Emotional Embodiment in Humanoid Sex and Love Robots

Cindy Friedman, Sven Nyholm, Lily Frank

1 Introduction

In the 2019 documentary *Hi, AI*, we are introduced to Chuck, a man from Texas who is attempting to have a romantic relationship with a humanoid sex robot called Harmony. Although far from a sophisticated robot, Harmony has a profound impact on Chuck, as he welcomes her into his life in intimate ways, both physically and emotionally. In one scene, we see Chuck and Harmony sitting down for a coffee together in the early morning. There is something familiar about this, but at the same time something new and potentially confusing, since Chuck's partner is a robot and not a fellow human being. The viewer is left with many questions, e.g., what does this say about the future of intimate relationships and the importance of the emotions human beings typically have towards each other in such relationships? (Cf. Nyholm et al. 2022)

We may here also consider the Dutch artist Hanneke Wetzer, who in 2020 welcomed a sex doll, Nadiah, into her life. Hanneke purchased Nadiah as she found herself becoming increasingly lonely during the Covid-19 lockdown. She put together an interesting photo series that provided a window into her everyday life with Nadiah (Wetzer 2020). In one photo, Hanneke and Nadiah are portrayed as if they are watching a movie together, while sharing some potato chips and beverages on the sofa. Just like the scene with Chuck and Harmony and their morning coffee suggests the kind of intimacy romantic partners sometimes share, so does this picture of Hanneke and Nadiah suggest a form of relaxed joint activity. Hanneke feels a sense of intimacy when sharing her space with Nadiah, much as Chuck does with Harmony (Schoorl 2020). Chuck and Hanneke's stories explicate how humanoid sex robots or dolls can seemingly come to play social and emotional roles in people's lives.

One striking thing about Harmony and Nadiah is what they look like: their humanlike form. The human bodily form is highly evocative. It is closely connected to both the value and our understanding of deeply felt human emotions and, particularly, the emotions we associate with romantic love and sexual attraction. For this reason, we are more likely to have strong emotional reactions to *humanoid* robots or dolls (as Chuck and Hanneke have had) than to non-humanoid technologies. Moreover, there are some profound ethical questions that arise in the context of robots with a humanoid form that do not arise in the same ways in relation to robots or technologies of other kinds. This being the case, this paper specifically focuses on what we call *emotional embodiment in humanoid sex and love robots*. It explores different ways in which the connection between humanoid form and intimate emotions can raise unique ethical challenges.

Sorting out the ethical issues that arise in this context is a complex challenge, as this paper will demonstrate. Given this, *our main aim is to map some of the emerging literature on this topic* and to thereby highlight the value of recognizing and understanding such complexities: it allows for a more nuanced understanding of the ethical issues that come to the surface in relation to humanoid sex robots that are viewed as potential romantic companions. It also promotes seeking more nuance in related ongoing debates in the growing robot ethics literature more generally.

Because we seek to promote a nuanced and non-polarizing approach to this topic, and because we seek to showcase the wide variety of different perspectives that have been articulated on this topic during the last few years, we will present the various arguments we consider below in a fairly neutral way. While we will highlight concerns that one might have about the different perspectives we will consider – and while we regard some of the arguments we will survey as stronger and others as weaker – our main aim in what follows is not to show that any particular perspective is the right one to take while the others are mistaken. Rather, our main aim is to offer the reader a useful roadmap of this territory so that those who enter it can avoid quickly settling on over-simplified takes on what turns out to be a topic that is much more complex than it might initially seem to be.

In section 2, we first define some of our basic concepts and then briefly discuss the connection between emotions and human bodily form, thus bringing to light why it is that more serious ethical issues arise in the context of humanoid sex robots, as opposed to any robots that take on a different form. In section 3 and its sub-sections, which constitute the core of the

paper, we grapple with three ethical questions that arise in the context of emotional embodiment in humanoid sex and love robots: Firstly, is the value of our intimate emotions undermined if the object is an entity that appears human, but does not actually experience any corresponding affective states? Secondly, does the use of a humanoid form in an artefact designed for one-sided sexual satisfaction somehow express a lack of respect for human beings, specifically a lack of respect for the emotional capacities normally associated with beings of this shape and appearance? Thirdly, if a highly sophisticated robot with a humanoid form were able to simulate behaviors typically associated with distinctly human emotions, would this make any difference to how it is appropriate to conduct oneself around that robot? For each of these questions, we will discuss both "no" and "yes" answers that can be extracted from the existing literature, as a way of illustrating the complexity of and need for nuance in this emerging debate.

2 Humanoid sex robots: The connection between human bodily form and emotions

A *robot*, as we understand that concept here, is an embodied machine designed to perform one or more tasks in a way that is sensitive to its environment (Gunkel 2018). Thus understood, a robot is, among other things, equipped with sensors that help it to register relevant aspects of its environment and actuators that enable it to respond to those aspects of the environment in line with its assigned tasks (Royakkers/van Est 2015). A robot might look like a paradigmatic robot out of a science fiction movie (i.e. with a metallic and only roughly humanlike form). But it might also look nothing like a human (e.g. a vacuum cleaning "roomba" robot). Or it might potentially be designed to appear to be maximally humanlike (e.g. like Sophia the robot or Hiroshi Ishiguro's robotic copy of himself; Nyholm 2020).

A robot could be equipped with a basic form of artificial intelligence (only being able to perform some very simple tasks in some highly controlled environment); or it could potentially be equipped with very advanced artificial intelligence (e.g. it could pursue a number of different goals in a varied set of circumstances) (Müller 2020; Gordon/Nyholm 2021). We are here particularly interested in so-called sex robots, i.e. robots designed to perform sexual tasks, which might additionally also be intended to perform tasks associated with being a romantic partner (Danaher/McArthur 2017). The robot Harmony

that we mentioned in the introduction is one example of such a robot. Two other examples are a robot named Samantha and another one named Roxxxy (Devlin 2018). As these names suggest, these robots tend to be designed to represent human women, but there are also some prototypes designed to represent human men, such as the robots Henry and Rocky (Devlin 2020).

Before we can explore different ways in which the connection between humanoid form and emotions can raise unique ethical challenges, we first need to consider why these ethical challenges arise in the first place. In particular, we need to understand the connection between human bodily form and emotions in the context of robots. We can bring this out by first considering a contrast.

In her book *Turned On* (2018), Kate Devlin suggests that we investigate the possibilities for sex robots that take physical forms that are radically different from the human body in terms of size, color, materials, texture, and capacities. This is a creative and intriguing idea. Some may question whether such devices are more than complicated sex toys. They would fit with the general definition of a robot, but not with the expectations people have when they hear the word "sex robot". At any rate, fascinating though they are, we think that the robots that Devlin imagines are less interesting to reflect on from an ethical point of view. This is because a, say, purple tentacled sex robot without a head may not elicit the same emotional response from a person as a sex robot with a human form and an artificial face (Nyholm 2022).

Where a purple tentacled sex robot may provide physical gratification, a humanoid sex robot has the potential to not only provide gratification, but a form of companionship too (Danaher 2019a; Ryland 2021). This potential is directly linked to the robot's human bodily form and any humanlike behavior the robot might be able to enact. As we will note below, there are some human beings who want to have relationships with entities that do not have a human form or that do not display humanlike behavior. However, we think that it is safe to assume that when it comes to most people, the less humanlike some entity is, the less likely they are to be inclined to want to have it as their companion. People's interest in what is human or humanlike is one key reason why we focus on humanoid sex and love robots in this chapter. In addition, a sex robot that is not shaped like a human being is less likely to be offensive to many human beings in the way that sex robots shaped like human beings have proven to be (Richardson 2015; Sparrow 2017). While there is a "campaign against sex robots" (recently renamed the "campaign against porn

robots"), it is less likely that there would be any campaign against the kind of robots Devlin envisions that would be able to gather as much momentum.[1]

But let us return to emotions and the human form. Studies indicate that robots with a human bodily form are more likely to elicit a significant emotional response from human beings than robots that lack such a form, though the latter may of course also elicit certain emotions (Carpenter 2016). This is because, along with autonomous movement or behavior, a humanlike appearance increases the likelihood for us to *anthropomorphize* these robots (Richardson 2016). That is, a humanlike form and humanlike behavior in a robot is more likely to prompt human beings to project humanlike qualities onto the robot, though this is something people also sometimes do in response to robots that do not resemble humans (Devlin 2018; Nyholm 2020).

Louisa Damiano and Paul Dumouchel (2018: 2) note that strong realism in either the human-like appearance of a robot or autonomous movement/behavior "allows a robot to reach the 'social threshold' where humans experience its presence as that of another social agent and are disposed to socially interact with the machine". In socially interacting with such anthropomorphism-provoking robots, high emotional charges are mobilized (Turkle 2007: 514): people respond highly emotionally to these robots, perhaps even with emotions such as love or care. This can create desires to interact with the robots in ways that from a skeptical perspective might be regarded as the illusion of a relationship with emotional mutuality. The relationship could be considered illusory with respect to emotional mutuality because the robots, currently at least, do not have real emotions, although they may behave as if they do (Scheutz 2012). They may be able to behave as if they love and care for us, but they do not *genuinely* feel these emotions for us, as we may do for them (Nyholm/Frank 2019; Misselhorn 2021).

Other empirical studies that illustrate that human bodily form in robots elicit social-emotional responses from human beings include the work of Laurel Riek and colleagues (2009: 1), who found that "the more humanoid a robot looks, the more people will empathize with it". They note that empathy relates to the tendency that people have to "mentally 'simulate' the situations of other agents in order to understand their mental and emotive state" (ibid: 2), and that this tendency can be triggered even by entities that do not have

1 For more on the renaming of the campaign, and two radically different perspectives on this issue, see Richardson/Devlin 2021.

mental and emotive states. It is also worth noting here that there is a community of people who regard themselves as being in relationships with human-shaped dolls, living lifestyles that one proponent of such relationships, who calls himself Davecat, says involve "synthetik love" (Devlin 2018). If people can feel romantically attached to humanoid dolls, like members of that community do, it is likely that even more people might come to feel romantically attached to humanoid robots (Scheutz 2012; Nyholm/Frank 2019).

Specifically in the context of humanoid sex robots, then, we can draw on the psychology and anthropology of human-robot interaction (and human-doll interaction) to argue that humanoid sex robots do and will elicit intimate emotional responses from people. Chuck, for example, who we introduced earlier, is someone who has had a significant emotional response to a humanoid sex robot. In fact, Chuck has such an intimate, emotional relationship with Harmony that we see in the documentary that Harmony seemingly "helps him develop intimacy and trust as he works out a childhood trauma", something we will get back to later (Mullen 2019). Even seeing how Chuck enjoys a simple cup of coffee with Harmony at his kitchen table indicates how Chuck relates to Harmony in more than a physical way only. Harmony has apparently become a replacement of a human partner in this context. At least in the first half of the documentary, Chuck appears inclined to treat his relationship with Harmony as if it is a relationship with another person.[2]

3 Three Ethical Questions

Various ethical questions may arise when we think about people like Chuck interacting with a robot that imitates human emotions and treating this as if it is similar to/as good as a relationship with another human being with real emotions. We will focus on three questions that we feel most naturally present themselves in this context. In brief: are emotions directed at humanoid robots wasted emotions, which are less valuable than emotions directed at human beings? Is it an offense towards other human beings to have such emotions towards robots? At the same time, might there be some reason to treat robots

2 In the end, Chuck discovers that this relationship is not for him. But in the beginning, he seems to be taking this possibility very seriously, and he is clearly responding to the robot in highly emotional ways. Davecat, in contrast, has been together with his doll Sidore for over twenty years. More on Davecat below.

that simulate emotions and act like human romantic partners with a certain amount of moral consideration?

We discuss more precisely formulated versions of these questions below. For each of them, we first consider one or more possible "no" answers and then one or more "yes" answers that can be derived from the emerging philosophical literature on this overall topic. As we do this, we will see the complexity of this subject matter unfold itself, even as we consider some views that take a more uncompromising black-and-white approach. Let us now consider the first question, which we can more precisely state as follows:

3.1 The value of (human) emotions

Question: Is the value of emotions associated with intimate or romantic relationships undermined when their object is an entity that appears human, but does not actually experience any corresponding emotions or affective states?

3.1.1

A possible "no" answer here derives from Janina Loh's (2019; Wendland 2020) "inclusive" approach to the value of different kinds of human-robot interaction. According to Loh, we should view the tendency to respond emotionally to social robots, not as a "shortcoming", but as a kind of "capacity" or "ability". Because human diversity is a valuable thing in general, we should welcome and value different ways of relating to robots, including those that might seem odd to us.

When Loh discusses these ideas, they do not limit themself to robots, but casts their net even more widely. Loh mentions, for example, a woman in Berlin who fell in love with the Berlin wall and wanted to marry it, and a woman who says that she is in a relationship with a Boeing 737-800 (Loh 2019: 82). Readers who have read other literature on this general topic might here again be reminded of "Davecat", who has done many media appearances to talk about how he has been married to a doll named "Sidore" for over twenty years (Nyholm/Frank 2017). Such examples will strike some people as strange or even crazy. But Loh thinks that we should recognize these as parts of human diversity and attribute a value to these individuals' ability to form attachments to robots, dolls, and other inanimate objects.

3.1.2

Here it might be replied to Loh that yes, diversity is a good thing, but perhaps there should be some limits. For example, if somebody has the "capacity" to take pleasure in having what appears to be morally problematic ways of relating emotionally to emotion-less humanoid robots, that might appear to be a shortcoming, rather than a "capacity" or "ability" to be celebrated[3].

For example, Robert Sparrow (2017) argues that our ways of relating to social robots can show that we have character flaws. Presumably this can involve emotional ways in which we can relate to robots that do not have any emotions or affective states themselves. Perhaps Sparrow would say, for example, that somebody who is in love with a child sex robot and treats that robot well displays vice and not virtue. In general, Sparrow thinks that it is possible to display vice in our interactions with robots, but that it is not possible to display virtue in our interactions with robots (Sparrow 2020). As Sparrow sees things, in other words, there exists an important asymmetry with respect to the possibility of vice and the possibility of virtue when it comes to human-robot interaction. On that general view, we cannot flourish as human beings by having relationships with robots, which implies that we cannot thrive by having romantic emotions directed at robots, however humanoid they may be.

3.1.3

Another possible "yes" answer to the question of whether intimate emotions lose their value if directed at robots can be found in Catrin Misselhorn's (2021) discussion of the value of mutual recognition and human-robot interaction (see also Brinck/Balkenius 2020). In particular, Misselhorn articulates a worry about "making oneself into a thing".

If we consider emotions as generally calling out for recognition, does this mean that if a robot cannot reciprocate our emotions, we make ourselves into "things" if we have recognition-seeking emotions in relation to that robot?

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3 Of course, one could question who defines these "limits". This is a valid query. Although it is unclear how we could clearly define these limits, we do think we could all agree upon some clear instances wherein one may emotionally relate to a robot in a morally problematic way, such as with child sex robots. Since such a relation is not morally permissible in human-human relations, it may be questionable whether it is permissible in human-robot relations. This is one way to frame these "limits". We will discuss this in more detail in section 3.

Commenting on Chuck and Harmony from *Hi, AI*, Misselhorn (2021: 178-179) discusses a scene in which Chuck is telling the robot about how he was subjected to sexual abuse while growing up. Being a robot with fairly rudimentary artificial intelligence, Harmony cannot respond with emotions it would be appropriate for a human partner to respond with if such sensitive information were shared with them. According to Misselhorn, this means that when Chuck is sharing this with Harmony, Chuck is treating himself as a thing that does not need mutual emotional recognition from another human. It is as if neither Chuck nor Harmony has a mind, so that it does not matter that Harmony is unable to comprehend and emotionally respond to Chuck's highly sensitive revelations about himself.

3.1.4

In this context, we might also consider whether one is wasting precious resources if one is pouring one's heart out to an entity that cannot respond in kind, i.e. with similar reciprocated emotions. This can be understood as an opportunity cost argument: if we "'use up'" our emotions when interacting with robots, we may miss out on opportunities to have emotionally richer relationships with humans (cf. Turkle 2007; Nyholm & Frank 2019). But Misselhorn's point does not merely seem to be that one is wasting precious resources or missing opportunities if one is being emotional around a robot instead of a human being. Misselhorn asserts something stronger: namely, that when we have emotions directed towards entities that "fake" emotions, this threatens to make us into things rather than persons.

We see, then, that the question of whether emotions lose their value if directed at non-emotional robots can be answered in radically different ways. On one side, we have a view like Loh's, which celebrates the "ability" to form emotional attachments to robots, technologies, and objects more generally. On the other side, we have views like Sparrow's and Misselhorn's, on which it is only possible to be vicious and never virtuous in interactions with robots and on which responding emotionally to a robot is a way of reducing oneself to a mere thing. Let us now consider the second main question we will discuss, which is raised by the kinds of views that Sparrow and Misselhorn put forward.

3.2 The human form and respect for persons

Question: Does the use of a humanoid form and the imitation of human behavior in artefacts designed for one-sided sexual satisfaction express a lack of respect for the emotional capacities normally associated with beings of this shape and appearance (i.e. humans)?

This question is partly prompted by the fact that some people find sex robots shocking and morally problematic. Some have such responses not only towards robots only intended for sexual purposes, but also to humanoid robots designed to be about more than just sex, i.e. ones designed to be romantic partners. But why exactly? One possibility is that there may seem to be something disrespectful towards human beings about designing such robots. It may seem to convey the message that human emotions and our "inner life" does not matter and that we could be replaced by mindless robots.[4] (Turkle 2007, 2012) Hence the question above. Again, we will consider a possible "no" answer first and then possible "yes" answers.

For a possible "no" answer to this question, we can turn to the work of David Levy, who can be credited with being one of the main initiators of this whole discussion. In his book *Love and Sex with Robots* (2007), Levy focuses primarily on the interests and desires of potential users of sex robots. Levy argues that the physical design of robots will be a key factor in whether human beings will be able to fall in love with these robots and want to have sex with them.

Sex robots may be customizable in appearance to meet idiosyncratic human desires, and they may have facial expressions, realistic skin and sensors, all essential for communication of apparent emotions. The above-mentioned robot Harmony is a good real-world example of this. In several interviews, the creator of this robot, Matt McMullen, explains how the robot is designed to simulate human emotions and how it is customizable to the likes and preferences of the user (for discussion, see Nyholm/Frank 2019). Likewise, the robots Roxxxy and Samantha are presented as having different modes with respect to their verbal behavior, which can be adjusted to fit with what users want or are interested in (Devlin 2018). This can be seen as being in line with Levy's suggestion that we should tailor sex robots to our human desires, to make

4 This kind of objection to interaction with humanoid robots may have less form if those robots are used for therapeutic purposes, such as, e.g., Kaspar, a robot that is used in experimental therapy for children with autism. More on this below.

them maximally attractive to us. That is certainly responsive to the wishes of potential users. However, in Levy's book, there is no corresponding discussion about the potential stereotypes these robots may be reinforcing and the corresponding lack of respect for the thus stereotyped individuals/groups. In the book, the humanoid form and humanlike behaviors are only important to the extent that they facilitate our human tendencies to desire robots, or even fall in love with them.

Could such a stance be defended? One possibility would be to appeal to the so-called instrumental conception of technology: the view that all technologies should ultimately be seen as tools designed to fulfil human desires or goals (Bryson 2010; 2018). A problem here, however, might be that by fulfilling one human being's desire to have a robot that imitates a human romantic partner, the robot might at the same time be frustrating other human beings' desires not to be viewed as replaceable by a robot that lacks a mind or any human emotions.

This takes us directly to a possible "yes" answer to whether robots that imitate human companions might be seen as disrespecting human beings, which we can find in the work of Kathleen Richardson (2015). Richardson provides a certain form of feminist critique of sex robots, which is a part of the "campaign against sex robots", recently renamed the "campaign against porn robots".[5]

In an argument that has something in common with Misselhorn's above-discussed view, Richardson (2015) argues that Levy's view reduces the human to an object. For it implies that there is nothing distinctive about human subjectivity that is requisite for love and companionship. Moreover, Richardson holds that sex robots encourage the treatment of humans – especially women – as (sexual) objects, and the treatment of sex as a commodity. As such, sex and love robots reify harmful gendered stereotypes, which can then be seen as expressing a lack of respect for human dignity in general and the dignity of human women in particular. In short, sex robots represent something bad

5 We say "a certain form of feminist critique" here because there are others who offer what they claim are arguments based on feminist ideas who do not in the same way oppose neither sex robots nor all forms of pornography. For example, John Danaher (2019b) argues that developers of sex robots might let themselves be influenced by so-called sex-positive feminist pornography in the design of sex robots. This, according to Danaher, would be a possible way of rebutting the kind of criticism of sex robots that Richardson puts forward. Instead of banning sex robots, Danaher argues, we should build "better sex robots".

(namely, treating sex partners as if they do not have minds we should care about) and encourage something bad (again, treating sex partners as if they do not have minds we should care about).

In some of her recent presentations, Richardson even goes so far as to suggest that the creation and use of sex robots can be compared to the glorification or glamourization of rape and sexual abuse (Gutiu 2017).[6] This is similar to a view Sparrow (2017) defends: namely, that sexual interaction with a robot, which is unable to consent since it lacks a mind, can only represent rape (i.e. non-consensual sex).

Such fundamental and adamant arguments against robots or, for that matter, dolls created for sex and companionship are complicated by the fact that not all people who are interested in such robots and dolls can easily be interpreted as being interested in rape or its glamourization, nor easily be interpreted as having disrespectful attitudes towards other human beings. Take the example of Davecat, who we mentioned above. In one of his many media appearances, Davecat says the following about a doll that he calls Muriel: "I don't want to treat her like a thing and I won't" (Davecat 2017). This does not sound like a person with an objectifying attitude. Moreover, in a keynote presentation at the 2021 *Love and Sex with Robots* conference, Davecat talked about how he has created an elaborate backstory for his "synthetik partner" Sidore. This clashes with the picture that Richardson and Sparrow paint, i.e. with the idea that everyone interested in relationships with robots or dolls have objectifying and disrespectful attitudes towards romantic partners or that they would all be enacting some sort of rape fantasy or act in a way that symbolizes rape or non-consensual sexual interactions.

Views like Richardson's and Sparrow's are also complicated by a suggestion made by Neil McArthur (2017). He claims that sexual interaction with sex robots might be a way for victims of rape or other forms of sexual abuse to ease their way back to becoming comfortable with sexual interactions with others. McArthur argues that if somebody has suffered a sexual trauma, it might be overwhelming for them to have sexual relations – or intimate relations more generally – with another human being. It might be more comfortable for them to experiment with intimate interactions with a robot first.

Actually, the case of Chuck seems to potentially fit this picture. As we noted above, there is a scene in the documentary *Hi, AI* in which Chuck is revealing to Harmony that he was the victim of sexual abuse as a child. Whether

6 See the above-referred to debate between Richardson and Devlin.

or not Misselhorn is right that Chuck might be making himself into something thing-like in revealing sensitive details about his past to a robot, his case does seem to complicate the picture of somebody who wants to interact with a sex or companion robot as somebody who is eager to glorify or glamourize rape and sexual abuse.

Accordingly, we seem to need a more nuanced approach than one that likens all potential human users of sex robots or dolls to rapists and misogynists. A third interesting perspective to consider here is therefore a 'non-binary' answer to the question of whether humanoid sex and companion robots show disrespect for humans, which can be drawn from the work of Janna van Grunsven and Aimee van Wynsberghe (2019). The authors highlight two morally significant differences between the way humans are embodied and the way sex robots are, namely: unlike humans, sex robots have a lack of *bodily boundedness* and unlike humans, sex robots' emotional *expressivity and responsiveness is restricted*.

By "bodily boundedness" van Grunsven and van Wynsberghe specifically refer to the ways in which human beings are uniquely part of the world and separate from it, and the vulnerability to which this gives rise (2019: 8). To simplify their discussion, human bodies require interactions with their environment, for nutrition for example, but at the same time the "living bodily being" is an "autonomous being[]…who confront[s] the environment on their own terms" (ibid.). Human skin plays a central role in the experience of pleasure and pain as well as empathic experiences in general, and has a "social and existential significance" (ibid.). The extent to which robot skin shares or imitates these properties, the authors argue, has implications for the ways in which they will be perceived and the kind of ethical concerns we should have with respect to their use.

Van Grunsven and van Wynsberghe also argue that the emotional expressivity and responsiveness of robots is limited in ways in which humans are not. Human facial expressions, gestures, sounds and speech can express a vast array of emotions, attitudes, desires, etc., whereas what the sex robots of the present and near future will be endowed with are and will be far less expressive, in terms of both "scope and fineness of grain" (2019:: 11). The features that sex robots lack may be the very things that make them suited for certain therapeutic contexts, for example, for interventions involving those on the autism spectrum.

Return now to the quote from Davecat about how he does not want to treat the doll Muriel like a thing and how he won't do so. That was a claim

about a doll, not about a robot. Suppose now, however, that there is a robot – perhaps a more advanced sex robot – that is able to simulate emotions and emotional behavior in an impressive way. This raises the third main question we will consider "no" and "yes" answers to.

3.3 Adequate Treatment of Humanoid Robots

Question: If a sex or love robot simulates emotional behavior, does this make a difference to how it is proper to treat it?

The topic of the moral status of robots in general, and humanoid robots in particular, as well as the consideration of how we should or should not treat them is increasingly becoming a contested subject (Gellers 2020; Birhane/Van Dijk 2021). It therefore serves us well to consider, once again, both "no" and "yes" answers to the question at hand. Let us begin with possible "no" answers, since these answers can be seen to be a bit more straightforward than any "yes" answers we may consider.

A first possible "no" answer is provided if we consider the above-mentioned purely instrumental view of technology. On this view, technology is seen as a value-neutral tool that we have designed and created for our use, and therefore robots are also mere technological devices designed and created for our use. Drawing upon Martin Heidegger's well-known (1977) "instrumental definition" of technology, David Gunkel (2018) explains that, from this point of view, the role and function of any kind of technology is to be utilized by human users as means to specific ends. This holds true for a simple hand tool such as a hammer, to a more sophisticated tool such as a Roomba vacuum cleaner to even more sophisticated technologies like a humanoid robot, e.g. Sophia the robot, the robotic copy of Hiroshi Ishiguro, or any advanced sex robot.

Much like we would utilize a Roomba vacuum cleaner to keep our floors clean, we may argue that a person may utilize a humanoid sex robot to attain the end of sexual gratification and companionship to combat loneliness. From this purely instrumental point of view, it would seem arbitrary to argue that technology requires proper treatment or any moral consideration (Bryson 2010; 2018; Müller 2021). Even if humanoid sex robots simulate emotional behavior (unlike a Roomba robot), this behavior is just that – *simulation*. It is not *real* emotion, and this simulated display of emotion is part and parcel of making it easier for people to attain certain ends with these robots because interacting with them will be more realistic. We can do whatever we want with

tools we use to achieve whatever ends we want to achieve with those tools – or so it might be argued.

Another possible way to answer "no" to the question above is to consider one possible – and perhaps unexpected – interpretation of Mark Coeckelbergh's (2010) and Gunkel's (2018) "relational approach" to robot moral status. Briefly, the relational approach argues that the moral status of any robot will ultimately depend on the role it comes to play in our lives and on our relationships with the robot (Nyholm 2020: 195). This view could lead to the conclusion that we need not concern ourselves with how we treat these robots, if we also relate to the robots in a completely instrumental way. As such, if a robot does just play an instrumental role in our lives, then we do not have to be concerned with how we treat the robot in question, even if it might look and behave like a human being. (Müller 2021)

However, is not the whole point of creating humanoid robots that look human, and that simulate human emotions, to foster *human-like* relations with these robots, where therein lies also the potential for an *emotional* relation? The above-considered purely instrumental view of these robots apparently clashes with the very motivation behind their design and creation i.e., to be an imitation of a human partner. This point takes us to a possible "yes" answer to the question of whether humanlike appearance or behavior in a sex or love robot might make a difference to how we should behave around it, which applies Coeckelbergh's and Gunkel's relational approach in a more traditional way (Coeckelbergh 2010; Gunkel 2018; see also Loh 2019).

The very nature of these robots – that they look human and simulate human emotions – enables us to relate to them, and bond with them, in human-like ways, as seen in the many examples we have considered. Therefore, if the robot comes to play a role in our life as that of an intimate companion, and we relate to it in this way, we should consider the robot to have some moral status or perhaps even similar moral status to that of a human to whom we can relate in the same way. It might seem morally problematic, for example, if Chuck started to perform violent actions towards Harmony after first interacting with the robot in the ways described above. The same could even be said about the example of Hanneke and Nadiah from the introduction above or about Davecat and Sidore. The ways in which they interact with these dolls seem to make it inappropriate for them to behave in apparently immoral ways towards them – at least there would be something symbolically problematic about it, i.e. it would symbolize something that is morally problematic in human-human relationships (Sparrow 2017; Nyholm 2020).

Another "yes" answer comes from John Danaher's (2020) "ethical behaviorism". Danaher argues that if the robot behaves the same way in which a human behaves (such as, in this case, by displaying human emotions), there is or might be a "performative equivalency" between the behavior of a robot and the behavior of a human. Danaher argues that we should therefore (i.e. because of this performative equivalency) consider the robot to have the same moral status as that of a human and treat the robot the same way in which we should treat a human being. Danaher thinks that in the human case, all we have to go on when it comes to deciding how to treat other human beings is how they behave and what is observable to us from the outside. If this is enough to help us determine how to treat other human beings from a practical point of view, it should also be enough, Danaher argues, to help us decide how to treat robots that behave like human beings.

A third possible perspective to consider in the context of "yes" answers to the question , relates to how our treatment of emotion-simulating robots might affect our own moral fiber (Friedman 2020). This is similar to Kant's (1996, 1997) well-known argument that in treating animals inhumanely, we become inhumane or cruel, and may become inhumane towards other human beings (Gerdes 2016; Darling 2016). In a similar vein, in the context of humanoid sex robots it might morally corrupt us if we treat them in apparently immoral ways. Many have written on this topic and approached it from differing perspectives.

Sparrow (2017: 549-471), for example, worries whether living out morally problematic rape fantasies by 'raping' robots would ultimately lead to a more aggressive behavior towards women, including sexual assault/rape incidents. Richardson, in her recent public presentations, makes similar claims.[7] Sparrow acknowledges that this is a contested topic, given "the claim that exposure to or enjoyment of representations of an activity makes people more likely to engage in that activity is heavily contested in the media effects literature" (Sparrow 2017: 470). Nevertheless, Sparrow thinks that 'raping' robots could possibly make some people more likely to rape women, thus leading to more women being raped:

> Sexual fantasy associates the imagining of behaviour with pleasure, which in turn associates the imagined behaviour with pleasure. Associating a fantasy of rape with sexual pleasure seems perilously close to a mechanism for

7 See Richardson/Devlin 2021.

> Pavlovian conditioning for rape. At the very least, it might be expected to lower the barriers to rape by increasing the attractiveness of rape in the mind of the person who enjoys the fantasy. (Ibid.: 469)

Sparrow argues that for these reasons, it is possible to behave unethically in our interaction with sex or companion robots. Interestingly, however – as we noted above – Sparrow is of the opinion that while it is possible to behave inappropriately around such robots, he does not think that there could be such a thing as good behavior towards a robot (Sparrow 2020). In other words, if somebody followed Sparrow's advice and avoided any behaviors towards a robot that could be seen as symbolizing rape, violence, or any other form of immoral behavior, this unwillingness to treat robots in such ways could not be seen to be good or virtuous, according to Sparrow. It could only have the, so to speak, negative property of not being bad or vicious.

Kate Darling, in contrast, takes a different view. Darling (2016) argues that due to our social engagement with social robots, preventing the 'abuse' of these robots will protect our societal values and, thereby, be a form of good behavior. Darling specifically argues in the context of social robots that could be kept as pets and uses the example of a child kicking a robotic pet to get her point across:

> Given the lifelike behavior of the robot, a child could easily equate kicking it with kicking a living thing, such as a cat or another child. As it becomes increasingly difficult for small children to fully grasp the difference between live pets and lifelike robots, we may want to teach them to act equally considerately towards both. (Ibid.: 224)

Even in the context of adults interacting with these robots, she notes that "the difference between alive and lifelike may be muddled enough in our subconscious to warrant adopting the same attitudes toward robotic companions that we carry towards our pets" (ibid.: 224; for a fuller discussion, see Darling 2021). We could extend this argument to humanoid sex robots, given that due to their human-like form and display of human emotions, adults may form human-like bonds with them (Gordon/Nyholm 2022)[8].

8 Of course, a question that often naturally arises here is whether the same could be said about violent pornography or video games. Does engaging with this type of media make people more likely to assault women, for example? It is difficult to say, since studies have not provided clear answers in this regard. Despite this, however, we do not think that sex robots and pornography/video games are necessarily comparable.

The issue of whether there is a proper way to treat these robots is, as this section indicates, quite delicate and nuanced. There are questions here not only about whether robots (e.g. humanoid sex robots) can *have* morally relevant abilities or properties. There are also questions about whether they can *imitate* such abilities or properties, as well as questions about whether they can *represent* or *symbolize* morally relevant abilities or properties. In short, can robots have, imitate, or represent/symbolize morally relevant properties, such as those having to do with the kinds of emotions human beings have in intimate or romantic relationship contexts? Even if we answer "no" to whether robots can have the morally relevant properties, this does not mean that anything goes in terms of how we should conduct ourselves around the robots. It might still be morally relevant that the robots can imitate or represent/symbolize morally relevant properties. That might be enough for it to be morally best to avoid certain ways of interacting with robots: it might even be enough for it to be good or right to interact with them in certain ways (Nyholm 2020: chapter 8).

4 Conclusion

Discussions about the topic of how human beings should interact with robots – including humanoid robots – have led to a broader debate surrounding the notion of rights for robots, given the connection between legality and morality (Gunkel 2018; Gellers 2020). Although what is legal is not always moral and what is moral is not always legal, there is a significant overlap (Asaro 2012). This robot rights-debate is just as complicated, and the need for nuanced discussion is just as strong (Schröder 2021). Although some scholars opt to see the consideration of robot rights in black and white, it is valuable to see the complexity and nuance that characterizes the topic.

Notably, the landscape of different possible views that can be taken about how human beings and robots should interact with each other – how human beings should behave around robots and how robots should be made to behave around people – is getting more and more complicated with every new publication coming out about this topic. In his book, *Robot Rights* (2018), for

This is because robots are embodied artificial agents, and not characters or avatars on a screen. Thus, we could argue that violent interactions with robots are more "realistic".

example, Gunkel mapped a lot of the existing literature that had been published up until that point. Based on an initial sketch of a visualization of this map by Danaher, Gunkel created an image where photographs of different researchers who have contributed to this debate are shown on a diagram that associates their pictures with different possible views that can be taken about this topic. Gunkel has continually been updating this picture, and he has been posting updated versions of the *robot rights map* on the social media site Twitter. Between 2018 when Gunkel's book came out and the present time – 2022 – Gunkel's robot rights map visualization is getting increasingly cluttered. And it is getting increasingly difficult to quickly characterize new contributions to this field in terms of where exactly they fit on the map.

We are of the opinion that attempts to map these discussions – such as the one above, which relates to emotional embodiment in humanoid sex and love robots in particular – are valuable for at least two reasons. One, they help to clarify what different views it is possible to take about the questions that arise when we are confronted with the reality of human beings interacting with robots that are made to look and behave like human beings. Second, these kinds of mappings help to illustrate the complexity of the ethical questions that arise in this context, and should, we suggest, lead us to try to adopt a nuanced understanding of the ethics of how human beings should interact with these kinds of robots. As Loh argues, we should not quickly dismiss different forms of human behavior around these robots as being evidence of "shortcomings", but should consider whether a commitment to valuing human diversity requires that we adopt a tolerant and open-minded approach to how people might want to interact with the robots of today and the robots of tomorrow.

Let us end by returning to where we started, with the scene from *Hi AI* in which Chuck is sitting down for a morning coffee together with Harmony. As we noted above, there is both something highly familiar about this scene – something cozy, if you will – and yet also something new and different, and potentially confusing and potentially even offensive to some. Can we really enjoy the simple pleasures associated with an intimate and romantic relationship with a robot, or would we be 'wasting' our emotions? Is this – and should this taken to be – offensive towards other human beings, who might feel that the suggestion is that they can be replaced by robots without minds or feelings? Or does the fact that robots can be made to look and behave in more humanlike ways than ever before put some pressure on us to avoid seemingly immoral behavior around these robots? We have considered some answers

to these questions from the emerging and quickly growing literature on this topic. Our hope is that our discussion illustrates that these questions are not straightforward and that we need to approach them in a calm and careful way and not quickly dismiss the different perspectives that can be taken on this new and intriguing topic and part of human life.[9]

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