field which is the foundation of this study. By propositional I do not only refer to proposing solutions, but to proposing practices, processes and tools, too. In this regard, Brandt (2006) argues that designing the design process is just as important as designing the artefact.

Design as a reframing practice rather than a problem-solving practice

Design has a long tradition of solving problems, making futures and proposing solutions to existing problems. However, today design is increasingly involved in greater and more complex societal challenges that span across disciplines and the actors involved (Buchanan, 1992; Rittel & Webber, 1973; Sanders & Stappers, 2008).

These more complex challenges are often referred to as 'wicked problems' as opposed to tame problems that can be easily solved. In 1973 Rittel and Webber (1973) described the notion of 'wicked problems', where the complex interdependencies within such problems might reveal or create other problems and hence ask for a reframing of problems rather than merely a solution in isolation (Rittel & Webber, 1973). Buchanan (1992) proposed his definition of what he views as design, outlined in his 'four orders of design'. The fourth order includes fields such as architecture and urban planning and is *'concerned with exploring the role of design in sustaining, developing, and integrating human beings into broader ecological and cultural environments…'* (Buchanan, 1992, p. 10). In line with Rittel and Webber, Buchanan's definition of design is at the core of articulating design as a problem-reframing practice rather than a problem-solving practice. Only by thinking of design in that way are we able to innovate and put to the forefront what is at the core of design: to reframe problems and propose new futures. In line with Buchanan's fourth order of design, design for social innovation and transformation in regard to societal issues has come to the forefront of the design discipline, as these challenges require a redefinition of complex problems rather than a solution to the problems in isolation (Sanders & Stappers, 2008). Myerson (2016) refers to 'scaling down' as a necessary approach in design. Instead of concentrating on larger groups and their similarities, smaller groups and their differences reflect an 'emerging new value system' in design (Myerson, 2016, p. 290). *'Scaling down requires a participatory mindset, which means creating with people rather than for them'* (Myerson, 2016, p. 291). Friedman (2016) further states that, *'what we learn by scaling down may help us to solve larger problems—and in the meantime, scaling down to meet specific needs helps to understand and solve local problems in a serious and durable way'* (Friedman, 2016, p. 272).

In the foreword to the series 'Design Thinking, Design Theory' Friedman and Stolterman (2017) present ten challenges that unite design today across disciplines. Divided into three categories, these include 'performance challenges', e.g. acting on the physical world and addressing human needs; 'substantive challenges', e.g. increasingly large-scale social, economic, and industrial frames, as well as 'contextual challenges', e.g. complex environments in which many projects cross boundaries of organizations, stakeholders, producers and user groups. Regarding the 'substantive challenges' Friedman and Stolterman state:

> *'These challenges require new frameworks of theory and research to address contemporary problem areas while solving specific cases and problems. In professional design practice, we often find that solving design problems requires interdisciplinary teams with a transdisciplinary focus'* (Friedman & Stolterman, 2017, foreword)

On this note, I shall move on to present the collaborative research offset from which this thesis has derived.

1.2. Collaborative research offset

This PhD thesis is a result of research carried out within the research network *'Activity and Health Enhancing Physical Environment Network'* (APEN) and the research project within this network called *'Move the Neighbourhood with Seniors'* (MNT with Seniors). Several constraints and opportunities within both the network and the project influenced the scope, choices and directions of this thesis. They will be presented in this section.

At the beginning of the research collaboration a protocol article was co-authored and published in which the research collaboration and study is described in depth (Pawlowski et al., 2017) (please see Appendix 1).

Research network: Activity and Health Enhancing Physical Environment Network (APEN)

Partners and aims

APEN is a research network with partners from three Danish universities:

1. The Royal Danish Academy of Fine Arts, School of Architecture, Design and Conservation: Institute of Architecture, Urbanism and Landscape (KADK)

2. The University of Copenhagen: Division of Landscape Architecture and Planning (KU)

3. The University of Southern Denmark: Research Unit of Active Living (SDU).

Each institution employs three researchers: a project manager (an associate professor or full professor), a post doc and a PhD student. The researchers come from various backgrounds, such as architecture, landscape architecture, design, anthropology and health science.

The time frame of APEN runs from 2016 to 2020 and has been funded by The Danish foundation TrygFonden, The Danish Foundation for Culture and Sports Facilities and The Velux Foundation with a total grant of DKK 10.6 mil.

The aim and research questions of APEN are formulated as follows (my translation from Danish):

> *'...to create research-based knowledge about how we, through changes or improvements in the built environment, can enhance physical activity and healthier lifestyles among socially challenged citizens by offsetting in the local community'* (from project description p. 1)

> *1. How can new, interdisciplinary, scientific methods create better knowledge about connections between the physical local community and citizens' health, social common practices and body culture?*

> *2. How can changes or improvements of the built local community support new body cultures, movement practices and social activities as well as promote qualities of experience and mental, social and physical public health across generations?* (from project description p. 1)

The background for establishing the network lies in a demand for creating healthier cities for all. This is done through focusing on the link between 'physical activity' and the 'physical environment' as physical activity is vital for counteracting life style diseases, and in this regard everyday activities in the local environment are a key factor. As such, APEN offsets in a definition of health drawing on WHO's understanding as:

> *'"Health is created and lived by people within the settings of their everyday life; where they learn, work, play and love (WHO, The Ottawa Charter for Health Promotion, 1986)." This means that interventions to create activity and health must offset in people's everyday life perspectives'* (from project description p. 3)

One of the main determinants for a person's health status is his or her education level, since this influences a person's income, relation to the labour market, housing situation and socio-economic status.

In this regard, interdisciplinary approaches for creating cities that enhance physical activity have shown to have better potential for reaching the less active as opposed to e.g. information-based campaigns that in the long term only affect the people that are already active, which then further increases inequality (Diderichsen, Andersen, & Manuel, 2011). The hypothesis of APEN is that in order to overcome inequality in health, it is necessary to look deeper into the spaces and settings in our cities and local environment and make them meet the needs of the specific population group (project description p. 10). In doing so, we need to draw on multiple disciplines through research collaborations and engagement with local communities.

This overall focus on cities and local communities is the reason why I position this PhD thesis in the context of AFCCs and in co-design as a participatory design approach for engaging with local communities.

Research context

The research context of the network is Sydhavnen (the South Harbour), an area situated in the southern part of Copenhagen. The neighbourhood is home to 10,276 inhabitants (Områdefornyelse Sydhavnen, 2014) and covers an area of 1.2 km2 surrounded by high-traffic corridors (Bille & Lund, 1985). Sydhavnen is an old working-class area, planned and built between 1908 and 1950 for the growing workforce moving into Copenhagen. It is built on the principles of welfare planning at that time and with reference to the English garden cities that sought to provide healthier and better living conditions for the residents. Accordingly, the neighbourhood primarily consists of 2-3-storey building blocks arranged in geometrical structures that would provide light and fresh air to the individual apartments. Furthermore, green boulevards, small green parks and public squares are found around the neighbourhood (Jensen, 1993; Områdefornyelse Sydhavnen, 2014).

Over the years, a decline in the number of inhabitants in Sydhavnen has resulted in the area becoming a neighbourhood where socially challenged people are housed by the municipality (Områdefornyelse Sydhavnen, 2014). This has resulted in the area becoming one of Copenhagen's most disadvantaged neighbourhoods with demographic statistics stating that 40.2% of the residents have a low income (30.6% on average in Copenhagen), 22.1% of the population is outside the labour market (17.1% on average), 32.0% has no formal education (21.3% on average), 53.0% of the dwellings are social housing (20.1% on average), 48.0% of the housing units are under 60m2 (30.2% on average) and 70.6% of the inhabitants are single without children (64.2% on average) (Områdefornyelse Sydhavnen, 2014). The average life expectancy is 73.0 years which is one of the lowest in Denmark, where the average is 80.6 years (Forskningscenter for Forebyggelse og Sundhed, 2008).

Since Sydhavnen was one of the last deprived areas of Copenhagen that had not undergone urban renewal, it was selected to undergo changes. A municipal area renewal initiative was started in 2014 and is expected to run until 2020. Initiatives include climate adjustments, optimization of public and green spaces as well as housing and adjoining courtyards (Områdefornyelse Sydhavnen, 2014). Additionally, a new Metro line is expected to open in 2022 which will improve the connection of the neighbourhood to the remaining city.

The neighbourhood of Sydhavnen has three social housing areas allocated for seniors which are run by separate housing associations. They were all invited to take part in this research, and two of the housing areas accepted this invitation. Due to a shortage of seniors in the area, a number of the apartments have been assigned to other groups, e.g. vulnerable groups, by the municipality. Two of three senior housing areas took part in this research. Housing Area 1 consists of 441 apartments with approximately 200 senior residents, and Housing Area 2 consists of 127 apartments with approximately 100 senior residents. Both housing areas have a large turnover, and due to the socio-economic status of the neighbourhood, social staff are affiliated with both areas. In one case the social staff are employed by the municipality in an attempt to fight loneliness and social isolation and in the other case they are employed directly by the housing associations to run social activities and assist with social issues.

Intervention and evaluation

APEN consists of three sub projects: 1) a senior project, 1) a children's project and 3) an evaluation project, each led by the three research institutions, KADK, KU and SDU, respectively. This PhD project has been carried out as part of the sub project one, the senior project.

The aims of the two sub projects one and two are to lead the practice-based research by collaborating with seniors and children respectively as well as multiple other practice stakeholders to co-design interventions in their local built environment. As the two projects were scheduled to run simultaneously in the same neighbourhood it allowed for collaboration and knowledge sharing between the research teams, for example in the form of recruitment strategies, methodological considerations, issues related to the practice fields and design feedback over the years.

Within the different professions included in the network the notion of what is understood by 'intervention' can take many forms. As such, the original project description operates with a variety of terms such as; intervention research, action research, community based participatory research (CBPR), community based participatory intervention (CBPI), co-

APEN

MTN with Children

MTN with Seniors

Evaluation

PhD project
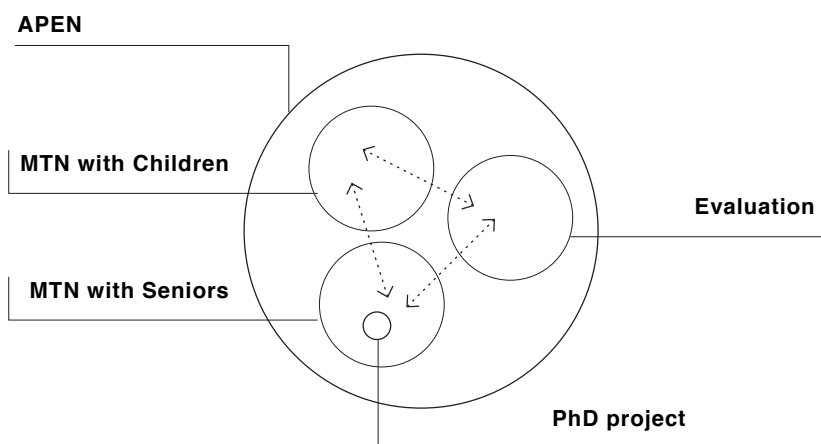
Figure 1: APEN and the three sub projects. PhD embedded in MNT with Seniors

creation and co-design. The notions of intervention and participation in health studies are often driven by a positivistic approach, where a right mode of participation (and the measurement of successful participation) is led by a certain normativity (Bønnelycke, 2018). However, for sub project one and two, 'intervention' in this network was interpreted from a design perspective and came into existence in the form of a co-design approach with a solid foundation in the local communities.

The evaluation project (sub project three), consists of an effect evaluation and a process evaluation of sub projects one and two. Hence, the aim of sub project three is a) to examine the use of the urban installations developed and implemented and b) to evaluate how the intervention has been implemented. Both evaluations consist of a baseline and a follow-up study, respectively, before and after the intervention processes of sub projects one and two. The evaluations were planned to be carried out a) using GPS and accelerometers and through systematic observation using System for Observing Play and Recreation in Communities (SOPARC), and b) through focus groups with selected stakeholders in the two sub projects. As this sub project focused on the 'use' after implementation, such a dimension has not been the focus of this thesis.

By the time of the research application in 2014, partnerships with the two senior housing

associations were established in which they agreed to maintain the interventions after they had been built. This meant that the respective interventions were to be located on the premises of the local housing areas, as opposed to e.g. a public urban space, where maintenance would rely on the municipality.

Further, the study design of the research network required that the interventions be constructed in outdoor environments (and not indoors), as the evaluation methods – GPS measurements and SOPARC observations – relied on an outdoor location.
An amount of DKK 600,000 was allocated for constructing 2-3 interventions for MTN with Seniors, which naturally set the limits for what could be constructed in a neighbourhood scale.

Research project: Move the Neighbourhood with Seniors
Originally, sub project one was named: *'Inequality in health and physical inactivity: The seniors'.* However, as the three sub projects evolved in practice, the research network experienced that it was important to have a name that would make sense for the local people involved in practice. Hence, *'Move the Neighbourhood with Seniors'* became the everyday name (In Danish 'Bevæg Byen med seniorer').

Research aim
The specific aim of MNT with Seniors is to develop interventions in the local community with older people as active partners in collaboration with researchers, other local stakeholders and commercial and civil actors.

Like the overall research questions of the network, the project-specific questions have the interdisciplinary offset at the centre of the contribution and further focus specifically on the age group of older people:

> *1. How can we create a better connection between the physical local community and the health, social common practices and body culture by offsetting in new interdisciplinary and scientific methods?*

2. How can changes or improvements in the built environment of the local community support new body cultures, movement and social activities as well as promote qualities of experiences and mental, social and physical public health for the seniors? (from sub project description p. 1)

Roles and collaborators

Within the research team of MNT with Seniors we were represented by two professions and three professional levels. The team consisted of a project manager/associate professor (an architect with experience in healthy and active cities), a postdoc (an anthropologist with experience in ageing research) and myself, a PhD student (an architect with experience in co-design).

The co-design processes were intended to be carried out by the postdoc and myself, and the overall management (including budgets and building-related regulatory affairs) was intended to be carried out by the project manager. The detailing of the design was intended to be carried out by a professional design consultancy firm chosen by the project manager prior to the start of the project.

These various roles directed the scope of this PhD project to focus on the processual dimension of co-designing, as opposed to the detailing of the built installations which was intended to be the responsibility of the design consultancy firm.

Having an anthropologist and an architect collaborate on developing and carrying out the co-design processes offered us an opportunity to combine professional disciplines in terms of both focus areas as well as methodologies.

1.3. Positioning the PhD research approach

In line with the research offsets of APEN and MNT with Seniors, which have just been

presented, I further position the research approach of this PhD thesis within participatory design, practice-based design research and exploratory research.

Exploring participatory and practice-based design research

> *'As soon as researchers leave the university they face rationalities different from their own. Many of these rationalities are beyond their control; more often than not, researchers find themselves in subordinate position in activities initiated and controlled by people who think differently'* (Koskinen, Zimmerman, Binder, Redström, & Wensveen, 2011, p. 145)

This thesis draws on multiple approaches within the design research discipline. I will briefly mention them here and elaborate on them in the following chapters.

As the title of this thesis indicates, 'co-designing' is the main research approach. Its original point of departure is in participatory design which has participation and the equal collaboration between professionals and beneficiaries of a design outcome at its centre. As such, the user becomes a partner and a collaborator (Sanders & Stappers, 2008) when exploring collaborative design spaces for future-making, including processes and tools for doing so (Binder, Brandt, Ehn, & Halse, 2015; Brandt, Binder, & Sander, 2012; Halse, Brandt, Clark, & Binder, 2010; Sanders, 2013a).

> *'Participatory experience is not simply a method or set of methodologies, it is a mindset and an attitude about people. It is the belief that all people have something to offer to the design process and that they can be both articulate and creative when given appropriate tools with which to express themselves'* (Sanders, 2002, p. 1)

In line with the quote above, co-design in this thesis is both a theoretical mindset and a methodological approach, which I will elaborate on in Chapters 3 and 4. However, in this

thesis I draw on two definitions of co-design that both emphasise the collaborative element with non-designers and the latter emphasising the starting point of a project, as the problems surrounding the people who participate: *'the creativity of designers and people not trained in design working together in the design development process'* (Sanders & Stappers, 2008, p. 6) and as *'a community centred methodology that designers use to enable people who will be served by a designed outcome to participate in designing solutions to their problems'* (From the Design Council, cited in Thomson & Koskinen, 2012, p. 77).

Furthermore, this thesis is positioned within practice-based design research (Vaughan, 2017b) and research 'through', 'for' and 'into' design (Frayling, 1993). These are both orientated towards 'designing and making' (Redström, 2017) as well as the meeting with the real world which will influence one's practice of research. Conducting practice-based design research encourages a reflection throughout the process, where the researcher critically engages in and on her own practice in order to extract knowledge as presented by Schön (1983). I will elaborate more on these research approaches in Chapter 4.

Exploratory approach
Lastly, an exploratory approach has been a driver when carrying out, analysing and disseminating this research. At the core of exploratory research lies an intention to investigate through an open-ended and flexible approach that is not predefined (Stebbins, 2001a). Exploratory research is often used in emerging fields, where little knowledge exists or when complexity requires exploration before e.g. a research design can be developed. It often takes place in the beginning of a project in order to then influence the later stages (Sanders & Stappers, 2013). However, my reading of exploratory research is not limited to phases, but rather exploration becomes the centre of iterations within a research process and is the dynamic driver behind understanding, generating and reflecting throughout a process. An exploratory dimension has been important for addressing the objective of this thesis for three main reasons:

Firstly, the field of investigation and the objective behind the study required applying a co-design approach with older people to address inequality in health through changes in the

built environment. This addresses complex challenges that span several research fields and, according to literature and the objective of APEN, could or should not be solved in isolation. This is in line with the statements presented earlier by scholars about the new societal challenges that design is taking on (Friedman & Stolterman, 2017; Redström, 2017; Rittel & Webber, 1973; Sanders & Stappers, 2008).

Secondly, the interdisciplinarity of our project team in line with the APEN objective required that we collaborated, combined and drew on the fields of anthropology, gerontology, architecture and co-design through continuous methodological and theoretical exploration.

Thirdly, the offset in practice-based research urged us to apply an explorative approach to the research design from the beginning, as the study population and the context needed a context-sensitive approach if we wanted to gain access to the field as well as adapt to the changes within the context as the project evolved.

With this mode of working, I apply an explorative approach to both the empirical research studies and the theoretical approaches. I regard practice and theory not as dichotomies but rather as allies that work interdependently and influence each other consistently as knowledge and arguments develop through practice (Redström, 2017) and through reflection in and on this practice (Schön, 1983).

Entering into the real world and the people of Sydhavnen

I have introduced my collaborators from the research side of the network and the project. Similarly I find it relevant to introduce to you the older people of Sydhavnen. I introduce them at this stage of the thesis as background knowledge and to shed light on some of the personal stories that lie behind the statistical numbers and the socio-economic status of the area I have previously described. Entering into their world has guided how the research was approached and how I positioned my thesis into the chosen theoretical and methodological fields.

> Woman: *'What are the chances that this project will actually result in something?'*
> Me: *'Its 100%. The money has already been granted...'*
> Woman: *'Yes! Let's set aside money for a party then!'*
> Me: *'For sure. Good idea!'*

The conversation above took place during the very first meeting with the local board of older people in one of the housing areas in the spring of 2016. The group was concerned with whether or not this project would be another drive-by-research project where we, the research team, would gain something but they, the local residents, would be left with nothing or even worse with an increase in rent if they themselves had to pay for e.g. the maintenance of the built installation. The concern was grounded in previous experiences, as the area, due to its socio-economic status and deprived character, had previously been the target of other research projects. Hence, I sensed a real concern and exhaustion even before we had started.

So, while this 'party' was basically the only promise we could make at this stage of the project, as we had yet to explore how to carry out the process and accordingly, collaboratively co-design an urban intervention, the notion of a 'party' in a very concrete way became an anchor point that we could collectively aim at, hold on to, and remind each other of in the many moments of uncertainties that would occur during this process in the following years.

The conversation also, very much, illustrates the essence of practice-based research: You enter into people's everyday life, which is the sum of past experiences, a current situation and future worries and concerns as well as aspirations and hopes, all aspects that are important for understanding and intervening in any given context.

As far as public senior housing areas are concerned, Copenhagen offers 42 options distributed over nine districts. Given the city's geographical span (88.25 km2) this means that location-wise seniors often have to relocate to a different neighbourhood and perhaps not the one of their first choice or anywhere close to where they used to live. To give an

example, the districts of Amager, Østerbro and Inner City each have two public senior housing areas with the average waiting time of 10.8-30.2 months. In comparison, the average waiting time in the two housing areas in this study are 3.0 and 2.1 months, respectively (Københavns Kommune, 2020)

The personal perspectives of why some people live the latter part of their life in Sydhavnen clearly reflect this issue. Out of the sixteen people who participated in my first round of fieldwork – the go-along interviews (more about this in Chapter 4) – only two had spent the majority of their adult life in the neighbourhood. The remaining fourteen had moved there in their older age. The main reasons for relocating had to do with necessity rather than choice. Life transitions included financial changes such as not being able to afford the large apartment they used to live in, losing their business due to illness and hence losing income, physical decline, which meant a need for an elevator, and changes in family situations such as a partner passing away. These personal stories provided insights into a context influenced by several structures beyond the individual older person such as history and policy. They are stories about whether people have choices or not in their older age, as well as stories about political decisions regarding growing old.

Also, they can be seen as explorations into a research context with which I had to familiarise myself, and hence they influenced how the subsequent research was carried out in practice. But they also ended up being foundations for explorations into theoretical approaches, where I started positioning and contextualising the study into wider disciplinary and societal matters, in and through different fields such as gerontology and co-design with older people in a spatial practice (more about this in Chapter 3).

1.4. Research aim and questions
Spanning the different levels from political and societal matters embedded in the research network and in society, as well as the personal and everyday issues highly prevalent in practice and the people living their everyday life there, I seek to inscribe this thesis into a political context of age-friendly cities and communities, AFCCs, by scaling down and

working locally, empirically and qualitatively through exploratory, practice-based and participatory co-design research.

By doing so, I aim to inscribe my architectural profession into a co-design practice where older people become pivotal actors when developing AFCCs and contributing to a spatial practice for doing so.

The overall research objective of this thesis is:

> *To explore how an age-friendly co-design approach can contribute to spatial practice when developing AFCCs.*

This is further unfolded through three research questions:

> *RQ1: What is the significance of involving older people in exploring spatial dimensions of AFCCs?*
> *RQ2: What can be defined as age-friendly spatial practice?*
> *RQ3: What does age-friendly spatial practice require from an architect?*

By drawing on different fields related to the objective of this thesis, I further seek to expand and contribute to these respective research fields through the empirical studies carried out as part of this thesis.

1.5. Thesis structure

This thesis takes the form of an article-based dissertation and includes one published article and two manuscripts prepared for two international architectural research journals. These three articles are bound together in this 'wrapping', which I regard as a study in itself as it weaves together the overall research challenge.

My decision to create an article-based thesis rather than a monograph was initially meant as a mode of dissemination that reflected and encouraged the interdisciplinary collaboration

in APEN. It would provide opportunities to not only work across disciplines, but also to disseminate knowledge into different fields as the process evolved.

I am aware that the nature of this thesis, with its offset in arts and the humanities, could have been unfolded differently in the format of a monograph. However, I regard the article-based format as an opportunity that has continuously forced me to engage in discussions with different disciplinary fields and different scholarly ranks, from postdocs to professors, and from co-authors to peer reviewers.

Further, and in line with my research objective to contribute to AFCCs and to a spatial practice, I regard the sharing of the methodological work as important in order to expand the field in both practice and research. Hence, each of the articles aims to address an issue relevant to and applicable in practice as they disseminate knowledge that is anchored in practice but founded on academic work. They can be read separately and as part of this study, where I weave them together into this PhD thesis.

In the following chapters I will present to you this study that makes up the thesis, including the articles:

In Chapter 2, I present the societal matters in which this thesis inscribes itself. What are we dealing with in terms of ageing, cities, and communities, and what role does co-design play in this matter?

In Chapter 3, I position this study in a triad of theoretical approaches that aims to reflect the study objective as well as bringing fields together in order to discuss the empirical material and answer the research questions of the thesis. The theoretical approaches are: Spatial practice, environmental gerontology and co-design.

In Chapter 4, the research methodology will be presented, which has been the explorative driver behind this thesis, including the methods used in the empirical studies when conducting go-along interviews and co-design workshops.

In Chapter 5, reprints of the three articles will be presented. Each of the three articles engages with different research aims:

> Article 1: To explore how go-along interviews can be used to co-construct knowledge about age-friendly neighbourhood design in a deprived area, when exploring social and physical dimensions of neighbourhood design as well as participatory modes for doing so.

> Article 2: To explore two co-design processes carried out in two housing areas in a Copenhagen neighbourhood and engage in a discussion about which elements are particularly important for making the co-design process age-friendly.

> Article 3: To explore the significance of an age-friendly co-design process carried out in Greenland through the perspectives of the various stakeholders involved, including local municipal staff and a group of older people.

In Chapter 6, I shall present a concluding discussion, where insights across the three articles are discussed in relation to the theoretical triad presented in Chapter 3 and the objective of this PhD thesis.

Thesis narratives

Throughout this thesis, I will be using the term 'we' when talking about the collective research conducted in this study, as I certainly did not carry out this research in isolation. I will be using 'I' in the sections where I am solely presenting my own practices and reflections.

As a second way of presenting the age-friendly co-design practice and shedding light on the practice-based and participatory design perspectives I apply a visual narrative to this thesis.

This narrative represents some of the reflections and questions that have been raised during this process.

Hence I draw on the disciplinary traditions from design and architecture, where the visual dimension in both process and representations are primers 'for' communicating information and for communicating 'with' stakeholders of various kinds, in practice, in research and with the public.

As such, I regard this visual narrative as a contribution that supports the written representation when addressing my research objective and the research questions by engaging in a visual dialogue about the everyday life and the complex, chaotic nature of the spaces, people, methods, and various other actors that took part in shaping this discussion. As Redström states, design is not just the complexities arising from dichotomies: *'Design can also be remarkably resilient and willing to commit to all that which is neither black nor white, but complex and colorful'* (Redström, 2017, p. 1).

The research journey was indeed complex and colourful, and I hope this thesis reflects that.

WHOSE PARTY?

WHOSE SPACE?

WHOSE SPATIAL PRACTICE?

Photo from party in Copenhagen, 2017
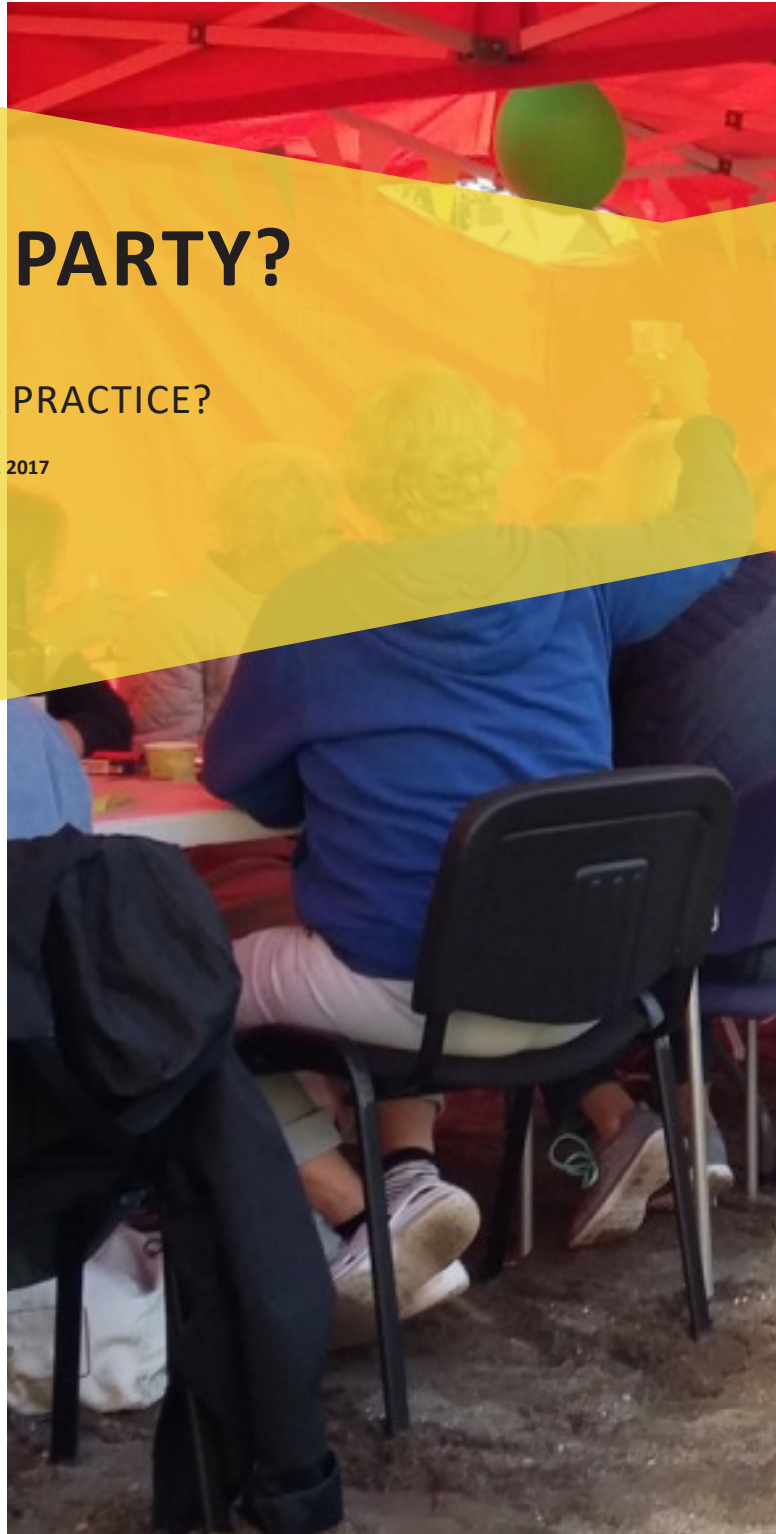
2. AGEING, CITIES AND COMMUNITIES

In this chapter I seek to outline the current and emerging issues around societal matters in relation to ageing, cities and communes. What are we dealing with? And what is the role of co-design in this matter?

2.1. Demographic changes and urbanisation

The numbers are clear: By 2050, it is estimated that the ageing population will double and that the proportion of people over 60 years will have reached over twenty percent of the total population (World Health Organization, 2007). Furthermore, more than 2/3 of the world's population is forecasted to be living in urban areas, which requires our cities to respond to issues related to the increasing ageing population (United Nations Department of Economic and Social Affairs, 2018).

However, many environments are not prepared to accommodate the needs of older people, be it in a physical sense with barriers related to infrastructure and the built environment ranging from individual housing units to the larger neighbourhood, or in terms of services or social support systems or social activities (Lui et al., 2009; O'Hehir, 2014).

Additionally, migrating to urban areas might not be an option for all older people. For some, particularly those with knowledge, skills and financial flexibility, urbanisation creates opportunities. For others, their social safety nets may vanish, as they themselves will not have the opportunity to migrate to urban areas, but younger family members will; hence a potential support system from the traditional family structure disappears (World Health Organization, 2015). Additionally, within urban areas, differences in income and economic status among the older generation will result in some having actual options for deciding where they want to grow old, while others will not, which will affect how they adapt to or thrive in their local environment affecting their overall well-being. Increased diversity and heterogeneity among the older generation are other changes to be aware of, which underscores the fact that environments suitable for ageing cannot be perceived or approached as a one-size-fits-all (Lui et al., 2009).

2.2. Diversity in older age

As I stated in the preface of this thesis, the ageing population cannot and should not be seen as a homogenous group with the same abilities and aspirations. WHO refers to this diversity as a 'hallmark' of older age. As seen in figure 2, the broad span in the functional capacity, marked by the vertical distance between the two lines, indicates that older people are much more diverse than younger age groups (World Health Organization, 2015). Some will have the capacities of a 20-year old, while being in their 80s, while others will experience a decline much earlier, in their 50s and 60s.
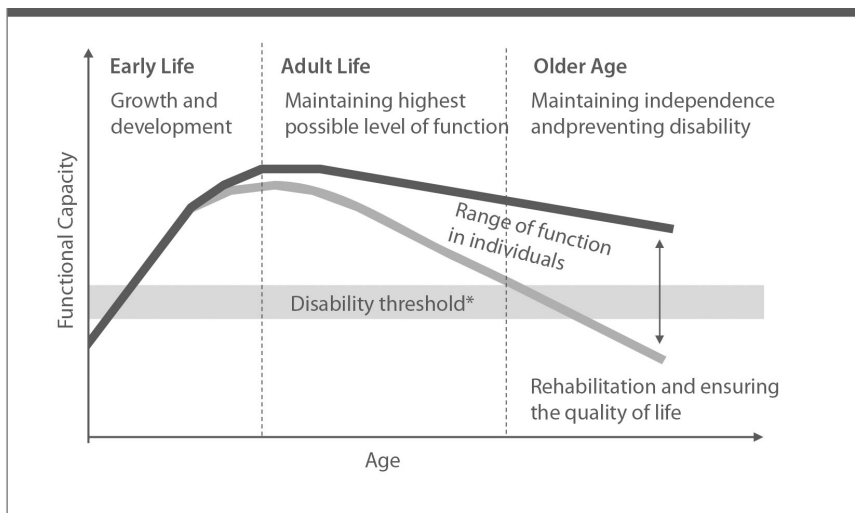
Figure 2: Maintaining functional capacity over the life course. Source: (Kalache & Kickbusch, 1997) from (World Health Organization, 2007)

This diversity, both in regard to the positive and the negative trajectories, must be dealt with when designing AFCCs. When it comes to diversity in older age, some of this can be explained by genetic inheritance or choices made by the individual during his or her life. However, much diversity is due to conditions that are outside the control of the individuals or the options available to them. These conditions arise from the physical and social environments and can be linked directly to health and inequalities in health. Over a life course, this 'cumulated advantage/disadvantage' influences the diversity in capacity and circumstances, which are seen in older age. And those with the greatest health needs

may at the same time be the ones with the fewest resources to address it (World Health Organization, 2015, p. 8).

2.3. The notion of ageing

In a literature review about what factors make a community age-friendly, Lui et al. (2009) outline the new discourse on ageing:

> *'Instead of conceiving older people as a social problem or burden, the new discourse constructs ageing as a positive process and emphasises the active roles older people continue to play in society (Biggs, 2001; Powell & Edwards, 2002). This focus on active participation and engagement of older people is an antidote to the conception of old age as an inevitable period of withdrawal from social roles and relationships. This new discourse on ageing has redirected policy discussion from economic or welfare issues to matters of social inclusion, engagement and community development (Audit Commission, 2004; Joseph Rowntree Foundation, 2004)'* (cited in Lui et al., 2009, p. 119)

Older people are often portrayed as vulnerable or frail, and this in itself becomes a barrier to developing the field of public-health policy on ageing, as these attitudes limit the way *'problems are conceptualized, the questions that are asked, and the capacity to seize innovative opportunities (Butler, 1980)'* (cited in World Health Organization, 2015, p. 10). This can be defined as 'ageism', which is a characterisation projected on the individual by either internal, public and societal ways of viewing an older person through prejudicial attitudes or a discriminatory practice (Butler, 1980). Such age discrimination perceived by the individual is found to negatively impact the health and wellbeing of a person (Jackson, Hackett, & Steptoe, 2019).

To counteract this, and in line with the WHO report on 'Ageing and Health'(World Health Organization, 2015), abilities and opportunities must be brought forward in the ageing

discourse rather than disability and limitations. A shift in opportunities in older age, through participation (e.g. in the workforce or social activities), may benefit society as much as the individual. Ageing 'well' is more than good physical health and the absence of decline; rather a totality of well-being includes the ability to participate and function in the context in which you grow older. In this regard, social relations, engagement and inclusion are vital (Lui et al., 2009, p. 120). The WHO has outlined three reasons as to why we as a society need to act on (healthy) ageing:

Firstly: The rights of older people. Aiming to ensure that policies and society live up to the human right of leading a healthy life through addressing barriers on legal, social and structural levels. The rights of older people empower them to *'contribute to and remain active members of their communities for as long as possible, according to their capacity'* (World Health Organization, 2015, p. 15).

Secondly: Sustainable development. Given the proportion of the total population that older people will constitute, actions will need to *'harness the contributions that older people make to development and ensure that they are not left behind.'* Consequences of not doing so will reach way beyond the individual to also put pressure on e.g. families and the broader society (World Health Organization, 2015, p. 15).

Thirdly: The economic imperative. Aiming to shift the view of older people as being not solely beneficiaries, but also contributors in a perspective '*that considers the benefits that might be missed if society fails to make the appropriate adaptations and investments'* (World Health Organization, 2015, p. 17).

These three reasons represent a shift in the notion of how to view ageing and rationalise why this shift is necessary for society in general and for the individual older person.

> *'If older people can maintain their health until the last years of life, and if they live in an environment that allows their ongoing productive engagement in society, ageing populations might instead be considered an overlooked societal resource'* (Beard & Petitot, 2010, p. 428).

2.4. The neighbourhood as an important place for ageing

In relation to this thesis taking place in the neighbourhood realm, neighbourhoods have proved to be important places for the ageing population for various reasons (Gilroy, 2008; Scharf, Phillipson, & Smith, 2003; Smith, 2009). In general, older people spend more time in their local neighbourhood than younger people or those still working (Buffel et al., 2012). Studies suggest that older people spend up to eighty percent of their day within their home and in the local neighbourhood (Peace, 2013). This is due to various factors and life-changing transitions, for example, retirement, resulting in not having to spend your primary time elsewhere (Buffel et al., 2014; Lager, 2015) or a potential reduction in mobility or other health declines that limit the time and energy one can spend elsewhere (Carlson et al., 2012; Lager, Van Hoven, & Huigen, 2014).

Furthermore, neighbours or non-kin relations have come to play a more dominant role in the social life of older people, which was once dominated by family relations (Phillipson, Bernard, Phillips, & Ogg, 2001). These local social contacts are important for the well-being of older people, making the neighbourhood the primary realm for this to happen (Gardner, 2011; Victor, Scambler, & Bond, 2009; Wood, Giles-Corti, & Bulsara, 2012). Further, the length of time a person has lived in a neighbourhood plays a role in terms of well-being, as familiarity with a neighbourhood can foster a sense of control, independence and safety (Buffel et al., 2012; Phillipson, 2007; Wiles, Leibing, Guberman, Reeve, & Allen, 2012).

On the other hand, neighbourhoods, especially in deprived or disadvantaged areas, can become a challenge if they do not meet the needs of the ageing person, e.g. by not offering local and accessible social or medical services as well as shopping opportunities. This lack of resources can result in the opposite of wellbeing causing environmental stress, social isolation, social exclusion and loneliness (Scharf, Phillipson, Smith, & Kingston, 2002; Smith, 2009; Van Der Meer, Fortuijn, & Thissen, 2008). For example, limitations in one's financial resources, such as not having money for a bus fare, could prevent an older person from venturing outside their neighbourhood resulting in them being stuck in their local setting (Phillipson, 2007).

Hence there is an urgent need to regard neighbourhoods and communities from the combination of their physical, material, social, and psychological aspects. Such a perspective should promote increased mobility and enhanced independence and quality of life, making the social and material environment interdependent (Lui et al., 2009; Peace, 2013; Rowles & Bernard, 2013). At the same time Lui et al. (2009) point to the fact that the study of older people's ability to participate and contribute to their community lacks an exploration of individual differences that take the diversity and complexity of modern communities into account (Lui et al., 2009, p. 119).

2.5. Political responses to cities and communities for the ageing population

The two trends – fast ageing and fast urbanisation – have led the WHO to develop several political responses. The WHO first used the terminology Age-friendly Cities (World Health Organization, 2007) and later extended it to include 'communities' when they established the Global Network of Age-friendly Cities and Communities (GNAFCC) in 2010 (World Health Organization, 2018). This definition – Age-Friendly Cities and Communities (AFCC) – is now widely used by scholars (Buffel et al., 2018; Moulaert & Garon, 2018). In their guide

Figure 3: WHO Age-friendly Cities Model. Source: (World Health Organization, 2007). My layout.

from 2007, WHO (2007) defined eight key topics which are important when developing AFCCs. These can be seen in figure 3.

The first three (outdoor spaces and buildings, transportation, housing) are clearly related to the physical environment; the next three (social participation, respect and social inclusion, and civic participation and employment) concern social and cultural environments, and the latter two (communication and information, and community support and health services) deal with social environments and health services. However, all of the areas are to be seen as overlapping and interacting simultaneously in the development of AFCCs, just as physical, social and cultural environments do in everyday life.

Further, in 2015 United Nations launched its seventeen Sustainable Development Goals (SDGs) as a response to targeting global world challenges through a set of goals. At the core of the seventeen goals is an aspiration for a society for all, where *'no one will be left behind'* and *'to reach the furthest behind first'* (United Nations, 2015, p. 4).

WHO (2018) lists 15 out of 17 as being relevant to AFCCs. Here I highlight those that are most pertinent to this thesis:

03: Good Health and Well-Being: *'Ensuring healthy lives and promoting the well-being for all at all ages is essential to sustainable development'*

10: Reduced Inequality: *'To reduce inequalities, policies should be universal in principle, paying attention to the needs of disadvantaged and marginalized populations'*

11: Sustainable Cities and Communities: *'There needs to be a future in which cities provide opportunities for all, with access to basic services, energy, housing, transportation and more.'*

These three SDGs in relation to WHO's cities model can be considered the political framework under which the development of AFCCs takes place and in which this thesis is embedded. From an institutional point of view, KADK has committed itself to including

the SDGs in all projects carried out at the institution by providing a design and architectural discourse to address the issues behind the SDGs. Further, in a recent survey carried out by WHO (2018), members of the Global Network of Age-friendly Cities and Communities (GNAFCC) were asked which topics and issues were most important to their work. One of the findings was that members wanted practical advice and guidance in formats that are easy to apply to their work, with the top-three being case studies (33%), guides and toolkits (31%) and evidence summaries (13%) indicating the need for study outcomes that can be applied in local contexts and in practice (World Health Organization, 2018).

2.6. Co-design with older people in spatial design of AFCCs

The previous sections of this chapter have outlined the need to involve older people in understanding and designing AFCCs, as they reflect great diversity and possess resources that we as a society cannot afford to overlook. Involvement can happen in numerous ways; however, literature supports the notion that the lives and experiences of older people should be the starting point (Lui et al., 2009, p. 119; O'Hehir, 2014).

When it comes to involving older people in developing AFCCs, 'participatory research' or 'co-research' are the most common types of involvement in literature, where older people play an active role in investigating (and not designing) their built environment (Buffel, 2015, 2018a, 2018b; Finlay & Bowman, 2017; McDonald, Scharf, & Walsh, 2018; Sanz, Ferrer, Figueroa, Ferrandis, & Rigia, 2015). This also includes the WHO guidelines to AFCCs, where more than 1,400 older people from across the globe took part in focus groups contributing to what the guideline should include (World Health Organization, 2007, p. 7). Likewise the Place-Age project engaged older people in participatory methods around ageing needs in the UK, Brazil and India. Methods included e.g. mapping and walking interviews (PlaceAge, 2019).

Co-design projects[1] that involve older people in design stages of AFCCs include The Mobility, Mood and Place project carried out by the University of Edinburgh (Scott, 2017), where architectural students and seniors engaged to co-design urban solutions together for student projects. The 'Older Person Friendly Seating' project (Ions & Years Ahead, 2014), where older people were engaged when developing the optimal age-friendly seating. The 'Old Moat' project from Manchester (Stefan White & Hammond, 2018; S. White, Phillipson, & Hammond, 2013), where older people were engaged in focus groups and among other things co-created an action plan as well as seating arrangements. The study 'Co-Motion: Mobility and Wellbeing in Later Life' in which older people took part in e.g. photo diary elicitation and participatory mapping (Cinderby et al., 2018). Further, the 'Lee Li Ming Programme for Ageing Urbanism'[2] in Singapore is currently undertaking research in 'Innovative Planning and Design of Age-Friendly Neighbourhoods in Singapore', where co-design is described as a method that will be used. However, no publications have been published yet. Most of these studies focus on the age-friendly design outcomes and not on the process of involving older people. Scott et al. (2017), on the other hand, present methodological insights in relation to co-design methods that worked best with older people when they collaborated with architectural students. For example, they suggested making the participation informal and enjoyable in order to avoid exhaustion by planning activities and considering the capacity of the group and offering choices for the individual. Further, Lee (2012) worked exploratively through social design with groups of older people in China to understand the 'ingenuity' they possess (Lee, 2012). Methods included design festivals as design interventions, where older people engaged in exchanging innovative ideas for ageing communities. She challenges the role of the designer in terms of how ageing is perceived and advocates for distributing agency to older people themselves as they are inventive (Lee, 2012).

In co-design outside the spatial scale of AFCCs, older people have been involved more predominantly, primarily in the realm of co-designing welfare, health and technological

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[1]   In line with the APEN objective of this study, co-design was the approach of this research

[2]   https://lkycic.sutd.edu.sg/research/ageing-urbanism/innovative-planning-design-age-friendly-neighbourhoods-singapore/

solutions. I include some of the methodological considerations from these studies here: Challenges of involving older people can be that they do not identify with being stigmatised as 'elderly' nor see the direct benefit of participating themselves (Brandt, Binder, Malmborg, & Sokoler, 2010; Malmborg, Grönvall, Messeter, Raben, & Werner, 2016; Riche & Mackay, 2010). Lindsay et al. (2012) further note that sessions need to be scheduled to suit the group, because some older people can find it hard to concentrate if the session lasts too long. Additionally, some older people can find it difficult to envision intangible concepts, and a structure and the focus need to be established that prevent the conversation from digressing from the topic. Lastly, the designer sometimes approaches the older person from a perspective focusing on the individual's limitations and not her needs and desires (Lindsay et al., 2012). Botero and Hyysalo (2013) outline some strategies for working with older people in their everyday practices when co-designing a technological platform. They suggest building prototypes continuously and from the early stage, working with design activities on different scales and aiming for a long-term engagement (Botero & Hyysalo, 2013).

Further, some of the overarching findings and insights in regard to age-friendly co-design elements are related to the relational part and to recruitment. In one study, Brandt et al. (2010) reflect on recruitment and engagement of older co-designers. They found that institutional categories or official biological ages of 'elderly' or 'senior citizen' discouraged people from identifying with these terms (Brandt et al., 2010). Instead, they suggest operating with the term 'situated elderliness' reflecting that certain contextual situations can make you act or feel older, while still fully handling other situations without any problem (Brandt et al., 2010, p. 402). In terms of recruitment and mobilisation, they further stress the importance of understanding the existing everyday life schedules and practices of the seniors (Malmborg et al., 2016).

2.7. Summarising and pointing forward

In this Chapter I have presented the current issues and emerging topics around ageing, cities and communities; demographic changes, diversity in older age and the notion of ageing, the importance of neighbourhoods in older age as well as political responses to this: AFCCs and the SDGs. Lastly, I have outlined the current co-design discourse of AFCCs, where older

people are part of the design team, reflected first from a spatial scale and further by drawing on co-design studies with older people from outside the spatial scale in order to present specific methodological insights from the co-design field with older people.

The various disciplines engaged in the discourse of developing AFCCs reflect multiple professional fields and an opportunity for co-design to engage with these when bringing older people and their resources into the design space. From a research perspective, this equally reflects an opportunity to draw on multiple theoretical approaches, and I shall now move on to present these theoretical approaches in which I position this thesis.

WHICH RESOURCES?

DIVERSITY AND COMPETENCE-PRESS

Photo from workshop location in Copenhagen, 2017

3. THEORETICAL POSITIONING

3.1. Combining approaches: Future-making spaces with older people

'You are also practicing old age pedagogy!'

These words came from my anthropological colleague after a workshop in one of the housing areas, when we had a debriefing about the process and what to take forward. Two participants in their 80s had gotten into an argument as a result of not listening to one another. I had intervened and reminded them that even though you do not share the same opinion it is important for the process to listen to one another in order to gain an understanding of different perspectives. To me that was a natural part of facilitating in co-design by combining diplomacy, mediation, social work and authority as a facilitator and a host. However, I was not aware of the fact that I was also practicing old age pedagogy, as I did not even know the term existed. To me it was merely co-design facilitation, with a group of older people.

This example illustrates two points: Firstly, how different fields and theoretical approaches overlap in practice, and secondly, that there is a potential for combining the understanding of these existing fields and approaches in theory and in practice.

Another example from practice adds to the point of combining fields: *'We might not be here tomorrow!'* was a comment that was made continuously throughout the empirical studies of this thesis. Sometimes it was said jokingly and sometimes in a very serious manner. Nevertheless, it forced us to explore the question: How do you engage people in co-designing future spaces if they do not see themselves as part of the future?

The aim of this chapter is to position this study in three theoretical approaches, spatial practice, environmental gerontology and co-design, that serve as lenses for opening up and answering the research questions and to discuss the empirical material that will later be presented. All three approaches are, of course, wide-ranging, and the following presents concepts that I find relevant for the discussions in this thesis.

Firstly, I contextualise the research issues in a wider reading of architecture and the creation of spaces through the section, *spatial practice*.

Secondly, I familiarise myself with a theoretical approach, where older people are the pivotal actors. Hence I turn to gerontology, in particular, *environmental gerontology*.

Thirdly, I explain *co-design* as a theoretical mindset, where spaces for collaboration, expertise and creativity are at the centre.
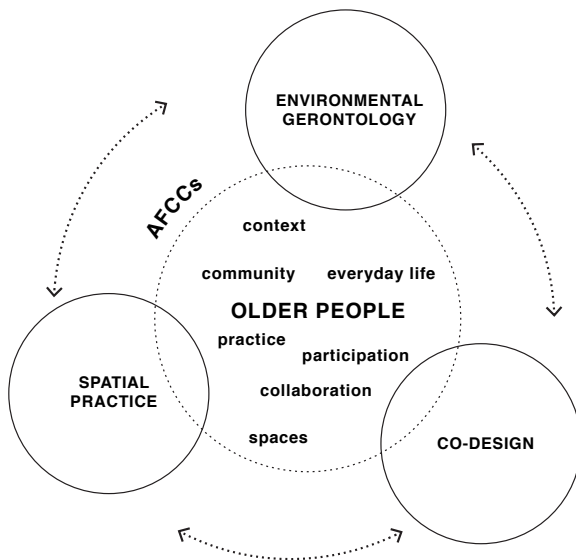
Figure 4: Combining approaches

3.2. Spatial practice

Working as an architect in an interdisciplinary constellation has forced me to continuously challenge my own professional background and disciplinary terms as well as questioning, collaborating and challenging other professions. In this section I shall present and reflect on my understanding of what is at the core of my profession and practice as an architect through the sections, 'architecture of everyday life' and 'spaces and their production'. I draw on fields from outside architecture, such as geography, anthropology and sociology, because

in order to understand ourselves we are dependent on the perspectives and critique of others (Redström, 2017, p. 4).

Architecture of everyday life

When offsetting this practice-based project, various stakeholders expressed their opinions about what kind of architectural installations should be built and, implicitly, how architecture could or should be understood. Most suggestions and understandings related to ground-breaking, ingenious, copy-right-worthy 'pieces' of architecture: Would we design a new innovative swing especially for older people? Would we re-design the idea of a sit-down pedal bike? Or would this new and mysterious urban installation be in a bright red colour and a glittery material to signal something extraordinary? Or what would we design? For a brief answer I turn to French philosopher and sociologist, Lefebvre:

> *'Why wouldn't the concept of everydayness reveal the extraordinary in the ordinary?'* (Lefebvre, 1997, p. 35)

In his chapter 'Everyday and Everydayness', originally published in 1972 and then re-published in *Architecture of the Everyday* (Harris & Berke, 1997), Lefebvre (1997) considers the concept of 'everyday' as the sole surviving concept when everything else collapses (Lefebvre, 1997, p. 35) and, as such, a banal and real thing reflecting both desires and struggle. But the study of the banal is in itself not banal, just like the surreal is part of the real. Subsequently, I quote from McLeod's introduction to Lefebvre: *'Everyday life embodies at once the most dire experiences of oppression and the strongest potentials for transformation'* (McLeod, 1997, p. 14). These definitions summarise how the empirical data, the real world, with the real and (extra-)ordinary people has been the main driver of innovation and for understanding architecture in this study – as architecture of the everyday.

In the 1970s, Jencks (1977) suggested the fall of modernism and hence a post-modern turn as he sought to challenge the understanding of architecture and move away from strict modernist ideologies and embrace pluralism and differentiation over standardisation and homogeneity. These perspectives align with the notions of firstly Jacobs (1961) and, from a

Scandinavian discourse, Gehl (1971, 2010), who both advocate for people's rights to the city, and for the human scale, the dimension and everyday life to be at the core of architecture and urban planning, since cities shape us, just as we shape them (Gehl, 1971, 2010; Jacobs, 1961).

In his book *The Language of Post-Modern Architecture* Jencks argues in favour of architects taking on various ways of practicing and using context-specific architectural codes. He refers to the term 'radical schizophrenic' and argues that the architect should be trained as such in order to navigate the different codes between society and the profession: *'always looking two ways with equal clarity: towards the traditional slow-changing codes and particular ethnic meanings of a neighbourhood, and towards the fast-changing codes of architectural fashion and professionalism'* (Jencks, 1977, p. 6).

From a contemporary perspective, adding another dimension to my understanding of architecture I draw on architectural critic Yaneva, who states a shift in the notion of *'architecture as meaning to architecture as process'* (Yaneva, 2017, p. 33). She essentially describes design practice as *'a complex ecology involving actors of variable ontologies, scales and politics'* (Yaneva, 2017, p. 33). Architecture viewed as an 'ecology of practice' addresses the complex associations between the many actors involved and dissolves the boundaries between these multiple actors, hence seeking to distribute agency (Yaneva, 2017). Yaneva argues that 'architectural' is a connector that connects actors rather than a separate (and cold) domain (Yaneva, 2016, p. 110). This notion draws on Latour's work in the social sciences reflecting what this understanding of architecture means for the role of the architect:

> *'Besides, architects are the protocol masters of controversies, around matters of concern. Their job is necessarily different because it's no longer associated to a blueprint and modernism's idea of a genius gesture. It's a more humble and, in a sense, more challenging set of collaborative skills, with probably a certain loss of autonomy, but leading to another kind of autonomy'* (Latour, 2010, p. 68)

Awan et al. (2011) argue that, while the topics of aesthetics, style, form and technique usually dominate the discussion of architecture, these are all static in nature and leave out perspectives such as processes of production, occupation, temporality, and the relations to society and nature (Awan et al., 2011, p. 27). Instead they suggest operating with the term 'spatial' rather than 'architectural', as this connotation holds more open and dynamic possibilities for interpretation. Further, the term indicates that the domain is not solely for architects to engage in, but acknowledges distribution of agency when creating spaces (Awan et al., 2011, p. 28).

Rounding off this section and my understanding of what is at the core of architecture, I turn to the older people of Sydhavnen. During the early days of my fieldwork, I had a conversation with a group of the local men. They were excited about the project and jokingly suggested that we should design an outdoor Jacuzzi, so that they could have a bit of luxury in their everyday life. While we laughed it off, one of them stated:

> *'However, the only problem would be that it wouldn't be a pretty sight to expose these old bodies.'*

While we did not design a Jacuzzi, and the old naked bodies did not go on display in the area, we did aim to create architecture that involves and presents people as they are in their everyday life. In our study, that is considered 'pretty'.

Spaces and their production
Cities and communities are at the forefront of AFCCs and are both entities related to spaces and how these are produced. I will draw on a spatial understanding in the remaining thesis, which requires a deeper immersion in what I theoretically understand by these entities.

British social scientist and geographer, Massey (2005) approaches the understanding of space through three propositions: 'the product of interrelations', 'the sphere (therefore) of coexisting heterogeneity' and 'always under construction' (Massey, 2005, p. 9). Elaborating through the lens of these propositions, space becomes a relational 'constructedness' and a

relational way of understanding the world, a diverse and including construct, and a construct that is always in process, insinuating an 'openness towards the future'. Space in this sense is not an independent dimension, but constructed of social relations and, since social relations are never still, neither is space. Thus, space is a dynamic construction inevitably linked to time and process (Massey, 1994, p. 3). Adding to this, Canadian geographer and phenomenologist, Relph, applies definitions of space that are closely linked in both experience and thought and as such should not be seen as clearly separated. Relph describes 'perceptual space' as a subjectively defined space that is relative to man and changes according to the individual's intentions and circumstances. 'Perceptual spaces' can gain meaning by one's reflection of e.g. emotional, sensory or bodily encounters with the world; *'it is these personal experiences of spaces that are the basis for much of the meaning that environments and landscapes have for us'* (Relph, 1976, p. 11). 'Existential space' is the meaning of a culture, experienced by an individual rather than the summation of individual 'perceptual spaces'. It is constantly being experienced, created and remade by human activities and the lived world (Relph, 1976).

Adding Lefebvre's understanding of space and how it comes into production, I draw on his work from 1974 published in the book *The Production of Space* (Lefebvre, 1991). Essentially he argues that *'(social) space is a (social) product'* (Lefebvre, 1991, p. 26) and that these social products can be divided into three types. Illustrated through a conceptual triad, these are: 'spatial practice', 'representation of space' and 'representational spaces' (Lefebvre, 1991, p. 33). These spatial terms translate into 'perceived', 'conceived' and 'lived' space (Lefebvre, 1991, p. 38). The 'perceived' space is that of the everyday social life reflecting the individual in society; the 'conceived' space is the abstract and imagined space conceived from a professional point of view, e.g. architects and planners, and the 'lived' space is reflected and lived through the symbolic meaning and images of inhabitants in society. He argues that in abstraction these terms become less powerful and should be regarded as interconnected, allowing the individual subject to move from one to another, but that doing so can be difficult (Lefebvre, 1991, p. 40).

He further states that *'If space is a product, our knowledge of it must be expected to*

reproduce and expound the process of production. The "object" of interest must be expected to shift from "things in space" to the "production of space"...' (Lefebvre, 1991, p. 36). Elaborating on how these spaces come into 'production', Lefebvre introduces the concepts of 'dominated' and 'appropriated' space. 'Domination of space' is historically driven by a political and capitalist discourse, where the state controls society, and government, capitalism and the economy are the main actors (Lefebvre, 1991, p. 23). Essentially, the production of 'dominated space' is a matter of power, domination and control (Lefebvre, 1991, p. 26). 'Appropriation of space', on the other hand, is closely linked to his visions of social transformation and to every man's right to the city and to participation; it provides citizens with an opportunity to contribute to the production of the spaces where they spend their lives. The 'perceived spaces' or spatial practice, in particular, come into production through appropriation. Both 'appropriation' and 'domination' indicate the complexity of spatial production driven by multiple forces, and the production of space becomes a dynamic and shared enterprise reflecting contributions from many actors ranging from society to individual.

Awan et al. (2011) reflect on what this shared distribution of the production of spaces means for the architectural profession; *'... a loss of control is seen not as a threat to professional credibility, but as an inevitable condition that must be worked with in a positive light'* (Awan et al., 2011, p. 28).

Summing up the concepts of space and spatial practice presented in this section: spaces are social constructs of relations and interrelations always in process, open towards the future (Massey, 2005) and influenced by one's personal perception and existential being in this world (Relph, 1976). The spatial practice is the shared production and reproduction of the spaces. It is influenced by society and relates to one's being, meaning and everyday activities in the daily life (Lefebvre, 1991) – in the context of this thesis: the older people. I will now proceed to the field of 'environmental gerontology' to add a deeper understanding of spaces in relation to ageing.

3.3. Environmental gerontology

In this section I shall present environmental gerontology as a theoretical approach. After introducing the field and the competence-press model, I shall present the matter of spatiality of ageing. These conceptual groundings provide a context for discussion of the empirical material and the everyday experiences in these studies.

Introducing environmental gerontology

At the core of environmental gerontology is an aspiration to understand, explain and optimize the relationship between an ageing person and the surrounding physical and social environment (Schwarz, 2012). Environments should be perceived broadly as housings, institutional settings, neighbourhood and communities as well as rural and urban contexts, and the social and physical dimensions of these contexts (Wahl & Weisman, 2003). Emphasis is placed on the day-to-day contexts of the older people, acknowledging the importance of natural settings when growing old (Wahl & Oswald, 2010). Environmental gerontology is a multidisciplinary field that involves various disciplines such psychology, geography, sociology and architecture. This pluralism of disciplines naturally fosters a variety of theoretical approaches and research agendas (Wahl & Weisman, 2003) drawing lines and sharing research agendas with other gerontological fields such as social gerontology, community gerontology and critical gerontology.

Environmental gerontology dates back to the 1920s to the classic ecology of the Chicago School of urban sociology and to the environmental psychology of Barker (1968). Focus was on the studies of human behaviour and the social and physical environmental factors that shaped these and vice versa. Ecology refers to the study of natural systems and the interdependence between these systems and actors within (Lawton, 1974).

During the early 1960s, two societal demands set off the field in the United States (US). Firstly, there was a need to improve the lives of the increasingly older population and secondly a demand for applied research within the field. Up until then, the needs of the older population in the US had largely been ignored, which meant that when the Social Security Act Amendment passed in 1965, most of the specialized housing for older people did not

meet the required standards (Schwarz, 2012). This socio-political demand resulted in the development of the new field: 'environmental gerontology' followed by several theoretical conceptualizations.

The most influential model was Lawton and Nahemow's (1973) 'Ecological Model of Ageing' or by some referred to as the 'Competence-press Model' (Lawton & Nahemow, 1973). See figure 5. The model describes the proportional relationship between an individual's set of competencies and the environmental 'press'. Personal competencies can be either internal e.g. personality, or external e.g. financial resources or social networks. Environmental 'press' can be e.g. the physical demands of the area, fear of crime and socio-environmental relationships (Smith, 2009, pp. 11-13). If a person holds a high degree of personal competence, he or she will be able to rise above the environment. On the other hand, if a person holds a low degree of personal competence, he or she will be more dependent on the environment (Rowles & Bernard, 2013).

Essentially, Lawton and Nahemow (1973) argue that the effects of ageing are results of the environments that we as a society create for the older population. In this regard, physical health and deprived status are two main factors to consider. As an example, a person in good health will adapt to climbing stairs in her old age, while a person in bad health will not, which will affect daily routines such as shopping or participating in social groups outside the home. Likewise, a person with low socio-economic status will not have the option of moving to an area of choice, or perhaps to just venture out of the neighbourhood on a daily basis and, as a result, will be forced to stay in deprived areas (Lawton, 1974). Lawton states that *'the range of tolerable response is far smaller for the less competent person'* and hence argues that small changes in the environment can create substantial changes in behaviour (Lawton, 1974, p. 259).

A new generation of environmental gerontologists emerged during the 1980s, 1990s and the 2000s (Rowles & Bernard, 2013). These scholars address shortfalls in the field over the previous 30 years it had evolved. Some of the critique includes the time dimension and dichotomies like micro-macro and global-local. Wahl and Oswald (2010) argue that there is
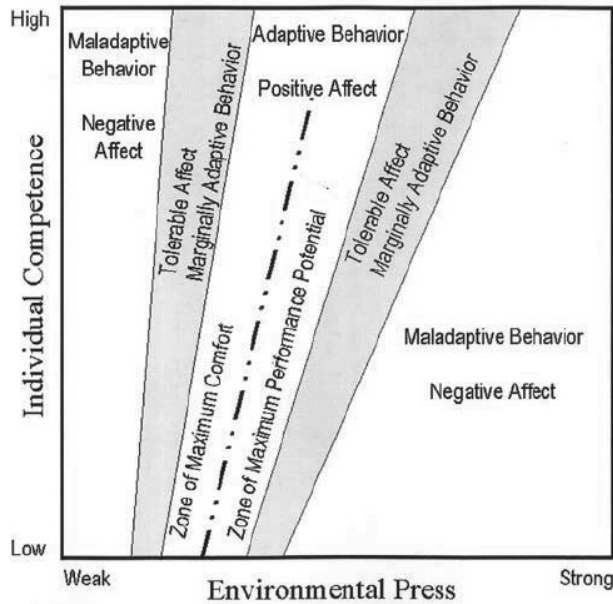
Figure 5: Ecological Model of Ageing/ Competence-press Model. Source: (Lawton and Nahemow, 1973)

no such thing as an objective environment without *'social interpretation, cultural meaning, ongoing historical reassessment, and Zeitgeist influences[3]'* (Wahl & Oswald, 2010, p. 112). We are always a product of our past, our particular current time and where we are going. Golant (2003) further argues that the experience of a current environment is influenced by the meaning and the context of one's past environments as well as by one's anticipation of the future (Golant, 2003).

While environmental gerontology has long been focused on the home or micro-environment, Peace (2013) points to the obvious fact that cities encompass both micro and macro aspects of the environment and hence must also be at the core of 'spatialities of ageing' (Peace, 2013, p. 28). Kendig (2003) complements this notion and argues in favour of studying the time dimension in relation to active use of spaces in order to grasp individuals and micro-environments as well as the larger ageing population and macro-environments (Kendig, 2003, p. 611).

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3   Zeitgeist referring to German philosopher Hegel's notion of spirits of a particular period

On this note, I shall introduce the concept of 'spatiality of ageing' where gerontological matters are seen from a spatial perspective with reference to the previous section of space.

Spatialities of ageing

The perception of spatialities of ageing is, of course, influenced by the perception of space. Peace (2013), in her understanding of space, draws on Massey (2005), among others, and presents space as intangible human constructs that enable location, which subsequently creates a diverse understanding of spatiality (Peace, 2013).

Schwanen et al. (2012) are concerned with temporality and the complexity of space-time from a life-course perspective. They refer to this as complex 'folds' of both short-term and long-term dynamics and processes. Hence, the process of ageing consists of folds from the past, the present and the future, from the outside and the inside world, from different cultural and historic contexts and from humans and non-humans (Schwanen et al., 2012, p. 1294). This interpretation advocates for the essence of spatiality of ageing to be seen as a dynamic process of folds of multiple kinds of factors e.g. one's history, a current culture or aspirations for the future.

In 1997 geographer Laws (1997) introduced her notion spatiality of ageing. Laws points to the problem that the discourses we construct about old age are often created within a material context and hence overlook the role which immaterial discourses play in the construction of aged subjects. She argues that the spatiality of age relations offers the beginning of a framework, where both material and metaphorical spaces are at the centre of concern (Laws, 1997, p. 93). Laws suggests that the following dimensions of spatiality be considered: accessibility, mobility, motility, spatial scale and spatial segregation (Laws, 1997, p. 93). To provide a clear overview I have inserted the five dimensions into a table. See table 1.

All five dimensions hold significant relevance to this thesis and deal with social and physical aspects of space, operate on structural levels of society and concrete levels of the built

Table 1: Laws' dimensions of spatialities of ageing. Source: (Laws, 1997, p. 93)

1.   *Accessibility* to particular places, whether a nation state, a residential neighbourhood or a workplace, has impacts for an individual's citizenship status and subsequent identity (e.g. Thomson and Staehli 1997)
2.   *Mobility*, both metaphorical and material, between places and social situations is an important marker of one's position relative to others (e.g. Massey 1993)
3.   *Motility* refers to an individual body's potential to move (see Young 1989). 'Frail' bodies, whether young or old, impact upon the public identity of people.
4.   *Spatial scale* is important (Smith 1993). Our identity in the domestic sphere (a loving grandparent) may be different from that at a national scale (part of the 'greedy geezer' image of older people). When moving between spatial scales, we must be aware of the links between group and individual identities.
5.   *Spatial segregation* is produced by limitations access, mobility and motility and operates on a number of scales. Daphne Spain (1992) notes that spatial segregation of oppressed groups is a key mechanism of social control. As Emerson's quote at the beginning of this chapter illustrates, there are powerful public beliefs about the appropriateness of segregating people of different generations.

environment, as well as on the individual subject level and the societal level.

As introduced in Chapter 2, and drawing on the field of 'social gerontology', social and spatial segregation or exclusion are great concerns when constructing AFCCs, as they threaten the well-being, participation and inclusion in society (Scharf et al., 2002; Scharf & Smith, 2004; Smith, 2009). The opposite, social and spatial integration or inclusion, are key concepts of this thesis, and is also a primary concept in the co-design field as well and in Laws' reading, which can be addressed through optimization of spatial matters, such as accessibility, mobility and motility on various spatial scales. Peace (2013) elaborates on this notion and advocates for the 'inclusion in the everyday' referring to 'active citizenship' and inclusion in the community and city, not just in the home and micro-environments (Peace, 2013, p. 28).

Contextualising the objective of this study into this reading, the 'spatial' plays a powerful

role in the creation of aged identities and vice versa. In line with the thinking of Lefebvre (1991) and Massey (2005), Laws (1997) argues that aged identities and relations are not only products of spatialities but also constitute spaces (Laws, 1997, p. 93). This is not only a subjective matter but is also influenced by societal notions. For example being able to make choices of where one wants to grow old becomes a product, partly influenced by personal responsibility while working (Laws, 1997, p. 99) and by societal perceptions of the environment you end up in. If you have the choice of ageing in an ageing community[4] on a personal level you might identify as an 'active retiree' ageing successfully and among other social groups and on a societal level be perceived in a similarly discursive way (e.g. with a certain focus on what is successful), which will then become a part of that spatiality of ageing (Laws, 1997, p. 98). Outlining the issue through an example of the opposite, Laws writes:

> *'Different spatial environments provide one mechanism for the differentiation of aged identities, at least those aspects of identity that are defined in terms of consumption and residential segregation. However, in closing we must of course note that not all groups of older people have the resources that allow them to choose which of the identities they wish to wear'* (Laws, 1997, p. 99)

This analysis holds similarities to Lefebvre (1991) and the notions of socio-political spaces that are contested, negotiated and produced through the opportunities spanning dominanation and appropriation of these spaces (Lefebvre, 1991).

To round off, the field of environmental gerontology started off by seeking to solve a demand in society and a wish for applied research. This gradually turned into a more theoretical field that was hard to apply in reality (Schwarz, 2012). The field has been criticised for its paradigmatic ambiguity for two main reasons: being too focused on theoretical development and hence, a lack of practice application, and also being too driven

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4   In Danish, for example 'seniorbofællesskab'

by a positivist approach and hence neglecting context-specificity. Schwarz (2012) argues that in order to make the field flourish, the positivist and generalisable approach much be diminished and attention must be turned towards a pragmatic philosophy acknowledging context-specific and everyday practices in the form of practical knowledge and activity (Schwarz, 2012). Kendig (2003) adds to this by pointing to the tension between the *'substantive origins in the architecture and planning professions and its theoretical impetus from psychology and geography'* (Kendig, 2003, p. 612). Rowles and Bernard (2013) advocate for greater environmental sensitivity that considers the lived experience of older adults and seek to combine the deep understanding of these lives with interventions that reflect this aspect:

> *'We are on a threshold of a new era in our knowledge and understanding of older people's relationship to place, an era in which environmental gerontology has the potential to use deepening understanding of the manner in which older adults relate to place as a basis for sensitive and empathic interventions to improve the quality of life in old age'* (Rowles & Bernard, 2013, p. 19)

Summarising, in this section I have presented the significance of spatial dimensions to ageing, e.g. the pressure an environment can put on an individual as well as spatial inclusion or exclusion on various scales from society to individual. The section ends with scholars asking for for applied research and for interventions that reflect the different contexts and diversity of the ageing generation. On this note, I proceed to the field of co-design.

3.4. Co-design

In this section I shall outline the theoretical approach of co-design or the underlying understanding of co-design as a mindset and not simply a practice or a set of methods. After introducing the field, I shall proceed to the matter of spaces for collaboration and future-making before rounding off with some core concepts that are particularly important to this research, i.e. expertise and creativity.

Introducing co-design

Co-design has its roots in participatory design (PD), which originated in the Scandinavian countries and has been practiced since the 1970s with some of the first projects engaging workers in new workplace systems (Sanders & Stappers, 2008). While PD has predominantly been developed and driven by Northern Europeans, it shares similarities with the US-driven phenomenon of 'user-centred' design (Sanders, 2013b; Sanders & Stappers, 2008). Both movements focus on including the user perspective to better create design outcomes that reflect what the user needs. However, PD differs from user-centred design in one central aspect. In user-centred design the user is considered a subject *for* whom you design, whereas in PD the user becomes an active partner, *with* whom you design (Sanders & Stappers, 2008).

The terms 'co-creation' and 'co-design' are widely used and are often used interchangeably. However, Sanders and Stappers (2008) refer to co-creation as a broader notion that refers to any act of collective creativity between two people or more. The act of co-design, on the other hand, refers to the collective creative act of designers and non-trained designers working together across all phases of a design process[5] (Sanders & Stappers, 2008). Co-design differs from a traditional design process by inviting the participants to engage, even at the early stage before a design brief has been applied. This stage is often referred to as the 'fuzzy front end', where the outcome is yet unknown and where the aim is to identify opportunities to explore (Sanders & Stappers, 2008).

As stated in Chapter 1, co-design in this thesis is defined as designers working collaboratively with non-designers through an entire design development process (Sanders & Stappers, 2008, p. 6), and the starting point evolves around their problems (From the Design Council, cited in Thomson & Koskinen, 2012, p. 77). Or as Ehn defines it*: 'those affected by a design should have a say in the design process'* (Ehn, 2008, p. 3).

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5   In relation to Design Thinking Brown (2009) describes a design process as going through 'stages of innovation' which take the innovator through three stages; inspiration, ideation and implementation. During 'inspiration' the focus is on experiencing a problem or opportunity, during 'ideation' the focus is on generating ideas and testing them and during 'implementation' the focus is on moving the project into the real world.

While co-design has been widely used in the design of traditional 'business' or 'user services' initially aiming to optimise the financial outcomes of these and referring to people involved as either 'customers/consumers' or 'end-users', another dimension gaining value from co-design has developed rapidly: A societal dimension. Some scholars argue that this dimension is increasingly a result of a growing social and sustainable awareness of societies, where a holistic and ecological approach is needed to solve big and complex challenges (Sanders & Stappers, 2013, p. 16). The dimensions are not necessarily to be seen isolated from one another, as value outcomes can influence each other, with for instance societal value eventually ending up creating increased financial value (Sanders & Stappers, 2013, p. 26). This aligns with the scope of this thesis and the political context of AFCCs: if older people are empowered to engage in community co-design, i.e. increasing societal value, this perhaps, will result in a more sustainable and healthy ageing process that will eventually provide a financial benefit for society.

Design, from this perspective, becomes a shared matter where creativity is not limited to a certain group but rather should be seen as a discipline that can foster collective creativity and social innovation (Sanders, 2013a). Binder et al. (2015) argue in favour of PD practices shifting from user and representations towards citizens and publics, with less focus on objects but replaced by *'things or thinging as socio-material assemblies that evolve over time'* (Binder et al., 2015, p. 1) or as Ehn (2008) describes it as *'socio-material frames for controversies'* (Ehn, 2008, p. 1) both with reference to Latour (1999) and his notion of collectives of humans and non-humans. Hence, a shift towards engagement with and exploration of the 'real world' or the 'field' comes to the forefront of design (Koskinen et al., 2011).

Spaces for collaboration and future-making
In this section I shall go deeper into the matter of how spaces for such design collaboration can be interpreted – spaces built on the relational, social and dynamic meaning as described earlier – which will now be contextualised into a co-design perspective where cooperation or collaboration is at the forefront.

A pivotal matter in co-design is concerned with establishing shared platforms that foster collaboration among a group of stakeholders (Aakjaer, 2013). Collaborative stakeholders often represent diversity and different practices, and hence creating shared platforms or 'spaces' which encourage collaboration on an equal basis is essential to the practice. Essential to creating collaborative design spaces is cutting across established barriers to allow for innovative thinking (Aakjaer, 2013). One definition of such spaces is 'design labs' (Binder, 2007), laboratory to be understood as a hypothetical space, a space for collaborative inquiry and exploration of new design possibilities, not bound to a place. This offers a framework, where experiments can happen and where this shared space allows participants to bring their concerns and issues (Binder, 2007). Binder (2007) compares the space to that of an artist's atelier , where little is known about the outcome and the focus is on the process (Binder, 2007, p. 1). The Malmö Living Labs advocates participatory innovation through long-term collaborative relationships, where social innovation is at the forefront and the innovation environments become socio-material frames for matters of concerns (Björgvinsson, Ehn, & Hillgren, 2010). In this regard the term 'infrastructuring' becomes important. Like networks, infrastructuring (originally referring the work of Star and Ruhleder (1996)) emphasises the relational and social structures of innovation processes and, as Ehn (2008) describes it, something that is not reinvented every time, but is 'sunk into' other socio-material structures (Ehn, 2008, p. 5). Infrastructuring, hence, becomes an alignment between contexts and something which is not limited to the design stages (Björgvinsson et al., 2010).

Project events is one concrete way of creating these spaces and contextualising events into the everyday life of the respective collaborators when envisioning collective new future scenarios (Halse, 2010b, p. 15). I shall revert to design events in Chapter 4. Workshops are a well-known format for such events, used in co-design to enable the establishment of a space for inquiry, collaboration, creation and reflection (Sanders & Westerlund, 2011) and to foster commitment and alignment between multiple and diverse stakeholders (Binder, 2007).

Sanders and Westerlund (2011) reflect on the notion of what makes a co-design space different from a design space and what effect this has on the co-design process. They define

three types of design spaces: the experienced or practiced physical design space including materials; the current space of the participants, and lastly the space of possible proposals. They argue that the good physical co-design space mirrors the conceptual co-design space and that the participant activities, as a situated practice, constitute a co-design space, where well-prepared activities allow for equal participation and collaboration. Lastly future situations can be seen as a desirable co-design space (Sanders & Westerlund, 2011, p. 4).

These are all relevant in terms of ageing, and in my reading they represent intertwined spaces of a physical, an existential and an abstract nature that includes the various ageing bodies (and their possible mobility aids), the existential and current space of contextualised activities as well as the abstract spaces of the future. Sanders and Westerlund (2011) further argue that while futures and future-making, which are at the core of regular design spaces, are infinite concepts, the co-design space can be interpreted as both smaller and larger. Smaller, since working together with others will collaboratively exclude solutions and narrow down the future possibilities, and larger, since the sum of the futures envisioned will also be larger (Sanders & Westerlund, 2011, p. 5). This interpretation acknowledges the spaces as social constructs of various scales and underlines the time aspects of spatiality.

In regard to the quote presented earlier in this chapter; *we might not be here tomorrow'*, collaborative spaces seen from a time perspective are essential to this thesis, as the issue of designing for a future that some participants believe they may not be part of must be addressed. Lindström and Ståhl (2015) discuss notions of spatiality and temporality and suggest regarding co-design as entanglements of multiple collectives across time and space, e.g. the past and the future. Exploring what does not yet exist cannot be controlled but becomes a result of the past, current and future anticipations (Lindström & Ståhl, 2015, p. 233). From a temporal perspective, these aspects allow us to propose a future by looking back and being present. Sanders and Stappers (2014) advocate for an awareness of making in different time frames, which is also a useful interpretation when working with an ageing population. They operate with three time frames: the world as it is, the near future, and the speculative future. In the DAIM project (Design Anthropological Innovation Model) Halse et al. (2010) articulate the idea of 'rehearsing the future'. Here the future becomes an

embedded part of the explorative design process and collapses the frontend and backend of design, as rehearsing brings the future into the process from the beginning (Halse, 2010b, p. 17).

Expertise and creativity

In the words of Sanders and Stappers (2008), 'experts of experience' and 'situated expertise' count as expertise that is just as valuable as the traditional understanding of what constitutes an expert, e.g. defined by a profession (Sanders, 2013b; Sanders & Stappers, 2008, 2013). Dwelling on what makes a co-design space significant, Sanders and Westerlund (2011) argue that each participant should be recognised and acknowledged in order to make collaboration and future-making possible (Sanders & Westerlund, 2011, p. 5). All people are creative and 'collective creativity', which is at the core of co-design, can happen when people are given the opportunites to be experts of their experiences through shared creative acts (Sanders & Stappers, 2013, p. 25).

This also means a new distribution of traditional power relations between professional and experienced experts (Sanders & Stappers, 2008). A situation during one of our workshops illustrates this: A journalist from a local TV station had shown up to document the 'exotic nature' of older people being involved in co-designing. During a break he asks one of the older ladies while filming:

> Journalist: *You are working with some very clever people (the project team), right?*
> Participant 1: *Well, so are we (clever)!*
> Journalist: *Can you make them any cleverer?*
> Participant 1: *I am sure we can!*

(Another participant jumps into the discussion and shares his opinion)

> Participant 2: *'They have the professional expertise, but we have the experience'*

This experience of what constitutes expertise is, of course, one example, and many participants did not feel as confident, but it adds to the argument that power relations between professional expertise and experienced expertise must be aligned in order to allow for creative collaboration (Sanders & Stappers, 2013). It also adds to the discussion raised by Lefebvre (1991) about acknowledging everyday spatial practices in order to foster transformation and innovation.

Such collaborations across disciplines and between diverse multiple stakeholders can be regarded as encounters between different 'communities of practices' with reference to the work of Lave and Wenger (1991) and their notion about situated learning processes: '*We assume that members have different interests, make diverse contributions to activity, and hold varied viewpoints'* (Lave and Wenger, 1991, cited in Brandt et al., 2010, p. 402). When overcoming boundaries between such different communities, Ehn (2008) refers to 'performative' design artefacts as 'boundary objects' that foster dialogue between different communities of practices (Ehn, 2008, p. 3). They serve as socio-material languages that become important factors when establishing a co-design practice. These are often in the form of generative toolkits, visualization or enactment (Brandt et al., 2012; Sanders & Westerlund, 2011). The 'generative tools' are referred to as *'the creation of a shared design language that designers/researchers and other stakeholders use to communicate visually and directly with each other'* (Sanders & Stappers, 2013, p. 20). These 'tools and techniques' will be described in depth in the following Chapter 4.

Halse (2010a) further advocates for 'incompleteness' to keep exploration open and acknowledge that existing and potential practices evolve and weave together solutions and problems (Halse, 2010a, p. 40). This normativity reflects not that things are unsatisfactory but rather embraces a flexibility of interpretations (Halse, 2010a, p. 37) and the contributions of many:

> *'Incompleteness ensures that the material is open for re-interpretation and re-configuration also by stakeholders with other competencies and concerns than ours'* (Halse, 2010a, p. 39)

3.5. Summarising and moving forward with combined approaches

In 2013, the gerontologists Rowles and Bernard asked:

> *'How can we translate what we are learning about the meaning and significance of place to older people and their well-being into concrete recommendations for practice, policy, and design?'* (Rowles & Bernard, 2013, p. 5)

My answer is: by combining fields and approaches and applying gerontological aspects to co-design and spatial practice in order to create an operational practice.

This approach reflects Latour's (2010) perspective of how we should think about architecture today. According to him, architecture is characterised by and holds relevance for social sciences, because of its 'constructivist character by nature', the 'models and visually, the question of blueprints' and its 'set of public controversies' (Latour, 2010, p. 65). I argue that design and architecture need social sciences and that social sciences and, in this case, gerontology need the constructivist, propositional and creative nature of design and architecture, as well as the collaborative creativity of co-design. But these different approaches only matter if they become operational in practice.

Summarising and seeking to combine the approaches to move forward I have presented spatial practice as social and relational constructs, where agency is distributed to people and their everyday life and is concerned with the production and reproduction of spaces. Environmental gerontology is concerned with the socio-spatial dimension of growing old in environments that should reflect this dimension through a dynamic and constantly changing process between a person and his or her social and physical environment. Co-design is equally concerned with socio-materiality and socio-spatiality and offers a practice that engage humans and non-humans in assemblies, where creativity and expertise if for everyone, in an attempt to drive innovation and explore new futures.

With these concluding remarks, I move on to the research methodology we used to address these issues of understanding, exploring and creating AFCCs with older people.

WHAT ARE WE TALKING ABOUT?

ADDING THE VISUAL TO COMMUNICATION

Photo from go-along interview in Copenhagen, 2016

4. RESEARCH METHODOLOGY

Initially in this chapter I shall present the research approach of exploring in practice-based design research. Then follow the empirical studies, the methods used – go-along interviews and co-design methods – as well as ethical considerations, including my role as a practice-based design researcher.

4.1. Exploring in practice and through participatory design research

> *'Research is a practice, writing is a practice, doing science is a practice, doing design is a practice, making art is a practice. The brain controls the hand which informs the brain'* (Frayling, 1993, p. 4)

As presented in Chapter 1, I position this thesis within practice-based design research (Vaughan, 2017b), research into, through and for design (Frayling, 1993), as well as participatory design, more specifically co-design (Sanders & Stappers, 2008).

Frayling distinguishes between three ways of doing practice-led research in art and design: research *into* art and design, research *through* art and design and research *for* art and design (Frayling, 1993) Firstly, this thesis is embedded within research through design, since the act of (co-)designing through methods in practice can be seen as the main driver behind conducting the research and generating knowledge. Further, in relation to the objective of the study, research is also done 'into' the profession and 'for' the profession, as this thesis seeks to contribute to an understanding of a professional practice as well (Frayling, 1993).

Vaughan (2017b) articulates design research as an interaction between design, practice and research, which aligns with the work presented in this thesis, where all three elements along with participation has been at the centre of creating knowledge relevant for both practice and research.

I further position this thesis in an exploratory approach that can be seen as the overarching framework spanning the design-specific disciplines mentioned above.

'Researchers explore when they have little or no scientific knowledge about the group, process, activity, or situation they want to examine but nevertheless have reason to believe it contains elements worth discovering. To explore effectively a given phenomenon, they must approach it with two special orientations: "flexibility" in looking for data and "open-mindedness" about where to find them' (Stebbins, 2001b, p. 5)

In the above-mentioned quote, Stebbins (2001b) sums up the exploratory approach of this thesis and weaves together the offset in practice-based design research and participatory design through an exploratory mode, where flexibility and respect for an everyday life context is at the forefront (Stebbins, 2001a). Further, the open-mindedness is essential within a participatory design process, as it will be highly influenced by the interests, abilities and agendas of the context involved.

Additionally, in a design context, the exploratory approach of this research resembles that of the DAIM project, where an 'exploratory inquiry' served as an overarching strategy being '*research without a hypothesis to be tested, and without a fixed scheme of categories to apply to the world encountered'* (Halse et al., 2010, p. 27). As stated by Halse (2010b), exploratory design research is not just a way to engage in the earlier phases of design, but a mode that spans phases and engages in the rehearsal of future practices right from the beginning of a design project.

Hence, exploratory research in this study is not just a way of getting started but an approach that runs continuously throughout the studies in order to immerse ourselves deeper into the topics that continued to appear through iterations and reflections as the research process evolved.

Iterations and reflection
Iterations and reflections are widely used in qualitative analysis and begin in the process when the data are being collected rather than after (Schutt, 2012). In this study, iterations

took place through explorations of the methods and the materials that were used, which were continuously tested, adjusted and refined between the different workshops. In addition, there were iterations between the different co-design processes, where immersing ourselves in different contexts posed an opportunity to let them be guided and influenced by each other and by the previous learnings.

Further, I draw on Schön's notion of 'reflection in action' and 'reflection on action' as scientifically valid ways of learning through practice (Schön, 1983). In regard to the profession of design (broadly scoped and including e.g. city planning, urban planning and architecture) the reflective conversation with a situation becomes a framework for generating knowledge in an ongoing dialogue with a situation when it 'talks back' (Schön, 1983, p. 79). This back-talk is essential to understanding one's practice but also to moving forward in a process by engaging in the situation one is shaping (Schön, 1983, p. 103). I also draw on the words of Sanders and Stappers (2014), who inspired by Cross's 'designerly ways of knowing' (Cross, 1982, p. 225), describe the 'designerly way of doing research' as a way of knowledge production that has 'making' as a pivotal matter and hence differs from more traditional scientific disciplines (Sanders & Stappers, 2014, p. 6).

Data from design research can have many formats representing what people say (e.g. transcripts or interviews), do (e.g. photos, videos or observation notes) and make (e.g. design artefacts, collages, 3D models, maps, transcripts of stories told about the artefacts) (Sanders & Stappers, 2013, p. 199). Triangulation is a commonly used mode of collection and analysis of qualitative data by looking at a field and a set of data through different perspectives or theories. As a result, confirmation can be established or confrontation can reveal disagreements in the analysis, which will then require deeper immersion into the material (Robson & McCartan, 2016). Critical feedback and explicit sharing of insights with team members or your audiences become important throughout the process (Schutt, 2012, p. 323). In design research with interdisciplinary teams, the respective perspectives by multiple professions can merge to foster a complete understanding of a context (Sanders & Stappers, 2013, p. 34).

We also operated with this mode of analysis in our studies, where our different professions challenged the material and our practices throughout the course of multiple sources. Between each workshop, the research team engaged in analysis and discussions with each other and with the material. This served two purposes: to extract insights from the data collected in order to build upon this data when developing the next design activity, as well as to extract methodological insights into how a certain activity had worked and could or should be revised.

These analyses had many iterations, where we used our professional backgrounds and continuously revisited the material (Schutt, 2012). For this purpose, a large office space was allocated for hanging, placing and displaying the design artefacts and material so it was always visible. This spatial approach made it easier to get an overview and to revisit the material continuously throughout the process. When presenting the analysed material to the participants, we did it in an open and inconclusive way, since this step was just another iteration that would influence the next decision.

4.2. Empirical studies

The fieldwork of this thesis consists of four empirical studies which are qualitative and grounded in three study contexts: two housing areas in Copenhagen, Denmark and one in
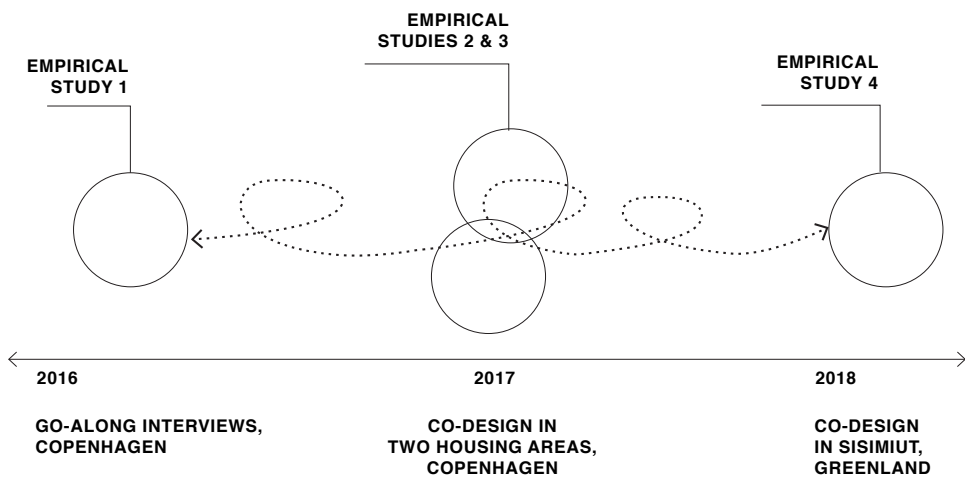
Figure 6: Empirical studies

Sisimiut, Greenland. See figure 6. All four empirical studies are at the centre of the articles in the following Chapter 5, and hence I will not go into too much detail on them in this chapter. However, I will briefly outline their respective aims and the time frame in order to set the scene for the following methodological elaborations.

Study 1

This first study has the form of go-along interviews and took place in the two housing areas in Copenhagen (context description in Chapter 1). The aim of the study was in a literal sense to take the first step into the research process and enter into a field by putting one foot in front of the other.

Additionally, the aim was to gain knowledge about two existing contexts by letting the older people guide me through their neighbourhood in order for me to obtain knowledge about their social and physical environment and how they could play active partners in such an exploration. These go-along interviews can be seen as starting points for the following co-design processes. Following my go-along interviews my colleague conducted ethnographic fieldwork, and both 'pre-studies' highly informed the planning of the subsequent co-design processes.

Sixteen participants signed up for the go-along interviews taking me for walks in their local neighbourhood during the months of August and September 2016.

I have dedicated article one: *'Going along with older people: exploring age-friendly neighbourhood design through their lens'* (Carroll, Jespersen, & Troelsen, 2019) to the study of the go-along interview as a method of investigating that serves to building rapport, engagement and empowerment of older people in the exploration of neighbourhood design.

Studies 2 and 3

The second and the third empirical studies consist of two parallel co-design processes in the two senior housing areas in Copenhagen. The processes were carried out separately, but they were planned in parallel and followed the same structures with contextualisation to the respective housing areas. Design events during the implementation stages were carried

out jointly between the two housing areas, which is why I present them under this joint headline. The aim of the studies was to develop age-friendly design solutions in the local neighbourhood through a co-design process with older people. In line with my PhD aim, I explored the process of how to involve older people in co-design and what this required from the process and our methods in order to optimize the age-friendliness.

Both studies consisted of four pre-scheduled design events in the form of workshops: The first workshop was scheduled to be an immersion session, the second an ideation, the third a prototyping and the fourth a presentation and refinement event. This outline was proposed to give each workshop a clear purpose and to ensure that we would go through all stages of a design process in line with the definitions of co-design that we draw upon and that were explained in Chapters 1 and 3 (Sanders & Stappers, 2008). However, we were well aware that the different workshops overlapped in terms of phases and include elements from each other. In addition to the four pre-scheduled workshops, implementation events were added along the way as the respective processes evolved. Lastly, the research team and the participants jointly organised a 'party' in both housing areas (as mentioned in Chapter 1), which can be seen as a 'delivery' stage in order to officially hand over the project to the local context and to celebrate the collaboration.
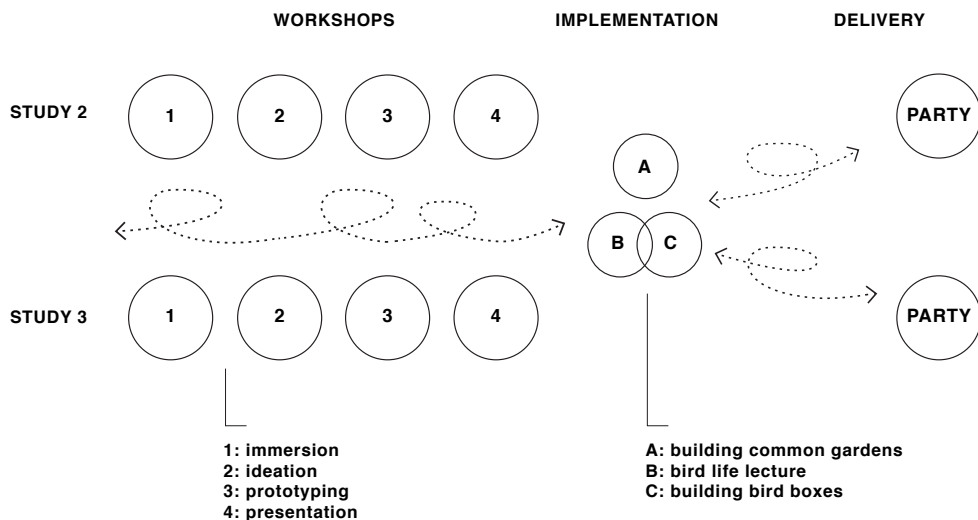
Figure 7: Studies 2 and 3

The workshops ran in parallel on Tuesdays and Thursdays with a few exceptions and spanned eight weeks in the spring of 2017. However, the entire co-design process started with the recruitment and the visibility of the project in 2016 during the go-along interviews and the ethnographic fieldwork and lasted until the last delivery in August 2018. An estimated 100 older people participated in the respective events.

I have dedicated article two: *'Co-designing Age-friendly Neighbourhood Spaces in Copenhagen: Starting with an Age-friendly Co-design Process'* (prepared for submission) to the studies of the two co-design processes in Copenhagen. In the article I seek to explore what makes a co-design process particularly age-friendly, and hence the decision to draw on both studies offered an opportunity to expand the data set and qualify the findings.

Study 4

The fourth empirical study consists of a co-design process in Greenland. Including the Greenlandic study in this thesis was not pre-defined when I kicked off this PhD project, and I see it as an exploration in itself. The opportunity arose when the research network Ageing in the Arctic (AgeArc)[6] invited our project team to assist with a co-design process with a group of older people of the same socio-economic status as in Copenhagen.[7]

The study context is Sisimiut, the second largest city in Greenland and the home of approximately 6,000 people. The city is located in Qeqqata Municipality on the west coast of Greenland in a rural setting between mountains, sea and wild nature. On the outskirts of the city, right at the edge of the mountains, lies a public senior housing area, which is the study context of this empirical study. The area consists of 48 apartments distributed in four building blocks of 2-3 storeys. All residents are retired, and out of the 48 households 41 residents live alone with the remaining seven living with a partner. It has not been possible to obtain a record of how long the current residents have lived in the housing area. With the surrounding nature in close proximity, all apartments have a view of the mountains; however

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6   https://agearc.ku.dk/

7   The collaboration has been described in this co-authored publication (Nørtoft et al., 2018) (appendix 2)

access is limited for people with low mobility. The local home care unit had initiated a project called 'Healthy and Active Ageing', where one of the aims was to create better access to nature for the older residents.

For both research networks, APEN and AgeArc, it was an opportunity to contextualise, adjust and explore co-design processes and methods with older people in a different practice setting but with the same socio-economic status as in Copenhagen in order to expand the knowledge field and future processes within co-design of AFCCs. Hence, my decision to include this study in this PhD should not be regarded as a limitation of the Copenhagen studies but rather as an exploration to qualify these insights, by adding insights from another study context.

The co-design events followed the same structure as in Copenhagen, although confined to a shorter time frame due to time schedules. Four workshops took place over a period of two weeks in the summer of 2018. The first workshop evolved around immersion, the second around ideation, the third around prototyping and on-site testing and the fourth consisted of presentation and refinements. During this time period I was present in Sisimiut.
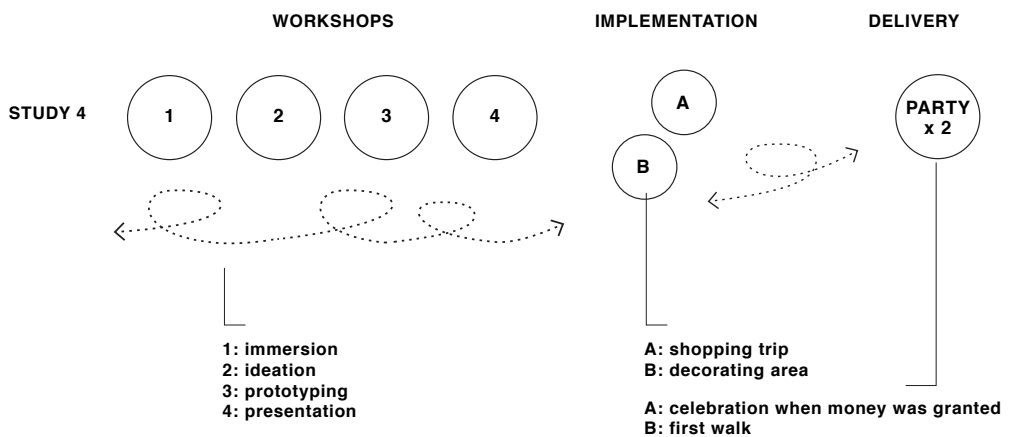
Figure 8: Study 4

Following this process, the local collaborators arranged various implementation events including a 'party to celebrate that money for construction had been granted' and a 'first joint walk' as an official opening of one of the built solutions. An estimated 50 older people participated during the respective events.

I have dedicated article three, *'That Adrenaline and Dynamic': The Significance of Age-friendly Co-design in a Multi-stakeholder Collaboration in Greenland'* (prepared for submission) to the study of the co-design process in Greenland. In the article I seek to explore the significance of an age-friendly co-design approach in a multi stakeholder situation when co-designing AFCCs.

4.3. Exploring through go-along interviews

Method

As explained in Chapter 3 about environmental gerontology, ageing is a dynamic process influenced by one's past, the present and the future, and I argue the modes of exploration should be similarly dynamic.

The go-along interview (from now on referred to as 'the go-along') is a mobile method which originates from ethnography. The go-along offers a way of investigating that provides the researcher with a way of understanding both the physical and the social context (Carpiano, 2009; Kusenbach, 2003). Kusenbach (2003) finds it particularly relevant when investigating environmental perception, spatial practices, biographies, social architecture and social realms.

> *'Go-alongs provide unique access to biographies by taking a spatial versus a chronological approach; they emphasize the many contexts and symbolic qualities of everyday spatial practices; and they render visible some of the filters that shape individual environmental perception. All of these topics are firmly grounded in the three-dimensionality of the life-world'* (Kusenbach, 2003, p. 478)

Carpiano (2009) also argues in favour of go-alongs when studying health issues in local neighbourhoods and local contexts (Carpiano, 2009, p. 263). In previous studies, where go-alongs were carried out with older people, they were further found to be particularly useful for reflecting the diversity and heterogeneity of the age group (Alidoust, Bosman, & Holden, 2018; Curl, Tilley, & Van Cauwenberg, 2018; Finlay & Bowman, 2017; Gardner, 2011; Lager et al., 2014).

Adding a visual dimension

Drawing on my background in architecture and in order to explore a visual mode of understanding and documenting neighbourhood research, I added a visual dimension to the study in order to gain a visual understanding of the physical and social environment and the ageing body moving around it (see visual narrative: What are we talking about? Adding the visual to communication). Further, the visual dimension subsequently contributed to communicating and discussing socio-spatial dimensions of neighbourhoods with both peer researchers and practice stakeholders.

To conduct the study, I wore a chest-mounted GoPro camera that captured the older person and his or her meeting with the surrounding physical and social environment. Pilot studies were conducted in two rounds with two external participants – a fellow researcher and an older woman who used a walker. These studies were carried out to familiarise myself with the equipment and to decide how to place the camera in order to capture the journey from a relevant angle and at the same time capture the conversational dimension. Truth be told, both the researcher and the older woman were not strangers. When exploring 'how' to conduct this kind of research, with a type of method and digital equipment I had not previously used, I myself needed a safe space to develop, rehearse and refine the method (Sanders & Stappers, 2013). Hence, the researcher (also an architect, a former colleague and a friend) started out by helping me to explore the initial dimensions of walking with another person in an urban setting while using technical equipment. When these initial and technical decisions had been refined, I turned to my now late grandmother, who by then had recently moved into a new senior housing area in Jutland and was using a walker. During the day we spent together, she repeatedly asked me of what help she could be to my work. I repeatedly

answered that I knew nothing about being an older person or what it was like to use a walker, let alone what role the environment played in this regard. Therefore, I explained, I could not possibly learn more about this situation without her help. This rehearsal was an exploration in itself and, as it turned out, it prepared me for the kind of arguments that I would be giving to the older people of Sydhavnen, as they, too, questioned of what help they could be to the research.

4.4. Exploring through co-design processes

Co-design events

The three co-design processes presented in this thesis (studies 2-4) were structured as a series of co-design events. In such co-design processes, according to Brandt and Eriksen (2010a), the 'series of common co-design events' is what ties the process together, as this is where various stakeholders have the opportunity to meet face to face and engage in collaborative practices. Hence through continuity, the *'outcome of one event becomes the starting point of the next event'* (Brandt & Eriksen, 2010a, p. 71). Brandt and Eriksen (2010b) further advocate for a well-prepared format and suitable materials for exploration in order to optimize the time spent together '*so there is no questions about what and how to explore'* (Brandt & Eriksen, 2010b, p. 74).

Halse (2010b) further explains these chains of design events as a format that '*provide stabilization of an open and insecure process'* (Halse, 2010b, p. 15). In our case, when balancing and insisting on exploration, open-endedness and shared expertise, the event format offered us an opportunity to create that stabilization or a sense of 'security' in a process of uncertainty.

In both Copenhagen and Greenland, we used the material co-design invitations to outline the series of events while adding emphasis to the open-ended process of not knowing what the outcome would be. We articulated the aim of the events in simple, everyday terms and expressions that explicitly stated how the series of events were connected (see example of invitation in appendix 4 and Article 2).

Co-design methods

As mentioned in Chapter 3, the role of the designer in co-design is concerned with creating the right kind of tools that allows participants to express themselves creatively (Sanders, 2002; Sanders & Stappers, 2008). Whether tools and techniques can be replicated and applied from one practice field to another is subject to scepticism, as co-design must always engage with the real 'experts of experience', those who own the problem in question (Aakjaer, 2013, p. 70). Brandt et al. (2012) stress a sensitivity to making the tools and techniques relevant to the given participatory practice. Sanders and Stappers (2013) advocate for a variety of ways of engaging in co-design, since different modes appeal to different people. A previous study engaging older people in co-design suggests the same, i.e. giving people choices as to how they want to participate (Scott, 2017).

The number of tools varies according to the designers who create them. However, Brandt et al. (2012) suggest a framework for participatory design practices to be discussed through 'toolboxes' or 'tools and techniques' for 'telling, making and enacting'.

Telling, making, enacting

> *'The meaning of the artefact is revealed through the stories told about it and the scenes in which it plays a role'* (Sanders & Stappers, 2014, p. 7)

Sanders and Stappers (2014) argue that the artefact in itself is ambiguous, and that this ambiguity generates an opportunity for discussion, creativity and expression. Aligning with this, the framework presented by Brandt et al. (2012) stresses that the acts of 'telling, making and enacting' will most often occur in iterations, overlapping and intertwining as a process progresses (Brandt et al., 2012; Sanders & Stappers, 2014). See figure 9.

'Telling' is often used to reflect on the existing but also serves to open up about inquiries into new futures, e.g. in combination with tools for making and enacting (Brandt et al., 2012). 'Making' in design is concerned with the tangible aspects of making things. Brandt et al. (2012) present three approaches of making, i.e. probes, generative toolkits and prototyping,
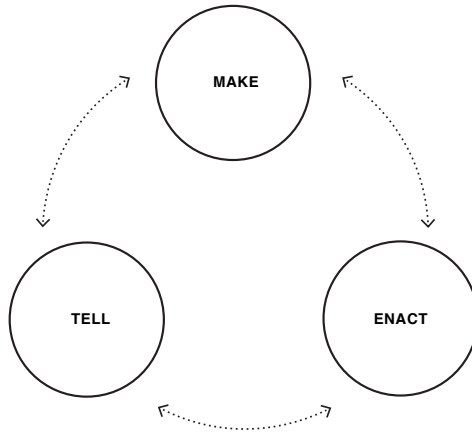
Figure 9: Telling, making, enacting. Source: (Brandt et al., 2012)

which I will come back to in the following. The practice of 'enacting' is concerned with physically or bodily acting out or improvising a future scenario in order to try things out (Brandt et al., 2012). This serves to evoke ideas through exploration of different scenarios or enactments. Scenarios are stories about people and can convey meaning about *'how activities and experiences in the future could be different from today'* (Brandt et al., 2012, p. 166).

Tools and techniques
Sander and Stappers (2014) and Brandt et al. (2012) outline three approaches to making: probes, toolkits and prototypes. They each offer a distinct way of engaging non-designers in a design process.
Probes or cultural probes were first presented by Gaver et al. in 1999 (Gaver, Dunne, & Pacenti, 1999). This approach invites the non-designer to express his or her experiences, feelings or thoughts about a given situation or culture in a format provided by the designer. The probe becomes *'artistic proposals to evoke inspiring responses from individual participants'* and hence does not require the presence of a designer in the situation (Sanders & Stappers, 2014, p. 8). In this way, data collection turns from factual to playful and inspirational and exposes the design agenda of the researcher (Brandt et al., 2012). Gaver et al and older people

Toolkits can be seen as a language provided to the non-designers with which they can express their desired future perspectives. They are most often used as part of 'facilitated collaborative activities', where the designer is present (Sanders & Stappers, 2014, p. 7). Toolkits can consist of a variety of 2D or 3D components that can be used to create an artefact. They are targeted to a certain design activity and can be used by both individuals and groups (Sanders & Stappers, 2014). Brandt et al. (2012) argue that the good toolkit has a limited number of components that can be used in endless variations to express past, present and future experiences.

Prototypes are 'physical manifestations of ideas or concepts' (Sanders & Stappers, 2014, p. 9) that can be used to explore both the physical and the social feasibility of a design solution. Prototypes are often developed as rough and inexpensive models to engage in feedback and dialogue and can be made of various materials. In fact, rough prototypes can make it easier for the participants to give constructive feedback as opposed to a model that looks final (Sanders, 2013c). Prototyping (in the verb form) becomes a process of simultaneously exploring design opportunities and how the potential use will be experienced (Binder, 2010). In contrast to other design disciplines, such as e.g. product design, Lee (2007) notes that prototyping 1:1 in spatial design can be both costly and time consuming due to the scale, which makes it less prevalent in this discipline (Lee, 2007, p. 43).

However, all three approaches to making have played an important part in this thesis. I will not go deeper into the respective tools and techniques used and how they worked, as this will presented in following articles. I will just briefly outline the ones we used and in which articles they will be presented.

Cultural probes were used in the form of a mapping activity distributed to 500+ mailboxes in the two housing areas in Copenhagen (Article 2). Toolkits came in the form of a mapping activity, 2D collage making and 3D model making in all three co-design processes in Copenhagen and Greenland (Article 2 and 3). Prototyping was applied in the form of outdoor on-site visits testing new 1:1 solutions and experiences with e.g. rubber bands and cardboard in both Copenhagen and Greenland (Article 2 and 3).

4.5. Ethical considerations

When conducting qualitative research, Brinkmann (2010) operates with four ethical factors to take into consideration: informed consent from the participants; confidence and anonymisation of the participants; the consequences that may arise for the participants from being involved in the research and lastly, the role of the researcher in the qualitative research.

Throughout the 'scheduled' fieldwork conducted as part of this research, participants signed a consent form agreeing to take part in the study and deciding whether images of them could be used for research, teaching and/or broader dissemination purposes. Participants could withdraw from the study at any time. In order to ensure anonymity, the names of the respective housing areas are just referred to as Housing Area 1 and Housing Area 2 in Sydhavnen as well as the housing area in Sisimiut.

Regarding implementation events that involved construction activity, we made an agreement with the housing association to set up day-to-day insurance for the participants involved. We found that necessary for conducting responsible research, as many of the residents did not have personal insurance and hence could have been excluded due to personal financial limitations.

In practice-based design research, the researcher takes on various roles and as a premise becomes embedded in the research field (Vaughan, 2017a). Having these positions – as a researcher, a practitioner and a designer – required us to continuously use reflection-in-action and reflection-on-action as defined by Schön in his reflective practice (Schön, 1983). Further, working through a participatory approach continuously meant that we as a team had to articulate the meaning of this reflective practice and provide transparency in the iterations to both the participants, the practice stakeholders and our research collaborators, who came from different research traditions. For examples of transparent reflections and communication with the practice fields, please see visual narrative: 'We haven't forgotten about you! Comunicating transparently', which illustrates some of the many instances where we communicated a delayed process, uncertainty or things that mattered to the practice

collaborators, including invitations for further events.

Some of my roles within this project included tasks such as:

- Recruiting and establishing good rapport with multiple actors in practice
  (see visual narrative: Which tasks? Building rapport with multiple actors)
- Conducting and analysing go-along interviews (see visual narrative: What are we
  talking about? Adding the visual to communication.)
- Planning and preparing co-design workshops
- Developing co-design tools
- Facilitating co-design workshops
- Co-designing design solutions, including co-analysing and implementing
- Communicating between workshops (see visual narrative: 'We haven't forgotten
  about you! Communicating transparently')
- Project managing and connecting stakeholders
- Documenting the research process
- Analysing, theorising, extracting and disseminating research insights

VI BYGGER REDEKASSER!

Vi vil skabe plads til byfugle i Sydhavnen.
Kom og byg redekasser med os.

Der vil være gratis forfriskninger.

WE HAVEN'T FORGOTTEN ABOUT YOU!

COMMUNICATING TRANSPARENTLY

Photos from the three co-design processes in 2017 and 2018
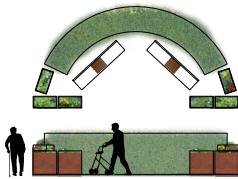
VI BYGGER PLANTEKASSER I

V[   ]d nr. 5-7 og 6-8 skal vi opgradere si[   ] med læ og mere grønt for [   ]rds beboer[ ]

Sammen med et byggefirma har vi brug for hjælp til:

- at bygge plantekasser på stedet
- at samle og opsætte små borde på bænkene
- at plante blomster

Alle er velkomne - og alle kan være med. Der vil væ[   ] kanden og tid til en snak om projektet alle dagene!

Tid: Onsdag d. 5.7, torsdag d. 6.7 og fredag d.[   ] 10.00 alle dage.

Sted: Fo[   ]ård nr. 5-7 og 6-8

Vi glæder os til at se så mange af jer som muligt.

Kamilla og Sidse

PAVILLIONEN I HAVEN BYGGES FRA SLUT AUGUST

Kære beboere [   ]

Vi har ikke glemt jer og det ligner nu, at håndværkerne kan gå i gang med at bygge pavillonen i fælleshaven fra den sidste uge i August. Herefter sætter vi redekasser til mere fugleliv op.

Vi vender tilbage, når vi har de præcise datoer.

RIGTIG GOD SOMMER!

Mvh

Kamilla og Sidse

WHICH TASKS?

BUILDING RAPPORT WITH
MULTIPLE ACTORS

Photo from go-along interview in Copenhagen, 2016

5. THREE TAKES ON EXPLORING; ARTICLES

This chapter consists of reprints of the three articles that constitute a segment of the text generated throughout the process of this PhD project (one published and two manuscripts). In three separate constructions I seek to explore different aspects of the overall research objective. The different articles have been targeted architectural research journals engaging in practice-relevant discussions that are applicable and operational to the architectural profession when engaging in developing AFCCs from a participatory design perspective (which is in line with the need stated by GNAFCC, presented in Chapter 2) (World Health Organization, 2018).

The articles represent different time periods of the research process with the respective articles presenting the fieldwork from 2016, 2017 and 2018. This chronology further depicts stages within my research process, from understanding socio-spatial dimensions of neighbourhoods and recruiting to developing an age-friendly co-design process and lastly how such a process can be further developed in collaboration with local practice stakeholders and the significance of it.

ARTICLE 1:

GOING ALONG WITH OLDER PEOPLE: EXPLORING AGE-FRIENDLY NEIGHBOURHOOD
DESIGN THROUGH THEIR LENS

Sidse Carroll, Astrid Pernille Jespersen, Jens Troelsen

ARTICLE 2:

CO-DESIGNING AGE-FRIENDLY NEIGHBOURHOOD SPACES IN COPENHAGEN: STARTING WITH AN AGE-FRIENDLY CO-DESIGN PROCESS

Co-designing Age-friendly Neighbourhood Spaces in Copenhagen: Starting with an Age-friendly Co-design Process

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Abstract

Age-friendly cities and communities are currently attracting much attention as the ageing population becomes a larger proportion of our societies and their needs and aspirations become more diverse, which needs to be reflected in our cities. This calls for older people to play an active role in the design of suitable environments, e.g. by being involved in the design process.

With this paper, we present a study, where the methodology of co-design was used to engage 100+ older people in a low-income neighbourhood in Copenhagen in designing new neighbourhood spaces to reflect their needs and wishes. By focusing on the co-design process, and not the design solution, we investigate and present insights across the entire span of the process – from recruitment to implementation – and seek to extract particular elements that contributed to the age-friendliness of the process.

Recommendations for future co-design processes with older people include focusing on explicit communication and foreseeable steps, to create a process that offers multiple and flexible participation options, and to upgrade the latter stages of the co-design process through scale 1:1 prototyping and implementation.

The findings contribute to both the professional practice of co-designing with older people on a spatial scale as well as to policy makers and practice stakeholders when initiating initiatives with age-friendly cities and communities.

1. Introduction

Globally the ageing population is rapidly increasing and is expected to reach 22 % of the world's population by 2050 (World Health Organization, 2007). At the same time the ageing population is more diverse and heterogenous than ever (World Health Organization, 2007). This has increased the attention on the diversity of the environments in which older people will be ageing, including Age-Friendly Cities and Communities (from now on referred to as AFCCs) (World Health Organization, 2007). Several scholars support this movement and argue that creating age-friendly environments should happen through a bottom-up approach, where older people are actively involved in the process and where their lives and experiences become the starting point (Buffel & Phillipson, 2018; Lui, Everingham, Warburton, Cuthill, & Bartlett, 2009; O'Hehir, 2014).

The most common types of involvement where older people play an active role in investigating AFCCs are currently through co-research or participatory research (Buffel, 2015, 2018a, 2018b; Cinderby et al., 2018; Finlay & Bowman, 2017; McDonald, Scharf, & Walsh, 2018; Sanz, Ferrer, Figueroa, Ferrandis, & Rigia, 2015). A few co-design projects that do involve older people in design of AFCCs exist and span from the scale of designing seating in e.g. the 'Older Person Friendly Seating' project (Ions & Years Ahead, 2014), to more strategic urban design in e.g. the project 'Co-Motion: Mobility and Wellbeing in Later Life' (Cinderby et al., 2018). Other studies include those of The Old Moat project (White, Phillipson, & Hammond, 2013) and the Mobility Mood and Place (Scott, 2017). While the Mobility Mood and Place study focuses on the processual dimensions of involving older people in co-design, it is uncommon in the literature, where the age-friendly design solution is the main outcome. Scott (2017) reports on methodological insights with older people e.g. offering choices within activities to bring out personal strengths to make engagement enjoyable and informal and to plan activities to match the capacities of the group to avoid exhaustion.

Co-design studies with older people that present more in-depth knowledge about the process are primarily found in design fields focused on creating health, welfare and technology solutions or systems to support better ageing. Studies include those of (Botero & Hyysalo, 2013; Brandt, Binder, Malmborg, &

Sokoler, 2010; Brandt & Nørgaard, 2012; Lindsay, Jackson, Schofield, & Olivier, 2012; Malmborg, Grönvall, Messeter, Raben, & Werner, 2016; Riche & Mackay, 2010; Vines et al., 2012). Some considerations from these projects include exhaustion among participants, troubles envisioning intangible concepts, and conversation that wanders off (Lindsay et al., 2012). Other challenges include the fact that some older people do not inherently identify with being stigmatized as 'elderly'and they may struggle to see the direct benefit for themselves and hence the reason to participate which can make recruitment and engagement difficult (Brandt et al., 2010; Malmborg et al., 2016; Riche & Mackay, 2010).

As stated, an increased demand lies in applying a bottom-up approach to designing AFCCs (Buffel & Phillipson, 2018; Lui et al., 2009; O'Hehir, 2014; World Health Organization, 2007) and as Lui et al. (2009) argue, we need to gain more knowledge on the process and not only on the solution when developing AFCCs (Lui et al., 2009). In order to obtain more knowledge about 'how to' design with older people we suggest drawing on fields that have stronger traditions in terms of participatory design. For example co-design where collaboration is at the forefront and where designing the process is as important as designing the 'object' (Brandt, 2006).

This paper aims to methodologically unfold and discuss two co-design processes carried out with older people in two housing areas in Copenhagen when co-designing neighbourhood spaces. Our approach is to provide hands-on tools and insights that are useful for practitioners and policy-makers when engaging older people in co-design of AFCCs. Specifically, we seek to answer the question: What elements are particularly important when designing and carrying out an age-friendly co-design process when developing AFCCs?

Firstly, we introduce our research design and the mindset and methodological background of co-design. Then the empirical data is presented, and lastly we discuss insights that turned out to be particularly important for the age-friendliness of the process. In relation to the existing body of knowledge we seek to contribute with knowledge beneficial to future co-design processes with older people when designing AFCCs.

2. Research Context and Methodology

2.1. Research Context

The context of this study is Sydhavnen (The South Harbour), a deprived area of low socio-economic status (SES) located in the southern part of Copenhagen. A decline in inhabitants has resulted in the area becoming a place where the municipality houses socially challenged people (Områdefornyelse Sydhavnen, 2014). The demographics of the neighbourhood make it one of the most disadvantaged neighbourhoods in Copenhagen. The average life expectancy is 73.0 years compared to 80.6 years as the average in Denmark (Forskningscenter for Forebyggelse og Sundhed, 2008). Additionally, 22.1% of the population is outside the labour market, 32% has no formal education, and 40.2% has a low income (Områdefornyelse Sydhavnen, 2014).

Within this neighbourhood, three social housing areas for seniors are located. Two of them are part of this study, while the third felt it did not have the resources to commit. The two senior housing areas are run by two separate housing associations. In both housing areas, some of the apartments are administered by the municipality and are inhabited by other age groups, primarily people with social, mental or physical challenges. Housing Area 1 consists of 441 apartments with approximately 200 seniors. Housing Area 2 consists of 127 apartments with approximately 100 seniors.

2.2. Research Project

The research was carried out as part of the project called 'Move the Neighbourhood with Seniors' and is part of a larger research network named APEN (Activity and Health Enhancing Physical Environmentt Network) (Pawlowski et al., 2017). The aim of the project is to engage with seniors to co-design interventions in their local built environment in order to enhance their health. A budget of DKK 600,000 was allocated to design and construct three urban installations in the two senior housing areas.

An interdisciplinary team consisting of an architect and an anthropologist used co-design to engage various local stakeholders, including approximately 100 older people. Beside the seniors, important

stakeholders include the two social housing associations, social workers as well as building consultancies and construction companies.

The overall research spans a period of five years from 2016-2020. This article, however, reports on the phases relating to the co-design process with pre-studies starting in the autumn of 2016 and the co-design workshops taking place in the spring of 2017.

2.3. Research Methodology

This research is positioned at the intersection of four disciplines: anthropology, co-design, architecture and gerontology. All fields have strong individual research traditions, but in combination and in relation to the research aim, which is to gain new knowledge about how to involve older people in co-design of AFCCs, knowledge is limited. Therefore, an explorative study approach was chosen. As opposed to conclusive research, the goal of exploratory research is not to produce final or definitive answers but rather to qualitatively investigate a given research topic or problem and to drive current and future research design (Stebbins, 2001). An exploratory approach is often used in emerging fields or when tackling new problems where little research has been done. With this point of departure, we explore through two empirical studies and seek to extract in-depth knowledge about how they informed and guided each other, as well as how this practical and specific knowledge can be discussed from a general perspective to guide future co-design with older people. The empirical data consists of ethnographic and co-design data from before and during the co-design workshops. The specific methods will be described in more detail in section 4.

3. Methodological Background: Co-design

Co-design is distinguished from 'regular' design processes through the participatory approach, where end-users become collaborators or partners in a design process (Sanders & Stappers, 2008). Participants onboard the process in the early stages of a design, even before a design brief has been decided upon, and they take part in defining the problems to be addressed (Thomson & Koskinen, 2012). This part of the process is often referred to as the 'fuzzy front-end' because of its ambiguity and chaotic nature (Sanders & Stappers, 2008).

After the 'fuzzy front-end' follows the 'traditional' design process. Brown (2009) refers to 'stages of innovation', where you work your way through inspiration, ideation and implementation, in short, moving from exploring a problem or opportunity, generating ideas and testing them before bringing them into the real world. Sanders and Stappers (2008) articulate it as developing ideas into concepts and then into prototypes that are refined into solutions after feedback from future users. Co-design is considered a community-centred methodology, where designers and non-trained designers work together (Sanders & Stappers, 2008; Thomson & Koskinen, 2012). Non-trained designers include different professional disciplines, practice stakeholders and end-users. The approach combines professional expertise with experienced expertise (Sanders, 2013; Sanders & Stappers, 2008) and the users can become part of a design team as 'experts of their experiences', provided they are equipped with tools to express themselves, are being taken seriously and are genuinely wanted in the process, not just as a formality where the decision has already been made (Cruickshank, Coupe, & Hennessy, 2013).

This naturally changes the role of the designer to be someone who enables others to be creative rather than someone who solely creates solutions based on inputs (Cruickshank et al., 2013; Sanders & Stappers, 2013). The level of participation in a user and in a group can vary greatly throughout a process depending on expertise, interests, abilities and effort (Sanders & Stappers, 2008; Visser Sleeswijk, Stappers, van der Lugt, & Sanders, 2005). To optimize levels of participation, this requires designers to be able to identify these opportunities in terms of different skills, interests and abilities to come into play and to set the stage and prepare accordingly for how such processes can take place. The format of the design events or workshops is often used to bring various stakeholders together (Binder, 2007; Brandt & Eriksen, 2010a).

Envisioning new futures is inherent in the working practice of designers and architects, through e.g. making, drawing, sketching, prototyping etc. However, most co-design participants have no training in these disciplines and will be most comfortable speaking and writing. Co-design scholars suggest working through a framework of tell, make, enact where different modes of expressing oneself support each other through tools and techniques for doing so (Brandt, Binder, & Sander, 2012; Sanders & Stappers, 2014). Telling is often used to reflect on the existing situations as well as articulate future situations. Making is concerned

with trying out ideas and making them tangible through tools, protoypes or probes. Enacting works well to bodily express future scenarios or situations of how things could be (Brandt et al., 2012).

4. Designing and Carrying out an Age-friendly Co-design Process

This section presents our methods and empirical data in the form of the considerations regarding how the process was designed from a co-design perspective targeted two groups of low-income older people. The following data stems from the ethnographic fieldwork and co-design workshops, e.g. photos and audio recordings, transcripts, fieldnotes and design artefacts made by participants.

4.1. Pre-studies: Planning and Recruitment

The process was intended to cover the respective stages of a design process starting with immersion, moving to ideation and prototyping, before proceeding to refinement and implementation (Brown, 2009; Sanders & Stappers, 2008). The pre-studies heavily influenced how this overall strategy became operational, and both researchers carried out six months of pre-studies prior to the actual design workshops. These consisted of ethnographic fieldwork in the area (Hastrup, 2010) e.g. participant observation during social activities (Dewalt, Dewalt, & Wayland, 1998) and go-along interviews (N=16) (Carpiano, 2009; Carroll, Jespersen, & Troelsen, 2019; Kusenbach, 2003). The pre-studies aimed to gain a thorough understanding of the social and physical contexts, to build good rapport and to determine on which cognitive, social and physical level the co-design process could unfold.

The research team collaborated closely with the social staff during this stage. Recruitment took place through various channels e.g. taking part in knitting groups and bingo mornings, directly through the go-along interviews, as well as through printed invitations. The invitation was worded carefully in collaboration with the social staff to ensure a suitable 'casual' tone and language. The invitations stressed that everyone regardless of age was invited to take part; that the residents were the experts and that we needed their help in order to collectively design new and better neighbourhood spaces. Graphically, we used the invitation to visualise the series of design events and dates, in order to break down the process from abstract to concrete and create coherence between the workshops (Brandt & Eriksen, 2010a). The social staff advised us to state

on the invitations that all events were free of charge and that complimentary coffee and tea would be served. Due to the low-income status of the neighbourhood, previous experiences had shown that confusion about this topic would stop people from attending events. Lastly, we were advised to add a photo of the main researchers on the invitation since many residents had problems remembering the names of the staff and the authorities in the area.

In the beginning, there was a general concern that the project would not result in a design outcome or that the outcome would be pre-determined, which required us to continuously emphasise the open-ended and exploratory approach of co-design (Cruickshank et al., 2013; Halse, 2010). However, we decided to take this concern seriously and mention the word 'party' in the invitation in order to ensure that this was planned as a natural step in the process. The invitations were distributed to approximately 500 mailboxes as well as displayed in the stairways of the building blocks.

To many non-designers creativity is often thought of as a skill that is limited to rare individuals in the arts and sciences (Sanders & Stappers, 2013), and words such as 'design' and 'workshops' may be unfamiliar and can evoke uncertainty as to whether one can contribute to this. To accommodate for this potential uncertainty, we created a cultural probe in the form of a mapping exercise and distributed it along with the invitations (Gaver, Dunne, & Pacenti, 1999; Sanders & Stappers, 2014). This was done partly to gain knowledge about the perception of the neighbourhood spaces from the residents who would perhaps not attend the workshops, but equally as important we wanted to give the participants a taste of what a design activity could look like and to transform the abstract and fluffy words into a tangible and inspirational task (Brandt et al., 2012).

Figure 1: Invitation

Figure 2: Cultural probe

IMMERSION	IDEATION	PROTOTYPING	PRESENTATION	IMPLEMENTATION	DELIVERY
WORKSHOP 1	**WORKSHOP 2**	**WORKSHOP 3**	**WORKSHOP 4**		**SUMMER**
Together we will try to understand the area's best and least best places and needs	Together we will come up with new ideas and design proposals to improve the area	Together we will test the ideas - maybe outdoors if the weather permits it	The final design solution will be presented		We will have a party to celebrate

Figure 3: The co-design process. The top row holds the design terms. The bottom row reads how it was explained to participants

4.2. Workshop Structure and Facilitation

The two co-design processes were carried out in parallel in the two housing areas typically two days apart. We used the format of workshops to encourage collaboration and to foster commitment (Binder, 2007; Sanders & Westerlund, 2011) through a series of design events that would tie the process together (Brandt & Eriksen, 2010a). The respective workshops were structured around one or two design activities, and every workshop started with an introduction of the day's program and a recap of what had happened the last time. After the design activity, a plenary recap summarised the workshop along with a few words about what would happen in the subsequent workshop. By using the same format with some simple steps, we aimed to create a safe and comfortable environment. Repetitions were used consistently to articulate the connection between the different workshops and to guide participants through every step of the respective workshop.

After each workshop, process posters were displayed in the housing areas to create visibility and to invite residents to take part in the next workshop.

The format of each co-design activity was structured around one simple principle which aimed to give voice to everyone by acknowledging the individual within the community (Sanders & Westerlund, 2011). Every design activity started as an individual exercise, where each participant had the chance to get started, reflect and work at his or her own pace. This was followed by a plenary round that served two democratic purposes: being heard and listening to one another. This mode of working combined making with telling, as participants would almost always express themselves through their models or design artefacts (Brandt et al., 2012; Sanders & Stappers, 2014).

It was entirely up to every individual whether he or she wanted to present to the group, and the facilitator made sure to keep order in the room during each presentation and to make sure the conversation did not wander off (Lindsay et al., 2012). Aligned with other co-design projects with older people it was important to create a safe format taking into account both individuals who feel comfortable contributing in group settings as well as those who feel more comfortable in one-on-one situations (Scott, 2017). Several times during each workshop, the expert role of the older people was emphasised (Sanders, 2013; Sanders & Stappers, 2008) and the fact that there were no right or wrong answers to the activities. Each participant was given a tote bag with a design kit as an attempt to create a design community with a shared visual identity. The bag carried the project logo and consisted of a folder, a pencil, a name tag and some sweets.

Figure 4: Process poster

Figure 5: Tote bags with design kits

4.3. Workshops and Implementation Events

Workshop 1: Mapping and collage making

The aim of this immersion workshop was to identify likes and dislikes within the existing neighbourhood spaces and to create a common understanding of the various opinions and perceptions among the larger group of neighbours. First step was an individual mapping exercise followed by a collective map compiling all answers.

For most of the participants, this exercise was their very first encounter with the term 'design workshop' and was an opportunity to introduce design as playful. A previous study had shown that if participants enjoy what they are doing, they contribute much more effectively (Scott, 2017). Additionally, this was an opportunity to articulate critique about elements in their surroundings, which is an essential resource for design when identifying problems and ideating (Vines et al., 2012) and, as Brandt and Eriksen (2010b) state, everyone will bring experiences and interests and hence starting from a blank slate is not possible.

The mapping exercise was followed by collage making, asking participants to visualise how they experienced an existing outdoor area of their choice. Participants were provided with photos (approx. 30), which had been selected based on findings from the pre-studies as well as references to topics from the WHO age-friendly cities guideline, trying to include both local and global challenges and potentials (World Health Organization, 2007).

Some lessons learned that we brought from one process to the next and to the forthcoming workshops were: Some participants with cognitive declines found the exercises difficult and needed one-on-one assistance from a facilitator while others fully enjoyed the creativity and e.g. created more than one collage. This highlighted the wide span in regard to individual abilities and taught us to keep future exercises very robust in order to accommodate for various participant levels, as well as having more facilitators. Additionally, the number of photos to choose from were a bit overwhelming.

Figure 6: Board with compiled mapping answers

Figure 7: Example of participant working with her collage

Workshop 2: Model making

The aim of this workshop was to transition from immersion to ideation. After a recap of the findings from the last workshop, participants were asked to individually build a model of a new desired outdoor space in their neighbourhood. In order to allow the participants to work with the activity on their preferred level, the activity was designed to be open for interpretation in terms of activities and functions while at the same time encouraging them to give very concrete input into e.g. materials and tactility, functionality and aesthetics, through different tools (Brandt et al., 2012; Sanders & Stappers, 2014). Materials included polystyrene, salt dough, images, sticks, paper clips etc. Additionally, every participant was given a cardboard model of a man to use if they wanted to 'walk' through the new space when they presented their model.

The vast majority of participants used only images and the piece of polystyrene to explain their ideas. Some participants used salt dough to build e.g. a bee hive, a double curved bench and a sculpture. A lot of the participants were very explicit about which materials and functions they preferred thereby bringing forward interesting discussions about e.g. tactility and accessibility, which were extremely valuable in the sketching phase.

Figure 8: Participant with her models

Figure 9: Example of models made by participants

Workshop 3: On site prototyping

The initial analysis of the data collected from previous workshops was presented in the form of a list using colours to visually and transparently illustrate what suggestions had come up and how many times they had been mentioned. The aim of this list was to gain a democratic understanding and to collaboratively agree on what to move forward with.

This was followed by on-site prototyping and discussions about potential design solutions that could address some of these needs and wishes. The aim of this activity was to introduce architectural and contextual considerations such as scale, location, shape, size, heights, distances, texture etc. in an attempt to move from abstract ideas to concrete suggestions. While prototyping in architecture can be difficult due to scale, time and cost (Lee, 2007), we tried to use low-cost materials such as cardboard boxes to test small add-on tables on existing benches, as well as thick coloured rubber band to outline size, shape and location of a new covered meeting place. Enacting different scenarios on site of how things could be was valuable for the participants to start envisioning future situations (Brandt et al., 2012; Sanders & Stappers, 2014) One lesson from this workshop was to allocate enough time to go outdoors as the transition from indoor to outdoor required many people with mobility aids to use e.g. an outdoor lift or to walk a certain distance.

Figure 10: Prototyping add-on tables in Housing Area 1

Figure 11: Prototyping on grass with cardboard and rubber bands in Housing Area 2

Workshop 4: Presentation

In preparation for this workshop, the design team had sketched design solutions that were agreed upon in the previous workshop. The aim of this workshop was to communicate the solution and to discuss adjustments and refinements with the participants.

The solutions were presented in the form of drawings (plan and section) complemented by reference photos. In the first housing area, the section lines on drawings turned out to be too implicit and were mistaken for movement lines, which prompted us to make this more explicit in the second housing area. Reference photos showing larger concepts were a bit hard to grasp for some participants who thought that this would be how the finished result would look like exactly. As far as the minor details or materials of the solutions, the reference photos were interpreted well. The workshop ended with a consensus about moving forward with the proposals.

Figure 12: Participants with drawings

Implementation events

In line with the research aim of this paper, 'implementation' is here defined as events and construction activities in which the older participants actively took part, hence excluding work carried out solely by professionals. These events were planned in collaboration between participants and the research team and were guided by interests, abilities and project resources. These additional events had to be planned on a balanced level bringing momentum from the workshops while not exhausting the participants (Scott, 2017).

Invitations for the respective events were displayed in the building hallways with a minimum of one week's notice. The events were: a lecture about bird life in cities and a day of building bird boxes (jointly for the two housing areas), and three days of building two common areas for social interaction (in Housing Area 1). For the joint event 'lecture about bird life in cities' transportation was arranged from one housing area to the other housing area where the lecture was held.

For building bird boxes, a local men's group volunteered to take the lead. They were provided with technical drawings and prepared assembly kits to be built on the day of the event.

For constructing two common areas for social interaction, the research team collaborated with a professional team of carpenters with experience in social work. The event ran for three continuous days and tasks included e.g. sanding wood pieces, disassembling benches, oiling wood, planting and watering flowers. In both housing areas the process ended with a party, collectively celebrating the joint work.

Figure 13-15: Moments from the implementation days building bird boxes and common areas.

5. Age-friendliness in Co-design Processes

In this section we discuss insights from the two co-design processes that proved to be particularly important in terms of the age-friendliness and which in relation to the existing body of knowledge can help direct future co-design processes of AFCCs.

5.1. Explicit Communication and Foreseeable Steps

The open-ended co-design process holds numerous uncertainties for all parties involved. While designers are trained to embrace this uncertainty and to trust the creative process in order to push innovation, non-trained designers are not (Brown, 2009; Sanders & Stappers, 2008). For any collaborator (not limited to older people) to trust the process the process must be translated from the abstract to the concrete and from the implicit to the explicit.

In regard to this age group, scholars notice that older people can easily be distracted and go off on a tangent (Lindsay et al., 2012), which can drag out the time, shift the focus from the actual topic and cause great annoyance among co-participants. Naturally, firm facilitation is key to addressing this, but we found that communicating the clear structure of the workshop format and the foreseeable steps within each workshop and between the series of workshops (Brandt & Eriksen, 2010a) helped the participants to accept sticking to the schedule and to remind themselves and each other of this so the conversation did not wander

off. Several participants expressed that the workshop format was very suitable for staying on track. As one participant put it: *'if it wasn't for this workshop format, we would still be here arguing'.*

We found it to be particularly important with this age group to communicate and divide the different stages into clearly foreseeable steps, since some seniors would express their concern about the duration of such long term projects in relation to the time aspect of their everyday life, as several participants expressed it *'we might not be here tomorrow'.*

One example from our analysis shows how this continuous shift between the different stages were communicated and repeated to create a solid common understanding of how project principles and design activities were intertwined. This was done on multiple levels, e.g. highlighted in the invitation and continuously articulated in the workshops and in the design activities and sought to ensure that everyone could follow the steps and could jump in and out throughout the project and still contribute.

> *Facilitator 1, in Workshop 1: 'And today it is not about coming up with solutions; today is more about identifying needs. And then we will go back and go through the material and when we meet again for Workshop 2, we will start discussing what functions can meet these needs…'*

Other studies that touch upon communication with older people encourage plain or accessible language and straight-forward sentences (Sanz et al., 2015; World Health Organization, 2007). We add to this, transparency and explicit communication. Explicit communication includes the importance of communicating how the steps in a design process are linked, as this is what ties a process together (Brandt & Eriksen, 2010a) and further to clearly communicate the experimental and creative dimension of how designers work (Sanders & Stappers, 2013). If not communicated explicitly, this can cause a feeling of condescension. Two participants opposed the childish dimension of working with mapping and photos and comments included:

> *'We are being treated like a group of school children'*

'You came with some drawings and toys of some sort'

'We don't need to spend an hour placing dots on a map'

Juggling the playfulness of design while still ensuring that people feel they are being taken seriously was an interesting outcome of this study. This explicitness is perhaps even more critical to articulate when working with older people in order to counteract the feeling of ageism. Ageism can be imposed on older people both by themselves and by others through a prejudicial and discriminatory attitude (Butler, 1980).

Other important things to make explicit and predictable for this age group are very concrete issues such as arranging logistical transportation if certain co-design events are taking place in locations that seniors would find it difficult to get to by themselves and could hence prevent them from participating.

5.2. Multiple and Flexible Participation Options

This project reports on multiple participation levels from 'non-participation' to 'degrees of citizen power' to borrow the terminologies of Arnstein (1969). Some people did not show up and hence did not consent to the changes being made in their neighbourhood spaces. This will most likely always be the case, but nevertheless, this issue needs to be mentioned as it must be seen as a topic for improvement within the field of co-design, especially with low-income and marginalised groups who can be hard to reach. Accordingly, the tasks of the designers in this project ranged from facilitation and translation to simply coordinating and supporting when the participants took over and e.g. renovated benches and needed support with buying sanders, drills etc. for the projects. Hence, our core area of work was to best support the participants and the community and equip them with adequate tools for expressing themselves (Sanders & Stappers, 2008; Visser Sleeswijk et al., 2005).

During the workshops this meant designing activities that were not too difficult for the less 'agile' and not too easy or boring for the more 'agile'. As found in a similar study, one take is to design the tools so that participants are offered choices and can engage in ways that they themselves consider to be their own perceived strengths and interests (Scott, 2017). In this regard, it is necessary to understand 'ageing' as a dynamic and changing process where you might consider yourself old in some ways and not others, where

your expertise changes, and where various experienced experts will be present in a group. Brandt et al. (2010) refer to this with the term 'situated elderliness' meaning that you might be impaired in regard to one sense, e.g. visual impairment, but without feeling old in general.

Turning this experienced and situated expertise into an active asset that is just as valuable as the professional expertise requires acceptance of your own limitations as a design team and to communicate that openly to the participants. One participant summed it up nicely when being asked by a journalist what it was like to work with professional designers: *'They have the professional expertise, but we have the experience.'*

Flexibility turned out to be a key point when working with this age group. As noted by other scholars (Malmborg et al., 2016), older people are not neccesarily members of a formal organisational practice, and hence the approach needs to account for this. Similar to previous work, we found that the level of participation in a user can vary greatly throughout a process depending on expertise, interests, abilities and effort (Sanders & Stappers, 2008; Visser Sleeswijk et al., 2005). They will engage, if they find certain tasks or events relevant and if it fits into their everyday schedule, as life will get in the way. Examples of everyday interruptions during our process included participants going for scheduled surgery or doctors' appointments and attending a funeral. If commitment to the entire package of the co-design process had been required this would naturally have stopped people from coming. Hence, the process needs to consist of flexible and optional elements that respect the individual's contribution to the design process (Lindsay et al., 2012).

5.3. Scale 1:1 Prototyping and Implementation

Traditionally, the act of prototyping is often given a lower priority in design processes in spatial design, mainly due to the time frame and the budget that the scale would require (Lee, 2007). In this study we found that the prototyping on the spatial scale helped to speed up the process, as Brown (2009) points out, protoypes can actually help delevelop ideas faster: *'Put as little time and effort into prototypes as you can and still 'generate useful feedback and drive an idea forward'* (Brown, 2009, p. 4). Insights from this study taught us that the stage of 1:1 prototyping was crucial when it comes to neighbourhood design and this age group, as it allowed testing the ideas in their real setting and revealed age-related details about new ideas in the existing context. A simple journey with participants walking on grass turned out to be a prototyping

exercise in itself as it started a discussion about what type of ground is suitable for a walker. One could argue that with this age group, embodiment is required in order to reveal details. This aligns with the enactment suggested by Brandt et al. (2012) where the bodily becomes important for acting out a future scenario.

We also found that prototyping was valuable in gaining common understanding in age-related issues that go beyond your own experience helping to grasp the dynamic aspect of ageing where you are not only designing for yourself but for your potential future self or for someone else. A prototyping activity from this study highlights a situation, where ageing needs were discussed and tested from multiple perspectives: One agile participant moved around with the material in the form of cardboard, another used her walker as a physical placeholder and others contributed with comments and inputs in the negotiation of what kind of seating arrangements could fulfil most needs in a future situation. The walker in this case becomes a powerful tool rather than merely a disability aid.

Further, involving older people in implementation of neighbourhood design can be challenging and perhaps even impossible if the implementation has a scale and complexity that can only be carried out by professional workers. However, involving older people in minor and less demanding neighbourhood changes holds great potential to bring out personal and community resources and to create solutions where the details are tailored to the participants. When constructing raised flower beds, we saw multiple examples of how participants took on implementation tasks. A group of less physically mobile participants took part in sanding the pieces of wood including a man with Parkinson's disease and a man who did not speak Danish and hence could not communicate verbally, but could still engage in a material dialogue when making (Brandt et al., 2012; Sanders & Stappers, 2014). Another man with poor physical health was not actively participating throughout the actual construction of the flower beds; however, he quickly offered to be in charge of the watering hose and to water the plants for the entire duration of the summer. Implementation, of course, requires to respect how much a community wants to take part in certain stages to avoid burnout (Boyd, 2014). Recommendations from this study include teaming up with professional workers who understand social work with older people and hence can take part in the planning and preparation of implementation tasks that span across multiple levels of contribution and sustain it within the community.

6. Conclusion

A co-design process always needs to be targeted to the specific context in which it will be carried out. However, we suggest being especially aware of some guiding principles when co-designing with older people. We argue that the strongest examples of 'age-friendliness' occur when communicating the complexity of an open-ended and abstract co-design process through explicit communication that transforms the process into foreseeable steps that participants can follow and that align with their everyday life.

Furthermore, the contribution of various experienced experts should be emphasised in order to bring out resources on as many levels as possible. This can be done by ensuring that the process holds options for multiple and flexible ways of participating. Lastly, we recommend upgrading the latter stages such as scale 1:1 prototyping and implementation since this, in addition to fostering empowerment and ownership of a process, can generate crucial insights into age-related issues that go beyond what can be developed in the earlier stages of a co-design process that does not happen in the 1:1 scale.

With this study, we furthermore seek to present visual insights into a process through the images included, in order to inspire and give an idea of what co-design activities with this age group could look like. These images also seek to contribute to the discussion about articulating the creative and 'playful' dimension of design in order to distinguish it from the 'childish' aspect and serve as a reminder to age-friendly designers that they need to communicate this dimension explicitly, in particular to this age group, in order to avoid any insinuation of ageism.

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'THAT ADRENALINE AND DYNAMIC': THE SIGNIFICANCE OF AGE-FRIENDLY CO-DESIGN IN A MULTI-STAKEHOLDER COLLABORATION IN GREENLAND

'That Adrenaline and Dynamic': The Significance of Age-friendly Co-design in a Multi-stakeholder Collaboration in Greenland

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Abstract

The world's population is ageing, and increased attention is on developing well-functioning age-friendly cities and communites. Creating cities and communites includes adressing topics of complex socio-spatial dimensions and involves multiple stakeholders in the process. This also means including older people as active partners in the design process in order to create environments that reflect their needs and aspirations. In this paper, we present a study, where multiple stakeholders from a Greenlandic city worked together to co-design new neighbourhood spaces in a public senior housing area. Approximately 50 older people were involved in the co-design process, and follow-up interviews were conducted with municipal stakeholders two months later. By focusing on the different stakeholder perspectives we seek to extract insights into the significance of age-friendly co-design in such processes, which can help to guide future multi-stakeholder collaborations when creating age-friendly cities and communities through a co-design approach. Findings suggest that age-friendly co-design contributed to crossing boundaries and establishing a shared language through age-friendly co-design as well as to revising the image of older people's resources.

Keywords: age-friendly cities and communities, co-design, multi-stakeholders, neighbourhood design, older people

Article type: Research article

1. Introduction

As global demographics are rapidly changing, and people over the age of 60 are estimated to constitute more than one-fifth of the world's population by 2050 (World Health Organization, 2007) an increased focus is on creating environments that meet the needs of this age group. Age-Friendly Cities and Communities (AFCC) is a political initiave established by the World Health Organization (WHO), and the term is now widely used by scholars (Buffel, Handler, & Phillipson, 2018; Moulaert & Garon, 2018; O'Hehir, 2014). The WHO has identified eight topic areas that are important when developing AFCCs. These are presented in the 'Age-friendly City' model and are; outdoor spaces and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, and community support and health services, (World Health Organization, 2007, p. 9). Adressing these topics that span physical, social and cultural dimensions requires collaboration across sectors, between professions and the inclusion of various stakeholders, including older people as active partners (Buffel, 2018; Lui, Everingham, Warburton, Cuthill, & Bartlett, 2009; O'Hehir, 2014). Further, older people as an age group is more diverse than ever, requiring a response through processes that reflect diverse modes of participation (World Health Organization, 2007).

From a design and architectural perspective, one participatory response to this challenge is through co-design – a community-centred methodology where stakeholders who are not trained in design work with professional designers to understand and create solutions to problems defined by the community itself (Cruickshank, Coupe, & Hennessy, 2013; Sanders & Stappers, 2008; Thomson & Koskinen, 2012). In this regard, gaining insights into the stakeholders' experience about collaborating in a co-design process can generate important learnings as to what such participatory processes can contribute with and could help to guide future processes when AFCCs are being developed.

This paper reports on a joint collaboration between local senior residents in Greenland, the research and development project Ageing in the Arctic (AgeArc), the research network Activity and Health Enhancing Physical Environment Network (APEN) and three departments from the Municipality of Qeqqata in Greenland. The aim of this study was two-fold: 1) to co-design new neighbourhood spaces to provide better

access to nature for the older residents and 2) to develop an age-friendly co-design process in collaboration with local stakeholders in order to gain insights that can inform future co-design processes when designing AFCCs. This article reports on the second research aim and explores the different perspectives of participating in an age-friendly co-design process, from the view of the respective stakeholders involved. Specifically we ask: What is the significance of an age-friendly co-design process in a multi-stakeholder situation when designing AFCCs?

2. Project Design and Research Methodology

2.1. Collaborative Research and Practice Project

The study reported in this paper was initiated by local community stakeholders in Sisimiut, Greenland. The Municipality of Qeqqata had established an initiative led by the Homecare Department called 'Healthy and Active Ageing'. The Homecare Department had long had the idea of creating better access to nature for a group of senior citizens living in a local public senior housing area. After taking part in previous ethnographic research carried out by AgeArc, the Homecare Department presented the researchers with their idea and a formal collaboration was initiated. Other local stakeholders included the Municipality of Qeqqata's Culture and Sustainability Department and the Technical and Environmental Department as well as the local residents living in the senior housing area. AgeArc is an active project running from 2017-2021 that combines research and development of welfare initiatives and in general aims to study and enhance wellbeing, quality of life and health promotion among older people in Greenland (Nørtoft et al., 2018).

AgeArc invited the research network Activity and Health Enhancing Physical Environment Network (APEN) to team up and collaborate on the research side of the project. The research team behind this study consists of an architect and an antropologist. Prior to this study APEN had carried out two co-design processes with two senior housing areas in a low-income area of Copenhagen with the objective of involving local older people in co-design of new neighbourhood spaces (Pawlowski et al., 2017).

Prior to the start of the project, funding from Qeqqeta Municipality's Sustainability Fund had been obtained (DKK 200,000). After the completion of the co-design process, when the design proposal had been selected, additional funding for the design solutions (DKK 260,000) was applied for and granted through the Municipality and AgeArc. During two weeks in June 2018 approximately 50 older people took part in a co-design process in Sisimiut. Four workshops were scheduled to take place each with a clear design purpose that would involve the participants in the stages of a design process from 'inspiration to ideation to implementation' (Brown, 2009). In our terminology these were 'immersion, ideation, prototyping, presentation and refinement'. Additionally, implementation and celebration events were later added to the process. The installations were built in the autumn of 2018.

2.2. Research Context

Sisimiut is the second largest city in Greenland with approximately 6,000 inhabitants. The city is located within a rural context surrounded by wild nature, mountains and the sea. Facing the mountains lies a public senior housing area consisting of four building blocks of 2 and 3 storeys with 48 apartments for seniors. Fourty-one of the residents live alone and the remaining seven live with a partner; all residents are retired. Every apartment has a view of the wilderness right on the door step, but no access exists if you have low mobility. Nature is a big part of people's life in Greenland and hence, a limited access in older age can negatively influence the seniors' quality of life (Nørtoft et al., 2018).

Figure 1 and 2: Photos of the area before the construction.

2.3. Research Methodology

The methodology of this project draws on qualitative data from an explorative co-design approach which is event-driven, open-ended and collaborative (Brandt & Eriksen, 2010a). The approach follows the notion that collaboration between research and practice partners must be based on ongoing dialogue and respect of each partner's experiences, contributions and areas of expertise (cf. Nørtoft et al., 2018). The study is empirically guided and combines ethnographic fieldwork and co-design. In this paper we draw on three different data sets: 1) ethnographic data from the planning phase prior to the co-design workshops, 2) data from the co-design workshops including field notes, photos as well as audio recordings from the last workshop feedback which were transcribed and 3) four semi-structured follow-up interviews with the core local municipal stakeholders. These semi-structured interviews were carried out by the AgeArc researcher two months after the workshops. She did not participate in the workshops herself. The interviews were analysed and organised into categories using thematic coding encompassing categories that evolved as the analysis progressed. Topics related to the process included: e.g. roles, collaboration, collaborators, contribution and design methods. The various data sets represent a triangulation of methods reflecting the interdisciplinarity of the research team, and collectively the qualitative analysis inductively served to form a completion of the case to inform the discussion (Schutt, 2012).

3. Methodological Background: Co-design

As presented earlier, in this article we inscribe the development of AFCCs into the field of co-design. An understanding of the mindset behind the co-design approach is required in order to discuss the empirical stakeholder perspectives from this study.

As opposed to other disciplines within the design field, co-design has its roots in participatory design, where the user is regarded as more than a subject you design 'for', rather a partner you design 'with' (Sanders & Stappers, 2008). This mindset requires that expertise is distributed from the designer to every co-design partner and in this regard 'situated' or 'experienced' expertise is as legitimate and valuable as 'professional' expertise (Sanders, 2013; Sanders & Stappers, 2013). Every stakeholder comes to the table

with a specific expertise, interest or ability and hence starting from a blank slate will never be possible (Brandt & Eriksen, 2010b). Instead it is important to acknowledge the individual contributions to the collective process and, as Sanders (2002) articulates, *'harness the collective and infinitely expanding set of ideas and opportunities that emerge when all the people who have a stake in the process are invited to play the game'* (Sanders, 2002, p. 6). In order for every user or stakeholder to become an active partner of the design team as 'experts of their experiences', they need to be taken seriously and genuinely be wanted in the process, and they need to be equipped with tools for expressing themselves (Cruickshank et al., 2013).

Therefore, carefully planning and designing the process (Brandt, 2006) and the respective design events becomes important as this is where people meet face-to-face, and the time must be well spent (Brandt & Eriksen, 2010a). Further, in order to optimise the resources of all stakeholders involved and adding to the sustainable and long-term perspective of a process that goes beyond the co-design events, Björgvinsson and colleagues (2010) advocate for 'infrastructuring'– reflecting to establish a process that is embedded the existing contexts. Especially when stakeholders from multiple contexts are involved, this alignment is important in order to bring stakeholders together. Some co-design scholars refer to stakeholder collaboration as a meeting between different 'communities of practice' with reference to Lave and Wenger (1991) and their work about 'situated learning' (Aakjaer, 2013; Brandt, Binder, Malmborg, & Sokoler, 2010; Malmborg, Grönvall, Messeter, Raben, & Werner, 2016). In order for communities to meet, the crossing of boundaries and negotiation of meaning and value are important aspects of making collaboration work. In relation to co-design with older people, Malmborg and collegues (2016) pay attention to the difference between work practice and everyday practice. Professional stakeholders in a work practice tend to have a common goal, while seniors who meet in the social settings of the everyday practice might only share short-term goals (Malmborg et al., 2016), which makes the alignment or crossing between these communities even more important. To facilitate these crossings of boundaries, 'boundary objects' in the form of tools for communication are suggested (Ehn, 2008; Lave & Wenger, 1991).

Applying such a mindset to a collaborative process further leans on the principle that everyone is creative and that this collective creativity is a way of creating innovation (Sanders & Stappers, 2008, p. 6). Hence, people with no background in design can contribute equally to a design process if provided with the

appropriate tools for expressing themselves. Optimizing participation requires the designer to identify opportunities and create suitable tools that spark creativity (Sanders & Stappers, 2008; Visser Sleeswijk, Stappers, van der Lugt, & Sanders, 2005). Such tools and techniques can come in many forms and can be regarded as a way of engaging in dialogue about new desired futures, when making communication tangible through artefacts (Brandt, Binder, & Sander, 2012; Sanders & Stappers, 2014). Further, scholars have suggested 'telling, making and enacting' as a framework for using tools interactively. The above terms refer to using our verbal language, our hands and our body to express ideas (Brandt et al., 2012; Sanders & Stappers, 2014).

Thus, in contrast to traditional design practice, the co-design approach changes the role of the designer from a sole practitioner to someone who supports and facilitates collaboration by creating events and providing tools for collective creativity (Sanders & Stappers, 2008). The 'professional' designer then becomes someone who enables others to be creative, rather than creating a solution herself (Cruickshank et al., 2013; Lee, 2008; Sanders & Stappers, 2008).

4. Collaborating on Designing and Carrying out an Age-friendly Co-design Process

4.1. Planning and Recruitment

The different workshops were planned in close collaboration between the local municipal stakeholders and the researchers. The local stakeholders represented the Homecare unit, the Culture and Sustainability Department and the Techincal and Environmental Department. They were experts on their community as well as their own disciplines, and each represented different perspectives relevant to creating AFCCs. The research team contributed with knowledge on co-design processes as well as insights from some pre-studies carried out by one of the researchers. Pre-studies were conducted within the AgeArc project and were based on ethnographic fieldwork methods such as participant observation (Dewalt, Dewalt, & Wayland, 1998), interviews (Spradley, 1979), focus groups (Halkier, 2010) and workshops bringing various stakeholders together (Nørtoft et al., 2018). The interlocutors in this fieldwork prior to the co-design process included

administrative representatives of the municipality, healthcare workers from the Homecare unit and the nursing home, the Elders' Society and residents of the housing area presented in this study

In the months leading up to the workshops, the planning of the co-design process happened via Skype between Denmark and Greenland. These meetings included establishing a common ground about the specific aim and objective from both a research and a practice perspective; obtaining an idea of the individual professional resources in the project team; recruitment of workshop participants; workshop location and times, roles, facilitation and suitable design activities. To develop a notion of what design activities could look like, the local team received some photos via e-mail of the previous project carried out by the research team in Copenhagen. They decided to add one of the photos to the invitation in order to communicate to the participants what kind of project this was. The workshops were scheduled to be carried out over two weeks and to be held in the morning.

Recruitment was in the hands of the Homecare management team and their staff who started telling the residents about the project when they went on their everyday care visits. Furthermore, the employee from the Culture and Sustainability Department joined them in one day of 'knocking on doors' with the aim of introducing herself to the residents while handing out invitations.

In preparation for the workshops, folders with assorted material such as the invitation and a pencil with the Municipality logo were prepared for each participant, which they brought back and forth between workshops. The name tags with the Municipality logo turned out to be in high demand and participants complained when we ran out of name tags with the logo.

Between workshops, process posters were created and displayed in the housing area. These consisted of an image of what had happened in the previous workshop as well as an open invitation to join the next one. After the last workshop, one participant humbly asked if he could take a large poster back home as he had spotted himself on it.
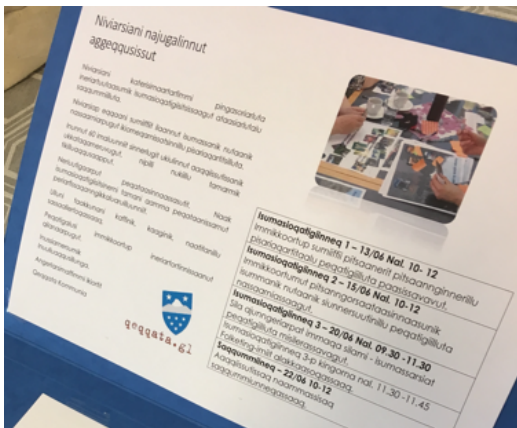
Figure 3: Invitation

Figure 4: Example of process poster

4.2. Workshop Structure and Facilitation

Prior to the first workshop, the research team briefed the collaborators about three main principles to work by and to make explicit to the older participants: 1) We cannot promise anything – in order to create transparency and avoid disappointment in case we did not receive sufficient funding, 2) We need the older participants in this project – they are the experts of their own everyday life and we cannot carry out the project without them and 3) Everyone can take part – it is important to create a safe space with a democratic focus and with no right or wrong answers, and each participant's contribution is acknowledged.

Establishing the three principles matterered tremendously for the facilitation part, as the majority of the participants did not speak or understand Danish. Hence, the communication with the older people happened primarily in Greenlandic, which meant the research team and two of the municipal workers (who do not speak Greenlandic) could not be sure exactly what terms were being used during the workshops when Greenlandic was spoken. The language challenge presents a limitation to conducting research in a context, where you do not speak the language, as you can never be sure that the translations are true to the original meaning. However, one might argue that it is also a strength, since this requires the translations to be completed on a deeper level, not dwelling on one word but rather negotiating the deeper meaning on a value-based level.

Scholars have previously noted that the exposure to outside conditions or departments often results in participants being more likely to generate new ideas (Brown, 2009). This view was shared by one of the Homecare managers who specifically asked not to be the facilitator, since she felt too close to the participants and thought they would open up more if another person, who was more of an outsider, was in charge. The main facilitator was chosen from one of the other municipal departments. Prior to every workshop, the team met for a debriefing outlining the overall activities of the respective workshop and again afterwards to debrief on what had worked well and what to take forward to the next workshop. The debriefing included both analysis of the design content as well as methodological considerations including facilitation, the structure of the workshop and how the design methods worked.

4.3. Workshops

A design process could or should never be linear, as stages overlap and iterations occur. However, for the purpose of this paper, the following table seeks to provide a brief and conceptual overlook of the co-design process.

The design activities were structured around mapping of likes and dislikes in the existing outdoor areas and identifying needs. Making collages and models and envisioning new ideas with the use of photos, pipe cleaners, wooden sticks, a map of the area and outdoor material from the local area, such as rocks and moss. Further, an on-site visit to the area took place, and lastly a workshop presenting and refining the new envisioned solution, including an exercise about giving the area a name and a new identity.

Figure 5: Mapping   *Figure 6: Collage and model making*

Table 1: Workshop outline

	WORKSHOP 1: Immersion	**WORKSHOP 2:** Ideation	**WORKSHOP 3:** Prototyping/on site visit	**WORKSHOP 4:** Presentation/ refinement
AIM	To gain an understanding of how places are experienced by the individual and to gain a collective understanding of likes and dislikes in the town area.	To start ideating ideas for the new outdoor area.	To narrow down on which options to proceed with and to move from abstract to concrete and discuss location, scale and dimension on site.	To communicate the proposed solution to the participants and to get feedback and discuss adjustments and to democratically decide on a name
DESIGN ACTIVITIES	Mapping (individual) Mapping (collective)	Collage and model making	Conceptual proposals and list of desired needs to be adressed On-site visit	Presentation with feedback Name exercise
NUMBER OF PARTICIPANTS	34	26	32	28

Figure 7: On site visit

Figure 8: Presentation and giving the area a name

5. The Different Perspectives on the Age-friendly Co-design Process

The following insight from the empirical data will be presented from a four-fold perspective of the core members of the co-design process: Stakeholders from three municipal departments as well as the older participants.

5.1. The Homecare Unit's Perspectives

The management team from the Homecare unit were the main collaborators in the co-design process and were involved in the planning and facilitation of the workshops. Other Homecare workers assisted participants during the different workshops but were not continuously involved, so their perspectives are not included is this study. The two managers are educated as healthcare assistants and have their everyday routines in the senior housing area and, hence, know the individual residents, their ability levels, as well as their levels of need for care.

Collaborating with the older participants from a co-design perspective was a totally new way for the Homecare managers to engage with the seniors, which led them to experience a completely different side of a group of older people whom they thought they knew:

> Homecare manager 2*: 'And I think it was everyone who contributed to this. Even people that we maybe did not expect to contribute, because we do know the residents pretty well and also their mental state, right…'*

The other Homecare manager added to this experience of how she also saw a different side of people she thought she knew:

> Homecare manager 1*: 'But now in that workshop, I could feel how much adrenaline they (the older participants) had. They have so many ideas for this area, the senior housing area, and I think it is really, really nice and exciting for us, and for me in particular, because they*

are so eager to understand with photos and stones. And when they tried to come up with

ideas and how they could be. And then when you explain it plain and clear, they become so

engaged and their thoughts really start to flow; "Maybe we can have such a thing here, or

there we might have such a thing", a lot of things, and I have never experienced this in my

time (as a Homecare manager), not until now, and that is really nice.'

As her quote shows, she also experienced that this affected her as a professional careworker and brought her new insights into what creative design exercises did to the older participants. For her that was a clear eye opener as a way to engage the older people in a way that she had not previously seen in her career. These new ways of engaging with a group of people whose resources or abilities you thought you knew are also highlighted in relation to the internal procedures in the Homecare unit:

Homecare manager 2*: 'But also in terms of the collaboration, well, we were multiple*

departments working together for this project. And I think for my employees, for example,

who have taken part as practical helpers, right, well they have really enjoyed being included

in this, because this is nothing like what they usually do. Normally, they go to the residents

(to their home) and see them in one way, but to experience them here, in a more dynamic

way, right, and to sort of be excited together with the residents about this and what will be

built. Or just that dynamic they (the residents) had when they took part in this (workshop

process)...'

Lastly, one Homecare manager reflects on how this participation had affected the older people who, due to various obstacles, might not be involved in decision-making anymore:

Homecare manager 2*: 'Yeah, well not to be involved like you used to be. And that might be a*

natural thing, because a lot of older people cannot cope with the same challenges as before.

A lot of them (the older participants), expressed that they were very, very happy, and we can

see that in the high turnout as well, that they felt, that they were the ones to develop this (new design ideas)'

This comment suggests the potential role that co-design could play in involving older people in general. In matters where they traditionally would have had a say, but due to lack of capacity are now left outside this decision-making as they cannot engage in a traditional manner (e.g. in meetings, verbally speaking their opinion, or stating something in writing) co-design offers a way of expressing their opinion and bring back that sense of making a contribution. Finally, one of the managers suggested that co-design methods could be used to engage older people and their relatives in future projects around the housing area.

5.2. The Culture and Sustainability Department's Perspectives

The municipal worker from the Culture and Sustainability Department (CSD) has a background in communications and a basic knowledge about citizen involvement. However, she has not previously worked with older people in this way. She had a distinct experience that the older people enjoyed participating and that this approach would broaden the democratic decision-making from a municipal perspective as well.

> CSD worker: *'Well, you could feel that they were so happy about being taken seriously - really happy, and that we saw them and listened to their opinions. And that everyone should be heard…*
>
> *[…]*
>
> *'I definitely think this creates a perfect framework for it (citizen democracy), right. Because some of these older people, I think, they do not participate that much…'*

Her experience of the process also brings out insights useful for cross-sectoral knowledge sharing within the municipality:

CSD worker: *'I am really satisfied. Very, very satisfied, and of course this (process) comes more natural to me, but I find it so positive that my colleague from the Technical and Environmental Department, who does not have a history or background, or how to put it, where you think about something like that, I mean these creative processes, right? It was so nice that he really thought that it (the process) was great and that he could see the value in it, right, and that he was like "we need to listen a lot more to our citizens". I just find that really great, right? I mean, if it could rub off on how we do projects where no one is being heard, right? That really made sense…'*

She clearly acknowledges and values the different backgrounds, cultures and working traditions within the Municipality and expresses her gratitude about what others (without a background in citizen involvement) learned from taking part in this type of collaboration – all for the benefit of the citizens.

Additionally, she refers to the process as a 'template', where a lot of the steps were structured beforehand, which she appreciated, as not everything was up for discussion. Instead decisions about design methods and the contextualization of these were gradually decided upon in reflection meetings after each workshop.

5.3. The Technical and Environmental Department's Perspectives

The municipal worker from the Technical and Environmental Department (TED) has a background in sustainable engineering. He had not previously engaged with older people as a target group. Through his interview he explained his thoughts about how the Municipality usually involves citizens and how he thought they could benefit from this process when involving older people:

TED worker: *'Well, it resembles public meetings right… when you have to, when there is something important, a larger project in this town, where you involve citizens in coming up with ideas. But not as detailed as this. […] this has a more user-friendly approach, also because these are older people with weakened abilities […] right?!'*

For him to have experienced the older people first hand by actively taking part in the co-design process and the workshops suggests an increased understanding of what involvement with an ageing user group requires and what potentials it holds. He further elaborates on how the project group, two months later, still works together around implementing some of these ideas that were initiated and agreed upon during the workshops.

> TED worker: '*And now tomorrow, for example, we are meeting to see what will be over here (in a certain area) and myself and two of the others from the project team (one from each department), have actually discussed, if there was any of the things we could use again, like models or methods. And we have agreed that this method we will use for this and that method we will use to get a better understanding of what they (the older participants) would like to do with the area. So, also this joy, and I really like it when people work together across different departments in a dynamic and good way. I really feel good about that, and even when there was not a lot of time for this…*'

This statement reflects not only the sustainable collaboration within the local group but also the continuous communication around developing methods that the different stakeholders find suitable in the ongoing work. Just like the research team and the local stakeholders had initially collaborated around designing and adjusting methods, this is now fully taking place in the local context and without the research team.

5.4. The older participants' perspectives

In the last workshop, the research team opened up a very informal plenary discussion about how the older participants had experienced the co-design process and workshop.

Insights from this session include a genuine appreciation of how the process had brought people together, something that several of the participants had clearly missed. One woman explained:

W4: '*I am really happy, that this process has been so good. And that thing about bringing people together, it is like it is only just starting now. It could have been like this from the beginning when it (the housing area) was built*'

Another man added to this opinion and highlighted the importance of bringing people together while still allowing for a difference in opinions to be shared:

M3: '*This thing about workshops and bringing people together here, that is really nice. I hope that, in the future, there will be more of these (workshops) where you bring people together who can have different opinions.*'

Having something to look forward to, feeling valued and contributing to something important was another more social outcome of the process:

M3: '*I agree, it is a very good process, because you are such good, good experts, who give us something to look forward to. We have something to look forward to, and we can tell other people about this project, we have started, which is really nice. Also, because it is a process that will keep going, it is not just something that you hide away. So, that is nice of you, thank you.*'

His use of the pronoun 'we' when saying 'we have started' indicates a clear ownerships of the process and project.

The older participants also touched upon future perspectives, spanning further than this local housing area to include other older people in the city and older people in general. In this regard it was important for the research team to communicate the importance of the contribution that these local people had made to the broader field of participatory design with older people, on a more overall and global scale:

M1: *'I want to commend you for this, but you need to remember that it is not just those who live here, who are older people in this town. There are many more older people living around town. We also need to think about them.'*

Academic researcher: *'That is absolutely right, and we need to remember that what is also a part of this project is research. So knowledge needs to be distributed out into the world, in regard to how we can become better at involving older people in things like this. So, you have also helped us in that way, so that it is not just the older people here, but elsewhere in the world too.'*

Lastly, the future perspective of co-design in policy-making was touched upon by one of the participants. People clearly want to have a say about things but they had not previously experienced a mode where they felt involved in decision-making:

M1: *'There should be more of this kind of events, because every time political decisions have to be made, it is like no one is ever really being asked before decisions have already been made. So, this is a good foundation for this too.'*

6. The Significance of an Age–friendly Co-design Process in a Multi-stakeholder Situation when Designing AFCCs

In this section we shall discuss the empirical insights in relation to the research question: *What is the significance of an age–friendly co-design process in a multi-stakeholder situation when designing AFCCs?*

6.1. Crossing Boundaries and Establishing a Shared Language around Age-friendly Co-design

This project was initiated from practice (and not research), and hence there was already dialogue and early community collaboration going on by the time the authors came onboard. However, the co-design mindset and methods provided very concrete input as to how to practically go about and develop a shared language both verbally and through the co-design tools. When various professions possess different interests and bring different stakes to a project, such planning and preparation is important and should not be overlooked (Brandt & Eriksen, 2010b).

The empiricial data shows that co-design contributed to stakeholder collaboration from a three-fold perspective: between the different municipality stakeholders, between the municipality stakeholders and the older people, and among the older people themselves. Although all stakeholders had their own initial interest, the necessity of crystalizing the co-design mindset and work together to co-design specific context-specific design activities and process steps required the stakeholders to cross boundaries and to start negotiating some of these interests at a very early stage, which also laid the foundation for an infrastructure that is embedded in the local context (Björgvinsson et al., 2010). Co-design took on the role of bringing stakeholders together beyond their professional expertise and agendas and collaborating around 'ageing'.

This was done through creating a shared language, both verbally based on values and through design tools, by collectively engaging in the early process of designing and contextualising the tools to fit the specific social and physical context (Brandt et al., 2012). Combining a co-design mindset and best practice from each of the municipal departments, municipal stakeholders with very different traditions had the opportunity to engage in a dialogue about 'how' to create a process that reflected the specific physical, political and social contexts. This simultaneously and iteratively fostered engagement in developing a language to accommodate different ways of expressing and communicating an opinion, which started while designing tools and continued as they were being implemented during the process, through making, telling and enacting (Brandt et al., 2012; Sanders & Stappers, 2014).

Participants further declared that the format of co-design workshops had helped bring the community together, which was something they had missed ever since the area was built, thus indicating a social need. This reflection emphasises the importance of the complex socio-spatial interdependency

between living in a community and belonging to a community (Völker, Flap, & Lindenberg, 2007) and relates to several of the topics from the WHO guidelines (World Health Organization, 2007). This aspect should not be overlooked in the process of designing AFCCs and underscores that perhaps collaborative community spaces should be considered ahead of the physical neighbourhood spaces.

In relation to ageing, combining stakeholders that hold knowledge about a specific group of older people with stakeholders who are concerned with e.g. the planning aspect of outdoor spaces offered an opportunity to bring ageing issues to the forefront of a process, building on the existing knowledge and strengths which is important when creating the multiple layers of AFCCs (O'Hehir, 2014). Co-design offered a way of establishing an infrastructure that, although the project collaboration was new, leaned on the existing contexts, e.g. in terms of recruitment, where the big turnout reflects how the project was embedded in already existing structures in the form of relationships between the older people and the Homecare Department. When it comes to older people, prior co-design studies have shown that mobilisation and recruitment can be difficult (Brandt et al., 2010; Malmborg et al., 2016). Hence collaboration with stakeholders who have their everyday work routines with older people and have established trust is enormously important for recruitment.

6.2. A Revised Image of Older People's Resources

Scholars working with ageing (around technological solutions) have previously criticised the use of participatory design as a 'tick box exercise', with the main aim of demonstrating that what is done is valid and with little willingness to engage with older people in a genuine and open manner (Lindsay, Jackson, Schofield, & Olivier, 2012). In our project this open manner turned out to be tremendously important. Articulating and acting this 'openness' from the perspective of all the different stakeholders illustrated to the older people that they were being taken seriously on multiple levels by the Municipality and by the research team. This, of course, cannot be a forced process and needs to be fostered from a realisation that local people are knowledgeable (Littlechild, Tanner, & Kelly, 2015) and should be considered experts of their experiences (Sanders & Stappers, 2008; Thomson & Koskinen, 2012). Articulating this knowledge and distributing agency in the form of creativity and expertise to a group of older people, who had not previously

experienced this kind of participation in their current setting, proved to be tremendously important in this project for two reasons: it helped to revise an existing image of older people and their resources among the municipal stakeholders and it fostered engagement and a feeling of making a valuable contribution among the older people.

Revising the image of what an older person can contribute with in design processes brought out insights from two stakeholder groups – the Homecare managers, who thought they knew a certain age group's resources and the TED worker, who had no prior experience and hence no expectations in regard to the older people's engagement and contribution. As far as the title of this paper is concerned, the words 'adrenaline' and 'dynamic' came up during the interviews with the municipal stakeholders and they indicate a surprise by these stakeholders at the extent of the older people's contribution. Further, from the perspective of the Homecare stakeholders, who had never seen this side of the group of older people before and being able to experience this contributed to their own professional pride and offered a potential for imagining other situations where such methods could be useful, e.g. in relation to the older people and their relatives.

Co-design with particular groups can begin to address established ideas such as what constitutes an expert and who possesses creativity. This requires embracing and encouraging multiple ways of contribution in order to empower people who have valuable experience to bring to the table and address existing notions of what constitutes an expert and who posseses creativity (Sanders & Stappers, 2008, 2013; Scott, 2017). This requires to regard contribution as more than just a 'mental' capacity, as referred to by one of the Homecare managers, and engaging in creating tools to empower people who have valuable experience to contribute, but might not be able to express themselves in a traditional manner. In this case, the municipal stakeholders articulating that the expertise from the older people was greatly needed and providing tools that supported creativity and expertise illustrated to the older people that they were being taken seriously on multiple levels by the municipality.

Further, the revised image that the older people had of themselves reflected how they saw the potential for contributing with knowledge to future decision-making projects within the local municipality. This inscribes their contribution into a societal context, where co-design offers older people an opportunity

to contribute on a larger scale, in the broader municipality as well as in the ageing society at large, which is a valuable outcome from working locally (Buffel et al., 2018).

Collaborating with a municipality around a real job is something that is worth taking forward when developing AFCCs with older people. This helps to contextualise the meaning of taking part as something that holds value for the municipality aligning the work community and the social community around a task that needs to be solved anyhow (Malmborg et al., 2016). This indicates that co-design can be used as an approach for working across the different topics, spanning social and physical dimensions of the 'Age-friendly City' model (World Health Organization, 2007).

7. Conclusion

With this paper we seek to shed light on the significance of an age-friendly co-design process when engaging with multiple stakeholders in designing AFCCs. Recommendations for future co-design processes with older people include engaging professional stakeholders as early as possible and in the actual planning and co-design of the process, as they hold valuable knowledge about a local and social context and hence are crucial for the customization and recruitment of participations and for the anchoring of a co-design process in local structures. As also shown in this study, different professions have different working cultures and processes. Hence, in order to bring out a fruitful way of collaborating, a shared language needs to be negotiated and established. In this regard a thorough introduction to the values and philosophy of co-design as a mindset should not be underestimated.

The co-design approach further offers a way of empowering older people in ways that professional stakeholders did not expect or imagine and revises the image of what older people can contribute with in such processes. If methods and the process are planned and adjusted to include the diversity of a group, it can generate adrenaline and a different, unexpected, dynamic side to individuals and groups you thought you knew. When designing new neighbourhoods or cities, the community dimension should not be taken for granted, since feeling like a community turned out to be an important social outcome of participating in the co-design process.

These perspectives from local stakeholders can inform local communities, including ageing professionals and planning professionals when engaging in and challenging existing modes of involving older people, perspectives that can benefit both the local context and the greater ageing society at large when developing future AFCCs.

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WHICH SPACE?
WHICH SPATIAL PRACTICE?
COLLABORATIVE AND SOCIAL

Photo from construction days in Copenhagen, 2017

6. CONCLUDING DISCUSSION

As presented in Chapters 1 and 2, AFCCs span across multiple levels, from society to individual, and the resources and participation of the ageing population are important ingredients for developing cities and communities that reflect the diverse needs and aspirations of this population (Buffel, 2015; Buffel et al., 2018; Lui et al., 2009; O'Hehir, 2014). From a political perspective resources and participation are vital since they represent the basic human right for seniors to contribute to and remain active members of a society. From a sustainable perspective it must be acknowledged that society needs these resources and participation from a social as well as an economic standpoint and that consequences will be fatal if we do not succeeded with this (World Health Organization, 2015, p. 15). Further, I presented the challenge to move away from perceiving age-friendly design of AFCCs as a solution practice to rather perceiving it as a reframing practice with older people at the centre (Handler, 2014, 2018).

I then set out to *explore how an age-friendly co-design approach can contribute to spatial practice when developing AFCCs (research objective)*.

In Chapter 3 I presented a theoretical triad spanning the spatial, gerontological and co-design fields in order to set a framework for understanding and moving towards future-making of spaces with older people in practice. In Chapter 4, I outlined exploratory practice-based co-design research as the driver and methodological approach which has been used in the empirical studies. These studies were presented in Chapter 5, exploring go-along interviews with older people in Copenhagen, understanding age-friendliness in co-design through two co-design processes in Copenhagen, and lastly the significance of an age-friendly co-design process with multiple stakeholders in Greenland.

I shall now conclude this thesis with a discussion in which I extract and examine insights from across the empirical studies; the findings from the articles and the theoretical triad of spatial practice, environmental gerontology and co-design in a synthesised perspective draw together the various fields in order to answer the three research questions of this thesis:

– What is the significance of involving older people in exploring spatial dimensions of AFCCs?

– What can be defined as age-friendly spatial practice?

– What does age-friendly spatial practice require from an architect?

The discussion is structured around the three sections: 'towards age-friendly spatial practice in AFCCs'; 'the architect in an age-friendly spatial practice' and finally a summary of contributions and future perspectives.

6.1. Towards age-friendly spatial practice in AFCCs

To start this discussion I propose that in order to move towards a spatial practice, where older people are active agents in developing AFCCs that span societal and individual levels, we must contextualise and understand the meaning of what spaces and spatial dimensions mean in an ageing context. I will discuss this issue through the steps 'spatial dimensions of ageing and co-design', 'updating the ageing image' and 'defining an age-friendly spatial practice that reflects ageing as dynamic'.

Spatial dimensions of ageing and co-design

In order to engage in this discussion I draw on the different ways of understanding 'space' (Lefebvre, 1991; Massey, 2005; Relph, 1976) in a combination with Lawton and Nahemow's competence-press discourse (Lawton & Nahemow, 1973) and Law's 'spatiality of ageing' (Laws, 1997) and, through co-design perspectives, on what is considered as important when establishing co-design spaces (Brandt et al., 2012; Ehn, 2008; Halse, 2010b; Sanders, 2002; Sanders & Stappers, 2014; Sanders & Westerlund, 2011).

I start by drawing a link to environmental gerontology and the competence-press discourse of (Lawton & Nahemow, 1973). If an environment is suitable for an individual's cognitive and physical competence, the environmental 'press' will be less and the relationship between person and environment will be optimal. From a co-design perspective these competencies or resources can be seen as a person's ability to participate in a co-design

practice through a suitable space that encourages participation and modes of expressing oneself (Sanders, 2002). If such spaces do not fit the individual, he or she will either not find it interesting enough or find it too difficult, both resulting in a situation where participation and performance is not optimal, in line with Lawton's model (Chapter 3). This should be understood in the broader sense of 'participation', since one might be present physically, but not mentally, hence being in a situation of neither gaining from nor contributing to the co-design space. For an older individual to gain access to a co-design space, I draw on the three aspects of Laws's 'spatiality of ageing' (Chapter 3), which states that 'accessibility' to a particular place influences one's citizenship and identity; 'mobility', which refers to the dynamics between places and social situations and one's position relative to others and 'motility', which refers to one's potential to move, influenced by the individual as well as the public identity of people (Laws, 1997; Massey, 1993).

These three elements operate on different spatial scales and if they are not met, the result will be either spatial integration or spatial segregation. As presented in the articles, co-design spaces with an age-friendly perspective offer a framework for spatial integration that spans across scales, meaning that they operate on individual and collective levels as well as reaching societal levels (Laws, 1997). These co-design spaces are concerned with physical and also social matters.

Firstly, co-design spaces in a physical manner (Sanders & Westerlund, 2011) represent spaces where a person can actually gain access and spaces that encompass the necessary layout to include people with diverse needs. As accounted for in the articles, this includes hosting the events in familiar surroundings (Articles 2 and 3) and arranging transportation to external events (Article 2). Further, we found the spatial dimension of acoustics to be equally important. If the spatial framework does not allow for sound to travel well, participants tuned out or got annoyed or angry, which in that case makes it close to impossible to create a collaborative space, where one listens to one another.

Secondly, in the metaphorical sense (Laws, 1997), the co-design space embraces individual competencies that allows for equal collaboration and enhances diversity and contributions

on various levels through activities in the current space (Sanders & Westerlund, 2011). These ensure that the people with the highest level of competence will not find it irrelevant (Lawton & Nahemow, 1973). If that were the case they might fail to show up and hence would become non-participants. On the other hand, if people with the lowest levels of competence feel they can contribute, then they will show up. Thus both situations could result in including or excluding people in co-design spaces for different reasons.

The visual narrative: 'Which resources? Diversity and competence-press' illustrates inclusion in a space in relation to one's competencies. I took this photo during one of the workshops and it represents three different modes of transportation used by participants; a walker, an electrical bike and an electrical scooter. These illustrate a high level of diversity in terms of the physical competencies of the individual owner. At the same time, they represent the three individuals' personal resources; despite physical limitations, they possessed the personal competencies to overcome the physical obstacles or the pressure of the environment (the stairs in the foreground were one access route to the workshop venue, another was from inside the building where there was a lift). At the same time, the image does not present the people who might possess a high level of physical resources but low personal resources, as perhaps they did not attend this workshop, despite being physically able to access it without problems.

Seen from a spatial angle, co-design offers existential spaces for being in this world (or in a group); however, before looking at existential spaces we have to consider more secluded spaces relating to the individual, e.g. perceptual spaces (Relph, 1976). As Relph defines it, existential spaces are not the sum of individual perceptual spaces. Borrowing the terms from Lefebvre (1991), if collaborative spaces are to be 'appropriated', what kind of spatial offsets will be necessary? In this study perceptual or perceived spaces (Lefebvre, 1991; Relph, 1976) are suggested as a way of progressing from individual to collective. As demonstrated in Article 2, the dynamic interplay between individual exercises and group plenaries offers one framework for progressing from one space to another and gradually allowing individuals to form parts in collective spaces and in making future situations (Sanders & Westerlund, 2011).

Since spaces are socially constructed (Lefebvre, 1991; Massey, 2005), they require relational encounters between people. For some of our participants their social and relational skills were limited and they were not used to listening, waiting one's turn to speak, refraining from interrupting etc. The use of co-design helped to facilitate these issues. Hence the studies advocate using collaborative co-design spaces when studying and developing AFCCs, as they are directed towards 'social participation' and 'respect and social inclusion', which are some of the focus areas in the WHO Age-friendly City Guideline (World Health Organization, 2007, p. 9).

We also experienced that co-design spaces and the event format offered opportunities that traditional meetings would not have offered in this context, as one participant stated; *'if it wasn't for this workshop format, we would still be here arguing'* (Article 2). Participants also valued the informality in the co-design space, as one lady put it; *'I would not be here in the first place, if it wasn't informal'*, suggesting that one's perception of the collective and existential spaces that you engage in are important, and that an effort to design a process that matches the social context is crucial. Brandt (2006) refers to this situation when she states that organising participation is one of the cornerstones of designing and needs to be carefully planned to create security in modes of uncertain futures (Halse, 2010b)

In regard to this, creating tools and boundary objects that can function within a specific context and bring people together across communities rather than separating them becomes important (Brandt et al., 2012; Ehn, 2008; Sanders & Stappers, 2014). An example from one of our studies made us move away from the idea of a large common 3D context model, as it would simply be impossible to gather people around it and facilitate a discussion due to the limitations of the physical space and the participants' demand for mobility aids when they had to stand up.

In the context of Sydhavnen, multiple examples would have excluded people from participating if the format and the spatial reading had not valued contributions and acknowledgement of the individual (Sanders & Westerlund, 2011) but instead had followed a health normativity about how to participate in health research in the 'right'

way (Bønnelycke, 2018). One particular man would always show up for the workshops with a beer. Just one beer. And he would sit quietly drinking it while the others had their coffee, but everyone participated in the design activities on equal terms. Another woman, who had suffered several strokes and had obvious cognitive challenges, once attended a workshop without shoes, only wearing socks. Both situations relied on spatial inclusion in the collective and metaphorical co-design space, where everyone was acknowledged as a contributor (Sanders & Westerlund, 2011).

As outlined in figure 10, spaces of age-friendly co-design offer an opportunity to include people in participation through the three aspects, accessibility, mobility and motility, relating to both physical and metaphorical spaces on various scales from society to the individual. This reading offers an opportunity for spatial integration in both local contexts and in society rather than segregation as presented in Chapter 3 (Laws, 1997).
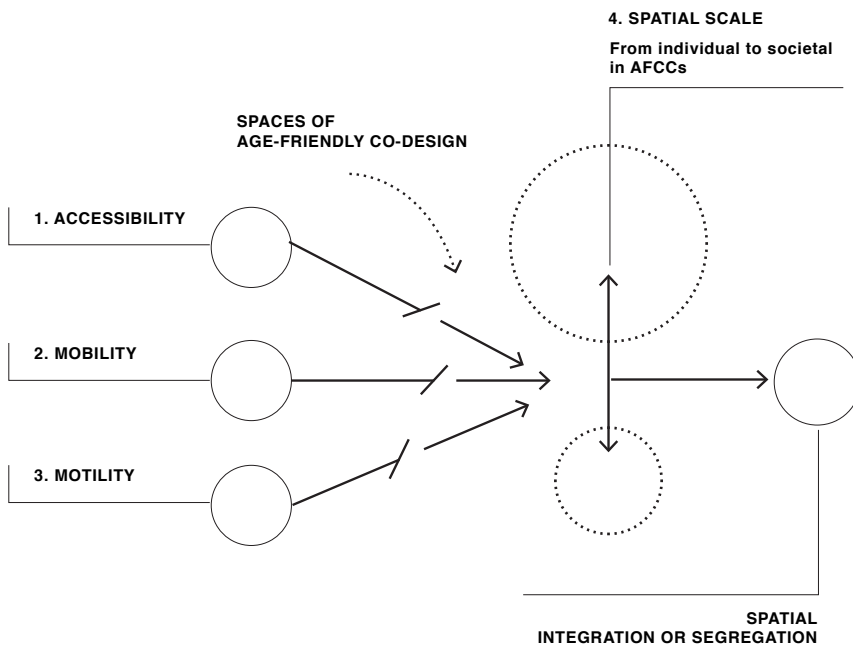

Figure 10: Laws's spatiality of ageing and spaces of age-friendly co-design.

Updating the ageing image

As discussed in the previous section and in the three articles, spatial exploration and co-design can be conducive for participation and for bringing out resources from the older individual.

Further, co-design offers a way of bringing awareness to the resources of an ageing population from society at large and from other stakeholders who might have pre-assumed prejudices or follow a certain normative discourse regarding ageing. The respective empirical studies of this thesis met many such prejudices:

An example in the wake of the Greenlandic study highlights how participation in co-design reframed a stereotypical image of what older people are. A delegation of national politicians from Denmark visited the co-design space during the end of our fourth workshop. One of the older participants got up and explained what the project and the process was about, articulating with her body and showing design artefacts etc. Clearly surprised by her vivid nature, one of the politicians leaned towards me and whispered; '*Wow, she truly is a character'*. I smiled and responded; *'They all are'*. A few months later I bumped into the same politician while boarding a plane in Copenhagen (indeed a small city). We briefly exchanged a few words about how we met in Greenland and he said; *'Yeah I remember, all those older characters.'* Going from singular to plural indicated that he now remembered the whole group as vivid characters, which to me reflected a change in perception about the image of an age group.

Spatial explorations with older people can also be an approach to changing the image of ageing on an internal level, e.g. from within the older people themselves, when they experience that they are contributing to research and to society. A feeling of empowerment may arise, when participants become confident during the go-along interview (Article 1) and later on, when co-designing new neighbourhood spaces, where the walker comes to represent power in a group when prototyping (Article 2).

From a stakeholder and collaborator perspective, an image of ageing resources can change

when care home stakeholders from Greenland declare that they are experiencing 'adrenaline' and 'dynamic' and seeing a completely new side of people they thought they knew (Article 3). Another example is when employees from the housing association in Housing Area 1 in Copenhagen are surprised by the turnout for the co-design workshops, as they had told us in advance not to expect people to show up and to lower our expectations. One might suggest that, perhaps, dynamic older people are the result of a dynamic process?

In relation to the aspect of future-making with a group that imposes ageism on itself ('we might not be here tomorrow' from Chapter 3), co-design offers a way of articulating a relevance and hence a renewed meaning of taking part. Referring to Sanders and Stappers's (2014) different ways of articulating futures as 'near or speculative' allows the design activities to challenge and rearticulate that 'future' can have several meanings. Hence, co-design provides a resilience and temporality that is suitable for the individual and does not necessarily require long-term commitment but can still have long-term impacts, for example, when it comes to providing societal research contributions to future ageing generations, which fosters active citizenship on a different level (Article 3).

Defining an age-friendly spatial practice that reflects ageing as dynamic
As presented in the two previous sections, collaborative design spaces are essential for creatively bringing out ageing resources and for understanding spatial dimensions of ageing and the multiple levels of AFCCs. Hence, contributing to the discourse of AFCCs from a co-design and architectural perspective, this offers an opportunity to integrate spatial dimensions of ageing into spatial practice, where older people and their resources are the main contributors.

Drawing on Lefebvre (1991) and Kusenbach (2003), spatial practices are social and should be regarded as the spatial encounters that take place in people's everyday life between an individual and the surrounding three-dimensional socio-spatial environment, but also as a shared production of these socio-spatial environments. In line with Lefebvre's (1991) argument that production and reproduction of spaces concern everyone's right to the city,

ageing resources and collaborative spaces, where these resources can unfold in both a physical and a metaphorical sense, are basic necessities in this production (Laws, 1997; Sanders & Westerlund, 2011).

Reflecting the changing aspects of growing older and the diversity within the aging population, now and in the future requires the dynamic of reproduction as much as production, and hence age-friendly spatial practice should not be seen as static but should continuously engage in the reframing of this spatial practice.

The production of space requires the ongoing dialogue between the different types of space, i.e. between spatial practice and representation of space (Lefebvre, 1991). From an architectural point of view this topic – supporting spatial practice that meets the everyday issues and aspirations of older people and contribute to the AFCC discourse – should be at the centre of our profession. In this regard, spatial expertise is considered as experienced and situated within the older people, supported by professional expertise in an ongoing process (Sanders & Stappers, 2008).

In essence, age-friendly spatial practice builds on collaborative and creative spaces for bringing out and exploring multiple spatial dimensions of ageing, everyday life and resources which are essential for understanding, producing and reproducing spaces that reflect the dynamic process of ageing. This age-friendly spatial practice contributes to the construction of various spaces and scales in AFCCs, updating the notion of ageing, as well as contributes the professions involved in these spatial productions, especially design and architecture.

6.2. The architect in an age-friendly spatial practice

In the following I shall go further into the role of the architect as an active agent supporting older people in an age-friendly spatial practice. In my contribution to this discourse, I discuss this through the following headlines: 'articulating an age-friendly spatial practice', 'engaging with different disciplinary fields and in practice' and 'practicing socio-spatiality creatively and collaboratively'.

Articulating an age-friendly spatial practice

Several scholars touch upon the challenge or willingness to make architecture accessible to the general public. Lefebvre's (1991) distinction between the conceived space of architects and the perceived space of people's everyday life raises this critique (Lefebvre, 1991). In his book *The Language as Space* Lawson (2001) further criticise the language that is often used by professionals from the field of architecture. He compares 'architectural space' to 'an abstract substance', often communicated in a language that can only be understood by the few. Terms such as scale, form, proportion, rhythm etc. become a refined and private art in itself excluding the public from participating (Lawson, 2001, p. 3).

Age-friendly spatial practice requires sharing a language that is 'spoken' by architects, older people and also other relevant collaborators. Co-design in this respect offers a practice that empowers people in participation, and through the mindset and tools it offers a new language of working around a given matter of concern and through an awareness that boundaries between different practices will be crossed. Hence establishing a shared language through socio-material boundary objects is required (Ehn, 2008).

Further, in a literal sense, a shared language requires verbal communication the vocabulary of which is shared and where we move beyond reducing or simplifying age-friendly communication to plain language (World Health Organization, 2007) or insist on disciplinary terms that strive to exclude other professions and collaborators (Hill, 2003). Instead of talking about location, let us talk about 'where something should be placed'; instead of talking about scale, let us talk about 'how this height feels in relation to your body' or 'how much space is needed for x, y, z'; instead of talking about accessibility, lets us talk about 'how it would be nice to arrive.' Examples from the empirical studies highlight the importance of speaking the same language: I wanted to know about tactility and materiality but I asked the older people what kind of materials they liked, e.g. if they preferred concrete or wood. Or I used co-design tools to let them explain through material language (Brandt et al., 2012; Sanders & Stappers, 2014).

These spatial dimensions related to the architectural profession will, of course, continue to play an increasingly important role when developing AFCCs, which, if participation is the

aim, requires a shared language that includes older people in expressing and articulating this spatial practice.

Connecting societal and individual scales
As presented in Chapter 2, the creation of AFCCs are largely driven by overall societal challenges and by political notions. For the individual older persons this can be difficult to relate to even though they are directly impacted (e.g. not having a choice as to where they want to grow old) in terms of the different spatial scales as referred to by Laws in her notion of 'spatiality of ageing' (Laws, 1997).

When taking on challenges through a spatial practice that is increasingly involved in such complex societal matters, several scholars advocate for the notion of working on different scales e.g. by scaling down to address larger problems while at the same time addressing local problems (Friedman, 2016, p. 272). Similarly, Myerson (2016) advocates for scaling down and engaging with the messy experiences of 'real people'. Following this, the key ingredients extracted from such processes can always be scaled back up again in order to target larger and more abstract challenges (Myerson, 2016, p. 291).

Articulating these different scales when addressing the challenges becomes important for the age-friendliness in such practices. For instance, when it comes to connecting levels of individual, local and societal scales it becomes important to articulate why participation in a local context can be relevant and meaningful to future generations of older people (Article 3). Further, in relation to the 'we might not be here tomorrow' statement (presented in Chapter 3 and Article 2), if older people do not inherently see the relevance for themselves, the future and larger societal contributions need to be explicitly articulated to them.

Connecting design levels
Within cities, overarching structures have an enormous impact on how age-friendly a city is, for example the infrastructure, local services, shops, public transportation, places for resting etc. However, these overall structures need to be examined much more in relation to the details, since these details can make the difference between why cities are or are not

perceived as age-friendly (Brookfield, Ward Thompson, & Scott, 2017; Carroll et al., 2019).

Findings presented in Articles 1, 2 and 3 suggest that the same applies to the processes around age-friendly collaboration. In order to make a co-design process a practice that is perceived as something an older person can participate in, the overarching structure and the small-scale design activities need to be connected, for example, through explicit articulation of how an individual design exercise is related to the overall steps of the process as presented in Article 2. Further, connecting the different objectives of the design events to one another is important so that participants can make sense of how the different steps relate to a continuous sequence as shown in Article 2. This is in line with Brandt and Eriksen's (2010a) statement that the series of co-design events is what ties the process together. In this regard, explicitly articulating the individual workshop aims made it easier for participants to relax and contribute. Excerpts from our workshops state: *'Today we are not trying to come up with solutions, today we will try to understand the existing spaces'* and *'Next time we will move on to focus on…'* (Article 2).

Articulating visual and exploratory spatial modes of working
In the previous section, I have presented the importance of connecting levels and scales through articulation. I will now briefly outline and summarise some age-friendly modes of working that could contribute to enhancing an age-friendly spatial practice from process to representation.

Playful or childish?
Whether design methods and creativity are considered playful or childish is, of course, subjective depending on how one perceives them. However, an important point for designers and architects to articulate when collaborating with older people is how professionals also work through creativity and often playful modes. Expecting non-designers to know this is not self-explanatory and should not be taken for granted. Sanders and Stappers (2013) argue that everyone is creative and can engage in co-design if provided with suitable tools. However, as shown in Article 2, the matter of working with design tools upset two participants, as they felt they were being treated as children in a nursery. This feeling of

being treated childishly or perhaps condescendingly draws lines to 'ageism' as explained in Chapter 2, where a prejudicial and discriminatory attitude is projected onto an older person (Butler, 1980). By articulating this creative way of working with tools and through prototyping as designerly and legitimate, we pre-addressed this issue in the other housing area in Copenhagen as well as in Greenland, where the issues of childish modes of working did not come up. Hence, an articulation of how our profession itself works with the different tools and techniques and through making and enacting (Brandt et al., 2012; Sanders & Stappers, 2014) is an essential lesson to take forward in an age-friendly spatial practice.

The findings from this study further suggest articulating imperfection and exploration as a valid iteration that is embedded in an age-friendly spatial practice. In line with the work of Binder et al. (2015) they describe future-making as a collective action where rehearsal, attempts AND failures are all part of the process (Binder et al., 2015, p. 11). The design process is ambiguous and non-linear and so are the different modes of working, including failure or not having expertise in everything.

The drawing

> *'...every line on an architectural drawing should be sensed as the anticipation of a future social relationship, and not merely as a harbinger of aesthetics or as an instruction to a contractor'* (Awan et al., 2011, p. 30)

Through visualisation, architecture offers a way of drawing a living project, or some might even say a process, not only a product or a building (Latour, 2010). The drawing is one of the prime modes of working and representation in architectural practice and is therefore crucial in terms of an age-friendly spatial practice, where older people are at the centre of the collaboration.

An important aim for me was to test how drawings would be read and understood and what this required of my representations. As shown in Article 2, the older people were presented

with architectural drawings: a plan and a section. The drawing itself can be perceived as a very excluding medium for communicating (Hill, 2003), but at the same time, in combination with other mediums, e.g. the telling aspect of co-design (Brandt et al., 2012; Sanders & Stappers, 2014) the drawing expands to communicate much more provided the participants embrace the medium and through storytelling engage in a conversation about the lived everyday life – or future life - taking place in the drawing (as presented in Article 2). This aligns with Schön's reflection on 'drawing and talking' as parallel ways of designing and, as Schön notes, closely connects the verbal and the non-verbal dimensions (Schön, 1983, p. 80).

The opportunity to test how older people would read a plan drawing, and further refining the practice between the two housing areas in Copenhagen and further in Greenland, provided specific insights into the importance of combining mediums correctly and was a valuable contribution to my professional insight. The development of the drawing as a medium evolved from adding more contrast and prioritizing a movement line over the section line. The same applied to the complementation of reference photos, which was first presented as separate elements in Copenhagen where they were mistaken as reality. In Greenland the representation was more situated, and we moved away from reference photos and instead situated the reference photos in a collage, where images of the older people were also integrated through visual storytelling.

The 1:1 prototype

Prototyping on an architectural scale can be tricky due to the size and the cost of large prototypes as noted by Lee (2007). However, since the detail matters a great deal for the perception of age-friendliness and can make the difference in how conducive the environment is for an older individual, prototyping should not be underestimated (Brookfield et al., 2017; Carroll et al., 2019; Lawton & Nahemow, 1973). Like I presented in Article 2, the value gained from prototyping in a 1:1 scale with this particular age groups holds significance, as details in the environment, e.g. walking on grass, the physical dimensions of a walker and its implication for one's social position around a table, cannot be experienced outside the 1:1 scale. Low-cost tools such as rubber bands and cardboard can support the

scenario making and storytelling of a future situation through shared models that provide visibility and tangibility to everyone (Binder, 2010).

The lived visual representations

Further, the visual dimension of an age-friendly spatial practice becomes important when communicating, both internally to collaborators within a process and externally to the broader society, e.g. to municipalities, foundations, organisations, conference peers, students and fellow researchers.

When engaging in meaningful and relevant dialogue about the topic of designing better AFCC through age-friendly spatial practices, the visual communication mediates the discussion into concrete and practice-relevant information, e.g. encouraging municipalities to reflect on their own practice, when presenting images, videos or co-design artefacts made by older people. Such representations should go beyond a normative approach that solely communicates the solution, to also include the lived and everyday aspects of an age-friendly spatial practice, where real people and their everyday appropriation of spaces are presented.

Additionally, communicating visually with the older people in practice turned out to be important, as illustrated by a comparison of the invitations between the go-along interviews and the co-design processes. See appendices 3 and 4 for the the different invitations. The former was clearly driven by a design norm – a post card format with few colours and no images. The latter was developed in collaboration with the social staff of one of the housing areas and adapted the local language of the context in terms of phrasing and visual identity. It was in the format of a white A4 sheet, with contrasting text and with a photo of myself and my colleague so that the participants would recognise us. Participants had difficulties reading and making sense of the postcard, and no participants were recruited solely from the postcard but always when either the social staff or I myself presented the meaning behind it. In contrast, the workshop invitations, which were distributed in 500 mailboxes, made people show up.

Engaging with different disciplinary fields and in practice

The roles of interdisciplinarity and collaboration have run as backbones throughout this thesis and have been a premise for the project as required by the APEN network and the composition of our MTN team. This holds relevance for the role of the architect in an age-friendly spatial practice.

Interdisciplinarity

> *'Forget about sending anthropologists to the field to collect data. And forget about stand-alone ideas and individual inventors. Innovation can emerge when we create new connections in the networks of people and things and support the ongoing performance of a new everyday'* (Halse, 2010b, p. 15)

Acting against the above-mentioned quote, in our project, would have been considered a violation or an insult to the interdisciplinary setup of the research network.

However, collaborating and being serious about bringing disciplines together hold challenges when making it operational in practice. Hence, applying interdisciplinarity in order to establish an age-friendly spatial practice presented two main challenges when collaborating as an architect and as an anthropologist, namely pace and proposition.

<u>*Pace and proposition*</u>

When it comes to 'pace' Yaneva (2017) refers to this very crucial dualism between architects and ethnographers as between the 'hasty sightseer' (the architect) and the 'slow ethnographer' (Yaneva, 2017, p. 34). She criticises architects for not immersing themselves deeply enough in the field of investigation but focusing mainly on the propositional dimension. Similarly, as presented in Chapter 3, architectural historian Jencks (1977) accuses architects for not being able to navigate the different codes, the fast-changing codes of the profession and the slow-changing codes of e.g. a neighbourhood (Jencks, 1977, p. 6).

An example from our empirical studies shows this lack of alignment between different paces during the days of construction work in Sydhavnen.

A group of older men from the local men's group was not satisfied with our initial design plan when it came to creating small common areas outside the entrance doors. The budget and the time frame 'only' allowed for the existing benches to be superficially sanded down and repainted. Instead the group suggested they would be in charge of a complete stripping of the paint and oil of the wood. Of course, we welcomed this initiative as it showed ownership and would anchor the work locally among the residents as well as create a nicer outcome for the benches. We decided on a time when the benches should be ready in order to be finished at the same time as the rest of the common areas. When the deadline arrived, only one out of four benches was ready, as it had taken longer than expected and various health issues had gotten in the way. For a brief moment, I was frustrated because we were unable to deliver the promised design solution in time. However, my anthropology colleague made a deal with the group about when to have the remaining benches ready a few weeks later and pushed the deadline. Of course, this was the only right thing to do, aligning our two paces to meet the real world and the everyday life, where 'life gets in the way'.

Additionally, the paces of architecture and anthropology in our study imposed challenges for the process behind the scene, especially between the co-design events, where analysis needed to be conducted and new design artefacts and activities be prepared requiring graphic and visual skills. We could prepare, analyse and facilitate the workshops together, but the propositional part was left solely to me as an architect. This, of course, was due to our small and fragile research team, but nevertheless reflects the interdisciplinary differences even more clearly. Cross (1982) sums up this issue in a brief statement:

> *'The designer is constrained to produce a practicable result within a specific time limit… whereas the scientist and scholar are both able, and often required, to suspend their judgements and decisions until more is known'* (Cross, 1982, p. 6)

On the other hand, the paces supplemented each other nicely when co-designing with older people, as the pace of anthropology influenced the structure of the workshops, while the design tools added the dynamic (and tangible and visual) aspect to the process, which complemented the dynamic image of older people through a dynamic process (Article 3).

Further, while collaborating so closely with another discipline, it can be easy to adapt other professional traditions and their strengths. Conversely, it is also an opportunity to rediscover the values and strengths of your own profession, e.g. the propositional aspect and the 'complexity synthesising' between different materials and human actors involved in a design process. Yaneva (2017) refers to models, scaling instruments and experiments as something architects can end up taking for granted (Yaneva, 2017, p. 48).

Engaging in practice collaboration

Engaging with practice collaborators who possess knowledge and expertise within the gerontological field proved to be tremendously important in the empirical studies, not just to us as a research team but also to other practice stakeholders from e.g. the municipality, as was the case in Greenland (Article 3). Being knowledgeable about a certain group of older people provided not only an opportunity to share your knowledge but also engage in a reframing dialogue about how this knowledge could come into play in a different context, e.g. a co-design situation where the gerontological aspect might not have had a place before, or in a gerontological practice where co-design might not have been present before.

Examples from the empirical studies illustrate how this happened through different aspects and constellations. In Copenhagen, the older people themselves initiated new design implementations in addition to what had been outlined in our study (Article 2). In Greenland, in the time after the workshops had ended, the municipal stakeholders initiated new ways of collaborating based on the format of the workshops and the co-design methods.

In Copenhagen, construction workers with a background in social work took part in the implementation, which added a social dimension to the spatial practice. Other consultancies with no experience in social or ageing issues lacked clear insights into the social dimension

of these challenges, when proposing off-the-shelf solutions such as benches with foot pedals for sit-down exercises etc.

Further, practice collaboration in an immersed and invested relational form offers an opportunity to gain access to a field, establish a relationship with stakeholders and to maintain it. In Copenhagen and also in Greenland, we were fortunate enough to have access to an office space next to the social staff and municipal collaborators, which made both us and the project visible in the area and facilitated the informal and relational collaboration with the professional stakeholders as well as with the older people as they would meet us often.

Everyone has something at stake
Research taking place in the real world needs to have project designs that are sensitive to the context in which it is taking place as everyone has something at stake (Robson & McCartan, 2016, p. 5). As noted by Bønnelycke (2018) in her thesis, participation from a health perspective is often driven by a certain normativity which then creates 'right and wrong' kinds of participation and as a result 'good and bad' participants (Bønnelycke, 2018, p. 117). In regard to the transitional aspect of growing older, in line with some of the challenges presented in Chapter 2, this becomes important to work around. An older person might have been used to contributing to society and now she is not, in a traditional way. In this sense participation and the spatial practice of involving yourself in a design space of social constructs needs to be approached in a sensitive manner. We found that an exploratory approach to the research design and keeping the modes of inquiries flexible were crucial to targeting the overarching objective of the project design to the specific reality of the real world contexts (Halse et al., 2010; Stebbins, 2001a).

Having something at stake occurred continuously in the empirical studies and at times stopped the residents from becoming full participants. For example, some participants had clear neighbourhood feuds going on outside the co-design space. These feuds could have been further risked when entering the workshops, in case issues would not be dealt with in a fair manner. Further, one man did not want to take part in the go-along interviews, because

he would not want to be seen walking around the neighbourhood with a younger female. Practice stakeholders further have their professional future collaboration at stake, especially if they come from within the same organisations. Establishing and negotiating some ground rules for the collaboration proved to be important in the Greenlandic study (Article 3).

As an architectural researcher, I had something at stake as well with one prevalent issue relating to the opening question of the thesis in the preface: *'What did you design?'* While the focus was first and foremost on the process, the notion of what an architect does still evolves around the 'design solution', and hence I experienced at various times that I was being judged on the design solution rather than on the process that was the foundation for the solutions.

Practicing socio-spatiality creatively and collaboratively

Summarising, I seek to outline the role of architects in an age-friendly spatial practice concerned with socio-spatial dimensions of older people, their everyday life and their resources and how they come into play through age-friendly spatial practice.

Practicing this socio-spatiality requires investing in relationships with older people, contextualising the architectural practice into everyday issues as well as distributing agency and using spatial working modes for doing so. In age-friendly spatial practice, where understanding and bringing ageing resources to the table are crucial capabilities, the architect should be more involved in the earlier phases of a design process, since knowledge from this phase enables engagement in a reframing practice and challenges the problem rather than merely proposing solutions (Sanders & Stappers, 2008). As presented earlier, being able to connect scales and levels makes it possible to reframe the practice creatively, bring out the dynamic and situate it in the everyday context of the older people. In this practice we as architects and designers should be at the forefront, for spatial and creative inputs matter to address 'wicked' societal challenges that have no clear, unequivocal solutions (Buchanan, 1992; Friedman, 2016; Friedman & Stolterman, 2017; Rittel & Webber, 1973). This becomes particularly important in interdisciplinary work, where the social scientist can often become the 'investigator' and the designer the 'creator'.

Further, in relation to age-friendly spatial practice, if engaging in problem reframing, we need to include experts who have experience addressing the challenges that we are trying to tackle, hence dissolving boundaries and distributing agency to those actors who hold the knowledge we do not have (Yaneva, 2017) e.g. understanding spatialities of ageing before designing these spaces. This means collaborating and learning from other professions, practice stakeholders and, not least, older people. Hence, a core task for the architect in an age-friendly spatial practice lies in an understanding of the gerontological field and other related practices and encouraging an interest in connecting with different fields in order to make gerontological knowledge operational in a design practice. In this regard, collaboration and communication with disciplines other than your own plays a crucial part, both in research and in practice.

Summing up, the age-friendly spatial practitioner shifts from a sole practitioner to a 'relational practitioner' (Handler, 2018), taking on the role of a connector (Yaneva, 2016), a diplomat (Latour, 2010), a facilitator and a developer of methods (Sanders & Stappers, 2013) and a problem re-framer (Lee, 2012).

6.3. Summarising contributions and future perspectives
Age-friendly spatial practice with dynamic ageing recourses at the centre
Through the steps of this chapter, I have defined what can be understood as age-friendly spatial practice. Here the notion of space is articulated in both a metaphorical and a collaborative sense as well as through physical dimensions. First and foremost, this age-friendly spatial practice provides older people with a central place in the production and reproduction of spaces, a practice that considers the dynamic time aspect of growing old and allows for maintaining a role in society as well as the individual's contribution through collaborative and creative spaces.

I have presented insights into how older people can be involved in spatial exploration and co-design of age-friendly spaces through a spatial practice that brings out and builds on existing resources and resources they did not know they possessed, and which collaborating stakeholders did not know they possessed. The present study reflects older people of low

socio-economic status, people who in society are often presented as citizens of limited resources. Through the discussion of how an age-friendly spatial practice can be developed to bring out resources (regardless of socio-economic status), this thesis offers practical and theoretical perspectives into how to engage people of whom many (including themselves) did not have high expectations to start with. The two urban contexts in Copenhagen, as well as the rural context in Greenland, each contributed to expanding the notion of AFCCs and the diversity of these through a context adaptable practice. By being able to include the Greenlandic study in this thesis, age-friendly spatial practices for developing AFCCs have been further qualified.

Changing the stereotypical image of what an older person is and can contribute with is at the forefront of the political discourse – a discourse that is essential for society because it has an impact on the well-being of the individual older persons and on society at large (cf. the notion of ageing in Chapter 2). Spatial explorations such as co-design and go-along interviews can be one approach to changing this stereotypical image when developing AFCCs through age-friendly spatial practice. This reframing of the image of ageing, of older people and what their abilities can contribute with becomes useful for policy makers, as well as practice stakeholders such as housing associations and care providers when engaging with the future development of AFCCs.

Engaging architects in connecting, collaborating and distributing agency
From a standard architectural perspective, this might be considered as outside the scope of 'what we should be solving' but, as I have presented throughout this thesis, the collaborative space offers an overlooked opportunity for us as spatial practitioners, since our professional knowledge is strengthened by the expertise of older people and stakeholders from e.g. the gerontological field. In this regard, the creative and spatial modes of working offer dimensions that contribute to the architect's role in the AFCCs discourse and for collaborating with older people. Hence, the role of architects and designers can or should not be limited to the propositional stages only, unless we wish to end up with yet another bench or generic solution that solves an overall issue that has been defined by others. Designers and architects should be at the forefront of this development, challenging the direction of

defining AFCCs through spatial practices with older people and with other disciplinary fields in research and practice.

Moving forward and exploring further diversity with older people

With the empirical studies of this thesis I have presented potential modes of bringing older people's resources to the table when it comes to designing AFCCs. As the insights show, older people have clear preferences for how they find it meaningful and purposeful to be involved, and we as spatial practitioners need to take this seriously, because the right involvement can help design the right socio-spatial practice. Through this thesis, this has been explored with groups of low socio-economic status but would be valuable to investigate further with other socio-economic groups. Likewise, other studies into intergenerational spatial practices could be pursued, where an age-friendly spatial practice could be further expanded.

The walker has been a symbol in several chapters throughout this thesis, and I conclude by alluding to it once more. I took the photo (see visual narrative on the next pages: Where to? Moving into the future towards an age-friendly spatial practice) during one of the construction days in Copenhagen in 2017. One of the older men used his walker to transport wooden pieces to a bench where he could sit and sand the edges. He kindly offered that I could use his walker to transport my pieces too, in case they were too heavy to carry.

To me, the gesture and the image of the walker with wooden pieces on top represent several things:

We need to build on top of existing resources rather than merely designing solutions to mitigate the meeting between walker and environment. The older people have the creativity and the resources to show us this.

Further, the image represents both a concrete and an abstract power distributed to a disability aid, and hence to the owner of this aid, an aid that might stereotypically be associated with

decline and disability. In expanding age-friendly spatial practices, we need this kind of image to communicate that power.

I conclude this PhD thesis by suggesting that we collectively move (or roll) into the future engaging in a discourse where a walker (and its owner) leads the way as they present powerful, inevitable resources that we as a society must build on when designing AFCCs.

WHERE TO?

MOVING INTO THE FUTURE

TOWARDS AN AGE-FRIENDLY SPATIAL PRACTICE

Photo from construction days in Copenhagen, 2017

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8. APPENDICES

Appendix 1:

Co-authored peer-reviewed article: *Move the Neighbourhood: Study design of a community-based participatory public open space intervention in a Danish deprived neighbourhood to promote active living* (Pawlowski et al., 2017)
https://doi.org/10.1186/s12889-017-4423-4

Appendix 2:

Co-authored peer-reviewed book chapter: *Enhancing Well-Being Among Older People in Greenland through Partnerships of Research, Practice and Civil Society* (Nørtoft et al., 2018)
https://arcticyearbook.com/images/yearbook/2018/Scholarly_Papers/13_AY2018_Nrtoft.pdf

The two co-authored articles can be accessed from the digital links.

Appendix 3:

VIL DU HJÆLPE OS? - GÅTUR I DIT LOKALOMRÅDE

HVORDAN KAN DU HJÆLPE?

For at kunne sige noget om, hvordan man som ældre oplever uderummene i sit nærmiljø, fx hvad der fungerer godt og hvad der fungerer mindre godt, skal vi gå en tur i dit område, mens vi snakker.

Turen skal bare være en naturlig del af din hverdag, så *du* bestemmer, hvor vi går hen og hvor lang tid turen tager.

Alle input er vigtige, så så om du har høre- eller synsnedsættelser, er dårligt gående, bruger rollator eller lignende er slet ingen hindring. For os er det vigtigt at få et bredt indblik i, hvordan det er at bevæge sig rundt i sit nærmiljø.

TID OG STED

Gåturen skal finde sted i løbet af august/september 2016 (uge 31-36). Vi mødes ved din hoveddør og går os en tur. Turens varighed afhænger af dig.

SPØRGSMÅL OG TILMELDING

Hvis du har spørgsmål til denne undersøgelse eller projektet, så tøv ikke med at kontakte os. Du kan tilmelde dig ved at sende en e-mail, sms eller ringe.

KONTAKT

Sidse Carroll, arkitekt
scar@kadk.dk, tlf: 41 70 16 08

Appendix 4:

INVITATION til beboerne i

Over <u>tre torsdage</u> afholder vi fra Arkitektskolen nogle workshops i   selskabslokale i kælderen i nr. 14.

Vi skal finde på nye idéer til nogle af   udearealer og vi har brug for din hjælp. Vi fokuserer primært på løsninger målrettet folk i alderen 60+, men alle stemmer og kræfter er velkomne.

Vi håber, at du vil være med. Også selvom, du ikke har mulighed for at deltage i alle workshoppene.

Der vil være **GRATIS** kaffe, kage og muleposer med en overraskelse.

Vi glæder os til at designe sammen med jer.

Sidse (tlf: 4170 1608)
og Kamilla (tlf: 4170 1783),

Arkitektskolen København

Workshop 1 - 6/4 kl. 13-14
Vi skal sammen forstå
områdets gode og mindre
gode steder og behov

Workshop 2 - 20/4 kl. 13-14
Vi skal sammen finde på nye
idéer og designforslag, der
kan forbedre området

Workshop 3 - 4/5 kl. 13-14
Vi skal sammen prøve
idéerne af - måske udenfor,
hvis vejret tillader det

**Præsentation - 24/5
kl. 13-14**
Den færdige designløsning
præsenteres

Sensommeren
Vi holder indvielsesfest!