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Technological Fantasies of Nao - Remarks about Alterity Relations

Stina Hasse Jørgensen and Oliver Tafdrup

ABSTRACT

In this contribution we investigate how the concept of 'technological fantasies' can be utilized to further develop the understanding of human-robot relation as an 'alterity relation'. Postphenomenology emphasizes how the humanoid robot is constituted as a 'quasi-other' in the interaction with humans. The basis of the article is an experiment we conducted at the Medical Museion in Copenhagen, involving the humanoid robot Nao as a tour guide. Through interviews with the participants of the robot guided tour, we discuss how technological fantasies of the robot play an active part in the constitution of the alterity relation and thus the experience of the robot as a quasi-other.

KEYWORDS

Humanoid robots, technological fantasies, sociotechnical imaginaries, postphenomenology, psychoanalysis, critical design

AUTHOR BIO

Stina Hasse Jørgensen is a PhD student at the Department of Arts and Cultural Studies, University of Copenhagen, where she is researching our relationships with machines, specifically in relation to robots. Currently Stina's research concerns the aesthetics of social robots in relation to the conditions of late capitalism. Together with Oliver Alexander Tafdrup from Aarhus University she is conducting experiments with the humanoid robot NAO in a museum context.

Stina has published articles on art, technology and sound in magazines and journals such as Seismograf, Body, Space & Technology Journal and Cultural Analysis, and has given papers at conferences such as Aesthetics, Ethics and Biopolitics of the Posthuman, TERRÆN 2015, Historizing the Avant-garde, Global Lives Project - UC Berkeley, Re-New IMAC, and NORDIK2012.

Oliver Tafdrup is a PhD fellow at the Department of Education at Aarhus University, Denmark. His thesis deals with the philosophy of sociotechnical imaginaries. Other research areas include the use of technology in education and the phenomenology of imagination.

Within Science and Technology Studies (STS), postphenomenology has been the go-to theory when discussing philosophical aspects of human-technology relations, including how we relate to humanoid robots. This phenomenological approach to technology directly addresses how humans relate to robots through an *alterity relation* that establishes the robot as a *quasi-other* (Ihde 102, Coeckelbergh 198). A central aspect of our argument in this article is that the experience of the quasi-otherness of humanoid robots should not just be understood at a phenomenological level; it should also include a discussion of how the design and staging of the robot manipulate and evoke technological fantasies and desires. In the following sections, we will discuss the potential benefits of theorising humanoid robots through a perspective grounded in a combined reading of the postphenomenological conception of alterity relations and the psychoanalytical conception of *fantasy*. The empirical foundation of this article is a *what-if scenario* involving the humanoid robot Nao as a museum guide. The what-if scenario was not designed to optimise the robot's functionalities, but to investigate how we relate to humanoid robots as quasi-others.

Human-robot Relations: The Staging of the Social

Nao is a 58cm tall humanoid robot developed by Aldebaran Robotics in 2006. Nao has been used in research labs, education, service business and entertainment. Nao is one of the most widely used humanoid robots within academic institutions, where it is often used with the aim of optimising the robot's functionalities or in experiments investigating human-robot interactions. Nao can also be described as a humanoid robot with arms, legs, eyes and fingers as can be seen in the picture of Nao further below. Humanoid robots distinguish themselves from the broader category of sociable robots (Breazeal, *Designing Sociable Robots* 1) by being designed to have humanlike, anthropomorphic features and reactions. The design of humanoid robots aims to promote an experience of robots as having social capacities, i.e. being socially evocative, by encouraging an anthropomorphisation of the robots in order to promote a social interaction with its users (Breazeal, "Toward Sociable Robots" 169). The anthropomorphic aspects are also promoted in the design of humanoid robots; with arms, legs, eyes, and voices that can communicate and interact with their human user and evoke experiences of the robots as social partners. Humanoid robots also tend to be staged, e.g. in commercials and video documentations, as something with social capacities (Suchman 124). This staging of humanoid robots positions them as something subjects can relate to as a quasi-other, or a new companion species for the future human. As the techno-anthropologist Cathrine Hasse writes: "They have been designed to be quasi-others engaging with humans on the road to a fantasy future, where cute sociable robots will engage meaningfully with humans as a new companion species" (Hasse 181). Yet, how can we understand the relation between staging robots as quasi-others and technological fantasies of companion species?

To stage a robot as a social partner, so that it can be related to as an *Other*, is a variant of postphenomenologist Don Ihde's concept of *alterity relations*. Ihde precisely emphasises the robot as an example of what he calls *quasi-otherness* (Ihde 102). The argument that robots are staged quasi-others is thus present in the works of Ihde, but the aspect of how fantasy functions to sustain the experience of otherness, at the level of the subject, is absent. This article provides a contribution to the debate on human-robot relations as alterity relations. In the following, we will investigate how ideologically shaped technological fantasies help to sustain the experience of Nao as a *quasi-other*, even though Nao fails to function properly.

The structure of the article will be tripartite. In the first section, we will elaborate on Ihde's postphenomenological theory and discuss why it is useful in the study of robots. In the second section, we will describe the methodological framework and the setting for our experiment. In the third section, we will apply these theoretical reflections in our analysis of the empirical data acquired through the experiment and discuss how the concept of alterity relations can benefit from psychoanalytical insights into the function of fantasy and desire.

Postphenomenology and Alterity Relations

Human-technology relations have been a widely debated area within the empirical turn of philosophy of technology (Actheruis 6). The empirical interest in how we relate to technology stems from the break with the classical conception of technology as a specific form of rational force, as we see in e.g. the social philosophy of the critical theorists Theodor Adorno and Max Horkheimer (Adorno & Horkheimer 147) and the phenomenology of the late Martin Heidegger (Heidegger 36). Postphenomenology is a philosophical tradition born out of this turn to empirical analysis of technologies. Rooted in the phenomenological works of Edmund Husserl, the early Martin Heidegger and Maurice Merleau-Ponty, Ihde has developed a phenomenological understanding of how technologies mediate the relation between the embodied consciousness and the world (Ihde 72). In his main work *Technologies and the Lifeworld,* he develops two philosophical programs.

Ihde calls the first program a *Phenomenology of Technics* (Ihde 72). It revolves around the philosophical claim that phenomenology of human-technology relations can be understood through four formalistic structures. The first structure is the *embodiment relation* that draws attention to how technologies can merge with our body and thereby alter our relation to the world; the computers we are using to write this article are an example of this. When typing the words into this document, the keyboard becomes an extension of my fingers. Another everyday example is the bicycle that forms a unity with the body that is riding it. The second structure is the *hermeneutic relation* that draws our attention to how technologies can be read and interpreted like a text. This is the case with the watch through which we read the time. The third structure is the *background relations* which emphasize that most of the

time we find ourselves in complex technical structures, where technologies inconspicuously function in the background. All of these relations can be present in human-robot relations, but the fourth structure is the most interesting to our perspective: the relation between a consciousness and a technological *quasi-other*, which Ihde calls an *alterity relation*. The term *alterity* is rooted in the phenomenology of the French philosopher Emmanuel Levinas, where it designates the radical otherness which an *I* experiences when confronted with an *Other* (Ihde 101). This experience of otherness is, Ihde asserts, also possible when an *I* is confronted with technological artifacts. Robots are of course the example par excellence, but the structure can extend to any kind of technological artifact, in so far as the artifact is in some way anthropomorphized. Alterity relations have, for instance, been discussed by Galit Wellner in relation to our experience of cell phones and Stacey Irwin in connection to our interactions with computers (Irwin). Due to the aim of this article, we will limit our perspectives to humanoid robots. More specifically, how can we understand humanoid robots as a quasi-other? To answer this question we will turn to Ihde's definition of quasi-otherness: "Technological otherness is a *quasi-otherness*, stronger than mere objectness but weaker than the otherness found within the animal kingdom or the human one…" (Ihde 100). This phrase proposes that for objects to be experienced as quasi-others, they must appear to the consciousness as if they are in some way animated. Ihde furthermore states that these animated objects are objects of fascination and they give rise to the experience of interacting with someone (Ibid.). Humanlike characteristics in the appearance of an object can cause a feeling of relating to a quasi-other, but quasi-otherness is specifically apparent in cases where the object has a certain degree of *automation*. The phenomenon of automation seems to enhance the object's animated appearance, and thus the sense that the object has a will of its own or even its own consciousness. This is, arguably, the case with many humanoid robots that are designed for being implemented in social contexts, which were previously reserved for human beings, as Coeckelbergh has also discussed. Before going deeper into the discussion of postphenomenology and human-robot relations, we will briefly introduce Ihde's second program which he calls *cultural hermeneutics* (Ihde 124). Here, Ihde draws attention to the cultural embeddedness of technological artifacts, and we will focus on two philosophical arguments that have become a pivotal aspect of postphenomenology: The claim that 1) artifacts form technological intentionality, and 2) the same technological artifact may be used for different purposes when embedded in different contexts – a phenomenon Ihde calls *multistability* (Ihde 144).

What is technological intentionality? As Ihde writes: "Technologies, by providing a framework for action, do form intentionalities and inclinations within which use-patterns take dominant shape." (Ihde 141). Ihde exemplifies this with the typewriter that, compared to a pen, incites the user to write at a higher speed and to edit more. This argument is relevant to our purposes because it draws attention to how the design of a technological artifact, in our case the robot Nao, incites specific user behaviors. This is related to the concept of multistability, which emphasises that the

technological intentionality and the use-patterns technological artifacts incite are also dependent on the cultural context in which they are performed. Technological artifacts contain the possibility of being stabilized in a variety of use-patterns. We read the purpose, use and possibilities of a technology through our culturally cut lenses (Ihde 146). Ihde's two programs can thus be seen as a micro- and a macro-perspective. The first focuses on the first-person perspective while the latter focuses on how the first-person perspective is always imbedded in a cultural context. These insights have inspired us to view Nao through the perspective of postphenomenology. We see the attempt of introducing a theoretical concept that is sensitive to the function of contemporary ideology as a contribution to the postphenomenological tradition, which does not systematically approach the concept of ideology. In the following sections, we will discuss how the alterity relation of human-robot interaction is affected by technological fantasies. First, we will describe how alterity relations can be explored empirically through making a *what-if* scenario.

The What-if Scenario

A methodological discussion of how to conduct empirical postphenomenological research into robotics has not been thoroughly unfolded, although the question of a general postphenomenological methodology has been touched upon (Rosenberger & Verbeek 30). We argue that what-if scenarios can provide a methodological framework compliant with postphenomenological mode of analysis and as such function as empirical postphenomenological research. Furthermore, we argue the empirical data from the what-if scenario can elicit aspects of alterity relations through a fictional human-robot interaction. Creating what-if scenarios with humanoid robots can probe critical reflections on the kinds of relations we want to have with robots in the near future, as well as how we experience our relations to humanoid robots today. From this standpoint, we argue that what-if scenario can provide valuable input to research investigating humanoid robots as quasi-others and as technological fantasies.

In the following, we will explain how the what-if scenario, as a methodological approach, can be used to investigate the concept of alterity relations in connection to experiences of and interaction with humanoid robots.

The what-if scenario, as it is conceptualised by Fiona Raby and Anthony Dunne, is an approach to investigate alternative uses and relations with existing and emerging technologies and design objects. Dunne and Raby have developed the what-if scenario as an approach in which new technology and design objects are used in fictional situations to stimulate participants in discussions about their near future as well as contemporary reality. Dunne and Raby argue that, as an approach, one can use "design to open up all sorts of possibilities that can be discussed, debated, and used to collectively define

a preferable future for a given group of people: from companies, to cities, to societies" (Dunne & Raby 6).

As part of our research project, we designed a ten minute what-if scenario, which was a robot-guided museum tour that took place on February 11th 2016 with twenty four invited participants at the Medical Museion in Copenhagen. The robot-guided museum tour is inspired by Dunne and Raby's notion of what-if scenarios. In this way the what-if scenario was not designed in order to create better human-robot interactions or investigate how to optimize the robot's behavior such as other research projects working with robot museum guides have aimed at (Burgard et al.; Pitsch et al.; Thrun et al.).

In collaboration with a guide from the museum, we designed the robot-guided tour of the museum's display of historical prosthetics. Here, the humanoid robot, Nao, was scripted to perform as a museum guide. The robot-guided museum tour probed the participants to reflect upon the kind of interaction and relation they would have with a museum guide, when the guide was a humanoid robot. In other words, the what-if scenario embodied a near future human-robot relation, and the possible alterity relations that could occur herein, which also functioned as something to be collectively debated in the invited group of participants.

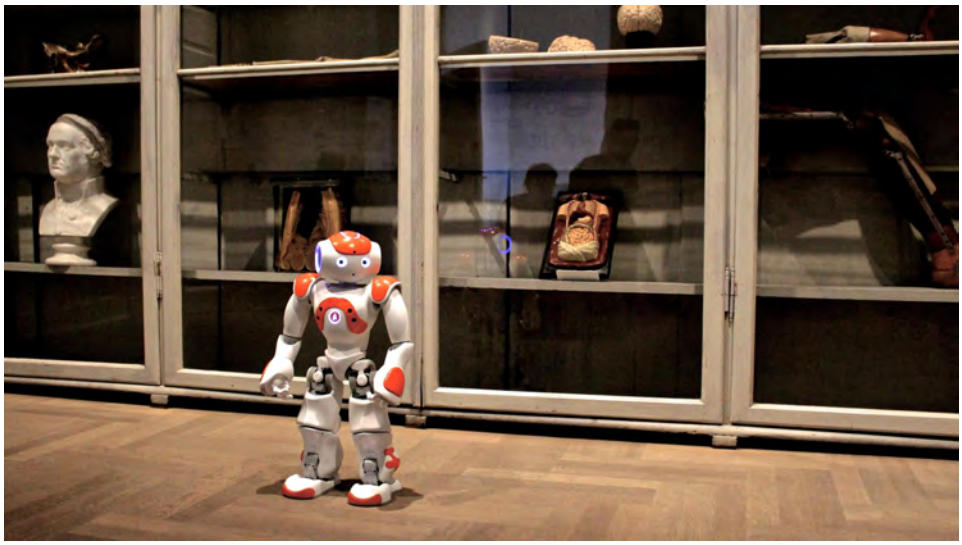

Fig. 1. The humanoid robot Nao at Medical Museion.

Notes from the Robot-guided Museum Tour:

> It took a couple of minutes before the Nao robot's program was fully loaded, so at first it stood in the corner and looked at the participants. The participants started talking to Nao and waving their hands at it, while waiting for it to start the tour. Many of the participants started filming the robot as it stood quiet in the corner following them with its head. Then it started talking: "Hi, my name is Nao. I will tell you about some of the exhibited objects in this room." Then the robot

pointed its arm towards the cabinet behind it and started talking about the exhibited prosthetic arms and legs. Before it continued, it asked the participants if they wanted to hear about "the prosthetic arm with the hole in the hand." The participants echoed each other so the answer: "Yes" became unclear, and Nao's speech recognition system did not recognize the answer. It paused, bleeped and asked the question again. Then the participants tried answering again, this time more directly towards Nao (with assistance from one of the persons organising the what-if scenario). This time the robot recognized the answer and continued the tour. It told the participants about the different prosthetic objects exhibited in the cabinet. The participants listened to Nao's descriptions of the design and history of the prosthetic objects and looked at the objects in the cabinet. In the final part of the tour, Nao started to talk about itself as a design object, stating that: "Designers have also spend a lot of time thinking about my aesthetic appearance ... look at my orange shoulders and tiny fingers, I think I am quite cute." This made the participants laugh. Then Nao asked the participants to touch the person next to them and feel their skin. The participants looked at and touched each other and giggled. Then Nao asked the participants to touch it in order to experience the difference between its robotic arm and the arms of the participants. After some hesitation, one of the participants volunteered and confirmed: "It is different," which made the group of participants laugh again. Then Nao compared itself to the prosthetics in the cabinet and concluded the tour by saying: "I hope you will think more about prosthetics, robotics as well as the possible future of humans when you are looking at the other exhibited objects exhibited at the Medical Museion." Most of the participants left the room, but a few of them stayed tickling and touching Nao. It responded: "It tickles." Then it fell onto the floor and tried to get up. After helping Nao on its feet, the last participants left the room.

Fig. 2. Documentation from the robot-guided museum tour at Medical Museion.

Collective Reflections on Human-robot Relations

A robot-guided museum tour is not yet a reality, but a plausible scenario of what the near future might bring. The what-if scenario was a catalyst for collective action as well as reflections. We designed Nao to interact with the participants in ways that probed them to engage in the robot-guided museum

tour collectively. For example, the participants had to collectively agree on what and how to reply on Nao's questions. In this way, the what-if scenario created an explorative situation where the participants had to reflect and interact with Nao as a group. The what-if scenario created a space for a collective process with unforeseen outcomes and interactions. The participants were co-creators of the what-if scenario. In this way, the what-if scenario had a degree of openness due to the involvement of the group of participants. The collective actions and engagement of the participants were important as we staged the what-if scenario in order to make the participants collectively reflect upon their interaction and experience with Nao as a museum guide. In order to make it possible for the participants to share their reflections on the robot-guided museum tour, we developed an interview guide that the participants could use as a starting point for discussing relevant issues connected to their experiences. In the interview guide, we asked if the participants wanted a robot as a museum guide or what role they wanted the robot to have. We asked how the participants related to the robot; was it as a machine, a quasi-other, an exhibited artifact, an animated presence or something else? The participants debated the questions in pairs of two for around twenty five minutes while audio recording the conversations. They could choose whether to send us the audio recording of their discussion or not. We wanted the participants to feel that they were able to discuss their experiences and relations to Nao critically and without self-censorship. We therefore also made a consent form stating that the participants could decide not to let us quote their discussions, or – if they decided to let us quote their discussions – be anonymised in articles about this project. Ten participants gave us permission to use the reflections and statements that came up during their discussion. This gave us access to interesting perspectives on the human-robot interaction and generated qualitative data, which we analyzed through the prism of critical design, postphenomenology and psychoanalysis. We have chosen not to focus on perceptions of how the robot functions as a museum guide, although this could have been discussed from a museological perspective. Here, our focus is how the participants' establish the robot as a quasi-other and how the staging of the robot's social capacities blends together with the participants' technological fantasies.

Alterity Relations and Technological Fantasies

The what-if scenario created a situation where the participants could observe and interact with a humanoid robot. This situation functioned as a starting point for reflecting upon and discussing how they related to the robot Nao. As such, the what-if scenario framed the discussion of the participants' experience of the humanoid robot.

In the participants' discussion of how they related to the robot, almost all of them focused on the robot's breakdowns. They also focused on the contrasts between their expectations and preconceptions of what the robot could do and how it would interact and what actually happened. We will use the

participants' discussions of how they experienced Nao's breakdowns as well as how the participants experienced Nao as a quasi-other, although Nao failed to function properly.

Here, two of the participating informants, Sara and Kristian, reflect upon the human-robot relation they experienced at the Medical Museion:

> Kristian: "Did you stay in the room after the tour was over?"
>
> Sara: "Yes, but I didn't quite understand what happened. I didn't hear it completely"
>
> Kristian: "No, but it was like, you could see that there came much more wonderment in relation to it [Nao]. Like, how you relate to it as a kind of otherness - also in relation to how we talked about it. Because it was sitting and then someone began to stroke the top of its head, and then it said "it's ticklish," and then suddenly it fell onto its back, and said that it needed help. But then "well, okay okay" and then it could even get up on its own - and these things were in fact all the elements that had nothing to do with it being an exhibition robot, but just an otherness, in one way or another.
>
> (Mortensen, Kristian and Larsen, Sara. Dialogue-based interview. 11 February 2016.)

In the above quote, Kristian explains how he, after the tour, experienced the robot as an otherness; what we argue is an alterity relation. The way that it reacted to the tickling and the fact that it was able to get on its feet on its own makes Kristian experience the robot as something more than an object. One could argue that Kristian's experience of the robot as an otherness is a kind of alterity relation, where the robot is a quasi-other to which Kristian relates. This example illustrates that the notion of alterity is a relevant category for understanding human-robot relations. The fact that the informants experience the robot as a quasi-other; i.e. as something more than plastic, screws and scripts, also resonates with two other informants, Louise and Asta:

> Asta: That was so nice, he actually became like he reacted with, I don't want to say emotions, but it was like, I felt somehow that there was some kind of consciousness behind that machine, and that was really surprising. I was like, 'is it thinking? Or what is behind this?'
>
> Louise: And when he fell I really felt this too.
>
> (Jensen, Louise and Poulsen, Asta. Dialogue-based interview. 11 February 2016.)

Here, Asta states that the way Nao reacted made her uncertain of whether the humanoid robot has its own consciousness. She describes it as surprising

to her, as she knows it is a machine. In this way, Asta explains how she experiences Nao as a technological other, as something more than an object, but less than a human or animal. Later in their discussion, Louise and Asta talk more about the otherness they have experienced Nao to be. This indicates that in order to experience the robot as an Other, the participants have to feel a degree of empathy towards the robot. [1] Some of our participants were also relating to Nao as a quasi-other:

> Rita: It was almost like I saw his face become like a mask - it comes alive with your imagination. And he blinks and I felt he had facial expressions, even though I know, you know....
>
> Martin: Yeah because he tilted his head, he blinked and so there were some kind of animatedness about him.
>
> Rita: And also the movements, you know, I see him as conscious about himself. His movements; like how to walk and not fall, being careful. I applied human characteristics to him.
>
> Martin: Yeah like on a child level, or an animal in some way. I also thought that he was very humble. Maybe he is programmed to be like that, like "oh, I'm sorry," so that he is not uncanny or frightening. He is just like the most mild, and almost an excuse for himself, when he was trying to get up.
>
> Rita: And also, those mistakes he did, when he didn't understand "yes," so we had to repeat it a second time, I was also just forgiving him that. It was not like I got bored, angry or anything.
>
> (Madsen, Rita and Sander, Martin. Dialogue-based interview. 11 February 2016.)

In the above excerpt, Rita and Martin explain how they experience Nao as animated, but how they also have an experience of interacting *with someone*. They exemplify how they experience Nao as something with personality and characteristics; it is mild, apologetic and careful. Another important part of this discussion is Rita's description of how Nao's face becomes a mask, which she herself animates in her imagination. This can be said to be an example of how Nao is constituted as a fantasy object. It also indicates how her technological fantasy of Nao enables her to maintain an experience of Nao as a quasi-other. Two other participants note:

> Laura: You could see that a lot of people tried to get contact with it. But Nao is also built - with the ears, that are actually loud speakers, and the eyes that blink in different colors - to evoke the feelings you have.
> Rebekka: Yes, I fall for it completely. Even though I know it is a machine, and that it needs to update as a computer, and that it takes time before it starts up, I want it to be something else.

[1] The concept of e*mpathy* (Ger. *Einfühlung)* and the related concept of *intersubjectivity* have been much debated within the tradition of phenomenology since Edmund Husserl. See e.g. Zahavi (112). We have chosen not to explore the relation between Ihde's postphenomenology and Zahavi's more cognitive philosophical approach in this article due to our interest in how capitalism shapes our cultural hermeneutic approaches to robots. This interest calls for a theoretical concept that is sensitive to ideology and we propose that the concept of fantasy satisfies this criterion.

> (Jepsen, Rebekka and Petersen, Laura. Dialogue-based interview. 11 February 2016)

In this quote, Rebekka talks about how she wants to get in contact with the robot, even though she knows she is interacting with a machine. As Laura points out, the design of Nao evokes certain feelings in Rebekka; the way the ears and eyes are blinking creates a wish in Rebekka for the robot to be something else.

Rebekka continues:

> Rebekka: I really want to be fooled with an illusion that there is a kind of agency or a presence, lying behind. And I can feel clearly that I am annoyed when it does not live up to my expectations. So something like: "Well, we do not really know just when it starts' and you could see that there were some technical problems, I can feel that I am annoyed because I would like it to be like a living creature."
>
> (Jepsen, Rebekka and Petersen, Laura. Dialogue-based interview. 11 February 2016.)

Using the term *fantasy* to account for what is at play in quasi-otherness indicates that the notion of human-robot relations is not exhausted with the post-phenomenological concept of alterity relations. We might very well, at a phenomenological level, experience robotic technology like Nao as quasi-others, but postphenomenology does not tell us much about how technological fantasies are formed, and how they are related to the cultural context, in which Nao is always experienced. We will now take a closer look at the concept of technological fantasies.

Technological Fantasies as Ideological Fantasies

As earlier described, Ihde relates the phenomena of quasi-otherness to a feeling of fascination in the consciousness engaging with the quasi-other. In relation to this discussion, he also uses the term *technological fantasy*, and asserts that there is a "tendency to fantasise its [technological artifacts'] quasi-otherness into an authentic otherness ..." (Ihde 106). Even though Ihde establishes technological fantasy as critical for the experience of technology as quasi-other, he does not elaborate on the concept. In the following, we will argue that the concept of fantasy is crucial for the understanding of how Nao is constituted as a quasi-other, and furthermore how this process is linked to contemporary technological optimism as an aspect of capitalist ideology.

Fantasy is a well-developed theme within Lacanian psychoanalysis. The Slovenian psychoanalytic philosopher, Slavoj Žižek, draws upon the writings of French psychoanalyst Jacques Lacan in order to grasp and critique how

modern capitalist ideologies structure fantasies that subjects can identify with and integrate as a framework for how reality is structured. How does Žižek more specifically understand the term *fantasy*? In his work *The Sublime Object of Ideology,* he asserts an intimate relation between the concept of ideology and the concept of fantasy. According to Žižek, fantasy should not be regarded as something opposed to the objective facts of reality, rather fantasy can be described as a matrix that provides the coordinates of the subject's desire (Žižek 45). On a political level, ideology functions precisely like a fantasy. Hence, Žižek discusses the theme under the heading *ideological fantasy*. The question is now, how do ideological fantasies structure the subject's desire? In Lacanian psychoanalysis, the subject is characterised by a profound ontological lack, while ideological phantasms enable the subject to cope with this lack by constituting commodities, persons, utopias, etc. as objects, which ostensibly can cultivate this lack of being in the subject. The Lacanian/Žižekian notion for these kinds of objects is the *object petit a*. Žižek defines this notion as "the chimerical object of fantasy, the object causing our desire and at the same time - this is its paradox - posed retroactively by this desire" (Žižek 69). An important point related to this is that desired objects are never really what we thought they were when we are confronted with them. As we will argue below, the participants' relation to Nao can be understood through this perspective. How does Nao become "object a"? This point is intimately related to the technological optimism of modern capitalism. Several diagnoses of contemporary capitalism emphasiss an optimistic attitude towards technology, where especially information and communication technologies (ICTs) are seen as possessors of a potential for optimising almost any process of knowledge generation (OECD 9; OECD/CERI 17; Boutang 51). The ideological fantasy of technological optimism revolves around a utopian understanding of technology as a cultural force that serves as the driver of economic and cultural improvement (Winner 14). This ideology provides a framework for the subjects to cope with their ontological lack of being, by providing an answer to the question "what am I to the Other?". Desire is closely related to the striving for certainty of one's position in the symbolic order. The fantasy of technological optimism offers the subject a way of dealing with the ontological lack by allowing her to identify as a keen user of technology, capable of seeing the innovative potential of technologies, but, at the same time, it also constitutes technological desire. This is the paradoxical character of desire. As Mladen Dolar writes: "[Fantasy] does not simply procure a phantasmatic object to satisfy desire, it enables the subject to assume any desire at all. There is a strange loop, a circularity of fantasy: it itself fills the lack which it itself opens up and perpetuates" (Dolar xxii). This is the case with technological optimism as an example of contemporary ideology – it offers a way of cultivating the lack of the subject through technology, but at the same time reproduces a lack by constituting technologies as desired object which are not yet attained. Žižek develops this Lacanian conception of fantasy into a critique of ideology that rejects that classical Marxist notion of false consciousness. An important aspect to the Žižekian notion of ideology is that it enables us to sustain our fantasy although, on an intellectual level, we can be critical and distanced. As Žižek writes: "Cynical distance is just one way -

one of many ways - to blind ourselves to the structuring power of ideological fantasy: even if we do not take things seriously, even if we keep an ironical distance, we are still doing them" (Žižek 30).

In an earlier cited quote from one of the research participants, Rebekka states that, even though she knows that Nao is a machine, she wants to experience Nao as something more than a machine. Her comment shows how she keeps a cynical distance; she looks away from what she knows, blinds herself, because she has a desire to experience the robot as something more than a machine.

The ideological illusion is thus to be found on the level of practice, and precisely this point elicits some interesting aspect of alterity relations by providing an answer to why we want to sustain the experience of robots as others, although, on an intellectual level, we know that they are mass produced technological artifacts.

To recapitulate the central points: Our Žižek-inspired discussion of how ideology is related to the concept of technological fantasy provides an opportunity for further developing Ihde's notion of alterity relations. Through Žižek, we have discussed how ideology shapes the technological fantasies through which the robot Nao is constituted as a technological artifact, thus making it appear in an optimistic view, constituting and sustaining the alterity relation between the participants and the robot. Technological fantasies work to enhance and sustain an impression of the robot as a quasi-other, an impression that is also staged and stressed through the design of the robot. The desire to experience the robot as a quasi-other is prevalent in the participants' statements, even though they are aware that the robot does not function properly.

Conclusion

In this article we have sought to demonstrate how a what-if scenario can be a useful way of conducting empirical research when investigating robotics and postphenomenological questions concerning alterity relations. The what-if scenario created a framework that enabled the participants to reflect upon their technological fantasies and desires in relation to the Nao robot, as well as how this affected their relationship to the robot with which they were interacting. The conflicts between these two levels were in this way framed by the what-if scenario, which enabled nuanced discussions of the participants' technological fantasies and experiences of the Nao robot as a quasi-other or machine, in their interactions with it.

In our analysis of the participants' reflections on the what-if scenario, we have discussed how they related to the robot Nao as a quasi-other and then as "object a." Through a discussion of our empirical data from the what-if scenario, we have attempted to make a more nuanced understanding of the alterity relation by arguing that the Žižekian notion of fantasy can elicit

important elements in our experience of robots as quasi-others, showing how the participants' technological fantasies affect their relation to Nao. Based on the participants' reflections on the what-if scenario, we have discussed how the technological fantasies of the robot, as something more than a machine, lead to a conflict when the desire is not met. We have demonstrated how the participants have experienced the design of Nao as something that stages the robot in a specific way, manipulating technological fantasies and desires emulating humanlike characteristics. This is why the robot appears as something more than a just a mechanical device; viz. a technological otherness or quasi-other. It is not the useful things Nao does during the museum tour that structures the participants' experience of it as a robotic otherness; rather, it is the participants' technological fantasies and desires invested in the robot that structures their experience. In other words, the participants' experience of Nao can be seen as an ideological shaped desire that functions to sustain the alterity relation.

There are obviously some theoretical pitfalls related to the attempt to combine concepts from different theoretical traditions. But despite all the areas where postphenomenology and psychoanalysis are incompatible, the attempt to integrate both the concept of alterity relations and the concept of fantasy has proven fruitful for emphasising that ideology affects the way Nao is experienced as an quasi-other. This discussion is by no means complete with this study. The discussion unfolded above should be seen as a call for further research and debates concerning the connections between humanoid robots, technological fantasies and alterity relations.

Works Cited

Actherhuis, Hans. "Introduction." *The American Philosophy of Technology - The Empirical Turn.* Ed. Achterhuis, Hans. Bloomington: Indiana University Press, 2001: 1-9.

Adorno, Theodor & Horkheimer, Max. *Dialektik der Aufklärung - Philosophische Fragmente*. Berlin: Fischer Verlage, 2000[1947].

Boutang Yann-Moulier. *Cognitive Capitalism*. Cambridge: Polity, 2011[2008].

Breazeal, Cynthia. *Designing Sociable Robots.* Cambridge, Massachusetts: The MIT Press, 2002.

Breazeal, Cynthia. "Toward Sociable Robots." *Robotics and Autonomous Systems Robotics and Autonomous Systems,* 42.3-4 (2003): 167-175.

Burgard, Wolfram, et. al.. "Experiences with an Interactive Museum Tour-Guide Robot." *Artificial Intelligence (AI)* 114.1-2 (2000): 3-55.

Coeckelbergh, Mark. "Humans, Animals, and Robots: A Phenomenological Approach to Human-Robot Relations." *International Journal of Social Robotics* 3.2 (2011): 197–204.

Dolar, Mladen. "Introduction: The Subject Supposed to Enjoy." *Introduction to Grosrichard.* (1998): *ix-xxvii*.

Dunne, Anthony and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming*. Cambridge, Mass.: The MIT Press, 2013.

Hasse, Cathrine. "Multistable Roboethics." *Ihde Festschrift.* Ed. Berg, Jan Kyrre Friis. New York: Rowan and Atkinson (2015):169-180.

Heidegger, Martin. *Spørgsmålet om Teknikken*. København: Gyldendal, (1999 [1957/1962]).

Ihde, Don. *Technology and The Lifeworld*. Bloomington: Indiana University Press.

Irwin, Stacy. "Technological Other/Quasi Other: Reflection on Lived Experience." *Human Studies* 28.4 (2005): 453-467.

OECD. *The Knowledge Economy*. Paris, 1996.

OECD/CERI. *Connected Minds - Technology and Today's Learners.* Paris. 2012.

Pitsch, Karola, Sebastian Wrede, Jens-Christian Seele, Luise Süssenbach "Attitude of German Visitors Towards an Interactive Art Guide Robot." *Human-Robot Interaction* 6 (2011): 227-228.

Rosenberger, Robert, & Verbeek, Peter-Paul. *Postphenomenological Investigations: Essays on Human –Technology Relations,* 2015.

Suchman, Lucy. "Subject Objects." *Feminist Theory* 12.2 (2011): 119–145.

Thrun, Sebastian et. al.. "Probabilistic Algorithms and the Interactive Museum Tour-Guide Robot Minerva." *Journal of Robotics Research* 19.11(2000): 972-999.

Wellner, Galit. "The Quasi-Face of the Cell Phone: Rethinking Alterity and Screens." *Human Studies* 37.3(2014): 299–316.

Winner, Langdon. "Cyberlibertarian Myths and the Prospects for Community." *ACM Sigcas Computers and Society* 27.3 (1997): 14-19.

Zahavi, Dan. *Self and Other – Exploring Subjectivity, Empathy and Shame*. Oxford: Oxford University Press, 2014.

Žižek, Slavoj. *The Sublime Object of Ideology*. London: Verso, 2008.