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Research article

Language and Robots: from Relations to Processes of Relations

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Abstract

The word „robot“ does not have a fixed meaning and human interactions with robots do not somehow bring it to the fore. Mark Coeckelbergh suggests as much when he presents linguistic interaction with robots as a process of becoming aware of a quasi-personal relation. A focus on material linguistic practices yields a very different story of shifting signifiers that are subject to human experiences of changing relations with robots. The material encounter with robots is prefigured by the cultural presence of robots in many stories from popular culture. These produce an anticipation of the human-like, quasi-personal qualities of robots and an initial willingness to embrace these. Over the course of time, however, and through linguistic encounters with robots, one rather learns that they are quite foreign and, finally, merely machines. – This is one of six commentaries on a 2011-paper by Mark Coeckelbergh: “You, robot: on the linguistic construction of artificial others.” Coeckelbergh‘s response also appears in this issue of *Technology and Language*.

Keywords: Processes of relations; Social robots; Socio-linguistic artefacts; Lev Vygotsky; Material-conceptual meaning

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Научная статья

Язык и роботы: От отношений к процессам отношений

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Аннотация
Слово “робот” не имеет фиксированного значения, и взаимодействие человека с роботами никак не влияет на это. Марк Кекельберг предполагает нечто подобное, когда представляет языковое взаимодействие с роботами как процесс осознания квазиличностных отношений. Сосредоточение внимания на материальных лингвистических практиках приводит к совершенно иной истории сдвига означающих, которые зависят от человеческого опыта в изменении отношений с роботами. Материальное столкновение с роботами предопределено культурным присутствием роботов во многих историях популярной культуры. Это вызывает ожидание человекоподобных, квазиличностных качеств роботов и первоначальную готовность принять их. Однако с течением времени и благодаря лингвистическим встречам с роботами вскоре выясняется, что он совершенно чуждый и, в конечном счете, просто машина. – Это один из шести комментариев к статье 2011 года Марка Кекельберга: “Ты, робот: о лингвистическом конструировании искусственных других”. Ответ Кекельберга также опубликован в этом выпуске журнала “Technology and Language”.

Ключевые слова: Процессы отношений; Социальные роботы; Социолингвистические артефакты; Лев Выготский; Материально-понятийный смысл

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INTRODUCTION

We live in a storied world, where our knowledges are formed by the practices we engage in (Ingold, 2011, p. 159). Out of these practices stories grow, proliferate and take root in new practices, where stories become imaginaries amalgamating materials, cultural meaning making and material words in new ways. Stories are always on the move because our social relations, including material-conceptual meaning making, never stops to rest.

The material word "robot" is a good place to begin an exploration of how imaginaries grow from local stories born out of local practices (Ingold, 2011, p. 159), travel worldwide and take on new meanings as they land in new realities.

In the article *You, robot: on the linguistic construction of artificial others,* Mark Coeckelbergh discuss how our use of language play a part in how humans can form social relations when they begin talking to robots. Furthermore, he speculates (Coeckelbergh, 2011).

We are increasingly talking to machines, whether social robots, AI driven bots answering questions about products or the like. I am completely in agreement with Coeckelbergh that we need to pay attention to linguistics and hermeneutics in human-robot relations and that we need to attend to how robots actually fare when implemented in practices. Furthermore we need, as Coeckelbergh argues, to pay attention to how robots designed as social-linguistic artefacts call forth special concerns in studies of human-robot relations. Do we address the social robots as an 'it' or a 'you' (Coeckelbergh, 2011, p. 68)? The article furthermore addresses important issues of an ethical and moral character. If robots come to appear to humans as quasi-others (Ihde, 1990) will humans stop viewing robots as tools controlled by humans? If we increasingly address robots as 'you' and have conversations with robots it may not only change our relation to robots, but it may also affect the way we speak to other humans (Coeckelbergh, 2011).

There are many deep issues to be dealt with in this text. In this response, I shall only address a few. First of all, I shall argue that processes of relations matter for how we speak with robots over time, when actual robots are implemented and put to use in human practices (Hasse, 2021).

It is in the meeting with these local practices that the material-conceptual understanding how robot-talk is put to the test. It is here that new stories emerge from travelling stories and new knowledges grow out of transformed word-meanings. I shall use examples from our own anthropological studies of robots implemented in health care in Danish nursing homes and rehabilitation centres (e.g. Hasse, 2013; Blond, 2019, Nickelsen 2020) and draw on my recent book on how humans material-conceptual meaning making change over time when we meet and engage with robot (Hasse, 2020b).

My first point here concerns the use of the rather outdated empirical examples in Coeckelbergh's argument. We have learned a lot more about human responses to implemented human-like robots since the mid 2000's.

My second, connected, point concerns the lack of focus on materials in Coeckelbergh's argument. Here I am not only thinking about the experience of meeting real nuts and bolts robots rather than media robots on screens, but mainly about how it is often overlooked that words like 'robots' are tied to moving concepts rather than fixed

representations. I contend that the moving processes of languages are not just linguistic–hermeneutic, but also material-conceptual.

Finally, even if Coeckelbergh discusses the larger issues of change and time, he is not concerned with the micro-processes of ongoing changes in local practices. A focus on practice shows that humanoid robots often come with stories of being able to communicate with people. However, over time many, but not all (Hasse, 2013), seem to lose interest as they come to perceive the robot-talk as 'empty' (Hasse, 2020b, p. 5; Camp, 2017).

MEETING ROBOTS IN PRACTICE

Over the last 10 years a number of research fellows have studied experiments of moving humanoid robots from robot laboratories into people's everyday lives in Denmark (e.g. Blond, 2019; Bruun et al., 2015; Leeson, 2017; Nickelsen, 2018; Hasse, 2013, 2015, 2020a; Hasse and Søndergaard, 2019; Sorenson et al., 2019; Wallace, 2019). They show a consistent pattern of robots coming into Danish practices from Korea, Japan, Sweden, and USA with stories of autonomy, smart behavior and some with capability for communication. When they are implemented in everyday practices of nursing homes and rehabilitation centers, staff and citizens embark on a learning process which gradually changes their meaningful understanding of what the material word 'robot' means. The robot designers have more often than not made use of business model which present the robots on screen as "a better version of themselves" (Sorenson et al., 2019). The same kind of business model that has been thriving in the Silicon Valley culture (e.g. Griffith and Woo, 2022). So, what happens when humanoid robots jump off screen and begin talking to people in real life?

THE CHANGE OF MATERIAL-CONCEPTUAL MEANING

We often overlook the importance of how material words get their meaning in everyday encounters. A word like 'robot' keep evolving as an anchor for conceptual meaning-making according to the learning theorist Lev Vygotsky, who I have used as my own anchor in my book of how ultra-social humans differ from machines (Hasse, 2020b). I partly build my argument up around some explorative sessions we did with Danish school children in 2015-16. In these ordeals we among other things uttered a sentence in which the material word robot was central: "*Draw a robot, or more if you would like to, that does something and maybe does something together with others*." (Hasse, 2020b, p. 228). We handed the children the same kind of pens and papers in the different schools we visited and though the material words in the sentence uttered was the same, their robots on the drawings showed a great variety. This variety mirrored the variety in the situations. The sentences the researchers spoke was in this sense never the same, though the material words came out in the same way. The children's drawings evolved in the social situation where the children experimented with all their potentials for understanding what the word robot might refer to as they and the materials were 'undergoing in doing' (Ingold, 2015). A group of children stood out when we

subsequently examined the drawings and interviewed the children. They had all drawn robots as much more machinelike than their classmates – and as it turned out they had all built robots in a special event at school or had a brother who built robots or the like. Their involvement in these practices spilled over in their drawings and conceptual understanding of robots and presented a different picture compared to that of other children. The majority of children drew very lifelike and companion-like robots that could talk, dance and watch movies – like the children themselves (Hasse, 2020b, p. 235). They drew on cultural storied resources like Star Wars, Wall-E etc. when they drew their robots. However, just like the meeting with real robots changed the meaning of the material word 'robot' for staff and inhabitants of nursing homes and rehabilitation centers, the children who had built robots themselves, formed another concept of robots spilling out in their drawings.

CHANGES OF CONCEPTS VS FIXED REPRESENTATIONS

Posthumanist approaches have for some time now refuted that humans learn "representations" and fixed dichotomized categories albeit with different arguments (see for instance Barad, 2007, Tuin and Dolphijn, 2010). These approaches have emphasized that: "Language matters. Discourse matters. Culture matters. There is an important sense in which the only thing that doesn't seem to matter anymore is matter" (Barad 2007, p. 132). They have however also in many ways overlooked how humans form meaningful languages in phenomenological and psychological learning processes which connect material words, with material things as they transform our 'embodied minds' (Hasse, 2020b). Following a rethinking of Vygotsky's insights in cultural learning processes languages move with practices when material words anchor ever-changing concepts. Furthermore, concepts in their turn are what we use to perceive and think with (Vygotsky, 1987). When practical experiences move language, they also move perception and thinking.

There is never a direct link between a word and our thoughts – but a path that goes through a word-meaning (Vygotsky, 1987, p. 281). Word-meaning is at the core of Vygotsky's argument. It is formed in a collective world of social meaning-making, but I have also argued it is tied to material and embodied practices (Hasse, 2020b). The life world in which we merge with technological phenomena, as it is argued in for instance postphenomenology (Rosenberger and Verbeek, 2015; Ihde, 2002), is also a material-conceptual world of meaning making.

DISCUSSION

As Coeckelbergh, I also acknowledge that human-robot relations are mediated by language and that relations change over time – a very important point often lacking in postphenomenological studies of human-technology relations. However these relations not only change over time as societal and cultural changes, but also change persons' perceptions and thinking in practices. In these practices, materials, including materials word, matter. Practical experiences with matter moves word-meaning and thus our

perception and thinking. It matters, in other words (!), where our own meaningful situated knowledges (Haraway, 1988) have taken us before we begin our linguistic-hermeneutics.

Research in robots is indeed increasingly becoming more interdisciplinary (Coeckelbergh, 2011, p. 62). However, even if many studies of social robotics uses methods from the social sciences, like anthropology, they can differ enormously from the way the robotic sciences for instance uses psychology to improve their robots. Anthropological studies of robots *can* have the purpose of improving robots, but just as often they study how the phenomenon of social robots unfold in meeting local practices and contrast with for instance movie representations.

Even if both Coeckelbergh and I argue for processes of relations, the processes of relations seem to go in opposite directions. Coeckelbergh (2011) argue: "People no longer consider the robot as a machine and start to refer to robots in personal terms. ''It'' becomes ''he'' or ''she'' (p 64). From our empirical data, I argue to the contrary, the processes goes the other way. First people conceptualise from the stories they have heard, and thus perceive and think a materialized robot like a human-like conversation partner, however over time, they become more and more aware of the robot as a machine (Hasse, in press)

Coeckelbergh draw on rather old studies of humanoid robot implementation (Turkle, 2005; Turkle et al., 2006) from when humanoid robots still came with a WAUGH factor in a storied world informed by media practices. Though I have also in my own research encountered an old woman, suffering from dementia, talking to an social robot, Paro, for a whole night long (Hasse, 2013) we have also seen that over time people lose interest in the social robots because they cannot communicate like humans (Hasse, 2020b, p. 5, Blond, 2019). The only robots people continue to have conversations with for longer periods of time are the teleoperated so-called Wizard of Oz robots (see Hasse, 2019, 2020b, and Sorenson et al., 2019).

All over the world we have all learned to deal patiently with the automated bots that replace the switch board ladies. We may want to exclaim a: "You idiot" to that kind of bots who simple have no clue what we are talking about when we ask to be directed to a human being we can talk to. However, the social robots we have seen in real life implementations shift our perception and thinking about social robots to acknowledgements of machines running on sensors and wires. However, there may be huge cultural differences in how people learn to adjust to robot talk. Japanese people allegedly are more prone to find conversations with robots easy. Humans have a propensity to do exactly what Coeckelbergh proposes. We animate our surroundings – and seem to stretch ourselves to make the materials come alive as humanlike (Hasse, 2015). Only in longer term learning processes where relations change over time, we sometimes realise the 'empty curiosity' of machines, and decide to give up on them (Blond, 2019, Hasse, 2020b, p. 5).

CONCLUSION

I wholeheartedly agree with Coeckelbergh that we need to understand the connection between the social and language as more than representationalism and

constructivism. Where the extreme idealism overlooks a world with vira, climate changes and other kickbacks (Barad, 2007, p. 215) from an uncontrollable Gaia, the naïve realism found in much engineer work not only overlook the perceiving and thinking subject that create the robotic machines but also the people using them and affected by them.

Coeckelbergh's emphasis on the entanglements of linguistics and hermeneutics is spot on, nevertheless I think we need to dig a sod deeper. Behind hermeneutics we find processes of meaning-making tied to and tying material things and words. Behind linguistics we find material words tied to and tying material things and meaning. It is these entanglements that move in a storied world and it matters for meaning-making processes what kind of relations we engage in in practice.

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