Thinking Through the Future of Care: Elder People's Understandings of, and
Feelings About, Robotic Interventions in Elder Care

by

Louisa Hawkins

Bachelor of Arts - Honours, Ryerson University, 2013

A thesis submitted to the Faculty of Graduate and Postdoctoral Affairs in
partial fulfillment of the requirements for the degree of

Master of Arts

in

Sociology

Carleton University
Ottawa, Ontario

© 2015
Louisa Hawkins

Abstract

In the past several years interdisciplinary academic consideration has turned toward finding possible solutions to the increasing problem of unmet elder care requirements, one solution being the introduction of new robotic care technologies. This thesis addresses the future of elder care and the possibilities for change within the field of care - change that may no longer involve only human reorientation, but also non-human robotic transformation. Opinion varies on whether this potential for change will be inspired by technological advances, a growth in an elder population coupled with financial and labour constraints, or the consistent and ongoing devaluation of human care work. Whatever the inspiration may be, this work focuses on the fact that there exists an unknown future of caring, one that will certainly involve some mainstream manifestation of the non-human care robot, and collaboration between socially and scientifically focused researchers. Drawing on original research involving interviews with elder people regarding their understandings of and feelings about robotic interventions in elder care, this thesis presents the perspectives of a rarely consulted population and finds the future of non-human care to be marked by uncertainty and fear but also by an unexpected sense of hope in the companionship of robots.

Acknowledgements

I would first like to thank those who participated in this research project: Nanny, Theresa, George, Alice, Cicamica, Zygmunt, Honeybun, Peter, Lois, Marian, Jane, Jiggs, Lila, and Angela. Each of you gave this thesis the life it needed, and gave me the inspiration to write with both passion and purpose. I dedicate this work to the woman who inspired me to take a closer look at elder care, Mary Annie Pheobe Leblanc.

To my supervisor Alexis Shotwell, I have greatly appreciated and been sustained by your calming influence and steadfast encouragement prior to and throughout the process of creating this work. You challenged me in a way that was both generative and liberating. To Neil Gerlach, thank you for the sense of adventure you gave me in pursuing this future-focused study. Thanks also to Chris Russill for serving as my external examiner, and to Paula Whissell and Kim Mitchell for the way they have listened and the way we have laughed.

On a personal note, I would like to thank Jordan for the years he spent as my writing mentor and for being such an amazing friend. I would also like to thank Lesley and Rob for their love and support, not just through my MA, but my BA, and *everything* that came before. Lastly, I would like to thank Tim for taking this journey with me and for helping me know more about caring at the end of each day than at the beginning.

Table of Contents

Chapter One: Introducing Elder Care & Robotic Care Considerations.....	1
An Entrance into Elder Care.....	1
Project Overview	2
Thesis Chapter Outline.....	3
Research Questions	4
Defining Key Concepts & Terms.....	4
Elder Care in Canada & Beyond	7
‘Robot Care’	11
A Complicated Relationship	15
Chapter Two: Entering the Care Conversation.....	18
Affective Labour	21
Moral and Ethical Accounts of Care	22
Theoretical Orientations	27
New Materialist Feminism & The Body’s Becoming/Unmaking.....	27
Animacies, Objectification & Dehumanization	30
Death & Dying With Care.....	32
Companion Species & Touching Moments	33
Situated Knowledges.....	38
Chapter Three: Methodology & Process	42
Participating	43
Recruiting & Organizing.....	44
Interviewing	46
A Narrative Approach.....	48
Hearing Voices.....	49
Narrative Analysis.....	51
Locating the Researcher	56
Research Contributions	59
Chapter Four: Waiting for Care to Come into Being	62
An Entrance into Interviews.....	62
Formal & Informal Caring.....	64
Thinking About Care	71
Care as Active or Passive	71
The ‘Good’ & The ‘Bad’ in Care Relations.....	74
Elder Care & Associated Fears	77
Considering Care Outside the Family	81
Advocates in Care.....	84
Chapter Five: Thinking Through Robotic Interventions in Elder Care	88
A Shift in Focus Associated with a Move Toward the Future.....	88
Assistive Devices as Companion Species	90
Discovering Robotics Developments in the Media.....	94
Personal Experience with Bodily Robotic Interventions	96
Thoughts About the Potential of Future Robotic Interventions in Elder Care	97
Imagining Personal Care Provided by a Robot	103
Companionship & Social Robotics	103
Personal Safety & Assistive Robotics.....	105
Robotic Heavy Lifting.....	106

Surveillance Technologies in Care.....	109
Intimate & Emotional Aspects of Care.....	112
Considering Who Might Benefit from Robotic Care	117
In Cases of Cognitive Decline.....	120
Caring for a Care Robot	122
Conclusion: Reflecting & Responding	126
New Discoveries	126
Understanding Care & Caring.....	129
Talking About Care & Caring in Close Proximity.....	132
“They Belonged Together”	136
References.....	139
Appendices.....	154
Appendix A: Recruitment Flyer.....	154
Appendix B: Invitation to Participate in Research.....	155
Appendix C: Consent Form.....	157
Appendix D: Interview Schedule	159

Chapter One: Introducing Elder Care & Robotic Care Considerations

Thinking Through the Future of Care: Elder People's Understandings of, and Feelings About, Robotic Interventions in Elder Care is a research project that broadly explores the relationship between care and technology. This work also attends to more focused issues of elder care and associated care deficits as well as the material conditions that find elder people in need of care but without sufficient support, and the social processes that dismiss the possibility of and attention to disability and aging.

An Entrance into Elder Care

The inspiration for this thesis came unexpectedly two years ago, when I found myself sitting in small room within a long-term elder care home in New Brunswick, Canada. Before then my academic research and non-academic work had consistently involved care related consideration, but had been focused on child and youth care. I caught a glimpse of what was involved in providing and receiving long-term elder care when I spent my unplanned days in a long-term care home. I watched as my partner's grandmother received end-of-life care. As nurses and family members came in and out of the room to provide care and comfort, I moved in and out of the room as well. I walked up and down the halls and was met with inquisitive and lingering gazes and occasionally unexpected requests from residents for attention or things I could not provide. I was confronted then with another aspect of care, of needs I had previously overlooked, and I was able to see elder care as even less socially valued than childcare - a realm of care I already understood to be in need of a great deal of attention. I sensed in this elder care setting not just an urgent need for additional care and support for caregivers, but a need for something that was missing; something I did not understand and this was quite

troubling. At this time I had not yet thought about potential robotic entries into elder care, but I would soon.

Project Overview

This research project's focus is care, specifically elder care, and in particular the presence of new care technologies such as rehabilitation and social 'robots'.¹ More importantly, its focus is on the voices of elder people themselves. This project asks: What will the future of care look like for elder people? That all of us will inevitably require care during our lifetime makes caring a crucial concern, and it is this concern and sense of unease about the current state of elder care that drives my research on care and robotic care interventions.

My grounding argument is that beyond familiar care interactions between human care giver and human care receiver there exists an unknown future of caring (which may involve the non-human robot) that requires investigation. I find that attention to elder care is particularly important because of the way elder people are so often socially undervalued and dismissed. This project not only acknowledges the inescapable nature of care requirements, but also attends to the consistent lack of publically funded support for care receivers (and care givers) and the persistent gendered nature of care provision that finds unpaid women family caregivers disproportionately burdened with care responsibility. Also addressed with respect to a derogated elder care reality is the outsourcing of care to immigrant labourers and the value placed on caregiving as a profession. Each of these issues related to elder care provision works to produce the 'solution' of robotic elder care interventions.

¹ The term 'robot' is defined on pages 6 and 7.

Thesis Chapter Outline

This thesis comprises six chapters. Its opening chapter presents and outlines the research project as a whole, detailing its components. It describes how discussions of robot care came to be and imagines how the journey unfolded to arrive at a time where conversations about non-human robot caregivers are almost commonplace and the future of care remains uncertain. It gives a project overview, which establishes my orientation and approach to researching elder care and robotic interventions in such care, as well as an account of my research questions. This chapter also defines key terms used throughout this body of work, and briefly touches upon the current state of elder care and care robotics testing and implementation in Canada and beyond.

The second chapter outlines the ongoing conversation about care and introduces my entry into a more focused conversation about the future of elder care and technology. It also includes a description of existing moral and ethical accounts of care as well as an explanation of this project's theoretical orientations. Chapter Three describes my methodological processes, approach to research and data analysis, and various considerations regarding my positionality in each stage of the research process. Chapter Four draws from interviews and focuses primarily on formal and informal care and advocacy in care. Chapter Five highlights participants' thoughts and feelings about care technologies, assistive devices, and potential robotic entries into care relationships. The final chapter of this work reflects and responds to this project's overall exploration and discovery.

Research Questions

This research project asks broadly: What will the future of care look like for elder people? The title of this work emphasises my interest in thinking *through* this future, as well as my focus on thinking *with* those who are likely to experience elder care as it exists in the near or more distant future. How do elder people understand robotic interventions in care? I borrow from Bent Flyvbjerg's (2001) emphasis on the importance of the 'how' question during the research process due to its encompassing of both understanding *and* explanation. Flyvbjerg's emphasis on 'making social science matter' reflects a commitment to pay methodological attention to human complexity by starting questions with 'how' and focusing on the narrative significance of research. Thus, my focused research question seeks to understand and explain the narrative significance of the stories elder people tell about their experiences of care and the thoughts they share about the future of care.

With very few exceptions current research on elder care robotics makes assumptions about how elder people (often taken to be a homogenous group) will benefit or suffer from robotic care solutions - without asking elder people themselves to comment directly on their feelings about such scientific advancements in care. This exclusion compels my focus on how, amidst much scientific development in the area, elder people understand the possibility of receiving such care.

Defining Key Concepts & Terms

I use the words *care* and *caring* to refer to something that involves satisfying both physical and emotional care requirements, requires varying levels of commitment, and may be performed by both humans and non-humans. Joan Tronto (1993), to whom I look

in establishing a concept of care and caring, locates four phases of care that are interconnected but analytically separate. These phases are described as follows: *caring about* involves recognizing a care need, *taking care of* means assuming a responsibility for the need for care, *care-giving* involves meeting a care need directly, and *care-receiving* refers to the response from the person who is provided with care (Tronto, 1993, pp. 106-107). The last phase of care focuses on the care recipient and thus places value on the quality of care, revealing the potential to expose whether care needs have been met. Key to Tronto's understanding of caring is the acknowledgement of care provision and receipt as being located within an ongoing interconnected and active process. When I refer to care and caring I am referring to all these phases of care.

I refer to both *formal* and *informal caregivers* throughout this body of work. When I refer to a formal caregiver, I mean a person who is paid for their care work. I understand an informal caregiver to be a person who is unpaid and provides ongoing care for another person (usually a family member or friend) either as a primary or secondary caregiver. Interestingly, it has been estimated that one in four people in Canada who provide informal care to elder people are themselves an elder person (Cranswick & Dosman, 2008).

For the purpose of this research, I have determined *elder people* to be those over the age of 70. In Canada, as well as in many other countries, an elder person (usually called a senior) is most often defined as someone over the age of 65 (Kembhavi, 2012). Given that people are living longer than they used to, 65 seems quite young to be deemed an elder person and this is in part why I chose 70 as my 'elder person' age. When writing generally about elder people and care, I am referring to those over the age of 65, but

when reporting on this project's research findings I am referring to research participants who are all over the age of 70.

Location and type of care must be taken into consideration when discussing elder care. There are important distinctions to be made between *long-term care* and *home care*. I use long-term care to refer to institutionalized care which takes place in long-term care homes (also referred to as nursing homes). In Canada long-term residential care is fraught with issues, largely because it was excluded from the Canada Health Act which means provinces and territories have different standards of (and approaches to) long-term care provision (Armstrong, Banerjee, Sxebehely, Armstrong, Daly, & Lafrance, 2009). Home care is another type of care that has no national standards, so it exists in a state of constant flux, and is subject to changes characterized by various 'retreats' in care (Aronson, 2002). Home care (also defined as social, personal, and domiciliary care) refers to care received within the home provided by formal caregivers. This care is associated with the daily activities of living, so it is not limited to care of the body, but also includes care of the home. Home care is thus a complex node (Aronson, 2002, p. 401). In conversations about elder care and robotic interventions, the sites of robotic entrance into care relationships are long term residences and private residences. As indicated, the complexities within each space cannot be underestimated and must be constantly negotiated and renegotiated along the way to understanding what the future of elder care may look like.

Finally, I use the terms *robot* and *robotic intervention* to refer to any mechanized intervention in caring work that performs care acts that could also be provided by a person. Adding to this definition, I borrow from Bekey (2012) who notes that such

robotic interventions are “situated in the world” (eliminating, for example, a computer ‘software bot,’ which has no physical presence in the social world) and are programmed to sense and act (p. 18). Whilst there exist many different kinds of interactive care robots, of interest to this study (broadly defined) are *rehabilitation robots* (also referred to as therapeutic or assistive robots) and *social robots* (also referred to as social commitment, companion or pet robots, depending on design and function). Rehabilitation robots are used to assist with basic functions (such as bathing and eating), to help with cleaning, and to monitor health and safety, whereas social robots are designed to provide a sense of companionship (Broekens, Heerink, & Rosendal, 2009; Mordoch, Oserreicher, Guse, Roger, & Thompson, 2013; Stafford, MacDonald, Jayawardena, Wegner, & Broadbent, 2014).

Elder Care in Canada & Beyond

In presenting selected key concepts and terms I have already touched on some relevant aspects of the current state of elder care in Canada. Elder care looks different depending on the location of the care receiver, the type of care required, the care recipient’s socioeconomic status, who or what provides care, and many other factors that do not necessarily remain static. Kathleen Lynch (2007) has stated with reference to ongoing care complexities, “Caring does not take place in a vacuum; it takes place in a nested set of power, class, gender and global race relations” (p. 564). It is with these entanglements in mind that I note: caring which takes place in Canada is likely to involve caregivers whose country of origin is not Canada. Migrant care workers have been filling gaps in care in Canada for years now, but not without revealing issues of power, class, and global race relations that are inevitably tied up in this care exchange. I return to this

matter in greater detail below as it relates to finding robotic and non-robotic solutions to care problems, and further explore the dimensions of such care relations, as commented on by elder people, in Chapter Four.

Prevailing notions of care and caregiving involve gendered narratives that locate women within a sphere of both performed and expected care labour. Women are often expected to make personal and professional sacrifices in the name of caring. This expectation may be attached to the assumption that care is a ‘labour of love’ (Lynch, 2007; Parks, 2010), or the belief that women possess natural caregiving attributes and abilities (Maher, 2004). Although there have been evident shifts in women’s expected social roles over the past several decades, these perhaps obscure (at least in part) that which has *not* changed for women in terms of care expectations and obligations. Informal caregivers are most likely to be women, as are formal caregivers (Pyper, 2006), so I have aligned this research with traditional claims regarding the gendered and emotional labour involved in caregiving (Hochschild, 1983; Murray, 2000; Tronto, 1993) and the social devaluation of women's paid and unpaid care work (Benoit, 2000; Luxton, 1997, 2009).

Due to constantly changing demographics - namely lower birthrates and increased life expectancy - fewer children are available to help with an increase in elder care demands and families in Canada (and elsewhere) are likely to find themselves in complex care dilemmas (Bookman & Kimbrel, 2011; Kingsmill & Schlesinger, 1998). When paid care is not affordable and family members attempt to sustain caregiving responsibilities by taking on an informal caregiver role, the concerns and needs of the care receiver may not be the basis of caring action (for example, due to the potential for caregiver stress and isolation) and therefore care will not be sustainable (Tronto, 1993). Consistency and

reliability are extremely important aspects of elder care provision (Aronson, 2002).

Unfortunately, due to ongoing reforms in health care services and provisions for elder people in Canada, consistency and care have suffered from efforts to cut costs and increase profits (Armstrong et al., 2009; Aronson, 2002).

The invisibility of elder care and the relationships of power and subordination produced in care relations stem from the fact that current political ideologies position care as a private matter, thereby creating the expectation that care will be contained in the home and kept quiet within the realm of ‘invisible’ individual responsibility (Armstrong, 2013; Rutman, 1996; Sousa, 2013). When elder care is provided outside the home by those other than informal caregivers, it remains somewhat overlooked and therefore largely invisible. The field of care is a field in which workers are usually underpaid, undervalued, and overworked. Again, in the case of elder care recipients, this introduces the possibility of vulnerability because once an elder person enters a long-term care home they are not expected to leave and are therefore, to some extent, trapped within a limited relation of care.

In Canada, long before the topic of non-human robot care was brought into conversations about solving care deficit problems, human caregivers (usually women) were being ‘imported’ from other countries to perform paid care work. In what some frame as a resurgence of the employment of private care workers, the past two decades have found industrialized countries seeking care labour from other countries (Williams, 2011). As Canadian women have increasingly left the role of informal caregiver in the home, the foreign domestic worker who leaves her country of origin to seek work as a caregiver in another country has filled this role in a formal, but still largely unregulated,

capacity (Folbre, 2006; Robinson, 2011; Stasiulis & Bakan, 1997). I include the following information on migrant care workers despite its apparent distance from the topic of robotic care because such private caregivers, sourced from a global market, are often more affordable than other caregivers for families seeking to satisfy elder care needs. I suggest that for elder people looking towards the future of their own care, this kind of affordable care may be just as feasible a reality as (currently less affordable) robotic care. In fact, more than one of this project's participants raised the possibility of hiring a migrant care worker as an affordable care option that would allow them to stay in their own home longer.

Increasingly, many care workers who provide elder care in Canada are migrant women, women who leave their own family members to care for members of another family, seeking opportunities to earn more money than they would in their home countries (Chowdhury & Gutman, 2012; Michel & Peng, 2012). Migrant women care workers are bound by their commitment to care for their own family members and by their commitment to care for members of other families, and often accept care work with the intention of being reunited with their own family members if they spend enough time employed as a caregiver away from home. For example, the Canadian Live-in Caregiver Program operates in these terms of reward for 'time served', allowing workers with temporary work permits who have spent two years as a live-in caregiver to apply for their permanent resident status (Arat-Koç, 2009). However, it may take temporary migrant care workers anywhere from three to five (or many more) years from the beginning of their contract to achieve success in sponsoring family members to come to Canada (Arat-Koç, 2009; Brickner & Straehle, 2010). During this time they may be extremely

vulnerable to exploitative relationships. The ethical implications of this situation have raised many concerns, some of which will be outlined in greater detail below.² Concerns about ‘robot care’ often involve questions about the quality of care and the conditions within which the care relationship occurs. However, interest in the elder care relationship involving ‘underpaid (and often exploited) migrant care workers does not seem to match the currently growing interest in the potential of a robotic entry into elder care relationships.

‘Robot Care’

As the population ages, consideration has turned toward finding possible solutions to the increasing problem of unmet elder care requirements, one solution being the introduction of care ‘robots’ (Sharkey & Sharkey, 2012a; Sparrow & Sparrow, 2006). Overwhelmingly, those who focus their attention on robot care make opening statements about the state of an ‘aging population’, quoting numerous statistics that report on when the world’s elder population will reach a certain (growing) percent of the total population. Although this type of statistical information is important, it seems to distract from the more immediate and ongoing (or past) issues of unmet elder care requirements, so I attempt to avoid such statistical representation, but rather to focus on specific individual experience.

Currently robotic care exists more in the mind of those with an interest in solving elder care issues than it does in practice. Many universities, research organizations, and companies are studying or are in the process of developing elder care robotic technologies (Stafford et al., 2014; Tobe, 2012). However, knowledge within the robot development world has been slow to build and has often stalled in the development and

² See pages 23 and 24.

testing phases (Mordoch et al., 2012). Also contributing the slow development and implementation of robot care is the prohibitive costs associated with all types of care robotics (Sharkey & Sharkey, 2010). Although care robotics are becoming increasingly affordable, they are not yet accessible to individuals who may desire non-human robot care. Even though there are few care robots on the market, there are many areas of development (both current and near-future) taking place all over the world with constant new innovation in areas such as human-robot interaction, autonomous systems, and the display and recognition of emotions by robot (Bekey, 2012).

What can people approaching their ‘elder years’ expect with regard to care? Perhaps they should expect uninvited voices of authority to tell them what is best, what serves their interests, how they should accept care. Or perhaps they should expect a dependence on informal caregivers and a failing social system of paid care as we see now. Alternatively, given a widespread noticeable interest in care robotics engineering, elder people might expect to encounter robotic interventions in care delivery. What this intervention will look like is debatable, but this debate is gaining considerable media interest.

There exists a social class division in Canada between elder people who can afford to age in the comfort of a home and necessary care and those who age in the uncertainty of accessing housing and necessary care (Weeks & LeBlanc, 2010). Retirement home living (as an alternative, or precursor to long-term care or living at home with assistance) is privately accessed and can be very expensive, therefore not affordable for many elder people who can no longer care solely for themselves. It seems possible that in a future where robot care is easily purchased a similar gap in access might

occur. Currently ‘robot care’ is not only unaffordable, it is not commonly understood, and although I will cite an example of a robot that looks somewhat human, most care robots are not built with human features. Many social and rehabilitation robots are designed along animal lines to function as pets.³

During the last year, while exploring Canadian developments in care related robotics, I came across a particularly compelling social robot project developed by Dr. Goldie Nejat, a professor of industrial and mechanical engineering, at the University of Toronto. Positive trends in healthcare robotic development have led to wide university involvement and investment in robot projects, usually involving “high-cost, high-need, single-purpose devices” (Tobe, 2014, para. 6). Nejat and her team have, over the past several years, designed ‘Brian’, a socially communicative robot that has undergone many design transformations. This robot is about five feet tall, weighs over 150 pounds, has a head and arms that move during interactions, and uses a computer-synthesized voice. Brian’s silicone-rubber face (which is connected to wires and sensors built behind the silicone) is used to express emotions in response to emotions sensed in others (Taylor, 2012). It was estimated by Nejat in 2010 that this prototype had cost \$20,000 to build (Stern, 2010). It is likely this number has increased over the past four years and if ever manufactured would fit Tobe’s (2014) description of a high-cost and high-need device.

After discovering Brian I moved almost instantly toward imagining a future of dystopic elder care provisions. Perhaps because this robot has been given a name and a somewhat human-like face it challenges a sense of what is and is not acceptable in care relationships. Although a human resemblance is often desired when creating social robots

³ *Paro*, a social commitment robot that has been modeled to look like a baby seal, is one of the most common ‘pet’ robots, has been widely tested in eldercare settings in Canada as well as other countries (Mordoch et al., 2013; Roger, Guse, Mordoch, & Osterreigher, 2012; Shibata & Wada, 2008)

like Brian, it has been found that the more human a robot appears, the less ability humans have to relate to them.⁴ Nejat has designed Brian as a social robot that will work alongside human caregivers, rather than replacing them (Stern, 2010). This is significant to my research because it would be considered a strength in her design according to many of this project's participants. Nejat's work is ongoing and she is evidently quite invested in the acceptance of her robot, but it remains to be seen if what she views as an "esthetically pleasing" somewhat humanlike robot will receive the kind of acceptance she seeks (Stern, 2010, para. 16).

Although progress has been made toward developing emotionally communicative robots, it has been argued that there are "countless aspects of human communication that are beyond the capabilities of robots" (Sharkey & Sharkey, 2012b, p. 275). This may be true, but it has also been suggested that elder people experiencing dementia who require a repetitive type of care interaction might respond well to non-human robotic interaction, thus relieving potential caregiver stress (Mordoch et al., 2013; Roger, Guse, Mordoch, & Osterreigher, 2012). With my research findings in mind I note that this suggestion was passionately debated by several of the elder people I interviewed.

The social robot Brian can interact in many ways with elder people; by playing a memory game, asking how one is feeling, or encouraging the completion of tasks such as eating lunch (Stern, 2012; Taylor, 2012). Perhaps there exists a future where an emotionally communicative robot such as this works alongside human caregivers as a co-worker, not trying to mimic human action, but rather attempting to accentuate elder caregiving in a way that only a programmable android can. If I imagine myself as an elder person experiencing dementia with only a spouse to rely upon for care, as is the

⁴ Masahiro Mori (1970) first called this phenomenon the 'uncanny valley' (cited in Bekey, 2012).

case for many elder people, I would like to think that some of the caregiving ‘burden’ would be shared. I suggest (knowing what I do about informal care) that it might be more important (in this future scenario) to all involved that care work *be shared*, than with whom or what it were to be shared. Social robots cannot satisfy all aspects of human communication, but until it is proposed that such robots take over all caregiving responsibilities this may not be cause for concern and I stress the importance of steering clear of dichotomous presentations of potential robot care and an either/or robot/human prospect. I suspect there are uses for robots that may be acceptable, or even desirable, to elder people and this is what I set out to discover through this project.

A Complicated Relationship

I acknowledge that a media-influenced collective social conscience may have a deeply rooted unease or distrust toward the thought of robot caregivers. Stafford and colleagues (2014) note that “Media images and messages may interact with a human predilection to anthropomorphise” (p. 19). These authors question if this tendency will have an effect on the way human-like elder care robots are accepted compared to other care technologies. In thinking with these authors, I consider human-like robot representation in film over the past few decades. I focus briefly on the *Alien* movie franchise (Badalato, Carroll, Giler, & Hill, 1997; Carroll, Giler, & Hill, 1979; Carroll, Giller, & Hill, 1992; Hurd, 1986) which comprises four films released over the past three decades - each of which includes a depiction of robots/androids⁵, that is somewhat typical of a popular culture take on the function and capacity of a robot. These films revolve around aliens, not robots, but the importance of the accompanying robot presence cannot

⁵ Although there is some debate on the matter, the distinction I make between a robot and an android is that an android takes a human form whereas a robot may take a human form, but may also look nothing like a human - I use the terms interchangeably in this context.

be understated. I offer a few thoughts on robot interactions and fear. Experiencing a fear of something we/humans may not yet understand (in this case the functional capacity of robots) is not unusual or unexpected and a general social anxiety of machines is not a new phenomenon.

People have been suspicious of mechanical development for years, mostly with respect to which jobs may be supplanted by new technologies or how a machine might malfunction. In the case of caregiving the latter fear is particularly consequential because if a care robot were to default, and become harmful rather than helpful, it would likely cause new problems rather than solve the problems it was designed to address. In the first *Alien* film, set in the future, a crew (on a starship diverted from its path) discovers not only an alien presence, but that one of its crewmembers is an android programmed to collect alien life rather than (as the crew must do to protect their lives) eliminate alien life. When the android's true identity is revealed the crew expresses their disgust and it is incinerated. In the second film (*Aliens*) another android is revealed, this time accompanied by slightly less surprise, but with equal suspicion. In contrast to the original depiction of robot betrayal this movie's secondary savior turns out to be the android, programmed to protect rather than destroy. In the final film (*Alien Resurrection*), like the first, there is an android among the crew but her identity is revealed after she is accepted as human for a considerable length of time. This android is, as the second, instrumental in the survival of many of the human crewmembers.

In the case of proposed robotic interventions in care it is unlikely that robots will be made to look and function as though they were human. Apart from the fact that the technology does not yet exist, a largely undetectable robot would be unnerving to many

people in this stage of human evolution when we are still learning to accept growth in automation and non-human impersonal services. In each *Alien* movie the message regarding androids/robots is progressively unclear. Should robots be trusted, feared, used selectively, or banned from certain uses? Certainly a future in which any kind of robot provides *all* care specifically to elders is probably not desirable, but could selective robotic care provision become enticing in the near future? It seems possible, but again, I look to the elder people, as current or potential care recipients, for answers. Before these questions are addressed (in this work's interview-based chapters), the following chapter establishes this research project's location in relation to existing discussions about technology and the future of elder care and outlines the way this research is theoretically oriented.

Chapter Two: Entering the Care Conversation

This chapter introduces my entry into conversations about the future of, and mechanical interventions into, elder care. It also outlines my theoretical orientations toward the topic of elder care and robotics, and presents brief anecdotal introductory accounts of interview findings. Given that I take a Harawayian approach throughout much of this work, I offer here a non-traditional (but very enchanting) definition of caring that Haraway (2008) includes in *When Species Meet*. She writes: “Caring means becoming subject to the unsettling obligation of curiosity, which requires knowing more at the end of the day than at the beginning” (p. 36). This research starts from a place of curiosity about the future of care and attempts to ‘know more’ by actively thinking with elder people and caring about what a lived experience of elder care may become.

This project locates itself within a body of research that attends to the fact that approaches to personal care currently take place in very individualistic climates where social and political neoliberal configurations separate people from one another, and often require *individuals* to solve what are *social* care problems (Benoit & Hallgrímsdóttir, 2011; Bjornsdottir, 2009; Holstein, 2013; Kittay, 2013; Lynch, 2007). Such individualistic approaches delimit potential solutions to problems associated with this kind of care. With attention to personal care Annemarie Mol (2002) has addressed the complexity involved in acquiring necessary care for the body, noting that “The problems one is faced with are not conditions of the body. They pertain to one’s body, but they are situated elsewhere: in one’s life” (p. 127). Mol’s statement comes to life in this project as elder people speak of their lives, lives which necessitate attention to the body, but which are often focused elsewhere. Each person is inevitably part of some larger social group

and the acknowledgement of this fact is likely to prevent the physical body from being interpreted as merely a subject of care instead of as a social being (Mol, 2002). This is necessary because, as I discovered through this research, problems faced by elder people are more likely to be related to their social position and ability to access resources than to their own material embodiment and associated care needs.

Care conversations that respond to issues regarding elder care - most commonly a caregiver deficit - have involved the presentation of options for robotic entrances into care relations, most notably over the past decade. This attention to robotic elder care options, if not focused on solving the problem of a lack of available human caregivers, has centred around issues of isolation in elder years, the preservation of personal dignity in care exchanges, and the stress placed on human caregivers (both physically and during care relations with those experiencing dementia). Existing literature on robot care offers many examples of robotic interventions in care; some are only imagined, but many have been both produced and implemented or tested within institutions of care (Broekens et al., 2009; Decker, 2008; Lin, 2012; Sharkey & Sharkey, 2012a; Sparrow & Sparrow, 2006). Robotic assistive care is often promoted as being the answer to a growing care need in an elderly population, usually with a focus on the goal of relieving caregivers' physical involvement in care work (Parks, 2010; Peine, Rollwagen, & Neven; Sharkey & Sharkey, 2010; Sparrow & Sparrow, 2006). During project interviews I asked participants to comment on this type of robotics promotion and found many of their responses were quite similar and generally in favour of the idea that robots might do the 'heavy lifting' in elder care relations. Having said this, I elaborate on and complicate this common finding by presenting individual narratives in Chapter Five.

Much academic inquiry into robotic interventions in elder care expresses concern for the fate of elder care receivers, but largely disregards and excludes elder people as potential research participants who may want to comment on their own future care. This oversight is unfortunate because as I confirmed, elder people have plenty to say about the future of their own care. Existing research that *has* included elder participants in robot care testing has revealed a general disregard for, and paternalistic approach toward, participants. There may also be a certain personal investment in robotic adaptation in care that causes an unwillingness to accept any negative feedback from elder test users; the literature shows conflicting reports on this issue (Broadbent, Stafford, & MacDonald, 2009; Neven, 2010; Peine, et al., 2014). This is in part why this project's research isolates the perspective of elder people who were not 'test subjects' and who were clearly informed that the researcher had no financial or other investment in robot care technology.

Isabel Sousa (2013) has noted that new care technologies are likely to be accompanied by a "new patient model", one that claims to empower care receivers with choice, but which may actually work to conceal the root of care issues (namely, reforms in care provision inspired by a neoliberal agenda) and of the social context of care provision, especially when new assistive technology is sold as a solution to longstanding care problems (p. 130). Ideally elder people would be in a position where they could choose what kind of care they receive. Concerns such as Sousa's are inspired by technological advances in care provision that may constrain the 'choices' available to elder people. Debates about choice in elder care are explored throughout this project, particularly with reference to Annemarie Mol's (2008) considerations toward "the ideal of individual choice" within institutionalized models of care (p. 6). In an article focused

on a group of elder robot care test users (aged 62 – 79), Louis Neven (2010) notes that most people – regardless of their age - decided that robotic care interventions would not be appropriate for them, but perhaps could work for someone older. My interview schedule was designed, at least in part, to discover whether research participants would have similar feelings toward such care technologies, and what kind of choices they would make about new care technologies if given the opportunity.

In this project I reject a tendency within elder care focused research to look past the care receiver in favour of finding solutions to care issues that promise to deliver elder people from suffering without first meaningfully involving elder people as ‘informants’ in processes of invention, production, and intervention. I challenge the idea that elder care receivers are in any way passive participants in care relations. I prioritize care receivers in this project and push back against research in the field of care that makes assumptions about what may or may not be ‘good’ care for elder people.

Affective Labour

The emotional, or affective, labour involved in care work is often part of a ‘good’ care conversation.⁶ This kind of labour has been, and continues to be, performed mostly by women (Federici, 2012; Hochschild, 1983). Even when women’s caring skills are professionalized their ability is still associated with a natural tendency toward care (Armstrong & Armstrong, 2005; England, 2005; Gordon, 1996; Murray, 2000). Aronson and Neysmith (1996) have reported on a study of paid home care workers who attend to elder people in Canada, finding two themes particularly significant: “the inseparability of workers’ practical and emotional labor and the potential for blurring of their identities as formal service providers and informal caregivers and of their paid and unpaid work” (p.

⁶ See page 36 for an account of what I mean by affective relations in the context of care.

65). Some social researchers have concluded that the emotional labour involved in care work cannot be separated from the physical labour involved in such work, even in cases when this separation is desired (Henderson, 2001; Hochschild, 2001). In a study focusing on the care experiences of nurses, Henderson (2001) argues that there exists a “relationship between emotional and physical well-being” that demands carers attend to the more apparent physical needs of care receivers, but must also attend to their emotional needs (p. 130). This is why it is argued that care work cannot be quantified by units of measurement and categorized by type as other forms of work may be (Steinberg & Figart, 1999). Furthermore, this is why the lines between paid care work that focuses on the body and emotional care cannot be drawn the same way in every caring relationship.

In conversations about ‘robot care’ the emotional or affective dimensions of care are often raised in defense of human care as a superior type of care. I revisit the notion of affect and of emotional labour below in a discussion that introduces arguments about the significance of human touch in care relationships, but I note here my underlying commitment to Chen’s (2012) ‘unrestricted’ definition of affect as “something not necessarily corporeal [that] potentially engages many bodies at once, rather than (only) being contained as an emotion within a single body” (p. 11). The notion of an entanglement of bodily engagement is something that this work raises frequently in accounts of caring.

Moral and Ethical Accounts of Care

Moral and ethical accounts of care play an important role in an ongoing conversation about care, especially those that address the purchase of care provision.

Moral accounts of care, such as those presented by Tronto (1993), have paved the way for ethical entry points into questioning the potential boundaries that may be used to limit the commodification of care. Although the purchase of robotic care is not as commonly discussed as the purchase of human care, I consider them similar when thinking about care as a commercial product and in order to blur the lines between human and non-human methods of care.⁷ Virginia Held's imagining of an ethics of care (2002, 2006) further guides this exploration into the possible limits of care as a commercial product. Held suggests that "with an ethic of care and an understanding of its intertwined values, such as those of sensitivity, empathy, responsiveness, and taking responsibility, we could perhaps more adequately judge where the boundaries of the [care] market should be" (2002, p. 31). Held questions whether efficiency, competition, and other market-based values are likely to take priority over values that are concerned with basic human rights and local prioritizing of social responsibility and community caring (2006). This is much like the questions involved in the topic of robotic developments in care – for example, will the people who accept the idea of robot care be able to afford it?

An ethical account of care, with a global focus, questions the apparent willingness to satisfy one person's care needs at the expense of another's. The (perhaps oversimplified) conceptualization of global 'care chains' has been contested, but is useful in considering how North American elder care requirements are being met amidst controversy regarding global care sourcing. According to Arlie Hochschild (2001) global care chains are created when care labour is exported and imported and as a result the true nature of care deficits and care needs in a richer country are hidden by the imported

⁷ I acknowledge that care robots are mostly not available for commercial purchase, but some are, and I would argue that more will be in the near future so I suspend possible outside disbelief regarding the purchase of non-human robot care provision as I move forward in addressing ethical accounts of care.

labour of those from a poorer country. Women who engage in paid work but who are also expected to fill the role of informal caregiver for an elderly relative, can only perform in their paid employment (as expected in contemporary western work conditions) if they are able to conceal their roles as care providers outside their workplace (Mahon & Robinson, 2011). In such cases, if it is to be economically viable for women to leave the home to work, the care providers hired in their stead must be paid far less than they themselves earn. The question that then hangs in the air when looking at care through a global care chain lens is whether this caregiver substitution is ethical.

A feminist ethical account of care challenges naturalized essentialist attitudes toward women and the care work they are expected to perform (Mahon & Robinson, 2011), and contributes a deeper understanding of the characteristics of ethical care set out by Held (2002), characteristics that may be used to move forward in questioning market boundaries and mechanical interventions related to care. An ethic of care, according to Fiona Williams (2011), emphasizes qualities such as interdependence, sensitivity to context, responsiveness, and consequences of choices. Both Held (2002) and Williams hold responsiveness as a key tenet to ethical care. Each ‘quality of care’ Williams (2011) cites relates to care’s existence within a relationship between care providers and care receivers. Part of this project’s research process is to investigate whether robotic care provisions and care relationships mediated by technology are able to achieve a level of responsiveness that would be deemed acceptable by elder people.

Considering, as this project does, the amount of control and power elder people may command in care relationships means addressing how non-human robot care may shift states of dependence and independence. Joan Tronto (2013) has argued that “there is

no way to remove power and interest from affecting how care practices are organized” (p. 10). This thinking suggests that imbalances of power will therefore affect the quality of care relations because independence may be transformed into dependence. One of the things I asked elder people to comment on during interviews was if they might welcome robotic care into their lives. One of the most interesting responses came from an 88 year old man who stressed the importance of his own involvement in caring for the robot who might care for him in what he envisioned to be a reciprocal relation of care. In approaching the topic in a way that dismissed the idea that power would *not* lie with the elder person as decision-maker, I was able to open space for the possibility that elder people would not necessarily feel as though they would be dependent on a care robot if it were integrated into their care. In fact, elder people themselves introduced the idea (during interviews) that care robotics could increase their level of independence, one of the most common issues raised by participants.

When considering care delivery predicaments of the robotic kind, I adopt from Tronto’s (1993) argument that caring about a person must involve taking the needs of the care receiver into account without allowing the needs of the care *giver* to distort the needs of the care *receiver*. Responsiveness as a quality of ethical care requires that care receivers are able to communicate their needs without any interference from the care providers’ needs (Williams, 2011). In cases of care provided within a strained context, unmet caregiver needs are likely to impact care quality in some way. For example, a robotic caregiver would have its own maintenance and service needs, which would need to be prioritized over care delivery. This has been hailed as a reason to reject robot caregivers, but it must be acknowledged that human caregivers also have needs that

would need to be prioritized over care delivery. The potential malfunctioning or breakdown of a robotic caregiver should be of some concern, but so too should the potential breakdown of a human care giver/care receiver relationship. When care provision is an obligation rather than a choice or a paid position, strained familial relationships (spousal relationships especially) may be linked to cases of elder abuse (MacDonald, 2011).

An ethical account of care might focus on questions such as: Is it ethical to outsource personal care to robots? Is it likely that cases of elder abuse and neglect would rise if robotic elder care were widely accepted? Rather than focusing on what care ethicists have often argued – that the responsiveness and sensitivity to context that are ethically required in care exchanges are absent in the case of robotic care provision - in the following chapters I focus on the stories and thoughts of elder people themselves. I do so not to respond to ethical questions directly but to address them implicitly. Many participants I interviewed were quite open to the idea of care robotics being introduced into their current or future care relations. My overall impression after completing all interviews was that each elder person would only consider political questions about sociality and privacy related to robotic care after the matter of personal independence had been satisfied. In response to this finding I would argue for a shift in attention from what has been determined to be ‘good’ or ‘bad’ in care relations to what kind of care relations may work but have not yet been considered or understood. Also in response to the personal independence as a primary concern point of view I discovered in so many interviews, I move this project forward with a sense of uncertainty in knowing, and the

echo of Jane Bennett's (2010) words: "If we think we already know what is out there, we will almost surely miss much of it" (p. xv).

Theoretical Orientations

New Materialist Feminism & The Body's Becoming/Unmaking

Care theorists referenced previously who conceptualize care and its conflicts have attended primarily to the outsourcing of care, the invisibility of care, the gendered nature of care, and the ethics of care. In this project, with reference to Chapters Four and Five, which focus on interviews with elder people, I take up the complexities involved in such care issues and consider how they move me toward where I find this project 'sticking' in relation to elder care troubles. I do so by thinking with those who may be called materialists or 'new' materialist feminist theorists and by building on their extremely diverse work. I bring a feminist materialist approach to the question of elder care and technology, recognizing that when it comes to elder care, women have been charged with a disproportionate amount of physical and emotional care responsibilities. I also highlight how women have been consistently made responsible for social aspects of care, and for the less visible, less valued dimensions of caring for elder people.

Through a new materialist feminist lens this project pursues an openness that attends to both the biology of the body *and* the sociocultural conditions surrounding the body - specifically the aging body in need of care. I find inspiration in Jane Bennett's (2010) thoughts on what she terms 'new' attention to matter when she writes of the power of matter, stating that it "will not solve the problem of human exploitation or oppression, but it can inspire a greater sense of the extent to which all bodies are kin in the sense of inextricably enmeshed in a dense network of relations" (p. 13). This project's

focus is on the relations humans may have with one another and with ‘the other’ (the non-human machine), and the matter that becomes entangled with bodies. ‘Matter’ must be considered not only as it is formed through language, culture, and discourse, but also as it agentially forms and contributes in its own right (Frost, 2011).⁸ I return to the idea of formative agential matter below as I expand further on a new materialist orientation toward the body.

Inspired by Stacy Alaimo’s (2008) description of Carolyn Merchant’s insistence on the agency of nature, I have attempted to consider disease as an agentic actor as it affects human bodies. Although I would not suggest disease as an autonomous actor because it can be found “entangled with or constituted by discourses, creatures, ecological systems, or biochemistry” (Alaimo, 2008, p. 246), I would suggest that its force is powerful and is manifested materially in a way that has led to the human body being read as *reactive* rather than active, but nevertheless materially relevant. In communion with this type of interpretation, disability theorists have challenged the idea that those who inhabit chronically ill or disabled bodies are negatively bound by an unpredictability of not knowing how the body might be from one moment to the next (Wendell, 1996). As Alaimo (2008) has noted, “the agency of the body demands an acceptance of unpredictability and not-quite-knowing” (p. 250). With attention to able bodies and the body’s ‘unmaking’, Haraway (2008) ‘re-members’ its becoming and notes that “the body is always in-the-making; it is always a vital entanglement of heterogeneous scales, times, and kinds of beings webbed into fleshy presence, always a becoming, always constituted in relating” (p. 163). I embrace this active imagining of the

⁸ I refer primarily with my use of the term ‘matter’ to the matter of bodies in the sense Barad (2003) does, but also to a more common understanding of the term matter that traditionally assumes matter is passive rather than active in nature – an understanding that my use of the word attempts to revise.

body and acknowledge, as many of this project's participants did, that the body cannot be controlled and is always open to changes in levels of ability. In her writing about the cultural myth, or belief, that the body can be controlled, disability theorist Susan Wendell (2010) has suggested that "Idealizing the body and wanting to control it go hand-in-hand; it is impossible to say whether one causes the other" (p. 343). As people age they are likely to lose control over certain aspects of their body's functioning, and they are likely to come face to face with the fact that as their body moves further from a culturally accepted 'ideal type' they may find themselves socially constituted by the breaking down of the body and by the fear this body may engender in others.

Samantha Frost (2011) writes that new materialists "consider matter or the body not only as they are formed by the forces of language, culture, and politics but also *as they are formative*" (p. 70, emphasis mine). She goes on to elaborate an associated conception of matter, or the body, "as having a peculiar and distinctive kind of agency, one that is neither a direct nor an incidental outgrowth of human intentionality but rather one with its own impetus and trajectory" (p. 70). The denial that the human body can somehow be controlled (a point often taken up by those who attend to disability, aging, and disease) finds a home in this notion of agential matter with its own trajectory. Bennett (2010) also touches on the idea of a matter's agentic trajectory, and builds on this idea when she writes of vitality, explaining her use of the word vitality as meaning "the capacity of things [...] not only to impede or block the will and designs of humans but also to act as quasi agents or forces with trajectories, propensities or tendencies of their own" (p. viii). Again, the formative nature of matter is addressed in relation to what

Barad (2007) terms ‘intra-action’⁹ with human actors who, despite common assumptions, are not in control and are, as Bennett has suggested, “also nonhuman” (p. 4). The meaning here is that as humans ‘become’ with non-human forces, they cannot be considered simply human. One of the elder people I interviewed pointed quite proudly to a pacemaker implanted just under her skin, tracing her finger around the outline of the device in her chest as she explained that since surgically becoming one with this piece of technology she considers herself to have a robotic part.

Animacies, Objectification & Dehumanization

I argue that a social disregard for elder people is reflected in the ‘second-rate’ quality of care provided for those in need of later-in-life long-term or end-of-life care who are not expected to ‘recover’ (Armstrong, 2013; Federici, 2012; Simms, 2003 cited in Bjornsdottir, 2009). Hierarchies of care can be understood using Mel Chen’s (2012) work on animacies and animacy hierarchies. Chen explains that an animacy hierarchy “conceptually arranges human life, disabled life, animal life, and forms of nonliving material in orders of value and priority” (p. 13). Western animacy hierarchies are about kind (a kind of person, for example). They associate groups of people with certain properties, and in so doing assign what Chen calls a “generativity” marking bodies as either reproductive or non-reproductive (p. 127). Not only are elder people in need of later-in-life long-term or care or end-of-life care not expected to recover, they are not valued as generative or productive - as are those who are expected to recover having received care. One participant I interviewed spoke about her feelings while out in public, noting that she experiences anxiety in her interactions with younger people who seem to have no patience or understanding regarding her need for extra time to complete

⁹ I expand on Barad’s (2007) use of the term *intra-action* on page 33.

everyday tasks. She explained that her reliance on strangers for assistance, due to her limited ability to move with the speed and confidence of others, caused her to feel inadequate.

I have referred to the devaluing and dehumanization of elder people by way of both anecdote and example. Chen understands dehumanization (particularly in the context of disability) as “the *removal* of qualities especially cherished as human” and “the more active *making* of an object” (2012, p. 43, emphasis original). In response to the potential dehumanization and objectification faced by elder people in need of care, I follow Chen’s claim that “animacy is political, shaped by what or who counts as human, and what or who does not” (p. 30). This becomes important as I attend to the narrative lead of research participants and make space for the possibility that care apparatus (assistive devices such as canes and walkers) may be more animate in relations of care than one may assume them to be. I assert that conversations about care are always political because they involve the very personal and they implicate women as those predisposed to, or responsible for, caring.

Taking the idea of objectification a little further, I think with Annemarie Mol (2002), whose work illustrates how ‘things’ come into being through practices, how certain enactments shape objects. I return to the idea of ‘subjects of care’, a detached way of referring to elder people in need of care, and consider the multiple ontologies of what becomes a category of kind. The way care is delivered to elder people may be understood within the context of enactments of care that are experienced by elder people who may or may not accept care ‘delivery’ but who might instead hold out for that which becomes care by way of lived experience rather than standardized application. For example, one of

my participants described in loving detail how her daughter had decided to move in with her to provide informal emotional and physical care. Many of the elder people I interviewed pushed back against the idea that they may be thought of as a subject of care, often attaching the demoralizing experience of infantilization involved in receiving elder directed care to the experience of objectification.

Death & Dying With Care

With reference to dependency, objectification, and dehumanization, Chen (2012) has pointed out that feminist and disability theorists have identified states of being that are socially marked as being “equivalent to death” (p. 43). I identify elder age as being one such state of being, involving not only aging but also associated disabling social realities and an openness to the possibility of suffering and death. I do so because I have witnessed a cultural attitude toward disability and aging that is dismissive with respect to associated deaths, and because elder people themselves were somewhat dismissive and emotionally detached when discussing how they imagined their own deaths during interviews. Many of the elder people I interviewed spoke candidly about their changing abilities and their fears about pain and suffering they might soon experience. In speaking about their future care, almost every participant raised the possibility of a painful death, as a topic of conversation.

I reference the common turn in interview subject matter toward the possibility of death for two reasons; first because it generates consideration about how life is valued in old age and in relation to disability, and second because almost all of the elder people I interviewed raised the issue of the right to die when considering their future care. Although this was something I thought to be relevant when entering interviews, I did not

include any reference to assisted dying or the right to ‘die with dignity’ in my interview schedule. This conversation was opened by elder people who wanted to talk about how they wished to die and what kind of suffering they could, or would not wish to, endure. Ultimately these discussions were beyond the scope of this thesis, but I note that participants spoke to the value of life at marked stages of life, stages entangled with care requirements and clearly articulated along an animacy spectrum.

Companion Species & Touching Moments

This project’s motivating theoretical orientation embraces a Harawayian materialist approach to caring that examines the interaction and potential for interaction between care receiver and care provider. Specifically, my research is inspired by Haraway’s imagining of ‘companion species’ as “a permanently undecidable category, a category-in-question that insists on the relation as the smallest unit of being and of analysis” and by her accompanying explanation that “By species I mean, with thanks to Karen Barad’s theory of agential realism and intra-action, a kind of intra-ontics/intra-antics that does not predetermine the status of the species as artifact, *machine*, landscape, organism, or human being” (2008, p. 165, emphasis mine). I have considered this question in relation to companion species and non-human interventions into elder care. The entanglements in *intra-action* Barad (2007) writes of are characterized by an inseparability in the process of becoming. As this project looks toward the future of care through the perspectives of elder people, it considers the potential for new companion species in care relationships that come to be what they are through multiple material entanglements that ‘matter’.

Consider Haraway's interpretation of a pair of crutches as "an enabling objectification" (2008, p. 168). In writing about her father's use of crutches she notes that for him "to be in a companion-species relationship was the viable way of life" (p. 169). The idea that one may 'come into being' through a connection with something like a walker or a wheelchair is relevant to my focus on assistive care robotics. At the time of our interview, many of my interviewees were already in the type of complicated, yet necessary, companion species relations Haraway has outlined. One interviewee was anticipating the introduction of a walker and spoke ambivalently of what she acknowledged to be an enabling apparatus into her daily life. My questions to elder participants on the hypothetical introduction of care robots into their lives were informed by Haraway's understanding of enabling objectifications and pushed further by my interest in discovering to what degree elder people would be willing to have this non-human caregiving extend in the interest of their own independence and self-care. This project leaves open the possibility that in the near future a machine may be deemed a desirable enabling object chosen as an intra-relatable companion species to the elder person looking for both independence and non-human robotic intra-dependence.

As this thesis unfolds it rests for many moments with Donna Haraway's conceptualization and prioritization of situated knowledges and her imagining of companion species. As Haraway (2008) addresses the times 'when species meet', she raises the issue of touch. Her thinking on the matter of touch is appealing in light of what elder people shared with me about their desires for care. Haraway writes with reference to animals (and I recontextualize her thoughts toward a human experience) when she suggests that "touch ramifies and shapes accountability" and explains that

“Accountability, caring for, being affected, and entering into responsibility are not ethical abstractions”, further stating that “Touch does not make one small; it peppers its partners with attachment sites for world making. Touch, regard, looking back, becoming with – all these make us responsible in unpredictable ways for which worlds take shape” (p. 36). Touch, as it is embodied in relations of caring, looms large when the topic of care robots is raised. This is evidenced by existing research and by the conversations I had with elder people.

There exists a palpable fear, apparent in much of the literature on robotic interventions into care relations, that human touch would be removed from common care interactions that involve the necessary moving around of care recipients, and that the person being moved would be reduced to a subordinate object of care (Radin, 1996; Sharkey & Sharkey, 2012a). Commenting on recent developments in possible robot care substitution and attending to physical objectification of care recipients, Tronto (2013) points out that “an important aspect of care is simply spending time with another, listening to stories, observing care receivers” (p. 121). The implication here is that the non-human robot caregiver would be focused on the physical and active requirements of care, not on the still and intuitive, quiet moments of care. As an extension of this view, robotic interveners in care would be considered not to possess the capacity to touch or just to be (without evident purpose) with a person in need of care and therefore would not be regarded as a desirable caregiver. Borenstein and Pearson (2012) have argued that “a robot should be viewed as a complement to human caregivers, and not as a replacement for them” (p. 16). These authors are not alone in suggesting that there may be a place in human relationships of caring for limited robotic intervention to relieve physical care

‘burdens’.¹⁰ Nor are they alone in stressing that human contact and touch must be preserved in elder care relations in order to avoid the potential emotional alienation and objectification of elder people.

Jennifer Parks (2010) has argued that the mechanization of care work highlights physical needs and “underestimates the deep human need to relate in an authentic and genuine way to another flesh-and-blood human being who appreciates one’s uniqueness” (p. 106). With a focus on ‘body work,’ Marek Korczynski (2013) has attended to what she terms ‘touching moments’ in care work interactions. Korczynski’s work supports arguments for the importance of human touch in caring relational work. She writes: “Beauty lies primarily in the way workers skillfully reclaim dignity, sometimes for themselves and sometimes for the [care]-recipient, just where the tensions and contradictions of body work interactions are most intense” (Korczynski, 2013, p. 28). The intensity involved in care relationships is often enacted by the body, but is not limited to bodily interactions. I agree that moments such as the one Korczynski writes of are of great importance, but I would suggest they are of equal importance to other moments in care that do not involve the body or means of touching. My argument is that the intensity in care relationships may just as likely be produced by the way the care receiver interprets the care provided as by the way the caregiver intends to deliver care.

Arguments for the preservation and prioritization of human contact in caring are directly connected to what may be called the ‘affective relations’ involved in caring.¹¹ By

¹⁰ At the same time they argue that these non-human engagements must not dehumanize the care exchange.

¹¹ It is important to note that in my understanding of affect, and by extension ‘affective labour,’ I borrow from Gutiérrez Rodríguez (2010) when I note that the energy given by those who care affect the caregiver and have an affect on the care receiver in a transfer that ‘echoes’ throughout the care relationship - Ariel Ducey (2010) further contributes to a somewhat elusive understanding of affect by explaining that caring labour “enhances capacities to affect and be affected” (p. 18).

affective relations, inspired by both Hardt (1999) and Richard and Rudnykyj (2009), I mean the reflexive immaterial (often spontaneous) social exchange of feelings and emotions, physically embodied or expressed through language. These kinds of relations may not be easily substituted robotically, but perhaps a persistent focus on robotic *substitution* produces a disproportionate level of attention directed toward a way of being with non-human robotics in care relations that may not actually be commonly proposed, let alone practiced. To this point, Jennifer Parks (2010) has argued (with reference to robotic elder care interventions) that “Even the most finely tuned and responsive robot cannot provide the kind of authentic, honest, and human relationship upon which elderly citizens thrive” (106). The idea of robot replacement or substitution in elder care is dramatic and therefore commands much attention, but I find this attention to be misguided because it fails to recognize the opportunity for potentially beneficial robotic *supplementation* in care.

Common to much theorizing about care and care problems is a human-centred idealized notion of what comprises ‘good’ or ‘quality’ care. Those who write of the affective or emotional labour involved in the ‘work’ of care contribute richly to a traditional understanding of what care receivers value in care relationships, as do those who write of the importance of touch. I highlight these two aspects of care because, as previously indicated, they inevitably present themselves in debates about whether robotic care is ethical or desirable as a care *alternative* (if not a as care supplement) in elder care. Throughout this work I will continue to complicate the assumption that human-only care is unequivocally superior to non-human robotic care.

I have found that discussions about care are prone to focus on what is ‘authentic’ and on what is ethical or moral. Within a care relationship this focus is not necessarily inspired by the care receiver (although care theorists often acknowledge the common exclusion of the care receiver with reference to care relationships), but rather that these discussions are inspired by care ideals rather than care realities. With reference to the material realities of requiring and accessing care, I have drawn attention to what became apparent to me in preliminary stages of project research, in fact from the first interview I conducted: that the elder people were more than willing to entertain the idea that robotic interventions could play a part in their future care if it would mean they would retain or gain personal independence. As I indicated when introducing this finding earlier in the chapter, this speaks to the presence of a strong fear of dependence as elder people experience changes in ability to care for themselves as they age. Also apparent at the beginning and throughout interviews was a personal acceptance of new technologies, one participant noting she had a robotic shoulder, and as mentioned previously, one participant proudly exhibiting a pacemaker as a robotic part of her being. As Haraway (2008) has suggested: when care apparatus are animated they become enabling objectifications, which are experienced by their users as that which intra-acts and facilitates independence rather than that which externalizes and depersonalizes a device of care.

Situated Knowledges

During my research I have embraced Haraway’s (1991) notion of feminist objectivity: situated knowledges consisting of partial perspectives from the active “vantage points of the subjugated” (p. 190). Throughout this project I had many

encounters with elder people, but prior to this work I had relatively little experience interacting with elder people and even less experience caring for them. Recognizing that elder people are not a homogenous group I came to appreciate both the differences and similarities between the elder people with whom I met. My inexperience served me well during the project's interview months because I was able to settle into a position of 'student' in relation to participants' inherent position as 'teacher'. By way of incorporating Haraway's 'situated knowledges' as part of my theoretical orientation, with reference to my categorization of elder people occupying a subjugated position I offer the following explanation. Although a few elder people I spoke with were very self-sufficient, financially stable, and socially satisfied in their own community, there was almost always a sense of detachment in their narratives that signaled a significant submission to those who were younger and more physically or cognitively able. Conversation often centred around what the aging body could no longer do. For example, making the bed and getting into the bath were cited by several interviewees as actions they were not able to perform.

Susan Wendell (2010) addresses the disabled body (rather than the aging body) when she asserts that "Suffering caused by the body, and the inability to control the body, are despised, pitied, and above all, feared", noting further that the *individual* experience of fear of bodily suffering reflects a *culturally* embedded shared fear (p. 342). I understand elder people as a heterogeneous group who are likely to share a common experience of social suffering, inflicted by a social world that in many ways casts them off. To be clear, although it might seem so, I am not carelessly associating old age with suffering. I have, however, observed a social dismissal of elder people that I understand as something to be suffered. It has been found that elder people do not consider suffering

(as caused by personal or relational losses that occur later in life) and old age to be naturally or causally linked (Black, 2006 cited in Black, 2009). In most cases the elder people I spoke to were financially insecure, physically less able than they would have liked to be, and somewhat socially isolated by default rather than by design. They revealed these material realities to me by way of explaining what they suffered. As indicated above, a small percentage of interviewees did not experience these types of hardships, but they all shared suffering in some significant way.

This chapter has outlined the ways in which elder people might live their lives in varying stages of ability, defined by the ever-changing material reality of the body as it ages. In introducing the concept of animacy and animacy hierarchies I have worked to establish an awareness of the value placed on various stages of life. My underlying argument when it comes to animacies is that the marking of bodies as generative or non-generative, and the connection between elder age and low animacy, can be materially destructive in the process of living a life, especially when such living is entangled with a disabling social reality.

Much traditional work on care excludes or ignores the possibility of non-human care relations – robotic or animal. My inclusion of Haraway's thinking toward companion species is important to this project's theoretical trajectory and commitment to the unknown future of care. Participants in this research who were already living in companion relations with a walker, or a cane, did not seem to draw much of a distinction between that which many would assume to be an inanimate object (and which I would argue to be animated through extended agency or vital materiality) and robotic possibilities in care relationships which I introduced (i.e. social and assistive robotics).

The state of unrest and possibility in which I leave this chapter is the spirit in which I begin the next as it opens with an account of how I came to define this work by the narratives of elder people, instead of that of others involved in elder care and associated robotic developments.

Chapter Three: Methodology & Process

In conceptualizing and preparing for this project I considered many different ways of approaching research into the topic of elder care and robotics. However, the more preliminary research I conducted on the topic of elder care the more I was confronted by the fact that elder peoples' perspective about their own care is often missing or overlooked in conversations about elder care, especially in those regarding robotic entries into elder caregiving. Wanting to expand on previous research, my entry into the ongoing conversation about the future of elder care is through the thoughts and feelings of elder people themselves. I am confident that narrowing the scope of the project in this way not only contributes to a more focused inquiry but also builds on an issue within the field of the sociology of care that requires urgent attention.

I began my research by considering multiple, and 'intra-connected', social points of intensity,¹² most significantly the low animacy assigned to elder people and the likelihood of robot caregivers being made available to elder people rather than anyone else, for example children. My goal in the initial stages of consideration and research (and throughout this project) was to ask questions that would be relevant to elder peoples' lives. I also worked to reflect an understanding of the complexity involved in being a care *receiver* throughout this process.

As mentioned previously, my driving research question (How do elder people understand robotic interventions in care?) seeks to understand and explain the narrative significance of the stories elder people tell about how they understand potential and existing robotic and other nonhuman mechanical interventions in care. I recognize the

¹² By 'social points of intensity' I mean the identifiably troublesome issues that inevitably present themselves in various ever-changing and intra-connected social worlds – I elaborate on the Karen Barad's (2007) notion of 'intra' action rather than the more commonly used 'inter' action on page 58.

potential for experiential differences in understandings of care and care relationships depending on a person's geographic location, so I note that my research participants were all Ottawa residents but the stories they told were often set elsewhere. I consider each project interview to be just one point of entry into what was a complex personal narrative of care and its various incarnations throughout a lifetime.

Participating

In addition to requiring research participants be over the age of 70, the only requirements for participation in this project were that participants speak English (as this is the only language I speak), felt they were in good enough health to complete an in-depth interview (which was 60 minutes in duration), and had a desire to share their experiences and thoughts about elder care and about the developments in technology designed to enhance care or solve care problems. I had no expectation that participants would have any experience receiving care (robotic or otherwise) but rather that they had a general interest in talking about the concept of non-human robotic care and the future of elder care. I communicated this to each elder person who contacted me before they committed to participating in an interview.

The ethics application process required by Carleton's Research Ethics Board gave me cause to consider how elder people are commonly understood in terms of ability and competence. For the purpose of having my research ethics protocol application cleared by the Board, I found myself somewhat obliged to identify people over the age of 70 as being part of a 'vulnerable' population. This was a point of contention for me because I understand elder people to be full subjects in their own life, who are able to talk about their experiences of care and changes in caregiving practices as well as their

understanding of various contemporary technological interventions in caring. I did acknowledge, however, the potential that some elder people recruited for this study might be more vulnerable than others. I also stated in my ethics protocol that elder peoples' physical, emotional, or mental health *might* require more consideration than for example those of a younger population and that it is possible that some participants may be socially, politically, and/or economically disadvantaged given the fact that elder people are often socially dismissed and devalued.

In an effort to mitigate any participant discomfort or distress, I met each elder person at a location of their choosing (which happened to be their home in all but two cases) to conduct interviews so that they were not responsible for any travel expenses, nor subjected to unnecessary inconvenience. I carefully observed each person's interest level and monitored physical signs of fatigue throughout the interviews. Two participants became quite emotional during their interview but when I asked them if they would like to take a break, each said they wished to continue and noted that processing grief by talking about their experiences was therapeutic.

Recruiting & Organizing

In order to find elder participants for this research project I used two methods of recruitment. I posted flyers (which included pertinent information about my project and invited potential participants to contact me) at retirement residences, seniors' centres, community centres, public libraries, coffee shops, and churches. I also acquired permission to post my letter of invitation in the 'classifieds' section of *Ottawa Seniors*, an online resource centre and database designed for elder people in Ottawa. Some locations that allowed me to post a flyer also permitted me to post a letter of invitation so that

potential participants would have advanced access to more information concerning my research.

In the initial project protocol I submitted for ethics clearance I had included only my Carleton email as a means of contact for research participants. The REB, in stating their concerns prior to approving my research project, asked: “Is email really a reasonable way for 70+ year old participants to get in touch with you?”, a question that troubled me because it seemed to suggest a diminished capacity amongst elder people to engage with technology. However, I amended my recruitment material to include a contact phone number as well. I did communicate with potential participants primarily by email, but I also spoke to some potential participants on the phone and offered to mail documents to interested participants. In these cases I mailed the letter of invitation to participate in research, sample interview questions, and the consent form at one time so that if the person decided to participate in an interview they would already have all necessary documentation. In retrospect it was beneficial to include a phone number as well as an email contact on recruitment materials because some participants preferred using the phone. Elder people who communicated with me via email were provided first with the letter of invitation, then with sample interview questions if they were still interested in participating, and then finally with the consent form to review prior to the interview. Each potential participant was encouraged at each stage to ask questions if they read anything or thought of anything they did not understand.

Interviews were scheduled according to participants’ availability and preference regarding time of day and day of the week. Several participants indicated that the interview would have to be organized around pre-existing doctors’ appointments or

volunteer commitments. More than one participant noted that if we met in a coffee shop they would not be able to hear me over the ambient noise due to hearing loss, and several noted that travel would be an inconvenience they wished to avoid due to various mobility issues. Consequently I met participants in their house, apartment, or retirement residence, one in a local coffee shop, and one in the food court of a local mall.

Participants were very welcoming (some even offering me tea and coffee), asking me where I would prefer to sit and making sure that I was comfortably accommodated during my visit with them. At the beginning or end (depending on when I remembered to do so) I asked participants to choose their own pseudonym for the purpose of concealing their identity in my written work. I did so because I wanted the project to be as collaborative as possible and because I wanted participants to be able to recognize themselves easily in my written work if they were to read it in the future, as some requested.¹³ The request to choose a pseudonym had the effect of making some participants slightly uncomfortable as they struggled to select a name, but some chose a name quickly and chuckled to themselves at the private significance of the name. Some chose to share the significance of the name they selected and this served as a nice conversation we could have ‘off the record’.

Interviewing

Over a two-month period I conducted fourteen semi-structured in-depth interviews with elder people who expressed an interest in the topic of elder care and robotic interventions in care relationships and volunteered to participate.¹⁴ I had not

¹³ This option was offered in the project’s consent form and discussed following some interviews.

¹⁴ The semi-structured interview is commonly understood to involve asking participants the same key questions, moving between brief questions and answers while altering question sequence and posing

intended to conduct more than five or six interviews, but due to the level of interest I received from elder people wishing to participate and the rich and compelling ‘data’¹⁵ I began to collect from interviewees, I continued to schedule interviews until my timeline dictated that I stop in order to leave enough time to digest each interview properly during re-listening and selective transcription,¹⁶ and to conduct the analysis I had planned. Participants ranged from 70 to 88 years of age and all were in relatively good health in terms of being able to move around their physical environment and engage in conversation with me for about an hour. I followed each participant’s lead in terms of interest and enthusiasm in certain themes within and beyond the interview schedule. I prioritized making space for discovery and staying open to new research directions that were inspired by the thoughts and experiences of research participants. In other words, the interviews were centred on each person and the direction they guided the interview as they recounted their experiences and understandings of elder care and technology. In many cases after the interview was over our conversation continued, on other topics, in some cases for another hour.

My preliminary research in preparation for this project involved exploring literature on care theory and practice, the current state of elder care, and care robotics testing and implementation in Canada and other parts of the world. This foundational research helped to inform the questions I posed to research participants.¹⁷ My priority

probing questions (regarding how participants feel or what they think) based on individual participant response (Esterberg, 2002; McCance, McKenna, & Boore, 2001).

¹⁵ I draw attention to the use of this word to indicate my issue with, but use of, the word ‘data’ throughout this work. Although I drop the scare quotes in subsequent uses of this word, I find the word data to be somewhat cold and isolating in research committed to rejecting traditional socially scientific practices of removing all signs of life from research findings, but I struggle to settle on a word that would that would work as a satisfactorily replacement.

¹⁶ I return to the experience of revisiting interviews and selective transcription on pages 49 and 50.

¹⁷ See Appendix D for a list of interview questions.

during interviews was to ensure that participants experienced their interaction with me in a positive way, and that I established my position as a researcher invested in care as a category of analysis and in the future of care.¹⁸

Although I referred to the interview schedule during each interview, in some interviews several of my planned questions were not posed due to my commitment to follow the lead of the interviewee. I had sent each participant a list of sample questions, most of which I asked during interviews, so some participants had made notes of points they wished to discuss. Although this could have resulted in scripted answers, *most* participants did not give me scripted responses and many seemed to consider questions as though they had previously not contemplated the answer. As noted in Chapter Two, each interviewee addressed a common concern that I had not included in my interview questions – the right to assisted dying. Due to the fact that this concern was raised so consistently I have written those findings up separately from this thesis.

A Narrative Approach

My commitment to a narrative approach to qualitative inquiry involves a purposeful turn from positivist traditions and a conscious reflexive awareness.¹⁹ I align my understanding of ‘narratives’ in the context of social research with Margarete Sandelowski’s explanation that they are “understood as stories that include a temporal ordering of events and an effort to make something out of those events: to render or to signify, the experiences of persons-in-flux in a personally and culturally coherent, plausible manner” (1991, p. 162). In her attention to narrative approaches to research,

¹⁸ In some cases I also established my position as a caregiver, as determined by the conversation and the questions asked of me by participants.

¹⁹ I provide context to my use of the word reflexive as it relates to reflexivity in qualitative research, as well as how I seek to complicate and question the common use of this term beginning on page 56.

Sandelowski highlights the roles of participant and researcher as presenting experiences that are “endowed with meaning” rather than truth (p. 165). This plays nicely with my turn from positivist preoccupations (such as truths and objectivity) in social research, because my intent is not to distance myself from the participants in my research but rather to share and be affected by their stories in a way that works to influence the direction and focus of this project. As I listened to participants’ stories and then interpreted them as data for this project, I acknowledged that my own stories and experiences might have influenced the way I listened to and understood each person’s narrative.

Hearing Voices

“As people tell their stories they start to hear their life anew through the hearer; they fabricate, explain, and elaborate, exaggerate, minimize, silence themselves and give themselves away” (Råholm, 2008, p. 66). This quote speaks to my experience hearing the voices of those who shared with me as participants throughout this project. I noticed frequently during interviews how participants would pause abruptly following something they said that was particularly revealing or compelling, almost as though they had startled themselves with what they had shared or a connection they had made inadvertently.

With participants’ permission all interviews were audio recorded for the purposes of transcription and analysis. Following the completion of all fourteen interviews I listened to each one and noted shared or especially compelling individual narratives, common themes, and salient threads in participant responses. In this initial phase I selectively transcribed portions of each interview, knowing I would be revisiting each in turn. My preference for listening and re-listening to interviews rather than transcribing

them in full is because hearing the interviewees' voices multiple times meant that I could revisit the emotion, inflection, and intonation in each person's voice as they originally shared with me. I also prefer this method because it is a more meaningful way of recapturing the research participant's narrative. I relate to Riessman (1993), who writes of her transcription experience noting that "repeated listening to tapes sensitized me to subtleties of language that I never was aware of before, and certainly never attended to in previous transcripts" (p. 50). I find value in staying connected to the brief in-person relationship I experienced with each participant. As Andrea Doucet (2008) has pointed out, the intricacies of the relations between researcher and participants may be "compromised or absent when we come to analyze our interview transcripts so that our research respondents can be reduced to textual subjects" (p. 83).

Given that the interviews I conducted were so rich with personality and emotion, as well as illustrative of the relationship I built with each elder person, I feared losing sight of each participant's expression if I became disconnected from their voice. Representing interviewees in my thesis as they presented themselves at the time of our interview is part of my commitment to reflexivity, not just in my overall approach to research but in my analytic strategy as well. Despite my efforts to remain connected to the spirit of each interviewee and stay true to their original words, I acknowledge that transcription and retelling of any kind will always involve some degree of interpretation and translation. Although I try to do justice to each participant in terms of retelling their stories using their words, I deeply regret my reader does not have the opportunity to hear participant voices as I did during this project.

Narrative Analysis

In keeping with this project's commitment to think through and think with elder people's understandings of and feelings toward the future of care, I focused my interpretative efforts on narrative analysis. This focus was due as much to a commitment to letting interview data determine my mode of analysis as it was to staying true to a project that embraces an overall narrative approach to research and inquiry. As I outline narrative analysis as a research practice, I will explain how stories may be used to make sense of experiences of care and caring, and follow other narrative researchers who maintain that people make sense of their position in the world by way of narrative form (Feldman, Sköldberg, Brown, & Horner, 2004; Gee, 1985; Riessman, 1993).

In the literature on narrative analysis the distinction between 'narrative' and 'story' has been made tirelessly by many authors who write about this mode of analysis as a qualitative method of inquiry. Råholm (2008) draws on Ricoeur's (1981) work when she writes that "A narrative is an account of events experienced by the narrator, while story-telling is stated as the repeated telling or reading of a story by persons other than the narrator", and further states that narrative is often understood to go on longer and have more structure than a story (p. 63). Some authors have noted the difference "between the encompassing narrative and, embedded within it, stories", explaining that a "story is a subset of narrative. There are narratives that are not stories but, in fact, are more encompassing" (Feldman et al., 2004, p. 149). Alternatively, some have used 'narrative' and 'story' interchangeably (Esterberg, 2002; Polkinghorn, 1988; Sandelowski, 1991), finding that to focus on the nuances between the two terms serves to complicate what could be just as useful (although somewhat different) if simplified. Therefore, following

Amanda Coffey and Paul Atkinson (1996), Kristin Esterberg (2002) has collapsed the two terms and defined narrative as “a kind of story told by someone (a “narrator”) with a beginning, middle, and an end” (p. 182). For the purpose of this project’s use of narrative analysis I find Esterberg’s definition, and the use of the two terms interchangeably to be both appropriate and useful because it makes space for attention to the meaning of the spoken words rather than having a primary focus on structural markers of telling and restrictive definitions of kind.

The use of a narrative approach in explorations of care and caring is not unusual because it focuses on each participant’s story that represents, in many ways, their lived experience, and does so without trying to elicit thoughts about caring in general terms (Benner, 1994 cited in McCance, McKenna, & Boore, 2001; Rejnö, Berg, & Danielson, 2013). Interviews for this project included both general questions about care and personal questions about experiences of care. Most interviews naturally progressed to favour the personal experiences of care, because interviewees were prepared to share intimate details of their lives and also because as a researcher I lean towards capturing the personal as a powerful way to enliven what otherwise on paper may otherwise be ‘flat’ textual data.

Some social researchers who work with the stories people share with them in interviews write of ‘giving voice’ to research participants, to those otherwise marginalized. Although I have previously established my intent to present stories from the vantage point of “the subjugated”²⁰, I do not wish to suggest that a researcher has any right to assume they can ‘give’ a voice to those they interview. On this point, I agree with Catherine Riessman (1993) when she argues that “We cannot give voice, but *we do hear*

²⁰ I did so when writing of subjugated knowledges on pages 38 and 39.

voices that we record and interpret” (p. 8, emphasis mine). Significantly, Riessman goes on to assert that researchers cannot avoid certain representational decisions because they arise at many points throughout the research process, but that “qualitative analysts including feminists must confront them” (1993, p. 8). I recognize that it is a considerable challenge not to allow the interpretive voice of the researcher to become privileged or to guide readers, but I am mindful of this tendency and work against it throughout this project.

A narrative approach to qualitative data (in this case interview text) may involve uncovering meaning in the stories people told as they answered questions. A narrative researcher is likely to interpret stories, question why they were told the way they were, and seek to ‘unpack’ language as though it were not self-evident (Franzosi, 1998; Riessman, 1993). Coffey and Atkinson (1996) imagine the telling of a story as a performance which reveals certain aspects of a person’s position in a social world. As part of her attention to narrative analysis Esterberg (2002) has stressed the importance language plays in describing experiences, noting that “*how* a story is told is as important as what is said” (p. 182, emphasis original). I embrace both Coffey and Atkinson and Esterberg’s approach to narrative analysis in this work. I have recognized that the people I spoke to performed their stories for me in a way that may have been unique to the researcher/participant relationship we were engaged in at the time of telling. Later in this work I focus on the importance of highlighting the interaction between interviewer and interviewee.

I have developed my own approach to narrative analysis that is specific to this project and its participants; and also is best suited to my data. It is an approach that steers

clear of claims of objectivity and a positivist lack of acknowledgement that the researcher has any involvement or influence on the collection of research material. I decided to take a context-driven approach to analysis (Coffey & Atkinson, 1996) as opposed to the kind of exhaustive systematic structured approach that has been outlined in depth by Riessman (1993) and Franzosi (1998) with primary reference to Labov's (1972, 1982) analytic framework. I find that rigorous approaches to narrative analysis that search for structure and work to extensively code text lack the type of intuitive (yet clearly delineated) interpretation I apply to stories in this work.

As part of my narrative approach to this project I selectively transcribed participant narratives that I determined to be thematically relevant. I find, as Riessman (1993) has, that "Different transcription conventions lead to and support different interpretations and ideological positions, and they ultimately create different worlds" (p. 13). Although I have not engaged in an uncompromising application of thematic analysis, I have identified several key themes of interest throughout this project, introduced most significantly in Chapter Two when I began to reveal anecdotally what transpired during interviews. I have also embraced Riessman's recommendation of beginning narrative analysis by looking at a narrative's overall structure in order to "avoid the tendency to read a narrative simply for content, and the equally dangerous tendency to read it as evidence for a prior theory" (1993, p. 61). On this point, I note that much of my prior theorizing was *challenged* by the stories told by and opinions held by those I interviewed, not *confirmed*.

During interviews I became very aware of how my *listening* influenced participants' *telling*. My presentation as a friendly researcher who smiled often and

nodded in encouragement at times as participants answered questions influenced how comfortable interviewees were when sharing stories. The disposition of some participants changed dramatically from the beginning to the end of our time together, in some cases from seeming hesitant and wanting to meet in a public space to hugging me when it was time to say goodbye. Sue Campbell (1997) has addressed physical presentation during emotional exchanges, noting that such things as a shrug or a smile from the ‘interpreter’ may change the way communication proceeds or how willing the ‘teller’ is to share their feelings. Campbell notes that smiling may be connected to a sense of openness and a shrug as perhaps leading to a sense of insecurity, both in the person who expresses emotion and the person who listens to such expressions. Campbell argues that the ‘role of recognition’ of individual expression may be very important to a person sharing life experience, further noting that “people have considerable power over our feeling through their act of interpretation” (1997, p. 147). It is with this potential power in mind that I try throughout this work to shift the power of listening toward the power of telling and of being heard.

Many authors have attempted to look beyond a one-sided sharing of a narrative, for example Riessman (1993) asserts that by “talking and listening, we produce a narrative together” (p. 10). Similarly Rejnö and colleagues (2013) maintain that “narratives are not only created by the narrator, they are also cocreated between the narrator and the listener” (p. 619). As indicated above, my original goal in using narrative analysis was to develop an interpretive technique that would emphasize the participants’ voice, their stories as they told them, and be accompanied by my recounting of the experience meeting each person in the place of their choosing (often one that revealed

something important about their social location) and of how their responses to my questions often materialized as very contextually dependent. In each interview the participant, the researcher, and the social location created bracketed opportunities for analysis (of the interview data) and broader opportunities for analysis (of the social context of the interview). This is why I stress that my analysis does not seek to prove anything, but to present the stories of a small sample of elder people who chose to share with me their experiences of care and caring and their thoughts about potential robotic interventions into care relationships.

Locating the Researcher

At this point in my account of the project's methodological commitments I have indicated, but not elaborated on, my trouble with the concept of researcher reflexivity.²¹ Although I embrace feminist notions of what constitutes a reflexive practice, I cannot shake a certain sense of apprehension in practicing reflexivity as a defensive move, and using this term without investigating its meaning further. One of my goals as I set out to conduct qualitative social research was to practice reflexivity: to remain conscious of my own subject position and the position of those with whom I was to seek consultation as producers of knowledge. Reflexivity in qualitative research recognizes the power, influence, and position of the researcher and dictates that "researchers turn a critical gaze towards themselves" (Finlay, 2003, p. 3). I have referred to the practice of reflexivity as a 'defensive move' because, especially in interview-based research, the deconstruction of what can be known from texts has led to epistemological concerns regarding how the researcher can represent, or even understand, another person's experience (Riach, 2009).

²¹ Here, I am thinking primarily with Kristen Campbell (2004) and Kathleen Riach (2009) in the way they complicate a mainstream notion of researcher-centred reflexivity.

The insecurity produced by this concern is palpable in much feminist research, and is something I have attempted to avoid.

Given my commitment to a material feminist stance throughout this project, I have tried to consider where I was ‘standing’ in terms of my view from inside or outside the issues of care and elder care that I discovered. My shifting standpoint demanded an openness to the possibility that research goals might change, even in later stages of analysis (Griffith, 1998). This flexibility and responsiveness are part of my research practice, as is a constant negotiation and re-negotiation as interactions occur between researcher and participant. In my interpretation of each interview narrative I sought to remain conscious of how my own experiences with care may influence my perspective towards interviewees’ experiences of giving and receiving care, and the way I may claim to ‘know’ based on their words. This project works to conceptualize ‘the knower’ as a co-constructed notion produced by researcher and participant, affirming both as ‘knowing well’ in what they understand to be true of their experience (Hughes, 2013, cited in Hughes & Lury, 2013). It also embraces the idea of ‘situated knowledge’ in looking to many rich ‘partial perspectives’ gathered in this work to form a necessarily dispersed, but strangely coherent, whole (Haraway, 1991).

Although I turn a critical gaze toward myself as researcher I am also compelled to weave a more tangled web: to build on a traditional notion of reflexivity and to embrace a multiplicity of researcher and participant orientations. Looking more closely at reflexivity in practice I recognize that in the initial stages of this project, for example working towards acquiring ethics clearance or recruiting participants, I was perhaps necessarily separated from the reality of what it would mean to engage participants in this research.

Although I understood the importance of reflexivity in practice, I could not understand the true impact of *intra-action* - the transference between the researcher and those participating in research and the fact that “knowing is a matter of intra-acting” (Barad, 2007, p. 149) - until I had lived the experience of listening and responding to personal narratives. Recall, my previous mention of Barad’s conceptualization of the entanglements of intra-action in the process of becoming. In the case of project interviews a mutual process of becoming occurred as the researcher and the participant ‘produced’ one another, and the experience of exchanging and intra-acting was felt in a way that ‘marked’ each person (Barad, 2007; Jackson, 2013). In attending to mutual processes of becoming Barad (2007) looks to the exchanges between individuals, but also to that which encompasses such entanglements, writing that “We are of the universe – there is no inside, no outside. There is only intra-acting from within and as part of the world in its becoming” (2007, p. 396). This sentiment is key to this work’s focus on co-constitution of knowledge and questioning what the future may hold for those who are to become with the robotic non-human.

During this project I found myself methodologically knotted in a commitment to co-presencing and responsibility (as understood by Greenhough & Roe, 2010, and Haraway, 2008), and with a new curiosity as to how a *diffractive* methodology might complement or augment a reflexive methodology. This curiosity was inspired by both Haraway (1997) and Barad (2007) who both suggest that diffractive analysis may be a useful counterpoint to critical reflection, because diffraction calls for attention to persistent differences rather than a mirroring of that which is fixed and inherently distorted by way of its reflection (Taguchi, 2012). Haraway’s stance is that diffraction is

“an optical metaphor for the effort to make a difference in the world”, that it involves an interference that is perhaps more productive than a focused political commitment to representing the world (1997, p. 16). She writes that the ways in which subject positions are crafted and inhabited during research must be “made relentlessly visible and open to critical intervention”, a familiar notion in reflexive practices, but takes this further by noting that researchers must also get ‘dirty’ and “cast our lot for some ways of life and not others” (p. 36). The way I interpret and apply a diffractive methodology involves actively acknowledging how the choices I make in research have a ripple effect, and how it is not only my presence in the research process that influences the knowledge produced but that each one of my decisions (not just subject position) made from the beginning to the end of this project determined the path the research took and the difference it made. I cast my lot with elder people as co-producers of knowledge and I work to make some kind of difference in social worlds that fail to recognize the value in doing so.

Research Contributions

My goal is ultimately to bring new considerations to the ongoing conversation about care, elder care in particular. This project works to build on a field of research that reports on the needs of elder people without consulting them or including them meaningfully in the research process. In conducting this research I briefly opened a space for elder people to share freely their thoughts and feelings about their own current or potential care. I hope that this practice, one that values the care recipient’s voice over all others, will illustrate how important it is first to consult elder people about their care before considering solutions to care problems which have not yet arisen or occurred to the elder person. It is my hope that this work can serve as an example to those who attend

to elder care but shy away from meaningfully involving elder people in their research. As this project reveals, elder people may be excellent ‘informants’ and are likely to be eager to help researchers by contributing their time, thoughts, and experiences. I also wish to disrupt current approaches to an elder population that infantilize, dehumanize, and marginalize elder people in the name of care. Care must not be something delivered from the top down but rather should be inspired from the situated knowledges of potential or existing care recipients.

There are social policy implications that arise from the type of inquiry that grounds this project. Before arriving at the issue of ‘robot care’ there must be an acknowledgement of the current state of elder care as well as people’s access to care and to sources of information about care. Many of the elder people I interviewed spoke of their difficulty in accessing relevant care information. They shared their frustration of either knowing what information they wanted to find and not being able to find it, or not knowing what information they needed and being unsure of where to start looking for resources that might assist them. These shared frustrations are important because the elder people I met wanted to retain a sense of independence, they wanted to find solutions to their problems, but they also wanted some assistance in doing so. Several participants spoke of ‘networks of support’ without using this exact language. When they described what they needed or wished they had they were describing a network of information about services that, when linked together, would provide them with a full-access, full-service type of resource, one that would not require them to ‘master the art of Google’, as one participant noted.

The people involved in this project communicated in no uncertain terms their desire for independence, and this is where the care robot may be able to help, according to many of the elder people with whom I spoke. The connection elder people made between robotic care interventions and personal independence is incredibly important, not only because it indicates something about human care, but also because it validates those who are currently making efforts to engage elder people in relations with care robots.

Chapter Four: Waiting for Care to Come into Being

It is very difficult to predict what kind of care one might desire or require in elder age. The closer a person gets to this stage in life the more insight they may have into making decisions about care provisions (due to past relevant experiences in care), but my research reveals how uncertain and speculative personal care needs are prior to their becoming. In this chapter I have referred, with reference to particular narratives, to ‘discoveries in care’. This is just one way I have indicated a point at which care comes into being, the rest are perhaps more implicit but are present in almost every narrative.

An Entrance into Interviews

Early in the process of re-listening to the stories that were shared during interviews I was inspired by a question posed by Margaret Sandelowski (1994) in a piece she wrote about incorporating a sense of ‘artfulness’ in qualitative inquiry and presentation. She asks:

How many times have we encountered a line in a poem or a short story or novel *or narrative account* in a qualitative research report that we know captures the essence of a person or incident more faithfully than the volumes of frankly scientific description we have also read that may provide a sense of understanding, but no personal recognition? (1994, p. 52, emphasis mine)

The way in which I have positioned individual narratives in this work is based on my alliance with Sandelowski’s assertion that a narrative account has the power to capture that which cannot be known or recognized by other means of inquiry or by way of ‘personal recognition’. I have therefore selected narratives that capture both the character of the participants and the collective relevance of what each person expressed. By

‘collective relevance’ I mean a common resonance with other narratives and common to the issues of care and technology raised in the first part of this work. With the continued recognition of the control a researcher will ultimately hold in framing narrative presentation, I focus on an extensive, but far from exhaustive, selection from participants’ narratives – narratives which satisfy much of this project’s work of knowing through their retelling.²²

During interviews I asked in different ways: How have you experienced care throughout your lifetime? How would you like to experience care in the future? Responses to these two questions are what make up the majority of narratives collected in the following chapters. Unfortunately this work cannot possibly include all of the important, relevant, compelling stories shared by the fourteen elder people I interviewed. This chapter highlights narratives of experience with informal and formal care, and advocacy in care, as well as touching on issues of migrant care work, and the fear of being vulnerable in care and of becoming a care burden to others. These topics may seem somewhat removed from the subject of robotic care, but I have found them to inextricably connected. They set the stage for a social care reality that opens the door to opportunities in care related to technological interventions in care.

This chapter presents some of the most emotionally acute narratives of care and loss gathered during my interviews. In many cases I have selected narratives that represent an experience common to more than one participant.²³ Recall as well my

²² Not all participants spoke English as a first language – this is apparent in the transcription of several participants’ narratives.

²³ One common narrative that I excluded (for the most part) due to practical considerations regarding this work’s length, focus, and scope was that of the financial concerns held by most of the elder people interviewed – if not a concern for their own finances, then for that of others – these narrative could have easily comprised another chapter, or been the foundation of another thesis.

methodological commitment to a narrative approach to interview data that involves uncovering meaning in stories by unpacking language, focusing on how stories were told, and highlighting the rhetorical significance of words spoken in narrative text. Throughout the following chapters I apply the aforementioned approaches to narrative analysis, at times overtly but mainly without drawing much attention to them, as I have found that to do so tends to take away from a natural flow that narrative analysis can enjoy when left to reveal its own potential.

Formal & Informal Caring

In focusing on formal and informal care, a spotlight is necessarily held on the material conditions of care as labour (key to this project's theoretical commitments) and also on the sacrifice often involved in caring relationships. Reflected in narratives of informal care is, as mentioned in Chapter Two, that elder people may be inclined to wait for the kind of care that 'comes into being' when need particular to an individual arises. Formal and informal care are not just determined by whether care is paid or unpaid, they are mandated by certain care relations. The line between formal and informal care is likely to be blurry. For example, a paid caregiver may provide the kind of care that falls outside assigned care duties (due perhaps to an emotional attachment to a care recipient), and an informal caregiver may deliver care in a way that is devoid of the emotion often assumed to be integral to informal care relationships. One of the things I wish my reader to take from this chapter is that care may take various forms and be perpetuated in different ways and that it is never static. As *Nanny* (age 76) explained:

When my mother was living, she was a widow, she had been a widow since I was a youngster and therefore when we decided we were going to move from our house, she had nobody so we invited her to live with us and therefore that was my form of care to her and as she got older doing exactly what [my daughter] is doing for me

now and then more because my mother died at ninety seven and a half and she was a feisty lady and she had her cigarette and her rum every day and we would sit and do puzzles and so the care was there, she had a room in our house, she was part of our family so caring goes back a long time.

Nanny presented this cycle of care as a matter of fact, not as something out of the ordinary, as did some other interviewees. She states: “she was part of our family”, this is said as a matter of fact, as is “she had nobody”, noted perhaps in order to communicate a sense of obligation. Nanny concludes this narrative by noting that caring in her family “goes back a long time” and does so with reference to how caring is continued by her daughter who embraced the role of informal caregiver to her mother as though it were simply what should be done.

In contrast to Nanny’s experience of taking her mother into her home, many participants noted that people tend not to have ‘granny in the corner’ anymore because children have their own lives; lives that do not routinely include the informal care of an elderly relative. With reference to the fact that children no longer do what she did in caring for elderly parents, *Theresa* (age 83) offered another account of informal care for a mother:

My mom lived with me for ten to twelve years, till she died, well I felt sorry for her in a way and I apologized to her [...] I didn’t have a good relationship with my mom, anyway, after my kids got to know her and that was good, she had a good relationship with them and she was diabetic, you think, she came from her place to my place and we had one bedroom, we fixed it up real nice, but she had to give up everything to live in one room, mind you she ate with us, she was always welcome to come in the front room, my husband went out she’d come in the front room with me [...] but the kids did always go in and see her, I’d play cards with her and she loved Bingo, she wanted to go three times a week and I couldn’t afford it so she’d pay my way, so if I won I’d take the money and put it back in her bag, cause I mean she’d paid for everything and I’d take her to the doctors and do things like that [...] everybody thought I took *good* care of my mother.

Theresa focused on her mother's sacrifice while also taking some pride in the implicit part of the narrative: the evolution of a caring relationship and the commitment involved in providing "good care". This notion of 'good' care is something I contemplated in Chapter Two. The quest for care that is 'good' is both powerful and divisive. It exists as care requirements come into being and as care receiver and care provider work toward mutually satisfactory care resolutions, especially within various kinds of informal care relations. Although Theresa covered a lot in the narrative above, much is left unsaid. For instance she only hints that her mother was perhaps not as welcome outside the confines of her room when Theresa's husband was home, what may have caused separation between grandmother and grandchildren, and what may have cause a strained relationship between mother and daughter that was then repaired by a need for care. Theresa did provide some explanation for the strained relationship she had with her mother, but she did so much further into our interview, perhaps when a greater sense of trust and comfort had been established between us. After sharing her narrative of care kept in the family, Theresa (whom I met at her apartment where she was living alone) admitted that:

There's a lot of times I don't feel I'm cared for [...] there comes a time in [the grandchildren's] lives they are busy and you don't see them, I have granddaughters in university and I see them three times a year when they're at home, they're just busy with their friends and everything, they haven't got time for me so, and that's okay because they should be that way [...] there are two grandchildren that phone me often [...] most of the grandchildren, no they don't phone, that's a little disappointing at times.

Told next to her story about caring well for her mother all those many years, this narrative was quite sad to hear. Apart from this memory of disappointment in expected care, Nanny and Theresa tell a similar narrative of rescue, care, sacrifice, and obligation, but do so with a sense of warmth and love.

Carrying forward the notion of warmth and familial love often involved in stories of informal caring, as well as the not so subtle shadow of sacrifice, I turn now briefly to informal caring within spousal relationships. Three accounts of informal care between partners caught my attention in reviewing interviews. First, because his story of informal spousal care was unfolding when we met, I include a narrative shared by *George*, an 88 year old who had moved into a retirement residence with his wife only one month prior to our interview. As I arrived George's daughter was leaving with his wife for the afternoon so he could speak to me freely. Almost as soon as the interview began George offered the following summary of his current living/care situation:

She's got dementia now pretty bad [...] look at the place, it's beautiful, everything is done, the staff is fine, pleasant, the residents are pleasant, you don't have to do a darn thing and, and I hate every minute of it, if it wasn't for my wife this would be the last place on earth I'd go, but in all honesty she's not the woman I married [...] that's my prime concern, to make things better for her, safer for her and the nursing staff here is wonderful [...] it sacrifices my life and things I like to do. I would rather not go off and leave her by herself and I'd rather not put her in a place where they have like a guard on her. It's not that I resent the situation, but I figure I'll just do the best I can.

George had certainly previously considered the telling of this narrative, but he shared it with me in a way that was wrought with emotion and with an expression of unconditional love for his wife, despite the fact that she was somewhat unrecognizable to him due to the progression of her dementia. His story addressed the lived realities of both informal and formal care, with a certain respect for both, an acknowledgement that both types of care had become necessary for his wife. In this case a system of formal care had dictated that George's informal care provisions would fall short of what his wife required and therefore he would have to 'sacrifice his life and the things he liked to do'. George explained to me that his wife had recently had eye surgery and the rigorous aftercare that

was prescribed intimidated him and convinced him that the care was best left to ‘professionals’.

The way I have established the notion of informal and formal care is necessary in order to articulate much in this chapter, but it is important to note that these two types of care are not dichotomous. Just as this project has committed to making room for non-dichotomous complex accounts of robot care, it is committed to making room for non-dichotomous accounts of human care. I imagine care (human, robotic or otherwise) as existing along a continuum because care needs have a way of evolving and care relations have a way of changing. Caring is such a complex issue because what a person might require or desire in care is likely to change from one day, or even one moment, to the next.

When I interviewed George about the evolution in care he had witnessed in the case of his wife, he spoke as though he had been waiting for a confidant, as though his silent self-imposed suffering was a story that needed to be told. During many interviews I struggled to remain in my somewhat professional role of interviewer, rather than compassionate listener, when hearing stories of pain and loss, particularly those that were actively unfolding, as was the case with George’s situation. I wanted to become involved, I wanted to help, I wanted to fix problems, but ultimately I had to accept that this was not expected of me, that my listening was enough, in most cases.

Another interviewee who also shared a narrative related to informal (and by extension formal) care, the kind that could present itself at any unknown moment, was *Alice*, a 79 year old who explained what she faced when she became or would become unable to care for herself:

It's hard with my husband because he withdraws, if I'm ever ill I've made arrangements to go to a nursing home until I'm at the stage where I can come back here and look after him because he withdraws the moment anything crops up, he can't take it at all [...] it upsets him tremendously.

Alice described her situation in a way that communicated she had long since resigned herself to this reality of care within her marriage. There was a modest sense of regret in what she shared, revealed by the tone in her voice as she excused her husband's limitations as an informal caregiver. The third narrative of informal care between spouses came from *Cicamica*, a 72 year old who had rich stories to tell and who apologized for how emotional her telling was. Like George, quite soon after our interview began she offered an explanation of her experience with her partner's dementia and necessary care. She said the following:

I lost my husband three years ago and he had Alzheimer's [...] that was very difficult because he needed physical help, physical care as well as everything else really. He was quite a bit older than I was, but up to a point he was well and didn't look his age, but when his physical disabilities started I didn't know that he also had mental problems, I just knew that he was irritable, he was impatient, he was rude sometimes, and I took it very hard at that point – you know physical it's very obvious if a person can't walk you take them wherever they have to [...] that's kind of obvious right? But it took a long time before I realized that he had the beginning of Alzheimer's.

Cicamica described a learning curve in caring, just as Alice did far more implicitly when explaining her acceptance that her husband would not be able to provide informal care for her. *Cicamica*'s sense of isolation in discovering the extent to which her husband needed care was common to many participants who also shared stories of uncertainty and discovery in situations of informal care for a spouse. More than one participant suggested that their spouse had realized early on that they were experiencing dementia and had attempted to conceal the extent to which they were suffering, yet another complication in the becoming of care requirements.

In connection with the idea of discovery in care, I cite here one participant narrative that I alluded to previously. It was shared by *Zygmunt*, a 70 year old who reminisced about his uncertainty in providing informal, but necessary, personal (and quite intimate) care for his grandmother when he was young. He explained what this care involved:

I was teenager, I was maybe fifteen/sixteen years old and my grandmother was sick and she was with us, but mother and father was working it was some time that I had more time because I had to repeat class [...] I had more time at home and I remember that I helped her, I was like nurse for my grandmother, that means I take my grandmother from bed (she was half-paralyzed), I put her in chair [...] I help her eating. It was maybe one year before her dying [...] It was not very nice for me, I didn't do it with pleasure, but I knew I had to do it [...] I loved her, she was not bad to me, she was very nice.

Zygmunt admitted he did not enjoy providing this care for his grandmother, he described a situation where his obligation was tied to his position in the family and the implicit consequences that might have occurred had he not been at home and able to provide such care. He was the only one available, his parents had to work and he had the time to spend at home. This type of care by convenience or association is not uncommon and appeared in many participant narratives. For example, *Honeybun* (one of the more creative participant-selected pseudonyms), an 88 year old, recounted how she was compelled to care even though she was not exactly available but was rather conveniently related, and therefore informally somewhat obligated to fill multiple gaps in care:

My mom had cancer for three and a half/four years and she lived out in Perth and I drove out once a week/twice a week and looked after her. I was still working so I had to juggle between the time, I was working shift work so I could go out either during the day or during the evening and I'd help her out, take her shopping and that type of thing – I looked after my mother-in-law and father-in-law, they lived with us, I looked after them as well [...] it was kind of a stretch there for a while where it was difficult, but we managed.

Although Honeybun was not required to provide the same kind of hands-on personal care as was Zygmunt, she accounts for a great deal of care she was involved in providing - taking her husband's parents into her home, and dividing time between what she viewed to be her responsibilities as a mother, a worker, and a daughter. I met Honeybun at one of the most highly regarded (and most expensive) retirement residences in Ottawa and she described her living situation as 'comfortable' so I had a sense that she and her husband could have paid for their parents to be cared for by others. Zygmunt explained the care he provided for his grandmother by stating that he "had to do it" and that he "loved her". Honeybun did not make such statements in her narrative, but her description of sacrificing time and 'managing' through difficulties associated with informal care seem to indicate a compulsion to care that may have been tied to love and a desire to keep care within the family. In these two cases the material conditions of care as labour were very revealed in personal gains and losses as care was provided within the family home at the same time as work that was conducted outside the home.

Thinking About Care

When I asked participants to think about care, I did so in somewhat general terms and therefore invited a wide variety of contemplation on the subject of care.

Care as Active or Passive

In thinking about care as active or passive I first turn to three narratives based on thought toward what kind of caregiver each participant would wish for. I considered these accounts of desirable caregivers with the notion of future robotic care design in mind as narratives revealed a delineation between care that is active and care that is passive. I turn back to George first, who explained:

When I think of care I always tend to think of a dog, now we always had dogs, big golden retrievers, 90 pounds, now, talk about care, they could make you feel wonderful, you know they'd come up and snuggle up to you and follow you everywhere and do things for you and just didn't seem to intrude upon your life, just pat them on the head once in a while and they love it [...] [that's] my thoughts of care, if you can be like a dog, not get in the way, always be there.

Given the time I have spent with Donna Haraway's consideration of companion species and relationships developed with dogs, I find George's narrative about caring like a dog to be especially compelling.

When George shared this narrative with me I shared my own narrative with him regarding an unexpected encounter I once had with a dog. I told him that I had been visiting a friend for the weekend a few years ago and was very unnerved by the two big dogs she lived with (one a German Shepherd and one a St. Bernard) because they had both charged at me when I first arrived. The second day I was there I sat down too quickly on a couch and cracked the back of my head on the wooden frame, becoming disoriented and in a considerable amount of pain. Distracted by this pain I was not aware that the German Shepherd (who had up until this point ignored me with a quiet respect and understanding of my feelings toward him) had come quickly to me and then lay down gently across my feet as he looked up toward me. There was nobody else around when this happened, it was just me and this gentle dog who had previously frightened me and who, in that moment, provided the type of care George explained: an unassuming, unobtrusive kind of care that made me feel as though he and I had an understanding that I may not have been able to have in that moment with a human.

George hinted at a balance between active and passive care, something that another participant, *Peter* (age 84) also described when he said:

I would want somebody who cared enough to work out what I needed and what I wanted to do myself, as I've mentioned, most seniors are quite independent and wherever they can or however old they are they would prefer to do things themselves [...] I would want to have someone care for me who thought enough about what I needed, if I fell flat on the floor to know I couldn't get up myself and help me up, but if I wanted to get up out of a chair and go to the washroom to know that I could do that.

Peter's ideal would be to have a caring presence, one that was not overbearing, but would be there to provide care if that was what he truly needed. As an aside, I note here that Peter was not alone in the way he spoke about 'most seniors', several interviewees spoke in general terms and on behalf of other seniors. I got the sense that most of the elder people I spoke with considered themselves to be part of a group that was determined solely by their age. I note that participants denied this type of collective association when they spoke of how other people viewed them unjustly due to their age.

The second narrative I include about caregiver characteristics comes from Alice, who was quite animated when describing the kind of caregiver she would want, using a person she already knew as an example when she explained:

I would want someone like [a young friend] who works in nursing homes, she's short, a bit tubby, got a good sense of humour, she'd do anything in the world, and she always does it as if she really wants to help you, the attitude is there. She may just be making the bed [...] but she's the kind who would sort of [ask] 'can I help you with that' and mean it, not 'oh, I'll do that for you' [...] the way you would sort of want it done so you never feel like you're being cared for, she's just there with you, that's what I would like.

The care Alice described is passive in that it would not feel forced, but active in the sense that it would be apparent and readily available. The idea these interviewees have in common is that they want care to be there for them, but they do not necessarily want to know or recognize that it is there until they ask for it or need it - as Alice said: "so you never feel like you're being cared for". When it comes to considering the potential of

robotic care providers this seems especially relevant. It is easier for a dog than for a person to ‘just be there’ because we are familiar with animals occupying space within an environment without constantly requiring attention, acknowledgement, or pay, as would a formal care provider. I suggest that if robotic care were to be successful in providing the type of care imagined by these participants it would need to include the following characteristics. It would have a good attitude, a sense of humour, an ability to ‘stand by’, to be unobtrusive, to be ready to provide care in an emergency, and to (as George put it) “always be there”. I leave this suggestion here and revisit it in Chapter Five, where participant narratives reveal what kind of care robotics they would be willing to entertain.

The ‘Good’ & The ‘Bad’ in Care Relations

Some participants thought about care not in terms of qualities they would want in a caregiver, but rather in terms of what they had witnessed to be caring or what they had experienced that was not caring. For example, *Lois*, a 77 year old woman who had provided informal care for her husband before he died, described the following situation:

My husband was an engineer [...] and he was a senior consultant and in the course of his job he gave presentations, and one day at lunch [in a formal care setting] for some reason his presentation on something popped into his head and he stood up at lunch and gave this whole presentation and I was just in tears (*crying*) he was sick a long time - in a way this is very helpful for me because it goes through if I let it out – anyway the thing is in that room there were staff members and there were people whose conditions did not affect their brain as much and they understood what the situation was right there and they listened and at the end they sort of acknowledged him and that was caring (*crying*).

Lois struggled to get through her narrative of an unexpected display of caring as she cried at the memory, but as she noted (and as I noted previously with reference to processing grief) sharing such experiences was constructive in terms of letting go of emotion that was perhaps repressed. The conclusion to her narrative was definitive, she stressed the

point “and that was caring”, something that materialized as such in an organic and unexpected manner. The emotional labour involved in caring is something that was raised in interviews, and has been addressed to some extent earlier in this work. I stay with Lois for a moment here to include a narrative relevant to affect in care relations. She explained:

My husband had Parkinson’s with dementia so there were times when he was completely out of it and other times when he was completely present, and those times were just excruciating, when he was completely present, it was just terrible. All of a sudden the person you knew was back, but the characteristics of the disease were still there too and they knew, or at least he knew that things had gone on that he couldn’t quite figure out and there were new things that he couldn’t quite figure out and didn’t understand [...] it was also stressful because I worked full time.

Lois also explained that at times she had to negotiate internally how much of her husband’s current reality she would share with him when he was confused or unable to remember what stage of life he was in. In this case the type of care that came into being involved information editing in order to ensure the person in need of care was not too upset by their cognitive loss and misunderstanding. The emotional stress of that time in Lois’s life was evident in the way she told her stories, at times she seemed relieved to share such things (as she noted), but at other times she was hesitant as though hearing herself speak on a certain topic would be too painful. Lois’s use of words such as “terrible”, “excruciating”, and “stressful” indicate the extent to which she suffered as an informal caregiver. My interview with Lois was extremely enlightening. She had given the subject of care much thought and had witnessed and participated in many different experiences of care and was mostly comfortable sharing her feeling of grief, pain, and loss. This interview told me that caring can be very cruel to the person responsible for

providing care, but that it can also be satisfying when the effort to care is rewarded with success – as interpreted by both the care provider and care recipient.

One participant, *Marian* (age 82) had explained to me a role she had in her community that involved encouraging elder people to share stories of pain and grief that had previously been left unsaid. She told me of the appreciation elder people had when they were able to disclose something that they had lived through but that for whatever reason they had not been able to share with anyone for decades. In this spirit Marian shared a narrative that encompassed experiences of feeling cared for and also not feeling cared for:

I was very cared for as a child, I luckily fell into a very nice mold and I always felt safe and I felt very loved [...] I never doubted that I was loved and that makes such a huge difference, so in that sense I felt very cared for from the beginning [...] It was okay to be me, that's what I grew up with, then I got married – big mistake. That was certainly a time I can identify as not being very cared for (different husband), my husband before came home one night [...] and he came in and he said there was a square dance two towns over (and we used to square dance) and he said 'but I only had the money for one ticket so I'm going, would you mind making supper?' I just [...] he didn't go and we had to buy more dishes, he got the point though [...] so I felt I was there on my own with my child, he was there, I mean he was around but we had by that point totally lost all communication so I didn't feel cared for.

This narrative is important to this work because it positions Marian as someone who suffered for years in an uncaring relationship, but at the same time as someone who did not bear a lack of care without pushing back against it. Her recollections moved my thinking towards how many participant narratives involved a juxtaposition of desirable and undesirable care. Marian positioned her negative experience as something that followed a childhood of positive care experiences and seemed to imply that the safe background in love and care was what she used to withstand a marriage in which she felt very isolated and uncared for. This narrative reveals how Marian developed an

understanding of what ‘good’ and ‘bad’ care were to her, and the type of care she wished to provide and receive in the future. Each participant’s experience or witnessing of care played a significant part in shaping the outlook they had on care and caregivers at the point I spoke to them.

Elder Care & Associated Fears

Participants raised certain issues about elder care specifically during interviews, most of them strongly related to fears associated with aging and increasing care requirements. *Jane* (age 72) seemed to have her mind made up about caring for an elder person, she said:

To be frank with you, I wouldn’t be able to take care of an elderly, I don’t have the patience (*laughing*) that’s awful eh? I wouldn’t have the patience, my partner would, she’s a person who is, I think if I get very sick she’s gonna have to take care of me I presume, but I don’t have those qualities of touching and changing diapers and all that, [if she got sick] I would have to change my view, then I’d get a robot!

Jane joked about the potential for introducing a robot to care for her partner, but I had to wonder if hers was not just a familiar fear of the unknown aspects of care and a common aversion to the more intimate aspects of care. Her conviction (of not being able to care for an elder person) waivered as she considered the fact that as care needs come into being they might cause a shift in outlook or attitude. Other participants who told stories about the uncomfortable, but essential, parts of care delivery admitted that they had not expected to have the capacity to care they discovered when care became fundamental to their relationship with a partner or family member. Cicamica spoke in both general and personal terms as she hinted at her fear of institutionalized care:

I think the medical profession is getting further and further from care of elder people, it would be nice if we could go back to the old times where family takes care of the elders whatever happens, but that’s unlikely. I am really concerned [...] as long as I have my daughter [...] as long as I know my daughter is there and she

will take care of me, but I would not want to be a burden on her, it's scary, it's scary.

In this case the fear of formal care was founded in witnessing the negative aspects of care her husband received in a long-term care home, a point I return to at length below.

Cicamica expressed both a familiar notion of something altered from a past generation - the move from assuming grandparents would be cared for by family members to a contemporary assumption that children and relatives would be too busy with work and their own children to care for their parents or extended family – and her fear of becoming a burden on family members, a very common concern expressed by many elder people during interviews. For example, *Jiggs*, a 72 year old, shared the following in thinking about his potential care future:

My concern would be Alzheimer's I guess, if I can't walk I can use a wheelchair, so it's the mental, the loss of the mind and the caring for the loss of the mind, when I watch my brother and what he's going through, so that would be my concern is that they would be inflicted with that and the burden that would put on [my wife] and the rest of the family too [...] that would be my concern, that I would be a great big burden of that sort.

Jiggs's fear is double-barreled: he fears the unknown and the undeniable reality of becoming a burden on his wife, but he also refers to a known reality: that of his brother's current experience with Alzheimer's and his sister-in-law's sacrifices in caring for this brother. Jiggs seemed to perceive physical care as something more easily addressed than other less visible kinds of care requirements. The 'burden' he feared associated with "the loss of the mind", as he termed it, was something that would likely involve a physical *and* cognitive decline, an overlapping of care needs that would certainly require a great deal of caring and sacrifice from a spousal caregiver. Jiggs had shared the following early in the course of our interview:

My older brother is suffering from Alzheimer's and his wife is/has been taking care of him for quite a few years, he's now 90-something and they live in a house with stairs so it got to be impossible for her, everyone was afraid he was going to fall down the stairs and onto her someday [...] [she's] a great example of good care, she's quite strict about the care, making sure he does the things he's supposed to do and doesn't do the thing he shouldn't be doing, but at the same time spends all the time with him, plays cards with him everyday for hours and just really takes loving care of him – was most reluctant to (which just happened a few months ago) have him go into a care home just because she felt he wouldn't be as happy there, probably isn't but it was just too dangerous for her to try to take care of him, she's almost 90 herself, she's amazing.

Jiggs clearly had great admiration for the care his brother's wife provided, referring to her as “amazing” and complimenting her “loving care”, while acknowledging that institutionalized care could not be avoided since an informal caregiver can only continue to care as long as it is safe for them to do so. I connect this issue to the arguments associated with protecting human caregivers from physical harm in caring – taken up further in Chapter Five. Jiggs's care needs would likely not come into being in the same way as his brother's, but in this case an observed care reality inspired fear of an unknown care reality.

Also considering becoming a burden on family, Nanny, whose daughter had recently moved in to her apartment to help her with certain daily living tasks and to provide companionship, said:

When I get ill or when I get dementia, or whatever is in my future I don't expect for [my family] to have to give up their lives to take care of me, I will know then it's time, bye bye, I'm going to where I can get professional help and hope that I die there before my money runs out, because care is expensive!

Although Nanny seemed to live quite comfortably, she did have many financial concerns and had considered her care future to a greater extent than most participants. As indicated by this narrative and the one cited previously, her daughter had sacrificed some aspects of her life to care for her mother, just as Nanny had done to care for her own mother

because “she had nobody”. One of the first things I learned about Nanny when we were communicating by email was that she was “a recent widow”; this was information she attached in her second email along with the date of her husband’s death. I was surprised at first about how forthcoming she was with this information, but I learned that she had spent many years caring for her husband and that care matters were a very important factor in her life. Her daughter was now filling the same gap in care that Nanny had filled when her own mother had become a widow. Although the care provided by her daughter was given freely there was an acknowledgement, illustrated in her narrative, that this informal care would never be exploited, and that at a certain point (as with Jiggs’s sister in law) these care provisions would have to be replaced by formal care provisions.

Another interviewee who contemplated a more formal future of care was *Lila*, an 82 year old, when she explained why informal care would not be an option for her:

It would have to be paid care because, first of all I don’t have kids, I’m single, I never got married, but I have an adopted daughter, my sister’s daughter, but she lives in Edmonton and although I adopted her she calls maybe once a year, she’s very busy buried in her job, her husband, this kind of thing, so she doesn’t think of me. So I’m planning because of my age to maybe look around for a nice nursing home to move into next year or two, I can sell my place, and I have some insurance to provide for that.

Lila was quite connected to the reality of her current situation; she expressed herself very clearly and while her situation seemed somewhat undesirable she did not speak with much regret or sorrow, although when recalling the care she provided for her mother she spoke of regret for the way her mother suffered. Her statement regarding her adopted daughter, that “she doesn’t think of me” was said with a sense of fact rather than regret, and this has stayed with me, as did many of the situations revealed during interviews which I interpreted to be regrettable. The neglect in caring Lila described was paired with

her telling of the love and care she showed her mother, perhaps accentuating what I interpreted as an unfortunate familial reality. Lila was very knowledgeable about senior services and she was mindful of her physical health and nutrition, but she was also very worried about dying in her apartment without anyone knowing. Lila was in good company when she excused her family members' lack of attention and care. Fears associated with elder abuse were also raised by Lila and several other participants, and although relevant they had to be left out of this work. Since the topic of elder abuse, like participants' common financial concerns, could stand alone in thesis form, I leave the topic here until it is picked up briefly in Chapter Five with reference to robotic care.

Considering Care Outside the Family

Several interviewees contemplated, albeit in different ways, migrant or cross-cultural care. Lois reminisced about her husband's care when she said:

Some of the people in my father's care residence were Filipino young women and they couldn't have been more different (in their background and their upbringing and their attitudes) from my father, yet it worked because they really liked their job and the residents and they felt they were doing something important and they were happy and so although there was very little to talk about in common conversation, that was another thing their English wasn't that good some of them, it worked.

Lois raised the topic of caregivers from the Philippines twice during our interview. She was quite compelled that they seemed to appreciate and like elder people, noting that she saw this as a clear and important cultural difference within institutional care settings.

Angela, a 73 year old who had recently resigned from her position as a one-on-one formal elder caregiver, commented directly on migrant care work, first with reference to a family member's experience and then to her own potential future care needs. She shared:

I won't be able to afford a retirement home, if I get to the stage where I can't manage, you know, too ill to look after myself, it won't be my family looking after me – I'm fairly sure of that, that's okay, I'm fine with that, we emigrated and

abandoned our families totally [...] so if and when I can't manage, already a family member of my daughter in law, they have brought someone in from the Philippines to help so the person can stay home [...] in this building you rent a two bedroom one and bring somebody in. My income, and my children have good income, they could perhaps supplement that, get me on a waiting list for long-term care [...] so that's my financial and family reality

Angela did not provide any information about why her family members would not provide care for her if the need were to arise, but rather skipped forward in her narrative to what she termed 'abandonment' in comparing how she left her family in another country and how her family (living in this country) would not consider informal care work. The way Angela spoke was by nature very 'choppy', meaning she tended to jump around in her thoughts and did not speak in clear or concise sentences, so the fact that she omitted an explanation of why her children would not consider providing informal care does not necessarily indicate an acceptance or neglect of this care reality. However, Angela did tell me that her daughter, an emergency room doctor, did not exhibit emotional expressions of caring in her work, but rather focused on the physical requirements of care and referred emotional needs to social workers and others qualified in the non-physical aspects of care. This may have been Angela's indirect way of accounting for why her "family reality" was one devoid of informal personal care possibilities. Her description of a person working in the field of care somehow unable to deal with all aspects of care reminded me of many of the stories participants told of frustrations within formal institutions of care.

The final narrative I include in this section does not necessarily have any connection to migrant or cross-cultural care, but it could, depending on how the imagined arrangement might unfold. Theresa and I spoke on the phone before meeting because she wanted me to ask me to mail rather than email project documents to her. In our brief

phone conversation she introduced the following idea, which she then explained in greater detail when we met:

If I got that I really needed help I would like to find somebody that is homeless or somebody that really has no money and needs a home, they could live in the back bedroom for free, sort of take care of me and [I'd] give them so much a month to spend. I think if somebody really doesn't have anything a little bit, it would give them a comfortable and nice home, this is a nice place to live and it'd be clean because I'd have somebody come in and clean it and if they'd just look after me and meals and have a little bit of money maybe they would feel good too, I wouldn't feel they'd have to be appreciative because we'd be helping each other.

I return to this care ideal that involves 'helping each other' in Chapter Five, thanks to an idea George had about reciprocal non-human robotic care relations. Although I'm not too sure about the feasibility of Theresa's care plan, this is a good example of what I found in my research. The elder people I spoke to were quite willing to 'think outside the box' in terms of care acquisition regardless of whether or not they currently required such care. This was an interesting phenomenon and it signaled something beyond the material realities this thinking was designed to address. It seemed to indicate a propensity toward an acceptance of non-traditional modes of caring (such as the one described by Theresa) – the kind that would not necessarily fall within the confines of a human care exchange. Not surprisingly, in this I saw the possibility for non-human robotic care provision.

Recently it has been reported that university students in the Netherlands (Deventer) have been given the opportunity to live in a retirement home rent-free as long as they spend a minimum of 30 hours 'hanging out' with residences (CTV News, 2014). Such intergenerational projects are becoming more common but are still in stages of development and testing. My participants' openness to unfamiliar care relations leads me to believe they might be interested in such intergenerational living arrangements designed to improve the quality of care elder people receive. Theresa was one of the most

enthusiastic supporters of various types of robotic care interventions we talked about during the course of our interview. Like many others, she was open-minded, inquisitive, and not surprisingly had a spirit for justice in matters of care.

Advocates in Care

Given that it was Theresa who first spoke about advocating on behalf of others in institutional settings, I open with her narrative of informal observation and advocacy in care:

I was in the hospital with a smashed elbow, I couldn't get out of bed for ten days and I saw this woman come in my room, she was old and she was reading a paper when she came in and when I left she was almost senile, for the simple reason that nobody fed her [...] near the end somebody came in and said 'oh, she's not hungry again' and I said 'that woman's starving, nobody feeds her!' and they said 'you're kidding' and I said 'no, she's really hungry' and she said 'I'll be right back' she came and [the older woman] ate like anything she was so hungry!

The passion with which Theresa told this story was very powerful. Her enthusiasm in telling of such apparent neglect in care was not uncommon in interviews. Lois recounted an experience in which she too witnessed a conspicuous injustice in care.²⁴ She cringed as she explained:

My husband was in a shared room (which I think is not a very good arrangement), anyway the room was divided so that you went through Person A's room to get to B and my husband was in the B part and I had to go through the A part and the person who was in that bed was completely demented, not present at all and the staff, I don't know what they were doing, but they sort of had him hanging in a sling [...] here he was with all his private parts exposed and nobody there and I had to go past that to get to my husband, and the poor man was sort of making noises as if he understood this dreadful situation, and I think the staff were off having coffee, I don't know, anyway I went past the desk and said that this man seemed to be in some kind of distress and I never did find out what all that was about but that's the kind of experience I don't need for myself.

²⁴ I have come to define an 'injustice in care' as an occurrence that is insulting, uncaring, and/or inconsiderate. I understand a 'just' care environment very simply as one that allows each individual requiring care to be treated with the same respect as any other individual.

Lois used this narrative as a segue into her identification of a care situation she would want to avoid, whereas Theresa focused on her intervention making a difference in someone's care. Both narratives speak the same truth: that 'good' care is not guaranteed and that sometimes expectations of care must crumble, perhaps to be rebuilt by others seemingly less qualified but perhaps more intuitive in matters of care than those paid to provide care formally. In closing to my consideration of advocates in care, I pick up where I left Cicamica and my explanation that her fear of formal care was formed when she observed negative aspects of care her husband received in an institutional setting.

This was her narrative about such care:

I went to visit [my husband] once and he was in a room with somebody else and I see the flashing light, meaning that somebody in that room needs help, so I got in there and he's in the washroom, he managed to get out there with the walker, that time he was able to use it, but he couldn't get out and he'd been there for ten minutes and by the time even I got somebody, somebody could have died in that time and that's just one sample, all the time I kept saying, I feel so sorry for people who don't have somebody like me to stand up for them and ask questions, it's terrible, terrible.

The idea that elder people in care who have family that visit regularly are better cared for was raised by many I interviewed and is not a foreign notion to those familiar with institutional care settings. Cicamica's indignation regarding the state of care she witnessed when visiting her husband seemed to be inspired by fear of an absence or deficit in care, which she might experience in her own potential future in a formal care setting. It seems to be a regrettable reality for many of those living in long-term care home, as recounted by those I spoke to formally for the purpose of this research, and also as I have been told by others informally who have witnessed similar injustices in formal care settings.

As this chapter closes I recognize that I have covered a fair number of topics and therefore wish to point my reader toward what I hope they take from their reading. Overall, I found that participant narratives spoke to an experience of waiting for care needs to present, rather than planning and preparing for imagined possible care requirements. In almost every case told, care came into being in an unexpected or inconvenient manner, indicative of the previously addressed notion of ‘complexities’ in care.

The narratives I have included in this chapter rest on a number of ‘sticking’ points related to a lived reality of aging and caring. Common fears tended to relate to an unknown future of the mind rather than the changing physicality of the body although this latter fear was also present. Elder people must wait for care requirements to present because they must wait for the body to manifest its unpredictability. As Stacy Alaimo (2008) has stressed: the body forces a state of “not quite knowing” (p. 250).

Many of my participants had made or were in the process of making general plans about their future related to formal or informal care provisions. These plans were often informed by previous positive or negative experiences in caring or accessing care for family members. The recognition that there were no guarantees in care planning was prevalent in interviews, as represented in narratives about ‘advocacy in care’ and ‘considering care outside the family’. Perhaps due to the ephemeral nature of care requirements in elder age, participants were inclined to imagine an ideal caregiver (both formal and informal/human and non-human animal) in terms of a presence that would only become apparent or active in times of need; a caregiver that would wait for care needs to come into being prior to acting.

One of the first themes introduced in this chapter through participant narratives was that of sacrifice. The ‘formative nature of the body’- as previously established with reference to both Frost’s (2011) and Bennett’s (2010) attention to the agentic qualities of bodies and matter – is directly connected to the sacrifices that are made in care relations. I am referring to the way caregivers sacrifice part of themselves as they care, how they transfer energy that would have otherwise been focused elsewhere toward a person in need of care, often quite willingly but at the expense of the caregiver’s own interests. On this note, recall my thinking with Jane Bennett (2010), who has written of bodily entanglements and drawn attention to “the extent to which all bodies are kin in the sense of [being] inextricably enmeshed in a dense network of relations” (p. 13). Although this sentiment could be applied widely to human (and non-human) interaction, I find it particularly relevant to this project’s focus on care and caring relations and the associated intra-relations that are bound to materialize.

Along with participants my contention is that there is a need for better solutions to problems that arise in accessing elder care. Thinking with the elder people whose voices define this work seems like a good way to start addressing such issues. This chapter has served as an introduction to the following chapter, which explores the potential for humans and robots to act in concert with one another in matters of caring.

Chapter Five: Thinking Through Robotic Interventions in Elder Care

In this chapter I turn to questions about how various robotic technologies are understood by the elder people interviewed for this project. These questions include: How do elder people imagine their care future; How do elder people understand various potential robotic interventions in care; Do elder people think care robotics should be trusted, feared, used selectively, or banned from certain uses; Will the people who accept the idea of robotic care in the future find it to be an affordable option; How concerned are elder people with the ethical and political questions involved in a potential robotic care future? In this chapter interviewee responses focus on a wide range of topics – from the animation of assistive devices, to media-based robotic care inspirations and personal robotic care preferences, to the potential benefits of companion, surveillance, and physically assistive robotics, to how the most intimate aspects of elder care might be facilitated by a non-human robot, and finally on the idea that a robot might also require care from the human for whom it cares.

A Shift in Focus Associated with a Move Toward the Future

With respect to a conversation concerning the unknown future of elder caregiving, in the preceding chapters I established my position as focusing on a future that may involve the introduction of the non-human robot into interactions commonly accepted between human caregiver and human care receiver. Ongoing debates played out in the media have established a divide between those who warn that ‘machines’ are “coming for caregiving” (Tufekci, 2014, para. 28), and those who focus on the inevitability of care by robot in the face of a human care deficit (Aronson, 2014). I would argue that machines are not ‘coming for caregiving’, but are being made available to fill growing gaps in

caregiving. Louise Aronson (2014) has suggested that “a reliable robot may be better than an unreliable or abusive person, or than no one at all” (para. 5). I view this as a rather defeated view of the future of caregiving and note that many participants imagined a hopeful, undefeated view of this future while acknowledging the current obstacles elder people face when trying to access care. This view was characterized by a sense of adventure in looking to a future that would involve the co-caring of human and non-human robot care provider. Instead of dwelling on the fact that care recipients often struggle to find available and/or affordable care, most participants chose to focus on care alternatives, such as community caring, potential (un or under developed) special paid services for seniors, and most relevantly, the rapidly developing non-human robotic care options for elder people.

Following my review of all interview responses, I suggest that care robotics may be catering to a growing interest in such technology from an elder population looking beyond traditional means of giving and receiving care, and considering the potential for new companion species in care relationships. In this chapter I highlight the material entanglements that lead to such considerations and I illustrate through the narratives and comments of elder people that the sense of defeat Aronson (2014) expressed when considering robotic entrances into care was not shared by those interviewed for this project.

This chapter shifts from a focus on previous or existing experiences in care to a focus on potential experiences or imagined interventions in care. In other words, it is quite speculative in nature. With reference to my methodological commitment to narrative analysis, I must point out that in this chapter I have transitioned from narrative-

only accounts to incorporating non-narrative responses to interview questions about care technologies. I found this necessary after selectively transcribing all interview excerpts related to robotic care interventions because interviewees were much less likely to speak in narrative form when they had no life experience to draw from but rather were relying on their imagination and considering certain concepts for the first time. When I accounted for what would be lost by excluding non-narrative interviewee responses I realized that some exception to my narrative-only approach to interview data would need to be made in order to achieve what this project set out to do – to think through the future of care by reporting on elder people’s understandings of, and feelings about, robotic intervention in elder care.

Assistive Devices as Companion Species

Following Donna Haraway’s imagining of companion species I asked participants about their connections to assistive devices. As previously noted, the idea that a person may ‘come into being’ with an assistive device (for example, a wheelchair, a walker, or a cane) is extremely relevant to my interest in assistive care robotics. Several participants were in, or had previously been in, the type of complicated but imperative companion relationship with an assistive device similar to that described by Haraway (2008) in reference to her father’s relationship with his crutches, aptly described as “an enabling objectification” (p. 169). Most participants focused on what their assistive device allowed them to do and what kind of independence the device facilitated. My previous claim that elder people are seen to be less animate than younger people is relevant here as I examine the ways in which a care apparatus, such as a cane, may be more animate in relations of care than expected. The animacy of an assistive device may serve to enhance the

independence of a person, but it may also serve to mark the user of such a device as less animate due to their reliance on that which exists outside of themselves for assistance. As Haraway's term ("an enabling objectification") suggests - evoking the sense in which Marx wrote on objectification (with attention to the human production and appropriation of useful objects) - that the device/object enables, but it also objectifies its user.

The complexities of such relations were revealed in interviews as elder people described both positive and negative feelings and experiences with assistive devices.

Peter spoke of his cane with mixed emotion:

I felt part of it, there was certainly a period of time, quite a few months, where I had to use a cane and it was essentially part of me walking, if I wanted to walk I had the cane with me all the time, it had a hook on it and if I sat in the chair my cane was with me and so on, having said that, it did become a part of me, but it didn't become a part of me that I wanted to keep.

Although Peter acknowledged that he was glad to part ways with his cane when he no longer needed to use it, he also reflected on how it became "part of" him. During our interview Peter also noted that the use of his cane became a measure of his recovery because as he became able to do things without its assistance he realized he was healing and would soon no longer need to have the cane act in concert with his body. He said: "I've found [assistive devices] very helpful. One of the things about using a cane is that you could judge if you were getting any better." Angela had a different take on her cane, something she used only when necessary. She said: "I take a cane with me now since my back surgery, folded up because I travel [...] looks are important to me [...] my cane is a lovely purple one." Angela seemed to have found something in her assistive device that made it appealing, if not for what it allowed her to do, then for how it looked. Nanny, on the other hand, was far more pragmatic about her current use of assistive devices. She

noted, again partially speaking for her demographic: “I have a walker, I have a cane, there are wheelchairs [...] there’s an awful lot of things like that that are totally necessary in order for us to have some kind of life”. She also commented on her experience with her late husband’s walker when considering care robotics in the home: “It was part of us, you know, it was just like a robot, another person in the house!”

On a more personal note Nanny spoke of her own walker: “What would I do without [my walker], it’s another part of me, it’s my leg or it’s my arm, really!” The sense of bodily connection to her walker is important, as is the idea that a walker may be imbued with a transformative quality, moving it toward ‘humanness’ over time. Marian shared the following narrative about her unpredictable need for a cane and subsequently a walker:

It’s become pretty important, the first time I had a cane for a little while after a fall and it wasn’t too bad, I didn’t need it all the time, but over the years I have not just had the falls (although I’ve had three), I don’t have balance, the balance is shot. So that I can walk across there and be fine and then the next time I try it the balance is off and I fall, so I have become quite dependent [on the cane], but I didn’t like using the walker except when I was still recuperating from the last fall, which was when I broke my hip [...] I got used to using the cane but when I go out with the dog in the morning I often feel quite dizzy so I suddenly thought ‘well you stupid thing, you’ve got the walker there, you can sit on the walker’. So now I take the dog out with the walker [...] I would feel quite bereft if anyone took the walker away.

Marian recounts her transition from a resistance to using her walker, due to its representation of an increased need in support, to accepting that her walker was superior to her cane in terms of its function in certain circumstances. She summarizes her assistive device journey from uncertainty to connectedness in a way that represented other participants’ experiences accepting assistive devices into their daily lives. Theresa recounted a time when she used a cane as such:

I did use [a cane] for a while when my knee went out on me [...] I needed a cane for a couple of weeks, I haven't used it since, it didn't bother me, at least it helped me walk!

For Theresa her relationship with a cane was simple: she needed it, so she used it, it helped her walk, and it did not bother her. Lila had a similar outlook on assistive devices; considering a potential future need for such a device, she said:

Well, I'd be grateful for any assistance that I could get, I mean I need, be very happy to have it, instead of being frustrated and not able to do anything would elevate the problem, I'd like to be mobile, put it that way!

For Lila, as for Theresa, there is no sense of concern regarding how an assistive device might make them look, they were practical in their outlook and viewed the assistance as a means to a more independent end. Honeybun's outlook on using a walker was a little more complex, and based on the fact that she would soon have to use a walker for her own safety. She explained:

I know I'm losing my balance, I have to be very careful walking, I'm very aware of that but so is everybody else and they don't want me to fall because if you fall you might as well say goodbye [...] I just feel a [walker] is a nuisance [...] you try to get on that elevator with half a dozen walkers, no way! I don't feel I'm independent if I've got this walker.

Honeybun begins her narrative by noting that she and "everybody else" was aware of the fact that her balance and ability to walk safely were becoming unreliable. In contrast to other participants, Honeybun viewed her walker as an impediment rather than a means to gain independence, stating clearly that she felt the walker served to take independence from her. Perhaps living in a retirement residence influenced Honeybun's perspective on assistive devices. She seemed to take some pride in her ability to help others in the residence, and in the fact that at 88 years old she was quite able to move around most of the time without assistance, although she did tell me of several serious falls she had

experienced during her time living at the retirement home. Honeybun was quite physically independent compared to most residents who were dependent on what Honeybun considered a ‘nuisance’ in her environment: other people’s walkers. I had to wonder if Honeybun would have a different outlook on walkers if she were living independently without any consistent need to interact with other people’s assistive devices.

Discovering Robotics Developments in the Media

Following the completion of all the interviews several participants sent me emails with links to media reporting on a wide variety of new care robotic developments or to robot-related videos. For example, Nanny sent me a link to a video following ‘Spot’, a four-legged robot ‘dog’ that was designed by robotics engineers who are focused on creating robots that can move like animals (Boston Dynamics, 2015). She also sent me an article with a link to a video created to introduce a ‘drone ambulance’ designed by a student in the Netherlands (Mogg, 2014). Jane sent me a link to an animated video called *A Bittersweet Tale Of An Elderly Woman And Her Robot* (wimp.com, 2015) which depicts an elderly woman acquiring a robot. In the video the woman learns how to care for the robot and the robot cares for her, in a tale that is ‘bittersweet’ because the woman’s son mailed her the robot instead of visiting her in person, and because the story seems to end in the death of both robot and human until the final scene reunites the woman and her robot in a dream-like scene where they walk together hand-in-hand toward a destination they were not able to reach together in life. The interest of some participants in robotic technologies was inspired by our interviews, but many participants noted they had previously been keen to follow developments in this field.

The emails I received, as well as interview data I had already collected, confirmed my previous contention that the idea of robotic possibilities in care is becoming more accessible as media outlets pay increased attention to developments in this field. Most participants could reference one or two robotics technologies they had learned about listening to the radio, watching the news or searching on the Internet. For example, George was very excited to tell me about a robot he had discovered through various news reports during the past summer:

The robot guy that hitchhiked across the country [hitchBOT], that fascinated me and it seemed as if he was able to thank the people who picked him up and gave him a hitch, he seemed (from what I could get from the articles) as though he was having a good time, so that to me meant that the people who took him were having a good time [...] [he] wasn't caring, he was being cared for.

This was perhaps what inspired George's thinking, which I will return to below, toward a relationship with a robot that involved both receiving care and giving care. I use the following excerpt from my interview with Nanny to summarize the experiences many participants recounted in their commentary on media-based understandings and thoughts about robotic developments and common robot depictions:

What amazed me is that when you Google 'Japan' and 'robotics' and you see the girl that they have created and they put her beside a girl, you gotta look, like which is which here? It's scary! [...] And then you see these science fiction movies where robots take over the world and you know, there's a scary side to this as well, how do you know that a robot would not hit you, or what happens if the battery runs down or it falls – can it get itself back up? There's so many questions I'm sure.

In Nanny's narrative her sense of amazement regarding developments in life-like robotic inventions was followed closely by an acknowledgement of fear regarding the unknown possibilities connected to the development of life-like robots. Many participants questioned what would happen if a care robot malfunctioned, were to become abusive, or stopped working altogether as it was carrying out a care task. Theresa had a unique

concern related to care-by-robot: “The only thing [...] I think I’d be scared of is: could [people] be electrocuted (?), something like that (*laughing*).” The sense of humour some participants had about potential interventions in elder care was usually attached to a sense of adventure when considering solutions to care problems they had identified throughout their interview. As suggested previously, and explored in more detail below, this sense of adventure in welcoming care robotics tended to be attached to the goal of independence and a desire to have the more personal aspects of care performed by a non-human.

Personal Experience with Bodily Robotic Interventions

During interviews I found that two participants’ interest in general robotics developments might have been connected to past personal introductions to technologies of care within the body. Both Nanny and Jane cited their relationship with what they deemed to be robotic intervention within their body. As noted previously Nanny spoke fondly of her pacemaker, calling it her “friend” and noting that “without that robotic I wouldn’t be functioning”. Jane had a similar take on the subject:

Well I have a replaced shoulder [...] it’s made out of that metal [...] [the doctor] had to replace the whole shoulder because it was all gone [...] because of lack of care [...] they didn’t diagnose it in time [...] so I lost my shoulder, so I have a robotic shoulder, I am a bionic woman on one side!

Jane’s narrative includes an account of what led up to the point where she had to have her shoulder replaced; she notes a “lack of care” and highlights what she lost before concluding with what she had gained: “a robotic shoulder” and an identity as a “bionic woman”. In Chapter Two I made reference to how humans may ‘become’ with non-human forces, a becoming that means they cannot be considered simply human. Although I addressed this possibility from a theoretical standpoint, I found in Nanny and Jane a real expression of such becoming and this allowed me to imagine (along with participant

responses) a future in which more elder people would embrace a bodily cohabitation of human and non-human technologies. With this in mind I now return to the voices of those who had much to say on the future presence of robotics in care.

Thoughts About the Potential of Future Robotic Interventions in Elder Care

This section presents some general thoughts elder people had about technological enhancements related to elder care. Once again, I open with some thoughts from Nanny because she had a way of covering many relevant topics within one narrative. On the introduction of elder care robotics she said:

You have to remember that [elder people] as a group are very leery of change, if something changes we have to think it through, so talking to a person say 80 years old about a robot or a robotic thing to help, if they still have the intelligence like as I do for instance, I would have to see the thing before the thing happens [...] the prototype, I would want to see how that functions and if it's scary or how its made so that it doesn't look scary [...] a [robotic] person would be a little scary for me right now [...] we get a little scared of things as we age [...] but let's see what's there, I'm open to this sort of thing because my time is coming close to the end, but for my daughter and for my granddaughter they are going to get old and all the rest of it and what is to become of senior housing and having to live in the house and not having help [...] if it could be partial – half mechanical, half human – that wouldn't be so bad, and like I say, [a robot getting] my cup of coffee in the morning, I'd go for that!

This narrative supports two of my leading arguments: that elder people must be consulted and involved in developmental testing phases of care robotics invention (as Nanny says, “I would have to see the thing before the thing happens”) and that robotic entries into care should be viewed as a supplement to, rather than as replacement for, human care. Considering robotics testing Nanny said: “Look at the toy companies, they want to find out what the ten bestsellers are, who do they go [to]? The kids sit and play with the toys, so us too, let us do that!” Her reasoning was simple - elder people should be able to play with and comment on that which is designed specifically for them. Unfortunately, as

noted previously, this very simple idea is often complicated by the interest robotics researchers and designers have in the commercial success of their inventions. In other words, it is probably beneficial to robotics engineers *not* to have elder people test their care robotics if they are not really willing to change their ideas or modify their inventions in response to feedback from elder test users. On this note, Angela offered a particularly relevant narrative:

You get the hype and the excitement of something new in the technological world and that's good [...] but the side of it that is often for males [...] 'boys with their toys' [...] I mean when you're looking at technological gadgets [...] the people who are doing the development of them not being fully aware of all the ramifications, the good and the negative, not taking into account all the issues that need to be addressed, coming often from a male background [...] just a lack of experience, having enough exposure in the environment to which they are developing these things for [...] so you can end up with things that sound and look wonderful but the actual real improvement they make can be in fact not helpful.

Angela's skepticism is quite similar to my own, in that she recognizes the male-dominated paternalistic qualities of the field of robotics engineers and does not trust that technological advancements are always based on need, but rather are often based on novelty without, as Angela notes: "being fully aware of all the ramifications" of the invention.

Referring back to Nanny's opening narrative, she suggested that robotic help be "partial" and went on to describe equal division of care labour between a robot and a human. Her reference to a robot that would take care of coffee making was connected to a previous comment she made about what a robot might do to relieve some of her physical challenges within the home: "[I could] say, (whistles) hey robot can you make me a coffee? That would be beautiful, so I could turn on the TV, see the news and have my coffee all before I had to get up and go into the kitchen!" Nanny certainly had quite

an imagination when it came to talking about what a care robot might be able to do. She framed the robot's contribution as 'help' rather than care, perhaps unintentionally. I note this because another participant, Peter, was very determined to make a distinction between help and care. He said:

If you ask a robot to make the bed, the robot can do that, needs some human input [...] I think it's very unlikely that seniors would be comfortable with help from robots, except in some very specific circumstances and they would see it [...] as help rather than care.

Peter, a former engineer, was a participant who had made up his mind before our interview began that he was against the idea of robotic interventions in elder care. His agenda was to reject the idea care robotics would be able to provide care and to stress that they could only provide *help*. He summarized "I've worked with machines and electronics all my life, and they're just [tools], they're great tools, but they're tools." Although I understand Peter's perspective here, I am compelled to push back against the idea that help and care are mutually exclusive. It is my contention that there exist any number of situations in which helping constitutes caring. For example, when I help an elder person sit down in a chair or get their slippers on, I do so because I care, because I am acting from a position of caring, and because I understand helping to be entangled in many ways with caring actions. Perhaps Peter only considers caring as something that can be conducted by a human. This would certainly account for his distinction between help and care when discussing care robotics.

Most of my participants had an 'agenda', were outgoing in nature, and had some kind of previous involvement or interest in robotics or elder care issues. In some cases, Peter's for example, this had an effect on the overall tone of the interview. In answering my questions he guided many of his responses to the point he had already made and this

resulted in interview data that was not very expansive. As a result excerpts from Peter's interview are not featured as frequently as excerpts from other interviews; those in which the participants gave spontaneous answers to questions and considered topical points as though they were starters to conversation rather than a point of transfer to a previously held opinion.

I have featured excerpts from Nanny's interview quite heavily in some parts of this work. Her thoughts on various topics were wide-ranging, well-articulated and representative of what other interviewees had shared with me. With reference again to her narrative above, she described both curiosity and concerns associated with potential care robotics. Her concerns were something she believed were shared with other elder people. The idea that a human-like robot might be unnerving is quite common and is addressed by robotics designers who are mindful of 'the uncanny valley' (the observed phenomenon that the more human in appearance a robot the less able people are to relate to it) as they create robots with human features. Earlier in our interview Nanny said: "If it ever comes to the time to have a person robotic, I can't fathom that, I just really really can't, that's something in science fiction movies."

Jane, who had spent many years living in Japan and had witnessed some robotic inventions firsthand, had the following to say about human-like robots:

The women robots they have in Japan now are extremely beautiful [...] they're not only the sex robots, the companion, they are a companion for the men, because he comes home at night and there's no bullshit: [no] 'what did you do last night?'

Although this comment is not directly related to elder care robotics, many developments in this field are connected to a perceived need for companionship in elder age.

The idea of a sex robot was raised by three of my participants. For example, when asked what kind of care robot she would prefer Honeybun said the following:

You don't want to know what I'm thinking [...] I know what I'd like, but I'm not going to tell you what it is! I'm one of the ones in here that read the *Fifty Shades of Grey* [novels] so [...] if that's any indication of where I'm at!

Honeybun's reference to a series of erotic novels was her way of telling me she was thinking of a personal companion robot perhaps like the one Jane describes, but maybe something quite different. She did not elaborate, but focused on the love involved in the relationship between characters in the novels rather than what she called "the kinky stuff". Given that most of what participants were considering in interviews was related to robotics not yet developed and available commercially, but rather robotics designed or imagined and popularized in some way, the conversation allowed for such creative envisioning or fantasizing about future robot companions.

Several participants commented on the speed and consistency with which technological change tends to occur. Jane said:

Well technology is going so fast [...] imagine it's amazing, your phone, what your phone does, imagine in 10 years [...] more and more everything look like Star Trek [...] and look at the care, they have those little robots that goes inside the body too and now they can put little cell in your system to go and see what's wrong, so imagine in ten years, we might be able to do 'Beam me up, Scotty'!

Jane was a participant with a wonderful imagination, her thoughts were mainly future oriented, and she had an expectation, and felt some kind of acceptance, of rapid technological change. George commented in a similar manner, focusing on care robotics specifically: "I think it'd be kind of a snowball thing, ten robots in Canada today, 50 next year, 200 [...] I think it's an excellent field to get interested in, not old people like me." George seemed particularly excited about the possibilities of robots in care when he

spoke of such things. He sounded disappointed when he acknowledged that he might not see a time when care robots were a viable option in elder care relations.

Other participants focused on the quality of relationships with human caregivers when contemplating the entrance of robots into elder care. Marian cited the following when considering this potential:

I have had on occasion human breathing people who did not handle care well, I think if I had my senses about it and wasn't frightened because of dementia, I don't see anything wrong with them, [if] it gets the job done and saves me from falling over in the bathtub – it sounds perfectly logical to me.

For Marian the thought of a robot performing care tasks was functionally related to how well a human might perform care tasks. Marian did not cite elder abuse specifically but other participants did. Jiggs said the following on the topic:

One other aspect of robotic care vs. human care is that you could probably program a robot not to be abusive [...] elder abuse is one of the things I've run into in the organizations I belong to, from time to time.

Jane also touched on the issue of elder abuse when she considered what kind of robotic care might be appropriate for elder people, explaining:

I would be for robot to take care of changing diapers, you know [...] that must be awful to change the diaper of your mom, your partner, so a robot could do that, but [other types of robot caregivers] no, that would make sense [...] I think it should be done in the residence too because a lot of elderly are being abused because they soil their bed or whatever so perhaps then they could use robot to do that part of the caring I presume, I don't know.

Jane's own discomfort with the idea of performing the more intimate aspects of care informed her opinion on what care aspects a robot might be able to perform. She too considered the potential for abuse, but for her a robotic contribution would be almost a preventative measure against elder abuse. As a programmable feature or preventive measure, the focus on preventing elder abuse is telling. Elder abuse is something to be

feared in elder age, and it was on the minds of several participants as they revealed in different ways throughout interviews. As I noted in Chapter Four, this chapter touches only briefly on the issue of elder abuse, not doing the topic justice but acknowledging its relevance.

Imagining Personal Care Provided by a Robot

Participants were asked what kind of non-human robotic care they might be inclined to accept in an imagined care future. This question was asked in order to discover whether participants were willing to imagine using future care technologies and also to see if they had similar ideas to one another. Throughout this project I worked to complicate the assumption that human-only care is unequivocally superior to non-human robotic care. Some participants cited situations in which they would prefer certain care tasks carried out by a non-human robot. Potential sites of robot care vary, but they all house complexities that must be consistently negotiated as non-human care options for elder people are advanced. I asked in the first chapter of this work: Should robots be trusted, feared, used selectively, or banned from certain uses? This question was answered indirectly by participants in the interview excerpts that follow.

Companionship & Social Robotics

When asked, George knew exactly what kind of robot he would want to interact with:

Companionship [robot], let's call it a mature companionship, I'm not talking sex here [...] but mature adult companionship [...] and maybe competitively to cause one to use their mind and think – that's the kind of companion I'd like [...] And to be able to just [say] 'would you shut up for a while', just like interfacing with like a 40 year old.

His focus was on having an intellectual companion, most likely inspired by his new living arrangement in a retirement residence where, as he noted at one point, most people were telling the same stories repeatedly or had a primary interest in playing Bingo rather than engaging in what George would consider meaningful conversation or a challenging game. Earlier in our interview George noted, with reference to various kinds of care robotics I had mentioned in conversation:

You talk about all these robots to come in and do this and do that, now I'd rather do it myself [...] I'd really like to have a robot to play chess with, a robot that could beat me – that's the kind of care I would like.

George was not alone in expressing his desire to maintain independence in his own personal care, while having a willingness to involve a care robot in other aspects of care.

Theresa considered what it might mean for elder people to have a companion robot in this narrative:

I think [a social robot] would be very good, you know, anything that would interact where older people need it is good because they get lost in the shuffle [...] there's not enough caretakers, there will never be enough caretakers, there's always going to be people going through the cracks and if you can fill those cracks, or most of those cracks, that's a lot of people that are not feeling alone and they're not lonely [...] well they'd have a little bit of self worth maybe. I mean if you're all alone and nobody has time for you and there's nobody that can see any of your wants, what worth are you? [Social robots are] better than nothing, a person is always better, a caring person or somebody to talk to or be friends with, they're much better, but if the case is there's nobody and nothing then that's better than nothing.

Although Theresa identifies a use for a companion robot, feeling it would be “better than nothing” if there is no human caregiver available. Lila also expressed acceptance toward such a robot, with certain limitations:

My interest would be simply that I am communicating with live people [...] so long as the robot is not the end of it, so long as that robot is connected with a person, with a human being who could see that I needed something.

Lila imagined the kind of care robot that would act in concert with a person, one that would not be able to identify every need. Jiggs had a different concern about social robotics:

That would be the big danger of social interaction if you start to rely on the robot, then what about family, friends, pretty soon [a social/companion robot] can help lead to [...] isolation, there's a lot of talk about isolated seniors [...] an isolated senior might benefit greatly from a robot, but a robot might increase the degree of isolation with a senior.

Like Theresa, Jiggs noted a potential benefit of a companion robot, but he connected this to a common issue faced in elder age, that of social isolation. Many participant responses focused on the social issues of care as being just as important as the technological ones. This was most apparent in participants' general unwillingness to consider a robotic care action without a direct connection to the sociality of a human counterpart. Whereas Theresa found a social robot to be "better than nothing", Jiggs identified the potential outcome of supplementing social time spent with a human with social time spent with a companion robot. I note here that almost every participant who imagined a pet robot when considering social/companion robots dismissed the idea that such a robot would be a good companion for themselves or for other elder people.

Personal Safety & Assistive Robotics

Many responses about what kind of care-by-robot participants might accept into their care related to personal safety. For example, Jiggs said:

I think the most acceptable would be the safety [monitoring systems for], falling down, unconsciousness [...] things like hot elements left on the stove too long [...] that sort of thing [...] I don't think I need the fridge to tell me I didn't eat my Wheaties this morning [...] that's a little too much 1984ish.

Several participants made reference to George Orwell's dystopian novel *Nineteen Eighty-Four* when considering smart home technologies designed to help elder people age in

place. Some participants had concerns about ‘big brother’ watching them while others had no issues with such a ‘breach’ in privacy within the home if it meant that they could remain living independently, and more importantly avoid institutionalized care. I return to the idea of surveillance in the home below. Another participant who focused on the safety a care robot might provide was Lois, who proposed the following:

If a robot could lead me safely over to the mall to go up and down for a walk or something like that, I would think that was good, rather than taking somebody off the job to get me across the street [...] or on the bus, or whatever I have to do that I couldn’t do myself, I think that would be valuable.

Lois imagined a robot that would escort her safely to places she wanted to visit outside the home. She was the only participant to respond in such a way, focusing on robotic interaction outside the home, but the essence of her desire was the same as participants who focused on assistive robotics to facilitate independence within the home. Jiggs was one such participant; he imagined he was at home in some kind of state of recovery when he said:

I can visualize if I was really incapacitated the rehabilitation robotic [...] and I could probably see if it was a really well functioning one it would be easier to handle than somebody else coming in [...] it would reinforce my feeling of some independence anyway, even though I’m very much incapacitated.

This is a good example of how some participants noted they would consider a human care alternative if given the opportunity while others considered this alternative to be acceptable only as a last resort.

Robotic Heavy Lifting

When the topic of robotic heavy lifting in care came up during interviews participants were inclined to see such assistance in a positive, even necessary, way perhaps (as commonly cited in literature on the subject) due to the strain often placed on

human caregivers who are vulnerable to injury when moving or lifting care receivers.

Lois said:

I think [non-human lifting] would be good, I also think if it were a machine, it might be more secure for the person, you know they feel the machine is stronger perhaps, it probably is stronger.

Lois considered the safety of the person being lifted, but her assumption seems to be that if a person were doing the lifting the care interaction may not be best for either person involved. The topic of heavy lifting was no different from other topics related to robotic interventions in care in that most participants were not willing to imagine such an action performed without another person being present. The following three interview excerpts reflect this tendency in participant responses. Jiggs explained his perspective as such:

I could see [robotic lifting] being very useful as an assisted device. I would be concerned if it was the sole caregiver but if there was a caregiver in a home looking after three or four people and has a robot that will help move them, if they need to be fed help feeding them, doing those sorts of physical things, as long as it's being monitored and there is a human interaction there somewhere to make sure like any piece of equipment it can go wrong, and to monitor the feelings and the response of those being cared for by the robot to see if it's doing the things it has to do, so I can see there's a use there.

Like many other participants Jiggs recognized that human care providers require assistance in carrying out care tasks safely. He also focused on what he perceived as a social requirement involved in the human/non-human care interaction. Key to Jiggs's response is the notion that a robotic intervention should be viewed as supplementary to human care interventions. Jiggs's concern that a robotic device could "go wrong" was common in interviews. For example, George said:

I think [care robots] would fill a big gap [...] as long as they didn't go berserk [...] I'm sure they can overcome all [that], but that's what comes first in my head [...] I'm being carried by a mechanical man, I would feel very uncomfortable [...] of course, if you had this robot that had been carrying you around for ten years you'd get to feel pretty confident.

For George there would need to be a long period of adjustment before he could trust being lifted by a non-human. Reflected in this narrative is George's tendency to imagine a human-like robotic companion and his casual identification of what I have cited previously: a gap in care that must be filled in some way, perhaps by care robots.

Honeybun also thought through the idea of non-human lifting in care:

It depends on the person, I think the machine has to [...] no, I think you need to have somebody there, even with the machine in case you have a problem, as I say when you get our age you just never know what's going to happen.

Honeybun was experienced in the "you never know what's going to happen" realm of things, as she had experienced falls, most recently one where she had broken her nose.

A few months following our interview Honeybun invited me to lunch at her retirement residence. As we walked through the residence from her suite to the dining room she received a lot of attention from people who were saying she had frightened them last night or that they had heard what happened last night and asking if she was all right. She told me that paramedics had taken her to hospital (where she had stayed some of the night) and that there had been some concern regarding her heart. Despite all this she was up and about that day as though nothing had happened, determined to stay active and keep our lunch date. Her perspective was that anything could happen, and often did happen, but that there was no use dwelling on such things.

Honeybun experienced care and uncertainty as an entanglement and she also experienced people and technology as an entanglement. She could trust that those who were concerned about her would ensure she received appropriate care and she spoke at length during our interview about the technologies (a bracelet with an emergency button she could press to signal for help and similar emergency buttons placed throughout her

suite) she relied on for assistance when necessary. Although she did not fully trust that the technology would always work, she did value its purpose and intended use and spoke of becoming used to its presence in her environment and on her body. Without a person to respond to an emergency call this type of technology would not function and I imagine that Honeybun had this in mind when considering robotic interventions in moving or lifting care recipients.

Surveillance Technologies in Care

As mentioned, participants commented on being in favour of permitting surveillance in the home if it meant being able to ‘age in place’ and live mostly independently. Honeybun had one of the most amusing responses to the question of surveillance:

Some of the things I do in here I wouldn’t want them to see (*laughing*) [...] some things are private [...] If it gave the kids a peace of mind and I was that far gone I would [...] I’d find out where the blind spots were and then do what I want to do in the blind spots!

Many participants spoke in different ways about ensuring that their children were happy about their care and how they would not want to inconvenience their children with their care needs, so this response was not surprising. Nanny referenced her daughter in a similar manner:

Depending on what it would cost me, I think it’s a wonderful thing, like right now if I was more feeble, [my daughter] has to go to work and she calls me three times a day, so if she could see what was going on [...] if there was a company that did that sort of thing and it didn’t cost you your pension plus, sure I’m all for something like that!

Nanny was not the only one to raise the issue of cost. Theresa said: “I think that’s fine, but who the hell is going to afford it, I couldn’t afford that! I wouldn’t want them to see what I was eating!” Like Honeybun, Theresa responded with reference to what she might

not want other people to see. Theresa had a lot to say about her poor eating habits. She knew she was not getting proper nutrition but just simply could not face the task of cooking good meals having done so for a husband and a great many children for decades. She had no intention of changing how she ate, but she also did not want other people to discover this 'secret'.

Cicamica was quite pragmatic about the issue of in-home surveillance, noting: "Privacy is always a bit of a concern, but I mean you can't eat your cake and have it too, either you want help to be available all the time or you want your privacy." Perhaps Honeybun would be able to get around this issue if she found her blind spots, but for most participants their consideration came down to the either/or situation Cicamica describes: "either you want help to be available all the time or you want your privacy". Considering his own either/or scenario Jiggs said he would only permit in-home surveillance: "If the alternative was to go into a long term care facility." Jiggs had no hesitation in expressing his fear of long-term care and this was a strong thread through many of his narratives and comments. Angela's only issue with the idea of surveillance in the home was privacy: "I'd embrace it, I'd be fine with that [...] with some modification for privacy".

With a focus on privacy as a contingent factor in the choice of aging in place with surveillance technologies by Angela and other participants', the following interview excerpts are somewhat surprising. Marian said simply: "No, that doesn't bother me at all." The reason Marian's response surprised me was that she had previously told me that the only reason she and her husband were living in an apartment was that their children had decided they could not live in a house anymore. Since Marian had a blended family

whose members did not get along with one another their move had been especially painful because they had not wanted to relocate but had felt obligated to do so and could not handle the discord within the family. I would have expected Marian to have some kind of resistance to the idea of further change in her living situation, but as her quote suggests she saw no reason to object to ‘smart home’ technologies.

Another participant who had no issue with the idea of surveillance in the home was Lila, who said: “Sounds good, very nice [...] I would have that, that’s what I’m looking for, somebody who’d know if I’m already a stiff or still alive.” This quote reflects Lila preoccupation with dying alone without anyone knowing. I laughed when she said “if I’m a stiff or still alive” because of how matter of fact she was when talking about her own death and how funny thoughts like this sounded when said aloud. Lila had a great sense of humour and laughed with me, but she was very serious about her desire to find some system that would prevent her from dying in her apartment without someone finding out for days. Lila’s situation was exceptional because she did not have the same kind of financial worries as other participants, she could afford to pay for services geared towards elder people, but the kind of services she desired did not exist. As mentioned previously, without a great deal of family or connections with friends all Lila wanted was to have someone (that she would pay) who would make sure she was alive every day.

When Lois responded to the question of in-home surveillance technologies she returned to the idea that any kind of robotic intervention in care, surveillance included, should be provided alongside human intervention in care. She said:

I would be in favour of it if there really was a need for it, in terms of safety, for instance the stove, you go along and forget the stupid thing is on, um that happens [...] I wouldn’t want an excess of [surveillance], but I also would want that there is also a person who comes to check the technology or ask you what you think of it or

talk to you or something, that you're not in there all by yourself because I'm not that fond of privacy or independence, it's great, but I think connection is more important for me [...] integrated system, that would be good [...] the net trade off is that the person would be able to stay in their own place, that would be the primary goal.

Lois recognized a place for such technological intervention, just as she recognized the same help or privacy dichotomy as did Cicamica. She said: "I'm not that fond of privacy or independence", further complicating her position. For Lois such robotic intervention would not necessarily be attached to a feeling of independence, but rather a feeling of connection. It is possible that being connected to others does relate to independence, should this connectedness be what a person desires. Lila was completely independent, she enjoyed living alone even though she had plans to move into a nursing home in the near future, but she lacked a sense of connectedness that would have put her mind at ease with regard to her concerns about a sudden death. Lila told me that she exercised at the same community centre regularly and that she knew people there by face if not by name and that they also knew her. The reason why this did not, for her, equate to real a connection is because she had no interest in having the kind of friend who would check in on her, even though this checking in was what she most desired.

Intimate & Emotional Aspects of Care

Many participants commented on emotional or personally intimate care requirements when thinking about what kind of care they might accept from a robot. Lois focused her thoughts on institutional care and tasks a robot might perform in order to provide staff with time for care related activities that elder people might otherwise go without:

I can see an argument for a mechanical cleaning robot [...] some of the savings for that would go into employing people to go round and give pedicures or manicures,

or foot massage, or music therapy, or art therapy [...] it can [work that way], we just have to make sure it does, there's no reason why we can't do it.

Lois was referring to a personal robot that would wash/clean the body - she was categorizing the functional task of bathing in a certain way: as a task that was potentially suited well for robot substitution. By extension one might consider the task of feeding in a similar manner: as a functional action in care relations that elder people may accept if performed by a non-human robot. Lila contradicted this idea directly when she commented on the possibility that a robot could feed her if she could no longer feed herself:

I think that is the point when I say that life is not worth living anymore, I say never mind, you know if I am not able to feed myself [...] my mother, before she died, she was spoon fed for maybe two years before she passed away, but you know this is where love come in, like if you are the daughter you cannot let your mother starve [...] but in my case I don't have anybody who loves me the way I loved my mother for example, no I don't think I would be very interested in a robot [...] maybe I just want to wither away so that I can go sooner.

Like many of Lila's narratives this one focused on both the love involved in caring relations and the idea that she would not wish to extend her life in any way. This narrative directly followed a comment Lila made about another daily living task, that she would accept care from a robot that would help to undress her. Peter also commented on the idea that a robot might feed him:

I wouldn't want to think that the only way I could eat for the rest of my life was if a robot was feeding me, I would prefer that if I couldn't feed myself a person would feed me, on the other hand if on occasion that wasn't possible, I wouldn't mind the occasional robotic help, again, it's kind of an emotional thing.

Although not everyone would classify feeding as an 'intimate aspect of care', I would suggest, as Peter did, that there might be some kind of emotional aspect connected to the act of feeding, given that there may be eye contact or other intimate contact involved in

the process that could be meaningful for both care receiver and care giver. Marian commented directly on this idea of physical contact in care:

I think it is very very important to have physical touch and awareness of physical people around you, I can see doing something like having a bath as being separate from that, functional, but not to live only with [robotic assistance] when you're seriously ill in hospital, or at home, the touch of another human being is invaluable in terms of 'oh gee that's okay, I'm still okay', okay in the sense of 'I can feel, I can hear, and you were here for me', that's terribly terribly important to keeping one interested in continuing, there has to be some reason for, for not giving up.

Marian repeated the words “very” and “terribly” as she stressed the importance of physical human touch in care relations. She, like many others, could not imagine the future of robotic care providers without a joint partnership between human and non-human robot. Other participants commented less directly on the importance of physical touch in care, but they all seemed to share the feeling that a human care provider must accompany a care robot in order to retain human physical contact, and to maintain the type of observation only a person would be able to achieve.

When George spoke on the topic of emotion it was robotic emotion he focused on:

I think that [robots showing emotion] is just about the most important aspect of the interaction, they have to show happiness, you know 'I'm glad you're here with me [...] I think that is going down the right road [...] more than complete care, more interaction!

For George, a participant who would welcome a robot into his life with excitement, a robot would be interactive, it would respond to and express emotion, and (as he stated later in the interview) it would challenge him.

Louise Aronson (2014) has noted that there are “awkwardly intimate” aspects of care work (para. 6). Participant responses that focused on such care requirements were quite varied, many dismissing the idea that a robot could perform such tasks, some

welcoming this idea due to the personal dignity they felt it might provide, and some expressing mixed feelings toward the idea. For example Cicamica said:

I would choose definitely the physical care [...] because that's something [that] has to be done and it would be nicer if a human would do it, but sometimes it's even an advantage if a robot is doing because some people feel uncomfortable, I know a lot of old people hate it when they have to change them when they are in diapers.

Jiggs had a similar response, on a more personal note:

If there is a machine that could feed me [...] or washing, that sort of thing, be nice if I could just step into a shower and have a machine wash me rather than having somebody else do it. The sort of things that another human probably wouldn't like doing for me and that I probably wouldn't like to have another human doing for me.

Zigmunt considered the dignity he might retain if he could be alone at certain times with the assistance of a robot:

I imagine because sometimes I need to be alone, in the washroom for example [...] this is very good, you feel comfortable you know? A good idea [...] dignity, of course.

Angela connected to personal experience when addressing intimate care, also raising the familiar issue of whether a robot could be trusted not to malfunction:

I have some concerns about being able to control the things, computers don't always operate properly and they run into problems, somewhat scary being out of control, I'd be very happy for a computer to be washing my bum and not somebody else having to wash my bum (*laughing*), putting it crudely, for my own dignity yes, but also I don't want another person to have to do this [...] the reality is, like my husband's reality, no, something automatic can do that.

The feeling participants had that they would like to protect a human caregiver from performing certain personal aspects of care was prevalent in interviews. Not very many interviewees considered that there might be some kind of emotional or other intangible element involved in such care. I would suggest that this kind of interaction, performed willingly with care and concern for the care recipient, might be quite beneficial to both care provider and care receiver. My contention is that to provide care may be just as

fulfilling in some cases as it would be to receive care. My previous argument - that the emotional intensity involved in care relationships is just as likely constituted by the way a care receiver interprets care as by how the care provider intends to deliver care - is particularly relevant here.

Peter's response to the idea that someone other than a human wash him was quite contradictory to Cicamica, Jiggs, Zigmunt, and Angela's perspective. He explained:

I have no problem with people washing me [...] I think that humans could wash and clean you far better than some robots, certainly with present technology anyway, and again the emotional care aspect comes into it. I'm not going to repeat what it was because it's quite personal, but [...] when I was in hospital a nurse recognized a problem that a robot wouldn't.

Peter offers the same sentiment as Lila when she talked about a social robot not being "the end of it", having "live people" available to recognize need a robot might not.

Angela echoed this concern when she considered what might happen if she accepted a care robot that would be responsible for her bathing:

But if the robot was washing me, I might of developed a bed sore – it's the human being who would have recognized that because they've been the person lifting me, taking my clothes [...] some change in my status that day around my bathing, they might realized I'm bruised, maybe I've fallen [...] all those observation things that should be done in a good care setting [...] I would have concerns mentally and physically around, with the robot care.

The possibility that one day a robot would have the capacity to detect sensitive or personally intimate issues in care seemed to be beyond participants' imagination. Perhaps there existed no desire within the group of elder people I interviewed to imagine a robot as a sole and therefore fully responsible care provider. This lack of desire would certainly place limitations on one's imagination.

Like Peter, Nanny picked up on the emotional care aspect of what might be lost or what might be gained by having a human perform intimate aspects of care:

I know that it becomes very very sad when we have to have someone bathe us, but then again I feel that all being humans there has to be some kind of dignity that you can still keep with another person washing you, I don't know how I would feel about a machine, but I guess a machine is like a shower so [...] maybe take a trial run?

Whereas some participants imagined that a robotic substitute in care would provide dignity, Nanny suggested that dignity might not have to be lost in such a care exchange. I would add that the emotional connection in this kind of act might be important as well. Just as participants had differing views about what kind of robotic care they might want for themselves, they also had mixed responses regarding the type of robotic care they thought would be appropriate for others.

Considering Who Might Benefit from Robotic Care

During interviews I asked participants what kind of care recipient they imagined when thinking about robotic interventions into care. Some participants thought, as Cicamica said: "It could be anybody", but most had a pretty clear idea of who care robotics would be most appropriate for, many citing who would 'need' such care interventions rather than who would 'want' such care. For example, Jiggs said: "I'm imagining a person who is alone, frail, and a bit of an introvert, not active, I guess the sort of person I picture when we talk about this." Jiggs focused on the physical as well as the social in this response. The picture he painted was somewhat bleak given that it did not account for what this type of person might desire in terms of care. Several participants spoke about how there were times they just wanted to be left alone with no interruption from other people. Some cited bouts of depression as being the reason for this while other cited the fact that sometimes they just enjoyed solitude and valued time spent alone with their thoughts. My point here is that it seems possible that many elder people might

welcome a more passive type of care from a non-human from time to time. George made a distinction between physical and cognitive impairment in his response to the question of who might benefit from robotic care:

I see a person more physically impaired than mentally impaired, I don't think the mentally impaired would be able to take advantage of the robot too much [...] the mental problem is greater than the physical problems and more difficult to adapt to or realize the limitations of.

These comments from George are relevant to the conversation about robotic care and dementia, discussed at greater length below. They also have much in common with the comments of several other participants who focused on the physical benefits a care robot might promote. Honeybun was less speculative and more practical in her thinking, mindful of the fact that the kind of robotics we were talking about were not yet available when she said: "Maybe the younger ones coming up when these things are invented, they might prefer [robot care], I don't know." Perhaps it will be a younger generation who will prefer robotic care. In a way this would make sense since it is easier to accept and understand technology that comes into being over time so a person can get used to the idea of it. This would also make space for the establishment of certain robotics 'rules and regulations' to be put in place. As Lois said:

Well I think there should be very clear guidelines about who needs it, for instance, my mother died of lung cancer and a young doctor insisted that just before, not too long before she died, she should have some kind of [procedure] that meant going into a machine and it frightened her and I always felt angry that they didn't ask me because I would have said no, she's too sick [...] so I think that kind of thing would be helpful [asking] who needs it, what exactly is it for?

Lois had a point of view on the subject that was informed by her experience witnessing a moment in her mother's care that was somewhat traumatizing for both her and her mother. Her focus therefore was on preventing a frightening experience for elder people when

being introduced to care robotics. Nanny stressed repeatedly how this introduction might be ‘scary’ for elder people without any period of adjustment. Lois shared this outlook and recalled her anger and feeling of sorrow that she could not protect her mother from an invasive experience in care. If asked, Lois would probably have thoughts in response to my questions about whether care robotics should be used selectively, or banned from certain uses. In cases where such an introduction would serve to frighten an elderly person I would suggest a selective process of evaluation would be necessary.

A selective process might involve what Nanny suggested regarding elder people testing care robotics before they are approved for production. Perhaps if elder people were to become familiar with potential robotic care interventions in test settings or trial use periods they would develop a positive familiarity with such technologies. I see this potential familiarity opening space for new companion species relationships, moving beyond the assistive device as companion to the non-human robot as companion and perhaps even friend. To be clear, I am not saying that care robots *should* be viewed as companion species, I am suggesting that in the future the care robot might be understood in the same way assistive devices have been understood by participants who spoke of such devices as extensions of themselves, as undetermined until used, and as entangled in personal emotion, action, and evolution. Perhaps viewed in this way the limitations some participants placed on who might benefit from robotic care would change to allow for a more diverse robotic care user: one who *wants* robotic care as opposed to one who *needs* such care.

In Cases of Cognitive Decline

Complicating the issue of who might benefit from robotic care further is the fact that many people will experience some kind of dementia in their elder years. As noted previously it has been suggested that elder people with dementia who require a repetitive type of care interaction might respond well to some kind of non-human interaction and that this interaction might relieve potential caregiver stress (Mordoch et al., 2013; Roger, et al., 2012). George said that he would support the idea of having a care robot in the home because it would not become frustrated with a person who needed to have the same question answered multiple times. Referring to his own experience with his wife he said: “It’s so aggravating, the same things over and over again, and try to do it like it’s the first time.” George spoke of the patience and care he took in interacting with his wife whose dementia was progressing steadily. He noted how he tried not to let his frustration show because he knew it was not her fault for not remembering what she had already asked. Perhaps George would experience some respite if he and his wife had a robot that could interact with and respond to her for short periods of time. Angela had witnessed the kind of challenging care George was faced with providing for his wife. She recalled:

My mum did that for my father [who had dementia] all the time [...] literally I think ten seconds later he’d be asking my mum every ten seconds ‘what time is it’? I could see that [a social robot] might be useful.

Both George and Angela thought that there might be a use for robotics in care for those with dementia, as is often cited in the literature. Of course ethical questions abound when going down this road. Lois, who began her narrative by indicating that robotic care would be appropriate for those with dementia, questioned her assumption but then continued to consider possible outcomes in robotic care for those with dementia:

Especially with dementia, because some levels of dementia, they really are not aware of other people at all [...] well how do I know they're not aware? They don't seem to be [...] maybe if [an assistive care robot] were part of a care plan, you know that might take up some of the duties [...] for instance the repetitive game, it might be a huge improvement for a person with dementia to be able to do something 60 times, but you couldn't really pay somebody to do that.

I suppose a human caregiver *could* be paid to do something 60 times, but this is perhaps not what would be focused on in a care plan for someone with dementia. The task of repetitive play usually falls to the informal caregiver. In my work in a long-term care home I often find myself responding to the same comment or question repeatedly, but I do so with great patience, not because I am a person with endless patience but because I am with elder people in that space for a very limited period of time so I am able to maintain what patience I have. I have a hard time imagining how I might feel or respond in that kind of situation if I were a full-time care provider for someone experiencing dementia. What this project's participants recognized was that it would be quite difficult to assess whether or not an elder person with dementia would be comfortable interacting with a non-human robot without first introducing a robot into their care setting. Cicamica went through the same kind of thought process as Lois in this narrative:

How does the person feel talking to a robot? I mean the sick person [...] when I came to see [my husband] in the nursing home [...] he just didn't have enough words to tell me and he was so happy to see me [...] now imagine a robot walks in? 'You want to come and lay with me?', no, even if I try to put myself in the sick person's position, yeah it's very hard when you take care and they ask the same question 20 times, and I know, been there done it right, but if I was sick I would not, unless you are so far advanced that you can't even tell the difference – is that my wife, whatever, then fine, doesn't matter.

Each of these four interviewees expressed their acceptance that at a certain point in the decline in a person's cognitive ability associated with dementia they would find a use for a social robot that would take over some of the necessary interaction with the elder

person requiring care. This finding is particularly relevant because I would suggest many care ethicists would reject this acceptance. None of those interviewed for this project found the idea of a robotic interaction with a person with dementia to be outside the realm of potential care solutions to a growing need of care for those experiencing dementia.

Caring for a Care Robot

As I stated quite early on in this work, my overall impression following the completion of all interviews was that most elder people would prioritize personal independence rather than political questions about sociality and privacy. It is important to note that participants were not inclined to consider robotic *substitution* but rather robotic *supplementation* in future care relations. This finding connects to this project's organizing theoretical orientations in a number of ways, which I now turn to very briefly.

My feminist materialist approach to considering caring and care work has led me to consider that a future of robotic supplementations in care relations would not necessarily contribute to any change in the gendered nature of a formal and informal care 'workforce' made up of far more women than men. Therefore looking to the care robot to solve gendered care issues does not seem to be appropriate. It seems, however, that there are many other reasons to look toward a future of robotic interventions in care.

I have explored the relations humans may have with one another and with 'the other': the non-human robot. In the case of robotic supplementation (rather than robotic substitution), as was favoured by those I interviewed, both the biological and sociocultural conditions surrounding the aging body in need of care have been taken into consideration. It would appear that the human/non-human robot partnership has been

called upon to satisfy such inextricably linked human conditions. According to much of the literature I have cited previously and several of my interviewees, the human caregiver is commonly understood to be: pressed for time, in short supply, or too caught up in bureaucratic requirements to provide ‘good’ care. The non-human robotic caregiver has been viewed by this project’s participants as an interesting assistive device that is not limited by human barriers to caring, but is unable to satisfy all care requirements without human input. Those I interviewed imagined that by working together these two very different caregivers might be able to enhance future experiences of care.

Thinking with others who pay theoretical attention to the human body, my assertion that this body has an unpredictable quality and is in a constant state of ‘becoming’ is attached to the idea that the human body cannot be controlled and will very rarely meet socially constructed versions of the ideal body. When considering elder people and the type of care they may require this instability is key to advancing the argument for co-caring between human and robot.

Finally, and perhaps most relevant to this project’s overall theoretical orientation, the idea that a non-human care robot must only work alongside or with a human caregiver ties into what I have borrowed from Karen Barad (2007): a lovely and compelling conception of intra-action. My attention to intra-action contributes to an understanding of the ways in which humans are transformed by and transform technologies. As I wrote in the opening chapter, inspired by Barad’s (2007) work: as humans ‘become’ with non-human forces, they can no longer be considered simply human. We, as humans, are increasingly acting in concert with the non-human. Therefore my question becomes: How might elder people benefit from this co-action?

In an effort to address this question I shift now to an unexpected place my research took me; a place where my question of care-by-robot was set aside in favour of a question of a very different kind: George's thoughts related to the idea of not just receiving care from a robot but providing care for a robot and how this might transform relations with non-human robot caregivers in the future. His first thought on this matter was:

I think at the other end [caring for a robot] gives more satisfaction than being cared for [...] I would like to have a robot, or a little [robotic] dog [...] I can see that little dog coming up, and patting the dog on the head and getting a lick back and the tail wagging, that would give me as the cared for a lot of pleasure.

The idea that caring for a robot might provide elder people with more satisfaction than receiving care from a robot is provocative, especially when imagining, as participants did, that robotic care would be a supplement to, not a replacement for, human care. George went on to ask the following rhetorical questions:

Is there any care required by the robot? Like, if I had a robot do I have to oil him once a month? And would I get a pat on the head if they said they enjoyed it? Do they need something cared for?

After this buildup George spoke this final narrative on potential robotic care:

No matter how refined they can make [care robots] they're going to need upkeep. I think it would be so advantageous to enable some of this upkeep to be done by the person receiving the robot's care [...] probably in most cases that would be impossible, but in some instances I think it wouldn't [...] and would give the person who is able to perform these simple things for them – their robot, it would give them a lot of satisfaction [...] the physically impaired elder I think would be able to accomplish this [...] it would be nice to have that available – person A lubes up their robot and the robot pats them on the head and says thank you, that kind of interaction I think would be just terrific [...] talk about satisfaction, that would give instant satisfaction, you're not entirely being cared for by this thing, it needs care from me and appreciates it.

I was quite taken with George, his complicated elder care situation, and his thoughts on reciprocal care with robots. I could not have hoped for a better way to end this chapter

than with this participant's voice. George spoke of caring as I imagine caring, be it between two humans or a human and a non-human: as a multifaceted entanglement of individual needs that, hopefully, produces a mutually satisfying exchange of care.

Conclusion: Reflecting & Responding

This project has not been so much about robotics as it has been about exploring care and unfamiliar approaches to care. As the title above suggests, I have dedicated this final chapter to a process of reflecting on and responding to the incredible journey on which this project has taken me. I also revisit two participant narratives as I unfold the moments in this project that have mattered the most. My time spent unexpectedly in a long-term care home inspired both this thesis and my entrance into what I found to be an inspiring world of elder care. Over the course of this research I have engaged in a number of community-based programs for elder people and have volunteered weekly in a long-term care home. This work in various communities has served to influence my outlook on elder care and has provided me with a passion for working with elder people. It has also motivated me to ‘stay with the trouble’ I have found to be present in elder people’s lives.²⁵

New Discoveries

I have made a number of compelling discoveries during the process of producing this thesis. Most of these have already been presented in previous chapters, but in this chapter I reflect on the significance of those I find most relevant to the goal of contributing to existing knowledge of how elder people may currently understand and view robotic interventions in care. Again, I acknowledge that the elder people with whom I spoke are not necessarily representative of the elder population as a whole. The people who volunteered to participate in this research did so because they had an interest in

²⁵ I borrow Donna Haraway’s phrase (‘staying with the trouble’) here to refer to: staying with the uncomfortable and potentially unsolvable issues that accompany aging in a social world that does not welcome aging and often denies disability, acknowledging the value in consultation and co-creation with those ‘in trouble’, and prioritizing finding supportive communities instead of potentially destructive ‘solutions’ to care needs.

discussing elder care and robotic interventions into care. As I have noted, this did not necessarily mean that all participants had a positive outlook on the idea of future robotic care developments, but it did mean they had a desire to speak of such potential. This acknowledgement is akin to my understanding of a diffractive methodological approach to research: as a process that demands recognition of the choices I made throughout the research process and how these choices had a ripple effect, influenced by the responses interviewees gave, touching the path my research took, and shaping the knowledge it produced.

One of the things I want my reader to understand is that the vast majority of my participants were very interested in new technologies, and exploring how such technologies might open new social worlds and connect them to care in a meaningful and productive way. In a Baradian sense this connectedness would involve - due to what I discovered to be an openness to new types of relations in care - intra-relating, not just in a traditional human care giver/care receiver relationship. Although speculative in nature, the conversations I had with participants about future care robotics were eye-opening in terms of discovering the sense of adventure and hope many elder people had when considering a non-human robotic caregiver.

The passion and immediacy with which debates about elder care robotics are happening in the media indicates that attention to this subject is broadening its reach. As each month has passed since I began this project I have grown more and more convinced that this is the case as I have followed both mainstream and non-mainstream media reporting on developments in robotic care interventions. The elder people I spoke with

wanted to be part of this conversation. Most had either been following reports on the subject of robotic care or had investigated the topic independently.

What I have learned from participants is that a close relationship between care and technology is likely to be increasingly accepted and expected by elder people in the future. Of course, we already accept as a society that care and technology go hand in hand, especially within formal institutions of care, but what I am referring to is the technologies that will break out of these formal settings and enter the home and informal relations of caring. What I am imagining goes beyond, for example, the ‘smart home’ surveillance systems, the pacemaker, or the electronic wheelchair. What I am imagining is perhaps set a few decades in the future and involves a relationship between the personal companion assistive care robot that is purchased and programmed to respond to specific individual needs of its user, that is its care recipient. This robot could serve as a primary caregiver designed to build a relationship with its user as a social companion and to perform necessary functional care needs as desired, or as a secondary caregiver designed to satisfy only selected physical care needs its user would prefer a human caregiver did not perform. This is to name only two types of potential care robots, but I suspect many more will come into being.

In either care robot scenario, as I have conceived them, the care robot may contribute to the emotional labour that often exists in care relations. I do not view this to be a necessary care element in a relationship with a care robot because my participants nor I ever considered the care robot to completely replace a human caregiver. Even in the case I proposed above, where a care robot becomes responsible for primary care, a human would still be required to program and operate such technology. Furthermore, as

suggested by George, the relationship with a robotic caregiver would likely be most beneficial if it involved some kind of reciprocity. If I were to continue to develop this line of research I would revisit participants with a new interview schedule focused on the notion of caring for the technology that cares for the human. I expect this scenario would appeal to many of the elder people I interviewed.

The ideas that each participant had during the course of our interview answered many questions I considered when first creating this project. One such question was how elder people would view care robotics. The responses I received were quite complex, most describing mixed feelings about dependence on technologies in care versus dependence on people in care. Elder people spoke in terms of positive and negative outcomes of the hypothetical introduction of care robotics into their lives. Common depictions of robots as untrustworthy or as likely to malfunction were not far from this hypothetical consideration, some participants citing what they may find scary or what they would fear if care robotics were to become a mainstream elder care option in the future. I experienced an overwhelmingly positive reception when discussing such possibilities, but participants did not once consider a future of full robot substitution. I stress this point because it has influenced my reflections on robotic care technologies and has shaped this work's response to questions about the future of elder care.

Understanding Care & Caring

When originally defining key concepts and terms in this work I wrote that I understand care or caring to be: *Something that involves satisfying both physical and emotional care requirements, requires varying levels of commitment, and may be performed by both humans and non-humans.* When I wrote the penultimate chapter of

this work, almost a year later, I described caring to be: *A multifaceted entanglement of individual needs that, hopefully, produces a mutually satisfying exchange of care.* I recognize the disparity between these two understandings of what caring is and while I find both to be valuable I identify more now with the latter because it represents the ‘messiness’ of care and it illustrates the way caring is as much about the care receiver as it is about the care giver.

Key to the notion of a mutual care exchange is my previous contention that the positive aspects found in care relationships are just as likely to be produced by the way a care recipient *interprets* the care provided as by the way a care provider *intends* the care to be provided. As I noted earlier with reference to a particularly heart-wrenching interview excerpt, caring can be incredibly cruel to a caregiver but it can also be incredibly satisfying when the effort to care is rewarded with success; success as determined by both care provider and care receiver. One thing I have come to understand about caring is that people find themselves capable of all kinds of caring, and although care requirements are not always met without fracturing the needs of others in some way, efforts to provide care can be incredibly selfless. This understanding ties into another, also conceived of as I conducted research for this project, that the impossibility of agreeing on what qualifies as ‘good’ care means that sometimes care expectations must crumble in order to be rebuilt by those seemingly less qualified but perhaps incredibly intuitive in matters of caring. I am referring here to the informal caregiver, the advocate in care, or perhaps even the faithful dog who knows just how to ‘be there’.

My understanding of care and caring evolved as I spoke to participants. It was suggestions such as George’s that he might become a caregiver to his care robot, or those

who imagined a caregiver who would never assume but always ask, that informed my outlook on what care is or what care could be. At this point I am compelled to revisit something George said about care, because the way he spoke and the thoughts he had were fitting to the Harawaian approach I embraced throughout this project, representative of his reciprocal care idea, and so similar to the way other participants imagined an ideal caregiver. Recall George said:

When I think of care I always tend to think of a dog, now we always had dogs, big golden retrievers, 90 pounds, now, talk about care, they could make you feel wonderful, you know they'd come up and snuggle up to you and follow you everywhere and do things for you and just *didn't seem to intrude upon your life*, just pat them on the head once in a while and they love it [...] [that's] my thoughts of care, if you can be like a dog, *not get in the way, always be there*.

I draw attention to how this non-human animal ideal caregiver will “not get in the way” or “intrude upon your life” and “always be there” because so many participants spoke of care in terms of deficiencies and impositions. Many had struggled to find or even imagine ideal care provisions. The thought that bothered participants, especially those who lived alone, was that a human caregiver would enter their environment in a way that could not be controlled, the common fear being of a ‘pushy’ caregiver who would challenge the personal independence the elder person wished to maintain.

One of the most important ideas I take from my conversations with participants about care is that one does not have to accept standardized care provisions but rather can hold out for that which becomes care or caring through the process of living. By this I mean that there are always new developments in the field of care and that caring tends to come from unexpected places when a care need becomes apparent. This is not a fantastical ideation, as I acknowledge many people, especially elder people, do not receive the care they need but rather a suggestion that one does not have to accept that

mainstream care offerings exist in isolation. I recall here a story, told by Lois, about a situation involving unexpected care she witnessed her husband receive:

My husband was an engineer [...] and he was a senior consultant and in the course of his job he gave presentations, and one day at lunch [in a formal care setting] for some reason his presentation on something popped into his head and he stood up at lunch and gave this whole presentation and I was just in tears (*crying*) he was sick a long time [...] in that room there were staff members and there were people whose conditions did not affect their brain as much and they understood what the situation was right there and they listened and at the end they sort of acknowledged him *and that was caring (crying)*.

Lois said “and that was caring”, describing that which would be hard to imagine when thinking about formal care provisions but which she appreciated perhaps more than the formally proscribed caring her husband received at that time.

Before closing my thoughts on how I understand care I must also acknowledge as particularly influential to my outlook Donna Haraway’s description of caring as:

“becoming subject to the unsettling obligation of curiosity, which requires knowing more at the end of the day than at the beginning” (2008, p. 36). As I hope this chapter reflects, my attention to the subject of care and caring and my actions of care and caring have certainly felt like a positive ‘obligation’ and have been vital to my current position of knowing more now than I knew at the beginning of this research journey.

Talking About Care & Caring in Close Proximity

Talking about care with elder people for this project was extremely enjoyable. The view I was permitted into each person’s life was both educational and inspiring. Throughout this thesis I have searched for more meaningful ways to talk about care. I have witnessed the way some elder people speak of care and how they speak to one another about care. Conversations about care are happening in many different realms, both formally and informally/professionally and privately. I see a need for such

conversations to come together, to transgress boundaries that currently prevent elder people's voices from being heard. I recognize that what I am outlining is a substantial social shift in a common perspective towards the value of elder people's thoughts and opinions on care, but I find that there is value in making suggestions that seems impossible or particularly challenging.

One of my participants who gave me pause to think of caring in new ways was Lois when she spoke of the way in which our society fails to embrace and confront grief. The same might be said of elder people's suffering from which it is almost socially acceptable to turn due to a cultural fear of aging and elder age. This must change. I suggest that a key first step toward change would be a collective embracing of or close proximity to the suffering elder people commonly endure.

I divert briefly here from responding to and reflecting on what has already been presented in this work in order to introduce two suggestions I wish to make related to collective approaches to caring for elder people, approaches that embrace intergenerational engagement, for the purpose of breaking down traditional barriers between elder people and the rest of society. I also include in this account a relevant personal narrative about my recent experience participating in an intergenerational project. My first suggestion is that intergenerational care be considered as a way to sustain and encourage relationships of caring that are commonly neglected, and my second suggestion is that institutionalized care for children and care for elder adults take place within shared spaces more frequently than they do currently.

Each of these approaches to care would reposition elders and elder care from isolated 'private' spaces to public spaces of care. These approaches would also promote

intergenerational solidarity and challenge the assumption that elder people cannot contribute meaningfully to society (Larkin, 2010). Intergenerational care that promotes solidarity and community support systems does not exist only out of necessity, but due to a recognition that care relationships can extend beyond traditional family structures and institutional boundaries. In order for the care needs of elder people to be met this group must first be valued and respected and, ideally, potential caregivers will not feel obligated or be coerced into satisfying care needs.

My first suggested care approach, intergenerational care, may involve elders working or volunteering in childcare centres or elders participating in community based programs that have been created in response to a particular social need, for example, after-school programming for children whose parents experience a gap in care they are not able to fill with family-based care (Larkin, 2010). Incorporating an elder population into caring for children exposes children to caregivers of all ages and may extend an elder person's years of work. This productive work activity, paid or unpaid, if desired by the elder person would work to sustain both community involvement and caregiver health and wellbeing. Larkin and Newman (2001) found that having older adult volunteer caregivers in a preschool setting augmented the care environment for both children and their teachers. These authors reported older caregivers "saw themselves as providing the love and affection of a grandparent, helping children to develop good social skills, and being a role model for healthy aging" (Larkin & Newman, 2001, p. 375). Given that families are not always able to remain closely connected with extended family members such as grandparents, this accessibility to a grandparent 'stand-in' is an opportunity for more children to interact with and to be introduced to an older generation of adults. It has

also been found that intergenerational childcare settings in which elder adults hold paid positions promote healthy aging (Newman & Riess, 1992).

My second suggested collective care approach to caring involves intergenerational shared sites of care. These have been defined as spaces where children and elder people “receive ongoing services and/or programming at the same site concurrently, and where the participants interact through regularly scheduled planned intergenerational activities, as well as through spontaneous, informal encounters” (Goyer, 2001 as cited in Hayes, 2003, p. 114). For intergenerational shared spaces of caring to work they must be properly integrated, meaning that care providers must be willing to engage in this type of care activity and a focus must be placed on the potential for spontaneous interaction between children and elder care recipients. Spontaneous interaction would take place, for example, while children enjoy ‘story time’, so that there is no focused scheduled timed activity that puts pressure on interaction but rather a familiarity develops naturally between children and elder people (Hayes, 2003). Frequent and regular opportunities for interaction between children and elders have been shown to improve social acceptance and understanding of elder people (Gigliotti et al., 2005).

Recently I was involved with an intergenerational project that brought teenagers and elder people together to learn about and write poetry. Over the course of two months these two groups attended workshops together and formed poetry-writing partnerships. The evolution I observed throughout my time helping to facilitate this program was remarkable. When asked for feedback midway through the program the teens noted how uncomfortable they were when first meeting the elder people and how they believed they would have nothing to talk about or have anything in common. By the end of the program

their feedback was overwhelmingly positive and they each described what they had enjoyed learning from their elder partner and what they discovered they had in common. The elder people in turn spoke about the joy the young people had brought into their lives.

Sadly, as with so many other such innovative intergenerational programs, this one came to an end when its funding was exhausted. This was a great disappointment for the elder people involved because they had experienced a new opening in their social worlds and felt cared for by both program staff and their younger counterparts. Unfortunately, although the feedback elder people gave about the program was requested and considered it did not effect any apparent change and the elder participants therefore experienced a sense of abandonment and loss.

The alternative approaches to care I have outlined above are presented as possible steps towards building active intergenerational caring relationships in the future. They will not *solve* care problems, but I suggest their integration into communities would *benefit* those involved in elder care relationships, and possibly shift a social attitude towards elder people away from considering them to be insignificant to embracing and respecting them as valued members of society who may also engage meaningfully as caregivers.

“They Belonged Together”

Early in this work I noted that I intended to build on and contribute to a field of research that reports on the needs of elder people without consulting them or including them (in any meaningful sense) in the research process. By allowing participants to define this work and guide its trajectory I have tried to meet this goal. I hope that in future research it will become common practice to consult elder people about care issues

prior to considering care solutions. This project has worked to bring new ideas to the ongoing conversation about elder care. It has left open the fascinating possibility that one day in the future a care robot might be perceived as a desirable and enabling object chosen by elder people to be an intra-relatable companion species that facilitates both independence and personal dignity as well as non-human robotic intra-dependence. This possibility seems to respond to a fear of dependence, one that I discovered while interviewing many participants. It seems more likely that an elder person would feel independent in care if they were cared for by *something* they could control rather than *someone* who may not respond as well to their wishes due to their own personal needs.

I touch now, one last time, on Haraway's (2008) imagining of an 'enabling objectification'. Writing with reference to a predicament she faced regarding what should become of her father's crutches following his death she states: "they belonged together; they were one vital body" (p. 174). I recognize that my suggestion that one day elder people might conceive of a care robot in such a way may not sit well with some people. I acknowledge this but, as previously stated, I find value in suggesting that which may seem impossible. Not only do I believe this to be possible, I believe it might also be beneficial. The enablement I have written of is something I imagine that elder people could be empowered by. Based on the fourteen interviews I conducted for this project I can say that empowerment in care relations is something that elder people passionately seek.

Having reached the end of this chapter and the bittersweet end of this project, my question has become: What can we take from the care robot, a hybrid/imagined being? Although I have no sure answer, I do have the aforementioned revelations from

conversations with elder people, people whose creativity in thinking of the future care robotic served to enrich a discussion that *began* by conceptualizing care and sharing experiences of caring and *found no end*. I say the conversation found no end because I believe it lives on in each elder person's life, as it does in mine. I am encouraged by the fact that the spirit in which I approached this topic, with openness and curiosity, is the spirit I found in most participants' considerations of their future care. I look forward to continuing my journey in elder care relations beyond the final words I write for this thesis, and I know it is bound to be an exciting one.

References

- Alaimo, S. (2008). Trans-corporeal feminisms and the ethical space of nature. In S. Alaimo & S. Hackman (Eds.), *Material feminisms* (pp. 237-264). Bloomington, IN: Indiana University Press.
- Arat-Koç, S. (2009). The politics of family and immigration in the subordination of domestic workers in Canada. In B. Fox (Ed.), *Family patterns, gender relations* (3rd ed.) (pp. 428-452). Don Mills, ON: New York: Oxford University Press.
- Armstrong, P. (2013). Skills for Care. In P. Armstrong & S. Braedley (Eds.), *Troubling care: Critical perspectives on research and practices* (pp. 101-112). Toronto: Canadian Scholars' Press Inc.
- Armstrong, P., & Armstrong, H. (2005). Public and private: Implications for care work. *The Sociological Review*, 53(s2), 167-187. doi:10.1111/j.1467-954X.2005.00579.x
- Armstrong, P., Banerjee, A., Szebehely, M., Armstrong, H., Daly, T., & Lafrance, S. (2009). *They deserve better: The long-term care experience in Canada and Scandinavia*. Ottawa: Canadian Centre for Policy Alternatives.
- Aronson, J. (2002). Elderly people's accounts of home care rationing: missing voices in long-term care policy debates. *Ageing and Society*, 22(4), 399-418. doi: 10.1017/S0144686X02008759
- Aronson, L. (2014, July 19). The future of robot caregivers. *The New York Times*. Retrieved from http://www.nytimes.com/2014/07/20/opinion/sunday/the-future-of-robot-caregivers.html?_r=0
- Aronson, J., & Neysmith, S. M. (1996). "You're not just in there to do the work": Depersonalizing policies and the exploitation of home care workers' labour.

- Gender and Society*, 10(1), 59-77. doi:
10.1177/089124396010001005
- Badalato, B., Carroll, G., Giler, D., & Hill, S. (Producers), & Fincher, D. (Director).
(1997). *Alien Resurrection* [Motion Picture]. USA: 20th Century Fox.
- Barad, K. (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter. *Signs: Journal of Women in Culture and Society*, 28(3), 801-831. doi: 10.1086/345321
- Barad, K. (2007). *Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning*. Durham, NC: Duke University Press.
- Bekey, G. A. (2012). Current trends in robotics: Technology and ethics. In P. Lin, K. Abney & G. A. Bakey (Eds.), *Robot ethics: The ethical and social implications of robotics* (pp. 17-34). Cambridge, MA: The MIT Press.
- Bennett, J. (2010). *Vibrant matter: A political ecology of things*. Durham, NC: Duke University Press.
- Benoit, C. M. (2000). *Women, work and social rights: Canada in historical and comparative perspective*. Scarborough, ON: Prentice Hall.
- Benoit, C., & Hallgrímsdóttir, H. D. (2011). Conceptualizing care work. In C. Benoit & H. Hallgrímsdóttir (Eds.), *Valuing care work: Comparative perspectives* (pp. 3-22). Toronto: University of Toronto Press.
- Bjornsdottir, K. (2009). The ethics and politics of home care. *International Journal of Nursing Studies*, 46, 732-739. doi:10.1016/j.ijnurstu.2008.10.014
- Black, H. K. (2009). Pictures of suffering in elders' narratives. *Journal of Aging Studies*, 23(2), 82-89. doi:10.1016/j.jaging.2008.12.002

- Bookman, A., & Kimbrel, D. (2011). Families and elder care in the twenty-first century. *The Future of Children*, 21(2), 117-140. doi:10.2307/41289632
- Borenstein, J., & Pearson, Y. (2012). Robot caregivers: Ethical issues across the human lifespan. In P. Lin, K. Abney & G. A. Bakey (Eds.), *Robot ethics: The ethical and social implications of robotics* (pp. 251-265). Cambridge, MA: The MIT Press.
- Boston Dynamics (2015, February 9). Introducing Spot [Video file]. Retrieved from <https://www.youtube.com/watch?v=M8YjvHYbZ9w#t=47>
- Brickner, R. K., & Straehle, C. (2010). The missing link: Gender, immigration policy and the live-in caregiver program in Canada. *Policy and Society*, 29(4), 309-320. doi:10.1016/j.polsoc.2010.09.004
- Broadbent, E., Stafford, R., & MacDonald, B. (2009). Acceptance of healthcare robots for the older population: Review and future direction. *International Journal of Social Robotics*, 1(4), 319-330. doi:10.1007/s12369-009-0030-6
- Broekens, J., Heerink, M., & Rosendal, H. (2009). Assistive social robots in elderly care: A review. *Gerontechnology*, 8(2), 94-103. doi:10.4017/gt.2009.08.02.002.00
- Campbell, K. (2004). The promise of feminist reflexivities: Developing Donna Haraway's project for feminist science studies. *Hypatia*, 19(1), 162-182. doi:10.1353/hyp.2004.0003
- Campbell, S. (1997). *Interpreting the personal: Expression and the formation of feelings*. Ithaca, NY: Cornell University Press.
- Carroll, G., Giler, D., & Hill, S. (Producers), & Fincher, D. (Director). (1992). *Alien*³ [Motion Picture]. USA: 20th Century Fox.

- Carroll, G., Giler, D., & Hill, S. (Producers), & Scott, R. (Director). (1979). *Alien* [Motion Picture]. USA: 20th Century Fox.
- Chen, M. Y. (2012). *Animacies: Biopolitics, racial mattering, and queer affect*. Durham, NC: Duke University Press.
- Coffey, A., Atkinson, P. (1996). *Making sense of qualitative data: Complementary research strategies*. Thousand Oaks: Sage.
- Chowdhury, R., & Gutman, G. (2012). Migrant live-in caregivers providing care to Canadian older adults: An exploratory study of workers' life and job satisfaction. *Journal of Population Ageing*, 5(4), 215-240. doi:10.1007/s12062-012-9073-9
- Cranswick, K., & Dosman, D. (2008). Eldercare: What we know today. *Canadian Social Trends*, 86, 48-56. Retrieved from <http://www.statcan.gc.ca/pub/11-008-x/2008002/article/10689-eng.pdf>
- CTV News. (2014, December 7). 'Intergenerational' retirement home sees students live alongside the elderly. Retrieved from <http://www.ctvnews.ca/health/intergenerational-retirement-home-sees-students-live-alongside-the-elderly-1.2136659>
- Decker, M. (2008). Caregiving robots and ethical reflection: The perspective of interdisciplinary technology assessment. *AI & Society*, 22(3), 315-330. doi:10.1007/s00146-007-0151-0
- Doucet, A. (2008). "From her side of the gossamer wall(s)": Reflexivity and relational knowing. *Qualitative Sociology*, 31(1), 73-87. doi: 10.1007/s11133-007-9090-9
- Ducey, A. (2010). Technologies of caring labour: From objects to affect. In E. Borris & R.

- S. Parreñas (Eds). *Intimate labors: Cultures, technologies, and the politics of care* (pp. 18-32). Stanford, CA: Stanford Social Sciences.
- England, P. (2005). Emerging theories of care work. *Annual Review of Sociology*, 31, 381-399. doi:10.1146/annurev.soc.31.041304.122317
- Esterberg, K. (2002). *Qualitative methods in social research*. Boston: McGraw-Hill.
- Federici, S. (2012). *Revolution at point zero: Housework, reproduction, and feminist struggle*. Oakland, CA: PM Press.
- Feldman, M. S. (2004). Making sense of stories: A rhetorical approach to narrative analysis. *Journal of Public Administration Research and Theory*, 14(2), 147-170. doi:10.1093/jopart/muh010
- Finlay, L. (2003). The reflexive journey: Mapping multiple routes. In L. Finlay & B. Gough (Eds.), *Reflexivity: A practical guide for researchers in health and social sciences* (pp. 3-20). Malden, MA: Blackwell Science.
- Flyvbjerg, B. (2001). *Making social science matter: Why social inquiry fails and how it can succeed again*. Cambridge, UK; New York: Cambridge University Press.
- Folbre, N. (2006). Nursebots to the rescue? Immigration, automation, and care. *Globalizations*, 3(3), 349-360. doi:10.1080/14747730600870217
- Franzosi, R. (1998). Narrative analysis--or why (and how) sociologists should be interested in narrative. *Annual Review of Sociology*, 24, 517-554. doi:10.2307/223492
- Frost, S. (2011). The implications of the new materialisms for feminist epistemology. In H. Grasswick (Ed.), *Feminist epistemology and philosophy of science: Power in knowledge* (pp. 69-83). Dordrecht; New York: Springer.

- Gee, J. P. (1985). The narrativization of experience in the oral style. *Journal of Education*, 167(1), 9-35.
- Gigliotti, C., Morris, M., Smock, S., Jarrott, S. E., & Graham, B. (2005). An intergenerational summer program involving persons with dementia and preschool children. *Educational Gerontology*, 31(6), 425-441. doi: 10.1080/03601270590928161
- Gordon, S. (1996). Feminism and Caring. In S. Gordon, P. Benner, & N. Noddings (Eds.), *Caregiving: Readings in knowledge, practice, ethics, and politics* (pp. 256-277). Philadelphia: University of Pennsylvania Press.
- Greenhough, B., & Roe, E. (2010). From ethical principles to response-able practice. *Environment and Planning D: Society and Space*, 28, 43-45. doi: 10.1068/d2706wse
- Griffith, A. I. (1998). Insider/outsider: Epistemological privilege and mothering work. *Human Studies*, 21, 361-376. doi: 10.1023/A:1005421211078
- Gutiérrez Rodríguez, E. (2010). *Migration, domestic work and affect: A decolonial approach on value and the feminization of labor*. New York: Routledge.
- Haraway, D. J. (2008). *When Species Meet*. Minneapolis: University of Minnesota Press.
- Haraway, D. J. (1997). Modest-Witness@Second-Millennium.FemaleMan-Meets-OncoMouse: Feminism and technoscience. New York: Routledge.
- Haraway, D. J. (1991). *Simians, cyborgs and women: The reinvention of nature*. London: Free Association Books.
- Hardt, M. (1999). Affective labour. *Boundary 2*, 26(2), 89-100. doi:10.2307/303793

- Hayes, C. (2003). An observational study in developing an intergenerational shared site program: Challenges and insights. *Abstracts in Social Gerontology*, 47(1), 113-132.
Retrieved from http://resolver.scholarsportal.info.proxy.library.carleton.ca/resolve/10474862/v47i0001/0280_aosidasspcai
- Held, V. (2002). Care and the extension of markets. *Hypatia*, 17(2), 19-33.
doi:10.2307/3810748
- Held, V. (2006). *The ethics of care: Personal, political, and global*. Oxford; New York: Oxford University Press.
- Henderson, A. (2001). Emotional labor and nursing: An under-appreciated aspect of caring work. *Nursing Inquiry*, 8(2): 130-138.
- Hochschild, A. R. (2001). The nanny chain. *The American Prospect*, 11(4), 32-36.
Retrieved from <http://prospect.org/article/nanny-chain>
- Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. Berkeley: University of California Press.
- Holstein, M. (2013). A looming dystopia: Feminism, aging, and community-based long-term care. *International Journal of Feminist Approaches to Bioethics*, 6(2), 6-35.
doi:10.2979/intjfemappbio.6.2.6
- Hughes, C., & Lury, C. (2013). Re-turning feminist methodologies: From a social to an ecological epistemology. *Gender and Education*, 25(6), 786-799.
doi:10.1080/09540253.2013.829910
- Hurd, G. A. (Producer), & Cameron, J. (Director). (1986). *Aliens* [Motion Picture]. USA: 20th Century Fox.

- Jackson, A. Y. (2013). Making matter making us: Thinking with grosz to find freedom in new feminist materialisms. *Gender and Education*, 25(6), 769-775.
doi:10.1080/09540253.2013.832014
- Kembhavi, R. (2012). Canadian seniors: A demographic profile. Retrieved from http://www.elections.ca/res/rec/part/sen/pdf/sen_e.pdf
- Kingsmill, S., & Schlesinger, B. (1998). *The family squeeze: Surviving the sandwich generation*. Toronto: University of Toronto Press.
- Kittay, E. F. (2013). Caring for the long haul: Long-term care needs and the (moral) failure to acknowledge them. *International Journal of Feminist Approaches to Bioethics*, 6(2), 66-88. doi:10.2979/intjfemappbio.6.2.66
- Korczynski, M. (2013). Touching moments: An analysis of the skillful search for dignity within body work interactions. In C. Wolkowitz, R. L. Cohen, T. S. Sanders, & K. Hardy (Eds.), *Body/sex/work: Intimate, embodied and sexualized labour* (pp. 28-42). New York: Palgrave Macmillan.
- Labov, W. (1972). *Language in the inner city – Studies in the Black English vernacular*. Oxford: Basil Blackwell.
- Labov, W. (1982). Speech actions and reactions in personal narrative. In D. Tannen (Ed.), *Analyzing discourse: Text and talk* (pp. 219-247). Washington, DC: Georgetown University Press.
- Larkin, E. (2010). Who is needy and who should give care? Promoting intergenerational solidarity. In M. Cruz Saco & S. Zelenev (Eds.), *Intergenerational solidarity: Strengthening economic and social ties* (pp. 99-127). New York: Palgrave Macmillan.

- Larkin, E., & Newman, S. (2001). Benefits of intergenerational staffing in preschools. *Educational Gerontology*, 27(5), 372-385.
doi:10.1080/03601270152053401
- Lin, P. (2012). Introduction to robot ethics. In P. Lin, K. Abney & G. A. Bakey (Eds.), *Robot ethics: The ethical and social implications of robotics* (pp. 3-15). Cambridge, MA: The MIT Press.
- Luxton, M. (2009). *More than a labour of love: Three generations of women's work in the home*. Toronto, ON: Women's Press.
- Luxton, M. (1997). *Feminism and families: Critical policies and changing practices*. Halifax, N.S: Fernwood.
- Lynch, K. (2007). Love labour as a distinct and non-commodifiable form of care labour. *Sociological Review*, 55(3), 550-570. doi:10.1111/j.1467-954X.2007.00714.x
- MacDonald, L. (2011). Elder abuse and neglect in Canada: The glass is still half full. *Canadian Journal on Aging*, 30(3), 437- 465. doi:10.1353/cja.2011.0041
- Maher, J. (2004). Skills, not attributes: Rethinking mothering as work. *Journal of the Association for Research on Mothering*, 6(2), 7-16. Retrieved from <http://pi.library.yorku.ca/ojs/index.php/jarm/article/viewFile/4917/4111>
- Mahon, R., & Robinson, F. (2011). Introduction. In R. Mahon & F. Robinson (Eds.), *Feminist ethics and social policy: Towards a new global political economy of care* (pp. 1-17). Vancouver: UBC Press.
- McCance, T. V., McKenna, H. P., & Boore, J. R. P. (2001). Exploring caring using narrative methodology: An analysis of the approach. *Journal of Advanced Nursing*, 33(3), 350-356. doi:10.1046/j.1365-2648.2001.01671.x

- Michel, S., & Peng, I. (2012). All in the family? Migrants, nationhood, and care regimes in Asia and North America. *Journal of European Social Policy*, 22(4), 406-418.
doi:10.1177/0958928712449774
- Mogg, T. (2014, October 29). Check out the 'ambulance drone' that could one day save your life. *Digital Trends*. Retrieved from <http://www.digitaltrends.com/cool-tech/check-out-the-ambulance-drone-that-could-one-day-save-your-life/>
- Mol, A. (2002). *The body multiple: Ontology in medical practice*. Durham: Duke University Press.
- Mol, A. (2008). *The logic of care: Health and the problem of patient choice*. London; New York: Routledge.
- Mordoch, E., Osterreicher, A., Guse, L., Roger, K., & Thompson, G. (2013). Use of social commitment robots in the care of elderly people with dementia: A literature review. *Maturitas*, 74, 14-20. doi: 10.1016/j.maturitas.2012.10.015
- Murray, S. B. (2000). Getting paid in smiles: The gendering of child care work. *Symbolic Interaction*, 23(2), 135-160. Retrieved from <http://www.sjsu.edu/people/susan.murray/mypubs/Getting%20Paid%20in%20Smiles.doc>
- Neven, L. (2010). 'But obviously not for me': Robots, laboratories and the defiant identity of elder test users. *Sociology of Health & Illness*, 32(2), 335-347.
doi:10.1111/j.1467-9566.2009.01218.x
- Newman, S., & Riess, J. (1992). Older workers in intergenerational child care. *Journal of Gerontological Social Work*, 19(2), 45-66. doi:10.1300/J083v19n02_04
- Parks, J. A. (2010). Lifting the burden of women's care work: Should robots replace the "human touch"? *Hypatia*, 25(1), 100-120. doi:10.2307/40602642

- Peine, A., Rollwagen, I., & Neven, L. (2014). The rise of the “innosumer”—Rethinking older technology users. *Technological Forecasting & Social Change*, 82(1), 199-214. doi:10.1016/j.techfore.2013.06.013
- Polkinghorne, D. E. (1988). *Narrative knowing and the human sciences*. Albany: State University of New York Press.
- Pyper, W. (2006). Balancing career and care. *Perspectives on Labour and Income*, 7(11), 5-15.
- Radin, M. J. (1996). *Contested commodities*. Cambridge, MA: Harvard University Press.
- Råholm, M. (2008). Uncovering the ethics of suffering using a narrative approach. *Nursing Ethics*, 15(1), 62-72. doi:10.1177/0969733007083935
- Rejnö, Å., Berg, L., & Danielson, E. (2013). The narrative structure as a way to gain insight into peoples' experiences: One methodological approach. *Scandinavian Journal of Caring Sciences*, 28(3), 618-626. doi:10.1111/scs.12080
- Riach, K. (2009). Exploring participant-centred reflexivity in the research interview. *Sociology*, 43(2), 356-370. doi:10.1177/0038038508101170
- Richard, A., & Rudnychyj, D. (2009). Economies of affect. *Journal of the Royal Anthropological Institute*, 15(1), 57-77. doi:10.1111/j.1467-9655.2008.01530.x
- Ricour, P. (1981). *Hermeneutics and the human sciences: Essays on language, action and interpretation* (J. B. Thompson, Trans.). Newbury Park, CA: Sage.
- Riessman, C. K. (1993). *Narrative Analysis*. Thousand Oaks: Sage.
- Robinson, F. (2011). *The ethics of care: A feminist approach to human security*. Philadelphia: Temple University Press.

- Roger, K., Guse, L., Mordoch, E., & Osterreigher, A. (2012). Social commitment robots and dementia. *Canadian Journal on Aging*, 31(1), 87-94. doi: 10.1017/S0714980811000663
- Rutman, D. (1996). Child care as women's work: Workers' experiences of powerfulness and powerlessness. *Gender and Society*, 10(5), 629-649.
- Sandelowski, M. (1991). Telling stories: Narrative approaches in qualitative research. *Image: The Journal of Nursing Scholarship*, 23(3), 161-166. doi: 10.1111/j.1547-5069.1991.tb00662.x
- Sandelowski, M. (1994). The proof is in the pottery: Toward a poetic for qualitative inquiry. In J. M. Morse (Ed.), *Critical issues in qualitative research methods* (pp. 46-63). Thousand Oaks: Sage.
- Sharkey, A., & Sharkey, N. (2012a). Granny and the robots: Ethical issues in robot care for the elderly. *Ethics and Information Technology*, 14(1), 27-40. doi:10.1007/s10676-010-9234-6
- Sharkey, N., & Sharkey, A. (2012b). The rights and wrongs of robot care. In P. Lin, K. Abney & G. A. Bakey (Eds.), *Robot ethics: The ethical and social implications of robotics* (pp. 267-282). Cambridge, MA: The MIT Press.
- Sharkey, N., & Sharkey, A. (2010). Living with robots: Ethical tradeoffs in eldercare. In Y. Wilks (Ed.), *Close engagements with artificial companions: Key social, psychological, ethical and design issues* (pp. 245-255). Amsterdam; Philadelphia, PA: John Benjamins Pub. Co.
- Shibata, T., & Wada, K. (2008). Robot therapy at elder care institutions: Effects of long-term interaction with seal robots. In A. Helal, M. Mokhtari & B. Abdulrazak (Eds.),

- The engineering handbook of smart technology for aging, disability, and independence* (pp. 405-418). Hoboken, NJ: Wiley.
- Sousa, I. (2013). New technologies and concepts of care. In P. Armstrong & S. Braedley (Eds.), *Troubling care: Critical perspectives on research and practices* (pp. 129-142). Toronto: Canadian Scholars' Press Inc.
- Sparrow, R., & Sparrow, L. (2006). In the hands of machines? The future of aged care. *Minds and Machines*, 16(2), 141-161. doi:10.1007/s11023-006-9030-6
- Stafford, R. Q., MacDonald, B. A., Jayawardena, C., Wegner, D. M., & Broadbent, E. (2014). Does the robot have a mind? Mind perception and attitudes towards robots predict use of an eldercare robot. *International Journal of Social Robotics*, 6(1), 17-32. doi: 10.1007/s12369-013-0186-y
- Stasiulis, D., & Bakan, A. B. (1997). Negotiating citizenship: The case of foreign domestic workers in Canada. *Feminist Review*, 57, 112-139.
- Steinberg, R. J., & Figart, D. M. (1999). Emotional labour since: The managed heart. *The ANNALS of the American Academy of Political and Social Science*, 561, 8-26. doi: 10.1177/000271629956100101
- Stern, C. (2010, September 2). Robots help to enrich lives of the elderly. *The Canadian Jewish News*. Retrieved from <http://cjnews.com/node/86188>
- Taguchi, H. L. (2012). A diffractive and Deleuzian approach to analyzing interview data. *Feminist Theory*, 13(3), 265-281. doi: 10.1177/1464700112456001
- Taylor, B. (2012, March 2). U of T robot named Brian is here to help elderly in daily tasks. *Toronto Star*. Retrieved from

- http://www.thestar.com/sponsored_sections/2012/03/02/u_of_t_robot_named_brian_is_here_to_help_elderly_in_daily_tasks.html
- Tobe, F. (2012). Where are the elder care robots? Retrieved from <http://spectrum.ieee.org/automaton/robotics/home-robots/where-are-the-eldercare-robots>
- Tronto, J. C. (2013). *Caring democracy: Markets, equality, and justice*. New York: New York University Press.
- Tronto, J. C. (1993). *Moral boundaries: A political argument for an ethic of care*. New York: Routledge.
- Tufekci, Z. (2014, July 22). Failing the third machine age: When robots come for grandma - Why “caregiver robots” are both inhuman and economically destructive. Retrieved from <https://medium.com/message/failing-the-third-machine-age-1883e647ba74>
- Weeks, L. E., & LeBlanc, K. (2010). Housing concerns of vulnerable older Canadians. *Journal on Aging*, 29(3), 333-347. doi: 0.1353/cja.2010.0006
- Wendell, S. (2010). Toward a feminist theory of disability. In L. J. Davis (Ed.), *The disability studies reader* (3rd ed.). (pp. 336-352). New York: Routledge.
- Wendell, S. (1996). *The rejected body: Feminist philosophical reflections on disability*. Great Britain: Routledge.
- Williams, F. (2011). Towards a transnational analysis of the political economy of care. In R. Mahon & F. Robinson (Eds.), *Feminist ethics and social policy: Towards a new global political economy of care* (pp. 21-38). Vancouver: UBC Press.

wimp.com. (2015, February 21). A bittersweet tale of an elderly woman and her robot
[Video file]. Retrieved from <http://www.wimp.com/bittersweettale/>

Appendices

Appendix A: Recruitment Flyer

Seeking Research Participants!

For a study entitled:

Thinking Through the Future of Care: Elder People's Understandings of, and Feelings About, Robotic Interventions in Elder Care

To participate in this study, you will be:

- ☐ Over the age of 70
- ☐ Interested in talking about your understandings of, and feelings about, robotic interventions in elder care
- ☐ Willing to participate in a one-on-one 60-minute interview with me at a time and place of your choosing.

You are being asked to participate in a 60-minute in-person interview. You will be asked to answer 10-15 topical open-ended questions.

Participants will be compensated with a \$10 Tim Horton's gift card.

This project has been reviewed and cleared by the Carleton University Research Ethics Board at 613-520-2517 or ethics@carleton.ca.

Please contact the researcher, (Louisa), for more details on this study at (613) 663-2875 or louisahawkins@cmail.carleton.ca

Louisa Hawkins
louisahawkins@cmail.carleton.ca

Louisa Hawkins
louisahawkins@cmail.carleton.ca

Louisa Hawkins
louisahawkins@cmail.carleton.ca

Louisa Hawkins
louisahawkins@cmail.carleton.ca

Louisa Hawkins
louisahawkins@cmail.carleton.ca

Louisa Hawkins
louisahawkins@cmail.carleton.ca

Appendix B: Invitation to Participate in Research

Invitation to Participate

Title of Research Project: Thinking Through the Future of Care: Elder People's Understandings of, and Feelings About, Robotic Interventions in Elder Care

Date of ethics clearance: October 31st, 2014

Date of expiration for the project: May 31st, 2015

Invitation to Participate: You are invited to participate in a research study called *Consultations About Care: Elder People's Understandings of and Feelings about Robotic Interventions in Elder Care* that is being conducted by Louisa Hawkins, a Master's Student in Sociology at Carleton University, who is working under the supervision of Professor Alexis Shotwell. To qualify to participate you need to be over the age of 70, interested in talking about your understandings of and feelings about robotic interventions in elder care, willing to participate in a one-on-one 60 minute interview with me at a time and place of your choosing.

Purpose of the Study: The purpose of this study is to explore how elder people conceptualize care and understand technological developments in elder care.

What will you be asked to do? This study involves one 60 minute interview that will take place in a location of your choosing. You will be asked to share your thoughts, feelings, and understandings about robotic interventions in elder care. With your consent, interviews will be audio-recorded. Once the recording has been transcribed, the audio-recording will be destroyed.

Possible Risks: I do not anticipate any risks involved with participating in this research. However, it is possible that during the interview you may talk about care issues that you find upsetting. In order to reduce this risk, I will provide you with sample interview questions in advance so that you have chance to reflect on the topic matter and your own capacity and willingness to respond to such questions about elder care.

Confidentiality: Your name will be replaced with a pseudonym so that nobody, other than myself, can tell what you said. Your name will never be used in any presentations or papers about this study. You will not have access to your individual responses from the interview nor will any other participants have access to this information. All research data, including audio-recordings and any notes will be encrypted and password-protected. Any hard copies of data (including any handwritten notes or USB keys) will be kept in a locked filing cabinet to which only I have access. Research data will only be accessible by the researcher and the research supervisor.

Can you quit? Yes, you can change your mind and stop participating at any time. If you are uncomfortable answering any questions, you are free to refuse to answer and I will

respect your choice to pass. After the interview has ended you will have six weeks to withdraw from the study. Should you decide to withdraw the information you have provided will be destroyed.

Compensation: You will receive a \$10 Tim Horton's gift card as a token of thanks for sharing your time and knowledge with me. If you decide to withdraw from the study you will still receive this compensation.

REB contact information: This project was reviewed by the Carleton University Research Ethics Board, which provided clearance to carry out the research. Should you have questions or concerns related to your involvement in this research, please contact:

Professor Andy Adler, Chair
Professor Louise Heslop, Vice-Chair
Research Ethics Board
Carleton University
1325 Dunton Tower
1125 Colonel By Drive
Ottawa, ON K1S 5B6
Tel: 613-520-2517
ethics@carleton.ca

If you would like to participate in this research project or if you have any more questions, you can ask me, Louisa, about anything you don't understand, or would like more information about. My contact information is provided below.

(Signature)

Principle investigator: Louisa Hawkins
Phone: [REDACTED]
Email: louisahawkins@cmail.carleton.ca

Supervisor: Alexis Shotwell
Phone: 613-520-2600 x 3082
Email: alexis.shotwell@carleton.ca

Appendix C: Consent Form

Consent Form

Title: *Thinking Through the Future of Care: Elder People's Understandings of, and Feelings About, Robotic Interventions in Elder Care*

Date of ethics clearance: October 31st, 2014

Ethics Clearance for the Collection of Data Expires: May 31st, 2015

I _____, choose to participate in a study about robotic interventions in elder care. This study aims to discover how elder people conceptualize and understand care technologies (such as social and assistive care robots) and what kind of care elder people desire for themselves. The researcher for this study is Louisa Hawkins (Master's student in the Department of Sociology and Anthropology at Carleton University) who is working under the supervision of Dr. Alexis Shotwell (Department of Sociology and Anthropology at Carleton University).

This study involves one 60-minute interview. With your consent, interviews will be audio-recorded. Once the recording has been transcribed, the audio-recording will be destroyed.

The purpose of this study is to explore how elder people conceptualize care and understand technological developments in elder care. By participating in this research project you have agreed to engage in an interview led by me, Louisa Hawkins. You will be asked a series of questions pertaining to elder care, and you will be invited to answer these questions. You will be provided with a list of sample interview questions in advance. You are not required to answer any question that makes you feel uncomfortable.

As a voluntary participant in this study, you have the right to end your participation in the study at any time, for any reason, up until six weeks following the completion of the interview. You can withdraw in person or by phoning or emailing the researcher or the research supervisor. If you withdraw from the study, all information you have provided will be immediately destroyed.

Anonymity will be respected throughout this study and pseudonyms will be used. Although the information gathered will be used for my research, your name and identity will not be disclosed. Furthermore, the audio recordings will be destroyed after transcription no later than one month after the interview. Pseudonyms will be used throughout transcription. Only the researcher and research supervisor will have access to the transcriptions or notes taken during the interview,

All research data, including audio-recordings and any notes will be encrypted and password-protected. Any hard copies of data (including any handwritten notes or USB keys) will be kept in a locked filing cabinet. Research data will only be accessible by the

researcher and the research supervisor. The collected information will only be revisited and used in the future for the purpose and topic it was gathered for and not for an unrelated research project. If in the future the researcher would like to access the data for use that is unrelated to the research project, the necessary steps to seek consent from each participant will be taken.

As a token of appreciation, you will receive a \$10 Tim Horton's gift card. This is yours to keep, even if you withdraw from the study.

If you would like a copy of the finished research project, you are invited to contact the researcher to request an electronic copy which will be provided to you.

This project was reviewed by the Carleton University Research Ethics Board, which provided clearance to carry out the research. Should you have questions or concerns related to your involvement in this research, please contact:

REB contact information:

Professor Andy Adler, Chair
Professor Louise Heslop, Vice-Chair
Research Ethics Board
Carleton University
1325 Dunton Tower
1125 Colonel By Drive
Ottawa, ON K1S 5B6
Tel: 613-520-2517
ethics@carleton.ca

Researcher contact information:

Name: Louisa Hawkins
Department: Sociology
Carleton University
Tel: [REDACTED]
Email: louisahawkins@cmail.carleton.ca

Supervisor contact information:

Name: Alexis Shotwell
Department: Sociology
Carleton University
Tel: 613-520-2600 x 3082
Email: alexis.shotwell@carleton.ca

Do you agree to be audio-recorded: ___Yes___No

Signature of participant

Date

Signature of researcher

Date

Appendix D: Interview Schedule

Interview Questions

How would you define 'care'?

What do you think it means to be caring?

What kind of care experiences/relationships have you had in your life that relate to elder care?

How do you imagine the care you might want to receive in the future?

What do you think of as 'good' care?

When do you usually feel most cared for?

How would you describe the qualities of a caregiver you would like to have care for you?

What do you know about robotic interventions in care?

What kind of things have you heard about care 'robots' on the radio or television in the past few years?

Care robots are often categorized as: assistive robots, rehabilitation robots, and social robots. Rehabilitation robots are used to assist with basic functions (such as bathing and eating), to help with cleaning, and to monitor health and safety, whereas social robots are designed to provide a sense of companionship.

When you imagine the care you might like to receive, which (if any) of the aforementioned care robots can you see interacting with?

Why this kind of robot?

Robotic assistive care has been promoted as being the answer to a growing care need in an elderly population, with a focus on the goal of relieving caregivers' physical involvement in care work.

How do you feel about this 'solution' to elder care requirements?
Have you ever received care from a non-human?

If yes, please describe this experience of care.

Can you think of any situation in which you would prefer not to receive care from a human caregiver?

If yes, what would this situation look like?

When you imagine robotic interventions in care, what kind of care recipient do you see?

How do you feel about pet robots that are designed to be social companions?

When elder people chose to 'age in place,' but require significant care assistance, there are often accompanying safety concerns. Such concerns have compelled the development of 'smart homes' (homes that are equipped with robotic surveillance technology). Many technologies are used in 'smart homes,' namely motion detectors, close circuit television, heat sensors, intelligent refrigerators that monitor their contents, and an AI systems that monitor the activities of the elder person in the home.

Would you permit such technologies in your home in order to be able to receive care 'in place'?

If yes, which technologies would be most or least acceptable to you?

How comfortable, on a scale from 1-10 (1 being the least and 10 being the most comfortable), are you with the idea of permanently having an assistive robot or monitoring surveillance where you live?

What kind of home monitoring system do you think would be appropriate for an elder person with dementia?

What kind of concerns do you have about the future of elder care?

What do you think is the most pressing concern relating to elder care?

Is there anything else you would like to add about elder care and robotic care interventions that we haven't covered yet?