Chapter 1

Introduction

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In 2020, for the first time in history, there were more people in the world aged **60 years and over** than there were children below the age of 5 years. The population aged over 65 years is projected to increase from one billion in 2019 to more than two billion in 2050, and those aged over 80 years are projected to increase from 143 to 426 million, with the largest increase occurring in the developing world (UN World Population Prospects, 2019). This demographic trend constitutes the largest global health challenge, according to the World Health Organisation (WHO). The European Union has set it as one of the major challenges in Horizon 2020 and it has important societal implications (European Commission, 2020). The proportion of

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retired individuals will increase, leading to an increased ratio between those who have exited the workforce and those still active in the labour market. Thus, ageing represents a global societal and scientific challenge requiring integrated efforts, multidisciplinary translational research approaches and social innovations that build on ideas of potentials and capabilities, emphasising the value of old age.

Ageing as a process is neither linear nor consistent and is only loosely associated with a person's chronological age (i.e. years since birth). Ageing also includes biological, social and psychological aspects. Biological age refers to 'an age-associated decline of physiological and cognitive functions, and de-tuning of adaptive responses, followed by an increase in age-specific mortality' (Rydborg Sterner et al., 2019; Flatt, 2012). Social age refers to age as defined by laws and regulations and by the societal norms and beliefs reflected in particular geographical areas and historical times. Psychological age includes the subjective experience of ageing as well as wisdom, life experiences and personal development (Higgs & Gilleard, 2015). As such, no single scientific discipline can fully address the many dimensions of ageing. Although we focus on later life in this book, we are fully aware of the need to adopt a life-course perspective. Hence, we apply a perspective that views inequalities and diversities at older ages as being the result of accumulated inequalities and diversities across the entire life course.

The Centre for Ageing and Health (AgeCap) at the University of Gothenburg, Sweden, was founded in 2013 with funding from the Swedish Research Council for Health, Working Life and Welfare (FORTE). In 2016, AgeCap was included in the UGOT Challenge, a unique research initiative in which the University of Gothenburg invested 300 million SEK in six multidisciplinary research centres. The research fields span a large number of areas. Some have clear cross-disciplinary elements. Some initiatives are new, while others are based on previous research structures that have been expanded as a consequence of the changing perspectives on challenges in our society. Thanks to the UGOT Challenge, AgeCap now comprises researchers from five faculties, 15 institutions, and 24 disciplines, with the primary objective of generating knowledge that can improve our understanding of capability in ageing across all societal levels.

The common denominator of all the research projects at AgeCap is *capability*, which can be used as a guiding concept or an approach, depending on the purpose or perspective of the project. Building on the seminal work by Amartya Sen (2005, 2009), capability can be viewed as the individual's ability to perform the actions required to reach goals that he or she has reason to value. At any given time, what a

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person can or cannot do is limited by the available resources to which she has access and her ability to convert these resources into the desired goal, for example enjoying good health, being able to socially integrate and participate or maintaining independence. Individuals are characterised by different conversion factors, meaning that, even where two people have access to the same resources, they may not have the capability to enjoy the same functions. Many of the current discussions and policies concerning the challenge of ageing at the individual and societal levels can be related to capabilities. For example, via elderly care, we add resources to secure older people the capability to maintain an independent life, assuming that this is what they value; and in order to provide older workers with the capability to remain in the workforce, we need to invest in age management and anti-discriminatory practices. However, resources, capabilities and goals of value form a complex and dynamic pattern that needs to be researched using cross-disciplinary approaches. Most people, regardless of age, value their health, but the capability to live healthy lives varies substantially because it is influenced by multiple factors occurring from before birth to late life, including genetics and other hereditary factors, personality, mental and somatic health, cognitive, functional and physical ability, biological factors, socioeconomic gradient, social environment, family, working life, gender and ethnicity, as well as policies, laws, regulations and access to services and care. To complicate things even further, health is not only a valued goal but also a central resource that, in combination with other factors, determines capability in ageing. The digital revolution and the rise of home computers, along with the invention of the World Wide Web, social media and smartphones, has led to digital skills being considered a vital aspect of a person's capabilities. This illustrates how numerous factors are interrelated in complex interactions, not merely in the format of simple cause-and-effect, and are also embedded in the historical period.

To add to the complexity, factors that were previously thought of as relatively stable, such as genes and personality, are now found to be modified by the external environment. For example, personality has been shown not only to change over the life course but also to be shaped by environmental factors. The same goes for our genes, with large epigenetic studies demonstrating that gene expression can be influenced by the environment. Another important aspect of capability is that it includes preferences, wishes and desires, which brings the focus to subjective experience, which is only accessible by the human being herself, and only she can determine what she has reason to value in order to maintain a good life. This is a vital aspect if we want to understand individual actions and factors that promote wellbeing.

Ageism is embedded in all layers of society. To achieve health equality and maintain good health in later life, we need to focus on the potential to increase capability in ageing worldwide, at both the societal and individual levels, taking into account the intersections of diversity, such as age, sex, gender, disability, social gradient, civil status, migration and belonging to ethnic minorities. *It also needs to be emphasised that 'ageing' and 'older people' are relative concepts, which vary over historical time and geographical areas, affecting both society's view and treatment of older people, and the self-images of older people themselves.* The capability of the person depends on three levels and defines the core concepts used in the capability approach. The

combination of macro-, meso- and micro-circumstances form the basis for an individual capability set – that is, what an individual actually can or cannot do. The macro-level refers to laws and regulations that affect aspects such as retirement systems, social security, the labour market, home-care and healthcare. It could also include factors such as ageism, historical period, the media and political decisions. Changes at this level are often guided by explicit goals to change incentives, such as changes in the retirement system and taxation, making it more profitable to work for longer, or constraining available exit options through changes to early retirement options. The meso-level refers to the configurations in which daily life is embedded within the family, relations, social networks, caring facilities, caring obligations, healthcare services and, for the young-old, the workplace. The micro-level includes a range of accumulated features that either enable or limit the ageing person's capability, such as genetic predisposition, personality, somatic and mental health, functional ability, lifestyle, cognitive functioning, neurobiology, physical activity, psychosocial and socioeconomic factors. So-called 'human capital factors', such as educational attainment, acquired work skills, earning capacity and social capital, are examples of important factors influencing the capability of each person at the micro-level.

1.1 The Purpose of This Book

This book aims to provide its readers with diverse accounts of how capability as a concept or an approach can be used in research on age and ageing. In the AgeCap seminars and discussions, it became evident that a plethora of different views, taken together, could form the basis for something new – a book that could contribute to knowledge development by using a multidisciplinary approach to describe capability in ageing from different angles in order to generate novel insights. As a starting point, we asked the authors three questions: how do you define capability in your field of research, how do you make use of it in your research, and how do you relate your research to the micro-, meso- and macro-levels? In parallel, AgeCap hosted seminars inviting scholars to discuss capability from different perspectives that later also included reading and editing each other's drafts for this book. This back-and-forth process was not intended to reach a consensus on how to define capability in ageing, but rather the opposite – enabling scholars from a variety of different research fields to elaborate on how they define capability and how they use their concept or approach in their research.

In this book, different ontological and epistemological perspectives are presented. There are also examples of how knowledge acquisition can be deductive, value-free and generalisable, or inductive, value-laden and contextually unique. The chapters describe different research approaches in studies of capability in ageing that aim to predict, understand, emancipate or deconstruct, or a combination of all these approaches. Regardless of the multitude of views, definitions and applications, we have a common goal of raising questions and doing research to focus on older people's capability to live a life they value as meaningful and good.

1.2 Outline of the Book

This anthology comprises 16 chapters, spanning disciplines from the humanities to neuroscience, and discussing health, cognition, epidemiology, diagnostics, healthcare for frail older people, participation in society, representations in the media, time-trends, design, self-determination and health literacy, social work, work and retirement, and cumulative disadvantages/advantages in old age using the capability framework.

To set the stage, the chapter by Rydberg Sterner and colleagues provides a brief description of the capability approach and its core concepts. This framework is based on the work of Amartya Sen, Martha Nussbaum and Ingrid Robeyns, which has been adapted for the multidisciplinary ageing context of AgeCap. The conceptual framework of capability introduced in this chapter was developed as an endeavour to meet the pronounced need for a shared platform related to capability in ageing within AgeCap and to make our theoretical framework more accessible to the general public. However, as the reader will discover while exploring the different chapters in this anthology, building a shared platform related to capability in ageing within AgeCap is challenging. Thus, the conceptual framework merely serves as a launchpad for researchers to use in any way they find relevant from their own research perspective.

In the chapter by Gustafsson and Hörder, the ICECAP-O instrument is described. This is a questionnaire especially targeting the capability level of older individuals, which can be used in evaluations of interventions and longitudinal studies, where older people's capabilities are a focus. The ICECAP-O is one of the few research measures of wellbeing that taps into the concept of capability, i.e. the opportunities to 'do' and 'be' the things that a person regards as important in life.

The chapter by Skoog and colleagues describes how capability can be used in epidemiological studies, with special emphasis on population epidemiology. It is suggested that the capability approach is an ideal framework for epidemiological studies, because it captures the dynamic multiplicity of processes involved in these types of studies, in relation to both time and space, and socioeconomic, psychological and biological factors. It thus captures the complex interactions that arise from a multitude of factors acting between and within macro-, meso- and micro-levels during the life course of an individual. The authors give examples relating to specific conditions, such as cognitive function and dementia, depression, multimorbidity and functional ability, and non-modifiable and modifiable risk factors, such as genetics and nutrition.

In the chapter by Falk Erhag, the author argues that self-rated health can be used as an indicator of a person's capability to master the gains and losses of late life. Although a person's capabilities are dependent upon a wide variety of factors at the individual level, symptom experience, chronic illnesses and functional disability are paramount. By operationalising personal capability into self-rated health, the many dimensions that make up the complex concept of health and wellbeing in old age

can be studied in large and representative population-based samples using epidemiological methods, which have the potential to generate new evidence to solve nursing problems and expand nursing knowledge.

In the chapter by Johansson and colleagues, the capability approach is described in relation to cognitive ageing and subjective well-being, including a discussion of how intact cognition is a core component for generating, achieving and prioritising personally valued goals. Ageing trajectories are embedded in a historical and sociocultural context in which societal systems regulate brain-behaviour relationships according to the age of their members. The authors conclude that the capability approach can be used to improve our understanding of the factors and mechanisms involved in shaping age-related developmental and psychological processes across the life course, especially in late life.

The chapter by Blennow and Zetterberg focuses in on the absolute micro-level, the chemistry of the brain, and how different chemical biomarkers relate to ageing and dementia, and thus extend into and affect the meso- and macro-levels. Alzheimer's disease (AD) is the most common form of dementia and a major cause of capability impairment in older adults. In recent years, there has been a successful development of blood biomarkers for AD pathophysiologies. This opens up new ways of diagnosing AD and predicting future cognitive decline.

In the chapter by Dahlin-Ivanoff and colleagues, the capability approach is used as a theoretical framework in research with and for frail older people, focusing in particular on their opportunities to realise their goals in relation to contextual influencing factors. The concept of frailty is developed and the authors stress that the capability approach can contribute to an understanding of the process of becoming frail, because this approach focuses on the real opportunities of the frail person in relation to the resources that they have, or do not have, to hand.

In his chapter, Kokkinakis outlines his thoughts on capability in relation to the incorporation of eHealth into social and healthcare services for older people living alone, enabling them to choose the best way to manage their needs and demands for health and medical care. The author points out several important dimensions in this context, namely eHealth literacy, and its relation to health-promoting behaviours, taking into account the exceptional circumstances caused by the Covid-19 pandemic.

In their chapter, Frisk and Svengren Holm discuss how caregiving needs to be transformed and based on old people's real needs and what they perceive as important. Taking Design Thinking (DT) as a starting point, the authors discuss how DT could improve people's capabilities and help to provide tools and processes for supporting innovations and new ways of thinking about solving problems. The results show that DT can provide valuable knowledge about users' needs in a resource-efficient way, as well as balancing the economic and human perspectives when developing new services, thereby also increasing people's capabilities.

In the chapter by Kjellberg, the author presents the results of a scoping review focusing on how the use of the capability approach is linked to policies, practices and social justice approaches in social work research. The capability approach was framed as congruent with the aims of social work, and applicable in relation to social well-being and social inequality. The author concludes that the capability

approach has attracted some attention in social work with older people, and that the number of studies elaborating on the capability approach in social work, in general, is growing.

In their chapter, Lagerlöf Nilsson and Castenbrandt discuss the value of a capability approach in historical research on older people, and how it can be used as an analytical tool for visualising historical patterns to add another perspective to this theoretical framework. In this context, the authors use historical examples to argue that historical change alters how we value certain capabilities and that the meanings of functions differ over time.

In the chapter by Svensson and colleagues, the authors describe the tension between self-determination and human dignity in the Swedish legal system relating to social care for older people, and how the capability approach can be used as an analytical tool in studies of legal scholarship. A person's capability to make decisions is highlighted, as well as the supportive societal system that enables the realisation of self-determination, specifically for individuals who are not fully capable of making arrangements for themselves.

In their chapter, Bergström and Edström argue that the core human rights to freedom of expression and freedom of information connect the concept of capability with the role of the media in society. The media can be a tool for enhancing a person's voice and capabilities, but it can also be seen as hindering a good life if media technologies are perceived as inaccessible and if certain groups are marginalised by the media. The authors also discuss how the media has the potential to increase capability in older age groups, and who should be held accountable when the media reinforces ageist stereotypes.

In the chapter by Dellve and colleagues, the authors combine the capability approach with system theory to provide an understanding of the multi-component key resources supporting the capability of older workers. The authors describe central working-life conditions and conversion factors relevant to capability *to* work and capability *through* work. Having a reasonable degree of control and influence (freedom of choice) at work, as well as opportunities to make individual deals and adjustments that match one's competence and experience, is important for an individual's decisions leading to a long working life.

In the chapter by Wikström and colleagues, the focus is on the organisational capability approach. The workplace conditions and practices that may inhibit or promote the retention of workers beyond the previous norm for the age of retirement are highlighted and discussed. Workplace resources, capabilities and functions form a dynamic pattern. Factors that influence the work abilities of older workers are related to complex interactions and do not merely follow the format of simple cause and effect. Since organisational capability makes it possible to focus on the interactions between an individual's resources and preferences, and the opportunity structure existing in the workplace (meso-level) and embodied in the retirement system (macro-level), much of the discussion and many of the policies and practices concerning older people can be related to the concept of capabilities.

In the chapter by Solevid and Scheiber Gyllenspetz, the focus is on political participation and non-participation among seniors. The authors conducted long

interviews with eight individuals aged 80 years or older, both voters and non-voters. The empirical results show that the concepts of internal and combined capabilities are fruitful when understanding conceptions of and reasons for non-voting. The chapter ends with a discussion about the importance of continuing to integrate explanations at different levels in order to understand political (in)activity among older individuals.

The authors in this anthology represent different research areas, including medical science, political science, the social sciences, psychology, business administration, law, history, the media, linguistics and design. This anthology includes a remarkable array of contributions that present state-of-the-art, innovative, interdisciplinary and intra-disciplinary theorising about the use of the capability approach in the study of ageing. It represents the abundance of innovative research projects and ideas that can be said to characterise AgeCap as a research centre. Multidisciplinary collaboration is a challenging task and crucially important to the cumulative construction of knowledge. We hope that this anthology will inspire researchers to address the capability approach and to use its theoretical gaze when pursuing explanations that extend beyond specific empirical findings.

References

- European Commission. (2020). <https://ec.europa.eu/>.
- Flatt, T. (2012). A new definition of aging? *Frontiers in Genetics*, 2012(3), 148.
- Higgs, P., & Gilleard, C. (2015). *Rethinking old age: Theorising the fourth age*. Macmillan International Higher Education.
- Rydberg Sterner, T., Ahlner, F., Blennow, K., Dahlin-Ivanoff, S., Falk, H., Havstam Johansson, L., & Skoog, I. (2019). The Gothenburg H70 birth cohort study 2014–16: design, methods and study population. *European Journal of Epidemiology*, 34(2), 191–209.
- Sen, A. (2005). Human rights and capabilities. *Journal of Human Development*, 6(2), 151–166.
- Sen, A. (2009). *The idea of justice*. Belknap Press of Harvard University Press.
- UN World Population Prospects. (2019). <https://population.un.org/wpp/>.

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