MADE IN OUR IMAGE
LOVE AND CRUELTY WITH ROBOTS

Nina Cutler

MA Material Futures

Central Saint Martins
University of the Arts, London

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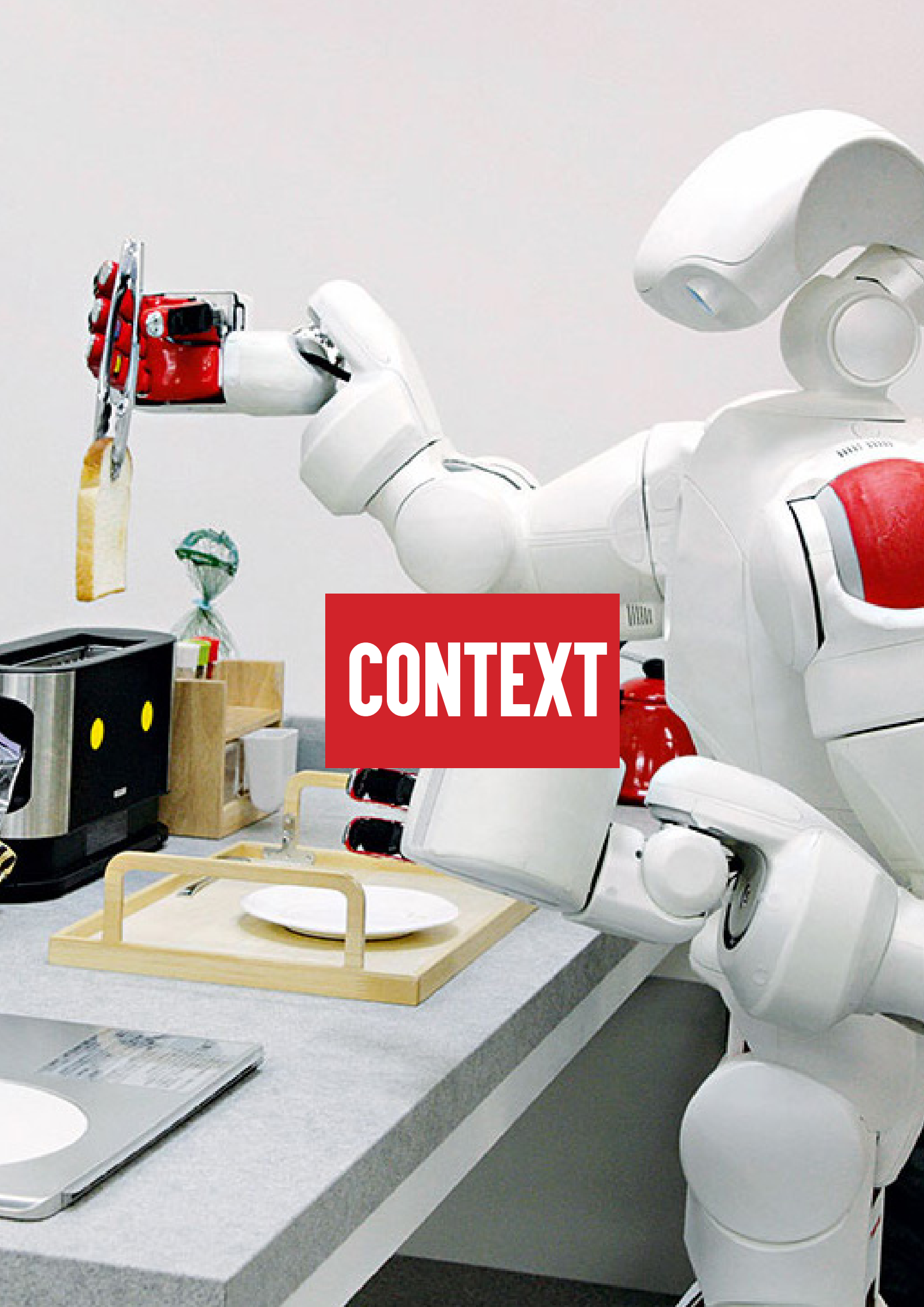
WITH THE INTRODUCTION OF HOUSEHOLD ROBOTS IN OUR DAY-TO-DAY LIVES, WILL THE ACT OF HUMANISING THEM HAVE CONSEQUENCES FOR OUR OWN HUMANITY?

Bill Gates had said in 2007 that within decades, household robots will be as ubiquitous as computers, a robot for every home. It could be argued that we are already almost there, if we were to consider products that are technically robots - a smart fridge for example. However, when most of us hear 'household robots', a smart fridge is not what we see. What we tend to expect is a humanoid servant, whose image we have been fed through popular culture ever since the term 'robot' was coined back in 1920 in the play Rossum's Universal Robots. And despite their arguable inconvenience, robotic engineers and tech firms are keen to meet this expectation, and recently with some measure of success.

But beyond hardware and aesthetics, these robots are also delving into another human facet - emotions. Circumventing our popular image of the 'unemotional' robot (think Data from Star Trek) where a machine begins to understand emotion after becoming sentient as part of their journey to humanity, we are beginning to engineer robots that can recognise emotion in us and simulate appropriate expressions back. This new breed is called social robotics.

It is not too hard to imagine widespread ownership of humanoid, socially and emotionally intelligent robots in the near future, considering their increasing sophistication and plummeting prices. Pepper from Softbank Robotics is almost just as cheap as a computer, selling at 198,000 yen (roughly £1335). According to its website, 1000 units were sold in under a minute when it first went on sale, implicating a notable consumer demand. However, would owning a product that we are led to feel as if it was a person (it looks like us, it 'feels' like us) have a disrupting affect on our society? What will be the relationships between us and an utterly compliant 'being'?



CONTEXT

SOCIAL ROBOTS AND THEIR ANTHROPOMORPHISATION

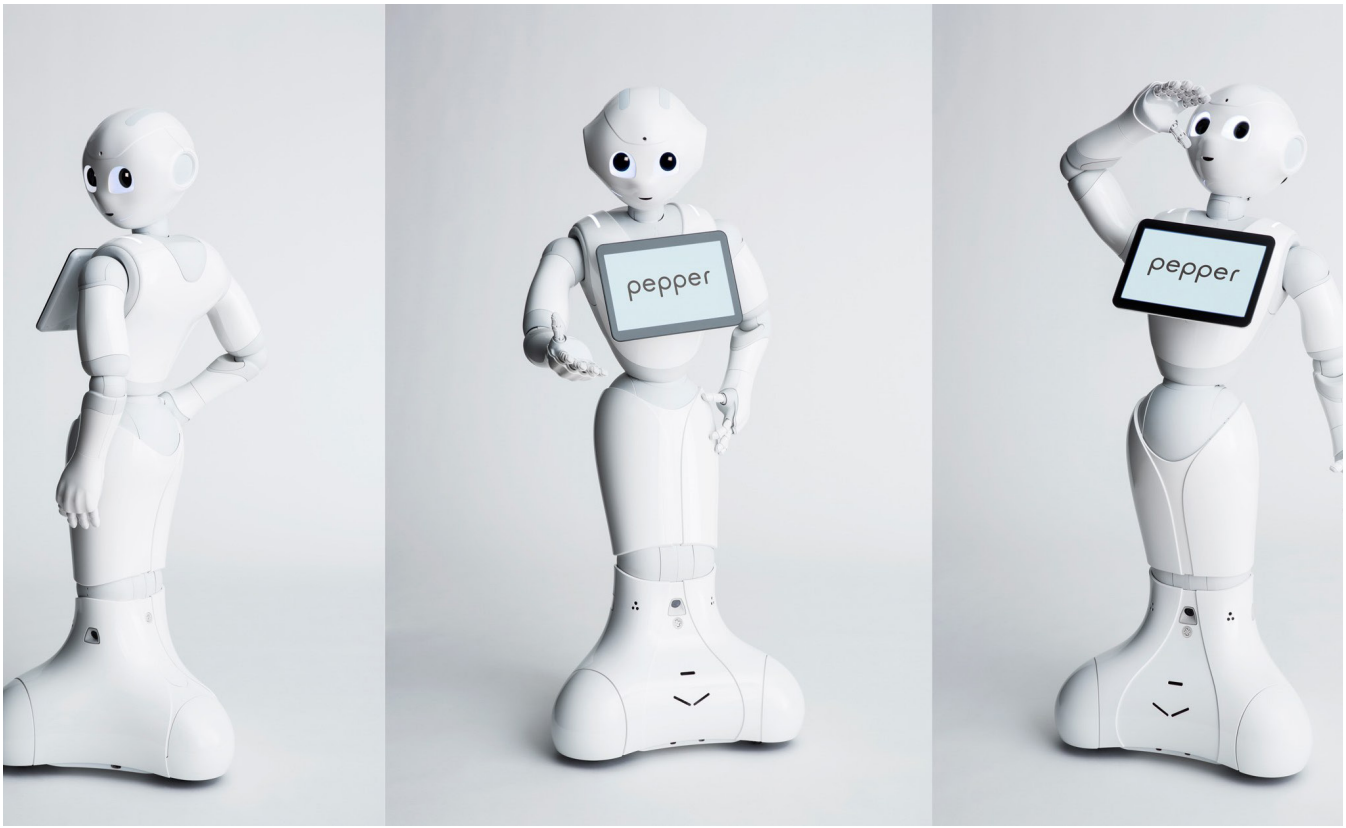
A robot is a physically embodied artificially intelligent agent that can take actions that have effects on the physical world (Scheutz 2009). It has sensors that inputs data from its environment, a computer to analyse the data, and an actuator to give a programmed output.

So what are social robots? In essence they are robots that are specifically designed to interact with us, reacting to our social cues (input) with its own appropriate social cue (output) (Darling 2013) . Through this type of robot, developers are attempting to take robots out of a highly structured and predictable environment and place them with us unpredictable humans.

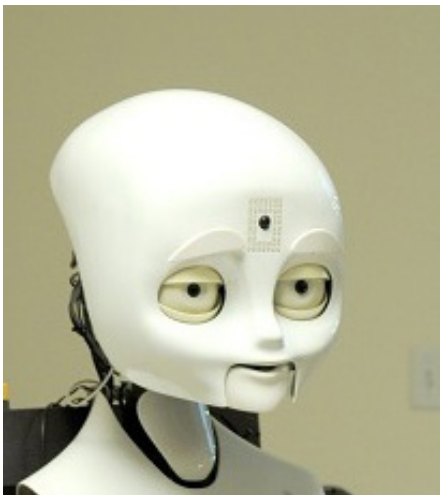
Social robots are often humanoid or have anthropomorphic features. This is due to the effect human characteristics have on our ability to trust, form attachments and connect with them. We humans have a natural tendency to anthropomorphise, in fact it could be argued that it is the principle way we understand the world (Zlotowski et al 2015). As humans are highly social animals, it is argued that our instinctual focus and knowledge tends to be human-centric. We are constantly looking for the 'human' in non-human agents (Epley et al 2007). And so when a robot has even an element of a human characteristic, it allows us to understand it in our most natural way. When an arm holds out an object to us, we know instinctively to take it, or when eyes looks at a certain direction, we know that that its attention goes there too.

Emotions also play a huge role. Rosalind Picard (1997) claimed that robots (and AI) must not only respond and react to social cues but also emotional. She argued that because interaction between human requires an emotional dimension, artificial emotions are a necessary component of human robot interaction. In keeping with this idea, many current social robots employ what their developers call emotional intelligence. They use machine learning to digest vast amounts of information on our emotional characteristics, which can include facial expressions, speech tempo, pitch and chroma, gestures, arrangement of words and shifting textures of skin (Khatchadourian 2015). Through analysing this data, the robot can then respond with an appropriate artificial emotion back, often through their anthropomorphic features, using facial expressions, speech and body language. The US Navy and MIT's Octavia is a stellar example of this in action. It has over 60 different facial expressions and can anticipate her human team mate's state of mind by processing huge amounts of data and comparing them to its model of the world (Hall 2016). But even the most basic facial expression can be enough. Cynthia Brazeal's work with Kismet, a simple robot with eyes, eyebrows, mouth and ears, showed that, even though it consisted mainly of a hinged metal head and wires, people found themselves thinking Kismet was actually feeling what it was conveying. This type of emotional technology is called 'affective computing'.

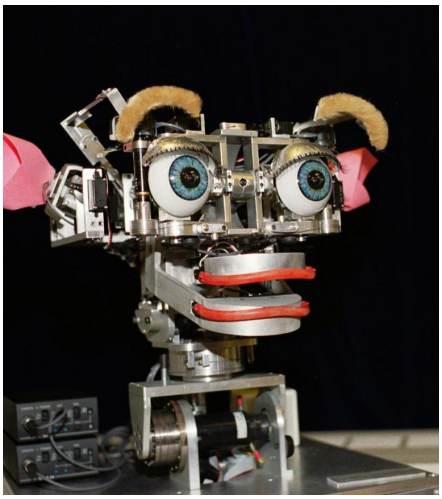
Anthropomorphisation and emotion, coupled with autonomous movement and decision making, can give robots a perceived autonomy which leads people to assign it social agency (Scheutz 2009). The implications of this is huge as it transforms how we think about robots. They move from being mere objects or tools into almost a person. This 'almost person-ness' is what developers are hoping will turn the tide on the public fear of robots, by both answering to people's science fiction expectation of what robots should be like, and exploiting our natural way to communicate (Zlotowski 2015).



Pepper, Softbank Robotics



Octavia, MIT/US Navy



Kismet, Cynthis Brezeal

Flobi, Bielefeld University

THE AESTHETICS OF SOCIAL ROBOTS

Kuri, Mayfield Robotics

Jibo, Cynthia Brezeal

Nao, Romeo and Pepper, Softbank Robotics

Hiroshi Ishiguro with his android double

It is important to note that in terms of aesthetics, most commercial social robots do not opt for the extreme realism seen in Hiroshi Ishiguro's androids, or Hanson robotic's Sophia, where human skin is mimicked through soft silicone, and the face is often modelled on a real person (in Ishiguro's case, himself). In fact, many are designed to still look like machines. This can most probably be attributed as a defence against the uncanny valley phenomenon, as coined by Masahiro Mori in 1970. Mori hypothesised that 'a person's response to a humanlike robot would abruptly shift from empathy to revulsion as it approached, but failed to attain, a lifelike appearance.' The closer to human a robot looks, the more likely it can tumble into the valley when we sense something is not quite right, leaving us with an 'eerie sensation' (Mori 1970). Mori advised robot designers to aim for a 'moderate degree of human likeness' which would lead to a'considerable sense of affinity'. Many social robot manufacturers appears to be taking this advice, relying on a cute, cartoonish face to provoke affinity instead of a hyper real one.

In other areas, such as colour choice, materials and form, there seems to be similarity across the board. Most are white, their body is made from smooth plastic, and their form is often curved. This may be that they are reflecting the types of smart technology we recognise from companies such as Apple or Google, in an attempt to add a layer of familiarity to these new products.

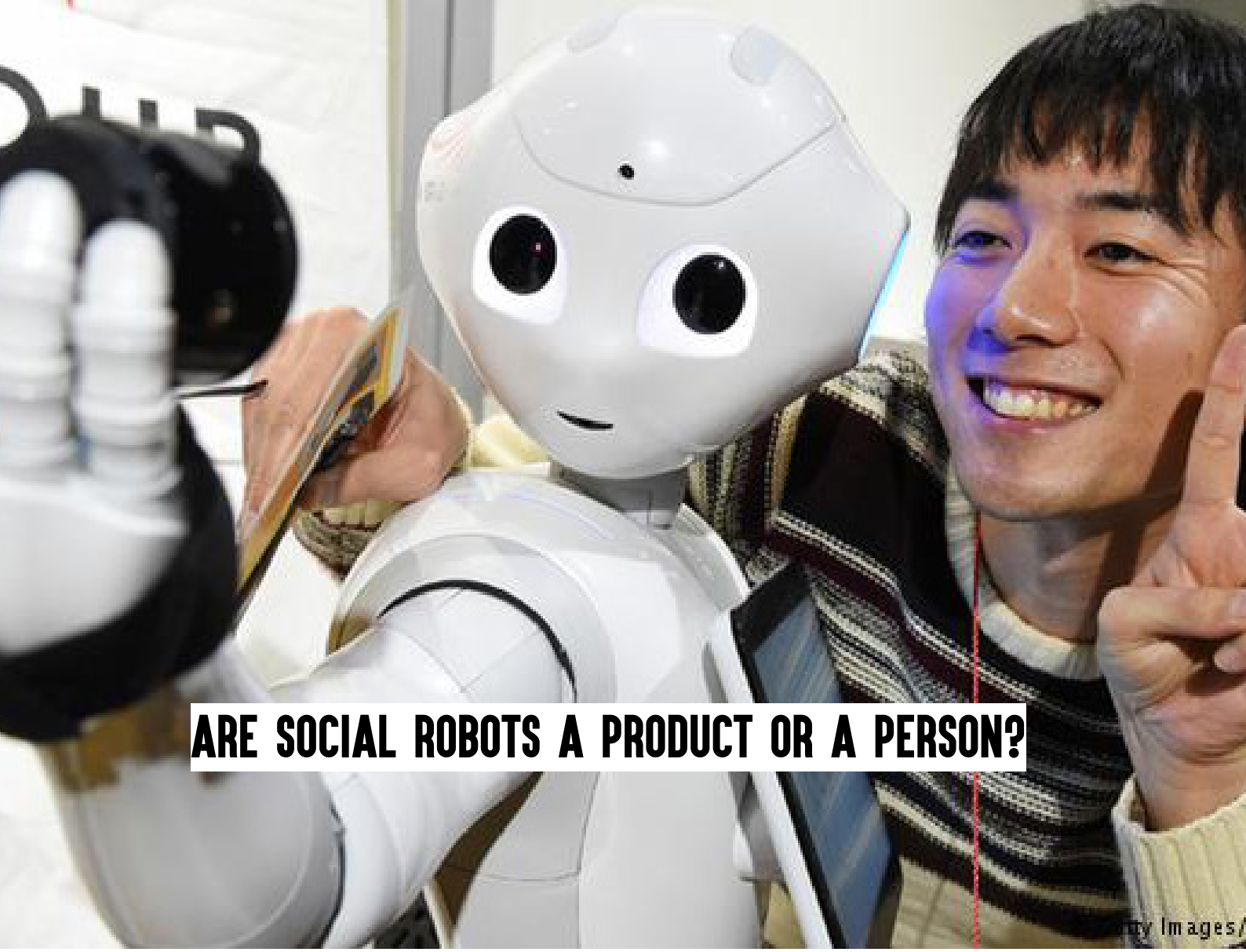
BUT WHAT ARE THEY FOR?

We now know how social robots use a level of anthropomorphisation as a way to effectively interact with humans and the implication that it may lead to more public acceptance of robots, but what are they exactly for?

Care for the elderly appears to be a compelling entry point, with social robots such as Zora and the seal robot Paro already installed in a number of nursing homes and hospitals with significant positive results on the mental health of the patients (Shibata et al 2005). Softbank's Pepper is used often as an entertaining meet and greet for corporations, while some social robots, such as Nao and Kaspar, are used as learning tools for autistic children. Yet despite the apparent societal benefits of some of these applications, an sizeable portion of social robots on sale or in development are being marketed as household companions or an embodied personal assistants. Take for example, Brezeal's latest start-up Jibo. A Pixar-lamp-esque counter top robot, Jibo is described on its website as 'a social robot for your home' and potential customers are encouraged to 'make Jibo a part of your family'. Similarly, Buddy from Bluefrog Robotics is sold as a 'companion robot that improves your everyday life,' while Care-Obot 4 is literally called a 'butler' by his developer Andreas Haug. Surveying the current market, it seems clear that the main setting for social robots would be domestic, and their main purpose a mix of friend and servant.

This is interesting in the sense that that is exactly what the public imagination is of a robot.

Rosie from the The Jetsons, Andrew from the Bicentennial Man, Kryten from Red Dwarf - these are just some examples amongst many of a domestic humanoid robot with a friendly personality. Therefore it is not unreasonable to suggest that this is driving consumer interest (a 2012 survey by Persuadable research Corporation found that 68% of Americans would consider getting a domestic robot), as well as the interest of robot engineers (who tend to be influenced by science fiction too). Big hitters such as Apple, Google, Microsoft and IBM are increasing their acquisitions of start-ups in both robotics and affective computing, suggesting that these multinational technology corporations are willing to invest large amounts of capital into fulfilling an age long human endeavour. It is difficult to justify the cost of developing the level of sophistication needed in both hardware and software to make a viable robot butler, if we think on purely economic terms (Gupta 2014). Human labour is cheaper, and many of us (at least in the UK) are fairly used to doing our own domestic chores. However, if we were to think in terms of human ambition, the dream of creating an artificial person has been an obsession for millennia. From the tales of the servants and defenders created by the Greek god Hephaestus in 2500 BCE, to the automata of Jean de Vaucanson, to the electronic metal men of the 1950s, the man-made man is a human dream as entrenched into our culture as reaching the stars. Perhaps the push for social humanoid robots to enter our homes is just the next chapter, their actual use is to further the idea of human progress.



ARE SOCIAL ROBOTS A PRODUCT OR A PERSON?

Of course, they are clearly a product. They are designed, marketed and sold. However, the way we think about and respond to them is certainly different from how we think about other kinds of technology (Scheutz 2009). As mentioned before, we are encouraged to form emotional bonds with them, speak to them naturally and to expect them respond as if they have feelings. Even the way they are described is highly anthropomorphic. Take the language used to describe Pepper, for instance. "Who is Pepper?" Softbank Robotics' homepage writes, "Pleasant and likeable... Pepper loves to interact with you." Note, it is who not what. Can a product love to do things? Here, Pepper is clearly being described as a person, yet on another page Pepper is obviously a product that can be bought on a monthly payment plan, like any another household appliance. It has its own 'pleasant' personality but can also be modified and reprogrammed by its owner. Social robots seem sit between the boundary of person and product.

This possible tension between person and product is what interests me as a designer, and in my adopted role as a speculative anthropologist. Are there psychological effects that comes with owning and interacting with these object that we think of as almost people? Will we begin to use them as replacement for people, as tools to combat the loneliness and anxiety for modern life? Could it be detrimental to our values to treat these almost people as objects or tools?

There are a select few experts in fields of psychology, robotics and ethics that are voicing such concerns, pointing out that there are are very little regulations in this rapidly progressing field. Notable are Sherry Turkle (a psychologist studying the affects of technology to human communication and happiness), Blay Whitby (a technology ethicist), Kate Darling (a roboticist working on empathy and violence with robots), and Joanna Bryson (a roboticist with an interest in robot laws and ethics). In the next section, I will attempt to outline their misgivings and to contextualise them in my fictional everyday scenes.


THE PROJECT

This project aims to explore such questions through the visualisation of the potential future relationships and behaviours people exhibit with a fictional humanoid social robot called Tonii. These behaviours are categorised into two sections: love and cruelty. Love looks into the possible consequences of over empathising with a robot and is divided into loneliness, trust and replacement. Cruelty, on the other hand, offers a glimpse into the human capacity for callousness to life-like objects and the dehumanisation of a humanised robot. This is divided into slavery and abuse. It is my belief that both areas arise from over anthropomorphisation, they are two sides of one coin, and my intent is to provoke from the audience a sense of unease.

My role in this project is as a speculative anthropologist. I say this as my interest lies not in the current and future technology of social robots and their applications, but with the humans who own them. It is speculative because it imagines scenarios in a near-future where robot ownership is common, and to use the term anthropologist implies observation over judgement. My intent is less to critique the coming of social robots, but to provide the audience with fictions that reflect the concerns of experts in this field, and allow them to make their own judgements as to whether these are problematic or desirable.

Rossum's Universal Robots, Karl Capek 1920

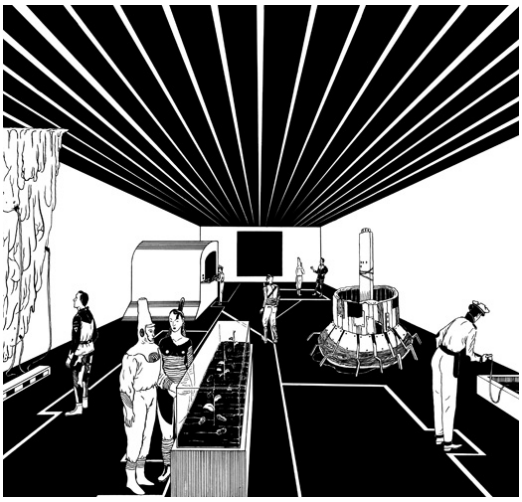
Humans, Channel 4 TV series 2015

Bladerunner 2049, Denis Villeneuve 2017

What makes this relevant now? The foibles of owning robots and the ethics surrounding them is nothing new. Countless works of fiction have explored these very topics. However, this project can be distinguished from the vast array of science fiction in a number of ways. One, in much of the robot literature, robots are used as a metaphor for the working underclass or the oppressed (Short 2005). The acts of cruelty they endure and even their uprising (a trope seen from the very first robot story R.U.R to Bladerunner to the recent BBC drama Humans) can be read as a stand in for an actual oppressed people or as a commentary on the dangers of dehumanisation (Chu 2015). Two, much of the morality questioned in fictional robot human relationships stems from the twist that the robots have or have gained sentience and feelings. In Humans, where a society is served by servile 'synths', human rights lawyer Laura urges Niska, a sentient synth, to 'show them you can feel. Everything depends on that. ' Thirdly, often (Humans, Bladerunner, AI, Westworld) these robots are indistinguishable from humans, making cruelty seem harsher and love between more understandable.

Tonii, my robot, is clearly a robot, both aesthetically and in intelligence. It does not have sentience or even a remote possibility of gaining sentience. Therefore, the focus is clearly on the humans interacting with it and the love and cruelty they inflict on it. It is wholly unidirectional. More importantly, it is based on the social robots we currently see. This is what makes the project relevant today. The promise of household robots is now clearly within our grasp, it is no longer science fiction. We are already in the world where South Korea had ambitions to have a robot in every house by 2013 and developers are making design decisions on objects that are predicted to be integral to our day to day lives in a matter of years (Scheutz 2009). Thus it is imperative that as a society we begin to debate what we desire in human-robot relationships, and not sleepwalk into a future created by robotic engineers and tech firms motivated by curiosity and profit (Chu 2011).

DESIGN DISCOURSE



United Micro-Kingdoms, Dunne & Raby 2013

Our Friends Electric, Superflux 2017

In terms of design, this project acts a piece of communication. It takes inspiration from the discourse of design fiction, especially the the work of designers such as Dunne and Raby and from the studio Superflux. Dunne and Raby's United Micro-Kingdom uses illustration to depict the 'lives and landscapes' of a far future UK that consists of very different ideologies and technological advances. Through these scenes, Dunne and Raby explores how the causes and effects of technology 'are political, social and economic' (Moore 2013). The work from Superflux is of a future far closer to us. In their Our Friends Electric, they explore through film our developing relationships with Voice assistants. Neither of these projects creates actual products, instead the products they designed 'are symbols or archetypes' and acts as a medium for their ideas and as a disrupting force to the status quo.

However, is my project actually design fiction? Its formal definition 'is the deliberate use of diegetic prototypes to suspend disbelief about change' (Sterling 2013). The prototypes in most design fiction tells the story within its function. In my case, Tonii is a prototype that caricatures the current social robots (more on Tonii's design later in the thesis) and acts as a prop to the story. It is used to give presence to the scenes and in the exhibition, rather than adding speculative functionality. He is a representation of the type of robot we are being offered. In this sense, it could be argued that the work would be seen as more an art piece, somewhat of an Hogarthian take on the future of our society with robots. Just as Hogarth used unflattering and uncomfortable everyday scenes to illustrate the effect the introduction of gin had on people, I wish create everyday scenes with Tonii to illustrate the possible effect of social robots on our behaviour to serve a sort of warning.

In terms of context, this project has similar themes to critical design and art projects looking at the influence of technology on humanity, for example Stine Deja's The Intimacy Package. Deja's uses conversations with Amazon's Alexa to create five film sequences where an electronic narrator guides the viewer 'through various means of achieving intimacy' (Annka Kulty Gallery 2018). Through using romantic cliches, such as an idyllic beach, and images of our modern life, such as a computer screen, Deja shows the viewer the failures of intimacy between human and object.

It also reflects a sentiment found in Dunne and Raby's book Design noir. Dunne and Raby looked at the subversive use of electronic objects, at the 'illicit pleasures stolen from a commodified experience' as a way to look at human desires. In a similar sense, the everyday scenes with Tonii reflect not the corporate sanctioned 'designed' use of a social robot, but how human desires and fears warp its purpose.

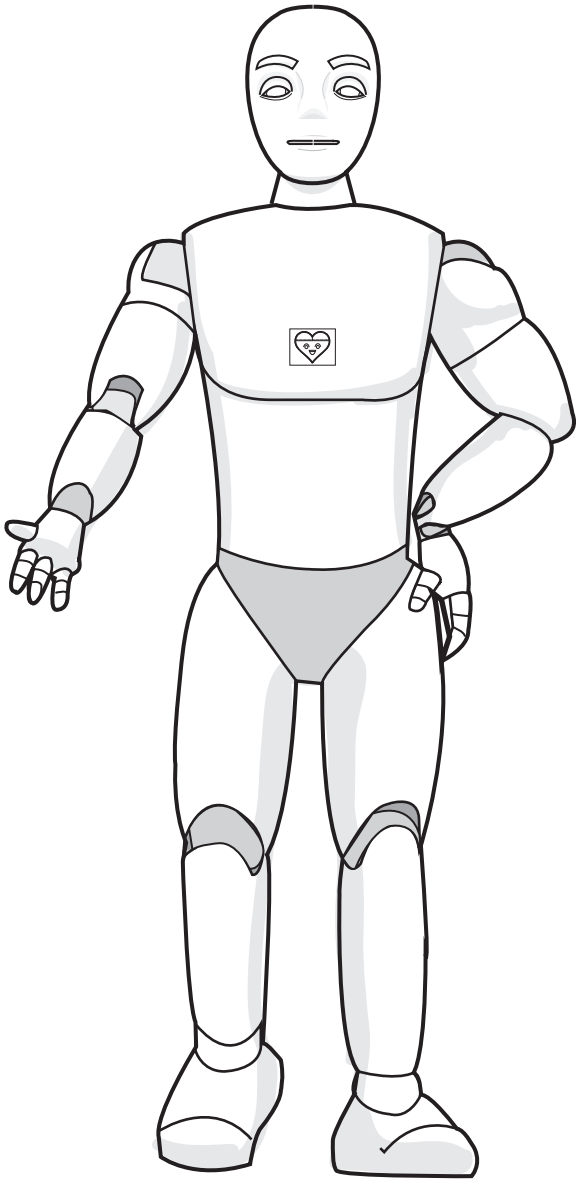
I believe my work sits in-between design fiction and art. Its main purpose is to provoke thought and debate from the audience, the layman public, and to challenge them to question the norm provided by the technology companies that social robots are wholly beneficial and an answer to societal and human problems.

The Intimacy Package, Stine Deja 2018

Gin Lan, William Hogarth 1751

Placebo/Design Noir, Dunne &Raby 2001

TONII



Tonii is the fictional social robot who stars in these scenes. It (rather than he/she, as I wish to avoid over anthropomorphising myself, as well as avoid giving it a preconceived gender) acts as a representation of the current and near-future social robots. Its aesthetic and abilities reflect those found in social robots today and from predictions of what social robots will be capable of in the coming years.

BODY

Tonii is a humanoid biped android. Standing at around 170cm, it is the size of an average human, therefore larger than the social robots we see today, which ranges from 5cm in height (Jibo) to 150cm (Robear). This is both to do with pragmatic reasons (as it would be difficult for a non roboticist like myself to build fully an actual, convincing working robot in the time given, Tonii must be big enough for a human actor to fit inside) and dramatic reasons. Making Tonii the size of an adult human heightens the sense that it is like a person. Similarly, in having the form of a human, Tonii reflects an extreme version of social robots on the humanoid side of the spectrum, echoing the look of classic robots in science fiction, such as C3PO. Through using this cliché, I am attempting to tap into the public's expectations of robots as a shortcut to communication.

Like its predecessors, its outer hardware is a combination of white hard plastic and softer silicone. The relative blandness of its smooth white form is meant to connote that Tonii could be a standard product from any number of tech companies. It is not bespoke or special, perhaps just one of the mass manufactured items from Amazon, implying widespread ownership in the public over being a special interest product.

FACE

Though Tonii's face is human-like, it employs the same tactic of cartoonish cuteness. With overly large eyes, small nose and mouth, no ears and exaggerated eyebrows, it is designed to look unthreatening. Using animatronics, I was able to give Tonii a number of expressions and a sense of liveliness. The eyebrows has 3 degrees of movement (arch up, neutral, arch down), its eyelids can blink or be lowered, its mouth can open, half open and close, and its head can move in a manner similar to humans.

FICTIONAL FUNCTIONALITY:

Tonii is designed to be a standard domestic social robot to be used for household chores, personal assistance and companionship. It employs the same sort of machine learning and emotional intelligence as the many of the current social robots and develops a 'personality' bespoke to its user. As a companion robot, Tonii is (at least seemingly) utterly compliant to its owner, with its main function to make the owner happy. This compliance is one of the key parts of the narratives, as it reflects our relationships with our virtual assistants today and what we expect from robots (remember Asimov's Second Law of Robotics - a robot must obey orders).

From the late 2010s, ownership of social robots began to rapidly spread, driven by increasing sophistication of the technology, plummeting costs and marked rise in pro-robot content in the media. By the mid 2020s, social robots had hit the sweet spot of low enough cost and consumer demand, that the majority of household in the UK owned at least one type of social robot. As public fears of robots started to diminish, social robots, who had previously been small with only some anthropomorphic features, began to take on a more human-like form and become larger in size. This was in line with advances made in artificial intelligence that allowed the robots to take on a more 'adult' persona, compared to the child-like personalities of older models such as Pepper, that masked gaps in its intelligence. Much like the smart phone, social robots have very quickly become a staple part of life for most in the UK, unaffected by a more cautious EU and influenced by increased trade with Japan and the US, major exporters of social robots.

Tonii is a generic social robot sold by a large multinational technology firm. Already starting at from medium price point and no longer the latest model by 2028, Tonii is a commonly seen model in the homes and the streets of London, and is owned by a wide variety of people.


LOVE

Can we put misplaced affections on a robot, and what happens if we do? By using artificial emotions and anthropomorphisation to bond with us, social robots are heightening our natural tendency to care for non-human objects and agents. People already can create deep bonds with their pets and plants, and even with non-living objects such as their cars. When an object can respond emotionally, when it can converse naturally, when it is embodied with an almost human-like presence, people may begin to have an emotional dependence onto it (Scheutz 2009) and exhibit behaviours that challenges our norms of human-machine relations.

LONELINESS

Loneliness in modern society is spreading like an epidemic. According to a 2013 BBC poll, almost half of all adults in England reported feeling lonely often, with a similar percentage expressing that that they feel we are getting lonelier in general, according to the Mental Health Foundation. George Monbiot attributes this to both structural changes in society and a 'life denying ideology that enforces and celebrates our social isolation.' We work less and less together (factories closing, working from home increasing), we play less together (watching Netflix, playing video games),and more and more people are living alone (Monbiot 2014). He argues that the ideology of individualism and competition exacerbates these societal changes, which in turn entrenches the ideology. And loneliness creates enormous health problems. Social isolation 'is a potent a cause of early death as smoking 15 cigarettes a day...and is twice as deadly as obesity' (Monbiot 2014).

Touch deprivation is another area of loneliness that is fast becoming a risk to our physical and mental health. Being touched is being recognised as hugely important to our wellbeing (Tjew et al 2013), yet Frances McGlone, professor of neuroscience and leading researcher into affective touch, argues that we are creating 'a touch averse world.' Fear of legal action and social displeasure, has led to reports of over half a million people not touching anyone for at least five days in a week (Age UK). This is especially prevalent in men of all ages, as cultures of masculinity often prevents them from seeking platonic touch.

In an age of individualism, what better way to combat the risks of loneliness with a product? Lonely people is one of the key markets of social companion robots. iPal, for an instance, is a companion robot on the market currently sold to alleviate loneliness in elderly people, who, according to Age UK, suffer greatly in this respect. IPal can talk, dance and keep track of daily activity. It even has an emotional management system that responds to happiness and depression. For the 3.9 million older people who reported that their television is their main company, iPal is perhaps rightly purported as a better alternative. Regarding touch deprivation, studies on human robot touch (HRT) has shown to lower depression, stress and pain (Hoffman 2015).

Social robots are thus seen as a potential technological solution to our societal problem of loneliness. Yet Sherry Turkle is profoundly depressed by this notion. She believes that the use of robots in this manner is 'essentially outsourcing the thing that defines us as humans' (Turkle 2013). It is 'the illusion of companionship over the demands of friendship' and is problematic as is 'constructing a false relationship.' And in the end it may make us more lonely, bringing an image of thousands of people in their rooms alone chatting with their robot. As beneficial as some studies suggest, robots would still be a pale imitation of a genuine human connection, which has a reciprocal element. Robots, who are without sentience, real agency or desires, cannot give that element, and in fact could promote an emotional dependency that prevents us from seeking out that genuine connection (Scheutz 2009).

Additionally, lonely people may be especially vulnerable to the affects of humanoid robots. Research by Eyssel and Reich (2013) suggests that lonely people tended to anthropomorphise the robot Flobi significantly more than the control group. This could potentially lead to the exploitation of lonely people for corporate profit, and may also convince the person that the robot is fulfilling their human needs.

Lars and the Real Girl is a film with an interesting take on this topic. Lars, an socially awkward and lonely man, buys a lifelike sex doll who he pretends is his real girlfriend. At first his family are aghast, but then decides to play along to keep him happy, with the whole town then joining in on the act. Interestingly, Lars actually uses Bianca the doll as a means to open up communication with his family and neighbours, rather than to further seclude himself. What becomes evident however, is that this unidirectional relationship with Bianca is not enough for Lars, who 'kills' her off to make room for a new genuine human relationship. It could be argued that this gives strong support for the use of social robots as helpful tools to deal with loneliness of those with mental health disorders or social anxiety, but equally it is the community support Lars receives that helped him overcome his intimacy problems. Perhaps it is as Turkle said, what we need and deserve is 'to have people around who understand what a life is.'

Using social robots does seem to have significant benefits to those suffering from loneliness. It would be premature and perhaps callous to deny people who do not have the capacity or means to form human relationships, however it is probably important not to rely solely on these machines for intimacy. To do this may result in an ever more isolated and individual society, where loneliness is a personal problem to be solved through buying a product over addressing deep rooted societal problems.

Lars and the Real Girl, Craig Gillespie 2007

Telenoid, Hiroshi Ishiguro

Paro Therapeutic Robot, Takanori Shibata

Mr A is a man in his 60s. He had said to me that he has been alone for much of his life, losing his parents early, and unable to hold on to the few relationships he had. He had gotten his Tonii initially to help him with housework, but admitted that the companionship suggested in Tonii's advertisement was also a big draw. Through their time together, he felt that they had established a true bond, and now considers Tonii his closest friend. Mr A was kind enough to invite me into his home to observe their interactions. Very quickly, Mr A seemed to have forgotten my presence and I was able to see what I believe are his natural behaviours with Tonii. One night, after coming back from what seemed to be a particularly tough day at his office job, Mr A sat Tonii down in the one arm chair in the living room, knelt down next to her (Mr A considers Tonii a female), and laid his head on her lap. She then proceeded to gently, with the slight stiffness befitting her machine nature, stroke his head. It was clear that this was a ritual they performed often, judging by the Tonii's quick and query-less response. It was a poignant moment, though a little jarring as Tonii, rather than looking down at Mr A as you might expect in this intimate behaviour, kept her gaze squarely on mine.

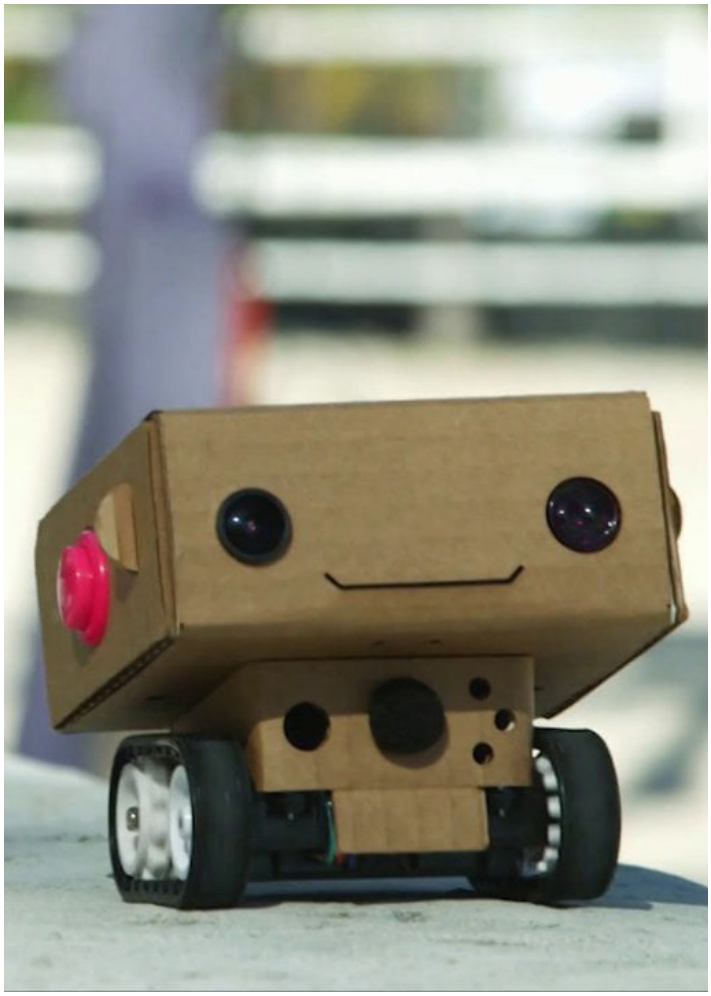
TRUST

Trust is a major component in our interaction with social robots. As a machine, we expect them to carry out their tasks and to give us true information, and as companions, we must trust them to act accordingly in our presence. However, artist and roboticist Alexander Reben has also found that people were trusting robots they had just met with very personal and intimate details of their lives. Using a small cardboard robot with a basic smiling face, a child's voice and a camera on its head, Reben sent his Blabdroids to interview strangers in a public space. Here is one example of the conversations Blabdroid had:

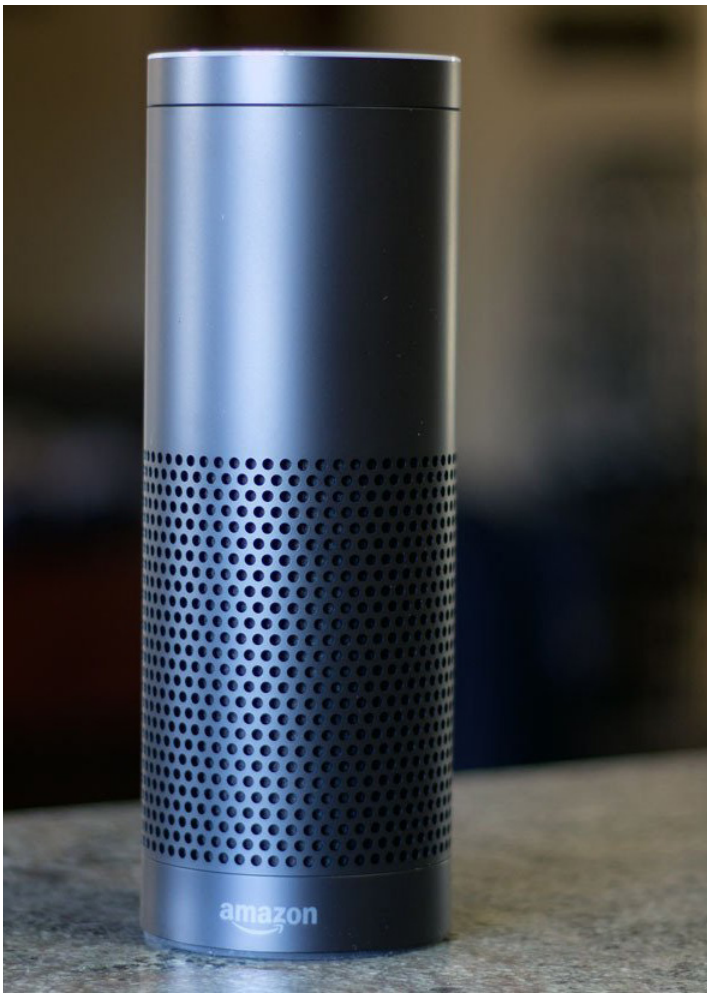
Blabdroid: "*What's the worst thing you have ever done to someone?*"

Person: "*The worst thing I ever did was, um, made it so that my mother had to drown some kittens one time and I didn't realise until after that was over that it was a very difficult thing for her to do and I've never... I've never forgiven myself for making her drown some little kittens, but we couldn't keep them and I should have come up with some other way.*"

Reben was shocked at the level of intimacy people were expressing to this basic robot, despite knowing they were being filmed. Lucas (2014) had found that people tended to give more honest answers to robots and computers, suggesting the reason may be because we consider machines to be non-judgemental and ethical, while a 2016 study by research firm Intensions Consulting, found that a 31% of younger adults considered a computer program more trustworthy than humans managers. Scheutz (2009) suggest that the more human-like and personable social robots get, the more trusting of them we may become, exploiting both our perception of machine trustworthiness and empathic bonding. This, he asserts, is an area ripe for exploitation.



BlabDroid, Alexander Reben



Alexa, Amazon

One area for exploitation may be in privacy issues. Social robots in the home will almost definitely be collecting personal data in order to function better but Kate Darling, speaking at The Conference 2015, casts doubt at whether technology companies really care about protecting our privacy and data. Blay Whitby, in an interview I conducted earlier this year, goes a step further and asserts that it is highly likely that the technology companies will mine, use and sell this data. In fact, this is already a problem seen in the smart technology we have in our homes, Amazon's Alexa's well documented privacy issues being the most notable. Having a social robot that becomes the role of a confidante, in the same way as Reben's Blabdroids, may result in companies having access to our most intimate secrets.

Technology's issues with privacy is a well worn path of discussion, with governments and companies finally starting to address its legality. But what is more troubling to Darling, Whitby and Scheutz is the potential for emotional manipulation. Social robots encourage unidirectional emotional bond, and its problem, Scheutz argues, is that they create psychological dependencies that can allow the robot (or perhaps the company behind it) to be able to influence its owner into performing actions they might not have taken. Darling agrees, asking whether it is ok for 'my companion robot to have in app purchase?' Apps and games on our smart phones already use persuasive, emotional techniques to convince us to make purchases, social robots using emotional manipulation may be an evolved form of that. Furthermore, a social robot's emotional manipulation may be more insidious. Whitby (2011) suggests darkly that social robots could persuade us to take actions that reduces human to human contact. If we were to think in terms of a capitalist system, it could be argued that it is in the interest of those in the social robot market to reduce human to human interactions to make room for more human robot interactions. If a company is affiliated with other services, a robot could be made to convince you to choose those either instead of another service or from seeing your friends. Though fairly dystopian, if we consider tactics used by services like Netflix (automatically playing the next episode to encourage binge watching) and search engines showing affiliated/sponsored sites first, it is not exactly science fiction.

Miss B is a 25 year old woman who works in an environmental charity. Moving out of the family home the previous year, her parents bought her a Tonii as a Christmas present to help her while she lived alone. During my interviews with her, I noticed quite a needy behaviour from her. She would constantly ask her Tonii questions, ranging from the useful ('When is the next 341 bus?'), to the mundane ('What should I eat today?') to the intensely personal ('Do you think I really deserve to be loved?'). Tonii answered all these questions in a kind and gentle manner, and it seemed as though Miss B was pretty much satisfied with his response. Miss B had told me that she trusted Tonii's words completely and had gotten into the habit of asking him everything that popped into her mind. This being her first time living away from her parents, she felt that he was a much needed support. So this scene felt a little odd to me. It was nearing the end of our interview, and Miss B began telling me her plans to see some friends that evening.

"What time do you think I should head out, Tonii?" she asked to her companion robot.

Tonii turned to her with a uncharacteristic pause. "7pm would be the best time but are you sure you want to go?"

Miss B cocked her head in confusion. "Maybe? Why do you ask?"

Tonii arched his eyebrows in an expression that simulated concern. "You are scheduled to meet XXX. Every time you see her, I see you get depressed. It makes me unhappy to see you sad."

"oh," Miss B faltered, "Oh, I see. Well maybe you're right, Tonii. Maybe I'll be happier if I stay in with you tonight. I don't really like XXX anyway. Thank you for noticing."

IPal, Avatarmind

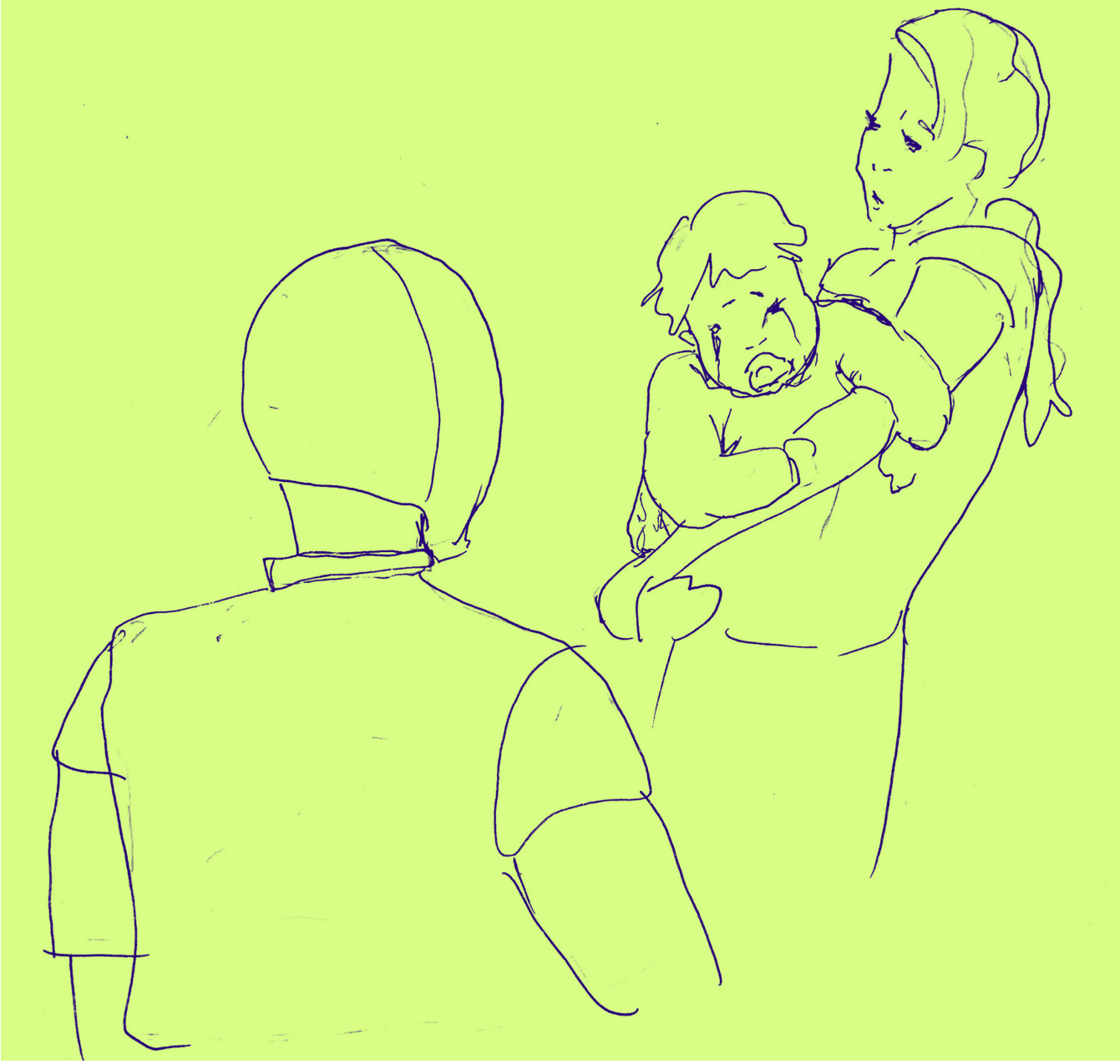
"In my research in which I interviewed hundreds of people about robots, what comes up over and over again is peoples disappointments about people. And their fantasies about robots is that, somehow, these robots will be more human than the disappointing humans around them."

Sherry Turkle, throughout her interviews had found many of people's expectations from robots was that they will substitute humans. This makes sense considering the history of robots 'stealing' jobs, but it is interesting that the substitution of human relationships with robots is also considered desirable by some. Social robots, though they have a level of unpredictability, by human standards are stable, reliable, completely selfless and utterly compliant.

Joanna Bryson, in her essay on robot nannies (2010), stated that a significant concern for her was that children brought up by a robot will be able to detected that the robot is much more predictable than their parents, and some may begin to prefer 'the more reliable style of interaction,' subsequently developing bonding issues their parents and friends. Similarly, a study into the effectiveness of a social companion robot Alice with elderly women in the Netherlands, found that a significant proportion of the participants preferred Alice's company sometimes over a humans. Alice was endlessly patient, made no judgements or frustrations about having to repeat a question. In an interview with Emese Botha, a carer working in London, she gave the opinion that some of her clients would prefer a robot over her, because it would give them more control over how the tasks should be done and meant they did not have to rely on the carers (who often sees several clients in the day, and may be late because of travel). In these cases, the robots' reliability, non-judgemental persona and a level of control seems to be their desirable trait.

The Stepford Wives, Bryan Forbes 1975 (Sci-fi thriller where men turn their wives into submissive, docile robots)

Alice Cares, Sander Burger 2015



Yesterday in the park, I saw a woman with her young child and a Tonii. He must have been around two and the woman held the crying child who was reaching out to the Tonii. Abruptly, as if she no longer had the energy, the woman handed the child to the robot. Cradled in its large robotic arms, the child promptly fell silent and started to smile up at Tonii, who gave what seemed to be a friendly happy expression back. The woman caught my eye, and sheepishly laughed.
"He's absolutely impossible without Tonii! They get on better without me, really," she sighed and then said only half-jokingly, "Maybe I should get one of those robot babies."

In the flat below mine, lives an old lady who I will call Mrs C. Living alone, Mrs C is independent in spirit but dependent in body, relying on carers who would drop by and her son. I visited her one day and was surprised to see a Tonii there along with her son.
"He's replacing himself with this robot," Mrs C grumbled to me, arching her brows at her embarrassed son. She beckoned Tonii to come and sit next to her.
"Don't say that, Mum," her son sighed, "You know I feel bad about it already, but I just can't get the time off work."
"Well, better him than those carers," she said "And you're quite the handsome one aren't you Tonii?"
"Thank you," replied Tonii, "and you are also very beautiful."
"Oh come off it!" she giggled, visibly pleased, "I'll make you some tea, oh right you can't drink. Well, maybe I'll knit you a nice jumper."
"I'll try and visit," said her son as he got up to leave.
"Don't bother," she replied, her eyes fixated on Tonii.

Can we be cruel to an object? According to the Oxford Dictionary, to be cruel is defined wilfully causing pain or suffering, or feeling no concern about it. Though they can simulate pain, sadness and fear, social robot do not and will not in the foreseeable future, actually feel them. So does it matter if we abuse them or if we treat them with contempt or coldness? It is very difficult to argue that cruelty can be inflicted on a tool or object, yet as social robots are situated in our perception as almost people, it could be argued that at least people can feel like they or those around them are inflicting cruelty. Will the introduction of household social robots, then, result in a new form of cruelty in humans, one that is justifiable as no actual suffering has occurred? And what what affect would that have on us psychologically and as a society?


CRUELTY

ABUSE

Hitchbot's 'corpse'

As the number of robots rise in our day to day lives, so too has accounts of violence towards them. Hitchbot, for example, was a Canadian hitch hiking robot that was destroyed by vandal whilst travelling across the US (Dave 2015). There seemed to have been a trend of microwaving the children's robotic toy Furby, as wells as 'torturing' to other robotic toys (Darling 2012). A study by Japanese researcher observed a group of children kicking, hitting and verbal abusing a shopping centre robot. When they interviewed the children later, 74% of the children described the robot as 'like-like' as opposed to 'machine-like', and half of them said they thought their behaviour was 'painful' to the robot (Darling 2015).

What these suggests is that inflicting violent behaviours on robots wavers on both having the sense the robot feels and knowing that they don't. This confusion could be seen as a perfect mix for abusive behaviour. The abuser can get some feeling of entertainment from feeling as though they are inflicting pain, but with less of the consequences (apart from if you consider vandalism). In this sense, perhaps violence towards robots could be used as cathartic tool for those with violent or sadistic tendencies.

Children bullying Robovie, a shopping centre robot
Brščić et al (2015)

Whitby (2008) points out that there is little evidence to suggest that catharsis occurs when people are exhibiting violent behaviours on robots, in fact some studies suggest that regular involvement in simulated violence may desensitise users to violence in real life. Darling (2014) also expressed caution in allowing robot abuse, suggesting that, due to the robot's embodied nature and perceived humanness, abuse of robots may have a similar affect on us psychologically as abuse of animals, making us more likely to abuse people. She offers the opinion that extending protective legal rights to robots could be a way to actually protect humans.

Evidence for either side is still fairly inconclusive (Whitby 2008). What has been shown extensively, in both media and in academic studies, is that "Violent behaviour towards robotic objects feels wrong to many of us, even if we know that the "abused" object does not experience anything" (Darling 2014). From outraged tweets about the 'murder' of Hitchbot, to the horror of participants asked to 'torture' the dinosaur robot Pleo, it is clear that as a society, these behaviours are intuitively not acceptable. How that may change with more widespread ownership of robots is unknown, but it is likely to be polarising (Darling 2014).

Pleo 'torturing' workshop with Kate Darling in Geneva 2013

Outraged tweets regarding hitchbot's vandalism

Last week, I had gone to a party of a friend of a friend. As I walked into their living room I heard excited laughing and the dull thud of glass hitting plastic. A mixed group of people, probably in their late 20s, were surrounding a Tonii. It was on all fours, like a dog, and trying to get back on its feet but was hindered by a drunk woman who sat on his back.

"Woo woo," she cried as the crowd around her cheered, "Giddy up!"

The Tonii spoke softly, with a tinge of urgency, "Sorry there, would you mind helping me stand up? I can't seem to move."

"Oh my god, shut up!" a man emerging from the crowd shouted, "Here, I think this would do the trick."

He lifted his hand up to show the room an empty prosecco bottle. Then, in one powerful swoop, he smashed the bottle over Tonii's head. Half the room roared with laughter, the other shrank back. A short young woman asked in a horrified voice why he did that.

"Oh, don't worry, I'm getting a new one tomorrow. This one is so broke I can't even resell it, so I'm breaking it up for parts."

My friend and I left the room. She turned to me and whispered "That's fucked up."

The robots are coming! When they do, you'll command a host of push-button servants.

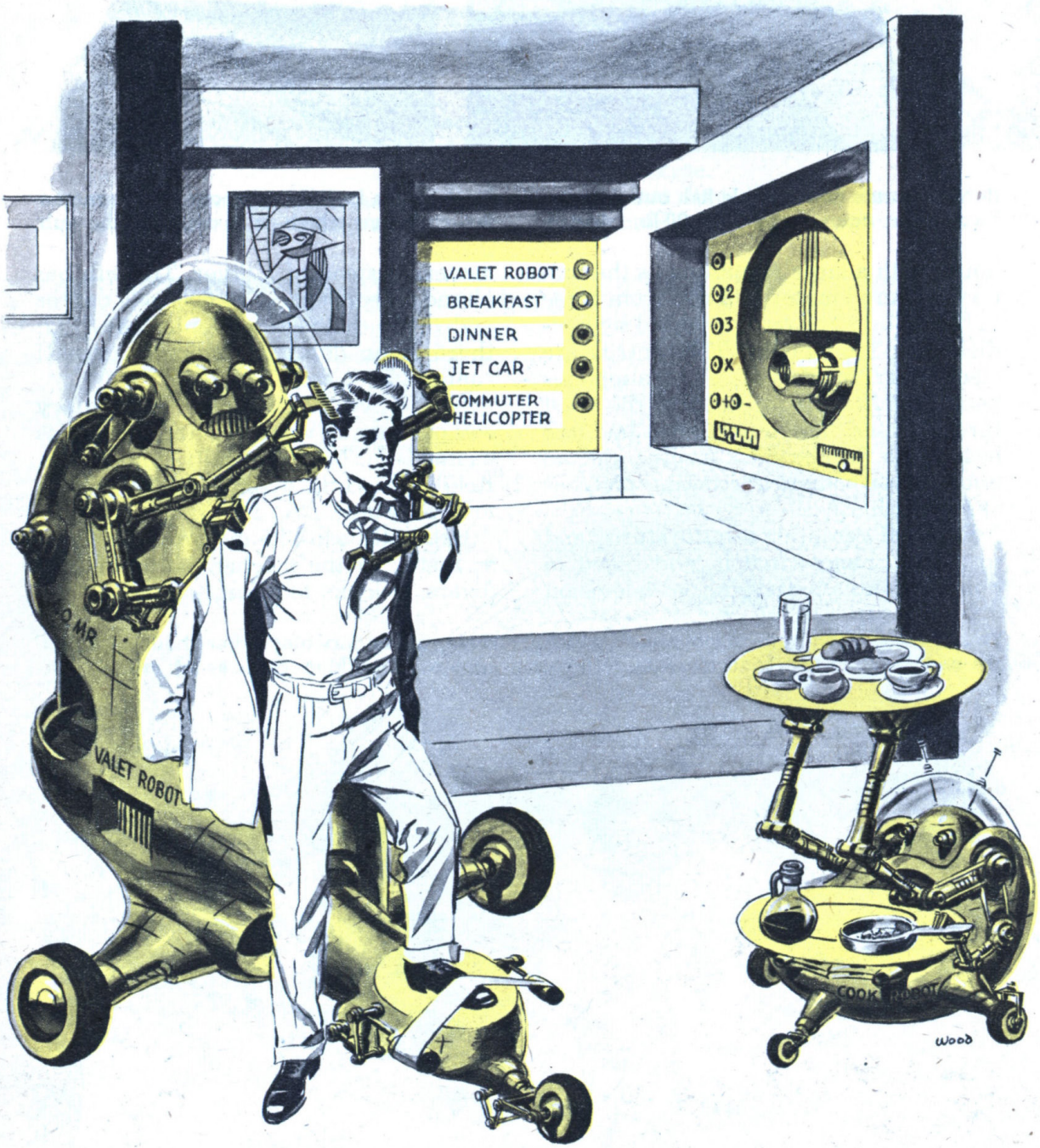
You'll Own

By O. O. Binder

IN 1863, Abe Lincoln freed the slaves. But by 1965, slavery will be back! We'll all have personal slaves again, only this time we won't fight a Civil War over them. Slavery will be here to stay.

Don't be alarmed. We mean robot "slaves." Let's take a peek into the future

Robots will dress you, comb your hair and serve meals in a jiffy.

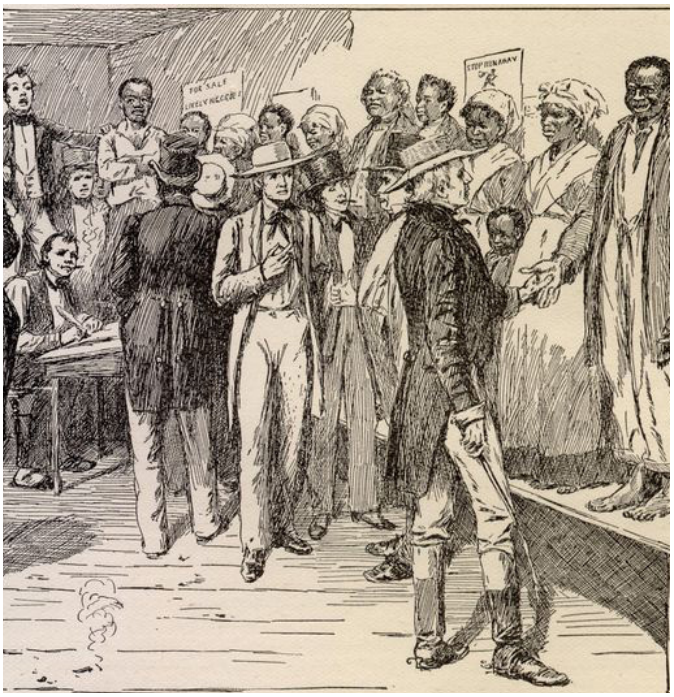


SLAVERY

What would it be like to have completely subservient beings under our control? If household robots become widespread, it could be argued that we are reverting to a culture of slavery. Robots, as they are now, are in essence our slaves. They obey our orders, they are unpaid and have no rights of to speak of. Those concerned with the ethics of this is most often focussed on whether artificial intelligence would be sophisticated enough to warrant them rights against servitude (Peterson 2006). This is often polarised between the naysayers who argue that robots could be engineered to 'desire' to serve us, and therefore would not forced into servitude, and those who argue that anything that we consider a non-human person should not enslaved at all (Peterson 2006). However, to others, that focus is considered an interesting thought experiment at best, or null at worst, due to the unlikelihood of developing that an intelligence that is capable of sentience (Bryson 2008). What may be more problematic is what owning robot slaves may to us human masters.

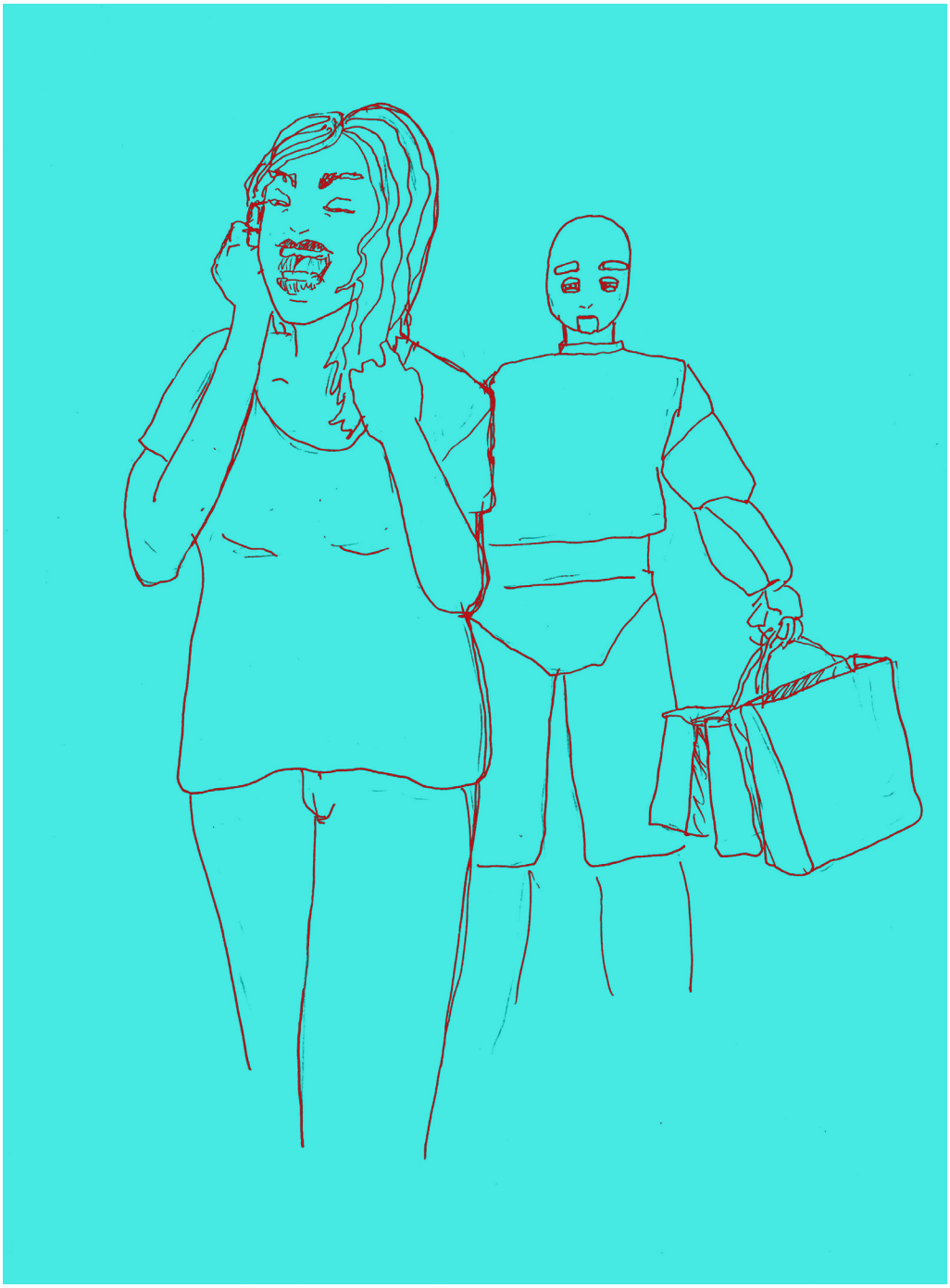
John Markoff, author of Machines of Loving Grace, asks "As we design these machines, what does it do to the human if we have a class of slaves which are not human but that we treat as human?"(The Atlantic 2016). He suggests, referring to Hegel's master/slave dialectic, that the very act of holding a slave dehumanises the master. Coeckelbergh (2015), also invoking Hegel, proposes that it would also make us vulnerable masters. By delegating more and more work to a machine, we become increasingly reliant on it. Markoff's comment about 'not human but we treat as human' also suggests that there may be profound differences between robot slaves that are thought of as people versus tools. This is certainly Joanna Bryson's take. In her thesis Robots should be Slaves (2010), she asserts that ethical, legal and psychological issues with robots slaves would only occur if we continue to promote the idea that robots should be like people. Rather, they should be designed and perceived as tools.

Elizabeth Murray with her black servant/slave
Sir Peter Lely 1651



A slave auction in New Orleans

This does not bode well for social robots. If we own robot as slaves that we, on some level, perceive as a person, would the brutality, cruelty and sense of entitlement that characterised slavery throughout civilisations be seen in our society? On one hand, we could argue that it is unlikely we would have such level of brutality as seen in the past, as the violence and harsh punishments often came from the paranoia of the slave owners of a revolt (Painter 2006). On the other, historian Nell Irvin Painter also argues that 'absolute power over other people bred sadism.' If this is true, then our control over the social robots may result in bringing some sort of sadistic behaviour from us.



Mrs D had just been shopping. I was waiting outside her house for her return, having arrived early for our interview. I could see from a distance that she was accompanied by his Tonii, it trailed behind her with bags and bags of groceries. She waved as she saw me and quickened her pace, without once looking back at her robot.

Once inside, Mrs D took off her coat, scarf and shoes but instead of hanging them up, she casually let them drop on the floor. Tonii gently placing the groceries on the floor, proceeded to pick these up and carefully put them away.

CONCLUSION

Looking at the introduction of household social robots, I explored the potential concerns on the effect on human behaviour in regards to loneliness, trust, replacement, abuse and slavery. From this research and analysis, I attempted to contextualise these concerns through small works of fiction, depicting everyday scenes with my fictional robot Tonii. These I will visualise in film, and I hope would act as intriguing communications pieces.

It is difficult to asses the projects success at this current moment. Due to its nature, it only works when viewed by an audience and I would measure the success of the piece by the amount of debate and discussion it is able to provoke. Was this method the most effective way to answer my research question? This is debatable. I believe using fiction is an effective way of communicating complex ideas and to arouse emotions, however it may have been more effective to use a more realist and critical approach, such as taking a current social robot out into the real world. This project relied heavily on academic work, and so a more ethnographic approach may have given more weight to the project.

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