

Robots in aged care: A dystopian future?

Author: Professor Robert Sparrow
Department of Philosophy,
Chief Investigator, ARC Centre of Excellence for Electromaterials Science,
&
Adjunct Professor, Centre for Human Bioethics, Monash University.

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Abstract:

In this paper I describe a future in which persons in advanced old age are cared for entirely by robots and suggest that this would be a dystopia, which we would be well advised to avoid if we can. Paying attention to the *objective* elements of welfare rather than to people's happiness reveals the central importance of respect and recognition, which robots cannot provide, to the practice of aged care. A realistic appreciation of the current economics of the aged care sector suggests that the introduction of robots into an aged care setting will most likely threaten rather than enhance these goods. I argue that, as a result, the development of robotics is likely to transform aged care in accordance with a trajectory of development that leads towards this dystopian future even when this is not the intention of the engineers working to develop robots for aged care. While an argument can be made for the use of robots in aged care where the people being cared for have chosen to allow robots in this role, I suggest that over-emphasising this possibility risks rendering it a self-fulfilling prophecy, depriving those being cared for of valuable social recognition, and failing to provide respect for older persons by allowing the options available to them to be shaped by the design choices of others.

Keywords: ethics; robots; robotics; aged care; society; welfare; social robotics; dystopia.

Robots in aged care: A dystopian future?

Introduction

Robot butlers have long been a staple of science fiction. The idea that we could rely on a robot assistant to help us with daily tasks as we get older and frailer and thus help us stay in our own homes longer is an attractive one. It is this thought — or, perhaps, fantasy — that appears to motivate many robotics researchers and the government agencies that fund their attempts to develop robots for aged care.¹

One way of responding critically to this project is to note just how far the technology is from rendering it plausible. A realistic understanding of what robots can and can't do — and what they are likely to be able to do in the future — is essential to any assessment of the prospects for them playing a useful role in meeting the needs of citizens in advanced old age [Sorell T & Draper D (2014); Sparrow R & Sparrow L (2006)]. However, it is always possible that any particular pessimistic estimation of the likely future capacities of robots will be overtaken by progress in science and engineering. Perhaps more importantly, there is a risk that concentrating on the technical questions about the likely capacities of robots will blind us to deeper problems with this project that would persist even if robots could do everything enthusiasts hope for them. Another line of investigation, then, would be to consider what it would be like were engineers to be successful in building aged care robots.

I would therefore like to begin this paper by telling you a story.

A visit to a robotic nursing home

Imagine that you are visiting my university, Monash University, for the first time.

You are in a taxi, travelling through the light-industrial area in which Monash is

¹ Notable contemporary examples include the European Union funded ACCOMPANY Project, which aims to build an ACCOMPANY System (or Care-O-Bot 3), which, according to the list of objectives on its website, will provide “services to elderly users in a motivating and socially acceptable manner to facilitate independent living at home” [See <http://accompanyproject.eu/> (accessed 16.1.15)] and the (also EU funded) HOBBIT project, the goal of which is “to advance towards a robot solution that will enhance wellness and quality of life for seniors, and enhance their ability to live independently for longer at their homes.” [See <http://hobbit.acin.tuwien.ac.at/index.html> (accessed 21.1.15)]

located when you notice a long white building sandwiched between two factories. There are no windows on this building and from the outside it is hard to tell whether it is a warehouse, a factory, or a factory farm — although the cluster of antenna sprouting from the roof suggest that whatever it is, it involves the transmission of large amounts of data. Careful observation would reveal that this building is visited daily by several trucks and small vans; the absence of any windows in these vehicles gives away the fact that these are autonomous vehicles, the commercial descendants of “Google car”.

You are curious enough to stop the taxi and get out and approach the building, the doors of which open silently as you do so. Stepping inside, you realise that it is an aged care facility for individuals with limited mobility. There are no windows because each resident’s room features a number of window-sized televisions displaying, for the most part, scenes from some of the most spectacular parks and gardens around the world. You do notice, however, that several residents appear to have set these screen so that they show what they would have seen if they did have windows.

What is most striking about the facility, though, is that apart from the residents there is no one there. The building is fully automated, staffed only by robots. Robot sweepers, polishers, and vacuum cleaners clean the floors. Residents are turned and lifted out of bed by the beds themselves, which can perform these actions either as a result of voice prompts from the resident, remote instructions, or pre-programmed schedules. Sophisticated wheelchairs with autonomous navigation capabilities move the residents around the facility, to the dining hall where pre-packaged meals are delivered to tables by serving robots, and to the showers, where something that looks like a cross between an octopus and a car wash bathes them carefully. Again, you observe that some residents control the wheelchairs using a joystick or voice commands, while others appear to be moved around at the initiative of the chairs themselves. In the midst of all this robotic bustle, two robots in particular stand out: the telemedicine robot, which allows medical personnel situated in a call centre in India to diagnose conditions, prescribe and administer medications, and perform simple operations; and, the telepresence robot, which allows relatives to talk with and “visit” their parents and grandparents without leaving the comfort of their own homes.

One might expect that this building would be silent or disturbed only by the buzzing of the robotic vacuum cleaners. In fact, it is filled with conversation and laughter as the residents talk to their robot companions, which have been programmed to entertain and converse with them in a never ending, if sometimes repetitive, stream of conversational gambits and chitchat. The residents — especially those whose medical records show they have dementia — seem happy. So effective are this facility’s operations that — apart from those it “cares” for — you are the first person to set foot in it for five years.

This story is science fiction.² Indeed, for reasons I will discuss further below, it is more far-fetched than much of the reporting of current research on robotics, which is filled with glowing portrayals of the achievements and potential of robots for aged care, might suggest. Nevertheless, it is a recognisable extension of the sorts of claims commonly made in the literature about the prospects for companion robots and/or service robots in aged care.³ Indeed, I hope you will recognise many of the technologies I have included in this scenario from the other contributions to this special issue; it is a world in which, I want to suggest, the engineers have “succeeded”.

I have begun with this vignette for four reasons.

First, although it is science fiction, I am also convinced that it is dystopian science fiction: it describes a situation that we should try to avoid rather than one to which we should aspire. Moreover, as I will argue further below, this may remain true even if residents cared for by robots are happier than they would be if they were cared for by human beings.

Second, I want to explore why this is the case. I will suggest that paying attention to the *objective* elements of welfare rather than to people’s happiness reveals the central importance of respect and recognition to the practice of aged care and that the introduction of robots into an aged care setting will often threaten rather than enhance these goods.

Third — and perhaps most controversially — I want to argue that the introduction of robots into the aged care setting is likely to transform aged care in accordance with a trajectory of

² Mark Coeckelberg (2012) outlines a similar scenario as a possible vision of the future of aged care in a paper of which I only became aware after drafting this one.

³ For a recent survey of such claims, see Vincze M, Weiss A, Lammer L, Huber A, & Gatterer G (2014).

development that leads towards this dystopian future even when this is not the intention of the engineers working to develop robots for aged care.

Finally, I want to suggest that even when technology use is autonomous, as it is in at least some cases in the scenario I have described, it may nevertheless remain problematic because of the ways in which technology embodies and establishes power relations between different groups of citizens and thus threatens respect for older citizens.

Happiness, well-being, and dystopia

The scenario I have just described is one in which the residents appear to be happy while being cared for by robots. This is perhaps the central feature of the scenario that makes it science fiction. People at all stages of human life require human contact, both social interaction and physical touch, for their psychological — and physical — well-being and so it is in fact exceedingly unlikely that people would flourish if cared for solely by robots. Nevertheless, it's possible — although still, I think, unlikely — that some individuals, for instance, committed misanthropes or those with dementia severe enough that they were unable to distinguish robots from human carers, would be happy being cared for entirely by robots. Thus, in order to address the strongest possible case for the benefits of aged care robotics, I have outlined a scenario in which people are indeed happy in the care of robots. Indeed, I want to concede the possibility that the residents of this facility are, in a non-trivial — if controversial — sense, happier than they would be if they were cared for by human beings in an alternative contemporary facility, where staff shortages and low wages mean that human staff are often stressed and sometimes curt or rude.

However, once I have acknowledged that the residents in this scenario are happy, my claim that it is dystopian may now seem puzzling. How can we say that people's circumstances are bad when they are happy?

I hope that some readers will already share my intuition that this is not a future we should celebrate and strive for — even if it would be a happy one. However, in order to fully understand the why this scenario is still a dystopia, we must take a brief intellectual detour into the philosophy of welfare. The question of how we tell when somebody's life is going well or whether they are harmed or benefited by certain changes in their circumstances is

absolutely essential to social policy, as well as to the intellectual foundations of economics, and so it has attracted a great deal of philosophical scrutiny.⁴ While I will not be able to do justice to this body of thought here, a quick account of the main dialectic in the literature will help us to see that human welfare consists in much more than happiness.⁵

Of course, happiness is clearly a good thing and an important component of well-being. However, it is equally clear that happiness is not the proper measure of the quality of someone's life. It would be an uncontroversially bad way of caring for people, for example, to strap them to their beds while they were asleep and then dope them up with mood elevating drugs or maintain them on morphine drips so that they were in a state of continuous ecstasy.

For this reason, hedonistic accounts of well-being, which place happiness or pleasure at their centre, are unsatisfying. At the very least, what seems to matter is not whether or not we are happy but whether or not we are getting what we want. Are our lives going the way we want them to? Note that this is a different matter to whether or not we *think* our lives are going the way we want them to [Nozick R (1974: 44-45)]. It is, possible, for instance, that we think our life has a certain structure or valuable elements when, in fact, it does not.

However, as an account of what makes a human life go well, the satisfaction of desires or preferences is also extremely problematic. Some desires seem trivial, such that their satisfaction appears to contribute little to our well-being, while the satisfaction of other desires seems straightforwardly bad for us. If a person doesn't want love, family, beauty, or wealth but just wants to collect bottle-tops, do we want to say that they have lived a successful human life if they die with a large bottle-top collection?⁶ What if someone who is deeply depressed desires the collapse of all those projects they had previously held to be valuable? It is implausible to hold that the satisfaction of *any* desire contributes to a person's well-being — it also matters what the desires are desires for.

These problems are especially pressing for accounts of welfare that focus on the satisfaction of preferences because of the phenomenon of “adaptive preferences” [Elster J (1985, 109-110)]. Human beings are very good at adapting to even quite miserable situation and will

⁴ For a useful (if dated) survey, see Griffin J (1986).

⁵ The account below roughly follows Parfit D (1984: 493 and subsequent discussion).

⁶ A variation of a counter-example first suggested by John Rawls (1971: 432).

typically lower their ambitions to suit their circumstances. For this reason, we need to be extremely careful about concluding that a person's life is going well just because they are realising their desires.

These two problems have therefore moved many philosophers to embrace what is called an "objective list" theory of well-being [Arneson R (1999); Griffin J (1986); Rice C. (2013)].⁷ When we want to evaluate someone's welfare, we should consider the extent to which they have realised – or perhaps simply have available to them — certain goods that are objectively valuable. Are they healthy? Is their life free from pain? Do they have friends and satisfying personal relationships? Have they adequate material comforts? Do they have access to beauty? Do they enjoy the other goods that make a human life meaningful and successful? Of course, the content of any such list is controversial, which in turn has led some thinkers [Sen A (1999); Nussbaum M (2000 & 2011)] to conclude that we should privilege the capacity to obtain these goods over their possession, but this controversy doesn't seem especially irresolvable; if you ask people what sorts of things contribute to a human life going well there will usually be a remarkable degree of overlap in the lists that they come up with, if not in the precise rankings of goods on such lists [Rice C (2013: 210-211)].

In any case, there are two goods that, I believe, are each essential to *any* plausible list of objective goods, which explain why the scenario I have described is dystopian.

First, there is an objective good, which I shall call "recognition", which consists in the enjoyment of social relations that acknowledge us in our particularity and as valued members of a community. Second, there is an objective good, which I shall call "respect", which consists in social and political relationships wherein our ends are granted equal weight to those of others in the community. These goods are closely related and are often enjoyed or absent together. However, they are in fact distinct.⁸ At a rough first approximation, we might

⁷ An influential alternative involves introducing a requirement for some degree of idealisation in the specification of the relevant desires. Thus, for instance, we might say that people are well off when the desires that they reflectively endorse when fully informed are satisfied. Such accounts suffer from a tendency to collapse into versions of the "objective list" theory when placed under philosophical pressure because it is difficult to quarantine accounts of the reasonableness of desires from the worth of their objects.

⁸ Although the fact that relations between persons have this dual aspect is reasonably uncontroversial, both the precise way to make the distinction and the most appropriate terminology by which to mark it remain a matter of some controversy. The idea of "recognition" as a distinct good was central to the philosophical debate about multiculturalism, which took place in the 1990s [see especially Taylor C & Gutmann A (1992)] although the contrast with respect was not always stated explicitly. Nancy Fraser (2000) comes close to making this distinction as I make it here, although she cashes out the implications of a concern for respect as a concern for

think of recognition as a matter of the *form* of social relations and respect as their *content*.⁹ For instance, polite and courteous interactions with officialdom are part of recognition, while granting citizens a vote in decisions that affect them is a function of respect. Similarly, insults are an affront to recognition, while assaults involve the failure to respect their targets. Another way of characterising and distinguishing these goods is to identify their appearance in historical accounts of the nature of the “good life”. For instance, recognition played a central role in the Aristotelian virtue of “honour”, which was concerned with how one appears in the eyes of others, while for Hegel (1977) it was foundational to subjectivity. In contrast, Kant’s focus on the ethical requirement to relate to other human beings as members of the “Kingdom of ends” emphasised the importance of respect.

Recognition and respect are important components of human welfare because, as Aristotle (2004) (as well as many others) emphasised, human beings are fundamentally social animals. No human being can survive into adolescence — or flourish in adulthood — without a community. The nature of our psychology is such that lack of human contact perverts us, even where it is deliberately sought out. Social relations enter into our very thoughts because the language we use is developed and nourished by a community. Our relation to that community and to its members is therefore central to our well-being. Deprivation of recognition, in particular, may have dramatic impacts on a person’s subjective well-being and on their psychological and physical health. Lack of respect may be similarly corrosive but also involves the denial of a person’s moral worth regardless of whether or not they become aware of it.

For current purposes, what matters is that these are both goods that are constituted by certain types of relationships *between human beings*. Machines lack both the interiority and the capacity to enter into the rich sets of affective relations, which are constituted by mutual vulnerability and the particular contingent features of human embodiment, necessary to establish these ethical relations [Sparrow R (2004)]. Thus, while clever design and programming might succeed in convincing people that robots recognise their particularity and

the distribution of political and economic opportunities. My account of recognition subsumes the first and third form of recognition distinguished by Axel Honneth (1992) in his justly influential account, while my concept of respect closely tracks the second form of “recognition” he identifies. In Nussbaum’s list of capabilities, recognition is included within “affiliation”, while respect is most obviously represented as “control over one’s environment” but is also represented in the concern with freedom and opportunity that drives the focus on capabilities rather than a more determinate list of goods [Nussbaum M (2011: 33-34)].

⁹ This can only be an approximation because recognition also admits of the distinction between genuine and ersatz acknowledgement of the worth of others.

respect their ends, they cannot in fact provide these objective goods [Sparrow R (2002)]. People in the aged care facility I have described are deprived of both recognition and respect by virtue of being looked after entirely by robots and for that reason their welfare is jeopardised even if they are themselves unconscious of this fact.¹⁰ Even someone with severe dementia has a better quality of life when — as far as is possible — these relations are present, regardless of whether or not they themselves are aware of them.¹¹ Indeed, as I observed above, so central are these relationships to a good human life, that it is likely that only those deluded about their situation in this home will in fact be happy.

Although I have not emphasised it here, there is a conceptual connection between respect and recognition and the provision of the “care” that should be at the heart of aged care. As I have argued at length elsewhere [Sparrow R & Sparrow L (2006)], robots cannot provide genuine care because they cannot experience the emotions that are integral to the provision of such care. Another way of making the same point, though, would be to observe that genuine care affirms the worth and individuality of the persons being cared for through the provision of recognition and is guided by a concern for their wishes and projects founded in respect.

The best laid plans of engineers...

A world in which older people were cared for only by robots might be a dystopia, then, even if the people being cared for were happy.¹² Yet an argument that some possible future is dystopian is neither here nor there if that future is highly unlikely to arrive. Given that I have already conceded that the scenario I describe above is science fiction, one might well wonder what its relevance is to the real world of (the design of) aged care robotics?

I don't, in fact, believe that we are ever likely to reach a point where people are cared for entirely by robots, let alone where they are happy being so, not least because I'm cynical

¹⁰ This is not to say that older persons are always treated with respect and recognition by human “carers”. However, where human beings don't provide these goods this is widely acknowledged to represent a moral failing. As I discuss below, the claim that the use of robots in aged care is inimical to respect is more controversial than the claim about recognition and I defend it further in the last part of this paper.

¹¹ As I have argued elsewhere [Sparrow R (2002)], the ethics of designing artefacts that encourage this delusion is problematic.

¹² Vallor S (2011) argues, with some plausibility, that it would also be a dystopia in so far as this is a world in which (potential) caregivers are denied the opportunity to cultivate important virtues and to benefit from contact with the elderly. For some reservations about the general form of this argument, however, see Sparrow R (2015).

about the utility of robots in aged care for the foreseeable future [Sparrow R & Sparrow L (2006)]. However it is possible that I am wrong in this — indeed one presumes that those advocating pouring funding into research into aged care robotics believe that there is a good chance that I am wrong. Regardless, I want to suggest that, by clarifying the logic of the development of these technologies, this scenario reveals something important about the project of developing robots for aged care settings even if they are never likely to fully realise their potential.

Those committed to this project are likely, I suspect, to object to this suggestion on at least three grounds. First, they will insist that the goal of their research is to make it possible for people to stay out of any institutional setting — let alone one as “total” as the one that I have described — longer by developing robots that can support them in their daily lives and to remain in their homes.¹³ Second, they will insist that rather than aiming to replace human beings with robots in caring roles, their goal is to design and manufacture robots that will supplement and facilitate the provision of good quality care by human beings: the future of aged care will be “humans plus robots” rather than “robots instead of humans”. Third, they will agree that nobody should be forced to accept a robot carer when they don’t want one but argue that where people have consciously chosen to employ a robot to assist in their care my points about the value of recognition and respect have little weight [Borenstein J & Pearson Y (2010: 286)]. In short, they will either deny that my scenario accurately anticipates the ends of their project or that it is necessarily dystopian.

For the remainder of the paper, I will address each of these arguments in turn.

“Robots at home” or “robots in nursing homes”?

As I noted above, people have been talking about the advent of robotic butlers ever since the dawn of robotics. Yet there are a number of reasons why this long-anticipated future has proved so elusive, which also suggest that robots are much more likely to be successful in institutional contexts rather than households at least in the first instance and probably for many years to come.

¹³ Again, an objective that is highlighted in both the EU funded ACCOMPANY Project [See: <http://accompanyproject.eu/>] and HOBBIT Project [See <http://hobbit.acin.tuwien.ac.at/index.html>].

Despite decades of research — and despite much progress being made in the field recently — perception and object recognition remain extremely difficult for robots. As a consequence, robots work best in structured environments, where their programmers can anticipate the range of situations they will encounter. Robots handle the chaotic and the unexpected badly. Often robots “work” when the environment — including the options available to humans in interacting with the robot — can be structured to suit the capacities of the machine.

Individual households tend to be cluttered and chaotic environments, which are hard for robots to function in, but also expensive and difficult to modify in order to suit machines. Designing or modifying environments to suit robots is much more plausible for institutions, which are often already shaped with reference to the specific requirements of the institution. Institutions also typically generate clearly defined tasks — such as delivering meals or medications to residents according to a schedule — that robots are more likely to be capable of succeeding at, where they would fail in more challenging environments.

Moreover, aged care robots, especially robots capable of lifting items, are likely to be expensive artefacts. Institutions are more likely to be able to afford to buy such devices than individual households, not least because institutions will benefit from economies of scale when purchasing them. Any robot capable of playing a useful role in aged care will also require sophisticated software, which is extremely likely to be updated regularly. If our most sophisticated personal assistants to date— our mobile phones — are any guide, the robots of the future will often be quirky and confusing and will function at far less than their optimal capacity. Consequently, aged care robots are likely to require a significant amount of technical support, which it is again more plausible for institutions to purchase and/or access. Robots are also likely to suffer from rapid obsolescence, as new versions are developed and “network effects” render otherwise functional devices useless when the infrastructure (batteries, cables, user manuals, qualified service technicians, et cetera) required to maintain them disappears as a result of other users upgrading to new models.

It is also worth pointing out that various ergonomic and interior design changes, social interventions, and communications technologies will usually be both more effective and much cheaper than any robot [Sorell T & Draper D (2014); Sparrow R & Sparrow L (2006)]. Falls monitoring can be done with alarm pendants or motion detection systems. Telepresence can be achieved with a laptop or mobile phone. Mobility may be facilitated through the addition of handrails, the replacement of stairs with ramps, and wheelchairs. The need for

assistance with reaching for and lifting household items may be minimised by good ergonomics and universal design.¹⁴

For these reasons, I think it's highly unlikely that we'll see a robot to facilitate independent living in every home for at least the next several decades, if at all. If robots for aged care do arrive, they will arrive first and flourish most in institutional contexts like the one I outlined above.

Admittedly, this is — at least in part — a criticism of the sort that I conceded at the outset might be rendered moot by progress in robotics. Yet the argument here is not entirely about the technical capacities of robots; it is at least as much, if not more, about the utility and economics of high-tech products as they enter the marketplace. As the inevitable delay at the beginning of many a conference session while presenters struggle to get their PowerPoint slides to display attests, improvements to the theoretical capacity of a technology do not necessarily make for a better user experience. The history of technology is replete with cases where technically superior technologies failed to displace existing alternatives because they were more expensive for too long and/or because the economic or attitudinal costs involved in transitioning to the new technology were too high. Credible predictions about the future of robots going “beyond the laboratory” must therefore draw upon expertise in sociology, economics, marketing and politics, as well as engineering.

Perhaps more fundamentally, a scenario in which elderly persons remain in their own homes being cared for by robots, with little contact with the broader community, is not necessarily less dystopian than the picture of institutional care I painted above. As I have argued here, it is easier to imagine a nursing home staffed entirely by robots than a robot in every home, but the real source of our ethical unease about the former — the replacement of human interaction with impersonal mechanical services — would also be present in the latter case.

“Humans plus robots” or “robots instead of humans”?

In sketching a future involving an entirely robotic nursing home, I have suggested that the fundamental dynamic established by the development of robots leads to the replacement of

¹⁴ It must be acknowledged that some of the changes required may be very expensive in some homes and also that some of these changes, where they are inexpensive, may also make it easier for robots to function in homes.

humans in caring roles. However, many roboticists see themselves as developing robots that will *assist* human beings in providing care and therefore to provide better quality care.

It is worth observing at this point that if a robot is meeting a real need in an aged care context then it is meeting a need that could also be – whether or not it actually is being — met by a human being. The possibility that robots *might* replace human beings in this context therefore necessarily emerges from the project of developing robots for aged care.¹⁵

Thus, the key question is whether such robots will in fact be used to substitute for human carers or to supplement the care human beings can provide without reducing the number of human beings involved in caring for older citizens [Parks J A (2010)]. Again, this is not a question about the capacities of robots but about the economics of their future use, if any.

We can reliably anticipate that robots will come into regular use in the aged care setting when they can perform tasks that would otherwise require a human being at a lower cost. The question then becomes whether the cost savings made possible by the substitution will be reinvested to achieve a higher standard of care and, in particular, to ensure that older persons have the same (or a greater) number of opportunities for meaningful human contact.

Unfortunately, I believe it is naive to think that this will occur. It is naive because of the economic pressures in the age care sector, which motivate providers to cut costs wherever they can. These are especially acute in countries such as Australia, wherein age care is increasingly the responsibility of private-for-profit providers. These organisations have a clear track record in Australia of cutting services to the bare minimum required to meet their legal obligations — and one suspects that the situation is little different elsewhere.¹⁶ Even where aged care remains part of a government provided social safety net there are at least three dynamics pushing towards reducing the cost of the provision of this service. First, government and charitable providers must typically “compete” with the private sector or see funding flow to the latter and must make similar cost cuts, where possible, accordingly.

¹⁵ This is, perhaps, not so immediately obvious in the case of telepresence robots, which might be thought of as offering a new medium through which contact between people may occur. However, even in this case such robots clearly function to substitute for the *physical* presence of the other person.

¹⁶ Striking accounts of the impacts of this dynamic in the Australian context are provided here: <http://www.theglobalmail.org/feature/how-our-twilight-years-are-ripe-for-the-picking/73/> (accessed 15.1.15); and, here <http://www.agedcarecrisis.com/yoursay/4611-no-staff-for-10-5-hours-per-day> (accessed 15.1.15). My thanks to Linda Sparrow for these examples.

Second, the social welfare budgets from which age care is funded have themselves come under regular and repeated attack in social democracies around the world over the last three decades as a result of larger-scale political and economic transformations. Third, the much discussed increase in the percentage of the population who are older citizens is undercutting the tax base for the social provision of aged care at the same time as it is increasing the need for such care [United Nations, Department of Economic and Social Affairs, Population Division (2013)]. These are all reasons to think that, if they become available, aged care robots are likely to be used to substitute for rather than supplement care by human beings even in facilities in the not-for-profit and government sectors.

Indeed, the role played by claims about a “looming demographic crisis” in the argument as to why we should be investing in robots for aged care [see, for instance, Schaeffer C & May T. (1999)] suggests that ultimately at least part of the purpose of developing aged care robots is precisely to make it possible for them to substitute for human carers.¹⁷ If robots won’t serve to replace human beings in aged care roles, then they won’t “solve” the problem posed by the growing number of older citizens and the relatively shrinking number of workers available and qualified to care for them.

The argument that the introduction of aged care robots won’t reduce the amount of human contact available to older persons, thus strikes me as at best naive, in the context of the economics of the age care setting, and at worst duplicitous.

Respect and the autonomous use of robots

Often, of course, one reason why people are happy is that their lives are going well. Moreover, even on an objective list theory of welfare, there is room for people flourishing while choosing to pursue different bundles of those things that are objectively good. For that matter, leading a life that one has chosen for oneself is itself highly likely to feature as an important good on any plausible list of such goods. If, at some time in the future, people are

¹⁷ This goal is even made explicit in the announcement of a new position paper on workforce issues by Aged and Community Services Australia (ACSA), which quotes one of the authors, Adjunct Professor John Kelly, as saying “We have to use robotics and technology in clinical care to decrease – not in a huge way but possibly by 5 per cent – the amount of people we need by actually getting technology to do things.” See Belardi, Linda. 2015. New workforce strategy for aged care. <http://www.australianageingagenda.com.au/2015/01/13/new-workforce-strategy-aged-care/> (accessed 15.1.15).

happy being looked after by robots, then, this might reflect the fact that they genuinely prefer this set of arrangements to being looked after by human beings. Indeed, there are at least two circumstances in which it seems plausible that people might well prefer robot carers over human carers. First, people may prefer care provided by robots where the needs being met involve intimate physical interaction, as in the case of bathing or dressing, where individuals are often embarrassed by having these needs addressed by human beings. Second, as discussed above, they may prefer robots if they make it possible for them to stay in their own homes longer rather than to move into an institution.

It might therefore be argued that where the choice to embrace robot care is an autonomous one, even though the robots themselves cannot provide respect, care by robots may — in so far as it reflects the ends of the person being cared for — be neutral with regards to respect (instead of jeopardising respect), while the loss of recognition involved may be a price that people are willing to pay to secure other goods that are more important to them.

There is some force in this objection; the idea that robots might facilitate and enhance older persons' autonomy is indeed the most plausible argument in favour of the project of developing robots for aged care [Borenstein J & Pearson Y (2010); Sorell T & Draper D (2014)].¹⁸

However, there are three grounds for thinking that this argument is much weaker than initially appears.

First, even if robots are compatible with respect, their use occurs at a cost to recognition, which robots cannot provide.¹⁹ One consequence — indeed a virtue — of objective list accounts of welfare is that they allow for the possibility that people's own assessment of their best interests doesn't settle the matter. Sometimes individuals' choices will leave them worse off, even after taking into account the goods associated with acting autonomously and with other people respecting their choices. In the scenario I described above, residents have no

¹⁸ This fact is also, I think, reflected in the recent enthusiasm in the literature for Nussbaum's "capacities approach" to social justice, which acknowledges the value of autonomy by focusing on the distribution of the capacity to achieve various "functionings" rather than on goods understood as particular items or outcomes, as a lens through which to view the ethics of robots in aged care. See, also: Coeckelbergh M (2012); Parks J (2010); Sharkey A (2014).

¹⁹ This way of putting the matter risks implying that robots *can* provide respect, which is not the case; rather, where individuals choose to allow robots to be used to assist them, the decision of third parties to respect this choice provides the good of respect.

face-to-face contact with anyone outside of the facility. While others may disagree, I am inclined to think that this is a dystopian outcome even if it has the virtue that people are getting what they want.

Second, people choose from amongst the options realistically available to them. If industrialised societies invest in robotics in an attempt to meet the needs of older citizens rather than higher wages for workers in the sector or more innovative social reforms, which might integrate older persons and their care into the community, then in the future older citizens may face the choice of being cared for by robots or living (or, indeed, dying!) with key needs remaining unmet.²⁰ It would hardly be surprising if they should choose to be cared for by robots in this context. Moreover, because, as mentioned above, people tend to adapt their attitudes to their circumstances, we should expect them, for the most part, to be happy with this choice. Yet it would clearly be a mistake to use this possibility as a justification for the neglect of the policies that might have allowed older citizens a genuine alternative. There is, I believe, a real danger that policymakers dazzled by the prospect of engineering faculties and manufacturing sectors reinvigorated through the production of robots for aged care will do exactly that.

Finally, as this last observation implies, the implications of aged care robotics for respect are more complicated than the claim that autonomous choice enhances respect suggests.

The decision to use a new technology — and, in particular, to bring it into the home and use it daily — is not an insignificant matter; it has all sorts of ramifications, many of which may only become obvious in retrospect and some of which may remain obscure even then. Philosophy and sociology of technology tell us that tools are not neutral. By foregrounding some possibilities for action and concealing or reducing others, they shape the ends of users [Heidegger M (1993); Winner L (1986)]. Nor are the effects of technology confined to those who use them; technology also places people in new relations with each other. Some of these new relations are obvious, as when one comes to rely on the staff on the IT support desk answering their phones in order to be able to use one's computer. Others are more subtle, as when people who are not on Facebook miss out on invitations from their friends or those who

²⁰ Again, it is clear that existing standards of care are already inadequate in many, indeed arguably most, cases today. However, this sad fact does not detract from the larger argument here; that claims about the significance of older citizens' willingness to be happy with care provided by robots need to be treated with a certain degree of cynicism while the alternative is so dire.

are not on Twitter have a different sense of the “events of the day” to those around them. By placing people in new relationships, technology alters the power relations between people [Winner L (1986)]. Indeed, one of these new relationships is precisely the fact that the choices that the designers make regarding the design of technologies are now shaping the users’ ends and their relationships with other people. All of which is to say that technology establishes a *political* relation between designers and users.

Thus, when considering the impact of robotics on the extent to which the ends of those being cared for are acknowledged to have equal weight to those of other citizens, it is not sufficient to ask whether the decision to use a particular device is autonomous, it is also important to think about who is designing robots and how the interests of end-users are represented in the device and what role they have played in its design.

Now it is true that these questions are not unique to robotics. It is my firm belief that contemporary societies, which are increasingly shaped by the social impacts of technologies rather than by social and political movements, should be paying a lot more attention to the questions of who is determining technological trajectories and what sorts of values are embedded in the technologies we embrace. Nevertheless, there are two reasons why the impact of the introduction of aged care robots may involve a more significant exercise of power over end-users than other technologies. In so far as they are designed to accomplish or facilitate actions within the daily life of older persons — and in order to make this design task manageable — the design of such devices already necessarily involves a larger number of choices about what sorts of activities or goals are important than many other technologies.²¹ There are also *prima facie* grounds to think that the pre-existing inequality between designers and users of robots for aged care are likely to be reflected in and enhanced by the processes whereby aged care robotics come into use. At one end of this relationship we have engineers at elite universities, well-educated government officials, and wealthy corporations; at the other end, we have socially isolated older persons; it would hardly be surprising if the ends of the latter were granted less than equal weight in this process.

While a world in which persons in advanced old age autonomously chose to be cared for by robots *might* not undercut respect, then, it is more likely that deferring to this ideal will bring

²¹ For an extended discussion of the various ways in which values are — and might be — embedded into the design of caring robots, see van Wynsberghe A (2013).

about a world in which older citizens have little choice but to accede to receiving an increasing number of services, which once would have been provided by human beings, from robots and suffer a net loss of well-being as a result.

Conclusions

Thinking about technological futures is always a fraught matter; attempting to evaluate them ethically even more so. I have suggested here that it would be a mistake to let an initial pessimism about the capacities of robots prevent us from thinking critically about a possible future in which robots have left the laboratory and entered aged care facilities. Hypothesising a world in which engineers have “succeeded” in designing robots for aged care is also a useful exercise for diagnosing the ethical character of this project. I have argued that paying attention to the objective component of well-being reveals the importance of interpersonal relations of recognition and respect, which robots cannot provide, to human welfare and, thus, the ways in which the applications of robots in the aged care setting threatens to undercut these goods. Robots are much more likely to be used in institutional settings than in individual homes and a realistic understanding of the economics of aged care suggests that robots capable of performing relevant services will replace human workers in this setting and reduce the opportunity for these important goods. While some older persons may well embrace the use of robots in particular roles, overemphasising this possibility risks rendering it a self-fulfilling prophecy, depriving those being cared for of valuable social recognition, and failing to provide respect for older persons by allowing the options available to them to be shaped by the design choices of others.

Inevitably, the claim that we are headed for a dystopia is itself a form of pessimism, which I said I wanted to abjure. However, the pessimism evinced by my analysis here is pessimism about the social and economic dynamics shaping the provision of aged care now and into the future in industrialised societies, rather than pessimism about the skills and ingenuity of engineers. Correspondingly, those who wish to pursue a more utopian vision for the future of aged care than that I have outlined here would, I suspect, be well advised to think more about the real world of aged care today and less about robots.

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