

Technology and dementia

Bert Gordijn¹ · Henk ten Have²

Published online: 20 June 2016

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Nowadays economic growth, GDP and technological development are widely accepted indicators of progress. Sure there are many different kinds of neo-luddites, anarcho-primitivists, and bioconservatives who—all in their own manner—are critical of technology. As a societal force, however, these groups do not seem to amount to anything significantly influential. Thus research in high-tech areas is hugely prioritized by governments and funding bodies. Moreover, powerful corporations drive a good deal, if not the largest share, of technological change. The likes of Google, Facebook, Microsoft and Apple are developing a plethora of emerging technologies. Corporate coffers finance an incessant stream of messages, presenting the latest and upcoming innovations in the most upbeat manner imaginable to markets around the world. They equally fund immense lobbying activities so as to influence politicians and policy makers in directions in line with corporate interests and strategy. So it is no surprise that technology is booming and rapidly changing our lifeworld.

Technological problem solving

Buoyant views on technology are so widespread these days that problems formerly classified as social, political or educational are increasingly regarded as amenable to technological solutions. So increasingly, emerging technologies are being proposed as providing solutions for problems that had previously been conceived of as mainly

non-technological in nature. An example is *in vitro* meat: synthetic meat grown in bioreactors using tissue-engineering technologies. It is not only considered as a potential solution to the problem of cruelty to animals, but also possibly as helping tackle anthropogenic climate change and enhancing food safety (Bhat et al. 2015). Moreover, geoengineering, i.e. the manipulation of the global climate system through solar radiation management approaches or carbon dioxide removal methods, is regarded as a potential means to reverse global warming and reduce average temperatures (Resnik and Vallerio 2011). Finally, biomedical moral enhancement technologies have been defended as a means that might overcome our moral deficits where moral education and social reforms have allegedly failed (Person and Savulescu 2012).

Given the popularity of technological methods to problem solving it is not surprising that dementia is also seen as a problem that might equally be tackled by technological means. As the population grows older in many economically developed countries the prevalence of dementia is on the rise as well, calling for intelligent solutions. The technological approach to this problem consists of assistive technologies (Xenakidis et al. 2015) and robots (Moyle et al. 2013; Roger et al. 2012). These are to be put to use to take care of people with dementia in order to enhance their wellbeing, autonomy and independence, thus enabling them to live independently for longer.

Growth markets

A fast growing industry provides technologies for people with dementia. An example is the vast array of robots that are currently being developed and tested in research projects: emotional, entertainment, service and telepresence

✉ Bert Gordijn
bert.gordijn@dcu.ie

¹ Dublin, Ireland

² Pittsburgh, PA, USA

robots amongst others. Next there are item locators, GPS location and tracking devices to prevent wandering, specially adjusted clocks, medication prompts and dispensers, message reminders, sensors to detect smoke, heat and carbon monoxide, telecare devices and telehealth systems. Though many of these technologies intuitively seem to make sense, the research into their development and diverse applications is not without ethical challenges. These involve the ratio of risks and potential benefits, informed consent, discrimination, stigmatization, privacy and data protection, amongst others (Felzmann et al. 2015; Novitzky et al. 2015). Apart from the specific ethical challenges that any individual technology currently being developed for people with dementia might trigger, there are two concerns deserving our attention that they all have in common.

Technology driven solutions

First, the fact that the above technologies are the result of technology driven projects means that they do not necessarily result from endeavors with a strong focus on the good for people with dementia. Researchers developing these technologies have usually foremost technical research interests. The latter are now being pursued in the context of dementia, because dementia related research happens to be very well funded at the moment. In order not to mainly follow technical research interests it is, therefore, pivotal to engage people with dementia as well as their caregivers more in the design of the technologies that are meant to help them. Research with vulnerable groups should only be carried out, if it addresses the interests and needs of these very groups (WMA 2013, principle 20; Ten Have 2016). Moreover, further research is needed that specifically looks into the problems and experiences of people with dementia as well as their caregivers (Bergman et al. 2016 is an interesting example).

Test-bed

Second, one might argue that the fact that the development of robots and assistive technologies for people with dementia is not only technologically but also commercially driven guarantees a focus on the target market. However, there is a danger that the fast growing group of people with dementia will increasingly be regarded as a platform where research can be done and technologies piloted that are later on sold to wider global markets. That is because many of the technologies that might profit people with dementia might equally benefit the population of elderly in general.

Though we have strong obligations of care in relation to the elderly (Gordijn and ten Have 2016), we should not instrumentalise a vulnerable population in order to fulfill those duties. It is a widely accepted principle that research that could be done with non-vulnerable participants should not be performed with vulnerable ones (WMA 2013, principle 20).

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