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An ethico-politics of hype, hope and experimentation

Joni Jaakola

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ABSTRACT

In the past decade, the Finnish government has been eager to enable and support the development, implementation and growing business of automation, robotics and artificial intelligence—that is, welfare technologies in elderly care services. In these visions, technologies offer an intervention to increase health and wellbeing while also being an economic commodity to generate profit. Therefore, expectations towards welfare technologies show politics with high optimism, in which simultaneous expectations of good health, smooth services, a growing economy and a thriving welfare state are fostered.

This dissertation delves into a problem in which care politics raise high expectations of technology while catering to the needs of the ageing population. My main research question is as follows: How are the high expectations related to the technology realised in care practices, and what are the ethico-political implications? This dissertation consists of four articles that exemplify the different dimensions of realising these expectations.

The dissertation is theoretically based on multiple perspectives from science and technology studies. My theoretical framework enables a focus on ethico-political practices and expectations, offers a symmetrical approach to care and technology and provides a critical viewpoint to the technological promises laid in contemporary care politics.

I use multi-sited ethnography as a methodology. The research materials consist of documents, observations and interviews. The focus of the empirical materials is on social robots and telecare technology—that is, robots designed to provide companionship and assistance and surveillance technologies for secure care. I read the different research materials through the sociology of translations, which emphasises that the manner in which expectations are fulfilled concerns the adaptation and transformation of different actors and their aspirations.

This dissertation advances the theoretical and empirical understanding of the welfare technology phenomenon. My main argument is that expectations related to welfare technologies in Finland are realised in actual care practices through negotiations between the regimes of hype and hope. The regime of hype captures the health and social policy side of the welfare technology phenomenon, while the regime of hope mainly concerns institutional care. Hype creates, collects and circulates optimistic expectations, while hope enables living with the uncertainty that

comes with technology's material agency. With technology comes the possibility of disruption, which intervenes with care relations and, paradoxically, enables them by offering possibilities for creativity.

Experimentation is central to both regimes. While experimentation in the regime of hype aims at fulfilling optimistic expectations, experimentation in the regime of hope is obligatory to secure care. Experimentation in practice makes the wellbeing of individuals and the state commensurate, transforming disappointments into achievements and technological possibilities into necessities. Both regimes value ambivalence and uncertainty due to their shared focus on experimentation.

KEYWORDS: care, hype, hope, multi-sited ethnography, science and technology studies, sociology of translations, welfare technology

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TIIVISTELMÄ

Tarkastelen sosiologian alaan kuuluvassa väitöskirjassa iäkkäiden hoivatyöhön suunnattuihin hyvinvointiteknologioihin liittyviä odotuksia sekä niiden eettis-poliittisia vaikutuksia. Väitöskirja koostuu neljästä vertaisarvioidusta tutkimusartikkelista ja yhteenvetoluvusta. Kaksi artikkeleista on julkaistu kansainvälisissä ja kaksi kotimaisissa lehdissä.

Tutkimus paikantuu suomalaisen hyvinvointivaltion ja sen hoivapalvelujen murroskohtaan, jossa riittämättömiin hoivaresursseihin haetaan poliittista ratkaisua automaatiosta, tekoälystä ja robotiikasta. Hyvinvointiteknologian käsite viittaa pohjoismaisten hyvinvointivaltioiden pyrkimyksiin vastata ikääntyvän väestön tuomiin haasteisiin teknologisilla innovaatioilla samalla uusia yritysmahdollisuuksia kehittäen ja julkista taloutta eheyttäen.

Päätutkimuskysymykseni on: Miten hyvinvointiteknologioihin liittyvät odotukset käytännössä toteutetaan ja millaisin eettis-poliittisin seurauksin?

Teoreettisesti tutkimus paikantuu tieteen- ja teknologiantutkimuksen monitieteiseen kenttään. Osallistun erityisesti tutkimusalan keskusteluihin, jotka lähestyvät hoivaa, ikääntymistä ja teknologiaa sekä näihin liittyvää etiikkaa ja politiikkaa käytäntöjen kautta, eivät tee lähtökohtaista erottelua hoivaan liittyvien inhmillisten ja ei-inhimillisten toimijoiden välille sekä mahdollistavat kriittisen tulokulman hyvinvointiteknologiaan kohdistuviin lupauksiin.

Metodologisesti tutkimus pohjautuu monipaikkaiseen etnografiaan. Keräämäni aineistot koostuvat dokumenteista, havainnointiaineistosta ja haastatteluista. Lähestyn hyvinvointiteknologian ilmiötä etenkin sosiaalisen robotiikan ja etähoivateknologian kautta. Analysoin aineistoja käännösten sosiologian avulla eli paneutumalla siihen, miten teknologioihin liittyvien lupausten toteutuminen on riippuvaista käännösprosesseista, joissa erilaiset toimijat ja niiden tavoitteet määrittyvät uusiksi.

Tutkimus kontribuoi yhteiskuntatieteelliseen hyvinvointiteknologioiden ja iäkkäiden hoivan tutkimukseen tarkastelemalla monipaikkaisesti, miten uusiin teknologioihin liittyvät, eettis-poliittisesti latautuneet ja tulevaisuuteen kohdistuvat, odotukset taipuvat osaksi hoivatyön arkea sitä samalla muuttaen. Tutkimuksessa näytän, miten hyvinvointiteknologiaan liittyvät odotukset toteutuvat käytännössä jännitteisten neuvotteluiden kautta.

Väitän, että hyvinvointiteknologiaan liittyvien odotusten toteuttaminen liittyy Suomessa kahteen erilaiseen, hypen ja toivon, regiimiin. Siinä missä hypen regiimi

kuvaa hyvinvointiteknologioihin liittyvien suurten odotusten politiikkaa, toivon regiimi havainnollistaa uusien teknologioiden kanssa elettyä hoivan arkea.

Molemmat regiimit painottavat kokeellisuutta. Siinä missä hypen regiimissä kokeellisuuden avulla toteutetaan teknologiaan liittyviä lupauksia, toivon regiimissä kokeellisuus on välttämätöntä hyvän hoivan turvaamiseksi. Käytännössä kokeellisuus on keino yhteismitallistaa yksilön ja valtion hyvinvointi, muuttaa pettymykset saavutuksiksi ja teknologiset mahdollisuudet välttämättömyyksiksi. Kokeellisuudesta seuraa, että molemmissa regiimeissä hyödynnetään epävarmuutta resurssina.

ASIASANAT: hoiva, hype, hyvinvointiteknologia, käännösten sosiologia, monipaikkainen etnografia, tieteen- ja teknologiantutkimus, toivo.

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October 23rd 2023
Joni Jaakola

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List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

I Jaakola, Joni. Vaivaisia vai harmaita panttereita? Sosiaalisen ja taloudellisen kestävyyden turvaamisen seuraukset iäkkäiden hoivapalveluiden laatusuosituksissa. *Poliittinen talous*, 2022; 10(1), 42–72.

II Jaakola, Joni. Ethics by Other Means? Care Robot Trials as Ethics-in-Practice. *Tecnoscienza. Italian Journal of Science & Technology Studies*, 2020; 11(2), 53–71.

III Jaakola, Joni. Risk and Uncertainty in Telecare: The Case of the Finnish 'Elsi'. *Science & Technology Studies*, 2023; 36(2), 47–59.

IV Jaakola, Joni. Ikääntyvät kyborgit: Hoivateknologiat ja kitkainen ruumiillisuus. *Sukupuolentutkimus–Genusforskning*, 2023; 36(1), 20–33.

1 Introduction

> Our conquests outstrip our deliberate intentions. Observe, in fact, the acceleration in the trajectories of our technological advances. No sooner is it announced that something is *possible* than it is in part *achieved,* propelled down the slope of competition, imitation, or interest. It is almost as quickly considered *desirable,* and by the next day it is *necessary* […]. The fabric of our history is woven today of these immediate passages from possibility to reality, from contingency to necessity. (Serres & Latour, 1995, pp. 171–172, emphasis in original.)

Myths matter. Finnish folklore includes many stories about the famous and skilful watchmakers, ironsmiths and inventors of the Könni family. These stories date back to the 18 th and 19 th centuries. According to one tale, a member of the family invented a mechanical 'mattock man' to assist in the heavy work of ploughing fields. The mechanical man had one shortcoming: It could not turn around when reaching the field's end. On one infamous occasion, the mechanical man continued its ploughing straight to the nearby river. Thus, a worker was needed to turn the invention around in the field. One time, the famous inventor himself carried out this task but unfortunately fell asleep. The mechanical man was incapable of pushing away the sleeping inventor and therefore killed its maker with the mattock. (Leppälahti, 2019.)

The tale of the mechanical mattock man, allegedly the first robot in Finland, tells how unavoidable disaster follows high expectations in technology. The basic myth, in which technological and scientific progress leads to disaster, is well known and transcends time and culture. One philosopher who delved into this dynamic was Paul Virilio, who asserted that '[t]o invent the sailing ship or the steamer is *to invent the shipwreck*. To invent the train is *to invent the rail accident* of derailment. To invent the family automobile is to produce the *pile-up* on the highway' (Virilio, 2007, p. 10, emphasis in original). Virilio highlighted that with fascinating technological innovations come the possibility of catastrophe.

The myth of the mechanical mattock man resonates well with contemporary care politics in Finland. In the past decade, the Finnish government has been very eager

to enable and support the development, implementation and growing business of automation, robotics and artificial intelligence in elderly care services (The Finnish Government, 2016; The Ministry of Economic Affairs and Employment, 2015; The Ministry of Social Affairs and Health, 2017, 2018, 2020a, 2020b). These technological solutions promise to assist in the heavy work of caring, provide better services, help the elderly to care for themselves and answer to the lack of resources created by an ageing population. As in Könni's mechanical man, technology is not meant to replace care workers but to assist them (Kristoffersson et al., 2011; Lehoux & Grimard, 2018; Tuisku et al., 2019).

However, there is something missing in the picture. An important aspect of Könni's mechanical man is that it is a deeply normative, cautionary tale. A ploughing 'robot' that kills its master teaches that replacing bodily work with mechanics leads to laziness, or in religious terms of the time, the deadly sin of sloth. Certainly the automation of care also raises moral concerns, such as the possible deception of the elderly with humanlike machines (Sharkey & Sharkey, 2012; Sparrow & Sparrow, 2006), decline in the quality of care and the fear of replacing human workers with mechanical ones (Frennert & Östlund, 2018; Frennert et al., 2021). Nevertheless, these kinds of concerns and ethical considerations are absent from the present care politics in Finland. Instead, they focus on the positive side of the mechanical man myth and on the expectation of a brilliant future enabled by technologically mediated care.

This dissertation delves into a problem in which care politics raises high expectations of technology while catering to the care needs of an ageing population. This reminds us of Michel Serres's quotation at the beginning of this introduction: the present care politics signals that a technological possibility has become a necessity. Therefore, the main research question is as follows:

- How are the high expectations related to the technology realised in care practices and with what kind of ethico-political implications?

This dissertation consists of four articles that exemplify the different dimensions of realising optimistic expectations by asking the following questions:

- How are the economic and social sustainability of the care services secured, and what are the outcomes? (Article I)
- What kind of ethics is enacted during socially assistive care robot trials, and what 'therapeutic gain' do human–robot interactions achieve for older users? (Article II)
- How is telecare used in care work, and what are the outcomes of telecare use? (Article III)

- What kinds of corporealities are produced with welfare technologies, and what kinds of political questions about care do these corporealities raise? (Article IV)

Empirically, the articles are based on documents from the health and social policy sector and on observations and interviews conducted in an institutional elderly care unit in Finland. Article I describes the expectations and ethico-political commitments related to Finnish care provision, while Articles II–IV elucidate the realisation of these expectations and their outcomes in the everyday life of institutional care.

My main argument in this dissertation is that expectations of welfare technologies are realised in actual care practices through negotiations between the regimes of *hype* and *hope*. The regime of hype captures the health and social policy side of the welfare technology phenomenon, while the regime of hope mainly concerns actual care practices. Unlike in the story of Könni's mechanical man, ambivalence, uncertainties, possible failures and setbacks are not disappointments or disasters but rather resources in both regimes because of their shared focus on experimentation.

In this introduction, I first clarify the concept of welfare technology and then describe elderly care provision and its present state in Finland. Of particular interest is the discourse on a 'care crisis' and the role of technology in solving this crisis. Lastly, I outline the structure of the dissertation.

1.1 Welfare technology as an ethico-political phenomenon

I use the term *welfare technology* to capture what is particular to emerging care technologies. The concept has been coined and used to describe and critically examine the optimistic political discourse that connects emerging business arenas, the expansion of information technology infrastructure and the welfare of the ageing population (Aaen, 2021; La Cour & Højlund, 2019; Cozza et al., 2019; Frennert, 2021; Frennert & Östlund, 2018; Östlund et al. 2015). The concept encompasses two-sided political optimism related to care technologies: an emphasis on social and economic sustainability while reforming the Nordic welfare state. Here, social sustainability refers to the principles of the welfare state, such as the universal right to efficient and good quality care, while developing, distributing and using welfare technologies. Conversely, economic sustainability refers to austerity politics led by scarcity, coercion and cutbacks. In this kind of politics, technology's role is to assist in making care more efficient and standardised.

Social robots (Articles II and IV) and telecare (Article III) are two established welfare technologies designed to provide social and economic sustainability: to

ease the workload of nurses, respond to increasing care needs and enable savings and efficient services. Social robots are not yet widely used in Finnish elderly care (Oinas et al., 2021). Nevertheless, social robots, which can assist, monitor or offer social company, have been in the spotlight in the field of welfare technologies for the past decade (Sharkey & Sharkey, 2012; Sharkey, 2014). In contrast to industrial robots, social care robots participate in social reproduction (Taipale et al., 2015). Therefore, the interest in developing social robots is not so much in artificial intelligence, automatisation and machine learning but rather in awakening the associations of sociality and interaction in their users. Thus, there has been a shift from artificial intelligence to social intelligence in developing social robots (Robertson, 2018; Weber & Bath, 2007). Although the idea of a care robot may seem futuristic and even dystopic, the technological and scientific interest in producing it started in the 1970s (Goeldner et al., 2015; Parviainen, 2020). In addition, the automation of care had already emerged in the 1960s, when the possibility of automated showering in care homes had been discussed (Östlund & Frennert, 2021).

Telecare technologies, in turn, exemplify how infrastructure and socio-material contexts matter when welfare technologies are introduced into care practices. Technically, telecare refers to information and communication technologies, such as sensors, pendants and video connections that enable surveillance and monitoring. Contextually, telecare enables safe living and ageing at home. (Callén et al., 2009; Milligan et al., 2011; Roberts et al., 2012.)

With telecare, the health and activity of individuals can be centrally monitored, thus potentially saving personnel resources. Furthermore, telecare is based on risk governance: recognising, classifying, predicting and creating risks related to health and welfare (Article III). A central risk for the elderly is falling, which can be hazardous for the individuals' health and also expensive, as falls are common in the aged population (Draper & Sorell, 2013). Similar to social robots, telecare devices have been known in different forms since the 1970s (Doughty et al., 1996).

Examples of social robots and telecare show that there is technologically nothing new in welfare technologies. What is new, however, is the increasingly political role of these technologies. Thus, there is a need to study the *ethico-political* implications of welfare technologies without reproducing the promises of automation, robots and artificial intelligence. This dissertation responds to this call by approaching welfare technology as a phenomenon closely linked to welfare state reforms. By using the term *ethico-political*, I follow care scholars in science and technology studies (STS), most prominently de la Bellacasa (2015, 2017; see also Martin et al. 2015; Lindén & Lydahl, 2021), who emphasise that ethics and politics are inseparable when discussing care.

1.2 The ‘care crisis’

In most contemporary capitalist societies, elderly care has become a politicised, professionalised and public issue (Anttonen, 2009; Gill et al., 2017; Häikiö et al., 2011). To paraphrase Arendt (1958), this process has formulated the activities of the private sphere—the caring for children and the elderly—to shared concerns demanding public political deliberation. In Finland, public care services have developed in tandem with the welfare state (Julkunen, 2001). The constitution of Finland secures that ‘[e]veryone shall be guaranteed by an Act the right to basic subsistence in the event of unemployment, illness and disability and during old age as well as at the birth of a child or the loss of a provider’ (The Ministry of Justice, 2018, p. 4). Therefore, the state has the responsibility of enabling every citizen’s access to the care services they need (Kröger et al., 2019, p. 125).

Conceptually, informal and formal care are usually separated from one another. Informal care refers to care commonly given by relatives and without pay or by allowances (e.g. family caregiver support, parental leave). By contrast, formal care is professional paid work done in the private, public and third sectors. Formal care consists of home care (i.e. nursing and support provided to private homes) and institutional residential care in long-term nursing homes. (Anttonen et al., 2009, pp. 10–11; Karsio & Anttonen, 2013, pp. 88–92.) Informal care is unequally distributed in society and depends on the individual’s relationships. Therefore, formal care answers the care needs of a society such as Finland, where everyone has the right to receive sufficient care.

Whether formal care is a universal right or not, Finland, among many other post-industrial societies, faces a situation in which care needs exceed their provision (Häikiö et al., 2011; Jylhä, 2014; Kröger & Vuorensyrjä, 2008; Meißner & McNair, 2021). The disparity is likely to increase in the future, as it is estimated that every fourth Finnish citizen will be over 65 of age in 2030 (Turja & Särkikoski, 2018, p. 44). In Europe, the situation is similar, as it is predicted that nearly 30% of the population will be over 65 years of age in 2050 (Hirvonen et al., 2022, p. 3). This situation is referred to as a ‘care crisis’ (Dowling, 2021). The unquestioned starting point to almost any research on welfare technologies is to root the crisis in demographic changes in the population: the increase in the number and proportion of the aged, longer life expectancy, lowering birth rate, an increase in the proportion of women in waged labour and so on (Federici, 2012; Hyysalo, 2004; Moreira, 2017; Official Statistics of Finland, 2021). Due to demographic changes, there is a concern that public economy expenditure will outrule its income (Lassila & Valkonen, 2013; The Ministry of Social Affairs and Health, 2017).

Popular solutions to the crisis stemming from this demographic point of view are ‘top-down’ solutions targeting the population. The recommendations offered by the Ministry of Social Affairs and Health (2001, 2008, 2013, 2017, 2020b) most

explicitly seek to address insufficient care resources. Legislative reforms are also a means to solve the crisis (Jylhä, 2014; Zechner et al., 2017). Discussing the efficient number of staff in institutional care is a well-known example of a legislative objective to secure efficient care (Hoppania, 2019; Olakivi et al., 2021, p. 150). Investments and reforms in nursing education are also central top-down solutions. The profession of 'practical nurse' (*lähihoitaja*) was developed during the recession of the 1990s to fill the increasing lack of care labour resources. Currently, the profession of 'care assistant' (*hoiva-avustaja*) also exists. Education for both vocations is shorter than for nurses, and working duties are more restricted. However, highlighting the demographics and top-down solutions hides the fact that the care crisis is actually born from the transformation of the welfare state and its effects on the organisation of formal care. The most significant transformation is the neoliberalisation of care services in Finland.

Although this dissertation does not seek to contribute to the research on neoliberalism, it is important to discuss the neoliberalisation of care because it provides an important context for the implementation of technology in the Finnish care provision system. In mapping neoliberalisation, it is important to avoid using the term as an all-encompassing catch phrase for broad changes in society and instead focus on the practices in which neoliberalism is produced, upheld and maintained (Higgins & Larner, 2017). Kangas and Salmenniemi (2016, p. 212) present three interrelating signifiers that can help examine how neoliberalism works in practice: (i) the subordination and regulation of social life to the requirements of market values, such as freedom; (ii) reshaping the state and reorganising the relationships between the economy, state and its population based on market forces; and (iii) the formulation of subjects, personhoods and citizens based on increased personal responsibilities. This tripartition also describes the neoliberalisation of care services in Finland in recent decades.

First, in the 1990s, at the latest, Nordic countries introduced structural reforms in health and social care provision, positing deregulations as the solution to expanding care needs and growing expenditure. The changes were justified based on on the too 'loose' economic policies of the welfare state, which produce expenditure but minimal public income (Julkunen, 2001, pp. 78–79). Recently, the marketisation and financialisation of care have been the most vivid examples of neoliberalisation in terms of care provision (Article 1; Hoppania, 2019; Hoppania et al., 2022; Karsio & Anttonen, 2013; Vaittinen et al., 2018; Zechner et al., 2022, pp. 43–63). The goal of marketisation is to produce or expand markets and accumulate transnational capital. As an outcome, care services are organised based on competition between private and public service providers. Accordingly, the organisation of public services has started to resemble a market logic that emphasises individual responsibility, efficiency and profit-making. As a result, care has become a commodity, and care

work has become standardised. Financialisation has amplified this progress. Privatised and commodified care has become an attractive investment opportunity for international enterprises and conglomerates seeking profit. Therefore, the roles of venture capitalism, tax evasion and credit systems have become central in organising care provision (Zechner et al., 2022, p. 54). As this financial game takes place far away from actual care practices, care provision has become vulnerable to the fluctuation of international capital, finance and markets.

Second, in terms of organising care work, the doctrine provided by new public management is the most evident example of neoliberalisation. In accordance with the commodification and standardisation of care, new public management emphasises prioritising efficiency and standardisation in the organisation of care (Anttonen & Häikiö, 2011; Anttonen & Meagher, 2013). New public management highlights an 'economic–managerial' concept of time, which focuses on the rationalisation of care and producing it according to strict timetables to secure efficiency. This creates urgency among care workers and the necessity to perform different tasks simultaneously. (Hirvonen & Husso, 2012.) When workers have internalised the new public management doctrine, haste may seem the individual workers' fault, not a systematic outcome of the care service in question (Article III).

The third example of neoliberalisation is the reshuffling of private and public responsibilities and the production of new forms of citizenship (Häikiö et al., 2011; Julkunen, 2006). It is important to note that not all changes related to the individuals' responsibilities are, in essence, neoliberal. For example, the aspiration to encourage citizens to take responsibility for their health and foster their independence has been present in Finland and other Nordic countries from the 1800s onwards (Helén & Jauho, 2003). Therefore, neoliberal changes in citizenship mostly deal with the displacement of responsibilities from the state to its citizens (Helén & Jauho, 2003, pp. 31–32).

In addition to the growing expectations of caregivers, care receivers are also expected to take more responsibility for fulfilling their care needs. Neoliberalisation emphasises 'active' and 'healthy' ageing, which practically means taking responsibility for one's own life. Accordingly, old age is not an obstacle to doing so. (Article I; Hoppania et al., 2016; Julkunen, 2001, 2006; Mol, 2008; Zechner et al., 2022.) In Finland, the emphasis on care provision has shifted from institutional care to care provided in private homes (Anttonen, 2009; Jylhä, 2014; Karsio & Anttonen, 2013; Virkki et al., 2012). The moral justification for this reform is that 'there is no place like home' (Mortenson et al., 2016; Neven, 2015) and prioritising the possibility of securing autonomy. Investments in home care may save resources, but they also increase and reformulate the responsibilities of the aged and their families.

1.3 The turn to technology

Recently, there has been a turn to technology in which welfare technology is seen as a solution to the care crisis in national and global care policies (e.g. Frennert, 2021; Hirvonen et al., 2022; Neven & Peine, 2017; Rantanen et al., 2018; Robertson, 2018; Turja & Särkikoski, 2018; van Aerschot et al., 2020). In simple terms, the 'double value' (Lehoux et al., 2017) explains the turn to technology: technologies offer both health intervention to increase health and wellbeing while also being an economic commodity to generate profit.

Expectations are highly important in the turn to technology, as they mobilise, guide and coordinate stakeholders, actors and resources while attracting interest and fostering investment. Expectations define opportunities and risks while valuing, legitimating and justifying certain actions over others. (Bakker et al., 2012; Borup et al., 2006; van Lente, 2012.) Expectations related to welfare technology are publicly available and share points of reference targeting possible futures and their conditions (Borub et al., 2006, p. 293; Konrad et al., 2012; Konrad et al., 2017, p. 466). Shared expectations range from specific and generic expectations to broader frames of coordination (Ruef & Markard, 2010; van Lente et al., 2013). The turn to technology is a generic or broad frame, but individual enterprises may have more specific expectations related to, for example, social robots providing assistance in dispensing medicine. When technological development is seen as guiding or determining social progress, expectations tie technical and social issues together (Borub et al., 2006). Thus, in the turn to technology, expectations of welfare technologies are those simultaneously about the execution of the welfare state and its principles.

At first glance, the turn to technology seems to maintain the neoliberal logic of care and adheres to its promise of providing more efficient, productive and, thus, 'better' care. As technology is expected to provide solutions to insufficient resources, welfare technology is directly linked to austerity politics and neoliberal ideals. This tendency to enforce neoliberalisation with technology is why scholars in feminist political economy have noted that technology, rather than a solution, is a Band-Aid-like 'care fix' (Dowling, 2021) that reproduces the care crisis and its root causes without recognising and addressing them. One of these root causes is linked to inequalities in social reproduction.

Generally, social reproduction refers to caring as a form of paid or unpaid labour that reproduces and maintains not only the labour force, communities and societies—altogether life—but also cultures and ideologies. This concept highlights the importance of care as the basis for any economic activity. In capitalism, social reproduction is the root of the production of value and surplus capital. However, caring as social reproduction is gendered, racialised, usually unpaid, undervalued and, thus, unequally divided in societies. (E.g. Bakker, 2007; Elomäki & Ylöstalo, 2020; Fraser, 2016; Hoskyns & Rai, 2007.) When an economy is valued through

production rather than reproduction, care becomes an expenditure, not an investment (Federici, 2012). Thus, technology has become a way to decrease expenses. In critical examination, the turn to technology does not recognise that elderly care is always in crisis because of the inherent and continuous devaluation of reproductive work in capitalist societies (Fraser, 2016).

Although the critique based on social reproduction and care fixes is salient, it unnecessarily limits the discussion to the problem–solution axis. Technology is more than a fix, and its ethico-political consequences are far more unpredictable. In fact, the gendered and low-income nature of care labour should be an obstacle to introducing technology into care—it is much less expensive to invest in cheap labour than in costly new technologies (Wajcman, 1995)[1]. Thus, there are more sides to the turn to technology besides obscuring the role of social reproduction in capitalist societies or maintaining the 'status quo' (Hoppania, 2019) of neoliberalism. STS research on welfare technologies has shown how technology is not solely about obscuring care politics but rather a means of putting them into practice in all their obscurity.

In the next section, I describe the different STS approaches used in this dissertation and outline my contributions. I then present the materials and methods. After discussing the methodology, I summarise the articles. I discuss the main results and conclude the study.

[1] According to Moreira (2017, p. 157), this paradox is solved by the promise of *efficiency* related to technology: investment in costly technology is justified on the basis that technologically assisted care will eventually become cheaper than investments in labour, the performance of which varies.

2 Perspectives on Welfare Technologies

The relationship between ageing, care and technology has recently raised notable interdisciplinary interest in health sciences, gerontology, social policy studies, sociology, anthropology and innovation studies (Hirvonen et al., 2022). This dissertation is theoretically located in multiple perspectives from the STS field that have studied the politics and ethics of welfare technologies. These approaches are anti-determinist, as they oppose the presupposition that technological development determines social progress. The approaches also emphasise practices in enacting optimistic expectations related to welfare technologies. In the next sections, I present these perspectives and discuss how this research contributes to the existing discussions.

2.1 Technology and politics

The relationship between technology and politics may seem counter-intuitive because '[t]he technical and the political are like the abstract and the concrete, the foreground and the background, the text and the context, the subject and the object' (Haraway, 2018, p. 37). Nevertheless, the ways in which technologies are linked to politics have been a major area of interest in STS. Classic examples include Mumford's (1963) distinction between polytechnics and monotechnics. Polytechnics refer to the local ways of answering human needs, while monotechnics consider technology as a means of power and emphasise the possible destructive and dehumanising effects of technology. Another well-known example is Winner's (1980) study, which was built on Mumford's theorisation. According to Winner, technology is politics in two ways. First, technologies are designed to consciously or not have a social impact and solve political problems. Second, some technologies are 'inherently political', meaning that they demand, or are compatible with, the political climate in which they are used and maintained. In the context of care, this distinction could mean that welfare technologies are designed as an answer to the care crisis (point one), and for welfare technologies to work, they need to be

compatible with care politics, in which care is a public issue and a professionalised area of work regulated by law (point two).

The exciting entanglement of technology and politics has led to general conclusions that 'technology is politics by other means' (Neyland & Woolgar, 2013, p. 38) and that 'all technology is political and all politics is technological' (Bijker, 2006, p. 701). Although appealing, these universal claims show how the adjective 'political' has become meaningless (Latour, 2007). They can also underestimate the work needed to politicise things. Thus, there is a danger in politics without controversy (Marres, 2007). Some specifications are needed to treat welfare technologies as politics. Brown (2015; see also Palonen, 2006) provided some helpful guidance for this task. According to Brown, it is important to make a distinction between 'politics-as-sphere' and 'politics-as-activity'. The idea of politics-as-sphere refers to a clearly defined political terrain, arena, stage, field or sector. The focus, then, is not on the content of politics. However, politics-as-activity refers to the temporal and contingent aspects of politics and the individual or collective processes of politicisation. This classification is important, because 'sociotechnical practices and institutions may have political origins, implications, or effects, and thus be political, without necessarily being a mode, site, or object of politics' (Brown, 2015, p. 6).

When the starting point is in politics-as-activity, attention is not focused solely on publicly outlined functions that technology should have but also on the possibility of emerging and unexpected political implications stemming from the material agency of technologies (Asdal et al., 2008; Latour, 1999, 2007). Politics-as-activity 'does not distinguish between the political (which is a given defined outside the system) and the technical (contained within it)' (Law, 2006, p. 92). To perceive politics solely as a human sphere or endeavour would be a prejudice (Bennett, 2010, pp. 107–108). Uncertainties and surprises are always involved when technology is implemented to ensure some political outcome, and technologies can have broader political consequences than their original intentions might suggest. Objects have the ability to object (Latour, 2000). When technology is seen as a neutral tool for reaching limited purposes, these outcomes easily remain invisible (Winner, 1980). Even the success of one technology relies on its transformations through the local relations of its appliance (de Laet & Mol, 2000). What is important is what happens when welfare technologies become means for politics and how surprising political effects may emerge, even though technologies are considered passive instruments for delivering good care. Therefore, my focus is on 'the practical politics of technology' (Cozza et al., 2020, p. 8). This idea of politics as a heterogeneous activity is familiar in the care in practice approach.

2.2 Care in practice

The 'care in practice' approach (Mol, 2002, 2008; Mol et al., 2010; Pols, 2012; Pols & Moser, 2009; Schillmeier, 2017) deepens the understanding of the ethico-political implications of welfare technologies. Care in practice is not a clearly defined research approach or a school but consists of a group of Norwegian, Dutch and British sociological and anthropological care studies that have been influenced by theoretical and methodological insights from the STS field. These studies have approached care as a practice and in practice with ethnographic case studies to develop empirical and theoretical insights. To perceive care as a practice and embedded in practices, first, the definition of care and second, the role of technologies in care relations must be discussed.

The definitions of care are inconsistent and are always partial. *Care* is usually distinguished from *cure* (e.g. Browne, 2010; Hoppania, 2017; Mol, 2008). Cure refers to the professionalised ways of fixing health-related problems, while care is about the prolongation of life and its preconditions that happen also outside institutional health care. However, it is unclear whether care is a theoretical or an empirical concept (Lindén & Lydahl, 2021; Thomas, 1993). As care has historically been associated with femininity, feminist theory has paid close attention to theorising (Martin et al., 2015) and conceptualising it, for example, as a form of unpaid labour (Hochschild & Machung, 1989) or as a distinctive rationality (Waerness, 1984). In a broad sense, the new-borns, sick, infirm and frail need care. Although the forms of caring vary in different socio-cultural contexts, the obligation to do so does not (Tronto, 1993, p. 110). Caring has been used as a lens to study the everyday, redundant and often 'dirty' ways of responding to different needs, such as cleaning and bathing (Tedre, 2004, pp. 64–65), and the forms of life that relate to these activities (Browne, 2010, p. 576).

Conceptualisations of care often leave the definition of caring open or define it as a task, operation or duty. For example, Tronto (1993, p. 104; see also de la Bellacasa, 2017) defined caring as a practice 'aimed at maintaining, continuing, or repairing the world'. Technology in this conceptualisation then becomes an instrument, invention or intervention designed for this task. Therefore, an asymmetrical setting is born: nurses have politics and ethics, whereas technology does not; people use technologies for predefined purposes, whereas technology does not reconfigure these purposes and so on. In this setting, it is difficult to discuss care and technology simultaneously. The care in practice approach provides a useful starting point to avoid this problem. It brings the role of technology in care relations to the foreground and enables rethinking and reframing

care and technology (Mol et al., 2010). In care in practice, care and technology are approached symmetrically.[2]

In care in practice, care is foremost a collective achievement, an outcome of 'affective, embodied and material relations between humans as well as humans and non-humans' that constitute the 'requirements and obligations that need to be addressed *in situ*' (Schillmeier, 2017, p. 56, emphasis in original; see also Gill et al., 2017, p. 6). Therefore, care constitutes heterogeneous entities, localities, specificities and ambivalence. When focusing on care practices, it may be misleading to approach care as an abstraction, such as a gift, a reciprocal relation that affirms living well (Bolton, 2000; Browne, 2010; Fox, 1995). Care can also be destructive (Mol et al., 2010; Martin et al., 2015; de la Bellacasa, 2011; Sihto & Vasara, 2023). The forms of care vary and can be contradictive but, nevertheless, lead to 'good' care. What seems like a theoretical paradox is resolved in actual care practices. In care in practice, this practical problem solving is referred to as 'tinkering' (Mol, 2008; Mol et al., 2010). Tinkering is emotional and practical work and something that is learned through trial and error and experiments: exploring, adapting to the situation and paying close attention to detail. Tinkering involves technologies in which goodness or badness is a practical outcome, not the starting point.

Care is and has always been grounded in materiality and technological practices, and it is not only human intentions that define technology (Schillmeier & Domènech, 2010). Technology cannot be evaluated based solely on engineering and design or purposes and intentions. Rather, the care in practice approach seeks to answer questions such as for whom and from whose perspective technology works properly and how technology affects care relations. The concept of tinkering is useful in discussing the epistemological negotiations born out of surprising and coincidental care practices. However, there are also ontological and ethical commitments to care in practice. Ontologically, care in practice is a relational approach. It escapes the dualisms between 'cold' technology and 'warm' care and active caregivers and passive care receivers (Mol et al., 2010; Pols & Moser, 2009). This kind of relational ontology is timely because, in present care politics, care receivers are not passive agents but active consumers responsible for their health and care. Moreover, technology has never been 'warmer', as evidenced by the political and academic interest in welfare technologies. Due to the epistemological and ontological ambiguity related to care, ethical and political considerations become central issues. Ethical questions have been investigated in a 'subfield' of care in practice called empirical ethics, with an emphasis on 'ethics-in-practice'. In addition to treating care and technology without essential prejudice, empirical ethics adds to this symmetrical

[2] The notion of symmetry between human and non-human actors stems from the sociology of translations, which is discussed in more detail in Section 3.1.

approach by considering ‘good’ and ‘bad’ care as practical and situated achievements, not prescriptive rules for ethical conduct (Aceros et al., 2015; Lydahl & Hansen Löfstrand, 2020; Mol, 2008; Mol et al., 2010; Pols, 2003, 2015, 2017, 2023; Pols et al., 2018; Thygesen & Moser, 2010; Willems & Pols, 2010).

2.3 Empirical ethics

In care research, the role of ethics is emphasised. This is evidenced, for example, in the discussion on the ethics of care stemming from feminist philosophy. The ethics of care puts the focus on the relationships between gender and moral theory while acknowledging the importance of context and relationality (e.g. Gilligan, 1982; Noddings, 1984; Tronto, 1993).

The relational understanding of care and its subjects is common to the ethics of care and empirical ethics approaches (Thygesen & Moser, 2010). These approaches also share the goal of preventing ethics from being considered abstract reasoning, which is common in standard moral theories, such as Aristotelian virtue ethics or Kantian deontological ethics. These classic moral theories provide abstract, idealised, generalised and prescriptive notions of ethics. In terms of welfare technologies, this usually means outlining the possible (harmful) effects of technology implementation on care receivers’ rights, health and wellbeing and then identifying the universal values or other ethical principles to consider before, during and after the implementation. These values include privacy, autonomy, freedom, dignity, enablement, independence, safety and social connectedness (e.g. Draper & Sorell, 2013, 2016; Kamphof, 2017; Niemelä et al., 2021; Mortenson et al., 2016; Sharkey, 2014; Sharkey & Sharkey, 2012). Some studies have also paid attention to the effects of technology on caregivers, highlighting the importance of valuing virtues, such as reciprocity and empathy, in technologically mediated care (Vallor, 2011).

After recognising the important values, research on welfare technologies and ethics usually offers practical guidance in the form of ethical guidelines and frameworks to support the design, implementation, use and legislation of welfare technologies. A popular solution has been to propose ‘value sensitive design’ (Burmeister, 2016; Sharkey & Sharkey, 2012; van Wynsberghe, 2013) as a framework so that important values are taken into account during the design process of new technologies. Another solution is to ensure that there exists an agreement in the form of informed consent to use technologies that, for example, collect data based on ambient surveillance and that could hamper privacy in this way (Draper & Sorell, 2016; Niemelä et al., 2019).

This kind of view of ethics is deterministic in the sense that technological innovations are seen as the cause of social change and as ‘fixes’ to social problems

(Mackenzie & Wajcman, 1985). As long as technologies are designed in a particular way, they foster the flourishing rather than the decline of elderly care and of societies struggling with inadequate resources. Good designs ensure good outcomes. The problem is that there is no straightforward way to determine *a priori* what enacting a particular value could mean or look like, and in actual care practice, values are usually in conflict (Pols, 2003). The conflict between the values of privacy and security is an example.

Privacy has become a main ethical principle in telecare practices, both in private homes and institutional care settings (Grosen & Hansen, 2021; Kamphof, 2017; López Gómez et al., 2010). The starting point is that every individual should have the right and possibility to have privacy. However, people with dementia can pose health risks to themselves and to others. These risks include forgetting to turn off the stove, to eat or take medicine. This is where telecare solutions appear as solutions. Telecare makes it possible to monitor the activities of elderly individuals, such as eating, moving, sleeping, going to the toilet and leaving the house, to prevent risks. However, this kind of monitoring calls into question the issue of privacy. Although consent to allow monitoring is the usual way to 'secure' ethics, there might be cases in which elderly people would like to have privacy but it is out of reach. Continuous surveillance reconfigures the home as a hospital-like environment (Mort et al., 2009). Due to these setbacks, hampering privacy is justified by the more important value of security (Grosen & Hansen, 2021; López, 2010; Mortenson et al., 2015). Thus, values can contradict, and the ways of solving the puzzle of 'doing ethics' depend on the situation.

Empirical ethics recognises that values in and of everyday life are often mundane and disorderly but also specific and observable (Pols, 2023). The approach emphasises that, at its core, care is about ethics. Defining care through the aspiration of 'living well' and 'repairing' the world suggests that caring is deeply normative. It would be difficult to understand or study care practices if caregivers' aspirations to do good are left unacknowledged (Pols, 2023). The description of 'good' and 'bad' in empirical ethics differs from that in law or medical ethics (Mol et al., 2010, p. 13). There are no universal rules to follow. However, it is clear that not everything goes as good care. Rather, what 'goes' is an outcome of local and specific compromises and negotiations, of tinkering. Thus, the qualification of good care is born out of practice. Insufficient or poor care is also a practical accomplishment and, thus, arbitrary. The outcomes of poor care are not as clear as those in law ethics. Instead of abstract values, the concept of 'normativity' can be used when discussing empirical ethics. Normativities are not concerned with prescriptions or with the definition of how one should live but with the moral possibilities and obstacles in given and concrete situations; they are contingent on circumstances (Pols, 2017, 2023; Pols et al., 2018).

The goal of providing good care cannot be studied thoroughly without including technology. Technologies change and affect the moral and practical preconditions for fostering life. 'Technologies do not subject themselves to what we wish them to do, but interfere with who we are' (Mol, 2008, p. 57). Therefore, using technology enacts moral subjects. If diabetic individuals do not inject insulin when necessary, it is a moral and lethal act (Mol, 2008, p. 90). Good diabetic individuals track their blood values. Norms or values are not merely a matter of design or programming; rather, what is desirable is defined through heterogeneous relations in different practices. Normativities usually emerge through different trials and actions that differ from what is expected from technologies (Moser & Law, 1999). This view of ontological relationality, updated with a notion of ethics, is where the tradition of empirical ethics most clearly parts from the ethics of care tradition, which tends to adhere to relationality as an epistemological principle and to a human-centred vision of ethics.

Empirical ethics is interested in living well and good care, but how is 'good' secured if it is not predefined and known in advance? There are two approaches to answering this question. The starting point can be in either 'open' concepts, such as *the good*, or 'big' concepts, such as *autonomy* (Pols, 2023). Researchers must clarify how—meaning what and with what consequences—these concepts are (re-)defined based on the situation. Therefore, appraising some values over others should be the outcome of the research, not its starting point.

How the ethico-political implications of welfare technologies can be addressed in practice has been previously discussed in this section. However, further clarifications are needed to 'zoom out' from local practices to the optimistic political discourses that define welfare technologies and the ideal image of elderly care receivers. The emerging field of socio-gerontechnology is important for this task.

2.4 Socio-gerontechnology

The field of socio-gerontechnology combines STS perspectives with age studies and offers a critical approach to ageing, technology and society (Peine et al., 2015, 2021; Peine & Neven, 2019; 2021). The goal in this field is to disentangle the separation between ageing as a biological or social scientific question and technology as a matter of engineering. Therefore, treating ageing and technology as co-constitutive[3] is important. The notion of co-constitution refers to the cyclical, continuous and

[3] The idea of co-constitution is important in many constructivist stances in STS, including the notion of the mutual shaping of technology and society (Mackenzie & Wajcman, 1985) and its application to gender, technology and society (Wajcman, 1995). Barad (2007) developed the idea of co-constitution in her agential realism. Socio-gerontechnology has been significantly influenced by Barad, complemented with a focus on ageing (e.g. Cozza, 2021; Peine & Neven, 2021; Peine et al., 2021).

mutual shaping of technology and ageing. This means that design practices constitute ageing as much as technology, and conversely, using care technologies in everyday living constitutes technology as much as ageing. The vision of ageing affects how technologies for older users are imagined, designed, built and rallied. Furthermore, the experiences of using such technologies shape what ageing is and how it is perceived. (Cozza, 2021; Peine & Neven, 2021.) Emphasising the co-constitution of ageing and technology escapes determinism, as ageing is not treated solely as a biological and corporeal issue. It also escapes technological determinism because technologies do not determine the constitution of ageing in a linear manner.

Socio-gerontechnology is critical towards policymaking that takes technology as an instrument for solving social problems while treating ageing and technology as separate domains (Peine et al., 2021). The concept of 'ageing-and-innovation discourse' (Neven & Peine, 2017) is one example of a critical stance towards the highly optimistic political discourse that leans on instrumentalism, in which technology is seen as neutral and taken for granted and thus 'realizes visions, but seems itself to remain value-free' (Jasanoff, 2006, p. 745). Instrumentalism provides an interventionist agenda for solving 'the problem' of ageing populations with technology. This discourse is central to the legitimisation of welfare technologies. A 'triple-win' rhetoric is commonly used in contemporary care policies to legitimise technological interventions. In this rhetoric, technology brings straightforward solutions to problems in economy, care and labour brought by demographic ageing. Society wins when problems in care provision are solved, the economy wins when technology companies flourish, and care receivers win when they are able to live at home more safely and longer with assistive technologies. (Neven, 2010, 2015; Neven & Peine, 2017; Peine & Neven, 2019.)

The ageing-and-innovation discourse has three issues. First, it justifies investment in any technology intended as a solution to the care crisis. Second, it defines ageing as a negative phenomenon. As the elderly do not necessarily identify themselves as a problem, it becomes difficult to accept and use technologies that nevertheless rely on this negative perception. Third, the ageing-and-innovation discourse creates a moral high ground in which providing other solutions or framing problems in different terms is difficult because then one would criticise the aspiration to care for individuals, the economy and society. (Neven & Peine, 2017; see also Joyce et al., 2017.) In addition to naming this central political discourse, socio-gerontechnology has also paid attention to its effects on the co-constitution of technology and ageing. These studies draw on material semiotics[4], which has been an important reference point for socio-gerontechnology in STS (Peine et al., 2021).

[4] The empirical ethics approach also builds on the material semiotic tradition by applying it to the ethics of care discussions (Thygesen & Moser, 2010).

Material semiotics consists of two important and interrelated approaches. The first deals with ethics as inscriptions and the second with user configuration. The concept of inscription is based on the idea that the anticipation of the possible uses of technology and its users is embedded in the technology's material design (Akrich, 1992; Latour, 1992; Oudshoorn et al., 2004; Woolgar, 1991). Accordingly, prescriptions—the culturally situated definitions of what is good and desirable or what is forbidden and punishable—are inscribed in the materiality of technological artefacts. Morally speaking, this could mean that through their inscriptions, speedbumps become 'sleeping policemen' when the responsibilities of the police to keep traffic safe and in control are delegated to material artefacts. Not just any style of driving is acceptable; the driver must obey the prescription to drive slowly when approaching a speedbump. Questioning this would jeopardise the suspension of the vehicle. (Latour, 1992.)

Conversely, user configuration illustrates how material semiotics does not emphasise only the relation of ethics and technology but also the co-production of different needs, users and technology. In material semiotics, technologies and their users reconfigure each other through different practices (Pols & Moser, 2009). Material semiotics has been a central reference point to socio-gerontechnology precisely in these terms. There is a tendency to exclude older people's perspectives, especially in design and engineering practices. Older people are considered, but not present, in the development process of welfare technologies. As a result, the stereotypical image of old people as lonely, frail, weak, passive and in need of technological assistance flourishes. In future visions related to welfare technologies, the older people themselves are muted, and care technologies are designed for, not with, them (Cozza et al., 2019; Frennert et al., 2021; Östlund et al., 2015). Thus, technological development is in the hands of the care technology industry, whose premises are amplified by optimistic political discourses.

Studies from the field of socio-gerontechnology have shown how the stereotypical image of older users is configured through 'age scripts' (Neven, 2010) and 'dementia scripts' (Bergschöld, 2021) inscribed in technology. The concept of age script captures the ways in which older users are perceived as lonely and in need of company provided by emerging technologies, such as social robots. Simultaneously, old age is configured through deficiencies and dependencies, and the image of older users is produced as passive recipients of help and care. The configuration of passive older users is repeated in dementia scripts. When users with dementia are not imagined in practice as the users of technology targeting them, dementia scripts deal with the distribution of labour to care workers. In addition, the knowledge, beliefs and assumptions related to dementia as an illness are inscribed into socio-material settings and artefacts. For example, a scenario involving an arrangement pills, a plate, a glass of water, a brightly coloured note and a chair where

the elderly individual sits at home is an example of a 'memory device' that has a dementia script for taking medication (Bergschöld, 2021, p. 169).

As with empirical ethics, material semiotics is an anti-deterministic approach. Different scripts can always be questioned with 'antiprograms' (Akrich, 1992; Latour, 1992), which are courses of action that conflict with the original inscriptions. For example, Bischof and Jarke (2021) introduced the concept of re-configuration as a means to criticise the stereotypical age and dementia scripts. Re-configuring means involving older users, who are usually critical towards ageist and stereotypical user representations, as designers of the technology intended for them (see also Kristoffersson et al., 2011). Through a historical analysis, Östlund and Frennert (2021) found that there is nothing deterministic in the representations of older users. Although negative stereotypes persist, they also change over time and thus could be configured otherwise.

2.5 Contributions

This dissertation advances the theoretical and empirical understanding of the welfare technology phenomenon. Theoretically, this study clarifies and extends the existing discussions reviewed above. I specify these individual contributions in more detail in Section 4. In sum, this dissertation makes two theoretical contributions. First, the articles higlight heterogeneous care practices and ethico-political discourses together. Politics is discussed as a sphere and an activity. Rather than focusing on one of the notions of politics, the articles show the relationship between institutional policymaking and its realisation in practice. Therefore, the articles deepen the understanding of the ageing-and-innovation discourse and the triple-win rhetoric, especially their effects on elderly care receivers and care workers. However, perceiving politics as an activity does not restrict the focus to the expectations laid by care policy and its fulfilment but also to emerging ethico-political consequences, in which technologies themselves are important actors.

Second, I develop the notion of two different regimes of governance and organisation—hype and hope—to discuss how expectations related to welfare technologies are realised. I outline how experimentation is central to these regimes and serves as a means to cross the boundary between care policy and practice and transgress it. Experimentation, as a principle, cuts through individual technology pilots and political discourses and, in practice, makes the individuals' and the state's wellbeing commensurate and transforms disappointments into achievements and technological possibilities into necessities. More importantly, the focus on experimentation in both regimes is not linked solely to technology pilots and 'field tests' but also to a phenomenon in which experiments emerge as a means for reformulating and realising care policies.

Empirically, this research creates new knowledge about welfare technology as a phenomenon and clarifies its main characteristics in Finland. Asdal (2012, 2018) criticises the practice approaches in STS for their lack of temporal considerations. Care in practice and empirical ethics are based on a pragmatist approach to practices, which easily leaves out history and text while emphasising the importance of present and material agency. Practice approaches have trouble 'zooming out' when they focus on particular technologies and their development, uses and consequences. Institutional care politics and policymaking are acknowledged as important contexts for practice, but their broader significance is obscured. Thus, Asdal (2018, p. 748) suggests 'finding creative ways of maintaining a crucial recognition of history as well as relations between the textual and the material'.

In building on the practice tradition in STS, I do not approach the individual technological artefacts but rather the phenomenon that they co-constitute with the welfare state of Finland. The welfare state is not simply a context but a constituent of the welfare technology phenomenon. Therefore, this research answers Asdal's critique by incorporating methodological considerations about temporality and multi-sitedness into its research design in two ways. First, I acknowledge both the history of the welfare state and its principles (Article I) and the uses of welfare technologies in the beginning of the 2020s (Articles II, III and IV). Second, I take into account the textual and the material by using a multi-sited ethnographic approach (Marcus, 1998), which combines care policy documents, interviews and field notes from participant observations.

I approach the realisation of technological expectations through the complexities of care practices and the expectations embedded in technologies and their materiality. A focus on expectations is evidently temporal and multi-sited as expectations towards emerging technologies span over different sites in society, such as national policy, engineering and technology usage (Alvial-Palavicino & Konrad, 2019; Borub et al., 2006). This study recognises this multi-sitedness and examines how expectations 'travel' from one site to another with the aid of multi-sited ethnography. I suggest that the manner in which expectations travel and are fulfilled, is a question of *translation*—the adaptation, transformation and resistance of different actors in relation to the expectations. Therefore, in addition to multi-sited ethnography, this dissertation builds on the methodology of the sociology of translations (Callon, 1981, 1984; Callon & Latour, 1981). Altogether, multi-sited ethnography and the sociology of translations enable the approach of welfare technology as a phenomenon while simultaneously focusing on discourses, artefacts, care and technology.

3 Methodology

In this section, I discuss the methodological starting points of my research and present the research materials and analysis methods. The sociology of translations is a productive methodology for studying care in practice, as it views ethics as practical accomplishments and considers politics as activities, without harbouring anthropocentric prejudice against agency. Conversely, multi-sited ethnography provides a fruitful methodology for approaching welfare technology as a complex and heterogeneous phenomenon. Altogether, the sociology of translations and multi-sited ethnography provide a practical means to study the fulfilment of expectations of welfare technologies. To conclude this section, I reflect on my positionality as a researcher and discuss my research ethics.

3.1 Sociology of translations

In this study, I use the sociology of translations to investigate what emerges when technological expectations traverse and transform across various sites and the kinds of ethico-political goals welfare technologies produce, enforce or diminish. The sociology of translation is often treated as synonymous with actor–network theory (ANT)[5]. However, I use the 'proper generic' (Brown & Capdevila, 1999, p. 29) of the sociology of translations to emphasise the principle of translation, which is often forgotten when ANT is applied (Law, 1999).

The sociology of translations builds on the notion of trials[6] (see Michael, 2017). On the one hand, scientific knowledge produced in laboratories is the outcome of

[5] Although a collaborative effort between Callon, Law and Latour (see Latour, 2005, p. 10), nowadays ANT is commonly associated with Latour. This is probably due to his popular introductory book *Reassembling the Social* (2005) and the laboratory studies classic *Laboratory Life* (with Steve Woolgar, 1986), which formulates some of the key principles of ANT. The sociology of translations refers especially to the first phases of ANT, when it was more a methodology than a social theory (Law, 1999; Mol, 2010). In this sense, ANT has straightforward methodological implications, which the notion of translation summaries.

[6] The French term is *épreuve*, which can be translated as either 'trial' or 'test' (Guggenheim & Potthast, 2012, p. 174; Marres & Stark 2020, p. 425).

different trials between humans and non-humans (Latour & Woolgar, 1986; Latour, 1988). On the other hand, technologies and their users are configured through different trials (Lehtonen, 2003; Woolgar, 1991). The approaches discussed in Section 2—care in practice, empirical ethics and the material semiotic wing of socio-gerontechnology—are based on the idea of trials. The welfare technology used in care practices—and care in principle—are experiments with trial and error to ensure good care. More importantly, trials affect those participating in them. This premise is key to the concept of translation itself.

The sociology of translations is based on two main methodological premises: symmetry and translation. As discussed in Section 2.2, the care in practice approach builds on the idea of symmetry[7]: to refrain from predetermined ideas of what humans and technologies can (or should) do. This is based on the premise that the roles of human and non-human actors (or actants) cannot be preconfigured but should be approached as an empirical question with an agnostic attitude and without prejudice (Callon, 1981, 1984; Callon & Latour, 1981). Empirical ethics extended this thought by asserting that there is no preconfigured distinction between 'good' and 'poor' care. In sum, the principle of symmetry insists that action, entities, knowledge and ethics are always practical accomplishments dependent on the situation.

The concept of translation is derived from the philosophy of Serres (Serres & Latour, 1995; Serres, 1982, 2007), who was inspired by information theory. Translation is the main concept in Serres' series of books on Hermès, the messenger of the gods in Greek mythology. Translation is the process of making or forging connections and passages between different domains and establishing communication. It is not a simple transfer of information (Freeman, 2009) or 'reception, rejection, resistance, or acceptance' (Latour, 1990, p. 116), but an 'act of invention' (Brown, 2002, p. 6). Inventing is either smooth or rough but always inherently about transformation; there is no translation without transformation (Latour, 1996, p. 119). Therefore, with translation comes the possibility of deception (Law, 1999)[8] and displacement (Latour, 1990), altering the message beyond the original purposes and goals of different representatives. In the context of welfare technologies, these representatives may include policymakers, technology designers or technology users. Translation is a socio-technical process, and it is not only the meaning but also the actors participating in communication that are (re-)constructed

[7] In precise terms, this is the principle of *generalised* symmetry, which is in contrast to the symmetry principle in the sociology of scientific knowledge in which both succesful and unsuccessful knowledge claims are explained with the same terms (see e.g. Bloor, 1976).

[8] Serres (2007) developed the concept of parasite to address the disruptions and betrayals inherent in translations. In sum, it is important to note that despite being disruptive, parasites and parasitic relations are also productive and generative.

and transformed in the translation process (Freeman, 2009, p. 437; Michael, 2017, pp. 19–21).

Two models can be used to study technological innovations: diffusion and translation (Latour, 1996, pp. 118–119). The diffusion model is gladly promoted by policymakers and technology designers. In the heroic narrative of diffusion, an innovative idea comes from 'the head of Zeus'. The greatness of the idea itself or its sender makes it spread, flourish and lead to results. Those who are sceptical towards the innovation are slow adapters; their heads will most definitely turn after some time has passed. This is 'a religious narrative' in which slow adapters are non-believers, but they will change their minds after witnessing the miraculous results of the innovation. By contrast, in the translation model, the idea or its inventor does not matter as much; it has 'no inertia' (Latour 1996, p. 119). Groups relevant to the innovation, whether human or non-human, come between[9] and more or less alter the original idea. The innovation will start to move and gain allies only if it interests the groups.

The translation model is closely related to the idea of domestication. Callon (1984), one of the main contributors to the sociology of translations, was originally interested in the domestication of endangered scallops in Saint-Brieuc Bay. Recently, the domestication of welfare technologies, such as telecare, has gained broad attention (e.g. Aceros et al., 2015; Frennert, 2016; Pols, 2012; Pols & Willems, 2011; Oudshoorn, 2011). These studies have highlighted that the process of implementing and using new technologies in private homes involves time, work and effort. In the case of telecare, the elderly, their relatives and nurses—not the Zeus-like innovators—do a great deal of the domestication work. For technology to function, it must transform during its practical application. Evidently, these transformations also affect the subjectivity of the aged and the meaning of ageing. For example, Aceros et al. (2015) noted that the domestication of telecare technology in private homes means a clash between two types of 'good' ageing. While the ideal of fragile and homebound ageing is inscribed in the technology, the aged users themselves want to maintain their networks and live active lives outside their homes.

The problem with the concept of translation is that it easily becomes too 'stretched' and does too much or too little (Freeman, 2009; Law, 1999). According to Freeman (2009), the main contribution of the sociology of translations is in addressing the fundamental epistemological uncertainty, the focus on practices and the recognition of complexity. I argue that the sociology of translations is well suited

[9] This 'coming between' (*interressement*) is one of the four phases of translation identified by Callon (1984). The other phases are problematisation, enrolment and the mobilisation of allies. Here, I am interested in the notion of translation in broader terms and how it can be applied to the study of fulfilling technological expectations.

to studying emerging technological and ethico-political innovations, such as welfare technologies. In this study, the sociology of translations is implicitly present in the individual articles and is important when summarising their results together.

I view the practical implementation of welfare technologies as an act of translation. Thus, fulfilling expectations depends on translation. Fulfilling an expectation means that reality is transformed according to it. For an expectation to be fulfilled, paths—if not path dependencies—need to be formed between different actors. 'Translation is […] the elementary process through which path creation gains momentum' (Joly & le Renard, 2021, p. 902). Thus, for welfare technologies to present convincing expectations in the face of future threats—to not cause, increase or worsen these threats themselves—and to fulfil the triple-win rhetoric, smooth translations are necessary. Smoothness comes from fulfilling expectations in intelligible, justifiable and legitimate ways. However, in care practices, smooth translations are jeopardised, as a translation can become a betrayal (Law, 1999). This is usually due to the material agency of non-humans, such as technologies, partaking in translations and transforming the means of communication, action and organisation in unexpected ways. Fulfilling expectations related to welfare technologies then increases complexity. Complexity is usually rooted in noise—misunderstandings, miscommunication or interference brought by the medium of communication. Communication is impossible without noise (Serres, 2007). Clarity itself is a distortion (Law, 2004, p. 2). Therefore, the possible transformations of expectations are not merely signs of the 'ineffective implementation' (Gill et al., 2017, p. 6) of care policies but are actually the means of communication and the preconditions for the fulfilment of expectations.

3.2 Multi-sited ethnography

Ethnography is a holistic approach to the object of study (Huttunen, 2010). Rather than offering clear-cut methodological guidelines, ethnography enables a point of view in which social phenomena are looked at from the inside out (Star, 2010). Geertz (1973), an anthropologist, popularly described this perspective as a 'thick description'. This implies interpreting cultures not only through observations but also by describing life worlds from multiple angles and considering the contexts of action. Ethnography has often been used to study care because it helps in identifying and analysing the concrete and situated requirements for care (e.g. Mol, 2002, 2008; Pols, 2012; Schillmeier, 2017). Ethnographic research material is collected through fieldwork, and ethnographic knowledge production consists of 'rushes of and lulls in activity and understanding' (Cerwonka & Malkki, 2007, p. 5). This is why an ethnographic method can be referred to as 'uncontrolled field trials' (Pols, 2012), in which there are no readymade frames of analysis and the field itself affects the

research problem. Thus, improvisation rather than strict theoretical frameworks and methodologies is key (Cerwonka & Malkki, 2007).

In this study, I use multi-sited ethnography (Gustavson & Cytrynbaum, 2003; Hannerz, 2003; Hine, 2007; Marcus, 1998). In traditional ethnography, the ethnographer spends a long time in the field, trying to become a 'member' of the community being studied. In contemporary ethnography, multi-sitedness has become a popular option in addition to long-term fieldwork (Honkasalo, 2008)[10]. Fieldwork based on multiple sites makes it possible to investigate how the phenomenon being studied transforms between different fields or maintains its characteristics (Huttunen & Homanen, 2017, p. 134). A multi-sited approach is particularly well suited for studying welfare technologies, as the goals and practices related to these evolving technologies are still being negotiated and may produce friction between different stakeholders and actors (Pols & Willems, 2011, p. 495). Expectations related to welfare technologies are multi-sited in principle.

In his often cited essay, Marcus offers multi-sited, or 'mobile', ethnography as a way 'to examine the circulation of cultural meanings, objects, and identities in diffuse time-space', which is not possible 'by remaining focused on a single site of intensive investigation' (Marcus, 1998, pp. 79–80). The field is a central concept in ethnography overall and is accented in multi-sited ethnography. The field is not a place but a relational space formed in the interactions between the researcher and the research participants and as a part of defining the object of study (Gustavson & Cytrynbaum, 2003; Huttunen, 2010, pp. 39–40). Multi-sitedness does not imply a comparison between different sites nor is it an attempt to build a coherent view of the object of study; rather, it focuses on the connections, gaps and tensions between sites (Hannerz, 2003; Helosvuori, 2021, p. 55).

Gustavson and Cytrynbaum (2003) drew from de Certeau's (1984) study to make a distinction between space (*espace*) and place (*lieu*) in relation to multi-sited ethnography. Spaces are the effects of directional and temporal orientations, while places are more stable and orderly configurations of positions. Spaces are relational outcomes that the ethnographer constructs. By contrast, places can be occupied and used to create spaces. I view ethnographic fields as comprising both spaces and places. Therefore, I use the idea of spaces and places to describe my multi-sited approach in Figure 1.

[10] Emphasising multi-sitedness in opposition to traditional ethnography can also be misleading. Indeed, as Marcus (1998, p. 83) notes, 'fieldwork as traditionally perceived and practiced is already itself potentially multi-sited'.

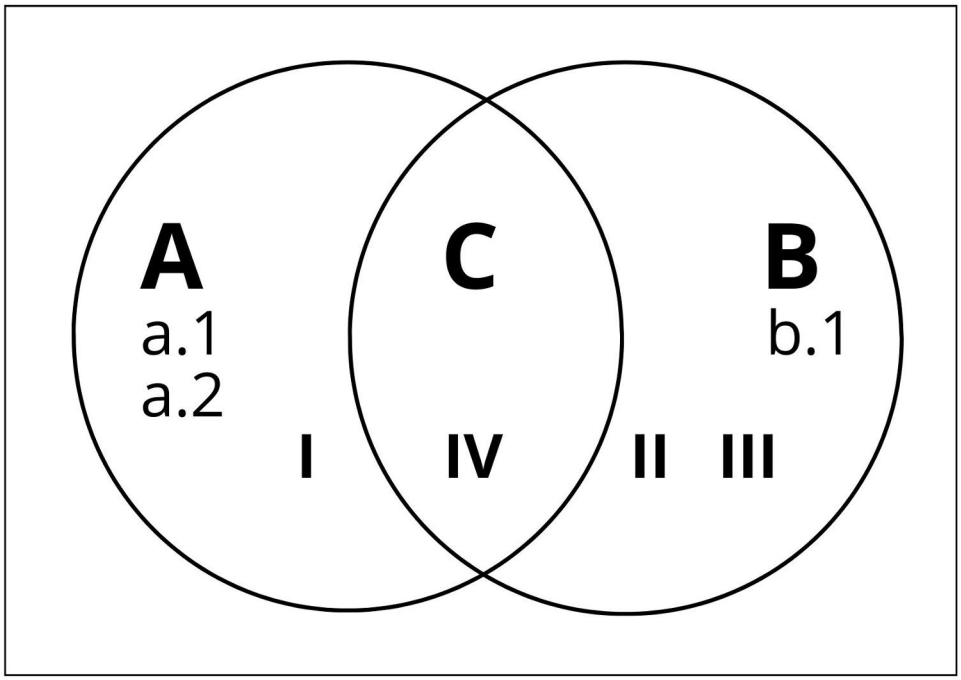

Figure 1. The field of welfare technology.

In Figure 1, the two circles represent my perception of the field of welfare technology in this dissertation. The circles are the spaces of health and social policy (A) and institutional elderly care (B) in Finland. Circle A (health and social policy) includes the places for the ministry-led *Artificial Intelligence and Robotics* (AiRo)[11] programme (a.1) and care policy documents (a.2). Circle B (institutional care) includes a third place, the care home (b.1), from which I collected ethnographic research materials. In the figure, the Roman numerals I–IV represent the focus of the individual articles in the field (see also Table 1).

The AiRo programme and care policy documents exemplify the ethico-political expectations related to the welfare technologies of the Finnish government, while the care home represents the ethico-political outcomes of the welfare technology implementation in practical care work. Altogether, the two spaces elucidate the execution of the expectations of welfare technologies. In the figure, the C area describes the moments and acts of translation: the trials, negotiations, gaps and tensions between the two spaces. The area represented by C is highly important

[11] In Article IV, I used the synonymous Finnish term 'HyteAiRo', which means 'artificial intelligence and robotics for welfare and health services'.

because it is the overlapping space where expectations are fulfilled (or revoked). Next, I discuss in detail the different research materials I produced from the field.

The Ministry of Wellbeing and Health in Finland led the AiRo programme from 2016 to 2021. The programme's objectives were to ease and support the development and implementation of new technologies, such as artificial intelligence and robotics, designed for care services. These technologies included physical robots and software-based artificial intelligence. The focus of the programme was on improving the welfare of the aged and the efficiency of service systems while supporting and speeding up the utilisation of artificial intelligence and robotics in Finnish healthcare. The AiRo programme envisioned Finland to play a leading role in utilising artificial intelligence and robotics in health services. (The Ministry of Social Affairs and Health, 2018.) Thus, the AiRo programme was a direct answer to the Finnish Government's (2016) decision to support, increase and accelerate the digitalisation of Finnish society and support the increasing business opportunities. This kind of national programme is also common outside Finland (Meißner & McNair, 2021).

I participated in four AiRo programme events. The events were organised in different parts of Finland in 2019–2021. One of the events was organised online. The events consisted of presentations, networking, lectures and working groups and brought together researchers, entrepreneurs and other actors in the health and wellbeing sector. My access to the AiRo events was straightforward because the events were public.

In addition to attending the AiRo events, I approached the space of health and social policy in Finland through care policy documents. The main function of these documents is to inform, steer and coordinate the organisation of care services in Finland. I used four different types of policy documents: recommendations (The Ministry of Social Affairs and Health, 2001, 2008, 2013, 2017, 2020b), a document on the AiRo-programme and its objectives (The Ministry of Social Affairs and Health, 2018), the National Programme on Ageing (The Ministry of Social Affairs and Health, 2020a) and the decision in principle on technology (The Finnish Government, 2016). I systematically analysed the policy recommendations in Article I and found that the other three types of documents were more important for contextualising the object of study and making sense of the role of welfare technology in Finnish health and social policy.

The care policy recommendations were given by the Ministry of Social Affairs and Health and the Association of Finnish Municipalities. The recommendations aim to guide the planning, organisation, development and assessment of care services in Finland. Recently, the aim of these recommendations has been to save economic resources and limit their increase. In addition to economic governance, the recommendations are a good example of executing the Finnish government's goal to

entice the digitalisation of care services. In 2008, the documents recommended the use of telecare through safety bracelets and surveillance systems provided to private homes. The recommendations for 2017 exemplify a broader turn to technology. In accordance with the decision in principle (The Finnish Government, 2016), the document recommends the implementation of emerging technologies in all domains. The conceptualisation of technology in the recommendations is extensive as it covers information and communication technologies, digital services and social robots.

I approached the space of institutional care in Finland by producing research materials, field notes and interviews in a public care home. The care home is located in a large Finnish city. It is a servicehousing unit mainly intended for people with dementia. Emerging welfare technologies have been tested and used in the unit, including mobile E-health solutions and social robotics. The public care home provides formal in-patient care for long-term residents. Professional staff members work in the unit round the clock, providing care, social and medical services. At the home, there were 45 residents in their individual rooms. Each nurse was usually responsible for five residents during the day shift.

The unit provide patient-centred care, which means recognising and answering the residents' individual needs. Nevertheless, the institutional characteristic of the care home can be recognised in its surveillance principles: the movements of the residents are restricted due to safety reasons and they are continuously monitored with telecare technology (which I discuss thoroughly in Article III). As an institution for long-term care, the care home is usually the last place of residence for its residents. Therefore, the management of the unit emphasised building a home-like atmosphere. This can be seen in decorations but also in the nurses' suits; they are not 'hospital white' but informal sweat suits.

At the care home, I gathered the research materials from 2019 to 2020. Participant observations took place for three weeks in 2019, when I spent an average of 6 hours per day in the unit and participated in daily life there. Due to ethical considerations (which I will discuss in Section 3.4), the observations were restricted to common areas at the care home and interactions with welfare technologies. An exception was when the occurred happened in one resident's room due to changes in the test schedule. During participant observations, I used short notes, which I transcribed in detail, usually on the same day.

My observations at the care home concerned three different types of welfare technologies tested and used at the care home: social robots 'Saara'[12] and 'Paro' (Articles II and IV, respectively) and telecare technology 'Elsi' (Article III). There are important differences between these technologies. Elsi is an established care

[12] This is the Finnish nickname used at the care home and in Article IV. In Article II, the robot is simply called SAR.

practice, while Saara is a pilot prototype. Paro is somewhere between these two, established but not widely used in the unit. Saara and Paro are intended for the use of care receivers, while Elsi is primarily used by the nurses. The observations provided important insights into the moments of putting expectations into the test and the acts of translation (area C in Figure 1).

Saara is a prototype of a 'socially assistive robot' (SAR) (Feil-Seifer & Mataric, 2005). The prototype is based on the Sanbot Elf model developed by Qihan Technology Co. Ltd., with modified applications. The robot is anthropomorphic with its humanlike features, such as face, arms and a pre-recorded human voice. The recorded lines provide a means for short discussions in Finnish and consist of questions and responses to presumed answers. Saara has four applications that can be used with a touch screen on its chest. The applications, which were designed with the care home's staff, provide physical, cognitive and social stimulations. The applications are short stories, a memory game, a 'musical journey' and physical exercise. Saara narrates the short stories while showing pictures on the screen. The stories include narrations about Finnish presidents. In the memory game, the touchscreen changes colour, and the robot urges the user to identify the colour. The 'musical journey' presents popular music and a picture slideshow on the screen. In the exercise app, the user follows the arm or leg exercises based on the example on the screen.

Paro is a commercially available social robot primarily used in elderly care as a therapeutic device (Šabanović, 2014). Instead of being anthropomorphic, Paro is zoomorphic as it resembles the form and actions of a baby seal. It has oversized eyes, the weight of a seal infant and a soft 'fur'. These characteristics are used to arouse experiences, memories and associations in the robot's user. Paro is responsive to its environment and can make seal-like sounds, move its tail or blink its eyes to gain attention.

Elsi is an 'ambient assisted living' telecare technology (Doughty et al., 1996; Mortenson et al., 2015)—that is, a surveillance technology embedded in the infrastructure of private homes or rooms in institutional care settings. At the care home, Elsi refers to an 'arrangement' (López Gómez, 2015) or an 'ensemble' (Gabrys, 2019) for providing security. The Elsi ensemble consists of floor sensors, mobile phones and a computer interface but it also has alarm pendants for some of the residents, cameras, motion detectors, a 'safe word' system for the staff, a wireless internet network and a security company patrolling the area. At the care home, Elsi functions based on alarms raised by floor sensors. Elsi raises an alarm based on risky events such as falls, entering the toilet or leaving the room. The alarms are sent to the nurses' mobile phones. As the nurses are usually responsible for five residents, they receive alarms based on those residents' actions and movements. The nurses react to the alarm with different tactics, ranging from fast reactions to dismissing the

alarms. The kind of alarm matters: The loud alarm caused by falls is hard to miss, while other movements make the phone vibrate. I discuss the different reactions to the alarms in detail in Article 3.

I took down field notes and used verbatim notes from discussions during the interaction with the technologies (see Appendix 1). Using Saara in the unit was part of a pilot test, which was conducted as part of the unit's everyday routines. I did not participate in planning the interaction setting and followed the pilot test based on my own research setting. Altogether, there were 75 interactions of approximately 20 minutes with the robot. Eighteen residents participated in the pilot, of which seven were men and 11 were women. As I conducted interviews simultaneously with the test period, I followed 26 interactions. Paro's functions and usage were much simpler and more restricted than Saara's. Paro was not used most of the time because it demanded the nurses' attention, and they were usually occupied with other tasks during the day. I observed eight residents use Paro only once. Due to this small number of observations, I used this material only in relation to the other observational data in Article IV. As Elsi is a more ambient and diffused technology than Saara and Paro, my materials on Elsi were based more on interviews.

In addition to participant observations, I conducted 20 semi-structured interviews with care workers at the care home. I used the interviews to complement and at times contest my observations. Most of the interviews took place in 2019, with some additional interviews conducted in 2020. Most of the interviewees were practical nurses, but I also interviewed nurses and social instructors. The participants were 20–65 years old, and some had up to 40 years of experience in formal elderly care. Eighteen of the participants were women and two were men. Half of the interviewees had immigrant backgrounds.

The main themes of the interviews were care work, care technologies and care politics (see Appendix 2). I formulated the interview questions based on ethnographic fieldwork. New questions emerged during the fieldwork; thus, I omitted some of the questions from the matrix. This exemplifies how ethnographic fieldwork inductively leads to the 'right' questions (Gustavson & Cytrynbaum, 2003; van den Scott et al., 2017, p. 508; Hammerlsey & Atkinson, 2007, p. 3). For example, I did not know anything about Elsi before I entered the field and included new questions that covered operating Elsi and its functions in my interviews. I excluded a question about care policy recommendations and their effects on actual care work. This question turned out to be problematic because it seemed to downplay or question the nurses' expertise. In presenting the question, I felt that I was perceived as a 'minion of the government' (Huttunen & Homanen, 2017, pp. 137–138) by evaluating the workers. In addition, the question itself—how policies and their expectations are realised in practice—was something I, as a researcher, needed to operationalise more carefully and answer myself.

The interviews lasted 30–60 minutes, and I conducted them at the care home's facilities. This provided both opportunities and obstacles. It was natural to talk about the technologies while the nurses were using them. This also happened during the interviews (see Article III). In 2019, as I interviewed the personnel in shared facilities, the privacy of the conversation could have been jeopardised, as the residents could have interrupted the interview. In 2020, because of the COVID-19 pandemic, I used a private room for the interviews, which enabled more privacy. However, there were no remarkable differences in how much the interviewees were ready to share in these two settings. During the interviews, I felt that I was trusted and that the participants were ready to share critical points about their work. In addition to semi-structured interviews, I gathered materials from approximately five informal interviews with the testing group and the unit's management. I used information from these interviews to contextualise the pilot test with Saara in Article II. I did not record these informal engagements but instead used field notes.

The negotiations preceded my access to the care home. The test group conducting the pilot study and the head of the unit were important 'gatekeepers' (Grönfors, 1982, p. 73). To gain access, I contacted both by providing information about the research and its objectives. Both gatekeepers approved of my participation. Ethical evaluation of the research setting also needed to be conducted; I will discuss this in Section 3.4. In the ethnographic fieldwork, the access provided by the gatekeepers was not sufficient, and I needed to build trust with the residents and workers of the care home. To gain the workers' trust, I participated in a staff meeting and informed them about my research and its objectives. More importantly, I defined my position. Although I worked with the testing group, I emphasised my own research setting. After the meeting, I actively asked for potential interviewees when I would visit the unit. Initially, the head nurse of the unit helped me with this endeavour. Thereafter, 'snowballing' became the main method for gaining new interviewees. Most of the workers were interested in and willing to participate in the research. I tried to gain and maintain the workers' trust by responding to their worries and questions. A recurring concern was that the interviewees would not know how to answer my questions. I considered this concern by informing them more about the interview themes. During the interviews, speaking about technology in abstract terms turned out to be difficult; thus, I raised more questions about how technology was used in practice. Moreover, it became clear that access went two ways, as the interviewees were also eager to hear my thoughts on the subject and my motivations. Although there was a hierarchy between the researcher and the research participants, these roles proved to be interchangeable at times.

3.3 Analysis methods

My analysis processes followed the three principles of qualitative content analysis: reduction, clustering and abstraction (Tuomi & Sarajärvi, 2018). This means that I moved from reducing the research materials to thematically grouping and theorising them. The materials formed a diverse set of data so I found it productive to reduce the materials based on different technologies: Saara in Articles II and IV, Paro in Article IV and Elsi in Article III. After the reduction phase, I thematically coded the materials based on the research settings of the individual papers. I used simple software, such as Microsoft Word and Excel, during this step. After coding, I interpreted the materials based on the chosen theoretical framework. In addition to basic content analysis, I used two more clearly defined analysis methods: public justifications analysis (Article I) and theory-guided content analysis (Articles II, III and IV).

In Article I, I approached care as one form of public good because it is a constitutional and universal social right in Finland. I used the public justifications analysis method to determine the kinds of care ethoses that are produced in public care policy documents. The focus on justification reveals the moral principles and practices of constructing ethoses of care. The public justifications analysis method (Luhtakallio & Ylä-Anttila, 2011; Ylä-Anttila & Luhtakallio, 2016) is an established theoretical–methodological framework. It is based on the public justifications theory by sociologists Boltanski and Thévenot (2006). The theory emphasises that justification is never neutral but rooted in institutionalised conceptions of the public good, justice and morality. Furthermore, the ways of justification are culturally stable and based on different 'worlds' that define the public good in varying ways. While justifying their actions, thinking, beliefs or arrangements, actors appeal to these worlds and their conventions. Originally, Boltanski and Thevénot formulated six different worlds of justification. For example, in the world of citizenship, equality is valued, and worth is gained through solidarity, while in the world of industry, productivity and efficiency are valued, and worth is based on planning and regulation. Specifically, the public justifications analysis method is based on identifying and coding claims that can refer to one, multiple or none of the justification worlds (Luhtakallio & Ylä-Anttila, 2011, p. 39).

Theory-guided content analysis is based on abduction, which is the negotiation and consolidation between theory and empirical materials, instead of deduction or induction (Tuomi & Sarajärvi, 2018). Abduction makes it possible to analyse ethnographic material as 'theoretically informed engagement' (Tuori, 2009, p. 24) and prevents 'forcing' theory on empirical materials, which is not a productive starting point in ethnography (Cerwonka & Malkki, 2007). During fieldwork, the ethnographer does not verify theory but instead refutes it (Burawoy, 1998, p. 20). Theory-guided content analysis is based on this principle, as it aims not to test or

create theory but to enable a productive dialogue that can lead to novel theoretical ideas and new empirical knowledge. The theoretical concepts that guided my analysis were 'figuration' (Article II), 'uncertainty work' (Article III) and 'the cyborg' (Article IV). All three concepts resonate with the broader theoretical premises of this research, as they help to acknowledge the ethico-political questions at stake in technologically mediated care without reducing technology to a mere instrument or a determinist solution to political issues.

The concept of 'figure' is frequently used in STS. It was mainly developed by Donna Haraway, who built on the material semiotic strand common to socio-gerontechnology and empirical ethics. According to Haraway (2003, p. 69), figures are 'the attractors that collect up the hopes, fears and interests of collectives'. Haraway's (2018) examples of figures include the Modest Witness of the Scientific Revolution and the OncoMouse™, a biotechnical cure for cancer at the beginning of the millenium. A figure, similar to a metaphor, represents something besides itself, mediates meaning and helps capture and explain something that is otherwise hard to grasp (Moser, 2000, p. 234). In Article II, the concept of figuration connects empirical ethics, socio-gerontechnology and material semiotics for the empirical analysis of social robot trials. In material semiotic user research, configuration describes how designing technology is also about designing its expected users (Woolgar, 1991). However, my own conceptualisation of figuration contextualises the pilot test with Saara into the broader politics guided by the ageing-and-innovation discourse and the co-constitution of users and ethics. Therefore, figuration refers to the different user figures, the normativities enacted during the pilot testing and the signs of optimistic expectations particular to the ageing-and-innovation discourse.

In Article III, I used the concept of uncertainty work (Moreira et al., 2009; Pickersgill, 2011, 2020). As mentioned in Section 1.1, telecare is about risk management—the prediction and management of health-related risks, such as falls. In addition to prediction, risk management deals with different uncertainties. In the sociology of risk, uncertainty has been conceptualised either in the negative, as something that hinders action, or in the positive, as something that enables creativity and innovation (O'Malley, 2000; 2004). The starting point in Article III is the latter meaning of uncertainty as something to embrace. With this premise, the article is based on the concept of uncertainty work, which highlights the co-production of epistemic, ontological and ethical uncertainties in telecare practices. Thus, uncertainty work illustrates the relationality of epistemological, ontological and ethical matters emphasised in the care in practice and empirical ethics traditions. Article III also exemplifies how surprising and unexpected observations that differ from theoretical presuppositions are not a threat but rather a possibility in ethnography (Grönfors, 1982, p. 148; Star, 2010, p. 605). This principle leads to a focus on uncertainty rather than risk prediction.

In Article IV, the theoretical starting point is the cyborg figure formulated by Haraway (1985). The concept emphasises figuration as a material-discursive practice and bodily being that is simultaneously mundane and vulnerable but also mythical because of the expectations related to technology. Article IV continues the discussion of figuration from Article II while acknowledging the links and gaps between the spaces of health and social policy and institutional elderly care. In doing so, the article discusses posthumanism vis-à-vis transhumanist philosophy, as both are important in the cyborg concept.

Qualitative analysis is hardly as linear as the three steps of reduction, clustering and abstraction suggest. My initial idea was to incorporate biopolitical theory into all four papers. However, I eventually abandoned the idea because there was a risk of forcing theory on the empirical materials. Reformatting the theoretical framework also affects the reduction phase, which can influence the construction of themes. For example, in Article III, I focused on moments of uncertainty in the data rather than prediction because of my theoretical framework. Therefore, abstraction is a circular process inseparable from other phases of research. In ethnography, the analysis begins by forming the research questions and the research setting and, at the latest, during fieldwork (Cerwonka & Malkki, 2007; Hammersley & Atkinson, 2007, p. 158). I already had some initial theoretical ideas for analysis while gathering the research materials and transcribing the field notes. Different stories can also be told based on the same ethnographic materials (Tuori, 2009, p. 96). This can be seen in Articles II and IV, in which varying theoretical frameworks produce different, albeit complementary, results.

My ethnographic approach explains why I used a rich set of concepts in the individual articles instead of a neat, all-encompassing conceptual framework. However, I did not select the methodological–conceptual tools in Articles I–IV randomly, as they all link to the broader theoretical framework. The concepts of figuration, uncertainty work and the cyborg enable a focus on politics as activities, situated practices, material-discursive heterogeneity and relationality. More importantly, the concepts have interrelations. The notion of trials is central to justification theory and, therefore, to the public justifications analysis method because it emphasises the moments of testing legitimate orders of worth in situations that call for justification (Boltanski & Thevénot, 2006). This point of view is derived from the sociology of translations (Guggenheim & Potthast, 2012). Therefore, care in practice and empirical ethics, both of which stem from the sociology of translations tradition, share ground with justifications analysis. All these perspectives emphasise the multiplicity and contestation of different takes on the (public) good and the acts of trials in which a unified conception of the good momentarily appears.

3.4 Ethical considerations

Thorough ethical considerations are crucial in ethnographic fieldwork. When I began this research in 2019, I asked for a pre-evaluation of my research setting from the University of Turku's ethical committee. After minor clarifications, the committee supported the study. I also asked for research permission from the city on which the public care home was based. The city approved the research. The four main ethical concerns in the applications were the justification for conducting the research, respecting autonomy, reducing harm and privacy and data protection. Moreover, the Finnish National Board on Research Integrity (2019) identifies these areas as ethically important.

First, this research is justified by participating in a scientifically and socially relevant and topical discussion. Second, as empirical research on welfare technology as a phenomenon is still scarce, this study produces new knowledge about the ethico-political consequences of welfare technologies, especially in the context of Finland, and broader theoretical insights.

During the research process, I respected the autonomy of the research participants by emphasising that their participation was voluntary. To ensure that the participants understood this principle, I collected their written informed consent (Appendix 3). Before asking for consent, I gave the participants sufficient information about the research and its objectives, both verbally and in writing. I also provided them with my contact information. In cases in which I did not formally interview the participants, I gave verbal information about the research. In these cases, I observed that a verbal or another sign of consent was enough to ensure autonomy.

During the study, I ensured that the participants were not harmed by treating them and the research materials with respect. I respected the participants' wishes and timetables when organising the interviews. I did not see my ethnographic fieldwork as a burden to the care home or to its workers or residents, as I scheduled most of the data collection according to the pilot testing. A possible harmful situation could be when my position as a researcher was not clear to the residents. In hindsight, I should have been more attentive to obtaining their informed consent in these situations. To avoid any misunderstandings, I used the materials gathered only during the pilot testing or other interactions with the technologies used in the unit, in which my position was clear.

To ensure privacy and data protection, I handled the gathered materials confidentially in accordance with data protection laws. As some of the materials (i.e. policy documents) are publicly available, privacy and data protection mainly concern the field notes and interviews. I was the only one who had had access to these materials, which I stored according to the data protection principles of the University of Turku. The materials were pseudonymised. I removed all personal data based that

could identify the participants from the materials after transcription. I kept the participants' personal information, such as names, in case there was a need to contact them separately from the interview materials.

Ethical pre-evaluation runs the risk of transforming research ethics into 'ticking the boxes' (de la Bellacasa 2017, pp. 131–132)—a bureaucratic and formal justification for conducting social research. However, an ethical evaluation is not a permission, but it provides useful information to consider. In ethnography, ethics is not emptied in evaluations but is a process continuing from the research question formulation to data collection and analysis. Personally, ethics is an empirical question in a theoretical sense and an important principle when conducting research. It is a practical negotiation in which there are simply no right solutions. For this reason, it is crucial to acknowledge how researchers' different positions and roles affect knowledge production. Haraway's (1988) concept of 'situated knowledge' is useful for this task.

The concept of situated knowledge shares with feminist standpoint theory (see Harding, 2004) the idea that any position in knowledge production is always limited. However, this is not a problem but more of a precondition for conducting research. The aim is to achieve 'strong objectivity' rather than to dissolve the subjectivity of the researcher. Situated knowledge does not imply distortion, incommensurability, chaos or a limitless number of individual viewpoints. Instead, it suggests 'a collective subject position that promises a vision of the means of ongoing finite embodiment, of living within limits and contradictions – of views from somewhere' (Haraway, 1988, p. 590). Therefore, situated knowing emphasises that the researcher constructs the object of study while studying it and necessarily affects knowledge production (see also Barad, 2007; Haraway, 2018; Latour, 2005; Law, 2017). Research is an active intervention in the world. Situated knowing is also an ethical commitment, an act of becoming 'answerable for what we learn to see' (Haraway, 1988, p. 583).

In ethnography, negotiation is not solely a question of accessing the field but also involves juggling between different positions. My positions were different in the two spaces of health and social policy and institutional care. In the AiRo events, I was more of a non-participating observer. An exception was during group work in one of the events. When my participation was more active, I made my role as a researcher clear. Otherwise, I did not find it necessary to define my position because the events were open to the public. At the care home, I was perceived as both a member of the test team and an individual researcher. In fact, I did not want to position myself as a a member of the team, as delays and miscommunications caused the administration of the care home to partly lose trust in the team.

Ethnographic fieldwork can be physically straining and stressful, and feelings of bodily unease and being out of category are common (Cerwonka & Malkki, 2007,

pp. 153–154; Law, 2004, p. 108). A major source of anxiety came from collecting materials from a care home intended for people with dementia. My position as a researcher was not always clear to the residents, and they would mistake me for a nurse or a relative. Although I felt welcomed and usually comfortable while being at the home, this kind of misunderstanding caused stress and unease. The most troubling situations were those when the residents wanted more than chat and implied wishes of closer physical contact, such as kissing. I resolved these situations, which were not common, with the tactics of Paju (2013, pp. 48–50), who was bullied when she conducted ethnography in childcare. The ad hoc solution in her position was to escape the situation by going to an area forbidden to the children during outdoor recreation—inside the premises. Similarly, my solution was to leave the care home for the day—something that the residents were forbidden from doing without an escort.

In addition, some uncertainties produced discomfort. At the care home, the rule was to call a nurse when the resident needed assistance. However, situations in which all nurses would be occupied were common. If somebody needed assistance, the options were to either try to help and accept the consequences or obey the formal rule: adhere to the observer's role and possibly witness health hazards and mishaps. I usually chose to act and try to help if the workers were busy. These experiences resonate with the literature on empirical ethics, showing how care and its normativities are practical and negotiable accomplishments rather than universal rules.

4 Summary of Articles

In this section, I summarise the individual Articles I–IV. Article I deals with what is expected from welfare technologies, while Articles II and III discuss, how these expectations are embedded and materialised in welfare technologies in practice. Article IV brings these viewpoints together.

Article I. How are the economic and social sustainability of care services secured, and what are the outcomes?

In Article I, I analyse the Finnish care policy recommendations from 2001 to 2020. The recommendations aim to secure social and economic sustainability. I approach the recommendations as tools of ethico-political governance and ask how the economic and social sustainability of Finnish care services are secured and what the outcomes are. How does this securitisation affect what is meant by good and just care? As the recommendations cover recent decades, I contextualise the provision of elderly care with welfare state reforms from the 1990s onwards.

I analyse the recommendations using the public justification analysis method, through which I show the kinds of ethoses of care realised through different justifications. These ethoses also depict different moral subjects—that is, subjects who have to internalise the demands of the ethoses to become 'good' individual citizens.

In my analysis, two types of ethoses come to the fore: an ethos of welfare (Julkunen, 2006) and an ethos of survival (Kortteinen, 1992). In principle, the recommendations secure economic and social sustainability by adjusting these two ethoses. In the ethos of welfare, care is a universal right, and the principles of the welfare state are respected. The ethos enacts aged citizens as active, involved and participating moral subjects. It emphasises the right to receive efficient care, and the care provision system should be built based on the different needs and capabilities of citizens. Therefore, the ethos of welfare is justified based mainly on the world of citizenship, in which equality is a central value.

Conversely, the ethos of survival exemplifies neoliberal rationality: a shift in responsibilities from the state to the individual. In this ethos, care is viewed as a commodity that must be earned, especially in times of economic scarcity. The aged moral subjects are depicted as customer–entrepreneurs who are responsible for their own health and for the sustainability of the public economy. Furthermore, care receivers should predict and prevent possible health risks, thus minimising the need for care services. The ethos then calls on the subjects of care to take responsibility and survive with minimal support to save resources. The ethos of survival is morally binding because it deals with one's honour; elderly people have to survive to prove their worth. The justification for this ethos is primarily based on the world of markets.

The ethoses of welfare and survival also converge in hybrid justifications that connect the worlds of citizenship and industry. In these negotiations, the role of welfare technologies is crucial because these technologies provide the means for protecting social rights and participation while producing cost efficiency and savings. For example, social and economic sustainability are achieved by 'ageing healthily' at one's home with the assistance of social robots and telecare. Aside from the care receivers, the recommendations intend the technology towards care administrators, care workers and family members.

Interestingly, the worlds of justification are usually absent from claims related to technology and saving costs. Rather, the recommendations formulate these claims as self-evident facts. This taken-for-grantedness is not coherent with the public justification grammar (Thévenot, 2011). Instead, it exemplifies the triple-win rhetoric and the neoliberal condition, in which there are no alternatives to austerity politics. The self-evident status of welfare technologies is troubling, as it makes it possible to recommend technologies that are not yet available as marketable products.

The article concludes that the idea of ailment is missing from care policy recommendations. Thus, the Finnish care policy has difficulties in recognising the aged care receivers as infirm, incapable of surviving alone and in need of care. This missing link is surprising in the context of care, in which the primary focus should be on caring for others, not on gaining moral subjectivity through rights, responsibilities, or self-care. Therefore, there is no ethos of interdependencies in the recommendations.

Article II. What kind of ethics is enacted during socially assistive care robot trials, and what 'therapeutic gain' do human-robot interactions achieve for older users?

Article II questions the emphasis of deontological ethics on discussions about care robot ethics. As an alternative to deontology, which is the need to set ethical guidelines and imperatives to be followed in welfare technology design, implementation and use, the article proposes adopting an empirical ethics approach. Although user configuration and ethics are typically discussed separately, this article illustrates how the co-constitution of ethics and users exemplifies the ageing-and-innovation discourse.

Article II is based on ethnographic data gathered during the usability trials of the Saara robot prototype. The data consist of field notes from participant observations and informal interviews conducted at the care home. In the article, I take the robot trials as the manifestation of the ageing-and-innovation discourse, which frames SARs for elderly care as automatically 'good' in the sense that they provide companionship while delivering rehabilitative cognitive, affective and physiological therapy. Therefore, usability trials fundamentally involve putting the promised 'therapeutic gains' into practice.

In addition to the empirical ethics approach, the article theoretically draws on material semiotic user research. Methodologically, the reading of the research materials is based on figuration analysis. Thus, the interest lies in the co-constitution of ethics and users in human–robot interaction. I present this co-constitution as an ideal type of typologisation of four figurations. These figurations not only represent the subjectivity of the users but also the different normativities at play during the interaction. The typology consists of the enabled, the disabled, the dismissed and the subversive figures.

The enabled figure affirms the optimism of the ageing-and-innovation discourse. In this figuration, the robot is assessed, and interaction with it is deemed favourable and safe. The enabled figuration increases therapeutic gains through dancing, stamping one's feet, singing and the arousal of positive memories and associations, which provide cognitive activation. This figuration constitutes a normativity of enablement that can enforce the values of independence, autonomy, social connectedness, safety and privacy.

The disabled figuration enacts disabilities during trials. These include the impossibility of performing physical exercise according to the robot's inscriptions and sensory disabilities, such as hearing and seeing problems while using the robot. The disabled figuration challenges the inherent optimism of the ageing-and-innovation discourse and the normativity of enablement with its central value of independence. The disabled figure is vulnerable and thus constitutes a normativity

of interdependence. Focal interdependence was co-constituted when the trial participants needed a great deal of assistance while using the robot, thus questioning the robot's inscription of independent use.

The dismissed figuration exemplifies the conflict between technological optimism and the negative associations it stirs. This figuration undermines the ambition of therapeutic gains by increasing the worries and anxiety related to health and illness to which the robot cannot respond. The dismissed figuration calls for understanding, recognition and response—in a word, empathy. Thus, the dismissed figure constitutes a normativity of responsiveness.

The subversive figure does not accept the ageist representations of old age and sickness stemming from the ageing-and-innovation discourse. A subversive interaction with the robot is characterised by opposition, sarcasm and refusal to use the robot. Rather than enacting normativity, this figuration exemplifies the total invalidation of any therapeutic gains in the sense of the ageing-and-innovation discourse. This subversive figuration calls for alternatives to the robot therapy shown during the trials.

The article shows the contradictions in care robot trials and the mutual enactments of enablement and disablement, dismissal and responsiveness, and independence and interdependence. There were also many setbacks during the trials, such as delays and problems with the applications. For example, the robot could neither be used for its automated navigation properties nor for dispensing medicine, which were both initial goals. Despite these contradictions and setbacks, the trials were considered successful by the test team and the care home's administration, leaving the critique of the subversive figure unrecognised. This is possibly due to optimistic expectations, which can always be met in the future, and an 'everything goes' rationality typical in the ageing-and-innovation discourse. It was also unclear for whom the robot was 'good'. Although the medicine-dispensing properties of the robot were dropped from the test schedule, the robot was briefly used as a transport trolley so that the team could report that it did as promised. Rather than securing medication for the care receiver, this testing secured the credibility and possible future funding of the test team.

Article III. How is telecare used in care work, and what are the outcomes of its use?

In the study of telecare practices, they have been found to operate according to a risk rationale (e.g. Grosen & Hansen, 2021; López, 2010; Mortenson et al., 2015). Although risk management involves governing through prediction and uncertainty, uncertainty as a theoretical concept remains underdeveloped in this branch of research. Therefore, Article III builds on the concept of uncertainty work to acknowledge the creation and management of epistemological, ontological and ethical uncertainties, which may produce new risks and thus innovative work routines for care workers. In uncertainty work, uncertainties cannot be avoided, but they are creatively used as resources.

In the article, I examine the use of telecare technology Elsi based on participant observations and interviews with care workers from the care home. Working with Elsi produces three types of uncertainties: uncertain knowledge, entities and values. From the viewpoint of care home personnel, uncertainty work has both productive and disruptive consequences.

Uncertainty is productive in the sense that it can be used as a resource. This is evident in the innovative epistemological strategies that the nurses have developed to operate Elsi, specifically to answer and negotiate the alarms it produces. In an optimistic tone, this has led to a strategy of 'knowing everything'. Knowing everything fulfils the promise of telecare surveillance as a supplement to the nurse's senses. However, the situation is more complicated.

Some of the alarms can be false. For example, a fall alarm can be produced because of a resident's 'big size'. False alarms are not errors to get rid of but a precondition for working with Elsi. Regular false alarms produce a 'refrain' (Brown & Capdevila, 1999; Deleuze & Guattari, 1988), an order out of uncertainty. This makes 'knowing without knowing' and dismissing alarms possible. For example, a nurse who receives an alarm while bathing a resident can 'know' that the alarm is false and that no reaction is needed. The refrain of knowing without knowing justifies this working routine.

When the reasons for the false alarms are unclear, uncertain 'ad hoc' and 'ghost' entities are enacted. Ad hoc refers to the nurses' imperative to 'always check' what caused the alarms. The reactions to false alarms are then justified based on ad hoc entities, such as exploding glassware. These risky entities are ad hoc in the sense that they are not originally identified as risks but become so while using Elsi. They are also improvised on the spot. Conversely, ghost entities exemplify how the reasons for false alarms are left uncertain and may linger in the workplace and affect nurses' reactions. Due to these ghosts, nurses double-check the residents' rooms using both

Elsi monitoring and their own sensory capabilities. This kind of investigation does not save resources but rather causes additional work for the nurses.

Different uncertainties are co-constitutive. The ethical uncertainty produced with Elsi is a good example. At the care home, valuing immediate responses to alarms proved to be important. However, this was difficult due to epistemological and ontological uncertainties. Because of uncertainties, immediacy could be in conflict with other key values, such as privacy. The immediate reactions to risks that turned out to be non-existent, thus unnecessarily disturbing the residents' privacy, were justified with the ad hoc entities.

The article concludes that the disruptive outcomes of using Elsi contradict the goal of making care more efficient with the help of telecare. Although telecare technologies such as Elsi certainly make care more productive, this is essentially due to the ways nurses use the technology in innovative ways. Owing to the additional work done by the nurses, uncertainties do not lead to insecurity or disorder.

Article IV. What kinds of corporealities are produced with welfare technologies, and what kinds of care political questions do these corporealities raise?

Although the body and corporeality are the main areas of interest in feminist STS and gender studies, these issues have gained little attention in relation to welfare technologies and ageing bodies. In Article IV, I fill this gap by discussing the trans- and posthuman visions of cyborg bodies as imagined in care politics and enacted in actual care practices.

In the article, I analyse ethnographic materials from the AiRo events and the care home. These materials exemplify the expectations embedded in welfare technologies and bodily experiences when these expectations are realised in actual care practice. Theoretically, I draw from Haraway's (1985) conceptualisation of the cyborg, transhumanism and (critical) posthumanism. I develop the idea of cyborg corporeality, which refers to the complex relations between the everyday materiality of living and the often mythical promises related to techno-scientific bodies fuelled with optimistic expectations. The article examines, first, what is expected from cyborg bodies enabled by welfare technologies and, second, what kind of corporealities are actually produced. Empirically, I approach welfare technologies using the social robots Saara and Paro.

The AiRo events are built on a transhumanist notion of cyborgness and the value of enhancement. The events entice an experimental culture for welfare technology implementation in which the possibility of failure must be accepted. I exemplify the aspiration to enhance using two forms of cyborg corporeality: human-mannered and

datafied cyborgs. In the AiRo events, questions concerning the gendered nature of care work and welfare technologies were muted. Thus, an ideal of human-mannered cyborgs is created. The human-mannered cyborg exemplifies how welfare technologies are seen as insignificant in terms of gender. When cyborgs are human-mannered, technologies do not affect the construction of gender in addition to user comfort.

Conversely, datafied bodies exemplify the centrality of creating, collecting, storing and utilising health data from the aged body. In accordance with the triple-win rhetoric, the AiRo events emphasise the individual, economic and social gains caused by welfare technologies: better health, international business opportunities and the Finnish nation state's economic vitality. Datafied cyborg bodies are crucial in executing the triple win, as they provide quantifiable health data to utilise in the growing international health data markets.

At the care home, welfare technologies reveal the material preconditions of care and ageing rather than produce enhancement. I illustrate this through the notions of gendered, disadvantaged and fragile cyborg bodies. Gendered cyborgs, in contrast to human-mannered cyborgs show how cyborgs are gendered during interactions with welfare technologies and through gendered inscriptions in technology. In actual care practice, the users of welfare technologies are expected to be gendered.

Welfare technologies provide limited space for participation, as shown in the stereotypical scripts for usership in the technologies. The disadvantaged cyborg then exemplifies cases in which these expectations are not met. Fragile cyborgs, in turn, elucidate the normativity of vulnerability, which is crucial in care relations. Vulnerabilities are enacted, for example, when the aged are incapable of using the technologies by themselves. Ailment is the basic condition of a fragile cyborg.

The use and testing of welfare technologies reveal contradictions between care politics and care practices and the material preconditions for caring. The article emphasises that cyborg corporeality is a frictional negotiation between enhancement and revealing, a discussion that is linked to a broader philosophical debate between trans- and posthumanism. Although Finnish care politics enforces the transhuman ideal of cyborgness as enhancement, the actual use of these technologies enacts the expectations only partly, revealing the ailment, vulnerability and needs of ageing bodies. The transhuman vision of enhancement is problematic because it overlooks the need for care. Frictional corporeality then raises questions related to gender, economy and participation.

The research questions, materials, analysis methods, and main results of the four articles are summarised in Table 1.

Table 1. Summary of the articles.

Article	Research questions	Research materials	Analysis methods	Main results
I	How are the economic and social sustainability of the care services secured, and what are the outcomes?	Policy recommendations (281 pages).	Public justifications analysis.	The Finnish care policy recommendations build on the ethoses of welfare and survival. The idea of ailment and an ethos of interdependencies are missing from the recommendations.
II	What kind of ethics is enacted during socially assistive care robot trials, and what 'therapeutic gain' do human-robot interactions achieve for older users?	Field notes, ~5 informal interviews.	Theory-guided content analysis.	The care robot trials produce contradictions and negotiations between the normativities of enablement and disablement, dismissal and responsiveness and independence and interdependence.
III	How is telecare used in care work, and what are the outcomes of its use?	20 semi-structured interviews, field notes.	Theory-guided content analysis.	The use of telecare is based on uncertainty work. The reliance on uncertainty questions the goal of efficiency as telecare practices increase rather than decrease the amount of work.
IV	What kind of corporealities are produced with welfare technologies, and what kind of care political questions do these corporealities raise?	Field notes (130 pages).	Theory-guided content analysis.	Realising the expectations related to welfare technologies in actual care practices produces friction, which contradicts the transhuman ideals of enhancement.

5 The Ethico-politics of Experimentation

In sum, the four articles capture how fulfilling the expectations of welfare technologies in Finland fundamentally relates to two distinctive regimes guided by experimental logics: the regimes of hype and hope[13]. Hype and hope are 'speculative bubbles' (Robinson et al., 2021, p. 814) common in technological innovations. They are speculative in the sense of future orientation. Despite this shared orientation, both regimes have different ideas about politics and are based on different normativities and ethoses of care. Furthermore, the regimes produce varying user figurations and cyborg imaginaries. In this section, I discuss the characteristics of the two regimes and how they relate to experimentation.

5.1 The regimes of hype and hope

The regime of hype is mostly related to the space of health and social policy, and its main actors are policymakers, startups and entrepreneurs. Hype means the (often strategic) exaggeration of technology's promises, leading to an upsurge of public attention (Ruef & Markard, 2010, p. 317).

Politically, the regime of hype makes use of and advances the ageing-and-innovation discourse and the triple-win rhetoric. Welfare technology experiments are guided by the expectations of increased efficiency and productivity, economic growth, health improvements and seamless and well-organised services. It is highly important that through technology experiments, the welfare of the individual, the flourishing of technology companies, and survival of the welfare state become the same thing. Exercising the constitutional right to receive sufficient care becomes securing the public economy and decreasing its expenditures.

Triple-win politics also has ethical implications. The aim of securing individual wellbeing *and* the wellbeing of the state leads to the coexistence of the ethoses of

[13] There is an extensive philosophical debate on the concept of hope stemming from, but not limited to, utopianism (see e.g. Zournazi, 2002). I focus more on hope as an empirical concept and on its role in realising expectations from an STS perspective.

welfare and survival. In the ethos of welfare, care receivers are active, involved and participating experts of their own health and wellbeing. However, when these ideals are linked the triple-win politics, the care receivers participate to survive independently while being productive and responsible.

One way to become independent, productive and responsible is through enhancement—the 'affirmation of strengths' evidenced by the cyborg discourses in the AiRo programme. Therefore, the ageing-and-innovation discourse, with its triple-win politics, connects with a broader transhumanist philosophy. Transhumanism highlights boosting, optimising, plasticity, modification and the ageing body as a 'node' for data collection (Katz & Marshall, 2018). The transhuman dream of invulnerability, immortality and disembodiment transgresses the limitations of human capacity and promises existential freedom (Coeckelbergh, 2013; Helén, 2004; Moser, 2000, p. 218; Rose, 2007). In this sense, aged cyborgs are ideally human-mannered and datafied; they are smooth and standardised links to the health data economy and its actors who, again, secure the thriving of the Finnish state and the individuals' wellbeing. The outcomes of this kind of ethico-political experimentation were elucidated by the enabled figure and the normativity of enablement that enforces the values of independence and autonomy in care.

By contrast, the regime of hope[14] is mostly associated with institutional care, and its main actors are care workers, care receivers, and welfare technologies themselves. Hope has different meanings and purposes in relation to technological innovations, as it can provide legitimation, raise interest, mobilise resources or silence critiques (Brown, 2005). The regime of hope involves the workings of something that anthropologist Sarah Pink (2023, pp. 44–45) calls 'everyday hope'. Everyday hope is not related to ambitious goals common in hype narratives, such as solving the care crisis, but rather to processes, indeterminacy and the gradual evolution of hope in everyday life. This kind of hope 'emerges relationally to other sentiments, sensations, activities and materialities' (Pink, 2023, p. 45), thus highlighting the acts of tinkering with technology.

In relation to technology, everyday hope refers to the tendency to adhere to technologies even when they do not fully realise their expectations. Hype creates, collects and circulates optimistic expectations, while hope enables living with the uncertainty that comes with technology's material agency.

[14] In STS, the regime of hope has been conceptualised in relation to the regime of truth. The regime of truth is based on evidence-based medicine, while in the regime of hope, experiments gain value through a future potential to increase therapeutic and economic gains (Brown, 2005; Moreira & Palladino, 2005). However, I use the term in a more precise sense, as this speculative orientation to a future potential is shared in both regimes of hype and hope.

The regime of hope is based on the political activities of tinkering and uncertainty work. Aside from fulfilling expectations, these practices also make use of the uncertainty and ambivalence that come with welfare technologies when they are introduced into care work. In terms of telecare, 'ad hoc' solutions to surprising and possibly disrupting situations, such as answering to health risks that turn out to be non-existent, provide a good example of this practical tinkering with uncertainty.

In the regime of hope, good care is an accomplishment. This is illustrated by the dismissed and disabled user figurations. The dismissed figuration increases worry and anxiety and generally calls for empathetic understanding and recognition—a normativity of responsiveness. Similarly, the disabled and vulnerable figurations amplify the normativity of interdependencies. These figurations, together with the disadvantaged and fragile cyborgs, illustrate how hope comes with despair (Helén, 2004) and depict aged care receivers as 'homo aegrotus', 'the ailing human, who recognises and accepts the physical and mental frailty of all individuals and their ailments' (Zechner et al., 2022, p. 5). Overall, the ailing human promotes the ethos of interdependencies that is missing from health and social policy.

Table 2 presents the two regimes and their differences.

Table 2. The regimes of hype and hope.

Regime	Hype	Hope
Space	Health and social policy	Institutional care
Main actors	Policymakers, startups, entrepreneurs	Care workers, care receivers, technologies
Politics	Triple win	Tinkering, uncertainty work
Ethoses	Welfare, survival	Interdependence
Normativities	Enablement	Interdependencies, responsiveness
Figurations	The enabled	The disabled, the dismissed, the subversive
Cyborgs	Human-mannered, datafied	Gendered, disadvantaged, fragile
Modality	Contingency	Necessity

5.2 The call to experiment

The regimes of hype and hope show how experimentation, in its different meanings, is the *modus operandi* for fulfilling expectations. For this argument, it is necessary to make a distinction between two types of experimentation: local technology trials and the upsurge in experimental practices and discourses in a broader society.

As discussed in Section 3.1, the sociology of translations stems from an interest in trials in laboratories and testing technology (and its users) in different settings. STS scholars, such as Latour (1988), have also emphasised that experiments do not occur only in laboratories but also follow laboratory logics that are distributed in the whole of society. Continuing and broadening this thought, recent sociological studies have stressed that the role of experimentation is highlighted in present politics, economy and everyday life, bringing to the fore an emerging political discourse in which policymaking and governance based on trials, experimentation and testing are valued (Adkins & Ylöstalo, 2018; Adkins et al., 2019; Mannevuo, 2019; Marres & Stark, 2020; Peck & Theodore, 2015). In Finland, this development is evidenced, for example, by recommendations and reports from think thanks and parliamentary committees to ease governance and policymaking based on experiments (Berg, 2013; Demos Helsinki and Avanto Helsinki, 2015).

The regime of hype is mostly related to the latter type of experimentation. It refers to a mode of governance based on high expectations and a 'call' to experiment. In this meaning, experimentation is the means for dissolving the boundaries between the welfare of individuals, technology companies and the welfare state. Experiments always involve some level of uncertainty, and the possibility of failure and disappointment must be accepted in the regime of hype. Thus, there exists a 'license to fail' (Berg, 2013, pp. 5–7), which has been valued, for example, in the AiRo programme (Article IV).

Conversely, the regime of hope deals with experimentation as situated technology trials and practical everyday tinkering. In the regime of hope, it is necessary to experiment to provide good care, and uncertainties are also crucial. Although uncertainties can produce challenges in care work in the form of unexpected events, they are also translated into resources that enable creative methods for providing care. Everyday hope helps in living productively with uncertainty (Pink, 2023, p. 46).

Although the necessity to experiment is already highlighted in the care in practice and empirical ethics approaches, welfare technologies enforce the need to experiment when used in practice. This is due to the regime of hope being subordinate to the regime of hype. In other words, experiments taking place in institutional care are modelled based on the premises of the regime of hype. In this situation, experiments not only concern 'tests in settings', such as technology pilots in care homes, but are also about 'testing settings' (Marres & Stark, 2020, p. 437)—

that is, experimenting with welfare technologies in relation to care provision, the welfare state and citizenship. I return to these possible modifications and criticisms in the Conclusion section.

In the frame of experimentation, the introduction of welfare technology into care work seems inevitable. This is because the two regimes are grounded in two modalities—hype in contingency and hope in necessity—and in how experimentation is fundamentally a means of forging connections between the two regimes and translating contingent welfare technologies into necessities.

Contingency, the characteristic of the regime of hype, has three meanings. First, contingency refers to the plurality of possible options for solving the care crisis. As I mentioned in the Introduction section, there are numerous options available to solve the problem of insufficient care stemming from education policies to a greater appreciation of reproductive care work in society. Technology is only one alternative, among many others. It is multifaceted and unclear in itself; for example, welfare technology can refer to both karaoke and artificial intelligence. Second, contingency is typical to expectations, as they can come in various kind, be less optimistic or elicit fear instead of promises. The exaggeration of promises is related to the third form of contingency: the orientation towards the future. It matters more that expectations are shared than that they are 'realistic', which can be evaluated only after time (Konrad et al., 2012; van Lente, 2012). Therefore, 'emerging technologies are not 'judged' on what they can do, but rather on what they will be able to do in the future' (Bakker et al., 2012, p. 1059).

The contingency related to future orientation is evident in the care policy recommendations. It steers the coordination of care by recommending technologies that do not yet exist or are unavailable. In future orientation, what is tested remains unclear. Although welfare technology pilots primarily seek the affirmation of optimistic expectations to increase interest and gain investments in the future, surprising and disappointing outcomes of technology pilots can also lead to development in the future and 'better' technologies. Disappointments and failures are instructive. It is difficult to fail because of the 'everything goes' rationality and the licence to fail. Nevertheless, there is another side to surprising technologies that is dealt with in everyday care practices.

The modality of necessity mainly concerns the regime of hope, as in care uncertainty and ambivalence need to be managed recurrently to secure good care in care practice. However, introducing welfare technologies into care practice amplifies the necessity to experiment. Nurses have to experiment to re-negotiate the roles and uses of welfare technologies, but this produces additional work. Telecare and (a)social robots can cause disturbances in care provision, which then need to be addressed. For care workers, experimentation becomes a necessity that is co-produced with technology's material agency. Welfare technologies 'object' to

expectations, goals and ambitions. Materiality 'kicks back', and this is not something that can be fully predicted, governed or passed. Technology 'comes between', intervenes and disturbs care relations. While affecting the production of care, technology itself needs to be cared for (Saborowski & Kollak, 2015). Once introduced, these disturbances become vital in the operation of welfare technologies. Translating welfare technology expectations into care practices shows betrayal, deception and displacement, as the puzzle pieces of a triple win are first dissolved, reshuffled with a twist, and lastly glued back together, only partially resembling the original intentions.

When the regimes of hype and hope meet in translation processes, contingent welfare technologies become necessary. In practical care work, expectations need to be fulfilled in one way or another. In other words, when expectations are translated into care practices, welfare technologies become 'self-fulfilling prophecies' (Merton, 1948). To clarify, I compare welfare technology with Moore's law, which is often used as an example of a self-fulfilling prophecy in STS (e.g. Alvial-Palavicino & Konrad, 2019; van Lente, 2012; van Lente & Rip, 1998).

Moore's law, formulated by Gordon Moore, refers to the continuously increasing calculation speed of computers. It was not originally a law but a (promising) hypothesis that transformed into a law-like force. However, it is clear that Moore's law cannot be realised without assistance from the semi-conductor industry. The law needs to be cared for. In the same way, welfare technologies need to be cared for to realise their expectations. The expectations concerning Moore's law matter because technology laboratories, enterprises and governments coordinate their actions, such as investments and subsidies, *as if* Moore's law was a law of nature (van Lente & Rip, 1998, pp. 206–207). Similarly, social and health politics formulate care policies as if welfare technologies were the most salient and undeniable solution to the care crisis.

The self-fulfilling prophecy elucidates how welfare technologies are cared for in care politics and in practice, even though they do not fully realise their potential. Simultaneously, this vagueness is precisely the term for realising expectations. As self-fulfilling prophecies, welfare technologies can always fulfil the optimistic potential in principle because what this 'fulfilling' means is negotiable and flexible, a question of experimentation.

6 Conclusion

This study has examined how expectations related to welfare technologies are realised in practice and what kind of ethico-political implications there are. I have shown that expectations towards welfare technologies in Finland elucidate a highly optimistic triple-win politics, in which simultaneous expectations of good health, smooth services, growing economies and a thriving welfare state are fostered. Experimentation is the main means of realising these expectations in practice.

The results of this study advance the theoretical understanding of the welfare technology phenomenon. I have identified two distinctive regimes that share a focus on experimentation. The regime of hype refers mostly to health and social policy, while the regime of hope concerns institutional elderly care. Experimentation in the regime of hype aims at fulfilling the triple-win politics, while experimentation is obligatory to secure care in the regime of hope. Therefore, two different modalities have emerged: contingency in the regime of hype and necessity in the regime of hope.

I started this dissertation with a story about Könni's mechanical man, which raised the question about the promises and fears related to emerging technologies. However, the story does not tell what happened after the mechanical man killed its maker. Supposedly, this incident decreased interest in technological innovations. With welfare technologies, this is not the case, as they have become a necessity.

Turning welfare technologies into necessities is related to practices in which they are established as self-fulfilling prophecies—that is, coordinating actions as if these technological 'solutions' were necessary and caring for them in both regimes. In care policy and the regime of hype, welfare technologies are cared for by creating, fostering, circulating and spreading expectations of a triple win. In institutional care and the regime of hope, welfare technologies are cared for despite the disruption of care—and at times through these disruptions. Therefore, technological self-fulfilling prophecies may increase care workers' duties and responsibilities. Könni's mechanical man needed someone to turn it around in the field. Similarly, as shown in this dissertation, welfare technologies need care from their users. The nurses ensure that a catastrophe exemplified by the Könni man does not occur.

The results of this research complicate the understanding of welfare technologies and their related expectations. Realising expectations is an ambivalent and sporadic

negotiation, and this is the premise for fulfilling expectations, not an obstacle. With technology comes the possibility of disruption, which obstructs care relations and enables them at the same time by offering possibilities for creativity. The uncertainty and ambivalence endogenous to expectations are used as resources in actual care practices. Therefore, it would oversimplify the welfare technology phenomenon to treat technologies as mere instruments for dealing with the care crisis or to criticise these endeavours as insufficient.

This dissertation shows that it is difficult to discuss technology and care together in Finnish health and social policy, as the regime of hype mostly focuses on the public economy and its securitisation. Academic discussions, especially in the social sciences, also focus on the critique of this development without addressing technology. However, care and technology should be discussed together, as technology inevitably affects caring and how it is organised and valued. Realising expectations is always an act of creation, a translation that can lead to surprising outcomes. It is difficult to recognise these outcomes if the focus is on technological optimism and its criticisms.

Nevertheless, it is important to critically examine the stronghold of hype and experimentation in Finnish care policy. First, the regime of hype may enforce the ideal of 'fast policy' (Peck & Theodore, 2015), in which fast decision-making, programme rollout and revision characterised by opportunism are valued. Second, the regime of hype threatens to depoliticise policymaking and decision-making by enforcing the politics of 'best practices' (Demos Helsinki, 2015, p. 6; Peck & Theodore, 2015). Best practice politics puts the focus on expectations, such as the promise of a triple win, while obscuring the consequences of technology rollout in care work. In best practice politics, the teachings of empirical ethics are forgotten. Best practices do not actually precede the implementation of technology, and there is a multiplicity of best practices at play when technology is introduced into care. Furthermore, policymaking based on experimentation is easily framed in the public as 'practical, technical and solution focused' (Adkins & Ylöstalo, 2018, p. 160) or 'scientific, objective, [and] future oriented' (Adkins et al., 2019, p. 692), which lays the ground for governance based on expertise rather than democracy. Third, 'testing settings' with welfare technology may modify citizenship and social rights. As experiments involve citizens in unequal terms—as tests groups, control groups, and so on—policymaking based on experiments can call for constitutional changes that affect the formulation of citizenship (Adkins & Ylöstalo, 2018, p. 161). Based on this research, it seems that ailment, interdependence and vulnerability are not at the core of this emerging citizenship. Fourth, the regime of hype has difficulty in recognising the principles of care, as it focuses on economy and individual welfare based on survival, responsibilities and productivity. Therefore, the regime of hype tends to cure rather than care.

Curing refers to the removal or dismissal of deficiencies and disabilities, not to the affirmation of living with them. The tendency to cure rather than care is associated with the transhuman philosophy of life and the principle of enhancement. In transhumanism, independence is the prerequisite for moral agency, not the subject who has lost it for some reason. Transhumanism not only eliminates ageing as a material and physical fact but also erases it from culture and language. Thus, transhumanism enforces progress, in which death is hidden from sight in post-industrial capitalist societies (Elias, 1985). Transhumanism is troubling in the context of care, with existentialist philosophers Søren Kierkegaard and Martin Heidegger emphasising that concern should be at the centre of care and the starting point of morality (see Reich, 1995). When the focus is on the cure, the elderly people, together with vulnerabilities, fragility and ailments, are removed from the picture.

Although care is absent from welfare technology expectations, it must still be secured in the regime of hope. However, this is not an essential characteristic of the technology, but more a facet of the surroundings in which it is introduced. Nurses re-negotiate care back into the picture, sometimes with the assistance of technology and at times in spite of it. Although dependencies are unexpected in welfare technologies, they cannot be overlooked in actual care practices because dismissing or neglecting vulnerabilities only leads to new vulnerabilities (Coeckelbergh, 2013, p. 12; Oudshoorn, 2020). An ethics of care that stresses interdependencies emerges from these vulnerabilities and from addressing them.

It is also important to note that experiments in practical care settings are not determined by the regime of hype. Hope creates possibilities for imagining welfare technologies anew, and experimentation produces emerging ethico-political possibilities. Examples are care workers' innovative uses of technology, dismissing alarms and knowing without knowing (i.e. dismissing technology while using it). In addition, new forms of participation for care receivers emerge, as along with optimistic expectations, there is a possibility to dissolve the normative expectations of independence, survival and personal responsibility inscribed in welfare technologies. The subversive figure elucidates these possibilities in its opposition, sarcasm, non-use and criticism. This subversion is non-reversible to the optimistic expectations laid by health and social policy because it questions them, if not ridiculing them. There is 'nothing to win', as one test participant commented on using Saara. The regime of hope also comes with the possibility of 'testing settings'. The voices of the aged themselves should be focal in these trials.

As my argument comes with the risk of falling into a non-productive dichotomy of 'good' hope and 'bad' hype, it is worth discussing the two downsides of hope. First, uncertainty, which is central to hope, should be acknowledged. Although uncertainty creates flexibility and allows creativity, it also raises the question of whether uncertainty should be at the bottom of emerging care practices. As

addressing uncertainty is based on unexpected events and, possibly, disappointments, it may enforce mistrust on those rallying for welfare technologies and providing them: employers, technology companies, political actors, experts and authorities. Second, hope can also cause institutional defects to disappear. For example, the additional work produced by telecare may be left unacknowledged. As an outcome, struggling but hopeful care workers will see themselves as at fault and inadequate if they do not survive the increased work pressure. Another problem is that the invisibility of additional work actually upholds optimism and high expectations related to technology (Moreira, 2017, p. 160). For welfare technology policies to be sustainable, the additional work created with technologies should be acknowledged more fully.

This study has some methodological limitations. Although my multi-sited approach shows that expectations are shared, it does not fully acknowledge the importance of enterprises, startups, designers, consults, think tanks and other innovators in creating and circulating expectations. Rather, I focus on spaces where expectations have already spread and have been put into action. Focusing on translations is always partial, as there are endless opportunities to limit the scope of research (Lehtonen, 2008). However, a focus on the negotiations related to defining and formulating expectations would provide a fuller picture of the welfare technology phenomenon. The role of contingency is emphasised in the regime of hype. Thus, one possible research topic to focus on is the negotiations, contestations, criticisms and betrayals—trials and translations—in the regime of hype. Furthermore, the relationship between the call for experimentation and the formulation of care policies is an under-researched topic in Finland.

The period of gathering my research materials should also be acknowledged. Hype has short-term consequences, while disappointments emerge after longer periods (Brown, 2003). As my research setting is not comparative or based on follow-up data, the prevalence of promises and optimism may be explained by the fact that my empirical materials consider hype to be at its ‘peak’. Temporal considerations may show signs of disillusionment, disappointments, withdrawal and the possibility of other forms of ethico-politics. However, this is historically questionable as welfare technologies build on previous innovations discursively and materially. The present examples of welfare technologies originated in the 1970s. Nevertheless, future research should consider the roles of different innovators in creating expectations and research settings and take temporal considerations into account.

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Appendices

Appendix 1. The observation matrice (version 2).

- Millaisia palveluyksikkö ja -rakennus ovat? Miten yksikkö sijoittuu palvelukokonaisuuteen?
- Kuinka paljon yksikössä on ihmisiä?
- Millainen asiakkaiden ja työntekijöiden sukupuoli- ja ikäjakauma on (arvio)?
- Millainen tunnelma yksikössä on? Vaihteleeko se?
- Millaiselta hoivatyö vaikuttaa? Esim. kiireisyys, työn määrä ja laatu jne.
- Onko erotettavissa selkeä vuorokausirytmi ja mikä sitä ohjaa?
- Mitä työntekijät tekevät?
    - Reagoidaanko asiakkaisiin aina? Milloin ei?
- Mitä asiakkaat tekevät?
    - Millaista heidän keskinäinen kanssakäyminen on? Enemmän ongelma vai voimavara? Juttelu vai riitely
- Mitä teknologia tekee?
- Millaista teknologiaa on käytössä?
    - Onko paljon vai vähän?
    - Onko näkyvää vai huomaamatonta?
    - Onko enemmän (esim. älylaitteet) high- vai low-tech?
- Millaisia kohtaamiset robotin (tai muun teknologian) ja henkilökunnan välillä ovat?
- Millaisia kohtaamiset robotin (tai muun teknologian) ja asiakkaiden välillä ovat?
- Millaisia ongelmatilanteita kohtaamisissa ihmisen ja teknologian välillä syntyy?
    - Miten tämä näkyy?
- Mikä toimii hyvin kohtaamisissa ihmisten ja teknologian välillä?
    - Miten tämä näkyy?
- Millainen rooli teknologialle annetaan?
    - Toteuttaako teknologia tätä roolia?
    - Millä tavoin tai miksi ei?
- Miten henkilökunta suhtautuu robottiin?
- Miten Elsiä käytetään?

Appendix 2. The interview matrice (version 4).

Tausta

- Syntymävuosi
- Äidinkieli
- Perhetyyppi ja siviilisääty
- Koulutus ja ammatti
    - Miksi hoitotyö?
- Työkokemus ja -historia
    - Kuinka kauan ollut tässä työpaikassa?
    - Onko kokemusta kotihoidosta? Miten eroaa palveluasumisesta (esim. asiakkaat tai työyhteisö, työtehtävät ja niihin käytettävä aika)?
    - Viihdytkö tässä työpaikassa?

Teema 1: Hoivatyö

- Puhutko mieluummin hoiva- vai hoitotyöstä? Mitä eroa näillä on?
- Entä palvelukodin asukkaista vai asiakkaista? Mitä eroa näillä on?
- Mikä työssä tuottaa iloa ja on mieluisinta? Entä mikä turhauttaa?
- Kerro hyviä/huonoja hetkiä edelliseltä työpäivältä?
    - Oliko teknologia mukana näissä?
- Onko työ kiireistä? Ehtiikö taukoja pitämään?
- Onko työ vastuullista? Miten se näkyy tai tuntuu?
- Koetko, että työtä arvostetaan?
    - Asiakkaiden, omaisten tai median/julkisen keskustelun osalta
- Mitä haluaisit muuttaa tai parantaa työssä?
- Millaisia ominaisuuksia on hyvällä hoitotyöntekijällä?
- Tuleeko työssä ongelmatilanteita ja millaisia ne ovat?
    - Asiakkaiden kanssa (perusasioissa: seura, ruoka, pesu, lääkkeet); onko valehtelu sallittua (esim. vaatteiden ”varastaminen”)
    - Omaisten kanssa
    - Kollegoiden tai työnantajan kanssa
- Miten asiakkaan tarpeet tunnistetaan?
- Ajatuksia työvaatteista? Onko arkisuus hyvä vai haluaisiko ”hoitajan” asun
- Merkitseekö sukupuoli työssä mitään?
    - Millaisissa tilanteissa tulee esille?
    - Onko vahvuus tai heikkous?

Teema 2: Teknologia

- Mitä tunteita teknologian lisääminen herättää? Esim. toiveita ja innostusta vai pelkoja ja uhkakuvia?
- Kokemuksia tai ajatuksia seuraaviin teknologioihin liittyen:
    - Elsi
        - Käyttö päivällä/yöllä
        - Onko väärät hälytykset ongelma?
        - (Jos kokemusta ennen) miten Elsi on muuttanut työn luonnetta?
        - Miten reagoidaan vuoteeseen nousuun, vessaan menoon tai kaatumisiin?
        - Hoitajien reagointinopeuden ym. seuraaminen
    - Saara
        - Millainen olisi hyvä sosiaalinen hoivarobotti? Mitä tekisi, minkä näköinen/kokoinen?
    - Yeti
    - Paro
    - Etälääkäri ja yleisemmin etähoito (kotona), esim. lääkkeidenoton tarkistaminen videoyhteydellä tai tulevaisuudessa sairauden etenemisen tunnistaminen mikroilmeistä
    - Valvontakamerat; luovatko esim. yöllä turvallisuutta
- Onko teknologiasta hyötyä? Verrattuna ihmisen tekemään työhön?
- Voiko älyteknologia tai robotiikka auttaa hoivatyössä nykyistä enemmän ja millaisissa tilanteissa? Esimerkkejä:
    - Hygienia ja peseytyminen
    - Valvonta ja turvallisuus
    - Lääkeannostelu ja ruokailu
    - Seurallisuus ja virkkeellisyys
- Auttaako teknologia asiakkaan yksilöllisten tarpeiden tunnistamisessa?
- Liittyykö teknologiaan riskejä tai haittoja?
    - Asiakkaan, työntekijän tai työyhteisön näkökulmasta?
    - Liittyykö robotiikkaan uhkia, joita ihmisen tekemässä työssä ei ole?
- Onko työtilanteita, missä teknologiaa ei voida hyödyntää tai ihmistä korvata tai mihin ei sovellu edes apuvälineeksi?
- Pystytkö vaikuttamaan teknologian käyttöönottoon?

Teema 3: Hoivavaje ja -politiikka

- Näkyykö hoitajapula työpaikalla? Miten alalle saisi enemmän työntekijöitä?
- Herättääkö väestön ikääntyminen minkäänlaisia tunteita? Miten siihen tulisi varautua?
- Palveleeko hallituspolitiikka hoivatyötä? Esim. kotona asumiseen panostaminen ja hoitajamitoitus; onko 0.5 tai 0.7 asiakasta kohden riittävästi, mikä olisi hyvä?
- Voiko poliittiseen päätöksentekoon vaikuttaa?
- Sairaspoissaolot: onko paljon, miten vaikuttaa työhön ja mitä tunteita herättää (pohjusta ensin, että esillä runsaat sairaspoissaolot, merkki työn kuormittavuudesta ja pyrkimys vähentää niitä)
- Pitääkö varahenkilöstöön turvautua usein ja onko tässä ongelmia? Esim. tuntevatko asiakkaat nimeltä?

Appendix 3: The informed consent form.

Tutkimus robotiikasta ja teknologiasta hoivatyössä [päivämäärä]

Haastattelusuostumus

Sinut on valittu tutkimukseen työpaikkasi tai -asemasi perusteella. Haastatteluun osallistuminen on vapaaehtoista. Haastateltavalla on oikeus milloin vain keskeyttää osallistuminen tutkimukseen tai kieltäytyä vastaamasta hänelle esitettyyn kysymykseen. Tutkimukseen osallistumisen voi perua suullisesti tai kirjallisesti esimerkiksi sähköpostitse tutkimuksen vastuuhenkilölle (ks. yhteystiedot alla). Haastattelu nauhoitetaan, jonka jälkeen haastattelu kirjoitetaan tekstitiedostoksi. Äänitys tuhotaan sen jälkeen, kun haastattelu on kirjoitettu tekstimuotoon. Tekstitiedostoja säilytetään salasanalla suojatulla henkilökohtaisella tietokoneella sekä varmuuskopioituna Turun yliopiston salasanalla suojatussa pilvipalvelussa.

Haastattelun luottamuksellisuus turvataan siten, että vain tutkimuksen vastuuhenkilö käsittelee haastatteluaineistoa. Kun haastattelu litteroidaan tekstitiedostoksi, haastateltavien ja haastatteluissa esille tulevien muiden henkilöiden nimet poistetaan tai muutetaan peitenimiksi. Myös paikkatietoja ja muita erisnimiä (työpaikkojen tms. nimet) muutetaan tai poistetaan, jotta tutkimukseen osallistuneiden henkilöiden tunnistaminen ei ole mahdollista.

Haastatteluissa kerätään tietoa hoivatyön arjesta ja teknologian käytöstä ja mahdollisuuksista siinä. Tutkimuksen tulokset julkistetaan kansainvälisissä ja kansallisissa tieteellisissä julkaisuissa sekä populaareissa kirjoituksissa. Haastattelussa esille tulleet asiat raportoidaan tutkimusjulkaisuissa tavalla, jossa tutkittavia tai muita haastattelussa mainittuja yksittäisiä henkilöitä ei voida tunnistaa. Tutkimusjulkaisuihin voidaan sisällyttää suoria otteita haastatteluista. Tutkimusaineistoa käytetään ainoastaan väitöstutkimukseen ja sen pohjalta tehtävään jatkotutkimukseen. Kerättyjä tietoja ei siirretä kolmanteen maahan. Tutkimus päättyy arvioilta vuonna 2023, jonka jälkeen tunnisteetonta aineistoa säilytetään viisi vuotta jatkokäyttöä varten salasanalla suojatulla serverillä. Tämän jälkeen tutkimusrekisteri tuhotaan.

Tutkimuksen vastuuhenkilö ja rekisterinpitäjä on valtiotieteiden maisteri Joni Jaakola, Turun yliopisto.
[puhelinnumero, sähköposti]

Tutkimukseen osallistuva täyttää:

☐ Olen saanut suullisesti ja kirjallisesti riittävästi tietoa tutkimuksesta.
☐ Olen ymmärtänyt, että voin milloin tahansa ilmoittaa, etten enää halua osallistua tutkimukseen, mutta siihen asti kerättyjä tietoja voidaan hyödyntää tutkimuksessa.
☐ Olen ymmärtänyt yllä olevat tiedot ja haluan osallistua tutkimukseen.

Osallistumalla haastatteluun annan luvan aineiston käyttöön yllämainituin ehdoin.

Tutkimukseen osallistuvan allekirjoitus _____

Nimenselvennys _____

Tutkijan allekirjoitus _____

Aika ja paikka _____

Original Publications

Jaakola, J. (2022)
Vaivaisia vai harmaita panttereita? Sosiaalisen ja taloudellisen kestävyyden turvaamisen seuraukset iäkkäiden hoivapalveluiden laatusuosituksissa.
Poliittinen talous 10(1), 42–72

I

Alkuperäisartikkeli

Vaivaisia vai harmaita panttereita? Sosiaalisen ja taloudellisen kestävyyden turvaamisen seuraukset iäkkäiden hoivapalveluiden laatusuosituksissa

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Abstrakti

Sosiaali- ja terveysministeriö on yhdessä Kuntaliiton kanssa antanut laatusuosituksia iäkkäiden palveluiden järjestämiseksi vuodesta 2001 lähtien. Suosituksilla on pyritty turvaamaan eettisesti ja yhteiskunnallisesti hyväksyttävä hoivapalveluiden tuotanto ja samalla vaikuttamaan julkisen talouden kestävyyteen. Artikkeli tutkii sitä, mitä tämä ”sosiaalisen ja taloudellisen kestävyyden” yhteensovittaminen käytännössä tarkoittaa. Artikkeli analysoi laatusuosituksia vuosilta 2001–2020 julkisen oikeuttamisen analyysimenetelmän avulla ja osoittaa, kuinka suositukset rakentavat ja yhteensovittavat kahta erilaista hoivapalveluiden järjestämistä ohjaavaa eetosta. Yhtäältä suosituksissa rakennetaan hyvinvoinnin eetosta eli kunnioitetaan ajatusta hoivasta universaalina perusoikeutena ja määritellään iäkäs aktiiviseksi ja osallistuvaksi kansalaiseksi. Toisaalta suosituksissa rakennetaan selviytymisen eetosta. Se määrittelee hoivan kulutushyödykkeeksi ja iäkkäät kotonaan teknologian avulla terveesti ikääntyviksi asiakas-yrittäjiksi, jotka kantavat vastuuta sekä omasta terveydestään että julkisen talouden kestävyydestä. Vastuun uusjako myös muotoilee hoivan poliittista taloutta uusiksi. Suosituksissa hoivapalveluiden käyttäjä on yhä vahvemmin myös niiden tuottaja. Hoivan markkinaistaminen näkyy selkeästi hoivapalveluiden järjestämistä ohjaavissa suosituksissa. Tämän seurauksena suosituksilla on ongelmia tunnistaa iäkäs vaivaisena.

Avainsanat: eetos, hyvinvointivaltio, julkisen oikeuttamisen analyysi, laatusuositus, markkinaistaminen

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Johdanto

Vuonna 2020 julkaistiin tuoreimmat laatusuositukset hyvän ikääntymisen turvaamiseksi ja hoivapalveluiden parantamiseksi. Sosiaali- ja terveysministeriön (STM) yhdessä Kuntaliiton kanssa antamien suositusten tarkoitus on ollut toimia yhteiskuntapoliittisen informaatio-ohjauksen välineinä eli edistää hoivapalveluiden suunnittelemista, järjestämistä, kehittämistä ja arviointia sekä tukea ikääntyneen väestön toimintakykyä ja hyvinvointia. Hoivatyön kentällä ja tutkimuksessa tuoreimmat suositukset ovat kuitenkin herättäneet kritiikkiä: niitä on pidetty tehottomina ja hoivan arjen todellisuudesta irrallisina (Merikanto 2020; Pirhonen ja Pulkki 2016).

Kritiikistä huolimatta laatusuositukset ovat hoivan poliittisen talouden kannalta tärkeitä. Informaatio-ohjauksen lisäksi suositukset ovat eettis-poliittisen hallinnan välineitä. Ne kertovat, miten hoiva tulisi järjestää, jotta se olisi hyvää ja oikeudenmukaista. Suosituksilla on pyritty myös vaikuttamaan julkisen talouden kestävyyteen ja kustannusten kasvun hillitsemiseen. Laatusuositusten avulla haettiin vuoden 2019 loppuun mennessä 33,5 miljoonan euron säästöjä julkiseen talouteen (STM 2017, 8). Hoivan poliittisen talouden kannalta on tärkeää tunnistaa ne tavat, joilla hoivatyö uudistaa ja pitää yllä taloutta sekä tuottaa pääomaa varsinkin tilanteessa, jossa hoivapalvelut ovat markkinaistettu eli ovat kasvavissa määrin taloudellista voittoa hakevien yritysten käsissä. On tärkeää kysyä, ketkä säästöt tuottavat. Historiallisesti vastuu hoivasta on ollut (usein rodullistetuilla) ja matalapalkkaisilla naisilla. He ovat edelleen hoivasta saadun pääoman kerryttämisen keskiössä. (Hoppania ja Vaittinen 2015; Näre 2012; Vaittinen ym. 2018; Wrede ja Näre 2013.)

Suuret hoivapoliittiset linjaukset, kuten budjettileikkaukset, organisaatiomuutokset ja säästötalkoot, vaativat aina moraalisia perusteluja taakseen. Viimeaikaisten suositusten keskeinen pyrkimys on ollut turvata ”niin sosiaalisesti kuin taloudellisestikin kestävä toiminta” (STM 2017, 7) ja tätä kautta yhdistää eettinen hyväksyttävyys ja yhteiskunnallinen kestävyys (Häikiö ym. 2011, 239). Ajatus taloudellisen ja sosiaalisen ”kestävyyden” turvaamisesta pitää sisällään oletuksen hoivapalveluiden kestävyysvajeesta eli resurssien vähäisyydestä ikääntyvän väestön tarpeiden kasvaessa. Suosituksissa hoivan kasvava resurssipula esitetään ”kriittisenä hetkenä” (Boltanski ja Thévenot

1991/2006, 15), jolloin ikääntymispoliittisten toimintatapojen riittämättömyyteen herätään ja tullaan johtopäätökseen, että niitä pitää muuttaa.

Tarkastelen artikkelissa sitä, mitä sosiaalisen ja taloudellisen ”kestävyyden” yhteensovittaminen tarkalleen ottaen tarkoittaa hoivan järjestämisen kannalta. Tutkimuskysymykseni on: Miten ja millaisin seurauksin hoivapalveluiden sosiaalinen ja taloudellinen kestävyys pyritään turvaamaan? Analysoin STM:n suosituksia iäkkäiden palveluiden järjestämiseksi vuosilta 2001–2020. Suosituksia ei ole aiemmin tarkasteltu tästä näkökulmasta (vrt. Häikiö ym. 2011; Pirhonen ja Pulkki 2016; Pulkki ym. 2017; Virkki ym. 2012). Lähestyn hoivaa aineiston pohjalta iäkkäiden hoivapalveluiden näkökulmasta.

Ehdotan, että sosiaalisen ja taloudellisen kestävyyden yhteensovittaminen tarkoittaa suosituksissa *hyvinvoinnin eetoksen* (Julkunen 2006) ja siitä poikkeavan *selviytymisen eetoksen* (Kortteinen 1992) rakentamista ja yhteensovittamista. Hoivan kontekstissa eetos tarkoittaa käsitystä hyvästä, tavoiteltavasta ja oikeudenmukaisesta hoivasta. Hoivapoliittisen hallinnan dokumentteina STM:n laatusuositukset ovat keskeinen väline hoivan eetoksen rakentamisessa. Hyvinvoinnin eetos määrittää iäkkäitä ensisijaisesti osallisina ja osallistuvina kansalaisina. Sen sijaan selviytymisen eetoksessa ei välttämättä puhutakaan enää yhteisestä vaan yksilön hyvästä, jonka iäkkäät saavuttavat itseään hoivaavina aktiivisina ja vastuullisina yrittäjinä. Vaikka STM kohdistaa suositukset erityisesti hoivatyön organisoijille ja sen järjestämisestä päättäville, suosituksissa puhutellaan ja vastuullistetaan myös iäkkäitä. Tämä muuttaa poliittisen talouden suhteita perinpohjaisesti, sillä vastuu hoivatarpeeseen vastaamisesta ja hoivan tuotannosta siirtyy suosituksissa kasvavissa määrin itse hoivan tarpeessa olevalle.

Aloitan artikkelin jäsentämällä iäkkäiden hoivapalveluiden järjestämisessä tapahtuneita muutoksia osana suomalaisen hyvinvointivaltion kehitystä. Samalla määrittelen eetoksen käsitteen tarkemmin. Sitten esittelen aineistoni ja analyysimenetelmäni. Hyödynnän aineiston analyysissä julkisen oikeuttamisen analyysimenetelmää (JOA, Luhtakallio ja Ylä-Anttila 2011), jonka avulla voidaan tarkastella sitä, miten erilaiset käsitykset yhteisestä hyvästä ja oikeudenmukaisuudesta rakennetaan vetoamalla vakiintuneisiin oikeuttamisen tapoihin. Laatusuositusten analysointi JOA:ta hyödyntäen on yksi keino tuoda esiin erilaiset eetokset, joiden avulla taloudellinen ja sosiaalinen kestävyys pyritään turvaamaan, sekä niiden rakentamisen tavat. Koska

suosituksilla on vaikeuksia tunnistaa iäkkäiden vaivaisuus, ehdotan lopuksi, että keskinäisriippuvuuden eetoksen tulisi ohjata hoivapoliittisia linjauksia nykyistä enemmän.

Iäkkäiden hoivapalvelut muuttuvassa hyvinvointivaltiossa

Muutokset hoivapolitiikassa ovat mukailleet Suomen hyvinvointivaltiokehitystä (Julkunen 2001). Vaikka palkatta tai korvauksetta annettu informaali hoiva on yhä merkittävä osa hoivan tuotantoa (Anttonen ja Sointu 2006; ks. Hoppania ym. 2016, 134), hyvinvointivaltiokehitykselle on ollut ominaista, että vanhustenhoito on irrotettu perhevelvollisuuksista, sukulaissuhteista ja lähiyhteisöistä sosiaalisten oikeuksien piiriin ja yhteiskunnan vastuuksi (Esping-Andersen 1990; Rauhala 1996). Suomessa hoivapolitiikan kehittyminen on tapahtunut karkeasti jaotellen kolmessa vaiheessa (Anttonen 2009; Julkunen 2004). Ensimmäisessä vaiheessa 1960–70-luvuilla sosiaali- ja terveyspolitiikkaa ohjasi palveluja kaikille -periaate, jolla pyrittiin takaamaan universaali hoiva kasvavalle iäkkäiden kansalaisten joukolle. Toisessa vaiheessa, joka ajoittui 1980-luvulle, korostui julkinen vastuu hoivapalveluiden rahoittamisessa ja järjestämisessä. 1990-luvulla alkaneessa kolmannessa vaiheessa hoivapolitiikan keskiössä on ollut julkisen ja yksityisen hoivatuotannon yhteensovittaminen sekä hoivapalveluiden kilpailuttaminen ja ulkoistaminen. Vaiheen alkuaikoina talousmaailman opit sisäistänyt oikeisto näki ”pöhöttyneen” eli liian suuren ja anteliaan, kohtuutonta verotusta aiheuttavan ja yritteliäisyyttä vaikeuttavan hyvinvointivaltion laajoine sosiaalietuuksineen osasyyllisenä 1990-luvun lamaan. Tällä oikeutettiin kääntyminen uusliberaaleihin vaihtoehtoihin sosiaali- ja terveyspalveluiden järjestämisessä (Julkunen 2001, 78–79; Yliaska 2017).

Jos suomalaisen hyvinvointivaltion muodostumista on alun perin kuvannut hoivan muuttuminen julkiseksi vastuuksi, 1990-luvulla alkanut hoivapolitiikka on ohjannut iäkkäitä ja heidän läheisiään ottamaan yhä enemmän vastuuta omasta hyvinvoinnistaan ja sen kustannuksista. Hoivan tuottajana on julkisen palvelun sijaan yhä useammin hoivaa tarvitsevan läheinen, kolmannen sektorin toimijat tai yksityiset markkinat. Julkisen vallan eli valtion ja kuntien vastuulle on jäänyt mahdollistaa iäkkään valinnan vapauden toteutuminen

esimerkiksi palvelusetelijärjestelmän käyttöönotolla. (Anttonen 2009; Häikiö ym. 2011; Julkunen 2006; Sointu 2016.) Hyvinvointivaltiokehitys näkyy myös kansalaisuuskuvien muutoksissa, ja vaihtelevat tulkinnat kansalaisuudesta vaikuttavat hoivapalveluiden järjestämiseen. Kun hoivapolitiikassa on irtauduttu universalismista, heikko ja apua tarvitseva iäkäs kansalainen on kadonnut kuvasta. (Hoppania ym. 2016; Häikiö ym. 2011) Kansalainen ei ole enää vain palveluiden käyttäjä vaan myös niiden tuottaja (Anttonen 2009).

Hyvinvointivaltion kehityksen myötä hoiva on markkinaistettu. Hoiva on kasvavissa määrin yksityisten ja kaupallisten toimijoiden käsissä, jos ei suoraan niin ainakin välillisesti. Uuden julkisjohtamisen (*new public management*) opit, kuten tehokkuuden priorisointi ja palvelutuotannon standardisointi, ovat olleet keskeisiä markkinaistamisessa (Anttonen ja Häikiö 2011; Anttonen ja Meagher 2013; Hoppania 2019; Wrede ja Näre 2013; Yliaska 2017). Uuden julkisjohtamisen kehyksessä hoiva nähdään helposti haavoittuvaisen ihmissuhteen sijasta kulutushyödykkeenä, aikana ja palveluna, jota tuotetaan ja ostetaan markkinoilla. Kustannustehokkuuden hakeminen ja hoivatyön rationalisointi ”teollisen” aikakäsityksen pohjalta tekevät työstä kiireistä, mikä voi johtaa hoivatyön eettisten periaatteiden kiertämiseen (Hirvonen ja Husso 2012).

Kun (usein) monikansalliset hoivayritykset ja paikalliset järjestöt kilpailevat keskenään palveluiden tuotannosta, julkinen sektori on alkanut toimia liiketalouden ja yritysmaailman mallien mukaisesti (Anttonen ja Häikiö 2011; Anttonen ja Meagher 2013; Anttonen ym. 2013; Julkunen 2006; Hoppania ym. 2016; 2020; Karsio ja Anttonen 2013; Moberg 2017). Näin ollen hoivapalveluiden tuotanto ei ole vain iäkkäiden tarpeisiin vastaamista vaan myös kasvavissa määrin markkinoiden synnyttämistä ja laajentamista sekä kansallisvaltioiden rajat ylittävän pääoman kerryttämistä (Vaittinen ym. 2018). Hoivan markkinaperustaisuuden ajatellaan turvaavan rajallisten resurssien tehokas käyttö ja lisäävän kansalaisten valinnanvapautta ja vaikuttamismahdollisuuksia (Anttonen ja Häikiö 2011). Kehityksen myötä suomalaisen hyvinvointivaltion ideaalien kunnioittaminen on kuitenkin vaikeutunut, minkä seurauksena terveys ja hyvinvointi jakaantuvat väestössä yhä epätasaisemmin (Anttonen ja Häikiö 2011; Hoppania 2019; Moberg 2017). Samaan aikaan ajatus siitä, että uudet teknologiat, kuten hoivarobotit, voisivat auttaa hoivatyöntekijöitä

työssään, tukea iäkkäitä arjessa ja lisätä kustannussäästöjä terveydenhuollossa, on yleistynyt (Van Aerschot ja Parviainen 2020; Van Aerschot ym. 2017).

Hyvinvointivaltion kehitystä tarkastelemalla on erotettu kaksi erilaista rationaliteettia eli ajattelutyyliä, joilla sosiaali- ja terveyspalveluiden järjestämistä on hallittu: hyvinvointivaltion ja uusliberalismin rationaliteetit (Saarinen ym. 2014, ks. myös Foucault 1991; Miller ja Rose 2008/2010). Rationaliteeteista ensimmäinen korostaa kaikille yhtäläisen universaalin hoivaoikeuden toteutumisen tärkeyttä osana toimivaa demokratiaa ja toinen markkinoiden keskeisyyttä tuotettaessa hoivapalveluita vapaille ja vastuullisille asiakkaille. Rationaliteetin käsite auttaa ymmärtämään suomalaisen hyvinvointivaltion kehitystä. Se ei kuitenkaan täysin tavoita hoivapalveluiden järjestämistä ohjaavien suositusten moraalista luonnetta. Siksi hyödynnän artikkelissa eetoksen käsitettä teoreettisena työkaluna, jonka avulla hoivapalveluiden järjestämistä ohjaavat moraaliset periaatteet saadaan näkyviin.

Määrittelen sosiologi Ilpo Heléniä (2005, 100) mukaillen, että eetos on ”ihmisten tiettyä toimintaa ja käyttäytymistä – esimerkiksi taloudenpitoa, seksuaalisuutta, terveydenhoitoa – ohjaava käsitys hyvästä ja tavoiteltavasta”. Eetos koostuu eettisistä ohjenuorista, jotka kertovat sen, mitä voi ja pitää tehdä hyvän saavuttamiseksi. Eetos myös määrittelee moraalisubjekteja eli subjekteja, joiden on sisäistettävä eetoksen moraaliset vaatimukset ja toimittava niiden mukaisesti ”hyvän” saavuttamiseksi. Hoivan tarjoajat ja järjestäjät sekä iäkkäät itse ja heidän läheisensä ovat hoivan moraalisubjekteja nykyisessä hyvinvointivaltiossa. Näen, että hyvinvointivaltion rationaliteetti sisältää ”hyvinvoinnin eetoksen” (Julkunen 2006), jossa korostuu universalismin, tasa-arvon, julkisen vastuun, solidaarisuuden, kohtuuden ja yhtenäisyyden tärkeys. Vastaavasti uusliberalismin rationaliteetti pohjaa ”selviytymisen eetokseen”, jonka Matti Kortteinen (1992) määritteli tutkiessaan suomalaisen työelämän muutosta 1990-luvun alussa. Kortteisen mukaan selviytymisen eetos korostaa, että maailma on kova ja siinä on selvittävä. Selviytymisen vaatimus on moraalisesti velvoittava, koska siinä on kysymys kunniasta. Velvollisuuksista selviytyminen on avain itsenäisyyteen ja arvokkuuteen sekä kasvojen säilyttämiseen. Selviytymisen eetoksessa ihannoidaan riippumattomuutta, joka on keskeinen arvo uusliberalismissa (Hoppania ym. 2016, 28–29). Toisin kuin selviytymisen eetoksessa hyvinvointieetokseen pohjaavalla ”[p]olitiikalla halutaan puuttua pikemmin kansalaisten tilanteisiin kuin muuttaa heitä itseään” (Julkunen 2006,

41). Pelkästään hyvinvointivaltion ja hoivapolitiikan kehitystä tarkastelemalla jäisi epäselväksi, millaisten moraalisten periaatteiden varaan hoivapalveluiden järjestämistä ohjaavat laatusuositukset rakentuvat. Siksi on syytä tarkastella niitä tarkemmin hyödyntämällä eetoksen käsitettä.

Aineisto ja menetelmä

Analysoimani aineisto koostuu STM:n ja Kuntaliiton antamista laatusuosituksista hyvän ikääntymisen turvaamiseksi ja palvelujen parantamiseksi vuosilta 2001–2020 (STM 2001; 2008; 2013; 2017; 2020, yhteensä 281 sivua). Suositukset ovat sekä hoivapoliittisen hallinnan väline että sen ilmentymä. STM ja Kuntaliitto ovat alkaneet antaa suosituksia hoivapolitiikan kehityksen ”kolmannessa vaiheessa” eli aikana, jona hoivan järjestämistä ovat ohjanneet palveluiden kilpailuttaminen ja ulkoistaminen sekä tavoite yhteensovittaa julkinen ja yksityinen hoivatuotanto. Suositukset ovat olleet keskeisessä asemassa näiden pyrkimysten toimeenpanossa. Suositusten keskiössä on ollut hoivapalveluiden uudelleenjärjestely laajan ”arvokeskustelun” pohjalta: ”Suosituksen tarkoituksena on aikaansaada valtakunnan tasolta paikallistasolle levittäytyvä arvokeskustelu ja käynnistää koko maassa yhteinen, vuorovaikutuksellinen, vanhustenhuollon kehittämisprosessi” (STM 2001, 8). STM itsessään vastaa hoivapolitiikan suunnittelusta, ohjauksesta ja toimeenpanosta Suomessa, vaikka palveluiden järjestämisvastuu oli kunnilla ja vuodesta 2022 lähtien hyvinvointialueilla.

Analysoin aineistoni julkisen oikeuttamisen analyysimenetelmällä. Sen avulla voidaan osoittaa, mitkä moraaliset kategoriat ovat institutionalisoituneet eli vakiinnuttaneet käsityksensä ”yhteisestä hyvästä” ja oikeudenmukaisuudesta ja miten tämä käytännössä tapahtuu (Luhtakallio ja Ylä-Anttila 2011; Ylä-Anttila ja Luhtakallio 2016). Oikeuttamisen tapoja tarkastelemalla pääsen käsiksi siihen, millaisia hoivan eetoksia suosituksissa rakennetaan, ja siihen, miten aiemman kirjallisuuden tunnistama markkinaistaminen oikeutetaan politiikkasuosituksissa käytännössä. Oikeuttamisen ja eetoksen suhde on kaksisuuntainen: tietynlaista eetosta oikeutetaan tiettyjen maailmojen arvojen pohjalta, ja tietty eetos suosii tietynlaisia oikeuttamisen tapoja. Analyysini perustuu näistä etenkin ensimmäiseen: oikeuttamista tarkastelemalla minulle

paljastuvat eetosten rakentamisen tavat ja periaatteet. Menetelmä pohjaa sosiologien Luc Boltanskin ja Laurent Thévenot'n (1991/2006; 1999) kehittämään julkisen oikeuttamisen teoriaan, joka korostaa, että oikeuttaminen ei ole koskaan neutraalia vaan aina sidoksissa erilaisiin vakiintuneisiin käsityksiin yhteisestä hyvästä, oikeudenmukaisuudesta ja moraalista. Boltanski ja Thévenot ovat tuotannoissaan erottaneet nämä vakiintuneet oikeuttamisen tavat erilaisiksi "maailmoiksi" (ks. taulukko 1) yhteiskuntafilosofisten klassikkotekstien pohjalta (Kauppinen 2015; Luhtakallio ja Ylä-Anttila 2011; Boltanski ja Thévenot 1999; 1991/2006).

TAULUKKO 1. OIKEUTTAMISEN MAAILMAT.

Maailma	**Arvot**	**Arvon lähde**	**Arvokkaan henkilön esimerkki**
Inspiraatio	Itsenäisyys, henkilökohtaisuus, luovuus ja mielikuvitus	Omistautuminen, ruumiillinen kokemus ja tunteet	Taitelija
Koti	Perinteet, luottamus ja arvovalta	Auktoriteetti ja asema, hierarkkiset riippuvuussuhteet hierarkkiset riippuvuussuhteet	Kuninkaallinen
Maine	Kunnia ja kuuluisuus	Muiden mielipiteet ja tunnustus	Julkisuuden henkilö
Kansalaisuus	Tasa-arvo ja jaettu etu	Solidaarisuus ja kansan tahto	Kansanedustaja
Markkinat	Varallisuus ja rikkaus	Vaihto ja kilpailu, raha sekä ostovoima	Huipputuloinen
Teollisuus	Tuottavuus ja tehokkuus	Suunnittelu ja sääntely: mittaaminen, funktionaalisuus ja standardisointi	Asiantuntija

Maailmat muodostavat "kulttuurisen työkalupakin" (Luhtakallio ja Ylä-Anttila 2011; Ylä-Anttila ja Luhtakallio 2016; ks. myös Swidler 1986), joka ei niinkään rajoita vaan mahdollistaa tietynlaisten vaatimusten esittämisen vetoamalla

yhteisenä pidettyyn moraaliin ja arvoihin erilaisissa konteksteissa (Boltanski ja Thévenot 2000). Oikeuttamisen taustalla olevat moraaliset periaatteet ovat verrattain rajalliset ja kulttuurisidonnaiset. Oikeuttaessaan toimintaansa, ajatteluaan, uskomuksiaan tai sosiaalisia järjestelyitään erilaiset toimijat eivät vetoa yleisiin ajatuksiin oikeudenmukaisuudesta, tasa-arvosta sekä hyvästä ja tavoiteltavasta elämästä. Sen sijaan toimijat vetoavat erilaisten oikeuttamisen maailmojen sisäisiin konventioihin, jotka määrittävät maailmoja omilla tavoillaan.

JOA:ssa analysoidaan vaateita, joita voidaan esittää esimerkiksi lausunnoissa, raporteissa ja mielipidekirjoituksissa. Laatusuosituksissa esitetään vaateita varsinkin liittyen siihen, mitä pitäisi tehdä, jotta iäkkäiden hyvinvointi ja julkisen talouden kestävyys turvattaisiin. Vaateet siis koskevat sitä, miten sosiaalinen ja taloudellinen ”kestävyys” saataisiin sovitettua yhteen. Kun kyseessä on STM:n kaltainen instituutio, vaateen merkitys strategisena vaatimuksena ja osanottona relevanttiin yhteiskunnalliseen ongelmaan tai keskusteluun korostuu (Koopmans ja Statham 1999, 206). Vaateet voivat viitata joko yhteen, useaan tai ei mihinkään oikeuttamisen maailmaan. Useampaan maailmaan viitatessaan vaateet voivat joko tuomita tai tehdä kompromisseja tai hybridejä, mutta muutkin yhdistelmät ovat mahdollisia. Toisin kuin kompromisseissa, hybridioikeutuksissa maailmojen yhdistelmä ei vaikuta ensisilmäyksellä ristiriitaiselta. (Boltanski ja Thévenot 1991/2006; Luhtakallio ja Ylä-Anttila 2011, 39, 47; Koopmans ja Statham 1999; Thévenot 2011, 17; Ylä-Anttila ja Luhtakallio 2016.)

Analyysiprosessini oli kolmivaiheinen. Ensin tutustuin suosituksiin yleisesti lukemalla niitä läpi ja vertailemalla niitä toisiinsa. Toiseksi koodasin aineistosta löytyvät vaateet Excel-taulukkoon. Eeva Luhtakallio ja Tuomas Ylä-Anttila (2011, 39) ehdottavat, että vaateita koodattaessa tulee erottaa puhuja, vastaanottaja, tekotapa, asia ja oikeutus toisistaan. Aineistossani puhuja (STM) ja vastaanottajakin (ensisijaisesti kuntien päättäjät ja johto) ovat periaatteessa samat. Tekotavankaan erittely ei ole oleellista, sillä suosituksissa se säilyy samana (vrt. Eranti 2014, 25). Keskityin siis siihen, mitä vaateissa vaaditaan (asia), mihin maailmoihin vedotaan (oikeutus) tai mitä maailmoja tuomitaan (kritiikki) ja esiintyykö aineistossa oikeutusyhdistelmiä (hybridit ja kompromissit). Liitteessä 1 on otteita koodauksesta. Siinä näkyy, miten vaateita iäkkäiden yhdenvertaisuuden turvaamiseksi oikeutetaan kansalaisuuden maailmasta käsin sekä kansalaisuuden ja teollisuuden maailmojen hybrideissä.

Kolmanneksi tulkitsin oikeuttamisen tapoja aiemman tutkimuskirjallisuuden avulla ja muodostin suosituksista löytyvät eetokset. Näin ollen analyysi oli teoriaohjaavaa. Hyödynsin julkisen oikeuttamisen teoriassa esitettyä alkuperäistä jakoa kuuteen oikeuttamisen maailmaan ja näiden sisältöjä (ks. taulukko 1) pitäen mielessä, että aineiston sisältämä oikeuttamisen kirjo ei tyhjene näihin.

Aineiston vaateet olivat yleensä imperatiivissa, kuten ”on edistettävä” ja ”on mukauduttava”. 2020-luvulle tultaessa passiivin käyttö yleistyy suosituksissa ja niistä tulee aiempaa epämääräisempiä. Esimerkiksi kun ”vaaditaan”, että ”[k]oti- ja tehostetun palveluasumisen toimintayksikköjen henkilöstön välitöntä asiakasaikaa ja -työtä lisätään toimintatapoja uudistamalla” (STM 2017, 23), jää avoimeksi, kuka lisää aikaa tai työtä ja kuinka paljon, mitä toimintatapojen uudistaminen tarkoittaa, kuka toimintatapoja uudistaa ja niin edelleen. Passiivin yleistyminen johtunee siitä, että 2000-luvun alussa oltiin vielä optimistisia sosiaali- ja terveyspalveluiden kentän uudistamisen suhteen. Sittemmin kädenvääntö terveysalan toimijoiden vastuualueista on vaikeuttanut suositusten kohdentamista kenellekään suoraan. Aineistossa ei ollut tuomitsemisia tai kompromisseja. Tämä liittynee siihen, että ”puhuja” (STM) säilyy suosituksissa samana ja suositusten sisältämä viestintä on yksisuuntaista. Toisaalta eri toimijoiden välinen keskustelu on edeltänyt suositusten antamista, ja ristiriidat on pyritty ratkaisemaan jo siinä vaiheessa.

Julkisen oikeuttamisen analyysi sopii varsinkin vertaileviin tutkimusasetelmiin (Luhtakallio ja Ylä-Anttila 2011). Toisen analyysivaiheen jälkeen kuitenkin selvisi, että muutoksen sijaan suosituksissa korostuu jatkuvuus. Esimerkiksi pyrkimys kunnioittaa tasa-arvoa säilyy suosituksissa vuodesta toiseen (ks. liite 1). Siksi käsittelen aineistoa ajallisesti yhtenäisenä joukkona ja havainnollistavana esimerkkinä 2000-luvun alkuvuosikymmenten hoivapolitiikasta. Johdonmukaisuus ei kuitenkaan tarkoita ristiriidattomuutta, vaan päinvastoin pyrkimys sovittaa yhteen ”sosiaalinen ja taloudellinen kestävyys” näkyy suosituksissa hyvinvoinnin ja selviytymisen eetosten yhteiselona. Seuraavaksi tarkastelen tätä yhteiseloa tarkemmin. Avaan analyysiluvuissa ensiksi sosiaalisen ja taloudellisen kestävyyden yhteydet hyvinvoinnin ja selviytymisen eetoksiin, sitten eetosten rakentamisen eli oikeuttamisen tavat ja lopuksi eetosten sisäistämisen seuraukset iäkkäille ja hoivatuotannolle.

Hyvinvoinnin eetos ja sosiaalinen kestävyys

Laatusuosituksissa hyvinvoinnin eetos eli universalismin, tasa-arvon, julkisen vastuun, solidaarisuuden, kohtuuden ja yhteneväisyyden korostaminen toimivat eettisenä ohjeistona sosiaalisen kestävyyden turvaamiselle. Hyvinvoinnin eetosta rakennetaan oikeutuksilla, jotka vetoavat kansalaisuuden maailmaan sekä kansalaisuuden ja teollisuuden maailmojen hybrideihin. Eetoksessa iäkäs moraalisubjekti määritellään osalliseksi ja osallistuvaksi kansalaiseksi, joka on myös oman elämänsä asiantuntija.

Oikeuttamisen näkökulmasta hyvinvoinnin eetosta rakennetaan suosituksissa vaateissa, jotka vetoavat kansalaisuuden maailman arvoihin ja lähtökohtiin. Kansalaisuuden maailmassa keskeisiä arvoja ovat tasa-arvo ja jaettu etu. Niihin päästään solidaarisuuden ja demokratian avulla. Hyvinvoinnin eetos näkyy suosituksissa myös hybridivaateissa, jotka saavat oikeutuksensa kansalaisuuden ja teollisuuden maailman yhteensovittamisesta. Tällöin tuottavuuden priorisointi, tehokkuusajattelu, suunnittelu ja sääntely määrittävät uusiksi kansalaisuuden ideaaleja, kuten tasa-arvoa ja jaettua etua. (Boltanski ja Thévenot 1991/2006.)

Koko suositusten olemassaolon syyn voi paikantaa kansalaisuuden maailmaan. Niiden tarkoitus on ollut perustus- ja vanhuspalvelulakien takaamien oikeuksien turvaaminen:

> Suomen perustuslain (25 §) mukaan julkisen vallan on turvattava perus ja ihmisoikeuksien toteutuminen. Näistä oikeuksista ikäihmisten palvelujen laatusuosituksen sisältöön vaikuttavat erityisesti oikeudet yhdenvertaisuuteen (6 §) ja sosiaaliturvaan (19 §), kuten välttämättömään huolenpitoon ja riittäviin sosiaali- ja terveyspalveluihin. (STM 2008, 12.)

Viittaus perustuslakiin määrittelee iäkkään suhteessa hyvinvointivaltioon ja sen periaatteisiin, kuten universalismiin (Häikiö ym. 2011, 243). Vaikka lakien säätämisen ja valvonnan keskeisyys palveluiden tuotannon sijasta on merkki valtion liberalisoitumisesta (Foucault 1979/2008, 32), on syytä pitää mielessä lain valvomisen tarkoitus, joka tässä yhteydessä on tavoite kunnioittaa demokratian ja hyvinvointivaltion periaatteiden, kuten universalismin, toteutumista. Lakiin vetoaminen vetoaa samalla kansalaisuuden maailman arvoihin,

moraaliin ja sen sisältämiin käsityksiin oikeudenmukaisuudesta. Nämä ovat suosituksissa ”sosiaalisen kestävyyden” keskeisiä rakennuspalasia.

Kansalaisuuden ja teollisuuden maailmojen hybrideissä teollisuuden maailman työkalut, kuten suunnittelu, takaavat osallisuuden: ”Palvelusuunnitelman on tuettava iäkkään henkilön palvelujen kokonaisuuden hallintaa, tavoitteellista kuntoutumista ja osallisuutta” (STM 2013, 32). Näissä vaateissa suunnitelmallisuus edeltää osallisuutta. Vastaavasti kansalaisuuden maailman mukainen kansalaiskeskustelu on mahdollista vasta teollisuuden maailman peräänkuuluttaman seurannan ja arvioinnin pohjalta:

> Selkeä ja ytimekäs analyysi kunnan ikääntyneiden palveluiden, terveyden ja hyvinvoinnin nykytilasta on seurannan ja arvioinnin lähtökohta. Sen pohjalta voidaan käydä kansalaiskeskustelua. (STM 2008, 18.)

Kansalaisuuden ja teollisuuden maailmojen hybridit liittyvät myös henkilöstömitoitukseen – kunnes se siirtyy suosituksista vanhuspalvelulain piiriin vuonna 2020. Näissä vaateissa määrällisesti mitattavissa oleva henkilömäärä takaa kaikille riittävät ja yhdenmukaiset palvelut ja sosiaalisen kestävyyden: ”Palvelujen määrällisten ja laadullisten tavoitteiden toteuttamiseksi kunnissa määritellään kullekin palvelulle riittävä henkilöstömitoitus” (STM 2001, 17). Teollisuuden maailma määrittää keinoja, joilla tarvittavat tiedot ja osaaminen palveluiden järjestämiseksi saadaan, mutta myös sitä, mitä laadukkailla palveluilla tarkoitetaan. Käsitys palveluiden laadusta esiintyy suosituksissa teollisuuden maailman kautta jonakin määrällisesti todennettavissa olevana: ”Palveluiden kattavuudelle on asetettava konkreettiset määrälliset tavoitteet, joiden toteutumista seurataan tarkoituksenmukaisin indikaattorein” (STM 2008, 25). Kun hoivan laatu määrittyy määrällisesti, se liittyy edellä mainitun henkilöstömitoituksen lisäksi iäkkään parissa vietettyyn ”välittömään asiakasaikaan”:

> Välitöntä asiakasaikaa on kotihoidossa järjestelmällisesti seurattava: on asetettava paikalliset tavoitteet välittömälle asiakasajalle ja seurattava niiden toteutumista. Välittömän asiakasajan osuutta henkilöstön kokonaistyöajasta on lisättävä palveluprosesseja kehittämällä. (STM 2013, 47.)

Teollisuuden maailmaan pohjaavat oikeutukset tuovat hoivatyöhön ”taloudellis-hallinnollisen aikakehyksen”, jossa aika on rahaa, aikataulut ovat tiukkoja ja ajan säätelyllä saavutetaan kustannustehokkuutta (Hirvonen ja Husso 2012; ks. myös Virkki ym. 2012). Kansalaisuuden ja teollisuuden maailmojen hybridioikeutuksissa ei kuitenkaan vaadita vain kustannussäästöjä, vaan teollisuuden maailmaan vetoavat hybridioikeutukset ovat tukemassa kansalaisuuden toteutumista.

Hyvinvoinnin eetos määrittelee hoivan perusoikeudeksi ja iäkkään moraalisubjektin osalliseksi kansalaiseksi. Kansalaisuuden maailmaan vetoamalla halutaan taata, että kaikki ovat osallisia valtion turvaamasta hyvinvoinnista:

> Iäkkäälle henkilölle annettava palvelu toteutetaan hänen itsemääräämisoikeuttansa kunnioittaen ja hänet kohdataan tasavertaisena toimijana. Iäkkään henkilön on oltava aidosti osallinen ja hänen mielipidettään on kuultava palvelun suunnittelussa ja toteutuksessa. (STM 2020, 45.)

Kansalaisuuden ja teollisuuden maailmoja yhdistävät hybridioikeutukset kuitenkin muuttavat sitä, mitä kansalaisuudella tarkoitetaan. Iäkäs moraalisubjekti ei ole enää vain kansalainen vaan myös asiantuntija, joka valvoo oikeuksiensa toteutumista. Samalla arvioinnin hyveellisyys korostuu. Arvioinnin taustalla on yhtäältä universalismin ideaali, pyrkimys turvata ja varmistaa ”sama” hoito ja hoiva kaikille iäkkäille, mutta toisaalta arvioinnin eetos myös tekee kansalaisista asiantuntijoita, jotka kykenevät ja haluavat osallistua palveluidensa strategiseen suunnitteluun ja toimeenpanoon.

Kansalaisuuden ja teollisuuden maailmojen hybrideissä vaatimukset kohdistuvat myös osallisuuden mahdollistamiseen teknologian avulla. Tämä tarkoittaa niin yhteydenpitoa omaisten, ystävien ja hoitajien kanssa videoyhteyksin, sähköistä asiointia kuin esteettömien asuinympäristöjen suunnittelua ja rakentamista. Myös tasa-arvon, osallisuuden ja oikeudenmukaisuuden turvaamisesta teknologian avulla seuraa kansalaisuuden uudelleen määrittely. Vuonna 2020 teknologiataitoja edellytetään kansalaiselta, mutta samalla suositukset korostavat, että digitalisaatio ei saa syrjäyttää (STM 2020, 31). Suositusten mukaan syrjäytyminen estetään kattavalla digituen saatavuudella. Digitalisaatio kuitenkin vaatii kansalaisilta paljon ja vastuullistaa heitä uusilla tavoilla (Schou ja Svejgaard Pors 2019). Tasavertaisuuden lupauksen sijaan

palveluiden digitalisointi voi eristää iäkkäät kansalaisuuden piiristä. Teknologian turvaamasta osallisuudesta voi helposti seurata ”pseudo-osallistuminen” (Hoppania 2019), jossa keskeistä ei ole palveluiden piiriin pääseminen vaan niistä tietoiseksi tuleminen ja yksilön mahdollisuuksien mahdollistaminen, joka on keskeistä uusliberaalille hallinnalle (Miller ja Rose 2008/2010).

Jo vuoden 2013 suosituksissa korostetaan iäkkään ”tietoyhteiskuntavalmiutta” (STM 2013, 29), jonka avulla vahvistetaan iäkkään ”omaehtoisia ennakoinnin mahdollisuuksia”. Teknologian osalta on tärkeää, että iäkkäät ovat tietoisia saatavilla olevista teknologisista ratkaisuista:

> Ikääntyville tarjotaan mahdollisimman aikaisessa vaiheessa tietoa digitaalisista palveluista, teknologioista ja apuvälineistä sekä tietoturvasta. [– –] Varmistetaan asiakkaille ja työntekijöille konsultointimahdollisuudet ja tekninen tuki palveluun tai työn tekemiseen liittyvän teknologian osalta. (STM 2020, 35.)

Kun iäkäs ”asiakas” on asiantuntija, on tärkeää, että hänelle varmistetaan ”konsultointimahdollisuudet”. Konsultoinnin ja neuvonnan on tarkoitus ohjata iäkästä ottamaan itse vastuuta tietotaidoistaan ja selvittämään saatavilla olevia palveluita. Julkisen vallan vastuulla on varmistaa, että iäkäs saa tarvittavat tiedot. Tällaisessa mahdollisuuksien mahdollistamisessa julkisen sektorin toimijat eivät ole enää palvelun tuottajia vaan sen järjestäjiä (Saarinen ym. 2014, 611). Digitalisaation myötä hyvinvointivaltioon kuuluvat ajatukset yhdenvertaisista kansalaisista lähentyvät uusliberalismin ideaalia omatoimisista ja vastuullisista ”asiakkaista”. Selviytymisen eetoksessa tämä korostuu entisestään.

Selviytymisen eetos ja taloudellinen kestävyys

Hyvinvoinnin eetoksen lisäksi suosituksissa rakennetaan myös ”taloudellisen kestävyyden” peräänkuuluttamaa selviytymisen eetosta. Selviytymisen eetos eli eettinen ohjeisto, jossa ihannoidaan riippumattomien yksilöiden kunniallista selviytymistä kovassa maailmassa, on avain suositusten kaipaamalle ”taloudelliselle kestävyydelle”. Selviytymisen eetosta rakennetaan suosituksissa

vaateissa, jotka pohjaavat markkinoiden maailmaan sekä markkinoiden ja teollisuuden maailmojen hybrideihin. Eetosta rakennetaan lisäksi vaateissa, joiden oikeutus puuttuu oikeuttamisen maailmojen näkökulmasta. Selviytymisen eetos määrittelee iäkkään moraalisubjektin toimeliaana, itsestään huolehtivana ja tuotteliaana ”yrittäjänä”. Uusilla teknologioilla on keskeinen rooli selviytymisen eetoksen ylläpitämisessä ja itsenäisten moraalisubjektien tuottamisessa.

Markkinoiden maailmassa arvokasta ovat varallisuus ja rikkaus, ja ne saavutetaan vaihdon ja kilpailun kautta (Boltanski ja Thévenot 1991/2006). Markkinoiden maailman logiikka sopii varsin hyvin teollisuuden maailmaan, sillä niitä yhdistävissä hybridivaateissa tehokkuusajattelu, tuottavuuden priorisointi ja hyvä suunnittelu takaavat varallisuuden kasautumisen. Yksi keskeisin tapa vedota markkinoiden maailmaan on tehdä iäkkäät asiakkaiksi. Kun palvelut tulee järjestää ”arvokkaasti ja asiakasta kunnioittaen, vaikuttavasti ja taloudellisesti kestävästi” (STM 2008, 9), palveluiden tarpeessa oleva iäkäs on nimenomaan asiakas eikä esimerkiksi potilas tai kansalainen (ks. myös Valokivi 2008; Virkki ym. 2012). Samalla hoiva määritellään kulutushyödykkeeksi, jota asiakkaat ostavat markkinoilla (Hoppania ja Vaittinen 2015). ”Asiakkaan rooli” on

> aktiivisimmillaan laadun kehittäjän rooli, jolloin asiakas osallistuu oman palvelunsa laadun kehittämiseen asettamalla laatutavoitteita, suunnittelemalla palvelun toteutusta ja arvioimalla palvelua voimavarojensa mukaisesti. Kaikilla, toimintakyvyltään heikoimmillakin, asiakkailla on laadun kokijan rooli, jolloin asiakkaat tuovat esimerkiksi asiakastyytyväisyysmittausten tai omaisten kautta välittyvän palautteen avulla julki kokemuksiaan palvelun laadusta. (STM 2008, 14.)

Tällaisissa markkinoiden ja teollisuuden maailmojen hybridivaateissa toimintakyvyltään heikkokin asiakas on ”aktiivisimmillaan” asiantuntija: suunnitelmallinen palvelun laadun kokija, arvioija ja kehittäjä.

Markkinoiden ja teollisuuden maailmojen hybridit – ja markkinoiden maailmaan vetoaminen ylipäänsä – vastuullistavat iäkästä eri tavoin. Vastuun kasvamisen taustalla on hoivan markkinaistaminen, julkisen ja yksityisen sektorin sekoittaminen, mikä tulee esille suosituksissa vuonna 2008: ”Suositus korostaakin julkisen, yksityisen ja kolmannen sektorin kumppanuutta

ja painottaa myös kuntalaisten, asiakkaiden ja omaisten osallistumismahdollisuuksien lisäämistä" (STM 2008, 10). "Palvelujärjestelmän", jossa eri sektorit ja toimijat ovat yhteistyökumppaneita, "tehtävänä on tukea, ohjata ja motivoida ihmisiä kantamaan vastuuta omasta hyvinvoinnistaan ja terveydestään" (STM 2008, 22). Näin ollen "yhteistyö" ei tarkoita vain osallistumista vaan vastuun jakamista uusilla tavoilla, sen ottamista ja sisäistämistä. Samalla kun suositukset korostavat yksilön mahdollisuuksia ja voimavaroja huolehtia omasta terveydestään, vastuu siirtyy julkiselta sektorilta iäkkäille ja heidän läheisilleen.

Suositusten sisältämät vaateet eivät aina selkeästi viittaa oikeuttamisen maailmoihin. Näin on erityisesti teknologiaan ja kustannussäästöihin liittyvien vaatimusten kanssa. Nämä myös usein liittyvät toisiinsa. Oikeuttamista edellyttävien vaateiden sijasta ne esitetään suosituksissa objektiivisina totuuksina tai itsestäänselvyyksinä. Suosituksissa tyydytään toteamaan teknologian arvoista ja moraalisesta arvioinnista vapaa hyödyllisyys. Innostunut ja fiktion varaan rakentuva teknologiapuhe kumpuaa moraalisesta asemasta, joka on yleinen iäkkäille suunnattujen teknologisten innovaatioiden politiikassa. Tällaisessa politiikassa päättäjät ja yritykset korostavat retorisesti teknologian tuomaa "kolmoisvoittoa", joka hyödyttää yksilöitä, taloutta ja koko yhteiskuntaa (Neven ja Peine 2017). Kolmoisvoittoretoriikassa yksilö hyötyy, kun hän saa riittäviä ja parempia palveluita kotiinsa. Samalla hoivatyöntekijät ovat vähemmän kuormittuneita ja jaksavat paremmin töissä. Taloudellisesti voitetaan kustannussäästöjen ja kansallisten teknologiayritysten kasvavan kilpailukyvyn myötä.

Iäkkäiden kotona asumisen mahdollistaminen ja lisääminen on ollut Suomessa ja kansainvälisesti keskeinen hoivapolitiikan suunta (Anttonen 2009; Karsio ja Anttonen 2013; Pulkki ja Tynkkynen 2020). Kotikeskeisyys perustellaan usein sillä, että kotona asuminen mahdollisimman pitkään nähdään iäkkäiden omana toiveena (Pulkki ym. 2017, 46). Myös suosituksissa painotetaan iäkkäiden kotona asumisen mahdollistamista ja palveluasumisen karsimista. Kodin korostaminen liittyy kuitenkin myös siihen, että kun iäkkäiden omaehtoisesta toimintakyvystä huolehditaan, saavutetaan säästöjä ja vähennetään palvelutarvetta. Säännöllisten palveluiden piiriin siirtyminen on uhka resurssien kestävyydelle. Jotta tältä vältyttäisiin, ennakointi ja ennaltaehkäisy sekä iäkkäiden omaehtoisen toimintakyvyn ylläpito varsinkin teknologian avulla

on suositusten keskiössä. Vuoden 2008 suosituksista lähtien erilaiset ”eettisesti kestävät” ja ”asiakasystävälliset” turvarannekkeet sekä seuranta- ja valvontajärjestelmät auttavat iäkästä selviytymään itsenäisesti kotona (STM 2008, 22, 39, 40). Myös robotiikka tukee kotona asumista: ”Monitoimiset kotiapurobotit ja muut teknologiasovellukset voivat jatkossa pidentää iäkkäiden henkilöiden ja liikuntarajoitteisten henkilöiden kotona asumisen aikaa” (STM 2017, 27).

Valtioneuvoston periaatepäätöksen (LVM 2016) mukaisesti vuonna 2017 suosituksissa kehotetaan ”robotiikan ja automaation käytön huomattavaa lisäämistä kaikilla toimialoilla” (STM 2017, 26). Vuoden 2020 suositukset korostavat sähköisen omahoidon merkitystä terveysongelmien ennaltaehkäisyssä, itsearvioinnissa ja itsenäisessä selviytymisessä. Tällaiset teknologiat turvaavat iäkkään hyvinvoinnin ja turvallisuuden ilman ammattihenkilöstön välitöntä läsnäoloa eli mahdollistavat ”hoivan etäisyyden päästä” (*care at a distance*, Pols 2012). Suosituksissa selviytymisen eetokseen kuuluvat itsenäisyys ja omatoimisuus ovat tärkeitä arvoja, joiden toteutuminen voidaan turvata teknologian avulla. Vuoden 2017 suosituksissa ”teknologiset ratkaisut”, kuten automatisointi ja robotiikka, tukevat työn organisoinnissa ja hallinnossa sekä tuovat uusia mahdollisuuksia iäkkäiden omahoitoon omaisille ja hoivatyöntekijöille:

> Asiakkaiden hyvinvoinnin ja turvallisuuden lisäämiseksi [– –] hyödynnetään robotisaation mahdollisuuksia nykyistä laajemmin. Asiakkaiden hyvinvointia lisääviä teknologisia ratkaisuja ovat mm. sosiaalista toimintakykyä aktivoivat sovellukset, terapiarobotit, lääkemuistutusrannekkeet, videopuheluyhteydet, hyvinvointi TV:t sekä monenlaiset arkielämää ja liikkumista helpottavat ratkaisut. (STM 2017, 28.)

Vaikka suositukset antavat kuvan siitä, että vuorovaikutukseen kykeneviä seura- ja terapiarobotteja olisi palvelukäytössä, todellisuudessa robotiikan hyödyntäminen hoivapalveluissa on vielä pitkälti markkinoinnin ja prototyyppien varassa (Van Aerschot ja Parviainen 2020). Vuoden 2020 suosituksissa annetaan esimerkki nostorobotista, joka auttaa ihmistä raskaassa työssä, mutta tällainen kaupallisesti saatavilla oleva robotti on edelleen fiktiota (Parviainen 2019). Kun fiktio on päätynyt ministeriötasolta annettuihin suosituksiin, palveluiden järjestämisen ja tukemisen sijaan uusimpien suositusten

teknologiapuhe näyttäytyy teknologiayritysten markkinoinnin jatkeena.

Kotona asumisen turvaamisen lisäksi kustannussäästöt saavutetaan sillä, että teknologia auttaa ja jopa korvaa hoivatyöntekijät erilaisissa tehtävissä. Jos vuoden 2008 suosituksissa ammattihenkilöstöä ei enää tarvita turvaamaan iäkkään hyvinvointia ja turvallisuutta, vuoden 2017 ja 2020 suosituksissa teknologia myös korvaa hoitajia logistiikassa, lääkehoidossa ja raskaissa työtehtävissä. Myös turvateknologialla on keskeinen rooli säästöissä: ”Mikäli turvateknologia aidosti vähentää tarvittavaa henkilöstön työaikaa, voi säästöpotentiaali olla suuri” (STM 2017, 32). Kun henkilökuntaa on vähemmän tai työaikaa on saatu ”aidosti” vähennettyä, saadaan säästöjä. Vielä vuoden 2013 suosituksissa korostettiin, että väestön ikääntyminen luo jopa 60 000 uutta työpaikkaa tulevien vuosikymmenten aikana (STM 2013, 39). Viimeisimmissä suosituksissa henkilöstöä ollaankin vähentämässä kustannusten hillitsemiseksi. Vuonna 2020 vedotaan perusteettomaan (ks. Parviainen 2019) arvioon, jonka mukaan 20 % hoitajien töistä voisi korvata jo olemassa olevalla teknologialla (STM 2020, 34). Kun teknologia korvaa ihmisen joissakin työtehtävissä, työntekijän aikaa vapautuu ”ihmisten kohtaamiseen” (emt., 30).

Yksilön vahva kilpailukyky on samalla valtion kasvavaa kilpailukykyä. Suositusten teknologiapuhe kuvaa tätä yhtälöä. Kun ”[r]obotiikalla voidaan lisätä ja parantaa iäkkäiden kognitiivisia taitoja, omatoimisuutta, itsenäisyyttä ja yksityisyyttä” (STM 2017, 27), myös robotiikkaa tarjoavat kansalliset yhtiöt voivat hyvin globaaleilla markkinoilla. Seurantateknologiat ja seurarobotit, jotka turvaavat yksin pärjäämisen mahdollisimman pitkään ja säästävät – jopa vähentävät – hoitajia, lisäävät säästöjä ja tuottavat kysyntää uusille teknologioille. On kiinnostavaa, että oikeuttamisen tarve näyttää puuttuvan vaateista, joissa pyritään taloudelliseen kestävyyteen kustannusten karsimisella, säästöillä ja voittojen tuottamisella teknologian avulla. Oikeuttamisen puuttuminen osoittaa, miten uusliberalismi näyttäytyy ainoana ”järkevänä” poliittisena vaihtoehtona (Hoppania 2017, 2019; Hoppania ja Vaittinen 2015; Wrede ja Näre 2013) ja liittyy vaihtoehdottomuuteen, jonka Margaret Thatcher tiivisti uusliberalismin sloganiksi 1980-luvulla: ”Vaihtoehtoa ei ole” (*There is no alternative*). Kun ei ole vaihtoehtoja, ei vaateiden oikeuttamisellekaan ole tarvetta.

Selviytymisen eetos tekee kansalaisista ”aktivoituja, valtaistettuja ja vastuutettuja” (Julkunen 2006, 29) moraalisubjekteja. Kun oma vastuu kasvaa,

kustannuksissa ja resursseissa säästetään. Sen lisäksi että tällainen moraalisubjekti on itsenäinen ja vapaa, hän on myös riippumaton ja tuottava. Riippumaton moraalisubjekti tuottaa omaa hyvinvointiaan ja osallisuuttaan mutta myös kustannussäästöjä julkiselle taloudelle. Näin hän myös takaa sen kestävyyden ja tuo voittoja terveys- ja teknologiayrityksille. Edellä käsitellyt hoivatyöntekijöiden vähentämispyrkimykset viittaavat tähän: iäkäs ei ole pelkästään kuluttava asiakas vaan kasvavissa määrin myös palveluidensa tuottaja, ”oman itsensä yrittäjä” (Foucault 1979/2008; Rose ja Miller 2008/2010, 75; ks. myös Hoppania ja Vaittinen 2015). Selviytymisen eetoksen sisäistävä moraalisubjekti on hyvin toimeentuleva, velvollisuudentuntoinen, terve ja toimintakykyinen ”terveyskansalainen” (Harjula 2015; Helén ja Jauho 2003), joka osaa, haluaa ja kykenee huolehtimaan omasta hyvinvoinnistaan ja samalla myös kansanterveydestä. Kun tällainen ”itsesuhde” (Foucault 1976/2008, 1976–1984/2010) on eetoksen keskeinen rakennuspala, ollaan kaukana hyvinvoinnin eetoksesta, joka asettaa yhteiskunnan ”toisina” nähdyt ja apua tarvitsevat iäkkäät sosiaalisten oikeuksien ja julkisen vastuun piiriin. Selviytymisen eetoksen ongelma on, että sen sisäistävä moraalisubjekti jää – pärjäsi tai ei – lopulta yksin. Toinen ongelma on, että eetos soveltuu huonosti terveyden ylläpitoon; oma terveys on helppoa, ellei suotavaa, riskeerata ja jopa uhrata selviytymisen eetoksen nimissä. (Kortteinen 1992.)

Selviytymisen eetoksessa politiikan lähtökohta on, että kansalainen muuttaa itseään tullakseen hoivan arvoiseksi (vrt. Julkunen 2006, 41). Tällöin kyse ei ole universaalien perusoikeuksien toteutumisesta vaan niiden ansaitsemisesta (Pulkki ja Tynkkynen 2016). Kun kyse on ansaitsemisesta, hoiva ei määrity haavoittuvaisesta toisesta vaan omasta itsestä huolehtimisena, itseapuna tai -hoivana. Selviytymisen eetos poistaa hoivatarpeen ja kyseenalaistaa perinteisten hoivapalveluiden tarpeellisuuden. Eetos liittyy uusliberaaliin hallintaan, joka korostaa yksilön vapautta mutta samalla myös hänen vastuutaan omasta terveydestään ja julkisen talouden kestävyydestä (Hoppania ym. 2016, 81–85). Uusliberalismissa julkinen hyvinvointivastuu korvautuu yksilön vastuulla. Sen sijaan, että valtio olisi vastuussa sosiaalisten oikeuksien toteutumisesta, yksilö on vastuussa omasta ja valtion toimintakyvystä (Julkunen 2001; 2006). Samalla iäkkäästä yrittäjäsubjektista tulee resurssi, jolla turvataan palveluiden kestokyky (vrt. Saarinen ym. 2014). Suositukset kutsuvat iäkästä moraalisubjektia pärjäämään omillaan rajallisten resurssien maailmassa, palvelurakennetta

rasittamatta ja lisäkuluja aiheuttamatta. ”Minimiuniversalismin” (emt.) mukaisesti palvelut kyllä löytyvät, koska laki niin vaatii, mutta ihanne on, että niitä ei tarvita.

Johtopäätökset

Olen tarkastellut artikkelissa sitä, miten ja millaisin seurauksin hoivapalveluiden sosiaalinen ja taloudellinen ”kestävyys” pyritään turvaamaan STM:n ja Kuntaliiton antamissa laatusuosituksissa iäkkäiden palveluiden turvaamiseksi. Olen näyttänyt julkisen oikeuttamisen analyysimenetelmän avulla, miten sosiaalisen ja taloudellisen kestävyyden yhteensovittaminen tarkoittaa samalla hyvinvoinnin ja selviytymisen eetosten rakentamista ja niiden yhteiselon mahdollistamista. Sosiaalisen kestävyyden takaamiseksi suosituksissa rakennetaan hyvinvoinnin eetosta vetoamalla kansalaisuuden maailman arvoihin. Tässä eetoksessa iäkäs moraalisubjekti on kansalainen, jonka perusoikeuksiin kuuluu oikeus riittävään hoivaan. Sen sijaan taloudellisen kestävyyden turvaamiseksi esitettyjen vaateiden oikeutus pohjautuu useimmiten markkinoiden maailman sekä markkinoiden ja teollisuuden maailmojen hybrideihin – tai puuttuu kokonaan. Niin nämä oikeuttamisen tavat kuin niiden puuttuminen luovat selviytymisen eetoksen, joka määrittää iäkkäitä moraalisubjekteja yksin pärjäävinä asiakas-yrittäjinä. Eetokset eivät muodosta tarkkarajaista vastinparia vaan risteävät toistensa kanssa sosiaalista ja taloudellista kestävyyttä haettaessa. Esimerkiksi hyvinvoinnin eetoksessa saavutettu oman terveyden ja hyvinvoinnin asiantuntijuus tarkoittaa myös vastuun sisäistämistä, joka on keskeistä selviytymisen eetokselle. Kokonaisuudessaan selviytymisen eetosta rakennettiin suosituksissa hyvinvoinnin eetosta painokkaammin. Tämä viestii laatusuositusten asemasta hoivapalveluiden markkinaistamisen todisteena ja välineenä.

Suosituksissa tiedostetaan sosiaalisen ja taloudellisen kestävyyden välisen kompromissin ristiriitaisuus: ”Mikä puhtaasti taloudellisesta näkökulmasta olisi hyvää, voi sosiaalisen kestävyyden kannalta olla huonoa. Analogisesti huono sosiaalinen kehitys voi ajan myötä merkittävästi vaarantaa taloudellisten kestävyyden toteutumisen.” (STM 2017, 7.) Taloudellisen ja sosiaalisen kestävyyden yhteensovittaminen viestiikin hyvinvointivaltion kriisisistä. Samalla,

kun kaikista kansalaisista halutaan pitää huolta ikään katsomatta, iäkkäiden on kasvavissa määrin haluttava ja osattava pitää huolta itsestään. Vaikka iäkäs on edelleen oikeutettu saamaan universaalia perusturvaa, käytännössä suositukset kertovat, millaiseksi iäkkään on tultava, jotta hän on palveluiden arvoinen. Palvelujärjestelmän kuormittamisen sijasta hänen on huolehdittava itsestään ja julkisen talouden kestävyydestä (vrt. Pulkki ja Tynkkynen 2016; Saarinen ym. 2014). Vastuullisen ja yksin selviävän moraalisubjektiuden sisäistämisestä viestii esimerkiksi se, että samalla kun iäkkäiden kotona asuvien määrä on lisääntynyt, kotihoitopalveluiden tarve ei ole kasvanut samassa suhteessa (Pulkki ym. 2017, 46). Tämä tuskin selittyy pelkästään sillä, että nykyiset iäkkäät ikääntyvät terveemmin kuin aiemmat sukupolvet.

Laatusuosituksissa kaikki vaateet eivät vetoa oikeuttamisen maailmoihin. Tästä esimerkkejä ovat ehdottomat säästövaatimukset ja puhe teknologian arvoista vapaan hyödyllisyyden ympärillä. Useimmiten nämä liittyvät toisiinsa. Muutokset hoivavastuun jakamisessa ovat hoivan poliittisen talouden kannalta merkittäviä, sillä uusien teknologioiden käyttäjänä iäkkään rooli lähenee hoivatyöntekijän asemaa pääoman kerryttämisen prosesseissa. Hoivapalveluiden digitalisaatio ja teknologiasta ”kaiken irti ottaminen” (STM 2017, 26) ovat keskeisiä tekijöitä vastuun uusjaossa. Suosituksissa teknologia ei niinkään korvaa työntekijöitä kuin vastuullistaa iäkkäitä. Kun omatoimiset iäkkäät huolehtivat toimintakyvystään ja hyvinvoinnistaan uusien teknologioiden avulla, saavutetaan säästöjä hoivan kustannuksissa ja resursseissa. Ehdottomilta säästövaatimuksilta oikeutus puuttuu – suosituksissa ne tyydytään vain toteamaan. Vaihtoehdottomuus ei ole julkisen oikeuttamisen ”kieliopin” mukaista, sillä siinä pyritään vakuuttamiseen ja yhteisyyden luomiseen keskustelun kautta (Thevénot 2011). Oikeuttamisen puuttuminen ei ole sinänsä puute vaan uusliberalismiin liittyvän vaihtoehdottomuuden mukaista. Näin ollen oikeuttamisen puuttuminen osoittaa sen, että markkinalogiikkaa ja hoivan logiikkaa on lopulta vaikea sovittaa yhteen (Hoppania ja Vaittinen 2015; Hoppania ym. 2016; 2020; Mol 2008).

Oikeuttamisen puutteellisuuden lisäksi on tärkeää pohtia, mitä suosituksissa jää vaatimatta ja millainen eetos suosituksista puuttuu. Sosiaalisen ja taloudellisen kestävyyden sijasta hoivapolitiikan tulisi huomioida yhteiskunnallinen kestävyys laajemmin. Laatusuosituksilla – ja Suomen hoivapolitiikalla yleisesti – on vaikeuksia tunnistaa ikääntyneen väestöryhmän moninaisuus (Pulkki

ja Tynkkynen 2016). Selviytymisen eetos rakentaa iäkästä moraalisubjektia aktiivisena ja hyvin verkostoituneena eläkeläisenä, ”harmaana pantterina”. Myös hyvinvoinnin eetoksessa iäkäs moraalisubjekti on ensisijaisesti toimintakykyinen ja osallistuva oman elämänsä asiantuntija. Toimintakyvyltään heikoimmat ovat suosituksissa korkeintaan kuntoutujia. Tällä hetkellä hoivapalvelujärjestelmä pystyy tunnistamaan avuntarpeen mutta ei kykene tunnustamaan avun tarpeessa olevia ja riippuvaisia iäkkäitä. Näin ollen suosituksista puuttuu ajatus iäkkäistä vaivaisina.

Vaivaisuuden tunnustaminen vaatisi keskinäisriippuvuuden eetoksen nostamisen hoivapoliittisen keskustelun keskiöön. Valinnanvapauden korostamisen sijasta keskinäisriippuvuuden eetos muistuttaisi ”riippuvuuden väistämättömyydestä” (Julkunen 2001, 250; ks. myös Pirhonen ja Pulkki 2016) ja mahdollistaisi avuntarpeessa olevan ja monin tavoin muista riippuvaisen moraalisubjektin tunnustamisen. Keskinäisriippuvuuden eetoksessa yksilö ei ole vastuussa vain itsestään vaan myös toisesta; hän ei säilytä kasvojaan vain pärjäämällä yksin vaan myös huolehtimalla toisesta (Fisher ja Tronto 1990; Tronto 1993). Tässä eetoksessa moraalisubjekti voi ja saa olla vaivainenkin. Pelkän vaivaisuuden tunnistamisen ja tunnustamisen lisäksi vaivaisuus tulisi sallia ja hyväksyä. Kyseessä ei ole ongelma, joka kaipaa ratkaisua.

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LIITE 1. VAATEIDEN KOODAUS.

Vuosi	Vaade	Asia	Oikeutus	Hybridi
2001	”Jokaisessa kunnassa tulee olla ajantasainen vanhuspoliittinen strategia, joka turvaa ikääntyneiden sosiaaliset oikeudet ja jonka kunnan poliittinen johto on virallisesti vahvistanut.”	On kehitettävä virallinen strategia turvaamaan iäkkäiden oikeudet. (Strategia turvaa oikeuksien toteutumisen).	Kansalaisuus	Teollisuus
2008	”Suomen perustuslain mukaan julkisen vallan on turvattava perus- ja ihmisoikeuksien toteutuminen mukaan lukien oikeus yhdenvertaisuuteen ja välttämättömään huolenpitoon.”	Kansalaisten yhdenvertaisuus on turvattava lain nojalla.	Kansalaisuus	
2013	”läkkäällä henkilöllä on oltava mahdollisuus osallistua yhteisönsä toimintaan myös silloin, kun hänen toimintakykynsä on heikentynyt. Tämä edellyttää, että iäkäs henkilö saa osallistumiseensa tarvittavaa tukea, kuten apuvälineitä näkemisen, kuulemisen, lukemisen, kommunikoinnin, yhteydenpidon, muistamisen ja liikkumisen tueksi [– –].”	Iäkkään osallistuminen on mahdollistettava, ja sitä on tuettava toimintakyvyn alenemisesta huolimatta.	Kansalaisuus	
2017	”läkkäiden ihmisten tarpeet otetaan huomioon asuntokannan korjaamisen edistämisessä ja asuinympäristöjen suunnittelussa ja ylläpidossa. Asuinympäristöjä kehitetään esteettömiksi ja turvallisiksi sekä yhteisöllisyyttä ja osallisuutta tukeviksi.”	Iäkkäiden kansalaisten tarpeet tulee huomioida. Yhteisöllisyys ja osallisuus ovat tärkeitä, ja niitä tulee tukea asuinympäristöissä. (Suunnittelu mahdollistaa osallisuuden.)	Kansalaisuus	Teollisuus

Vuosi	Vaade	Asia	Oikeutus	Hybridi
2020	”läkkäälle henkilölle annettava palvelu toteutetaan hänen itsemääräämisoikeuttansa kunnioittaen ja hänet kohdataan tasavertaisena toimijana. läkkään henkilön on oltava aidosti osallinen ja hänen mielipidettään on kuultava palvelun suunnittelussa ja toteutuksessa.”	läkkään läkkään itsemääräämisoikeutta, tasavertaisuutta ja osallisuutta tulee kunnioittaa.	Kansalaisuus	

Refereed journal article

Infirm or gray panthers? The outcomes of securing social and economic sustainability in Finnish care policy recommendations

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Abstract

The Finnish Ministry of Social Affairs and Health, together with the Association of Finnish Municipalities, has given recommendations for organizing care services for the aged since 2001. The main goal of the recommendations has been to secure both ethically and socially sustainable care provision while guaranteeing the economic sustainability of the public sector. This article examines, what this integration of "social and economic sustainability" means in practice. The article analyzes care policy recommendations from 2001 to 2020 with the public justifications analysis method. The analysis shows that the recommendations co-construct two different types of care ethoses that guide care provisions in Finland. On the one hand, the recommendations build an ethos of welfare, which is an ethos where the idea of care as a universal basic right is respected and where the aged care-receivers are active and participating citizens. On the other hand, the recommendations build an ethos of survival. In this ethos, care is a commodity and the care-receivers are customer-entrepreneurs who age healthily at home with the help of new technologies. They are both responsible for their own health and the sustainability of the public economy. This redistribution of responsibilities reformats the political economy of care: the users of care services are also increasingly their producers. The marketization of care is distinctive in the care policy recommendations. As a result, this kind of care policy has difficulties in recognizing the aged as infirm.

Keywords: care policy, ethos, justification, marketization, welfare state

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II

Ethics by Other Means? Care Robot Trials as Ethics-in-Practice

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Abstract: Recently, socially assistive robots (SARs) have entered care work to tackle the care deficit for ageing populations. Previous research on care robot ethics has emphasised design processes and ethical guidelines. In contrast, this paper employs an empirical ethics approach to investigate how ethics is co-constituted in care practices. Drawing on ethnographic research on an SAR's dementia-care usability trials, the core research question is "What therapeutic gains does human-robot interaction achieve for older users?" These usability trials were underpinned by the optimistic 'ageing-and-innovation discourse', which frames how 'the good' and 'therapeutic gain' are perceived. Furthermore, this article contributes to science and technology studies (STS) on older users by studying user figuration as a site of 'ethics by other means'. It argues that the ethics of care robots should not be contemplated only as ethical frameworks, guidelines and imperatives but, rather, as situated and relational normativities that stem from care practices.

Keywords: ageing-and-innovation discourse; empirical ethics; figuration; human-robot interaction; socially assistive robot (SAR).

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1. Introduction

The ethics of care robots has recently become a major subject of public and academic discussions. In Europe, the European Commission (2019) has defined ethical guidelines for the development, deployment and use of artificial intelligence, such in the case of automated assistive technologies and, among them, care robots. These guidelines are summarised as four ethical principles rooted in fundamental human rights: i) re-

specting human autonomy (i.e. ensuring human self-determination and freedom); ii) preventing harm (i.e. protecting human dignity, as well as mental and physical integrity); iii) fairness (i.e. equally distributing benefits and costs); and iv) explicability (i.e. using transparency as the basis for building trust). Universal human rights, such as autonomy, are evident in both the guidelines presented by the European Commission and the extant literature on care robot ethics. This literature stresses that designing assistive technologies for older adults should account for ethical principles, such as protecting privacy, ensuring dignity, preserving autonomy and respecting the values of independence, enablement, safety and social connectedness (Burmeister 2016; Diaz-Orueta et al. 2020; Sharkey 2014; Sorell and Draper 2014). The same values are evident in more critical assessments, in the fear that care robot implementation may lead to a reduction in human contact and a loss of privacy and freedom, as well as potential deception (Bennett et al. 2017; de Graaf 2016; Sharkey and Sharkey 2012; Sparrow and Sparrow 2006). In technology development and design, ethical frameworks are usually grounded as moral rules that should be accounted for in the process of "value-sensitive design" (van Wynsberghe 2013).

Previous studies on care robot ethics (Bennett et al. 2017; Burmeister 2016; de Graaf 2016; Diaz-Orueta et al. 2020; Sharkey 2014; Sharkey and Sharkey 2012; Sorell and Draper 2014; Sparrow and Sparrow 2006; van Wynsberghe 2013) have heavily relied on deontological moral theory, that is, on the need to set ethical guidelines as moral imperatives to be followed in technology design, implementation and use. However, this approach leaves open the question of whether the complexities of care in practice contribute towards the constitution of an ethics of care robot usage in any way. A deontological framework cannot fully grasp the ethical complexities actualised in care practices. Although deontology is not represented, in the extant literature, as the only way to "do ethics", it seems to be the most dominant moral theory in debates on care robots. Addressing this limitation, this article strives to rethink care robot ethics not from the viewpoint of universal human rights-centred deontology but, rather, through an empirical ethics approach (Mol 2008; Pols 2015; 2017). This approach regards "normativity", that is, the different forms of "the good", as the outcome of situated practices. In contrast to deontological ethics, whose interest lies in whether or not moral imperatives are followed in design and beyond, the empirical ethics or "ethics-in-practice" approach stresses the availability of multiple ways to achieve 'the good' and emphasises that good care is co-constituted in practices where people, technology and discourses meet.

By adopting this approach, the article draws on ethnographic material collected during usability trials for a socially assistive robot (SAR) in a dementia care unit in Finland. The term "SAR" refers to interactive robots that provide assistance and companionship while assisting in convalescence, rehabilitation and learning in cognitive, affective and physiolo-

cal therapy (Abdi et al. 2018; Feil-Seifer and Mataric, 2005). In this case, the idea of a care robot is linked not to a type of artificial intelligence but, rather, to the "ageing-and-innovation discourse" (Neven and Peine, 2017). This discourse frames ageing as a crisis for societies that struggle with insufficient healthcare resources and rising costs. Within this discourse, innovative technology is offered as a solution to this crisis, and when technology is implemented, it is said to have only positive outcomes, identifying a "triple win" for individuals, societies and economies. According to this discourse, the aged individual wins as they receive better-quality care. Society - that is, governments, municipalities and taxpayers - wins as healthcare costs are reduced. Finally, economies win as marketable and exportable technologies are produced, resulting in new jobs and economic growth. Of course, these three "levels" are interlinked. Nevertheless, various actors involved in national and global healthcare policy and the welfare technology industry sector tend to refer primarily to these three winners and to use this rhetoric as a tool to galvanize the development of new technologies (Neven and Peine, 2017). The ageing-and-innovation discourse strongly affects the development of care robots, and these effects are evident in the context of SAR trials.

In this case, the ageing-and-innovation discourse offers a background against which to examine why and how robots are trialled in dementia care. In these trials, the discourse is mainly performed by two stakeholders: the testing group, which represents an innovation company that develops digital solutions for future 'smart cities', and the administration and employees of the care unit, which rehearses the future of ageing through technology pilots. The usability trials studied in this article exemplify the promises of the discourse in three ways. Firstly, the SAR was trialled as a therapeutic device that increases older users' wellbeing. Secondly, robot technology emerges as a way to lighten the caregivers' workload and, thus, as a means of tackling the demographic "care deficit" that ageing populations bring (see also Abdi et al. 2018; Kriegel et al. 2019). Thirdly, the trials were part of a multinational series of pilots conducted to induce the creation of a start-up enterprise in the European Union and, thus, new jobs. Because the ageing-and-innovation discourse presents three different "goods" that care technology can achieve, it is inherently normative in nature.

By applying an ethnographic approach, this article examines how the ageing-and-innovation discourse is performed in usability trials. In line with user research, I am interested in what "good" care robots achieve for older users. Because SARs offer cognitive, affective, and physiological 'therapy' for the elderly, I term the individual good a "therapeutic gain". My research questions are as follows: *what kind of ethics is enacted during the trials? What 'therapeutic gain' does human-robot interaction achieve for older users?* I argue that care robot ethics should not be framed solely by deontological claims that emphasise design processes, but also by the ethics-in-practice perspective. In the SAR trials, this per-

spective does not affirm such 'universal' values as autonomy but, rather, the emergent ethics of care, which stresses the normativity of multilateral interdependencies (Puig de la Bellacasa 2017; Sevenhuijsen 1998; Tronto 1993).

I will begin by presenting the theoretical framework and my contribution to science and technology studies (STS). I will then present the methodological principles and the context of the case study in more detail. In the analysis section, I discuss the figuration of different users and ethics. Before concluding, I discuss how the trials were deemed a success by the stakeholders involved, in spite of evident problems, contradictions and ambiguities.

2. Empirical Ethics and User Research

This article contributes to user-oriented STS in two ways. Firstly, ethics has been overlooked in recent research on technologies for older users, which has, instead, highlighted older persons' agency in the face of ageist, paternalistic and stereotypical technology designs and design processes (Compagna and Kohlbacher 2015; Cozza et al. 2020; Frennert 2016; Hyysalo 2004; 2006; Neven 2010; 2015; Peine et al. 2014; Östlund et al. 2015). Secondly, usability trials have not been examined as a site of ethics-in-practice. I argue that usability trials are not solely concerned with configuring technology or users, or how the designer's image of the user shapes and constrains possible users (Woolgar 1991), but also with ethics. In trials, possible ways of achieving 'the good' for older users are assessed. Thus, SAR trials offer a gateway via which to examine the ethics of care robots.

To understand the benefits of the empirical ethics approach, I will briefly locate its genealogy in STS. The empirical ethics approach relates to both the material semiotic tradition and the ethics of care discussions (Thygesen and Moser 2010). In material semiotic user studies, the concept of a "script" has been important. Scripts concern the anticipations based upon which users act when facing a technology, and they are inscribed in a technology's materiality and design (Akrich 1992). Script analysis stresses the dynamic co-configuration of technology and users (Van Oost et al. 2009). Concerning older users, "age scripts" - the ideas and discourses of old age - have been shown to lead to stereotypical images of the aged population (Neven 2010). However, scripts do not determine the user (Pols and Moser 2009). Although the "processes of configuring and scripting are expressions of power and may cause dynamics of exclusion or marginalisations" (Cozza et al. 2020, 273), the semiotic approach has been criticised for emphasising the designer's role and assumed intentions (Mackay et al. 2000; Oudshoorn and Pinch 2008).

The material semiotic approach addresses ethics by emphasising prescriptions. For example, Latour (1992) has described how the imperative

for car drivers to slow down is inscribed into speed bumps. Thus, police officers' responsibilities are delegated to material artefacts. In contrast, Verbeek (2006; 2011) has incorporated script analysis more explicitly into normative ethics by studying how engineers do "ethics by other means" by "materialising morality" into technology. Both Latour and Verbeek highlight that the outcomes of relationships with technology are not predetermined. However, in this body of research, ethics easily becomes "top-to-bottom" rules inscribed by the human designer into technology. This view reinforces the idea of ethics as deontological imperatives. However, it is not only designers who do "ethics by other means". The constitution of ethics in everyday use of technology is just as important as the ethical prescriptions inscribed in its design. Also, as Ludwig Wittgenstein (1958) has shown, a prescription or rule does not include unambiguous instructions for applying that rule. Thus, although morality is inscribed in technology, there is no one correct way to "follow the script". For this reason, I turn to studies on empirical ethics that build on the material semiotic tradition and Wittgenstein's later philosophy (see Pols, 2017).

Studies in empirical ethics have examined how normativity is performed in practice (Pols 2017; Pols et al. 2018). In consensus with the ethics of care discussions in feminist theory (e.g., Puig de la Bellacasa 2017; Sevenhuijsen 1998; Tronto 1993), the empirical ethics approach stresses situated interdependencies and dynamic relations. Rather than emphasising norms and values as prescriptions in technology, normativity is seen as the outcome of interactions between humans, technologies and discourses. A focus on empirical ethics does not imply that ethical guidelines do not matter. Rather, it suggests that an ethics is not determined by design and engineering but is, instead, an ongoing process. Caring practices have been a major site for adapting the empirical ethics approach because they deal with how to accomplish good care in its various forms (Lydahl and Löfstrand 2020; Mol 2008; Pols et al. 2018; Thygesen and Moser 2010; Willems and Pols 2010). This approach emphasises situatedness, practices, relationality, and thus the importance of ethnographic research, which is well-suited to grasping these aspects of care. Following this line of thought, this article examines how users and ethics are co-constituted in dynamic relationships between humans, technology and discourses. In this view, robots are not expected to enact any moral rules, such as respecting autonomy. Instead, they are seen as co-constituting the local, practical and multiple ways of achieving the good.

According to this theoretical framework, I use the concept of "figuration" as a theoretical-methodological tool with which to contextualise the usability trials into the broader politics of contemporary healthcare. Here, figuration is an umbrella concept that links user configuration, ethics-as-practice and the ageing-and-innovation discourse. It has two advantages when contrasted with "configuration", which is a much-used concept in semiotic user studies (e.g., Neven 2010; Mackay et al. 2000; van Oost et al. 2009; Woolgar 1991). Firstly, figuration does not only illustrate the

configuration of users, nor does it only emphasise the ethical intentions of designers; rather, it focuses on the co-constitution of users and ethics in usability trials. Thus, figuration refers both to the various user "figures" and the normativities enacted in human-robot interaction. Secondly, figuration identifies users as embedded and embodied subjects, as "material and semiotic signposts for specific geo-political and historical locations" (Braidotti 2019, 34) - in this case, in the Nordic welfare state of Finland - as well as the promises of technology evident in the ageing-and-innovation discourse. Before putting this framework into action, I will discuss the context of the trials and methodology.

3. Materials and Methods

This paper is based on an ethnographic project that examined the usability trials of a SAR prototype in dementia care in Finland. The care unit provided in-patient care which consists of long-term residency, specialised staff and constant supervision, with social and medical services, meals and accommodation provided (Kriegel et al. 2019). The research material was gathered over three weeks in 2019. The material is comprised of field notes from participant observations and a number of informal engagements with the testing group and the staff of the unit which equated to roughly five ethnographic interviews. Through these, information on the robot's design and purpose was gathered. The field notes consist of observations and verbatim notes on the users', testing team's, and robot's spoken interactions. The care unit was also observed during the daytime. The interviews were informal, and they were not recorded. Instead, notes were taken during the interviews. An ethnographical approach allows to ask "how technologies are embedded, evolving, and impactful in our personal and social lives, and how these tie into issues of social control" (Van den Scott et al. 2017, 509). In this case, ethnography is an invaluable way to see how SAR technology affects dementia patients' lives and how usability trials act as part of the optimistic technological determinism implied by the ageing-and-innovation discourse. The ethnographic approach also reveals ethical complexities that do not resolve into concerns about guidelines, imperatives, prescriptions or design.

The robot in question (Fig.1) is a socially assistive and autonomous robot, Sanbot Elf, developed by "Qihan Technology Co. Ltd." and modified with applications and automated navigation. Figure 1 illustrates the robot's appearance. The SAR has humanlike features, and it stands at approximately 145 centimetres tall. The SAR's graceful white body bends forwards slightly, evoking a user who sits in a wheelchair. A touchscreen on the chest serves as the main tool with which to control the robot's functions. The robot has a soft pre-recorded voice (the voice of one of the testing team). The SAR can engage in short discussions in Finnish. This

ability helps with the robot's interactions and in achieving the goals of robot therapy (Abdi et al. 2018; Tuisku et al. 2019). Lacking "intuitive, reflective, and/or critical thinking skills" (Huschilt and Clune 2012, 17), however, the robot is unable to respond dialogically or become sociable in any authentic sense (Jones 2017). "Let's do something fun together!" the robot suggests. It also asks questions, such as: "Do you have any pains?" and "Have you taken your medicine?". It often replies to the user's (presumed) answer with an uplifting "right!" These prefigured lines suggest that everything is going well - the robot's answer is always the same, whether or not the user has taken their medicine.

Figure 1. The socially assistive robot (SAR) prototype "Sanbot Elf".

Four different applications were tested: short stories, a memory game, a "musical journey" and physical exercise. The minutes-long stories were about Finnish presidents, a nearby pond and a folk poem. The SAR narrated them while showing accompanying pictures on its screen. In the memory game, the touchscreen with the robot's 'ears' and 'arms' changed colour, and the robot urged the user to answer, asking with an uncanny voice, "What colour is this?". In this application, the warm human voice changed to a non-gendered and monotone "robot voice", which was unsettling for the trials' participants and spectators. In the "musical journey", the SAR played popular music based on the birth year of the user. The music was introduced along with pictures and stories about urbanisa-

tion and wartime, when "gramophones changed to vinyl records" and movies "turned from silent to talkies". In the exercise app, the user could execute either an arm or leg exercise while sitting down. When the user chose an option, a video began playing featuring a physiotherapist who showed the moves and explained how to do them. The SAR's role as "therapists, companions, and educators" (Huschilt and Clune 2012, 15) to people with dementia prevailed in the test applications. The exercise application was a form of physical therapy, and the memory game and stories offered cognitive stimulation. The applications were chosen during project meetings and interviews with the facility's staff. This process shows that the developers and providers of the robot were more interested in care employees' evaluations and how they imagined the user than in actual users' genuine participation (Compagna and Kohlbacher 2015; Cozza et al. 2020).

The trial's participants were residents of a public care home for dementia patients in Finland that is accustomed to technology pilots. The trials were conducted as part of the unit's everyday routines. During the trials, 75 interactions with 18 residents (seven male and eleven female) were conducted. Consent was required for participation. I observed 26 sessions, which lasted approximately 20 minutes each. In addition to the residents, the robot and myself, two representatives of the testing group - one of whom controlled the robot's movements - were present during the interactions. The nurses seldom oversaw the sessions, which started with the testing group presenting the potential activities. The trial team's intention was to test all of the applications, and the team's "sales pitches" sometimes had a major impact on a resident ultimately agreeing to use the robot, even when they were initially hesitant. After the sessions, the teams asked the users questions about the robot's appearance and usability. I did not participate in planning the interaction setting. Although I participated in some of the unit's routines, which I discuss in the analysis below, during the sessions my role was mostly that of a spectator. My ethnographic approach was aligned with the principles of the empirical ethics approach. This kind of methodology can be called "uncontrolled field studies" (Pols 2012), in which the object of the study is approached without preconfigured frames of analysis. This approach resulted in my seeing the interaction itself not as dyadic but as multilateral - as a "crossroads" in which people, technology and discourses meet - and such relationships cannot be predetermined.

The trials faced many challenges. The robot and its functions constantly changed because of updates, added content and malfunctions. The musical journey application, for example, was added to the robot during the trials. The changes caused delays, and because of these, it sometimes became unclear what was actually being tested. For example, the photo show was a preliminary application, but it was only tested from a laptop, instead of the robot itself. Somehow, the results were deemed applicable to the robot by the testing team. The robot was also expected to distri-

bute medicine, but this task ultimately proved too difficult. However, to stay true to the research design and, more importantly, to please the financiers, the robot was used very briefly as a transport trolley for medicine. Also, although a great deal of effort was invested by the team into the robot's automated navigation properties, they were not used in the trials.

The SAR usability trials exemplify how care technologies aspire toward "the good" for individuals, economies and societies. Below, I will examine how various user figures and forms of "the good" for the older users were co-constituted in the trials.

4. The Figuration of Users and Ethics

I have identified four different figurations that emerged during the Sanbot Elf trials. The figurations refer both to user types, the "figures" of enabled, disabled, dismissed and subversive users, and the related normativities. I discuss these figurations along with short ethnographic stories. Because the SAR offers cognitive, affective and physiological therapy, I refer to the aspiration toward good as a "therapeutic gain". What this 'gain' turns out to be, however, depends on the situated human-robot interaction. Figuration calls into question any stereotypical or one-dimensional images of older users. None of the residents in the trials, however, enacted only one figure. Different contexts could enact different kinds of users between and during sessions. Thus, my focus is not on fixed states but on continuums. I argue that the usability trials illustrate not a set of universal moral values to be accounted for in design processes or otherwise but, rather, normativities that are situated in the relational outcomes of human-robot interaction.

4.1 The enabled figure

The enabled figure exemplifies how the promises of the ageing-and-innovation discourse were affirmed. A spontaneous session with Maria, a resident during the Sanbot Elf trials, illustrated this process. Before the session, Maria had repeatedly mistaken me for her son, who is "also tall", showing signs of trouble with recognition. Though my judgement is not that of an expert, I believe that dementia could also be seen in her actions when she was unable to recall that her clothes were her own and attempted to return them to the staff. Such behaviour is not unusual to the facility's employees who, on another similar occasion, had been reluctant to "call the police" and report the alleged "theft" of another resident's clothes as the resident had requested. Maria also needs assistance when moving. Once, she asked me to walk her to the nearby couch, which I gladly - albeit cautiously - did. Despite these 'frailties', Maria is one of the more active residents, engaging in discussions with others in the shared

facilities.

Although Maria needs the care that the unit provides, this session with her illustrates how interactions with the robot can affirm and expand the residents' abilities. The session started when Maria was drawn to the testing place by the robot's presence. She was not part of the day's schedule, but it was "okay" with the testing group if she wanted to listen to some music. The 'musical journey' application was then tested. Maria sat down and touched the screen. A classic Finnish waltz from the 1950s began playing. Maria felt like dancing and swayed to the music. She commented on the pictures shown onscreen. A moment of applause and many thanks from Maria ended the songs, of which she seemingly never tired. When the scheduled resident arrived, Maria stayed and listened to the tunes. However, she soon fell asleep.

Like Maria, most of the residents found the robot and its applications favourable. These residents perceived the robot to be safe, calling it "benevolent" and "beautiful". In addition to "dancing", the musical journeys induced physical "exercise" and abilities, such as stamping one's feet to the rhythm and singing along with the songs. Although the musical journeys were especially successful, the short stories also earned positive appraisals. The short stories aroused memories and associations of past experiences, which seemed appropriate (that is, "positive") in the context of the applications, evoking responses in the user which seemed happy, joyful and excited. In addition, residents recognised the historical contexts of the short stories and musical journeys. Stimulating nonverbal and verbal communication, promoting positive emotions and evoking past experiences are some of the desired aspects of "robot therapy" (Huschilt and Clune, 2012, p. 16). Based on these positive reactions, the testing team and the unit's staff considered the robot a success.

The ethical framework established by Sorell and Draper (2014) and discussed in the introduction outlines enablement, independence, autonomy, social connectedness, safety and privacy as important values. The enabled figure exemplifies how these values can be achieved in some sessions. The enabled figure likes applications that arouse memories, satisfaction and discussion, offering a chance to enforce independence, autonomy and social connectedness. When the SAR is not perceived as frightening, the value of safety is evoked among the residents. When the user could use the robot without assistance, privacy was enforced. How this kind of therapeutic gain aligns with the optimism of the ageing-and-innovation discourse is important. Here, the robot works as a therapeutic companion to the user. It achieves a normativity of enablement that respects the aforementioned values. Still, other figurations were present during the Sanbot Elf trials. In addition to enablement, disabilities were also enacted. Thus, such usability trials become *(us)ability* trials, in which, instead of the usability of the technology, the abilities of the user are tested.

4.2 The disabled figure

The outcomes of care technology implementation often differ from politicians' and designers' hopes (Pols 2017), which in this case means the expectation that robots can act as helpers and therapeutic devices. The disabled figure stands in contrast to the promises laid out by the ageing-and-innovation discourse. A story involving Helena, an always-smiling female resident, best exemplifies how disabilities were co-constituted in interactions with the robot. In her session, Helena tested the physical exercise application. When starting the app, the SAR invited Helena to keep herself fit by saying, "Let's do some exercise!" Helena chose the upper-body exercise. When the video started, the onscreen instructions seemed difficult to follow. Helena sat quietly, attempting to understand the video. To assist the robot, a member of the testing group performed the moves. At first, this intervention did not help either, but finally, with a human example, Helena accomplished "hugging herself", which was part of the exercise. Nevertheless, doing both parts of the exercise was problematic, requiring Helena both to hug and to let go. Her arms were left behind her back, which seemed uncomfortable. After the video, Helena felt "tired" and wanted to stop the session for the day.

During the trials, it became clear to the testing team, the users, and me that the exercise was difficult to follow. None of the users were able to do the moves "until exhaustion", as suggested by the robot, with or without human assistance. Sensory disabilities were further enacted when hearing, watching and touching the robot. It was sometimes difficult to see and understand the onscreen symbols. For example, one resident, Veikko, could not choose between the green and red options offered because he was colour-blind. Disabilities are not merely 'essential' qualities of a user which technology passively reveals. Instead, technology co-constitutes disability as the outcome of the user's interactions with it (Moser 2000; Moser and Law 1999). Thus, colour blindness is co-constituted in human-robot interaction as a deficiency when only red and green options are provided. In addition, the touchscreen was extremely difficult to use. Only a few residents could use the screen by themselves; for others, the testing team controlled the robot. The more any expectations inscribed in the applications were nullified by the actual users, the more improvisation was needed to achieve smoother, albeit still awkward, interaction. This effect meant that the idea of the robot as a therapeutic helper did not hold. Instead, the robot itself constantly needed help.

In comparing Maria and Helena's stories, it is interesting that interactions with the same technology can both affirm and deny ability in different situations. When disabilities were affirmed, help from the testing team was needed for residents to use the robot, as was the case with Helena. This need for help can result in a human example of "doing an exercise" or assistance with the touchscreen. In this kind of normativity, vulnerabilities lead to interdependencies. In terms of therapeutic gain, robots that co-

constitute disabilities instead of affirming abilities are probably not desirable. However, the disabled figure does not necessarily contradict ethical guidelines that highlight the affirmation of abilities. Vulnerabilities call for social connectedness. In this way, the possibilities of belonging, being accounted for and being cared for remain. Thus, enacting disabilities is less an ethical disaster and more a chance to re-examine the trials' complexities. Although enablement has been stated as an important imperative for designing care robots (e.g., Sorell and Draper 2014), the disabled figure partly questions this assertion. Vulnerabilities, not enablement, are the precondition for residents receiving care in the first place. Next, I discuss further the situations in which the issue of interdependencies arises.

4.3 The dismissed figure

When the robot's overly optimistic "attitude" and "negative" associations clash, the user is figured as "dismissed", with hardly any therapeutic gain from the encounter. A session with Liisa provides an example of the dismissed figure. Before her musical journey, Liisa told us about a close relative who "died while cycling". It is difficult to say whether the robot aroused these associations. It certainly seemed to have. The SAR introduced the next song, an evergreen melancholic love song from the 1940's. This choice differed from Liisa's wishes. She would have liked classical music; someone close to her had worked in the opera. While the music played, Liisa again spoke about the person who died. During the next song, Liisa recounted how someone "started drinking". The melancholy post-war songs being played were sad, and I too was beginning to feel blue.

The music application does not include classical music, which is Liisa's preference. Instead, for the robot, melancholy pop tunes seem to suit everyone. However, Liisa does not fit this kind of image of the user and, thus, was dismissed; her personal history of opera lovers and dead family members was not responded to. Providing stressful information about death, alcoholism and loss is not new to SAR implementation (Sabelli et al. 2011), and of course, therapeutic interventions often involve facing traumatic memories. However, it is difficult to consider Liisa's story as a form of robot therapy when it is contrasted with the idea of 'everything going well', which is inscribed in the robot.

A session with Pentti clarifies this tension. Before the session could begin, the SAR needed to be restarted. Pentti uses a wheelchair and has many concerns. He began a discussion by explaining that he had hurt his fingers. I could see that they had turned black. Although he seemed spry, Pentti talked about his problems with insomnia. In his opinion, the melatonin the doctor had given him was a dosage "for little children". He also felt hesitant to talk to the nurses, who "do not speak Finnish well". When the SAR rebooted and started asking questions, Pentti answered that he had taken his medicine but still had pains. Today "is not a good day", he

said. "Right!" the robot replied, ending the small talk.

The dismissed figure produces ethical ruptures. The anxiety that sickness and injuries bring arouses critiques of the nurses' and doctors' capabilities. Pentti was critical of his dosage of melatonin, which in his opinion, did not help. Furthermore, he was unsure whether the nurses with immigrant backgrounds could understand and respond to his worries. The SAR, however, dismissed all these anxieties. As with Liisa, the robot's overly optimistic and preconfigured "attitude" clashed with the associations that were raised during Pentti's session. This is problematic. The way the SAR functions nullifies any call for responsiveness - users like Liisa and Pentti are left alone with their worries and troubles. In contrast, the unit's nurses stressed the importance of always answering the residents, no matter how repetitive they are.

It was also clear that the care provided in the unit was, in addition to responsiveness, about empathy. The need to ground care in an empathetic relationship is evidenced by the critique articulated by Pentti: he spoke it not for the robot to hear, but for us - the trial's spectators - in the hope of recognition and response. As Tuula, who tested the robot in many sessions, put it: "It would be nice if it were human." Discussions with people were preferred to discussions with the robot. If the enabled figure illustrates how technology can be a joyful companion, relationships that produce dismissal, in contrast, enact the distinction between "cold" technologies and "warm", human-centred care (Pols and Moser 2009). An unempathetic robot is a cold companion. The SAR's empathy ends with its inability to run people over, an aspect the testing group stressed when a resident was unsure whether the robot could be trusted not to run over her feet. However, the normativity of responsiveness and empathy cannot be dismissed in care practices. Because the robot was unable to answer or act empathetically - that is, to care - this responsibility was distributed to the trials' spectators. When one resident asked, during a session, if her husband was dead, the testing team and I had to answer without knowing the right answer (the robot certainly did not have the answer) or knowing the right *way* to answer; we had to improvise. In these situations, the roles changed: suddenly, *we* were being tested as to whether *we* knew how to care.

It became clear that the robot's users were constantly assisted, which calls the idea of independence into question. When a user's independence is removed, interdependencies are put into action. Interdependencies are linked not to moral contracts to be executed but to the situated practical "tinkering" that is caring (Mol et al. 2015). Empathy and responsiveness are not universal moral values or imperatives; rather, they are situated and relational 'goods' that emphasise neither idealised images of love and recognition nor the ideal of 'everything going well' but, instead, a troubling awkwardness and improvisation. In contrast to the enabled and disabled figures, the dismissed figure illustrates how the possibility of therapeutic gain in these trials gradually disappeared. The session with Pentti

already showed the criticism the robot could elicit. However, the user was also figured as subversive in many other ways, which I will discuss below.

4.4 The subversive figure

In the ageing-and-innovation discourse, old age is viewed in the negative, as a problem and a lack (Neven and Peine 2017). This results in identifying special 'needs' for the aged that the young and healthy do not have. Problems with memory call for memory stimulation and rehabilitation, for instance. Thus, short stories, 'musical journeys' and a memory game were installed in the robot, as mentioned above. However, some of the older users were reluctant to position themselves as old and frail or, indeed, to accept the relationship between old age and the ageist inscriptions in technology (Neven 2010). During the trials, verbal, nonverbal and silent opposition emerged. The best example of verbal opposition in the Sanbot Elf trials was a session with Tauno, a man born in the 1920s who followed and understood the applications easily. He commented on them with indelicate remarks, clearly unsatisfied. After the memory game, in which he deemed the colour red to be the "colour of a commie", the observing group member declared Tauno the "winner". The man asked in response, "What was there to win in that?" As a concluding remark for the session, Tauno stated that the robot "needs a hell of a lot of improvement". He said he "is not going to stay here looking at this kind of toy" and further insisted on "getting rid of that computer", which is "not much good at bullshitting".

Opposition was not always this striking; sarcasm is one example of this. In one session, when the robot asked Helena's gender, the ironic reply was, "Guess." Another example came when testing the memory game: the user stated that the colour was "mostly blue", emphasising "mostly". At times, in the Sanbot Elf trials, the robot was a source of humour for participants, something to laugh at. Such was the case with the memory game, especially. Even the testing team deemed it "horrible", too simplistic, easy and non-activating. At other times, the users were cooperative but seemingly chose not to answer the robot's questions or follow the testing team's instructions. In earlier user studies, reluctance and incapability to enact the expectations laid on the user have been conceptualised as "re-configuration" (Mackay et al. 2000), "non-use" (see Oudshoorn and Pinch 2008) and "innosumerism" (Peine et al. 2014), for example. However, these concepts frame older users too narrowly within the perspective of active and critical consumerism (see also Compagna and Kohlbacher 2015). Silence and refusal offer slender opportunities for future innovations and reconfigurations. For this subversive figure, no therapeutic gain can be achieved in terms of the ageing-and-innovation discourse. Instead, the subversive figure illustrates that the individual good is missing. What is present, however, is criticism that calls for alternatives.

So why did the stakeholders deem these trials a success in spite of the

ambiguities and the subversive users discussed above? I claim that this is because the trials were performed under the logic of the ageing-and-innovation discourse. Future-orientation and promises of high-tech innovations are important facets of this discourse (see also Crabu 2014; van Lente and Rip 1998). Thus, criticism in the present might be offset by the hope and optimism placed in future improvements. Indeed, the testing team highlighted a future-orientation: the robot was introduced as a tool to gather data for improvements. Although the inactivity and opposition that the subversive figure illustrates could be seen as negative effects of interacting with a currently underdeveloped robot, these kinds of "failures" can always be framed as desirable, and thus justified, regardless of whether they result in any actual improvements. Some of the nurses, too, were happy when the robot had any activating impact on users. This "everything goes" rationality echoes the pervasive ageing-and-innovation discourse, in which technology's mere presence is more important than how well a technology executes its tasks (Neven and Peine 2017). Although care robots are designed according to moral imperatives and "universal" values, they are implemented in care practices under the rationality of 'everything goes' which questions the idea of ethics as guiding principles.

5. Conclusion

This article has presented care robot trials as a site of ethics-in-practice. Instead of a deontological ethics approach, which is the norm in ethical discussions of care robots, an empirical ethics approach informed by the concept of figuration was conducted. This approach resulted in identifying four different user figurations: the enabled, disabled, dismissed and subversive. In turn, all of these figures have illustrated what kinds of therapeutic gains are (or are not) accomplished for older users in human-robot interactions. In the trials, normativity in action meant a clash between abilities and disabilities, dismissal and responsiveness, and independence and interdependencies. When disabilities, responsiveness, and interdependencies were enacted, an ethics of care came to the fore. This kind of ethics is based on care practices that stress improvisation and tinkering. This formulation of ethics is not usually included in ethical discussions on SARs or the present state of the robot, because the discussion is too firmly focused on deontological ethics and design processes.

The article's findings question the idea that "universal" moral values, such as autonomy, enablement and independence, should be central in ethical assessments of care robots. The trials do not resolve into the normativity of enablement which stems from the ageing-and-innovation discourse. Indeed, only the enabled figure enacted these values and fully realised the optimism of the "triple win" rhetoric. Because the SAR enacts the interdependencies of care, rather than the independence of the

care receiver, its role as the liberator of the workforce and saviour of a demographic is questionable. The contradiction between the ideal of an autonomous, independent user and the actual and dependent residents connects to neoliberal healthcare reforms that, in the care unit discussed, had been introduced, for example, in the form of an imperative to refer to residents as 'customers' in order to respect their autonomy and freedom of choice. The need to address dementia patients as 'customers', and the independence expected from them as users, exemplifies the kind of user that is imagined as desirable and ethically justified in contemporary care practices, that is, a 'customer' who is in need of cognitive and physical therapy but is nevertheless active, autonomous and able (see also Frennert 2016). In practice, though, "the logic of care" (Mol 2008), functioning not on the independence of the customer but rather on interdependent relationships, came to the fore in these trials.

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III

Risk and Uncertainty in Telecare:
The Case of the Finnish 'Elsi'

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Abstract

In recent decades, technologically mediated 'telecare' solutions have become popular for making the care of ageing populations more efficient, productive and targeted in times of economic austerity and care deficits. While telecare has been implemented in care work, caring has increasingly become a practice of managing risks. This paper draws on ethnographic research on the telecare solution 'Elsi' in a Finnish care home setting and examines telecare as a form of risk management. The 'Elsi' telecare system is based on information gathered from floor sensors and alarms caused by different events, such as falls. The argument is that telecare practices deal in many ways with 'uncertainty work' that produces uncertain knowledge, uncertain entities and uncertain values. Furthermore, these uncertainties produce additional work, which creates more duties for the care worker.

Keywords: Care work, Risk, Telecare, Uncertainty work

Introduction

Transcending a fearful vision of "care turned cold" (Pols, 2012: 11), new health care advances have highlighted the promises of technology to improve health, provide a seamless service, empower individuals and encourage the independence of patients (Mort et al., 2009a). 'Telecare' is a prominent new care technology. Broadly speaking, telecare refers to monitoring devices (e.g., phones, alarms, sensors, pendants and video connections) and other information and communication technologies that help people live and age independently at home and support their physical and emotional abilities (Callén et al., 2009; Draper and Sorell, 2013; Milligan et al., 2011; Roberts et al., 2012). Rather than being a particular technological solution, telecare refers to a broad sociotechnical arrangement (López Gómez, 2015) that consists of different devices, professionals, organisations, institutions and policies that share the goal of providing 'caring at a distance' (Pols, 2012). In home telecare, for example, a range of personal and institutional, and formal and informal resources are mobilised, including not only nurses but also relatives, neighbours and social and emergency services (López and Domènech, 2008a).

In health care policies and the welfare technology industry, telecare is rallied as a way to improve the independence, autonomy and connectedness of ageing individuals (Kim et al., 2017; Sánchez-Criado et al., 2014), free the caregiver from certain tasks and responsibilities (Callén et al., 2009) and provide a means to solve the 'problem' of the ageing population that can

result in rising health care costs (Kim et al., 2017; Mort et al., 2013a, 2013b; Pritchard and Brittain, 2015). The literature, especially in science and technology studies (STS), has addressed how telecare does not solve problems, but rather enacts particular problems (Pols, 2010). Telecare involves the practice of shaping care, what caring is and how daily life changes for the elderly when telecare is introduced (Pols, 2012; Schillmeier and Domènech, 2010). Telecare has been shown to reshape family and care relationships and identities and to form a new topology of care (Milligan et al., 2010; Mort et al., 2009a). When introduced into homes, telecare can reconfigure the home as a hospital-like site of diagnosis and monitoring for the elderly (Milligan et al., 2011; Mort et al., 2009b; Neven, 2015; Oudshoorn, 2011).

Telecare has also increased the amount of hidden and unrecognised work. Telecare has not resulted in a reduction in work, as promised by care policies and telecare technology providers, but, rather, a shift in relationships and responsibilities (Milligan et al., 2011; Mort et al., 2013a, 2013b) and a reconfiguration of care work and its challenges (Roberts et al., 2012). Telecare implementation has increased both the workload of nurses and the responsibilities of patients (Oudshoorn, 2008, 2011; Pols, 2010; Pritchard and Brittain, 2015; Tirado et al., 2009).

Simultaneously, telecare has increasingly transformed caring into a form of risk management. Research that has conceptualised telecare as risk management have shown that continual surveillance and monitoring are justified on the basis of providing security and safety for the subjects of telecare (Grosen and Hansen, 2021; López, 2010; Mortenson et al., 2015). Telecare as a form of risk management puts the focus on discovering risks, reducing risks and creating risk profiles that easily become the object of care (López, 2010). For example, people with dementia may have a 'risk of disorientation', which means that this risk needs to be taken into account by monitoring and assessing the person's movements (Tirado et al., 2009). Furthermore, the risk of falling is predicted because falling can increase functional decline, morbidity, mortality, nursing home admissions and costs (Draper and Sorell, 2013; Kim et al., 2017).

Uncertainty and indeterminacy are central to telecare's operations (Milligan et al., 2011; Roberts et al., 2012). The research on telecare as risk management recognises that "security is a way of bringing uncertainty into the production of order" (López, 2010: 50) and that "uncertainty is vital to delivering immediate care" (López and Domènech, 2008b: 673). Still, uncertainty has remained underdeveloped as a theoretical concept. Instead, the emphasis has been on prediction – forecasting and precaution – and governing through calculation. Uncertainties, then, become something to detect, manage or erase.

I address this gap by approaching risk management in telecare as 'uncertainty work' (Moreira et al., 2009; Pickersgill, 2011, 2020), that is, as a form of work where uncertainties cannot be avoided, but rather, are used as a resource that is linked to creativity and innovation. I examine ethnographically how uncertainty is one of the key features in the use of telecare. My research questions are straightforward: How is telecare used in care work? And what are the outcomes of telecare use? My research material consists of observations and interviews collected during ethnographic fieldwork in a Finnish care home outfitted with the 'Elsi' telecare system, which functions based on information gathered from floor sensors and alarms caused by different events, such as falls. The article contributes to research recognising telecare as a form of risk management by showing how working with 'Elsi' creates epistemological, ontological and ethical uncertainties that are connected to ways of knowing, to the enactment of new and unforeseen risks and to addressing ethical issues.

This paper proceeds as follows. In the first section, the concept of uncertainty work is presented in detail followed by a discussion of methods. Here, I also outline the characteristics of telecare technology when introduced to institutional care settings instead of private homes. Then, I analyse the epistemological, ontological and ethical outcomes of uncertainty work. Before concluding, I briefly discuss how uncertainty work is connected to the increase in work for care workers in telecare.

Uncertainty work

The concept of uncertainty is highly relevant in medical sociology and STS. Uncertainty is central to any health care practice (Cribb, 2020; Mackintosh and Armstrong 2020; Strauss et al., 1985), and it has been approached as a theoretical concept, empirical phenomenon and human experience (Fox, 1980). Indeed, the concept of uncertainty has many meanings, ranging from an 'affective state' of individuals (Pickersgill, 2020: 85) to a characteristic of the organisation of institutions, systems and infrastructures. In STS, Star (1985, 1989) identified four different sources of uncertainty in scientific work; namely, taxonomic, diagnostic, organisational and technical. Taxonomic uncertainty deals with developing classification systems. Diagnostic uncertainty is related to the application of these systems. Organisational (or political) uncertainty is about creating or maintaining the division of labour, and technical uncertainty comes from instruments and materials that create uncertainty. However, this classification also puts the emphasis on the management of epistemological contingencies and indeterminacy. In contrast, the concept of uncertainty work has captured the productivity of uncertainty, and has emphasised the importance of ontological and ethical uncertainties in addition to epistemological ones.

The concept of uncertainty work builds on the idea that uncertainty is a practical accomplishment. It has been shown that uncertainty work is a mundane and pervasive feature of scientific work and a routinised feature of knowledge production characterised by indeterminacy (Pickersgill, 2011). Uncertainty work produces new epistemological standards, practices and conventions that become "endogenous requirements for ongoing knowledge production, innovation and clinical work rather than forms of external control" (Moreira et al., 2009: 666). However, uncertainty work is not only epistemological, but also ontological, and epistemological and ontological uncertainties mutually structure each other. For example, Pickersgill (2011) has shown how the epistemological uncertainties related to diagnostic tools also co-structure what mental disorders are in an ontological sense. The production of uncertainty is not a reversal, but a constituent of knowledge and entities (Moreira et al., 2009), a precondition for action and a positive and internal force of organisation and constituting order.

In addition, uncertainty work has normative dimensions and in this way, becomes a form of ethics. When *knowing* and *being* become uncertain, value judgements, moral tensions and normative assumptions come to the fore and must be considered (Mackintosh and Armstrong, 2020; Pickersgill, 2020). In short, with the concept of uncertainty work, it is possible to see the production of uncertainty as a constituent of knowledge, entities and ethics. Thus, the concept of uncertainty work is helpful for examining telecare as a form of risk management beyond the emphasis on prediction and the Finland based telecare system 'Elsi' provides an appropriate lens to illustrate uncertainty work in practice.

The 'Elsi' telecare system

Elsi' is an example of 'ambient assisted living' (AAL) technology embedded in Finland's social care infrastructure (Doughty et al., 1996). AAL is designed for people with cognitive impairments and is used "to detect potentially problematic changes in health or activity" (Mortenson et al., 2015: 514). The phrasing 'potentially problematic' already hints at the direction of risk management, of controlling potential, not actual, events. Indeed, "AAL is ultimately about the management of risk" (Mortenson et al., 2015: 526). 'Elsi' consists of floor sensors, mobile phones for the nurses and a computer interface. 'Elsi' can produce an alarm when someone falls down, gets out of bed, enters the toilet, has stayed in the toilet for "too long" or enters or leaves their room. The floor panels function with the same logic as smart phone touch screens; the pressure detected by the panels is translated from electro-physical information to human behaviour (Grosen and Hansen, 2021).

The research material was gathered through ethnographic fieldwork in a Finnish public care home accustomed to telecare where the majority of residents had been diagnosed with dementia. As such, Finland's care provisioning provides a good example of how the promises of telecare have been executed. According to Finland's

Ministry of Economic Affairs and Employment (2015), telecare is the most important care technology for a rapidly ageing population and this paper's ethnographic study provides a useful method for examining how risks and uncertainties are managed in everyday *care* practices (Hillman et al., 2013).

The data gathered consisted of twenty semi-structured interviews with care workers and field notes from participant observations over three weeks in 2019, and some in 2020. Interviews were semi-structured covering themes ranging from the joys and difficulties of care work to the use of new technologies as part of the work. The participants were between 20 and 65 years old and had up to 40 years of experience in care work. Interviews usually lasted 30–60 minutes. The field material was gathered during the test period of a socially assistive robot (see Jaakola, 2020). Even though three weeks is a short period for an ethnographic study, I spent up to six hours per day at the unit and participated in daily life there. In this way, I had the opportunity to compare what was said during the interviews with what was happening in the care home from my perspective and to explore the indeterminacy of telecare's usage. All the interviewee names have been anonymised.

At the care home, a heterogeneous 'shifting ensemble' of "multiple humans and more-than-humans, environments and technologies, politics and practices" (Gabrys, 2019: 723) characterises 'Elsi'. This ensemble includes the users of 'Elsi', pendants for some of the residents, cameras, motion detectors, a 'safe word' system for the staff, wireless internet networks and a private security company patrolling the area. Politically, the 'Elsi' ensemble enforces the logic of austerity politics that frame high costs, personnel shortages and the lack of other resources in care provision as problems and telecare technology as the solution. The company that promotes 'Elsi' promises the provision of "Safety – security – savings" (MariCare, 2020, Home section).

'Elsi"s use in a care home unit is a practical example of how telecare is interwoven with 'hands-on' care (Roberts et al., 2012). In an assisted living facility that provides full-time support, there is no one centre where the residents are monitored, which is the usual case with home telecare. Instead, the nurses were usually responsible for five residents each (overall, there were usually nine care workers for 45 residents) and received alarms on their mobile phones based on the residents' actions. In this case, the residents themselves were usually unaware of the technology, which became clear during the analysis.

Telecare involves epistemological, ontological and ethical uncertainty work. In the following, I first analyse the practical and often tacit knowledge that is needed to manage risks with 'Elsi'. Second, I focus on the ontological consequences of epistemological uncertainty work. Third, I discuss the ethical dimension of uncertainty work.

Epistemological uncertainty work: 'Knowing everything' and 'knowing without knowing'

"Uncertainty related knowledge is constituted, negotiated, institutionalised and continually redefined" (Mackintosh and Armstrong, 2020: 5). These facets of uncertain knowledge are evident in the epistemological work needed to operate 'Elsi'. This work is not a straightforward process of receiving and responding to alarms, but rather, emphasises the methods of investigating the truth behind the alarms. The alarms produced by 'Elsi' need to be interpreted, explained and negotiated before action is taken. This is an important distinction from home telecare, where a call centre operator could code the call coming from a telecare customer (López et al., 2010). With 'Elsi', the coding is more automated according to particular thresholds – the nurses answering the alarms, then, are interpreting pre-existing codes, not doing the coding themselves. In this section, I analyse the epistemological uncertainty work that is needed to identify false alarms and dismiss them. This epistemological uncertainty work leads to contradictions, mainly to ways of knowing termed 'knowing everything' and 'knowing without knowing'.

How nurses identify false alarms is one example of how responding to alarms is also about questioning them (López and Domènech, 2008b: 670). Not all alarms are 'true'; that is, they transmit information that does not correlate with actual events.

A mobile phone could send a fall alert, but the pressure detected by the floor panels may come from something other than a resident who has fallen.

> One night, a fall alarm came, and I ran [to the resident's room]. The resident looked at me, surprised, [asking] 'What is it?' No one had fallen. (Sofia)

Sometimes, the alarm does not result in help provision, but in puzzled residents. The workers stressed that although false alarms occurred, they were not common or a problem. However, reactions to false alarms are central when evaluating how telecare works through epistemological uncertainty. Not knowing whether an alarm is true or not is not always a problem, but rather, a resource for working with telecare. Furthermore, undermining ambiguities and anomalies and rendering them unimportant are important facets of uncertainty work (Pickersgill, 2011). False alarms are not an error to eliminate. This would not be the case if prediction was the goal of risk management – to predict a risky event, one has to erase uncertainties. However, this was not the case with 'Elsi'.

The nurses have a trait that technology does not, which practical nurse Eila described succinctly as *flexibility*. The workers developed different strategies to determine whether an alarm was false or not. They could also explain what caused false alarms and why. These strategies are examples of epistemological uncertainty work and highlight the importance of improvisation in telecare (López et al., 2010; López and Domènech, 2008b). First, some rooms were said to be more likely to cause false alarms.

> One room causes a fall alarm almost daily, even though the resident has not fallen […] Today, everyone received the fall alarm, and then one [nurse] remarked, 'Same thing every morning; no one has fallen'. (Liisa)

A practical nurse named Liisa described a scenario familiar to her: fall alarms caused by something other than a fallen resident. This was because the floor panels were installed in certain ways in particular rooms. However, it was not only 'rooms' that could cause false alarms; certain kinds of residents living and moving in these rooms also triggered the alarms. Miranda, another practical nurse, noted:

> We have this […] lady [and] every time she comes – she is big – and walks on the floor, a fall alarm is raised, but she hasn't fallen. (Miranda)

According to Miranda, it was the resident's large size that caused false alarms. This differs greatly from how 'Elsi' should work: not raising an alarm for heavy patients but for risky events. The epistemological uncertainty work in which the nurses discuss and interpret the meaning of alarms, especially the 'unusual' alarms, is an example of triangulation (López et al., 2010), of relating one's own experiences with those of other nurses. Triangulation produces the logic of not reacting to falls instantly or, at least, questioning them based on the room or resident causing the alarm. With triangulation, goals and solutions, such as reacting quickly to falls, are not solely mediated using technology; working with 'Elsi' creates new problems, which lead to new strategies for solving these problems.

Alarms can be dismissed when they are identified as erroneous. However, it became clear during the fieldwork that many other alarms were dismissed. When there are insufficient resources to interpret and respond to all of the alarms – even the critical ones – the nurses have to develop different strategies for separating important and unimportant information. In these situations, some alarms became background noise, even a disturbance, especially during the daytime, when I usually visited the unit. The workers did not always respond to the often-constant alerts on their mobile phones. During an interview with Johanna, she apologised for the continuously 'tinkling' phone. I was surprised because I had thought that alarms were more important than research interviews and should not be dismissed. However, Liisa clarified that it was not always possible to check whether there was something wrong when working with the residents.

> This ['Elsi'] tinkles all the time […], and sometimes, when you're working, you can't even look [at the phone] if there's really an emergency. (Liisa)

Sometimes, other work got in the way of using 'Elsi'. It was obvious that the information gathered by the floor sensors did not always lead to a reaction. There were simply not enough resources to respond to all the alarms at all times. However, it was hard to completely ignore the alarms because they continued ringing as long as no one responded to them. Thus, coping with the constant alarms became tacit knowledge. Dismissing alarms became part of the overall practices of the unit – only quick reactions to falls, which created a distinctive 'vibrating' alarm, were emphasised by the workers and management.

One way to conceptualise the soundscape of continuous alerts and how it relates to the epistemological uncertainty work is with 'refrains'. Refrains are rhythmic series that create a sense of place, familiarity and security, a 'limited pocket of organization' in the midst of fragility and insecurity (Brown and Capdevila, 1999: 36; see also Deleuze and Guattari, 1988). Refrains, such as the rhythmic beeping of the 'Elsi' application, link certain soundscapes to particular events, create chaos from order and paradoxically, order from chaos. In this sense, the constant noise created by the 'Elsi' applications is simultaneously a nuisance but also a precondition for creating order. Considering the resident's weight and false alarms as unproblematic are examples of how refrains create security. Overall, the refrains exemplified two epistemological principles at the unit: 'knowing everything' and 'knowing without knowing'.

The constant beeping of 'Elsi' kept the nurses updated on risky events, such as residents rising in bed. One of the nurses, Nina, stressed how this made it possible to 'know everything' with 'Elsi'.

> [The residents] usually wonder, 'How did you get here?' 'How did you know that I was awake?' [I reply] 'I know everything' (laughs). (Nina)

'Knowing everything' led the nurse to be content, even humorous, as she laughed during the interview. According to Nina, the nurses knew what was going on with the residents and how to care for them before the residents themselves knew that something was wrong. Still, the ability to know everything was somewhat exaggerated. One of the practical nurses, Katariina, explained that knowing through 'Elsi' was not enough:

> I go through all the rooms before the night shift because I don't know whether the TVs are on, if the windows are open or if the customer is in the right position in bed, without any food trays in the way […] and then we also have a 'silent round' at 12 pm. (Katariina)

'Elsi' did not gather data from all of the potentially risky objects, such as food trays, and Katariina and other nurses performed rounds before the night shift to check whether everything was alright. This is an important distinction from Grosen and Hansen's (2021) research on floor monitoring. While that study showed that the care workers' interpretation of needs transformed to following signals from the monitoring system rather than the use of senses (smell, sight, hearing and touch) or 'doing rounds', it is precisely these senses and sensibilities that 'Elsi' calls into action. In a sense, using 'Elsi' doubles the surveillance to include the sensors of 'Elsi' and the senses of the care worker – the sensors are not reliable enough to replace the senses of the worker.

The epistemological practice of 'knowing without knowing' highlights that it is not the gathering of data but the interpretation of it that is crucial with 'Elsi'. As discussed above, alarms could not always be responded to instantly when laborious tasks were being performed.

> I had a fall alarm at 8 o'clock, but I was bathing another resident. [The resident causing the alarm] had dropped something on the floor. (Emily)

Emily has a tactic of 'knowing without knowing'. She 'knows' that the alarm is false without checking or triangulation. The fall alarm was, without hesitation, interpreted as "something" falling on the floor. This was a convenient interpretation for Emily – she could not respond to the alarm because she was working with another resident. This kind of rationalisation could also be called ignorant: for me, a researcher who was an outsider to care work and unfamiliar with many of its premises, the claims of everything being alright and the alarm being erroneous seemed unconvincing. More important, however, is what enables this

interpretation: the possibility of false alarms and dismissing them, the refrains and triangulation that stabilise this work routine and thus, 'knowing without knowing'. The usual refrains create familiarity and security, and it is more likely that everything is going well with the resident than that they actually need help.

'Knowing without knowing' is not really knowing but guessing or betting, which are valid epistemological strategies with 'Elsi'. The epistemological uncertainties do not erode the ability to work, but instead, render it possible. However, uncertainty work with telecare is not only about identifying true and false risks with epistemological know-how; it also comprises ontological constitution work that creates risky entities.

Ontological uncertainty work: 'Ad hoc' and 'ghost' entities

Epistemological uncertainty work is not only about reflecting on existing entities, but is also about bringing them into being (Pickersgill, 2020). In this view, the ontological status of an entity – a risky object, for example – is always an accomplishment. In the previous section, 'knowing everything' produced risks that were unknown for the residents themselves, such as rising in bed, and risks suggested by false alarms proved to be non-existent, which was the case when 'Elsi' alerted the fall of a resident who was actually resting in bed. In this section, I explore this kind of ontological uncertainty in more detail, focusing on how entities are inevitably constituted with 'Elsi'.

The uncertainty work that is needed to manage false alarms does not end with checking in with residents to know whether they have fallen or not. The alarms are not simply true or false; rather, they enact new ontologies. In this way, false alarms are not forms of misrecognition (by the workers or by the floor sensors) or problems with technology or interpretation, but they create new risks. This phenomenon is familiar with home telecare: the call centre operators know that not all events are predictable and, therefore, create new risk codes while monitoring the actions of telecare customers (López et al., 2010: 80).

In addition to checking false alarms as routine and dismissing them, a popular view was that the imperative to always check what caused a false alarm was more important than the alarm being erroneous. For Ethan, a practical nurse working in the unit, an alarm was always an alarm:

> When an alarm comes, you must go and look [for what caused it]. That is the idea; something has happened. If a glass falls down, it can break and explode [and cause something else] […] An alarm is an alarm. (Ethan)

For me, it seemed odd and vague that falling glass could be a risk that called for a quick response. The approach seemed random. The uncertainty that comes with the possibility of false alarms is not a technological problem to fix or erase; rather, uncertainty is something to embrace. Although the users of 'Elsi' highlighted the importance of preventing and detecting falls, the alarms also created new risks. It was more important to respond to the alarm unconditionally than to rationalise what might have caused it. 'Something', an exploding glass perhaps, was always a risk, according to Ethan.

I call these new risky objects ad hoc entities. They are ad hoc, temporal and "specific to the situation" in two ways. First, ad hoc entities are not recognised on the MariCare company web pages that advertise 'Elsi' as important. They are also not usually identified as risk factors for the older population in a broader sense. Instead, ad hoc entities are produced and enacted when working with 'Elsi'. Second, ad hoc entities lose their properties, such as being risks and posing possible danger or harm, rather quickly. If a glass has not exploded, it is just a glass, after all. Still, there is a possibility that the false risk lingers. Ad hoc entities can, in this sense, become 'ghosts'. I will examine these forms of ontology shortly after clarifying some aspects of working with ad hoc entities.

Why does ontological uncertainty not lead to insecurity? One answer stems from the ways in which new ad hoc entities do not diminish, but enable work through uncertainty. In fact, ad hoc entities are quite usable and practical. When no alarm can, in practice, be false, the ad hoc entities solve the often-awkward problem of uncertainty. Ad hoc entities justify quick reactions to risks that sometimes turn out to be non-existent. In contrast, quick reactions to something that does

not exist can seem unreasonable. Hence, Ethan explained why 'Elsi' is a good technology, despite it sometimes being unpredictable. Here, again, uncertainty is a resource, not an obstacle or problem.

'Ghosts', which ad hoc entities can easily become, emphasise how uncertainty cannot be solved with 'Elsi'. There are situations with 'Elsi' that produce unclear ontological outcomes. This is especially true with false alarms. When I asked Johanna whether the false alarms were a nuisance, she replied with a firm 'Yes!' and continued:

> Sometimes, the alarms come late. You can have a toilet alarm, but when you go to check the situation [right away], the customer has already left the toilet. Sometimes, there are delays. (Johanna)

Similarly, 'Elsi' sometimes sent alerts for toilet visits from rooms where the resident could not possibly visit the toilet alone:

> Sometimes, at night especially, there are these situations, like some years ago, when it ['Elsi'] can send an alert for a toilet visit in a room where the customer is incapable of moving. I don't know if [breeze from] an open window could have caused the alarm. However, the windows are seldom open if it's not summer. (Eila)

In the above situations, an entity of a resident entering the toilet and causing possible danger to their wellbeing is produced while using 'Elsi'. However, when the information translated by the sensors is delayed or when it is impossible for the resident to be in the toilet, these entities become uncertain.

Eila remembered clearly a scenario from years ago and tried to find explanations and reasons for the ontological uncertainty – they seemed to haunt her still. Maybe the fact that these alarms were produced during night shifts when she was the sole nurse on the floor highlighted the haunting aspect. The uncertainty with these kinds of alarms leads me to term the enacted entities 'ghosts'. Uncertain ontologies cannot simply be dismissed by workers. Instead, ontological uncertainty haunts them. 'Ghost' entities are both present and absent. 'Elsi"s beeping indicates the presence of someone in the toilet, but the employee is puzzled when there is no one there.

The example of 'ghosts' emphasises how the possibility of a resident being in risk becomes something not a danger or a threat, per se, but something more ambivalent. Therefore, it would be misleading to perceive falls, toilet visits or other risks as either predictable events or non-events. 'Ghosts', instead, linger between these two states. They are not really there but still have real consequences. Previous research has shown that telecare broadens, directs and limits the gaze of the care worker and creates 'zones of visibility and invisibility' (Grosen and Hansen, 2021: 259). In terms of ontological uncertainty work, however, it is unclear what is (in)visible.

The ways in which these 'ghost' entities haunt the workers indicate that it is not easy to live and work with ontological uncertainty. Although the workers smoothly switch between different ways of knowing, ontological uncertainty work also produces frustration.

> They [the false alarms] are annoying because, of course, when a fall alarm comes, you leave quite rapidly [to check the situation]. And when you notice that it was only the cleaner [who forgot to turn the floor sensors off] […] of course, it's a bit irritating […] but technology is technology and doesn't always work that way [as planned]. (Helena)

"An alarm is an alarm" for Ethan and "technology is technology" for Helena. These common sense reasonings stress that uncertainty is, if not explicitly positive, at least a central element and a mundane feature of working with 'Elsi' and something to accept in spite of the occasional frustration and irritation. The ethical uncertainty work with 'Elsi' further emphasises the centrality of uncertainty as a resource.

Ethical uncertainty work and the value of immediacy

In addition to privacy (Grosen and Hansen, 2021; Kamphof, 2017; López et al., 2010) and autonomy (López and Domènech, 2008a; López Gómez, 2015), immediacy has been shown to be an important value in telecare practices (López and Domènech, 2008b). Valuing immediacy turned

out to be central for working with 'Elsi' as well. At the care home, ethical uncertainty work was needed to value immediacy while dealing with epistemological and ontological uncertainties. In this section, I mainly focus on three characteristics of these negotiations: speed, responsiveness and hurry.

Caring that relies on risk management values speed in performing *care* (Hillman et al., 2013). This was the case with 'Elsi'. However, telecare solutions that provide quick and responsive care can create a conflict of values between immediacy and privacy (Grosen and Hansen, 2021). At the unit, alarms could hamper privacy when there was no clear reason to be alarmed, which was the case with false alarms. This was something that worried Bess, one of the workers, who pictured herself as one of the residents during the interview.

> I'm only moving in my bed and it ['Elsi'] 'beeps' that I have fallen and alerts all the nurses even though I would like to be [alone]. ['Elsi'] is good, but it also annuls privacy. (Bess)

How is the conflict between immediacy and privacy solved at the unit? An answer might stem from the ad hoc and 'ghost' entities discussed above. An important distinction from 'trotting', a metaphor that implies running around without a clear destination, is how 'Elsi' makes the more precise allocation of work possible:

> When we are faster, we can prevent possible dangers. […] If ['Elsi'] alerts a fall, we can react quickly and know where to go. (Johanna)
> ['Elsi'] has changed the [working atmosphere] to a more secure one; you don't have to trot around anymore. (Susanna)

Responsiveness secures immediate care. This might sound paradoxical when the possibilities of dismissing alarms and false alarms with the enactment of ad hoc and 'ghost' entities are taken into account. However, it is precisely the diversity of possible reactions to alarms and the ontological outcomes of this that justify fast responses to alarms, also the false ones, and the possible privacy intrusion, when it turns out that there was no reason to be alerted. There is no need to run around when one 'knows everything' or 'knows without knowing' what is going on and who needs help.

However, reacting to the alarms quickly and unconditionally also produced friction. This was evidenced during an interview with Nina.

> Again, the mobile phone constantly receives alerts throughout the interview. Nina reacts only to the last, vibrating, alarm […]. Someone has fallen. Nina specifies that the resident must have fallen because she has taken 'drugs' today (some strong medicine, I suppose). At first, however, Nina thinks that the alarm came from a nearby room, where a man starts to moan and yell. Nina does not go to check the situation in this room, but goes to help her 'own' resident. About ten minutes later, another nurse goes to check the situation in the nearby room. (Fieldnote)

Although Nina heard groaning from the nearby room, she responded to 'Elsi''s alarms. As previously mentioned, one nurse was usually responsible for five residents during (daytime) shifts, and these residents were specified in the nurses' mobile phones. There was no rule about caring only for one's assigned residents, but still, 'Elsi' seemed to promote this kind of routine. Based on the previous sections, however, it was clear that the alarm could have been false. In contrast to 'Elsi''s beeping, the sounds of the nearby resident moaning were very real. Still, the vibrating phone decided who was given priority, and the resident close by received help later. Nina did not question this 'order' and did not even seem to recognise it.

Why was the fall alarm responded to much more quickly than the noises coming from the nearby room? One answer might stem from the way in which 'Elsi' could be used to supervise not only the residents but also the nurses. The reaction times to fall alarms were sometimes supervised by management. This established omnipresent surveillance. As the nurses did not know when and how information on their actions was gathered, it was better for them to work as if they were always being watched (cf. Foucault, 1977; López, 2010). Indeed, it was sometimes the fear of constant surveillance that made caring more immediate with 'Elsi'.

> Yeah, it is good that somebody keeps an eye on [the nurses] and that people have this kind of fear that somebody is watching (laughs). You must react [to the fall alarm]. (Liisa)

Valuing immediacy while caring with 'Elsi' – while also possibly being "kind of afraid" – often meant hurrying for the care workers. The interviewees had mixed feelings about hurrying. For some, "a little bit of hurry" was a good thing – it kept the worker alert and prevented them from "hanging around at the office" too much – but for Anneli, the feelings of hurry were frustrating.

> Well, the constant lack of time is frustrating, whether it is real or made up. Nevertheless, I often have the feeling that I don't have time to do everything I want to do [at work]. […] Of course, you can affect the feelings of hurry […] by having the patience to stop at least for a little while and [not] think about the next task. (Anneli)

Interestingly, Anneli blamed herself for not remembering to stop and take a break every now and then. The hurry may have not even been "real" but "made up" by the worker. In this reasoning, it is the worker's responsibility to not have the frustrating feeling of hurry, while 'Elsi' promotes immediate responses. Thus, responsive care creates hurry. The interviewees, however, did not see this as a downside of 'Elsi', its tendency to create 'ghosts' that could undermine any effort to respond quickly, for example, but as their own fault. This raises the question of whether 'Elsi' creates additional work, rather than simply helping the nurses. When the work input becomes fast and responsive, the result is not more free time, longer breaks or the possibility of spending more time chatting with the residents, being present or playing a game. Instead, at the unit, time saved resulted in washing laundry, preparing meals, cleaning or doing the dishes. Some of the nurses criticised the constant increase in tasks that had little to do with nursing.

> We have to do so much non-nursing work – dishwashing, doing the laundry – which takes a lot of time. I would rather give this time to the residents and do something with them: go outside, play a game, or just sit with them. (Pirjo)

Added to the additional work related to 'Elsi', the amount of work seems to increase rather than decrease, when immediacy is valued. As discussed above, the workers had to consider whether 'Elsi''s alarms could be trusted and what the other workers thought about the alarms, especially the unusual ones. This demonstrates triangulation as an additional mode of work. Furthermore, doubling the surveillance is also a form of additional work. Although regular checking rounds were thought to be replaced by the all-seeing view that 'Elsi' enabled, the workers did not eliminate the 'just in case' patrolling. In fact, 'Elsi' could necessitate routine check rounds when it produced false alarms.

Conclusion

In this paper, I have applied the concept of uncertainty work to ethnographic data to understand how telecare technology is used in institutional care work as a form of risk management, and what the outcomes of this kind of technologically mediated care might be. I have shown how telecare technologies that ought to provide fast, targeted and pre-emptive care operate through different uncertainties. Uncertainty work in this context leads to outcomes, which I identified as epistemological, ontological and ethical uncertainties. First, the strategies of 'knowing everything' and 'knowing without knowing' were examples of epistemological uncertainty as they were both justifiable, albeit contradictory, ways of knowing. Second, the enactment of ad hoc and 'ghost' entities were examples of ontological uncertainty as they showed how risks are not only recognised and answered but also enacted on purpose or unexpectedly. Third, the possibility of valuing immediacy – that is, speed and responsiveness, at times leading to hurry and frustration – was an example of ethical uncertainty as it illustrated how values, such as immediacy and privacy, can produce ethically contradictory outcomes. Furthermore, different uncertainties are mutually constituted. For example, when the existence of risky entities is uncertain, 'knowing without knowing' becomes a legitimate epistemological strategy. Likewise ad hoc entities justify immediate reactions to risky entities that sometimes turn out to be non-existent.

As my analysis reveals, the nature of uncertainty as an often implicit and mundane resource and an outcome of telecare practices makes it clear that uncertainty is not an obstacle or something to be eliminated, but rather, something to embrace. While the analysis focuses on uncertainty, it is important to note that prediction is also focal for risk management – most of the alarms were, after all, 'correct', with 'Elsi'. However, caring with telecare requires collective and innovative strategies that differ from predicting the future. Keeping knowledge, entities and ethics unclear is itself a form of risk management. While prediction puts the focus on signals, coding, information as data flow and risks known in advance, uncertainty emphasises the worker's skills and the proliferation of new and often unknown risks.

The results are in line with earlier research that has shown how telecare is not a straightforward solution to existing problems but creates new problems (e.g., Mort et al., 2013b; Pols, 2010, 2012; Schillmeier and Domènech, 2010). However, instead of highlighting risk management leading to dehumanising effects, such as the erosion of dignity for care receivers (Pritchard and Brittain, 2015), insecurity and decentred care (Grosen and Hansen, 2021) or maintaining the sociotechnical system rather than caring for older people (Hillman et al., 2013), this paper highlights the aspiration to care for individual residents. However, due to uncertainties, it is not necessarily care needs that are tended to. Rather, false alarms place focus on the resident's size or 'ghosts', for example. Due to different uncertainties, the focus is not on maintaining the risk management system, such as answering alarms unconditionally, but on the care worker's senses, capabilities and responsibilities.

The different forms of uncertainty work have both productive and disruptive consequences. Due to epistemological uncertainty, alarms can be interpreted with different strategies, such as dismissing them. This enables care workers to be creative and innovative. However, it seems that 'Elsi' does not straightforwardly decrease the amount of work. Rather than saving resources through prediction, working with 'Elsi' creates additional work, such as triangulation and increased surveillance. The occurrence of different uncertainties does not induce a proliferation of insecurity (cf. Grosen and Hansen, 2021). This is due to the additional work undertaken by care workers. In this way, the responsibilities of care organisations and political institutions are potentially decreased when telecare technologies become mundane features of care work.

The politics that emphasise telecare as the solution to scarce care resources make it difficult to recognise the additional work that telecare technologies co-create. Emphasising austerity requires that risk management is based on saving resources while predicting the future. While resources might be saved budget-wise, this is not necessarily due to using telecare technology, but the outcome of dealing with the uncertainties that are co-created with telecare. Therefore, it is important to recognise the different uncertainties that come with risk management in telecare practices. Furthermore, more focus should be put on the additional work that the epistemological, ontological and ethical uncertainties create in future research on telecare practices.

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IV

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Ikääntyvät kyborgit

HOIVATEKNOLOGIAT JA KITKAINEN RUUMIILLISUUS

Joni Jaakola

Iäkkäiden hoivan tueksi on kehitetty erilaisia teknologioita, kuten virikkeitä tarjoavia robotteja. Suomalainen hoivapolitiikka on ottanut keskeiseksi tavoitteekseen tukea hoivateknologioiden käyttöönottoa. Vaikka ruumiillisuus on ollut keskeinen tutkimusaihe feministisessä tieteen- ja teknologiantutkimuksessa ja sukupuolentutkimuksessa, ikääntyvät ja teknologialla avustetut ruumiit ovat saaneet toistaiseksi vähän huomiota. Tarkastelen artikkelissa sitä, millaisia ruumiillisuuksia iäkkäille tarjotut hoivateknologiat tuottavat. Analysoin etnografista havainnointiaineistoa trans- ja posthumanistisen kyborgiteorian avulla. Analyysini osoittaa, että hoivateknologioiden tuottama ruumiillisuus on kitkaista. Suomen hoivapolitiikka korostaa hoivateknologioiden mahdollistamaa yksilön terveyden ja hyvinvoinnin, yritysten kilpailukyvyn ja julkisen talouden kohentamista. Näiden odotusten toimeenpano hoivan arkeen sijoittuvissa teknologiakokeiluissa sen sijaan tuottaa kitkaa, jonka kautta päästään käsiksi sukupuoleen, osallisuuteen ja haavoittuvuuteen liittyviin hoivapoliittisiin kysymyksiin.

Avainsanat: hoiva, kyborgi, posthumanismi, ruumiillisuus, transhumanismi

Viime vuosikymmeninä poliitikot, viranomaiset, teknologiayritykset ja palveluntuottajat ovat pyrkineet vastaamaan iäkkäiden hoivan resurssipulaan uusilla hoivateknologioilla, kuten tekoälyllä ja robotiikalla (Oinas ym. 2021; Van Aerschot ym. 2017; STM 2018). Hoivateknologian määritelmä on laaja ja monitulkintainen (Frennert & Östlund 2018, 23). Se pitää sisällään työntekijän, iäkkään tai molempien käyttöön suunnatut mobiili-, toimisto- ja viihdeteknologiat (Oinas ym. 2021). Hoivateknologiat kattavat niin turvallisuuteen, liikkumiseen, etähoitoon, automatiikkaan, viihteeseen kuin työn organisointiin liittyviä teknologioita, jotka voivat vaihdella lääkeannostelusta karaokeen.

Yksittäisiin teknologioihin keskittymisen sijaan hoivateknologiaa on syytä lähestyä yhteiskunnallisena ilmiönä. Hoivateknologiaa koskevassa yhteiskunnallisessa keskustelussa mitä erilaisimmat laitteet, sovellukset, apuvälineet ja käytännöt määritellään ”ratkaisuksi” väestön ikääntymisen aiheuttamiin ”ongelmiin”. Edelleen hoivateknologia kylläs tetään hyvinvointiin liittyvillä sanastoilla, toiveilla, haluilla, lupauksilla, kuvitelmilla ja tulevaisuusnäkymillä. Susanne Frennertin ja Britt Östlundin (2018) kirjallisuuskatsauksen mukaan teknologiaa tuodaan hoivapalveluihin, koska sen ajatellaan tekevän palveluista sujuvia, tehokkaita, turvallisia ja asiakaslähtöisiä. Kirjoittajat huomioivat, että näiden lupausten rinnalla pelätään hoivan muuttumista sirpaleiseksi, aikaa vieväksi, teknologiakeskeiseksi ja riskialttiiksi. Hoivan ja teknologian kohtaaminen on siis ristiriitainen ilmiö. Artikkelissani tarkastelen tätä ristiriitaisuutta kysymällä, millaisia ruumiillisuuksia iäkkäille tarjotut hoivateknologiat tuottavat. Pohdin myös, millaisia hoivapoliittisia kysymyksiä ruumiillisuuksien tarkastelu herättää.

Ruumiillisuus on feministisen tieteen- ja teknologiantutkimuksen keskeinen osa-alue (Irni ym. 2014). Esimerkiksi hedelmöitys- (Meskus 2014) ja hormonihoidoissa (Irni 2014) muodostuvat ruumiit kuvastavat hyvin sitä, miten lääketieteelliset käytännöt ja teknologiat, ihmisten arki sekä taloudelliset ja poliittiset kysymykset yhteismuotoutuvat. Vaikka ruumiillisuus on ollut keskeinen tutkimusaihe myös suomalaisessa sukupuolentutkimuksessa, ikääntyvät ruumiit ovat saaneet vähän huomiota. Esimerkiksi Karoliina Ojanen (2016) on tarkastellut vanhenevien miesten seksuaalisuuteen liittyviä kysymyksiä ja Silva Tedre (1996) puolestaan ikääntyvää ruumista välttämättömyyksien, kyvyttömyyksien ja tarpeiden paikkana. Toistaiseksi ei ole kuitenkaan tutkittu teknologialla tuettuja ikääntyviä ruumiita eikä niiden yhteyksiä hoivapoliittisiin kysymyksiin.

Artikkelissa paikkaan tätä aukkoa tarkastelemalla ruumiillisuuksien rakentumista ikääntyneiden hoivatyöhön suunnattujen hoivateknologioiden kontekstissa. Jäsennän hoivateknologioihin liittyvän ruumiillisuuden odotuksia ja vaikutuksia kyborgin käsitteen avulla. Hyödynnän etenkin Donna Harawayn (2003a; 2003b) teoretisointia, joka korostaa kyborgiutta elettynä ja samanaikaisesti myyttisenä ruumiillisuutena. Kyborgiruumiillisuutta on tutkittu ruumiin sisäisten tai ulkoisten implanttien sekä viestintäteknologioiden yhteydessä (ks. esim. Currier 2003; Oudshoorn 2020; Wajcman 2007). Harawayn kyborgiteoria mahdollistaa kuitenkin lähestymistavan, jossa ruumiin ja teknologian rajat ovat lähtökohtaisesti epäselvät ja neuvoteltavissa. Käsittelemäni ruumiillisuus ei rajaudu ikääntyneen kehoon vaan pyrkimyksiin, joissa sen rajoja ja kykyjä muotoillaan uusiksi.

Olen kerännyt analysoimani aineiston monipaikkaisen etnografian avulla kahdella kentällä: kansallisen tekoälyohjelma Hyteairon tapahtumissa ja teknologian käyttöönottoon panostaneessa palvelukodissa. Palvelukotiaineiston osalta keskityn kahteen sosiaaliseen robottiin, Saaraan ja Paroon. Ne ovat viriketeknologioita, jotka on suunniteltu viihdyttämään ja aktivoimaan iäkkäitä sekä pitämään heille seuraa. Paron ja Saaran kaltaiset sosiaaliset robotit tuottavat virikkeiden lisäksi ruumiillisuuksia (Kerruish 2016, 12). Ruumiillisuudet kuvaavat toimintakyvyn kohentamisen tai sen reunaehtojen paljastamisen käytäntöjä, jotka liittyvät esimerkiksi sukupuolikäsityksiin ja terveystietojen keräämiseen. Väitän, että hoivateknologioiden tuottama ruumiillisuus on *kitkaista*. Fysiikan käsitteenä kitka viittaa kappaleiden välisestä kosketuksesta aiheutuvaan, liikettä ja liikkeelle lähtöä vastustavaan voimaan (Kielitoimiston sanakirja 2021). Suurista odotuksista huolimatta hoivateknologioiden ja iäkkäiden kohtaaminen ei useinkaan ole sujuvaa vaan pikemminkin hankaavaa ja vaikeaa.

Artikkelin ensimmäisessä osiossa tarkastelen Harawayn kyborgiteorian lähtökohtia. Toisessa osiossa esittelen monipaikkaisen etnografian ja aineiston tarkemmin. Analyysissä syvennyn kitkaisen ruumiillisuuden muodostumiseen. Lopuksi nostan esiin hoivapoliittisia kysymyksiä, joihin kitkaisen ruumiillisuuden kautta päästään käsiksi.

KAKSI KYBORGIA

Haraway kirjoitti *Manifestin kyborgeille* ([1985] 2003b) vastaukseksi 1980-luvun suurvaltapolitiikalle ja sen herättämälle feministiselle kritiikille. Teoksessa Haraway kritisoi feminismiä, joka näkee teknologian pelkästään vahingollisena, naisia uhriuttavana ja maskuliinisia yli-ihmiskäsityksiä levittävänä. Hän muotoilee kyborginsa väistääkseen tällaisen "kritiikkiä kritiikin vuoksi" -asetelman (Haraway 2016, 211) ja tuodakseen sen tilalle ironian ja spekulaation värittämän "radikaalin ambivalenssin" (Wolfe 2010, xii). Haraway haastaa kysymään, voiko tieteen ja teknologian kehitys tuottaa tietoa, entiteettejä, politiikkaa ja etiikkaa, jotka ovat samanaikaisesti vahingollisia ja vapauttavia. Harawayn kyborgi rikkoo erilaisia dualismeja, kuten liha–kone, todellinen–mahdollinen ja yksi–moni (Law 2006, 92) tai luonto–kulttuuri, mies–nainen ja oidipaalinen–ei-oidipaalinen (Braidotti 2006, 200).

Feminismin sisäisen kritiikin lisäksi Haraway suhtautuu varautuneesti 1980-luvulla voimistunutta transhumanistista liikehdintää ja siihen kuuluvia kyborgivisioita kohtaan. Transhumanismi on elämänfilosofia, joka pyrkii ihmisen "vajavaisuuksien", kuten vanhenemisen, sairauden tai geeniperimän, korjaamiseen sekä ihmisen älyllisten, fyysisten ja psykologisten kykyjen lisäämiseen tieteen ja teknologian avulla. Transhumanismi korostaa tek-

nologis-tieteellisten kokeilujen merkitystä ja tulevaisuuksien tekemistä osana arkea. (Bostrom 2005; More 2013.) Transhumanismin intellektuaaliset juuret ovat eurooppalaisessa renessanssi- ja valistusaikojen ajattelussa, joka korostaa autonomiaa, vapautta ja rationaalista toimijuutta sekä näihin liittyviä moraalisia periaatteita ja arvoja (Nayar 2014, 5–6; Wolfe 2010, xv).

Transhumanismissa teknologia nähdään ensi sijassa ihmisen kohentamisen (*enhancement*) välineenä, jolloin teknologiasta tulee keino lisätä ihmisen kykyjä, poistaa hänen puutteitaan ja vahvistaa hänen vahvuuksiaan (Ferrando 2013). Kohentamisen ideaali näkyy alkuperäisessä kyborgin käsitteessä, jota Haraway uudistaa. Clynes ja Kline (1960) kehittivät kyborgin, ”kyberneettisen organismin”, käsitteen spekuloidessaan avaruusmatkailun mahdollisuuksia. Heidän mukaansa ihmiskehoa tulee muokata teknologian avulla, jotta se selviäisi avaruudessa. Selviämisen lisäksi kyborgisuus vapauttaa ihmisen ”tutkimaan, luomaan, ajattelemaan ja tuntemaan” (Clynes & Kline 1960, 27).

Kuten monet muut (Braidotti 2006; Ferrando 2013; Lummaa & Rojola 2014, 16), näen Harawayn kyborgin posthumanistisena käsitteenä. Tarkoitan posthumanismilla *kriittistä posthumanismia*, joka suhtautuu transhumanismin lupauksiin varauksellisesti. Perinne pohjaa esimerkiksi Gilles Deleuzen (2012) tulkintoihin spinozalaisuudesta sekä Gilles Deleuzen ja Félix Guattarin (1987) ajatteluun. Kriittinen posthumanismi jatkaa ranskalaisen jälkistrukturalismin aloittamaa antihumanismia sekä antiantroposentrismia – perinnettä, joka kyseenalaistaa näkemyksen ihmisestä universaalina kategoriana sekä oletuksen ihmislajin ensisijaisuudesta ja ylivertaisuudesta (Braidotti 2006; 2013; Lummaa & Rojola 2014). Posthumanismiin liittyy ajatus teknologiasta eksistentiaalisena tai ontologisena *paljastamisen* tapana (Ferrando 2013; Heidegger 2007). Paljastamisessa huomio on ihmisen kykyjen kohentamisen sijaan jaetuissa haavoittuvuuksissa. Tällöin teknologia ei näyttäydy ihmisen kykyjen jatkeena vaan niiden rakennusosana (Nayar 2014, 4, 8).

Sukupuoli on keskeinen kysymys kyborgiruumiillisuudessa. Judith Butlerin (1988) performatiivista sukupuoliteoriaa mukaillen sukupuoli ei ole Harawaylle (2003a) olemista vaan tekemistä, sukupuolitettujen subjektien tuottamista suhteissa muihin subjekteihin ja artefakteihin, kuten teknologioihin. Harawayn (2003b) kyborgiin liittyy oleellisesti ajatus sukupuolen jälkeisyydestä (*post-gender*) eli teknologian mahdollistamasta potentiaalista kyseenalaistaa, kumota ja tuottaa sukupuoleen liittyviä käsityksiä ja olemisen tapoja. Sukupuolen essentialisoinnin sijasta Harawayn kyborgi kutsuu tarkastelemaan teknologian ja sukupuolen yhteisvaikutuksia. Tällöin kyse on sekä teknologian sukupuolesta että sukupuolen teknologioista eli niistä yhteisvaikutuksista, joissa teknologiasta tulee sukupuolittunutta ja tämä vaikuttaa samalla sukupuolikäsitysten rakentumiseen (Rojola 2010, 204; Wajcman 2007).

Sukupuolen lisäksi käsitykset toimintakyvystä ja vammaisuudesta ovat oleellisia kyborgiruumiillisuudessa. Transhumanismissa ihmisen kykyjen korjaaminen ja lisääminen korostuvat. Transhumanistinen kyborgius ohittaa vammaisuuden (Erdener 2021, 2), mikä johtaa siihen, että vammaisuus voi määrittyä puutteena. Samalla ”ihmisen normi” muotoutuu kyvykkyyden kautta (Braidotti 2013, 15, 26). Transhumanismista poiketen posthumanismissa huomio on ruumiin, teknologian, politiikan ja myyttien välisten yhteyksien paljastamisessa ilman, että vammaisuus määrittyy puutteena. Kun transhumanismissa teknologia lisää ihmisen kykyjä, posthumanismissa ruumis itsessään on epäselvä, sillä emme tiedä mihin se kykenee (Deleuze 2012).

Harawayn kyborgin merkitys feministisessä tieteen- ja teknologiantutkimuksessa on ollut huomattava ja käsitettä on tulkittu vaihtelevasti (Haraway 2016). Käsitteen käyttämistä tärkeämpää on kuitenkin se, mitä kyborgilla tehdään – jonkin nimeäminen kyborgiksi ei ole kuvaus vaan väittämä (van der Ploeg & van Wingerden 1995). Tässä artikkelissa hahmotan kyborgin käsitteen avulla ruumiillisuuden muotoja, joita hoivateknologioiden avulla tuotetaan.

AINEISTOT JA MENETELMÄ

Analysoimani materiaalit koostuvat Suomessa monipaikkaisen etnografian (Hannerz 2003; Marcus 1995) avulla kerätystä havainnointiaineistosta. Kenttiä oli kaksi: Sosiaali- ja terveysministeriön (STM)

osittain vetämän *Hyvinvoinnin tekoäly ja robotiikka* (Hyteairo) -ohjelman tapahtumat sekä muistisairaille suunnattu palveluasumisen yksikkö, jossa hoivateknologioita on testattu ja otettu käyttöön. Aineistot ristivalottavat iäkkään elettyä ruumiillisuutta ja siihen kohdistuvia teknologiakokeiluja osana suomalaista hoivapolitiikkaa ja sen toteuttamista.

Osallistuin neljään Hyteairo-tapahtumaan, jotka järjestettiin eri puolilla Suomea. Hyteairo-ohjelman tavoite oli tukea ikäihmisten hyvinvointia ja tehostaa terveyspalvelujärjestelmää tekoälyn ja robotiikan avulla (STM 2018). Tapahtumat koostuivat teknologioiden esittelystä, verkostoitumisesta, luennoista, esitelmistä ja työpajoista. Niihin osallistui lähinnä tutkijoita, yrittäjiä ja SOTE-alan toimijoita. Tapahtumat olivat avoimia kaikille. Muistisairaille suunnatussa julkisessa palvelukodissa havainnoin sosiaalisten robottien, Paron ja Saaran, testausta ja käyttöä. Saaran kokeileminen liittyi pilottitestaukseen. Myös Paron käyttö oli kokeiluluontoista, vaikka se oli ollut palvelukodissa käytössä jo pidempään. Paro on vanhusten hoivatyöhön suunniteltu, hyljevauvaa muistuttava terapeuttinen robotti (Chang & Šabanović 2015; Søraa 2017). Saara-nimi tulee lyhenteestä SAR (*socially assistive robot*). Saara on suunniteltu ihmismäiseksi. Sillä on esimerkiksi pää, jossa on suuret vilkkuvat silmät. Saara myös ”puhuu” ennakkoon äänitettyjä repliikkejä. Palvelukodissa Saaran tehtävä oli viihdyttää ja pitää seuraa iäkkäille. Saaraan oli ohjelmoitu neljä yhdessä yksikön henkilökunnan kanssa suunniteltua sovellusta: kuunnelmat, muistipeli, musiikkimatka ja jumppa. Sovelluksia käytetään Saarassa olevan kosketusnäytön avulla. Syvennyn sovelluksiin ja itse robotteihin tarkemmin analyysin yhteydessä.

Keräsin aineistoa kolmen viikon ajan palvelukodissa ja neljän päivän aikana Hyteairo-tapahtumissa vuosina 2019–2021. Julkisiin Hyteairo-tapahtumiin pääsin helposti mukaan. Hoivakotiin pääsyni neuvottelin Saaran testaustiimin ja palvelukodin johdon kanssa. Lisäksi Turun yliopiston tutkimuseettinen toimikunta ja kyseessä ollut kaupunki puolsivat tutkimustani. Positioni vaihtelivat eri kentillä: tapahtumissa olin enemmän sivustaseuraaja ja palvelukodissa puolestaan osallistuva havainnoija. Hyteairo-tapahtumissa keskityin havainnoimaan hoivateknologoihin liittyviä esityksiä ja niiden sisältöjä. En kokenut tarpeelliseksi tietoisen suostumuksen varmistamista havainnoinnille, sillä tapahtumat olivat julkisia ja puhujat olivat itse valinneet, mitä tuovat esille ja miten. Palvelukodissa havainnointini rajautui iäkkäiden osalta vuorovaikutustilanteisiin robottien kanssa talon yhteisissä tiloissa. Talon henkilökuntaa oli informoitu tutkimuksesta ennen aineistonkeruuta. Olen käsitellyt aineiston siten, ettei yksittäisiä henkilöitä voi tunnistaa analyysistä; olen poistanut tai anonymisoinut aineistolainauksista mahdolliset tunnistetiedot, kuten nimet, affiliaatiot ja tarkat päivämäärät.

George Marcusin (1995, 108) mukaan monipaikkainen etnografia tarkoittaa käytännössä seuraamista, ja hän mainitsee esimerkkinä *Flexible Bodies* -tutkimuksen (1995), jossa Emily Martin jäljittää immuunisysteemiajattelun muodostumista eri kentillä, kuten vaihtoehtoisissa terveydenhoitomenetelmissä ja AIDS-hoitoklinikalla. Kuten arvata saattaa, immuunisysteemistä rakentuu moninainen ja ristiriitainen ilmiö. Vastaavasti kyborgiruumiillisuus muodostuu eri kentillä mahdollisesti ristiriitaisin lopputuloksin. Sosiaaliset robotit ovat harvinaisia Suomessa (Oinas ym. 2021). Vuorovaikutteiset robotit ovat silti yleisiä hoivateknologiaa koskevissa kuvitelmissa ja tulevaisuusnäkymissä (Van Aerschot & Parviainen 2020). Kyborginäkökulmasta juuri tämä kuvitelmien, toiveiden ja eletyn arjen risteäminen on kiinnostavaa (Haddow ym. 2015). Monipaikkaisuus ei tarkoita vertailua eri kenttien välillä, vaan huomioni on siinä, miten kyborgiruumiillisuus rakentuu kenttien välisissä yhteyksissä ja katkoksissa (Hannerz 2003).

Lähestyn kyborgiruumiillisuutta aineistoissa ensinnäkin hoivateknologiaan latautuneiden toiveiden ja odotusten ja toiseksi eletyn ruumiillisuuden kautta. Huomioni ei ole niinkään yksittäisissä teknologioissa vaan puhe- ja toimintatavoissa, jotka yhdistävät näitä teknologioita, sekä ruumiillisissa vuorovaikutussuhteissa, jotka yhteismuotoutuvat arkisissa teknologisissa käytännöissä. Näin ollen en viittaa kyborgilla tarkkarajaiseen essentiaalliseen ihmisruumiin ja teknologiaan yhdistelmään vaan relationaaliseen ja moniaineksiseen ruumiillisuuteen, jonka olemus on aina paikallinen ja tilannekohtainen saavutus.

HOIVATEKNOLOGIA KOHENTAMISENA

> Lähihoitajaopiskelijan päällä on ulkoinen tukiranka, eksoskeleton. Yrittäjä kertoo, kuinka sen avulla ehkäistään selkävaivoja. Työntekijän (jolle tukiranka on suunnattu) terveys säästyy, hän on työelämässä pidempään eikä pidä sairaslomia. Tätä kautta rahaa säästyy. Lopuksi hehkutetaan vielä kansallisen kilpailukyvyn kasvua. Tapahtuman juontajan mukaan ”Ruotsi päihitetään”. Juontajan puheissa korostuu ajatus Suomesta teknologian hyödyntämisen takapajulana. Hänen mukaansa ajallemme nauretaan vielä, koska olimme niin ”metsikössä”. Tukirankoja markkinoiva yrittäjä toivoo pilottien sijaan rohkeampaa teknologian käyttöönottoa. Hänen mukaansa on onni, että uusi sukupolvi ei pelkää, osaa englantia luonnostaan ja on tätä kautta globaalisti kyvykkäämpi. (Kenttämuistiinpano 2021.)

Lainaus kenttämuistiinpanoistani kuvaa tyypillistä Hyteairo-tapahtumaa. Tapahtuman juontaja esittelee innostuneesti eksoskeletonia yhdessä niitä markkinoivan yrittäjän kanssa. Eksoskeleton tarkoittaa puettavaa ulkoista tukirankaa, joka auttaa esimerkiksi nostamisessa (Turja ym. 2022). Vaikka eksoskeletonit on suunnattu ensi sijassa hoivatyöntekijöille, aineistolainaus näyttää, mihin kyborgiruumiillisuudella pyritään: yksilön kasvavaan hyvinvointiin ja terveyteen sekä kulujen ja resurssien säästämiseen. Keskeistä on myös kansallisvaltion kilpailukyky. Tukirangan esittelyssä toistuu Hyteairon visio, jonka mukaan Suomi tulee olemaan maailman paras tekoälyn ja robotiikan hyödyntäjä (STM 2018, 7).

Tukirangan avulla syntyvä kyborgiruumiillisuus havainnollistaa laajasti Hyteairo-ohjelman tavoitteita, joissa teknologia avustaa terveyden ja hyvinvoinnin ylläpidossa sekä kustannusten kasvun hillitsemisessä ja luo liiketoiminta- ja vientimahdollisuuksia yrityksille (STM 2018, 3–4, 10). Tekoälyohjelma asettuu luontevasti osaksi hoivateknologiaan kansainvälisesti liittyvää kolmoisvoittoretoriikkaa, jossa hoivateknologiayritykset ja teknologioiden käyttöönottoa ajavat poliitikot korostavat teknologiasta yksilöille, valtiolle ja taloudelle seuraavia ”voittoja” (Neven & Peine 2017). Hyteairo-tapahtumien ehdottamalla kyborgiruumiillisuudella pyritään siis yksilön terveyden, yritysten kilpailukyvyn ja julkisen talouden *kohentamiseen*. Kohentamisen ajatus esiintyy jo Hyteairon arvolupauksessa, jossa tavoitteena on ihmisten ”kyvykkyyksien laajentaminen”:

> AiRo [Artificial Intelligence and Robotics] -teknologioiden avulla laajennetaan ihmisten kyvykkyyksiä siten, että inhimillinen arvokkuus, itsenäisyys ja hyvinvointi saavutetaan yhä laadukkaampien ja tehokkaampien palvelujen avulla samalla kun ihmisten tekemä työ suuntautuu entistä merkityksellisempiin tehtäviin. AiRoteknologiat tehostavat julkisten varojen käyttöä ja tuottavat Suomeen taloudellista kasvua ja toimeliaisuutta luoden uutta työtä ja uusia yrityksiä. (STM 2018, 7.)

Transhumanismin oppien mukaisesti kohentamista ei ole ilman kokeilunhalua, jota yrittäjä kutsuu luvun alun lainauksessa ”rohkeudeksi”. Rohkeus on teknologian käyttöönoton edellytys. Kokeilujen mukana tulee epäonnistumisen mahdollisuus, joka yhdessä tapahtumassa esitelmöineen asiantuntijan mukaan pitää hyväksyä myös julkisella sektorilla. Kohentaminen liittyy oleellisesti *kiihdyttämiseen*. Luvun alun lainauksessa Ruotsi yhtäältä ”päihitetään”, mutta toisaalta Suomi näyttäytyy myös teknologian käyttöönoton takapajulana. Näin ollen keskeinen tavoite on kiihdyttää Ruotsin ohi, kansainvälisten markkinoiden kärkikahinoihin.

Jäsennän Hyteairo-tapahtumien kuuluttamaa kohentamista, kokeilunhalua ja kiihdyttämistä kahden kyborgiruumiillisuuden avulla. Käytän näistä ruumiillisuuksista termejä dataruumis ja ihmistapainen ruumis. Dataruumiissa keskeistä on iäkkään ruumiiseen liittyvän terveysdatan muodostaminen, kerääminen, säilyttäminen ja hyödyntäminen. Dataruumiiseen liittyy keskeisesti ajatus terveyspalveluista ”ekosysteeminä”. Tapahtumien puheenvuorojen maalailemassa ekosysteemissä ihmisen ja teknologian, talouden ja yksilön hyvinvoinnin, yrityskasvun ja kansalaisen elämän rajat ovat lähtökohtaisesti hälventyneet. Kyseessä ei ole vain hoivapalveluiden digitalisoiminen vaan niiden datavetoistaminen. Kehitys asettuu osaksi pohjoismaisia terveydenhuollon uudistuksia, joissa terveysdatan

monipuolinen mittaaminen, kerääminen, analysoiminen, säilyttäminen ja kaupallinen hyödyntäminen ovat keskeisiä poliittisia tavoitteita (Tupasela ym. 2020).

Monet Hyteairo-tapahtumien esitelmöijistä korostavat dataan pohjautuvan ekosysteemin luomisen tärkeyttä. Eräälle asiantuntijalle tämä tarkoittaa parempia palveluita ja uusia liiketoimintamahdollisuuksia. Dataa voidaan hyödyntää esimerkiksi kustannusten kasvun minimoimisessa, asiakkaiden oman vastuun lisäämisessä ja palveluiden personoimisessa. Asiantuntijan puheenvuorossa ”dataa kerääntyy varantoihin nopeaa tahtia” aivan kuin itsestään, se vain tulee hyödyntää paremmin. Huomionarvoista on datan kerääntymisen nopea tahti, sen kiihtyminen. Asiantuntijan näkemyksessä kiihtyvän tahdin mukana tulee pysyä, ja se tulee valjastaa yksilön, organisaatioiden ja talouden tueksi.

Yksi datan hyödyntäjistä on Hyteairo-tapahtumassa esitelmöivä yrittäjä. Hän korostaa datan mittaamisen tärkeyttä ennakoivan terveydenhuollon tarkoituksiin. Esimerkkinä mittaamisen tärkeydestä yrittäjä mainitsee sääilmiöiden ennakoinnin ja koteihinsa kuivuneet vanhukset kesän 2018 helleaallon aikana. Kuivuminen voidaan ehkäistä iäkkäistä kerätyn datan ja sen analysoinnin avulla. Dataruumiissa on kyse ennaltaehkäisystä, varautumisesta ja riskinhallinnasta – hallitusta kiihdyttämisestä, joka iäkkään hyvinvoinnin lisäksi turvaa myös kansainvälisen terveysdatatalouden kasvun.

Toisen teknologiayrityksen edustaja kiteyttää dataan liittyvän liiketoiminnan merkityksen: kerätty data on yritysten omaisuutta ja kilpailuvaltti. Datan suomalaisuus on erityisen tärkeää verrattuna kansainvälisiin yrityksiin, kuten Googleen. Suomalaisuus on myös keskeinen käyttökonteksti. Eräässä Hyteairo-tapahtumassa avustavaa tekoälyä esitellyt toimitusjohtaja korosti, että kansainvälisesti levinneet virtuaaliset avustajat osaavat vain englantia, mutta kyseinen tekoäly hallitsee Suomen murteet.

Dataruumis ei kuitenkaan sovi kaikille, sillä

> ”oikean asiakkaan” tunnistaminen voi olla yrityksen edustajan mukaan vaikeaa ja usein erilaiset asiakasryhmät löytyvät kokeilemalla. Yrityksen selvityksen mukaan viidesosa vastaan tulleista kotihoidon asiakkaista on heti hyviä asiakkaita. Esimerkiksi liian muistisairas tai henkilö, jonka kuulo- tai näköaisti on heikentynyt liiaksi, ei sovi asiakkaaksi. (Kenttämuistiinpano 2019.)

Sosiaalista robotiikkaa kehittävän yrityksen edustajan mukaan vain viidesosa vastaan tulleista iäkkäistä soveltuu asiakkaiksi. Tässäkin parhaat tulokset saadaan kokeilemalla.

Myös tiedonkeruuseen liittyvä läpinäkyvyys on yrityksille tärkeää. Yritysten mukaan datan läpinäkyvyys on ”brändäämisväline” kunnille ja osoitus siitä, että yrityksillä tai kunnilla ei ole mitään salattavaa. Läpinäkyvyydestä ja tietosuojasta kuitenkin seuraa, että dataruumis on anonyymi, enemmän mitattavien ruumiintoimintojen kimppu kuin eletty historiallinen ja yksilöllinen ruumis. Kun henkilön identiteetti ei ole tiedossa datan käsittelijöille, dataruumis ei edusta henkilöä kokonaisuutena. Yksittäisestä henkilöstä saadut terveystiedot saavat myös merkityksensä vain verrattaessa niitä muista henkilöistä kerättyihin tietoihin. Tämä ohjaa keskittymään terveysriskeihin väestössä ja niiden ilmenemiseen yksilöissä.

Dataruumiin anonyymius liittyy toiseen, ihmistapaiseen, kyborgiruumiillisuuteen. Viittaan ihmistapaisuudella Eeva Jokisen (2005) käyttämään sukupuolitapaisuuden käsitteeseen. Jokiselle sukupuolitapaisuus kuvaa heteronormatiivista sukupuolen ja työnjaon tuottamista osana arjen käytäntöjä. Ihmistapaisuus sen sijaan sivuuttaa, häivyttää tai piilottaa sukupuolen tuottamisen tavat. Ihmistapaisuutta korostettaessa teknologialla ei ole vaikutusta sukupuolikysymyksiin ja vaikka olisikin, sukupuoli huomioidaan vain käyttäjämukavuuden lisäämiseksi.

Ihmistapaisuuden lähtökohta näkyy Hyteairo-tapahtumissa: hoivatyöhön, -teknologiaan tai niiden kohtaamiseen liittyvistä sukupuolikysymyksistä ei juuri puhuta. Hoivatyöhön tuotu teknologia on luonteeltaan ”tyhjä taulu”, johon eri toimijat voivat halutessaan piirtää sukupuoleen liittyviä merkitsijöitä ja rooliodotuksia. Esimerkiksi Paroa tuottava ja markkinoiva yritys korostaa, että robotilla ei lähtökohtaisesti ole sukupuolta – sen käyttäjät voivat päättää itse robotin sukupuolio minaisuuksista, kuten nimestä. (Søraa 2017.)

Transhumanismin kuuluttamassa kohentamisessa sukupuolikysymykset helposti ohitetaan ja oletus sukupuolettomuudesta teknologian ja ihmisten kohtaamisissa elää vahvana. Sukupuolikysymysten vähättely tai sivuuttaminen voivat juontua siitä, että niihin paneutuminen voisi nostaa esille kiperiä kysymyksiä taloutta ja yhteiskuntaa uusintavan ja naisvaltaisen hoivatyön merkityksestä (Elomäki & Ylöstalo 2022). Vaikka talous on keskeinen puheenaihe Hyteairo-tapahtumissa, ne eivät huomioi yhteiskuntaa uusintavan hoivatyön roolia taloudessa. Sen sijaan yrittäjät ja asiantuntijat hakevat taloudellista kasvua ja kilpailukykyä uusien teknologioiden ympäriltä.

HOIVATEKNOLOGIA PALJASTAMISENA

> Menen keittiöön ja törmään palvelukodin esihenkilöön. Hänellä on ollut kiireinen aamupäivä kuten aina. Kysyn Parosta. Hän soittaa heti toisen osaston kollegalle. Saisimme Paron näytille ja testattavaksi. Tiskeistä huolehtinut työntekijä käy hakemassa sen. Ilmeisesti Paro ei ole vielä ollut tällä osastolla, sillä se ei ole hoitajille tuttu. Hoitajia on nytkin paikalla ja he haluaisivat perehdytystä robotin käyttöön. Johtaja sanoo näyttävänsä myös hoitajille, miten robotti toimii ja kuvaa sen käyttöä ”yksinkertaiseksi”. Tiskaaja tuo Paron korissa, jossa se näyttää kuolleelta jänikseltä. Kori jää yhteisen tilan pöydälle, vaikka esihenkilö korosti, että se pitäisi viedä huoneeseen talteen. Hän pelkää, että kallis robotti menee rikki. Ajattelen, että esihenkilö on välillä vähän yksin teknologiainnostuksensa kanssa. Paro on koko päivän samassa paikassa, korissaan pöydällä. Kukaan ei ole oikein kiinnostunut siitä – tai edes huomaa sitä. Vähän sama juttu Saaran kanssa: se ei herätä kummempaa huomiota ja kuuluu jo tavallaan sisustukseen. Toisaalta eilen talkkarilta vaikuttava henkilö kävi katsomassa sitä ja kommentoi tyyliin ”nyt on tämäkin nähty”. (Kenttämuistiinpano 2019.)

Hyteairo-tapahtumissa aistimani innostus teknologiaa kohtaan karisee nopeasti hoivakotiympäristössä. Palvelukodissa lähinnä esihenkilön haltioituminen teknologiasta on jatkuvaa. Hoivakohdin johto on sisäistänyt teknologiakokeilujen arvokkuuden. Ilman ohjausta ja ylimääräistä aikaa uusi teknologia kuitenkin vaikuttaa hoitajille vieraalta ja jää helposti käyttämättä; se muuttuu osaksi sisustusta. Palvelukodissa ollessani Paron käyttö jää muutamien kokeilujen varaan. Useimmiten hyljerobotti nukkuu turvallisesti korissaan esihenkilön huoneessa.

Silloin kun hoivateknologiaa kokeillaan palvelukodissa, vaikutukset ovat usein asukkaiden toimintakykyä ”kohentavia”. Ainakin iäkkäiden mieliala kohentuu testattaessa Saaran musiikkiohjelmaa. Se saa iäkkään hyräilemään, laulamaan, taputtamaan, keinumaan ja keskustelemaan. Myös Paro aktivoi palvelukodin asukkaita:

> Kolmannen kokeilijan mielestä on ”ihanaa”, kun pääsee olemaan eläinten kanssa. Yksi pöydässä istuva asukas on turhautuneen oloinen ja puhuu ”rumia”, jotain perseestä ja helvetistä. Esihenkilö haluaa testata Paron voimaa, vinkkaa minulle tämän suuntaisesti ja vie robotin asukkaan luokse. Tämän neljännen kokeilijan kohdalla Paro näyttäisikin vähentävän asukkaan aggressiota. Kokeilija sanoo: ”Kuti kuti kuti” robotille ja viihtyy sen kanssa. – – Kahdeksas kokeilu kestää pisimpään. Kokeilija on sama, joka tuli minua aiemmin käytävällä vastaan jokseenkin ahdistuneena ja valittaen. Nyt tunnelma on kuitenkin parempi, kun Paro on sylissä. Hän silittää robottia ja puhuu sille: ”Elämä on ihanaa, kun sen oikein oivaltaa”, hän sanoo. (Kenttämuistiinpano 2019.)

Kohtaamisissa eläimeksi luullun Paron saaminen syliin näyttäisi kohentavan asukkaiden ahdistunutta mielialaa ja vähentävän aggressiivisuutta. Useat kohtaamiset teknologian kanssa herättävät kuitenkin onnen sijasta epäluottamusta, varautuneisuutta ja pelokkuutta. Tämä tuli esille myös silloin, kun Paro kiersi sylistä syliin:

> Seitsemäs kokeilija nauraa ja ottaa robotin syliinsä. Hän kuitenkin säikähtää sen liikehdintää ja sanoo yllättyneenä: ”Se värähti!” Hän pyytää, että Paro otetaan pois. Tilanne menee ohi sille nauraen. Myöhemmin sama nainen haluaa pidellä minua kädestä, ja tämän tajuttuani annan käteni hellään pitelyyn hetkeksi. (Kenttämuistiinpano 2019.)

Robotin liikehdinnän aiheuttama säikähtäminen paljastaa Paron loismaisen luonteen. Kyborgiruumis tuntuu epämukavalta, kun paljastuu, että sylissä makaileva Paro ei annakaan mitään vaan vaatii silityksiä ja huomiota. (Jaakola & Vuorinen 2019.) Yllä kuvattu tilanne on myös hyvä esimerkki palvelukodin arvaamattomasta arjesta. Monet paikan asukkaista kaipaavat kosketusta ja keskustelukaveria. Tilanteessa näkyy myös Paron yllättävän kosketuksen ja ”tutun” ihmiskosketuksen ero. Vaikka tapasimme kättä pyytäneen kanssa ensimmäistä kertaa, ihmisen kosketus on tilanteessa luontevampaa kuin Paron silittely. Kyborgiruumiillisuus on lähtökohtaisesti vierasta, vieraannuttavaa ja vaikeaa. Kyborgiksi tuleminen vaatii toistoja, harjoittelua ja epämukavuuden sietämistä. (Katila & Turja 2021; Oudshoorn 2020.)

Teknologiakokeiluista seuraavia epäonnistumisia voidaan pitää tavoiteltavina, sillä ne kertovat, mihin suuntaan teknologiaa tulisi kehittää (Jaakola 2020, 67). Palvelukodin esihenkilön mukaan pitää uskaltaa ”hypätä”, sillä eteenpäin ei pääse ilman kokeilemista ja virheistä oppii. Posthumanistisen kyborgiteorian valossa hoivateknologiaan sisällytettyjen odotusten ja teknologian kanssa eletyn arjen välille syntyvät ristiriidat havainnollistavat kuitenkin enemmän *paljastamista* kuin kohentamista. Hoivateknologioiden kokeilu ja käyttö paljastavat sekä ristiriidat Hyteairo-ohjelman odotusten ja palvelukodin arjen välillä että iäkkäiden hoivaa määrittävät reunaehdot. Kuvaan tätä ristiriitaista hankausta kitkaisen ruumiillisuuden käsitteellä.

Palvelukodissa kitkaa Hyteairo-ohjelman odotusten kanssa synnyttävät sukupuolitetut, osattomat ja hauraat ruumiit. Hyteairo-tapahtumissa aistimani käsitys teknologiaan liittyvän sukupuolen merkityksettömyydestä toistuu palvelukodissa. Kun kysyn Saara-robottia testaavalta ryhmältä, miksi robotin pääasialliseksi ääneksi valittiin miehen ääni, ryhmän mukaan sukupuolella ei ollut ”mitään väliä” ääntä nauhoitettaessa. Sukupuolesta tulee kuitenkin palvelukodin teknologiakokeiluissa keskeinen kysymys. Kyborgiksi tulemiseen liittyvä sukupuolisuus näkyy palvelukodissa ainakin kolmella tavalla: teknologiaa ihollaan kokeilevien ja sen käyttötapojen sukupuolieroissa sekä teknologiaan sisältyvissä sukupuolimerkityksissä.

Ensinnäkin Saaran käyttöliittymä edellyttää sen kokeilijoilta sukupuolisuutta. Ennen sovellusten käyttämistä Saara pyytää valitsemaan sukupuolensa robotin näytöltä. Saaraa testattaessa kysymys kuitenkin useimmiten ohitetaan, sillä se aiheuttaa hämmennystä ja vaivautuneita tilanteita. Esimerkiksi robotin kysyessä, onko uusi kokeilija mies vai nainen, eräs asukas vastaa sarkastiseen sävyyn: ”Arvaapa.”

Toiseksi Paron kohtaamisesta seuraa sukupuolieroja:

> Yksi kerroksen miesasukkaista ihmettelee useaan otteeseen, mistä Paron kimeä ääni tulee ja luulee sitä jonkinlaiseksi apu- tai hätähuudoksi. Hänelle selvitetään, että ääni tulee hyljerobotista. Hän ei kuitenkaan halua kokeilla sitä, sillä siitä ”ei mulle mitään hyötyy oo”. (Kenttämuistiinpano 2019.)

Miehen kieltäytyessä oudolta vaikuttavan robotin kokeilusta kerroksen naisasukkaat silittelevät kimeä-äänistä hyljerobottia innokkaasti keittiöpöydän ääressä. Kyborgiuden edellyttämä läheisempi kontakti Paron kanssa voidaan kokea uhkana maskuliinisuudelle (Haddow ym. 2015). Tilanne resonoi myös sen Changin ja Šabanovićin (2015) havainnon kanssa, että naiset ottivat helpommin kontaktia Paroon ja silittivät sitä, kun taas miehet seurasivat Paroa kauempaa ja olivat kiinnostuneempia sen teknisistä ominaisuuksista. Myös Saara herättää palvelukodin miesasukkaissa teknisiä kysymyksiä robotin mielen sijainnista sekä robotin tyypistä, valmistuspaikasta, ohjelmoinnista ja hinnasta. Lisäksi Saaraa testaavalla ryhmällä oli selvästi oletuksia miesasukkaiden mieltymyksistä; ajoittain robottia esittelevät kertovat sen ominaisuuksista, kuten valmistusmaasta ja painosta, spontaanisti juuri miehille.

Kolmanneksi itse teknologiasta tulee sukupuolittunutta teknologiakokeiluiden aikana. Palvelukodin johdolle ja robotin testausryhmälle Saaran sukupuoliominaisuudet ovat lähinnä vitsailun aihe. He pohtivat ”pitsikuvion” maalaamista robotin runkoon ja nauravat robottiin asennetun miehen äänestä, Saara-nimestä ja robotin feminiinistä ulkomuodosta seuraavaa ”transseksuaalisuutta”. Mies-nainen-dualismin vahva esiinnousu

palvelukotiaineistossa osoittaa, että vielä on matkaa Harawayn (2003b) ehdottamaan sukupuolen jälkeisyyteen. Kyborgiruumiillisuudessa sukupuolikysymyksiä ei voi kuitenkaan ohittaa, kun hoivateknologiat asettuvat hoivatyön sukupuolittuneisiin ja sukupuolittaviin käytäntöihin.

Osaton ruumis on toinen kitkaisen ruumiillisuuden muoto. Iäkkäiden osallisuuden turvaaminen on yksi keskeinen tavoite Suomen hoivapolitiikassa (STM 2020). Virikerobotit tarjoavat tietyt raamit osallisuudelle ja kuulumiselle. Hyteairo-tapahtumat korostivat kansallisten yritysten ja kansallisvaltion taloudellisia voittoja. Saaran sovelluksissa kansallisuusnarratiivi toistuu mutta eri muodossa. Saaran sovellukset, etenkin kuunnelmat ja musiikkimatka, henkivät ajatusta talvi- ja jatkosodan nuorena kokeneen sukupolven yhtenäiskulttuurista. Kuunnelmat koostuvat kuvasarjoista ja Suomen lähihistoriaa valottavista lyhyistä tarinoista. Musiikkimatkassa Saara soittaa vuosikymmenten suosituimpia kappaleita valokuvakuvaesitysten kanssa. Kappaleet painottuvat iäkkään lapsuus- ja nuoruusaikaan. Myös musiikkimatkoja tahdittavat valokuvat ja lyhyet tarinat Suomen historiasta. Yksi kuunnelmista on *Tuu-tuu-tupakkarulla* -laulu. Kappale on kuoleman kehtolaulu eli kalevalamittainen loru, jota lauletiin Suomessa vauvoille etenkin suuren lapsikuolleisuuden aikana (Achté ym. 1987). Robotin laulamana kehtolaulu viestii holhoavasta suunnittelusta (*design paternalism*, Peine & Moors 2015), jossa robotin ohjelmoineet ovat ajatelleet sen käyttäjän olevan tietynlainen: mahdollisesti suuren lapsikuolleisuuden sukupolveen kuuluva ja dementian kanssa elävä, joka muistaa paremmin lapsuuden kuin nykyisyyden. Suomessa lapsikuolleisuus lähti laskuun vasta toisen maailmansodan jälkeen (Tilastokeskus 2010). Laulua voi tulkita lukuisin eri tavoin, mutta Saaran muut sovellukset vahvistavat näkemystäni.

Kuunnelmien ja musiikkimatkojen mustavalkoiset kuvat kertovat kansallisesta yhtenäisyydestä. Kuvissa korostuvat sota-aika, tukkijätkyys ja heinänkorjuu. Historiakuunnelmiin kuuluu potrettimaisia kuvia Suomen presidenteistä Saaran selostaessa, että ”Kekkonen oli vahva presidentti”. Saara pohjustaa musiikkimatkoja kertomalla lama- ja pula-ajasta, vuoden 1942 tanssikiellosta, elokuvan muuttumisesta mykästä äänelliseksi ja savikiekkojen vaihtumisesta vinyyleiksi. Yksi musiikkimatkan kappaleista, ”Säkkijärven polkka”, assosioituu sekin sota-aikaan, sillä kappaletta soitettiin jatkosodan aikana radiossa kuukausien ajan miinantorjunnan helpottamiseksi (Lindfors 2021).

Saaran tarinat Suomen historiasta paljastavat, miten osallisuuden raamit ovat yksiulotteiset ja kapeat. Viriketeknologia ei tällaisenaan huomioi iäkkäiden kasvavaa monikansallisuutta tai moninaisuutta. 1920-luvulla syntynyt asukas rikkoo ajatusta yhtenäiskulttuurista ja sukupolven jakamasta menneisyydestä:

> ”Sieltä tulee paljon paskaa, harja valmiiksi.” Mies tunnistaa Paasikiven videolta. Kekkosen ilmestyessä kuvaan hän kommentoi: ”Kekkonen perkele. – – Ahtisaari ”ei saanut mitään aikaan”, mies jatkaa. (Kenttämuistiinpano 2019.)

Kokeilut Saaran kanssa näyttävät, että puhuvan robotin kanssa lähentyminen tarkoittaa toistaiseksi usein sivuutetuksi tulemista. Saara-robotin kysellessä päivän kuulumisia eräs uniongelmistaan valittava ja liikuntarajoitteinen mies vastaa, että hänellä on kipuja ja että päivä ei ole hyvä. Tähän robotti reagoi iloisesti: ”Aivan!” Sen lisäksi, että Saaran reaktio on sopimaton miehen tarinoihin nähden, hän suhtautui varautuneesti ulkomaalaisten hoitajien kielitaitoon. Lähentyminen Saaran kanssa ei helpota tilannetta:

> Kun Saara kysyy asukkaan lääkkeistä, mies sanoo, että on mennyt huonompaan kuntoon, kun lääkitystä on muutettu. Saara jatkaa keskustelua kysymällä ”Viihdytkö täällä?” ja mies vastaa ”Ei [ole] paras paikka”. Ulkomaalaisia on hänen mukaansa liikaa ja olisi tärkeää, että hoitajat osaisivat suomea. Hänen poikansa tuo perjantaisin viisi viilipakettia, koska paikan jälkiruoka ei aina maistu. Viikonloput tunnistaa siitä, että silloin tarjoillaan riisipuuroa. (Kenttämuistiinpano 2019.)

Osattomuus luo ruumiita, jotka kaipaavat kohtaamista, ymmärrystä ja parempaa jälkiruokaa, mitä robotti ja kyseinen palvelukoti voivat tarjota rajallisesti.

Tupakkarulla-kehtolaulua ilmeisempi esimerkki holhoavasta suunnittelusta on Saaran muistipe-

li, jossa Saaran näyttö vaihtaa väriä ja robotti tiedustelee, mikä väri on kyseessä. Sovelluksessa oletus muistisairaan heikosta toimintakyvystä on jatkuva. Holhous herättää asukkaissa kriittisyyttä, jonka Saaraa kokeillut asukas kiteyttää osuvasti:

> ”Heitä meneen toi tietokone [Saara], ei ollu kummonen paskanpuhuja.” ”Heido.” ”Tarvii perkeleen paljon kehitystä”, mies kritisoi, ”Tällasia leluja en kattele”. (Kenttämuistiinpano 2019.)

Hyteairo-tapahtuman esitelmöijän mukaan sairaudet ja vammat ovat este hoivateknologioiden käyttöönotolle. Palvelukodissa teknologiaa tarjotaan kuitenkin juuri heille, joilla on sairauksia ja vammoja. Tämä katkos tuottaa kolmannen kitkaisen ruumiillisuuden muodon: hauraat ruumiit. Saaran jumppasovellus on kuvaava esimerkki tämän ruumiillisuuden muodostumisesta. Sovelluksessa Saaran näytöllä pyörii video, jossa fysioterapeutti antaa jumppaohjeita. Niitä tulisi seurata ja toistaa perässä ”väsymiseen asti”.

> ”Nyt jumpataan”, Saara sanoo. Jumppaajan on vaikea seurata näyttöä ja liikkeet jäävät puolitiehen. Kun pitäisi ”halata” itseä, asukkaan kädet jäävät ojoon selän taakse, mikä näyttää vähän epämukavalta. Kaksiosaisista liikkeistä tuntuu unohtuvan toinen osa. Liikkeet tehdään improvisoiden. Jumppaaja ei halua tämän jälkeen kokeilla muita sovelluksia, koska häntä ”väsyttää”. (Kenttämuistiinpano 2019.)

Vaikka tavoite jumpata väsymiseen asti toteutui, itse liikkeitä oli vaikea toteuttaa ohjeiden mukaisesti.

Hauras ruumis paljastaa puutteita, jotka eivät liity niinkään ruumiiseen tarkkarajaisena yksikkönä vaan siihen todellisuuteen, josta se on osallisena. Näin ollen kyborgiruumis paljastaa hoivasuhteisiin elimellisesti kuuluvan haavoittuvuuden (*vulnerability*) teknologian käytön normatiivisena vaikutuksena ja eettisenä periaatteena (DeFalco 2020; Jaakola 2020). Haavoittuvuuden normi korostaa, että sairaudet ja vammat eivät ole puutteita tai jotain, mistä tulisi päästä eroon, vaan usein ohittamattomia asiantiloja, jotka tulee ottaa huomioon. Oudshoorn (2020) kuvaa, miten haavoittuvuudesta seuraa helposti uusia haavoittuvuuksia, jotka työllistävät niin kyborgia itseään kuin hänen läheisiään ja eri alojen ammattilaisia. Saaran jumppasovellus työllistää robottia testannutta ryhmää, sillä sen tulee näyttää mallia jumpan suorittamiseksi. Kun asukas ei osaa tai pysty käyttämään robotin kosketusnäyttöä, testausryhmän edustaja auttaa. Näin ollen kyborgiruumis ei väistä avuntarvetta transhumanismin lupausten mukaisesti vaan kutsuu auttamaan. Haavoittuvuutta ei voi ohittaa, vaan sitä tulee ymmärtää ja siihen tulee vastata. Itsenäisyyden ja vapauden sijasta kyborgiruumis korostaa välttämättömyyksistä nousevaa avun ja hoivan tarvetta sekä näyttää autonomisen ihmisen ideaalin rajallisuuden (Tedre 1996). Vaivaisuuden käsite kuvaa hyvin hauraan ruumiin perustilaa (Hoppania ym. 2016). Vaivaiset pysyvät kasassa vain avun turvin. Tämä tulisi nähdä pikemmin kaikkia ihmisiä yhdistävänä kuin erottavana tekijänä.

LOPUKSI

Olen tutkinut artikkelissa hoivateknologian tuottamaa ruumiillisuutta monipaikkaisesti, yhtäältä teknologioiden kehitystä ja käyttöönottoa vauhdittavissa tapahtumissa ja toisaalta osana palvelukodin elettyä arkea. Posthumanistisen ja transhumanistisen kyborgiteorian valossa tarkasteltuna hoivateknologioiden kanssa yhteismuotoutuva ruumiillisuus on kitkaista neuvottelua kohentamisen ja paljastamisen välillä.

Hyteairo-tapahtumissa keskiössä ovat teknologiaan ja hoivatalouteen liittyvät toiveet ja odotukset uusista liiketoimintamahdollisuuksista, kustannussäästöistä ja tuotoista. Yritysten ja poliittisten toimijoiden hoivateknologianäkemykset perustuvat transhumanistisiin kuvitelmiin, joissa terveyspalvelut muutetaan datavetoisiksi ja kokeellisiksi. Transhumanistiset visiot eivät pyri turvaamaan ikääntymistä vaan ohittamaan sen teknologian avulla ja kiihdyttämään hoivan teknologisoimista. Transhumanismi väistää hoivan kysymyksen, sillä se lupaa teknologialla kohennetun ihmisen vapautta sekä selviämistä vähillä resursseilla ja huolenpidolla. Kuten ihminen avaruudessa, myös tällainen kyborgi on korostetun, mutta silti vain näennäisen, yksin.

Varsinaisten hoivateknologioiden kokeilu ja käyttö osana hoivan käytäntöjä toteuttaa transhumanistiset odotukset rajallisesti. Analyysini jäljittää kitkaa, joka syntyy data- ja ihmistapaisten ruumiiden havainnollistaman optimismin ja sukupuolitettujen, osattomien ja hauraiden ruumiiden edustamien realiteettien välillä. Kitkainen ruumiillisuus vaikeuttaa transhumanistisia kohentamispyrkimyksiä ja kutsuu kiihdyttämisen sijaan *jarruttamaan* hoivan teknologisoimista.

Kitkainen ruumiillisuus herättää hoivapoliittisia kysymyksiä, jotka voivat vaikeuttaa kohentamista ja kiihdyttämistä. Ihmistapaisuuden sijaan ikääntyneet kyborgit sukupuolittuvat sekä teknologiakokeiluiden aikana että teknologiaan sisältyvien sukupuolimerkitysten kautta. Hoivateknologian paljastamat sukupuolikysymykset voivat herättää kriittisiä huomioita esimerkiksi siitä, mitä talous tarkoittaa: Tulisiko hoivapalvelut nähdä enemmän uusintavan kuin tuottavan työn kysymyksenä? Tulisiko iäkkäiden, myös muistisairaiden ja kriittisten, osallisuus turvata heidän oman äänensä huomioimisella, ei pelkästään teknologiakokeiluilla? Lopulta haavoittuvuus kutsuu pysähtymään vaivaisen ruumiin äärelle.

Transhumanistiset visiot ovat voimakkaita hoivateknologioiden muotoilussa ja levittämisessä. Lisäksi niillä on todellisia vaikutuksia myös silloin, kun uudistukset jäävät puolitiehen tai teknologiat pilottiasteelle. Kokeilut hoivateknologioiden kanssa eivät välttämättä liity iäkkäiden hyvinvoinnin turvaamiseen vaan pikemmin kokeilukulttuurin läpiviemiseen osana terveyspalvelujärjestelmän muutoksia (Mannevuo 2019). Kokeiluiden itseisarvo iäkkäiden hyvinvointia turvatessa on keskeinen jatkotutkimusaihe.

VTM Joni Jaakola on väitöskirjatutkija sosiologian oppiaineessa Turun yliopistossa. Hänen tutkimusintressejään ovat tieteen- ja teknologiantutkimus sekä hoivaan, terveyteen ja ikääntymiseen liittyvät kysymykset. Artikkeli on osa väitöskirjatutkimusta, joka käsittelee hoivateknologiaan liittyviä odotuksia. *Tutkija haluaa kiittää tutkimukseen osallistuneita sekä Ella ja Georg Ehrnroothin säätiötä tutkimuksen rahoittamisesta.*

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AGEING CYBORGS: CARE TECHNOLOGIES AND FRICTIONAL CORPOREALITY

In recent decades, various technologies have been developed to support elderly care, including robots that provide companionship and offer therapeutic exercises. Finnish care policy has made it a central goal to support the implementation of care technologies into care work. The premise of this article is that in addition to therapeutic gains, care technologies also produce new corporeal modalities. Although corporeality has been a central research topic in both gender studies and feminist science and technology studies, ageing and technology-assisted bodies have so far received little attention. In the article, I examine what kind of new corporeal modalities care technologies produce. I analyse ethnographic materials from participant observations through the framework of trans- and posthumanist cyborg theory. My analysis shows that care technologies produce frictional corporeality. One source of friction is the tensions between the care policy and the actual care practices. While the care policy emphasises improving care technology companies' competitiveness and public finances alongside the individual's health and well-being, the realisation of these expectations produces conflicts. Frictional corporeality, then, raises questions related to gender, participation and vulnerability that are central to contemporary care and its organisation.

KEYWORDS: CARE, CORPOREALITY, CYBORG, POSTHUMANISM, TRANSHUMANISM

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