

*Applied Ethics: The Third International Conference
in Sapporo*

20-23 November 2008, Sapporo, Japan

Sponsored by Center for Applied Ethics and Philosophy (CAEP), Graduate School of Letters, Hokkaido University

Proceedings

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Sponsored by Center for Applied Ethics and Philosophy (CAEP), Graduate School of Letters, Hokkaido University

Conference Chair: Takahiko Nitta (Director, CAEP)

Program Chair: Shunzo Majima (Deputy Director, CAEP)

Coordinator: Ken Saito

Staff: Yohei Fukayama, Reina Saijo

Center for Applied Ethics and Philosophy (CAEP)
North 10, West 7, Sapporo 060-0810, Japan.
E-mail: caep@let.hokudai.ac.jp. Phone: +81-11-706-4088

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Robots, Elderly Care, and Capabilities

Mark Coeckelbergh (University of Twente)

Abstract

Given the growing elderly population and development of a new generation of robots, should robots take over tasks from humans in elderly care? Should we use so-called carebots? In this paper, I reframe the problem as: What kind of elderly care do we want? I then respond to this question with a good life approach. Using capabilities theory and results from experiments with carebots, I argue that the aim of elderly care should not only focus on bodily health, but also stimulate people's capabilities as emotional, imaginative, playful, reflective, and relational human beings, whose dependence on others is not only a problem but also a condition for the best possible life. I conclude that only to the extent that carebots are able to contribute to that aim, their introduction and use in elderly care is justified. I recommend that we adapt our technological and management practices to our care aims rather than the other way around.

Introduction

There is a near-future scenario around about introducing and using robots in care for the elderly. Perhaps they could take over some tasks or even all tasks of human care workers? This raises the ethical question as a replaceability issue (Decker 2006): Is it right to replace human care workers by carebots?

Why would we consider such a replacement in the first place? There are at least two motivations for putting forward the carebots vision, which both involve the claim that the problem to be dealt with is demographical.

First, there are the robotics people who like to develop such robots anyway, and the goal of using them in elderly care seems to provide a good justification for doing so. It is simply very exciting to build artificially intelligent robots who can do things people previously considered as 'science-fiction'.

Second, there is also a policy and management consideration, both at the level of society and the level of care institutions. The claim is that we – as societies – must respond to a demographical problem: the ageing of the population. The elderly population in Europe, Japan, and some other countries is growing whereas the general and younger population is decreasing – in some cases dramatically. Despite migration, the EU population is ageing. According to EUROSTAT, the ratio of pensioners to working-age people (who are not necessarily employed) is projected to increase from 25% today (in 2008) to 53% in 2060. Japanese society is rapidly ageing. According to a prediction by the United Nations, in 2050 Japan will count 1 million people of 100 years old. From a financial point of view, this argument goes, it would be great if we could replace care workers (nurses etc.) by robots.

The demographical argument is also used by robot developers as a justification for developing carebots. As Sparrow and Sparrow put it: 'It is in fact remarkable just how much robotics research, if it is not being sponsored by the military, is promoted by appealing to the idea that the only way to deal with a looming demographic crisis is to

develop robots to look after older persons!’ (Sparrow and Sparrow 2006: 141)

In this paper, I respond to the carebot vision, set up as an answer to technological and demographical developments, by redefining the problem as being not only about robots or demography, but also about what care should do (the goals of care). I then discuss this new question by combining empirical research on carebots with Nussbaum’s capability approach.

Redefining the problem

If the problem is put in technological or demographical terms, there are two questions for applied ethics to answer: Should we introduce and use carebots in elderly care at all, and if so, should carebots replace care workers? In other words, are the motivations provided *justifications*?

I propose that we first change the question: What kind of elderly care do we want? My rationale for re-formulating the problem in these terms is twofold. First, this question focuses our attention on the aim – providing good elderly care – rather than the means to achieve that aim. It first leaves open whether or not carebots are the best response to the problem, and whether or not carebots – if introduced – should replace human care workers. (Another way to understand this change of the question is to say that I replace the aims of coping with ageing and developing technology with the aim of elderly care, which I assume to be the aim that should take priority.) Second, in doing this it also shifts our attention from the robots towards the elderly. What are their needs? What is well-being for them? How can they have a good life? How can they live in dignity?

There are many interpretations of well-being (Crisp 2005) and good life. The word ‘care’ has many meanings as well (Tronto 1993). Here I wish to construct my own tentative account of the goals of elderly care and corresponding elderly care moral obligations by looking at what robots can actually do and by applying Nussbaum’s capabilities approach.

Carebots as relational artefacts

If the carebots problem is reframed as a problem concerning the good life, the usual approach would be to limit oneself to a discussion about the good life, and then apply it to elderly care. Instead, I argue that we must also learn from existing practices of elderly care and from existing experiments with carebots in order to get an idea about what the people involved need to live in dignity.

Let me here focus on research on carebots. There is plenty of empirical evidence that people need communication, companionship and interaction in health care and elderly (see for instance the evidence cited by Sparrow and Sparrow 2006). I wonder if we even need that evidence; I think we can accept it as a matter of common sense (it is almost trivial). But does that necessarily imply that only *humans* can provide that, as Sparrow and Sparrow suggest? From experiments with carebots in elderly care, we can learn that robots can at least meet *some* of our emotional and social needs *to some extent*. And by discussing the differences between human care and robot care, we are invited to think about what these needs are and what the role is of artefacts and technology in relation to these needs.

For a start, it is not true that we can only have relations, attachments, and emotions for people. Things play a significant role in our emotional and (quasi-)social life. We are attached to some of them, we love some of them, we need some of them. We talk to some of them, for instance to computers. It doesn’t take much for us to treat computers or other

media as we would treat humans (Reeves and Nass 1996).

And if we already talk to computers and see them as persons, things which are not even ‘humanoid’, surely we talk to intelligent robots, especially those that are designed to be ‘sociable’ (Breazeal 2002). We can even care *for* a robot. For instance, Cynthia Breazeal has developed and programmed (she would say ‘raised’) an emotionally responsive infant robot named Kismet. Consider also the experiments with a baby seal robot Paro in care homes: the robot did not only invite elderly people to care for it, but also stimulated interactions *between* the elderly people. Thus, we can not only have a quasi-social life with the robot but also have a social life that evolves ‘around’ the robot.

Moreover, from these and other artificially intelligent artefacts we learn much about ourselves. The ethical question is always linked with the anthropological question. We humans tend to define ourselves as humans by distinguishing ourselves from what we are not, and the history of philosophical anthropology tends to run parallel to the history of technology: we are not animals (we have tools), we are not machines, we are not computers, and ... we are not robots. But why precisely are we not-robots? Robots make us think about what we are. It is worth mentioning Sherry Turkle’s studies of robots as ‘relational artefacts’ here. Turkle’s ethnographic work show how even simple robots make us reflect about what it is to be alive, to be a person, and to have emotions (Turkle 1984, 2005). Intelligent machines challenge our conceptions of what it is to be human. Perhaps it is part of being human that we have vulnerable bodies, that we are dependent on social relations, and that we also want to care for things and people. In addition, Turkle’s studies show that there are significant individual differences in the way we deal with the same robot. There is ‘the human’ but there are also concrete, individual, unique humans. All this has to be taken into account when we think about good life and good care.

Note that there are also cultural differences in attitudes towards robots. Consider the differences between Europe and Japan. In Japan, robots seem to be more accepted in daily life. Of course there is no such thing as ‘the’ European culture or ‘the’ Japanese culture. But we can still discern some rough, general patterns for pragmatic purposes. It appears that Japanese people accept robots more easily. But, if this is the case, how can this be explained? An answer to this question leads us back to the anthropological question. Kaplan has argued that the explanation that Japanese people like technology whereas Westerners regard artefacts as less important is mistaken. He has suggested that it is the other way around: it is because Westerners define themselves in analogy with machines, that robots upset them, whereas in Japan technology has a more external and perhaps aesthetic role (Kaplan 2004). In any case, any application of general ethical principles to elderly care needs to take into account such cultural differences.

In addition, there are also generational differences (see also Coeckelbergh 2008). The people who will be of old age in 2050 are not the elderly people of today: they will have had a difference experience with technology, including ICT technology in ways we cannot entirely foresee now; from what we know now, however, I suggest that for sure they will have *more* experience with it. So they might accept robots more easily than the current generation.

The empirical evidence provided and the speculations made here are not directly conclusive for the ethical question regarding carebots. They do not allow us to conclude that we should or should not introduce carebots in elderly care. They show, however, that robots *can* contribute to our social and emotional lives. Moreover, robots apparently show

us something about what we are. Studies of interactions with robots and other ‘relational artefacts’ suggest that we humans – including elderly people – define ourselves at least partly in relation to technology and are relational, playful, and caring beings, who do not only need care, but also want to care *for*. Finally, there are individual, cultural, and generational differences in the way we actualise these human potentials that need to be taken into account.

Sketch of a capabilities approach to care

A practice-sensitive, neo-Aristotelian vision of the good life, which focuses on what we share as humans, as dependent and bodily beings, but also tries to take into account difference, is well in tune with Martha Nussbaum’s capabilities approach.

The capabilities approach has been developed by Sen and Nussbaum to evaluate well-being in terms of what people are actually able to do rather than the resources they have. For instance, poverty is understood not as a lack of resources but as an incapability, which can be caused by various factors (including resources). (Sen’s aim was to challenge the dominant way of thinking about poverty and human development by economists; Nussbaum’s agenda was and is wider in scope.)

Nussbaum’s recent version of the capabilities approach is philosophically founded on the principle of human dignity. Inspired by Marx, Nussbaum argues that humans are in need of many activities, and that they are therefore entitled to many opportunities for activities (Nussbaum 2006: 74-75). Founded on this idea, Nussbaum has written a list of ten capabilities ‘as central requirements of a life with dignity’; they are ‘general goals that can be further specified by the society in question’ but an ‘appropriate threshold level’ needs to be reached (Nussbaum 2006: 75). Important for Nussbaum is that all capabilities matter – we need to enjoy all of them to live a life with dignity. Here’s my summary of Nussbaum’s list, for which I use the version articulated in *Frontiers of Justice* (2006). The list includes the following ‘central human capabilities’:

1. *life*: ‘Being able to live to the end of a human life of normal length; not dying prematurely, or before one’s life is so reduced as to be not worth living.’
2. *bodily health* (includes nourishment and shelter)
3. *bodily integrity*: free movement, freedom from sexual assault and violence, having opportunities for sexual satisfaction
4. being able to use your *senses, imagination, and thought*; experiencing and producing culture, freedom of expression and freedom of religion
5. *emotions*: being able to have attachments to things and people
6. *practical reason*: being able engage in conception of the good and critical reflection about the planning of one’s life
7. *affiliation*: being able to live with and toward others, imagine the other, and respect the other
8. *other species*: being able to live with concern to animals, plants and nature
9. *play*: being able to laugh, to play, to enjoy recreational activities
10. *control over one’s environment*: political choice and participation, being able to hold property, being able to work as a human being in mutual recognition

(Nussbaum 2006: 76-78)

Let me now apply this approach to thinking about elderly care.

For a start, dignity is of course also one of the goals we agree elderly care should have. Arguably, it is something elderly people and those who care for them are *particularly* concerned with. We all want to spend the last years of our lives in dignity. Perhaps the principle dignity is even more important than autonomy or privacy – other principles that are often cited when the ethical question concerning ICT is raised. Whatever others do to us, and whatever others see from us, we want that they do not violate our dignity as human beings.

When it comes to articulation of what it means to live in dignity, Nussbaum's capability approach offers us more precise criteria. Surely they are meant to be valid for every human being, not just for the elderly. If the capabilities approach is indeed 'fully universal', as Nussbaum claims (2006: 78), then elderly people should be addressed as well. Of course, elderly people have specific needs. There are also individual and cultural differences. But in so far as they deserve to live in *human dignity*, that is, as humans, then we can consider the capabilities listed by Nussbaum as good general indicators for what that dignity means. They can also be criteria for the good life, since they way Nussbaum understands dignity is the maximalization of well-being, it is the *excellent*, flourishing life the ancient Greeks were after. However, formulated on this general level, the list of capabilities does not allow us to make decisions about particular people in particular contexts and in particular situations. This is unavoidable. But for the purpose of discussing the question regarding elderly care, let me render them less general by restricting the field of application to elderly people. Now elderly people have specific concerns, limitations, and vulnerabilities (Bearing in mind that we are all vulnerable and limited beings; perhaps we should speak of 'the best possible life', as I suggested elsewhere¹). What can we learn by applying the capabilities list to them?

Let me apply the capabilities criteria to elderly people in order to articulate *the goals of elderly care*, understood as criteria for human dignity or the good life (or best possible life). Note that each goal (or principle) brings forth an obligation or challenge on the part of the care worker or care system.

1. To prolong life remains important for elderly people, although this concern is perhaps less pressing for them than for younger people. This depends on the situation and the individual. In any case, it is one of the goal of elderly care to keep people alive. But should it be done 'at all cost'? In particular, 'dignity' is often used as an argument to *end* life. Nussbaum talks about a life that is 'so reduced as to be not worth living' (Nussbaum 2006: 76). Moreover, if life were the *only* capability that can be sustained, then, according to this approach, that person is no longer living a life with full human dignity. I leave open as to whether this would justify ending someone's life. My interpretation implies that care workers must try to keep people alive as a matter of dignity, keeping in mind that in certain situations this demand may conflict with the principle of dignity or 'worthiness', in which case this approach does not say what to do. Nussbaum's criterion that the life be 'worth living' is a vague principle; it's guiding power is minimal.
2. Just being alive is not enough, we also like to be healthy. Elderly people are often (but not necessarily) not healthy, or less healthy than younger people. Nevertheless,

¹ See my paper presented at the GLITA workshop earlier this year.

care workers are supposed to maintain or increase the health of elderly people, nourish them, and provide them with shelter. This general criterion leaves open whether these aims can best be reached by having elderly people live at home (with home care) or in different care environment. Given the 'emotions' goal (see below) there may be a preference for home care; on account the of the 'affiliation' goal (see below), however, someone may want to avoid isolation and prefer a care institution where they can enjoy social interaction.

3. No-one should be exposed to violence – including verbal or sexual violence. Moreover, elderly people also have sexual needs and sensitivities. Care should be adapted to that reality.
4. Many elderly people are still able to sense, imagine, and think; to express themselves; to enjoy experiences such as reading a book, listening to music, etc., others have more limited capabilities in this respect. The capabilities approach implies in the latter case that 'care' should be taken to enable elderly people to have these experiences as much as possible, to use their senses, imagination, and thought as much as possible, given the bodily-mental state in which they are.
5. It is important for elderly people, as for anyone, to see their loved ones (if they are still alive) and to enjoy other attachments, for instance an attachment to a pet. Elderly people also want to have an emotional life. It is up to care workers to make sure that elderly people can experience positive and negative emotions, and give the appropriate support. For example, an elderly person may be anxious at the thought to lose his full mental powers. What can be done to assist that person?
6. Elderly people can still make plans, even though the need to do so may be less strong or urgent than in the case of young people. They must be taken seriously as rational persons who think about their future, set their own goals in life, and who want to make choices that accord with their own goals.
7. Elderly people are, just as all of us, social beings. We need social interaction. We want to care for others. We want to enjoy friendship. We want to be respected by others. Care needs to create an environment that stimulates these social functionings. Moreover, the generations of people that will be ageing in the near future are particularly concerned with political participation and inclusion. Age is not a good reason to exclude someone from society and from political participation. Care workers should treat the elderly as social beings and interact with them as such. The care system should provide opportunities for social and political participation.
8. Elderly people – and perhaps especially the next generations of elderly people – are concerned with animals, plants, and 'nature'. Care should give them opportunities to enjoy contacts with animals and provide access to less artificial environments (I avoid 'nature').
9. Everyone likes to play, laugh, make fun. Recreation for elderly is not just an extra but a must. Care should facilitate and provide recreation, and adapt their offers to what people are used to. For instance, it is likely that in Europe and Japan many people belonging to the next generations will be used to contemporary ICT mediated forms of entertainment such as games and virtual lives (I return to this below).
10. Control over one's environment is usually but not necessarily diminished when one

is older. Even when it is diminished, care should try to maximize people's capacity for making autonomous choices, for participating in political decisions and other societal processes, and for entering in meaningful relationships with others. (See also my comment on inclusion.) Of course 'political participation' can mean different things in different cultures.

As with all principles, they do not generally tell us what to do in concrete situations; we still need moral imagination to know what to do in concrete cases and practices (Coeckelbergh 2007). But I have provided an articulation of what care should *aim* for if it is to achieve the best possible life. And this dependence and vulnerability is not only a barrier to the good life (or best possible life) but a necessary condition. As this list shows, and as Nussbaum argued in *The Fragility of Goodness* (1986), dependence makes possible what we value most in life and by which we flourish as humans, such as friendship and love. Our dependence on others is at once a problem and a condition for what makes human life worth living.

With this framework, then, we better understand our aim: providing elderly care that does not only focus on sustaining life or enhancing bodily health, but takes seriously elderly people as humans who want to live the best life they can have. Care workers, care institutions, and care systems can contribute to that aim by stimulating, developing, restoring, and helping to actualize their capabilities as emotional, imaginative, playful, reflective, and relational human beings.

Conclusions for the role of carebots in elderly care

Only after making explicit what care demands, we can ask: given these aims of care, what could be the role of *robots* and other assistive technology? (And, more generally, how can technology help to realise these care goals?)

On the one hand, there are plenty of examples of what carebots could do. Of course carebots can contribute to medical care, nourishment, and housing, which aims at sustaining life and healthy life. For instance, together with other assistive technologies they may help cleaning the house, prepare meals, and monitor the health of elderly people (e.g. in a home care context). But they may also contribute to other goals of care articulated above. They can be personal body guards, they can tell stories, look up music on the internet, assist with phoning and other communications, moving the person to a place where she wants to go (e.g. to 'nature' or to friends), help with planning, act as a pet or 'baby robot', play games and/or allow the person to do that, enable a person to vote, etc. In all these roles, robots can contribute to the goals of care. In addition, our interaction with (certain) robots teach us something about what we are as humans, which can help us to further reflect on the goals of care *for humans*.

On the other hand, if it turns out that, for one or more of the aims of care, the contribution of carebots to one or more of the goals of care is significantly smaller than the contribution of human care workers, we should not replace human care workers by carebots.

I conclude that to the extent that carebots contribute to the aims of care, which I here articulated in terms of capabilities, their introduction and use in elderly care is justified. Referring to research by Breazeal and Turkle, I have shown that robots can play a 'social' and 'relational' role apart from other, more trivial roles in elderly care. Thus, I see no a

priori objection to carebots in general; we must judge on a case-by-case basis if a particular carebot (and the practice that changes because of that carebot) actually contributes to the aims of care in a particular context. This requirement implies that, if a particular robot does not meet this criterion, it should not be used (and preferably not even developed) for that purpose.

This conclusion does not imply that it is (always) acceptable to replace human care workers by robots. Such a replacement is only acceptable if the carebots contributes *at least as much or better* to the care aim(s). Again, whether or not a robot meets this requirement cannot be decided a priori or in general, but must be judged case by case. Note that, in emphasizing the importance of emotional and social needs, I am in agreement with Sparrow and Sparrow. However, I hope to have forwarded a more balanced view of what robots could do in elderly care (rather than focussing on what they could not do) and to have provided a more systematic account of goals of elderly care.

With regard to the demographical issue, I recommend that we adapt our technological and management practices to the good life aim rather than the other way around. If it turns out that robots (or other assistive technologies) cannot sufficiently contribute to the highly demanding aims of care (understood here as the best possible life with dignity, measured in terms of capabilities), we will not be able to rely on them to cope with the demographical problem, and we can expect that Europe and Japan will need more *human* care workers in the future. Instead of hoping that carebots (and other technology) will solve the problem, our societies will have to confront – not avoid or postpone – hard issues such as social and intergenerational justice, family policy, and sustainability.

Finally, in addition to allowing us to assess whether or not *robots* contribute to care and the good life, the framework sketched here could also be further developed into an instrument to evaluate quality of care in various contexts and to assess other proposals that claim to maintain or enhance that quality. For instance, we may want to develop not only a ‘Human Development Index’ based on capabilities but also a ‘Care Index’ based on capabilities. Without assuming that care can be full ‘assessed’ or ‘measured’ in this way or that such ‘assessment’ or ‘measurement’ can substitute more complete, rich, and complex moral evaluation, such an instrument could assist policy and decision-making at various levels. If they want to calculate, if they want data, let them use not only demographical information but also information concerning the quality of care – preferably data based on an approach to care that takes into account all it takes to achieve dignity and to facilitate the best possible life.

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