

Sexuality

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Abstract: Sex is an important part of human life. It is a source of pleasure and intimacy, and is integral to many people's self-identity. This chapter examines the opportunities and challenges posed by the use of AI in how humans express and enact their sexualities. It does so by focusing on three main issues. First, it considers the idea of digisexuality, which according to McArthur and Twist (2017) is the label that should be applied to those 'whose primary sexual identity comes through the use of technology', particularly through the use of robotics and AI. While agreeing that this phenomenon is worthy of greater scrutiny, the chapter questions whether it is necessary or socially desirable to see this as a new form of sexual identity. Second, it looks at the role that AI can play in facilitating human-to-human sexual contact, focusing in particular on the use of self-tracking and predictive analytics in optimising sexual and intimate behaviour. There are already a number of apps and services that promise to use AI to do this, but they pose a range of ethical risks that need to be addressed at both an individual and societal level. Finally, it considers the idea that a sophisticated form of AI could be an object of love. Can we be truly intimate with something that has been 'programmed' to love us? Contrary to the widely-held view, this chapter argues that this is indeed possible.

Introduction

In early 2017, the world bore witness to its first human-robot marriage. Zheng Jiajia, a Chinese engineer and AI expert, hadn't always intended to marry a robot. He had spent years searching for a (female) human partner and grew frustrated at his lack of success.¹ So he decided to put his engineering skills to the test and

¹ A not uncommon problem in China given its skewed gender ratios. See World Economic Forum, *Global Gender Gap Report 2018*, p 63, available at http://www3.weforum.org/docs/WEF_GGGR_2018.pdf; and also Viola Zhou 'China has world's most skewed sex ratio at birth – again', *South China Morning Post*, 27th October 2016, available at <https://www.scmp.com/news/china/policies-politics/article/2040544/chinas->

create his own robotic partner. He married 'her' in a simple, traditional ceremony that was witnessed by his mother and friends.² Jiajia's robot wasn't particularly impressive. According to the reports, 'she' was a human-sized doll with a limited ability to recognize Chinese characters and speak some basic phrases. But Jiajia planned to upgrade 'her' in the near future.

Not long after Jiajia's nuptials, Aikikho Kondo, a 35 year-old Japanese man living in Tokyo, married Hatsune Miku, a holographic virtual reality singer who floats inside a desktop device.³ Kondo too felt unlucky in (human) love and plumped for an artificial partner. In doing so, Kondo wanted to be recognised as a member of a sexual minority of people who are not interested in human lovers.

Neither Jiajia nor Kondo is alone. There is an active online community of 'iDollators' who favour intimacy with artificial dolls over humans. And there are now several companies eagerly racing to create more sophisticated robotic and artificial companions, capable of providing their users with both sexual intimacy and emotional support. We should not be surprised by this trend. Sex and intimacy are important parts of human life and they have always been mediated and assisted by technology. Sex toys and sex dolls can be found going back

[demographic-time-bomb-still-ticking-worlds-most](#)

² Kristin Huang, 'Chinese engineer 'marries' robot after failing to find a human wife', *South China Morning Post*, 4th April 2017, available at <https://www.scmp.com/news/china/society/article/2084389/chinese-engineer-marries-robot-after-failing-find-human-wife>

³ AFP-JJJI, 'Love in another dimension: Japanese man 'marries' Hatsune Miku hologram', *The Japan Times*, 12 November 2018, available at https://www.japantimes.co.jp/news/2018/11/12/national/japanese-man-marries-virtual-reality-singer-hatsune-miku-hologram/#.XFm9vs_7TOQ

thousands of years back in the archaeological record. The fact that the latest wave of technologies is being leveraged toward sexual ends is part of this long-standing trend.⁴

This chapter examines the ethical opportunities and challenges posed by the use of AI in how humans express and enact their sexualities. It does so by focusing on three main issues. First, it considers the question of sexual identity and asks if we should apply a new sexual identity label – ‘digisexuality’ – to those who express or direct their sexualities towards digital/artificial partners.⁵ While agreeing that this phenomenon is worthy of greater scrutiny, the chapter argues that we should be very cautious about recognising this as a new form of sexual identity as doing so can have stigmatising and divisive effects. Second, it looks at the role that AI can play in facilitating and assisting human-to-human sexual intimacy, focusing in particular on the use of self-tracking and predictive analytics in optimising intimate behaviour. It asks whether there is something ethically objectionable about the use of such AI assistance. It argues that there isn’t, though there are ethical risks that need to be addressed. Finally, it considers the idea that a sophisticated form of AI could be an object of love, despite it having been ‘programmed’ to love us. Contrary to the widely-held view, this chapter argues that this is indeed possible.

⁴ Kate Devlin, *Turned On: Science, Sex and Robots*, (London: Bloomsbury Sigma, 2018); and Hallie Lieberman, *Buzz: The Stimulating History of the Sex Toy* (New York: Pegasus Books, 2017)

⁵ Neil McArthur and Markie Twist, ‘The rise of digisexuality: therapeutic challenges and possibilities’ (2017) *Sex and Relationship Therapy* 32(3-4): 334-344

AI and Sexual Identity

Identity is central to human existence. We all seek to define and understand ourselves and others in terms of different identity labels.⁶ Sexual identity labels are an important part of this pattern of classification. Homosexuality, bisexuality and heterosexuality are all now recognised and, for the most part, tolerated as distinct forms of sexual identity (though it was not always thus).

The general tendency to classify ourselves and others in this manner creates a temptation when it comes to how we understand those, like Zheng Jiajia and Aikikho Kondo, who express and enact a sexual preference for artificial partners. In their article ‘The rise of the digisexual’, Neil McArthur and Markie Twist succumb to this temptation.⁷ They argue that technology plays an important role in how people enact their sexual desires and that when it comes to those who display a marked preference for artificial partners, we should recognise that they exhibit a new type of sexual identity, namely ‘digisexuality’. As they put it: “Many people will find that their experiences with this technology become integral to their sexual identity, and some will come to prefer them to direct sexual interactions with humans. We propose to label those people who consider such experiences essential to their sexual identity, “digisexuals””.⁸

McArthur and Twist make this argument with circumspection and care. They point out that sexual orientations and identities occur along a continuum.

⁶ Kwame Anthony Appiah, *The Lies that Bind: Rethinking Identity* (London: Profile Books, 2018); and Francis Fukuyama *Identity: The Demand for Dignity and the Politics of Resentment* (New York: Farrar, Straus and Giroux, 2018).

⁷ McArthur and Twist, n 5

⁸ McArthur and Twist, n 5, pp 334-335

Some people will occasionally use technology to get their kicks but will retain strong preferences for human-to-human contact. They suggest that only those who live primarily at one extreme end of the spectrum deserve the label 'digisexual'.⁹ They also recognise that people belonging to this group will almost certainly suffer from stigmatisation as a result of their pronounced sexual preference, but then counter that this simply needs to be understood and combatted.¹⁰ In saying this, they make the case for using the 'digisexuality' label from a largely detached, scientific perspective, suggesting that this is something that needs to be acknowledged and studied, not scorned and maligned.

I agree that there is a phenomenon here worthy of greater scientific scrutiny, but I think we should be very cautious about encouraging the widespread use of a new sexual identity label, such as 'digisexuality', even for such scientific purposes. Admittedly this is not something that is necessarily under our control since, as pointed out above, we are constantly in the business of labeling and classifying one another. Nevertheless, to the extent that we can control our tendency to label and classify one another, we should avoid the temptation to recognise a new minority of digisexuals. This stance is not motivated by any bigotry or desire to suppress a new truth about human sexuality. It is motivated by the desire to avoid pathologising and 'othering' what should be viewed as part of the ordinary range of human sexual desire.

⁹ McArthur and Twist, n 5, p 338

¹⁰ McArthur and Twist, n 5, p 338

The argument for this view has two prongs to it. The first is to claim that the recognition of a particular set of sexual desires as a distinctive identity or orientation is not metaphysically mandated. In other words, there is nothing in the raw data of human sexual desire that demands that we apply a particular label or classification to those desires. The second prong is to argue that to the extent that we do apply such labels, there is a tendency for us to ignore important nuances in the actual raw data of human sexual desire and for this to have pernicious consequences. Consequently, since grouping some set of sexual desires into a distinctive identity is not metaphysically mandated, nor is it socially or ethically desirable, we should resist the temptation to do so.

Let's explore both prongs of the argument in more detail, starting with the claim that recognising a new sexual identity is not metaphysically warranted. In making this claim I am inspired by a theory of sexual orientation developed by Saray Ayala: *the conceptual act theory of sexual orientation*.¹¹ The gist of the theory is as follows. Humans have many different phenomenological experiences in their lifetimes. In many cases, these experiences are messy and not finely differentiated. Think of our auditory or colour experiences. Though we do perceive distinctions between different shades and different musical notes, the reality of sound waves and light waves is that they blend or fade into one another. It is only through the use of conventional linguistic labels that we bring some order and structure to the phenomenological soup of experience. What's more, some people's conceptual toolkit enables them to more finely differentiate

¹¹ Saray Ayala, 'Sexual Orientation and Choice' (2018) *Journal of Social Ontology*, 3(2): 249-265.

their phenomenological experiences than others. I know people who can easily recognise and distinguish different notes and scales in a piece of music. I do not have this ability. I lump together experiences that others can split.

The psychologist Lisa Feldman Barrett has argued that this same phenomenon underlies our emotional experiences.¹² The initial phenomenological reality of emotion is a raw feeling that gets interpreted through a particular conventional conceptual toolkit. We translate our raw experience into the feeling of 'anger', 'sorrow' or 'joy' (and so on). Different cultures parse the phenomenological reality of emotion in different ways, grouping and organising feelings in ways that are not immediately recognisable to cultural outsiders.

Ayala argues that the same is true for how we experience sexual desire. Over the course of a lifetime, people will experience sexual desire, arousal and release in response to many different things. Oftentimes the desires will be directed at other people, but sometimes they won't. People have been known to experience arousal in response to all sorts of environmental stimuli. What then happens is that people group their sexual experiences together in order to make sense of their sexual identities and orientations. In doing this, some experiences are ignored, suppressed and discounted, while others are accentuated. You will probably discount all those times you got aroused by the vibrations of the schoolbus, but not those times you got aroused when you danced with your

¹² Lisa Feldman Barrett, 'Solving the Emotion Paradox: Categorization and the Experience of Emotion' (2006) *Personality and Social Psychology Review* 10(1): 20-46

classmate at the school dance. You won't call yourself an automotive-fetishist no matter how many times you got aroused on the schoolbus. Likewise, and perhaps more realistically, I suspect there are many people who primarily gain sexual release through masturbation and not through intercourse with another human being. Nevertheless, I suspect that the majority of those people do not classify themselves as avowed autoeroticists. They don't interpret their masturbatory experiences through an identity-label. They see those experiences as an important part of the full range of desirable sexual experiences, all of which are still being actively pursued.

The point here is that the same is likely to be true of those who get their sexual kicks through technology, even those who primarily do so with artificial partners. Consider Zhou Jiajia and Aikihiko Kondo, for example. Both of them claim to have sought out artificial partners *after* failing to find love among their fellow humans. This would suggest that they haven't completely lost this form of sexual desire. The danger is that if we apply, and encourage them to apply, an identity-label to their newfound sexual preferences, we also encourage them to discount or suppress the other aspects of their sexual affect. They start exaggerating part of a more diverse and differentiated phenomenological reality.

This brings us to the second prong of the argument: that applying identity labels can be socially and ethically pernicious. You might be primed to be sceptical about this. You might point to other identity political movements in support of your scepticism and argue that owning an identity label can be both politically and personally empowering. If you belong to a group you feel less

alone in the world. Similarly, if you and other members of your group are socially disadvantaged, banding together can help you to stand up and agitate for legal rights and protections. This has been true for the feminist movement and the gay rights movement. But it is noteworthy that both of these movements arose in response to pre-existing prejudice and discriminatory classification. People within those groups were already subject to an oppressive identity-labeling and hence saw the need to band together, wear their label as a matter of pride, and work for social reform. In the absence of that pre-existing prejudice, the case for identity-labeling is much less persuasive. Identity-labeling tends to encourage divisiveness and othering – the ‘us’ against ‘them’ mentality. People quickly appoint themselves as the guardians of the identity, creating criteria for determining who belongs and who does not. Furthermore, if belonging to a particular identity category brings with it certain social benefits and legal protections, people might be encouraged to over-interpret their experiences so that they can fit within the relevant group: they force themselves into a group so that they can belong, thereby doing violence to their actual experience. In short, the identity-labeling can foster, just as often as it can combat, social division and polarisation.

To be clear, the claim is not that all identity-labels are pernicious or scientifically inaccurate. Some labels have social and scientific value. The claim is rather that identity-labels have power and should be treated with caution. Sexual phenomenology is often more diverse and differentiated than our identity labels allow. This means that lumping someone into a particular category is often not warranted. Recognising and valorising the identity label may encourage and

incentivise people to force themselves to fit into a category to which they do not belong. So, unless we are trying to combat some pre-existing social prejudice or stigmatisation, we should be very reluctant to classify people as 'digisexuals'. This does not mean that we must ignore the role that artificial partners play in people's sexual lives, or that we cannot study the various manifestations of 'digisexualities'. It just means we should avoid labeling people as 'digisexuals' (or any other cognate term like 'robosexual'). We should accept this as just part of the normal range of human sexual experience.

AI and Sexual Assistance

Sex toys and other sex aids have long been used to assist and complement human-to-human sexual activity, and AIs and robots are already widely used to assist and complement non-sexual human activity. It should be no surprise then to find AI being harnessed toward sexually assistive ends. We already see smart sex toys that try to learn from user data to optimise sexual pleasure; 'quantified self' apps that enable users to track and optimise aspects of their sexual performance; and simple AI assistants that help with intimate behaviour, including apps that help to automate or assist with sending intimate communications to your partner.¹³ Does the use of such AI-based sexual

¹³ For discussions of the different apps and services, see: Deborah Lupton, 'Quantified sex: A critical analysis of sexual and reproductive self-tracking using apps', (2015) *Culture, Health and Sexuality* 17 (4):440–53; Karen Levy, 'Intimate surveillance' (2014) *Idaho Law Review* 51:679–93; John Danaher, Sven Nyholm and Brian Earp 'The Quantified Relationship' (2018) *American Journal of Bioethics* 18(2): 1-19; John Danaher, 'Toward an Ethics of AI Assistants: An Initial Framework' (2018) *Philosophy and Technology* 31(4): 629-653; and Evan Selinger 'Today's Apps are Turning us Into Sociopaths' WIRED 26 February 2014 - available at <https://www.wired.com/2014/02/outsourcing-humanity-apps/>; and Evan Selinger, 'Don't outsource your dating Life' *CNN: Edition* 2 May 2014 -

assistants raise any significant ethical concerns? In previous work, I, along with my colleagues Sven Nyholm and Brian Earp, analysed eight different ethical concerns one might have about the use of AI in intimate relationships.¹⁴ In the interests of brevity, I will discuss four key ethical concerns here:

The Privacy Concern: This is the big one. This is the concern that the use of AI assistants in intimate sexual relationships constitutes a major assault on personal privacy. This could be because partners use services to spy on one another without consent. This is already a problem in abusive intimate relationships.¹⁵ It could also be because AI assistants are owned and controlled by third parties (e.g. companies/corporations) who capture sexual data from their users and use this to optimise and market their products and services. Sometimes this is done with the consent of the users; sometimes it is not. Indeed, several lawsuits have already been settled between companies and users of smart sex toys due to the fact that data was collected from those devices without the users' consent.¹⁶ Of course, violations of privacy are a general concern with digital technology, extending far beyond the sexual or intimate use case,¹⁷ but one might argue that the ethical concerns are higher in this case given the unique importance of sexual privacy.

available at <http://edition.cnn.com/2014/05/01/opinion/selinger-outsourcing-activities/index.html> (accessed 29/11/2016).

¹⁴ Danaher, Nyholm and Earp, n 13

¹⁵ Levy, n 13

¹⁶ Alex Hern, 'Vibrator maker ordered to pay out C\$4m for tracking users' sexual activity', *The Guardian* 14 March 2017, available at <https://www.theguardian.com/technology/2017/mar/14/we-vibe-vibrator-tracking-users-sexual-habits>

¹⁷ Woodrow Hartzog, *Privacy's Blueprint: The Battle to Control the Design of New Technologies* (Cambridge, MA: Harvard University Press, 2018); and Shoshana Zuboff, *The Age of Surveillance Capitalism* (London: Profile Books 2019)

The Disengagement Concern: This is the concern that AI sexual assistants may distract us from, or encourage us to disengage from, sexually intimate activity and thereby corrode or undermine a core part of the value of that activity. The argument would be that a lot of the good of sexual intimacy (and other forms of intimacy) stems from being present in the moment, i.e. enjoying the sexual activity for what it is. But can you really be present if you are using some sex-assistant to track the number of calories you burn, or the decibel level reached, or the number of thrusts that take place during sexual activity? (These, incidentally, are all real examples of some of the uses to which descriptive and predictive analytics have been put in intimate apps.)¹⁸ Similarly, but in a non-sexual case, Evan Selinger worries about the use of automated and AI-assisted intimate communication apps on the grounds that they create the impression that someone is thinking about and caring about another person in a particular moment when in fact they are not and are letting the app do the work for them.¹⁹ The disengagement concern is, once again, a general concern about digital technology – think of all those complaints about the “anti-social” use of smartphones at parties and meetings – but we might worry that it is particularly problematic in the intimate case because of how important being present is to intimacy.

The Misdirection Concern: Related to the previous concern, this is a concern about the kinds of things that AI sexual assistants might assist people

¹⁸ Danaher, Nyholm and Earp, n 13.

¹⁹ Selinger n 13

with. AI assistants in general tend to provide users with information or prompt them to do certain things. The same is likely to occur with AI sexual assistants: they might give users information about how to optimise their sexual experiences or prompt them to try particular activities. One worry is that the assistants could encourage activities that are not conducive to good sexual experience. This is, indeed, already an expressed concern about the various sex tracking apps that have been created.²⁰ As noted, those apps often encourage users to focus on things like the number of calories burned during sex, the number of thrusts during sex, and the decibel level reached during sex. One reason for this is that it is relatively easy to track and measure these things. But there is no reason to think that any of them is correlated with good sex. On the contrary, focusing on those measures might actually undermine good sex. This worry is distinct from the previous one because it is not about the user being taken out of the moment but rather about them doing things that are not particularly pleasurable/valuable in the moment.

The Ideological Concern: A final concern, which is also related to the two preceding ones, has to do with the ideological impact of AI sexual assistants on intimate relationships. The concern is that these assistants might impose a certain model of what an ideal intimate/sexual relationship is on the people who make use of them. They might, for example, recreate and reinforce gender stereotypes about sexual desire and preference. Karen Levy, for example, has argued that many intimate tracking apps reinforce the view that women are the

²⁰ On this criticism see Lupton, n 13 and Levy n 13

subjects of surveillance and sexual control.²¹ Others argue that the apps might encourage an economic or exchange-based model of intimate relations over a more informal-reciprocation model. This is because the devices might encourage users to track who does what for whom and encourage them to optimise/maximise certain metrics, all to the detriment of what a truly valuable intimate relationship should be.²²

What can be said in response to these concerns? Well, the privacy concern is probably the most serious. If partners use AI assistants to spy on one another or manipulate one another's behaviour in a non-transparent way, then this would be a major worry. It could provide assistance and cover for dominating and abusive relationships. Such relationships will exist in the absence of technological assistance, but the technology might make it easier to implement certain forms of dominating control. It seems uncontroversial then to suggest that any app or service that makes it easy for one intimate partner to spy on another without the other's consent should, if possible, be banned. Spying by third parties should also be limited but is trickier to manage. It does seem to be inherent to digital technology that it facilitates some kind of tracking and surveillance. We can try to mitigate the harm that is done by this tracking and surveillance through robust legal protection of individual privacy. This legal protection would force the companies that provide the relevant apps and services to put in place measures that prevent non-transparent and non-

²¹ Levy, n 13

²² Danaher, Nyholm and Earp, n 13, pp 7-8

consensual uses of individual data. The EU's General Data Protection Regulation is a step in the right direction in this regard.

But it may well be that people are willing to waive their privacy rights in order to make use of assistive technologies. This appears to be the case for many people already. How many times have you consented to digital surveillance out of convenience? Privacy advocates can counter that this is simply because people do not fully appreciate the damage that can be done by the misuse of their personal data, but even still, for many people, convenient access to digital services is often favoured over privacy. This suggests that whether or not people are willing to forego some privacy when using AI sex assistants might depend on whether they find those assistants useful in their intimate lives. If they do, then sexual privacy might be significantly eroded.

This is where the other three objections come in. They provide some reason to question whether AI sex assistants will in fact be useful, highlighting the various ways in which they might undermine or corrode intimate relationships. Although each of the three concerns has some merit, they can be overstated. There are three reasons for this. First, it is important to bear in mind that there is no single model for the ideal intimate relationship. Different relationship models work for different sets of people at different times. Apps and assistive AI that seem useless, distracting or misdirected to some people, might be useful, engaging and fulfilling to others. Even the seemingly comical examples of sex tracking apps that get people to quantify certain aspects of their sex life might, for some people, lead to a more pleasurable and fulfilling sex life. As long

as people are not forced or compelled to use particular AI sex assistants, their use need not lead to the ideological imposition of a specific model of the ideal relationship. A diversity of apps and assistants could provide room for partners to explore different possibilities in accordance with their own needs and wishes. Second, while some of the early attempts to provide AI assistance might seem crude and unsophisticated, they are likely to improve over time and provide more useful guidance. This is because there is reason to think that the tracking and quantification made possible by sex and relationship apps can be used to good effect. To give one example of this, the research carried out by the Gottman Institute on successful relationships suggests that relationships can be improved if partners explicitly record details of their intimate lives, and follow certain rituals of connection.²³ These recommendations are based on extensive, longitudinal research on what makes for a successful intimate relationship. Digital assistants could make it easier to implement these recommendations. Indeed, the Gottman Institute already offers a free smartphone app that helps couples implement some of them.²⁴ One can easily imagine more sophisticated, AI-based versions of this app coming onstream in the future and providing far more effective and personalised assistance. Third, to the extent that worries remain about the effect of these technologies on sexual intimacy, these worries can be mitigated (to a large extent) by encouraging more thoughtful engagement with the technology. The problems outlined above are at their most severe if people use AI assistants as a substitute for thinking for themselves and not as a complement to thinking for themselves. If there could be one major

²³ See <https://www.gottman.com/>

²⁴ Available at <https://www.gottman.com/couples/apps/>

recommendation made to the designers of AI intimate assistants it would be to include clear warnings to users that the services and recommendations offered by these assistants are not a panacea to all their sexual woes. They can be beneficial, but only if the user(s) critically reflects on the role of the service in their own intimate lives. Including prompts for such critical reflection could be a focus for designers who wish to encourage the ethical use of AI sex assistants.

The bottom line is, then, that although AI assistants could undermine and corrode our intimate and sexual lives, there is some reason for optimism. The careful, critical and non-dogmatic use of such assistants might complement and improve our intimate behaviour.

AI and Love

Let's close out this chapter by returning to the two men whose stories I told in the introduction: Zheng Jiajia and Aikikho Kondo. Both of them 'married' artificial beings. An obvious question to ask is what the ethical or philosophical status of those marriages might be? Are they manifestations of genuinely loving relationships or are they slightly unusual sexual fetishes? At the outset, I would emphasise that any answer to this question should not be taken to stigmatise or shame those who prefer such relationships. But the question is worth asking since we attach a lot of value to loving relationships and if we could have loving relationships with AIs and robots, it might provide reason to create them.

There is, however, no shortage of opposition to the idea that one could be in a loving relationship with a robot. Dylan Evans, for example, has argued that

there is something paradoxical about the idea of robotic lover.²⁵ His argument focuses on the asymmetrical nature of the relationship between a human and a robot. Presumably, any robotic lover will be programmed to 'love' their human partner. If the robot could choose their partner then what would be the point in creating it? The advantage of having a robot lover over a human lover is the fact that the robot has to love you: that you have ultimate control over its responses to you (this desire for control seems to be one of the motivations behind Zheng Jiajia and Aikikho Kondo's actions). But this control comes at a cost, according to Evans, because a core part of what people want in a loving relationship is a partner (or partners) who freely chooses to be with them. As he puts it, people want their lover's commitment to them to "be the fruit of an ongoing choice, rather than inflexible and unreflexive behavior patterns".²⁶

Michael Hauskeller also argues against the idea of a robotic lover.

Although he concedes that it may be possible to create human-like robots that 'appear' to be in love with you, he counters that such a lover would never be as satisfying to you as a human lover. Following Evans, he argues that one of the main reasons for this is that no matter how good the illusion of love is, there would always be some reason to suspect or doubt whether the robot really loves you, given its origins.²⁷

²⁵ Dylan Evans, 'Wanting the Impossible: The Dilemma at the Heart of Intimate Human-Robot Relationships' in Yorick Wilks (ed) *Close Engagements with Artificial Companions: Key Social, Psychological, Ethical and Design Issues* (Philadelphia, PA: John Benjamins Publishing Company, 2010).

²⁶ Evans, n 25, p 74-75

²⁷ Michael Hauskeller, 'Automatic Sweethearts for Transhumanists' in John Danaher and Neil McArthur (eds) *Robot Sex: Social and Ethical Implications* (Cambridge, MA: MIT Press, 2017), p 213.

In a more extensive analysis of the concept of love, Sven Nyholm and Lily Frank also express doubts about the possibility of being in a loving relationship with a robot.²⁸ Exploring different conceptions of romantic love (including, the claim that to be in love is to be a ‘good match’ with your partner, or to be attracted to the ‘distinctive particularity’ of your partner) they argue that while it is not impossible to create a robot that meets the conditions needed for a loving relationship, it would be exceptionally difficult to do so, requiring technology far in advance of what is currently available. In making their case, they use the ‘hired actor’ analogy to express the basic problem with creating a robotic lover: it seems like the best we can really do with a robotic lover is to create an entity that ‘plays the part’ of being in love with you, but never quite graduates from acting to genuine love.²⁹

These criticisms are intuitive and attractive, but they have some problems. To see what they are it is important to distinguish between two fears articulated by the critics. The first – which we might call the ‘no depth’ fear – is that robot lovers are all surface and no depth. They act ‘as if’ they love you but there is nothing more to it than performance: they don’t really feel or consciously experience the relevant emotions that we associate with being in love. The second – which we might call the ‘programming’ fear – is that robot lovers cannot freely and autonomously choose to love you. They will always be

²⁸ Sven Nyholm and Lily Eva Frank, ‘From Sex Robots to Love Robots: Is Mutual Love with a Robot Possible?’ in John Danaher and Neil McArthur (eds) *Robot Sex: Social and Ethical Implications* (Cambridge, MA: MIT Press, 2017).

²⁹ Nyholm and Frank, n 28, pp 223-224.

programmed to love you. These two fears are related to one another – most alleged robot lovers probably lack depth and free choice – but they are not the same thing. A robot might be programmed to love you even if it has the right kind of experiential depth and vice versa.

Are these two criticisms of robot lovers valid? Let's consider the 'no depth' problem first. The easy rebuttal to this is to say that even if robots currently lack the requisite experiential depth it is possible, someday, that they will have it. When that day arrives, we can have robot lovers. The major problem with this rebuttal, however, is that it kicks the can down the road and fails to grapple with the philosophical issue at the heart of the 'no depth' argument, namely: does experiential depth actually matter when it comes to determining whether or not a particular relationship counts as a loving one? I don't think it does. If a robot appears, on the surface, to be in love with you then that's all it takes for you to be in a loving relationship with that robot.

This might sound a little crazy, but I defend this position on the grounds that we must, as a practical matter, be behaviourists when it comes to understanding the ethical status of our relationships with other beings.³⁰ In other words, we have to apply the methodological behaviourism of psychologists and computer scientists (e.g. the behaviourism at the heart of the Turing Test for machine intelligence) to our ethical relationships with other beings. The central tenet of this 'ethical behaviourism' is that when you try to determine the moral

³⁰ John Danaher, 'The Philosophical Case for Robot Friendship' (2019) *The Journal of Posthuman Studies* 2(2)

quality of your relationships (including your duties and responsibilities) with other beings you cannot use unobservable, inner mental states to make your assessment. You have to rely on externally observable behavioural and functional patterns. You may, of course, hypothesise the existence of inner mental states to explain those observable patterns. But any inference you make as to the presence of those states must ultimately be grounded in or guided by an externally observable pattern. The problem with many of the philosophical accounts of what it takes to be in a loving relationship is that they focus, implicitly or explicitly, on unobservable and inherently private mental states (e.g. feelings of commitment/attachment, sincere expressions of emotions and so). As a result, it is effectively impossible to have any confidence in the existence of loving relationships *unless* you accept that observable behavioural and functional patterns can provide epistemic warrant for our judgments about the presence of the relevant private mental states. In other words, ethical behaviourism is already, of necessity, the approach we take to understanding the ethical status of our relationships with our fellow human beings. This means the 'no depth' argument doesn't work. Since we are unable to plumb the depths of our human lovers, we cannot apply a different standard to robotic lovers.

This point has to be finessed in order to avoid some potentially absurd interpretations. For starters, it is important to realise that in order to provide the basis for a loving relationship, the performance and 'illusion' from a robot will need to be equivalent to the performance and illusion we get from a human lover. It's unlikely that any currently existing robot or AI achieves such

performative equivalency. So this remains, to some extent, a future possibility, not a present reality.

Similarly, there are some counterarguments to ethical behaviourism that are worth considering, if only to deepen the understanding of what ethical behaviourism entails. For example, some people might argue that we do rely on something other than behaviour to determine the moral quality of our relationships with others. Perhaps it is because we know that our lovers are made of the right stuff (biological/organic material) that we are confident they can love us? Or perhaps it is because we know they have the right kind of developmental/evolutionary history? If so, then someone might argue that robots and AI would still not count as 'proper' lovers even if they were performatively equivalent to human lovers.

But it is hard to see why the presence or absence of these other factors should have that effect. What is the rational connection between being made of the right stuff (or having the right history) and the capacity to form a loving relationship with another? Suppose your spouse behaves in a way that is entirely consistent with the hypothesis that they love you. But then suppose, one day, you learn that they are, in fact, an alien from another planet and don't share the same biological constitution. They continue to behave as they always did. Should you doubt whether you are in a truly loving relationship with them? It's hard to see why. The revelation of their alien origins, in and of itself, should not undermine the claim that they are in a loving relationship. The

consistent behavioural evidence of love should trump the other considerations. The same should hold for a robotic or artificial lover.

Some people might come back and argue that there are cases where our faith in the existence of a loving relationship would be shaken by learning something about the origins or history of our human lovers. Suppose, for example, you learn that your human lover was, indeed, a hired actor, or that they have been having an affair for years without your awareness. Surely that would undermine your confidence that they are in a loving relationship with you? And surely that is more akin to what it would be like to have a robot lover? But these counterexamples do not work. For starters, it is not clear that either of these revelations should shake our faith in the existence of a loving relationship. It seems plausible to suggest that a hired actor could grow to love the person with whom they have an initially fake relationship, and it also seems plausible to suggest that love can survive infidelity. If the person still behaves and appears to love you then perhaps they do, despite these revelations. But even if that's a stretch for some people, I would suggest that what really shakes their faith in the existence of a loving relationship in both of these cases is the fact that they will acquire (or have reason to suspect the existence of) some new behavioural evidence that contradicts the old behavioural evidence that convinced them they were in a loving relationship. For example, they may have learned (or start to suspect) that the actor says bad things about them when they are 'off' the job or that their partner has been planning to leave them for the person with they are having an affair. This new behavioural evidence might completely undermine their belief in a loving relationship or at least prompt them to seek out further

behavioural evidence to confirm whether their partner still loves them. Either way, it is behavioural evidence that will do the damage (or repair). In any event, neither of these examples is a good analogy with the robotic lover case, where presumably the robotic nature and origins of the lover will be known from day one.

What about the 'programming' fear? Evans is right that we want (or, at least, *should want*) our lovers to freely choose us. If a robot is programmed or conditioned to love us then it seems like there is something suspicious or inferior about the kind of 'love' they can give. But we shouldn't overstate this fear either. It is conceivable that we could create robotic lovers that behave 'as if' they freely choose us (and, remember, behaving 'as if' they choose us is enough, following ethical behaviourism). The robotic lover might act in fickle way or test its human companion's true commitment, much like a human lover. This could even be an attractive quality in a robotic lover, because it makes it more like the human-to-human case. The desire for this isn't as bizarre or unfathomable as Evans makes out.

But beyond that, there is also reason to doubt whether the presence or absence of 'programming' should undermine our belief in the existence of a loving relationship. Humans are arguably 'programmed' to love one another. A combination of innate biological drives and cultural education makes humans primed to find one another sexually attractive and form deep and lasting bonds with one another. Indeed, people often talk about love as being something other than a free and autonomous choice. We 'fall' into love; we don't choose it. We

find ourselves attracted to others despite our better judgment. The heart wants what it wants, and so on. Furthermore, in some cultures, arranged marriages and relationships are common and while they seem unusual, maybe even cruel, from some perspectives, the partners in such relationships often grow to love one another and report high levels of relationship-satisfaction, sometimes higher and often no worse than the satisfaction of those in 'autonomous' marriages.³¹ So it is not that unusual to believe that love can blossom from some pre-programming and pre-arranging of unions.

Critics might dispute these examples and argue that the kind of programming involved in human relationships is very different from the kind that will arise in human-robot relationships. Humans are only loosely programmed to seek attachment. They are not brainwashed to love a particular person. Also, even in the case of arranged marriage (where there is greater restriction and direction of choice) the partners are not coerced into the relationship on an ongoing basis. They can exercise their autonomy after the union has formed and escape the relationship if they desire.

But it is not clear that the disanalogies are all that strong. It is true that, classically, robots and AIs were programmed from the top-down by particular human programmers to follow highly specified instructions, but this is no longer the norm. Robots and AIs are now programmed from the bottom up, to follow

³¹ Robert Epstein, Mayuri Pandit and Mansi Thakar, 'How Love Emerges in Arranged Marriages: Two Cross-cultural Studies' (2013) *Journal of Comparative Family Studies*, 44 (3): 341-360; and PC Regan, S Lakhanpal, and C Anguiano, 'Relationship outcomes in Indian-American love-based and arranged marriages' (2012) *Psychological Report* 110(3):915-24.

learning rules, and to adapt to new challenges and circumstances. The flexibility of this adaptive learning is still rather limited – we are yet to create a generalised form of artificial intelligence – but as this approach proliferates and grows the alleged disanalogies between the programming of human lovers and robot lovers will narrow. It will no longer be absurd to claim that robot lovers commit to us on the basis of a free and ongoing choice, nor to imagine that they might fall out of love with us through continued learning.

None of this to say that preferring a robot lover over a human lover is a good thing or that there are no ethical problems with creating robot lovers. There are. Worries about the objectification and domination of robot partners, as well as the social consequences that this might have, have been voiced by several critics. I have discussed these worries at length in previous work.³² Similarly, Nyholm and Frank argue that the creators of robotic lovers and sexual partners may be under an obligation not to mislead users as to the capacities of the robots in question to form loving relationships.³³ They worry that manufacturers might be tempted to exploit the emotional vulnerability of some consumers in order to make their products more attractive. While this is a problem with all consumer products (to some extent), it seems like a particularly acute problem for robotic lovers, given the centrality and importance of sex and

³² John Danaher, 'Robotic Rape and Robotic Child Sexual Abuse: Should they be Criminalised?' (2017) *Criminal Law and Philosophy* 11(1): 71-95; John Danaher 'The Symbolic Consequences Argument in the Sex Robot Debate' in Danaher and McArthur (eds) *Robot Sex: Social and Ethical Implications* (Cambridge, MA: MIT Press, 2017); and John Danaher, 'Regulating Child Sex Robots: Restriction or Experimentation?' (2019) *Medical Law Review*, forthcoming.

³³ Sven Nyholm and Lily Eva Frank 'It Loves Me, It Loves Me Not: Is it Morally Problematic to Design Sex Robots that Appear to "Love" Their Owners?' (2019) *Techné*, forthcoming

love in human life. A relatively strict set of rules may be required to guard against abuse. But, of course, what is and is not permitted by this set of rules depends, crucially, on what we think it takes to form a legitimate loving relationship. This is why I have focused on the philosophical nature of love in the preceding discussion. If I am correct in my analysis, it will someday possible to form a loving relationship with a robot if the robot can convincingly and consistently perform the part of being a lover, and hence any restrictions imposed to prevent exploitation will need to take that into consideration.

Conclusion

To wrap up, AI and robotics are being, and will continue to be, used to augment and complement human sexuality. In this chapter, I have addressed three issues that might arise as a result and made three main arguments. First, I have argued that we should be cautious about recognising a new form of sexual identity that applies to those who primarily express and enact their sexualities through these technologies. Doing so is not metaphysically mandated and may contribute to social stigmatisation. Second, I have argued that AI can be used to assist human sexual and intimate relationships. Such assistance poses a number of risks – particularly to privacy – but these risks should not be overstated and should not prevent the beneficial use of AI sex assistants. Finally, I argued that, contrary to a number of critics, it is possible to form a loving relationship with a robot or AI. It's a brave new world into which we are stepping. Let's make it a sexually enriching one.

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