INTERCULTURAL ROBOETHICS FOR A ROBOT AGE[1]

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Abstract. The paper addresses challenges and tasks of roboethical for a robot age. Roboethics means an ethical reflection on normative issues on robots as well as on options for the good life according to different customs and cultures within which robots are created and used. The interaction between robots and humans is addressed concerning particularly a human-centered use of robots as opposed to a situation in which robots may become the measure of the social interplay. The impact of robots in society in general as well as in specific areas, such as daily life and the working place is addressed. The importance of an intercultural roboethical reflection is highlighted.

1. A Robot Age

Robotics is the science of robots. *Ethics* is the academic discipline dealing with normative issues of human behavior as well as with issues of good life. Roboethics deals particularly with ethical issues of robots (Tzafestas 2016; ETHICA 2011; ETHICBOTS 2008; Capurro & Nagenborg 2009). That means making a difference between the object of science and science itself. There is a correlation between roboethics and robotics as well as between robots as algorithmic based machines being the object of robotics, and the ethical reflection on human customs or morality (from Latin: *mores* = customs) in general, and the ethical issues raised by robots (roboethics) in particular.

Are we already living in a robot age? Will robots be widespread in the 21st century similar to cars in the last century? And, if this is the case, how quickly will robots be widespread? It can be argued that there are already many robots around us. An iPhone may be considered as a kind of robot. And there is also the possibility of nanobots[2]. The object of robo-ethics, as the ethical reflection on robots, is often qualified according to how the concept of 'robot' is defined (Tzafestas 2016).

What is a robot? Over the last 100 years a lot of science fiction movies about robots have been

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[1] This paper is based on the presentation by the author at the conference 'Robo-Ethics and "Mind-Body-Schema" of Human and Robot – Challenges for a Better Quality of Life' on 23th of January 2015 in Tsukuba University.

[2] Nanobots or Nanorobotics is the emerging technology field creating robots whose components are at or close to the scale of a nanometer (10^{-9} meters).

produced. But the history of robots goes back for more than two and a half millennia, at least in the Western tradition (Capurro 2011; 2016). Aristotle writes in his *Politics* that if humans had machines that could do things slaves do, then neither slaves nor masters would be needed (Capurro 2017; 2012).

Who will use robots? One scenario may be a division into the rich who can afford robots and the poor who cannot, where some will be willing to afford the extra expense for robots to clean their house, while others will not have the money to justify it. The other scenario is that robots will become so cheap to purchase that anybody who wants one will have the opportunity to own one, in the same way that many millions of people today use an iPhone, even in developing countries.

For what purposes will people use robots? Health care from home may be one example (Wynsberghe 2016) of such uses while housework may be another. The use of robots may center around preference rather than affordability where some prefer robots in the kitchen while others argue against their use in menial tasks, opting instead for their use in more critical matters such as health care.

Where will robots be used? This is dependent on region, law and tradition, as well as economic and social structure. Ethical issues of robots have become more and more a central concern in political discussions in society, including issues of industrial production, health care, ecology, social justice and public services, to mention just a few.

What kind of in-built rules of behavior do (will) robots have? Ethics is about thinking critically about customs and rules of behavior. Such rules are the basis of a society. In this sense the concept of morality is related to customs. Thinking about new rules of behavior with regard to robots is therefore dependent on the kind of a given morality in a society. This discussion becomes an intercultural one as robots are perceived differently by different societies.

What are the social risks and opportunities? While robots may certainly help humanity in several ways, assisting us, for example to overcome numerous handicaps, there will also be high risks associated with any significant reliance on them, especially if robots are connected to the internet. Global operating software companies will produce standardized software for robots. Being networked, hackers may go into the software of the robots, causing serious, unfavorable results.

What are the consequences?

Another consideration we may need to concern ourselves with is our potential emotional relationship to robots, particularly when it comes to children or elderly people whose attachments may be more dependent. Differing cultural backgrounds may also determine our level of attachment to robots. Robots can be understood from a religious point of view in some cultural traditions. The Shinto tradition in Japan, for instance, based in animism, gives rise to a very

particular relationship with robots, differing from the Christian or Islamic traditions (Bielby 2012). The need for intercultural research in such differences has yet to be addressed to any significant extent.

The use of robots must also be understood from the perspective of economy: while there will be workers who will lose opportunities for work because of robot automation, this seen in the inauguration of several advanced automated technologies already, there may also arise new human-robotic economic relationships that employ new and intricate human/machine cooperation.

Robots must also be analyzed from an ecological point of view. If billions upon billions of robots are produced over time, emulating our current mass production of computer technologies, somebody will have to see to appropriate recycling practices. Current models (or lack of!) of proper disposal and reuse of technologies may guide us in such matters.

Robots can be seen from the point of view of privacy. This includes the question of so-called "surveillance societies," since it is likely that robots will have a major place in surveillance.

2. Robots and Humans

When looking at these open questions, the main issue becomes the 'and,' – 'robots *and* humans.' The challenge of robot-human relationships will be outlined by the humanized connection between robots and humans, i.e., relationships in a world of networked robots and humans where care it taken that human life not become 'roboticized.'

By way of example – we might note that what started as a common trend in the last century that designed new cities around the wide adoption of the automobile, societies and municipal governments are now pushing a new trend towards the re-development of car-free zones in cities. Recently, iPhones have become classified as 'not permitted' in newly established digital-free zones, based on several sub-cultural preferences. As exemplified in these two cases it becomes crucial to proactively design human-robot relationships keeping in mind that the use of robots not be robot-oriented but rather that robots should be human-oriented.

There is a distinction between 'what' and 'who' or between things and persons that can categorize the *ethical difference* needed to navigate the conversation on such relationships. Humanoid robots might mimic a 'who,' but they are a 'what.' The personality of humans is always in relationship to others: From an individual perspective this relationship is determined by what the other person thinks about oneself and what a human thinks about its counterparts. Respect or disrespect is basic for developing human personality (Capurro, Eldred & Nagel 2013).

The exploration of Human/Robot relations posits the question of the computability of human beings. The more computable human actions are, the easier their interaction with robots. Humans

have the capacity to opt for diverse forms of being in the world. So the question arises, how do humans combine the 'freedom to opt' with the 'computability of actions (via robots)'?

Ethics explores feelings that are necessarily related to intelligence and different possibilities of being-in-the-world. The human experience is grounded in an insecurity of being where the world of our being remains unpredictable at best. We build our lives around creating artificial security to compensate for our underlying feeling that the world is not very secure for living. People experience themselves and the world from perspectives of, for instance, anxiety or happiness. How should or will our perceptions of anxiety be connected to and/or projected into robots?

3. Ethics of Care

Any conversation about robot ethics must also address the question of time – possessing three dimensions (past, present, future) in the case of humans and linear or one dimension in the case of robots. Humans are at any time in a particular situation but they are also beyond it being grounded to the past and future. Robots are limited to the *present* frame of action designed by humans. Although robots can learn, they are always grounded in a specific present situation or *Ba*.

Will robots assist humanity in freeing up time or will humanity be further subjected to limitations of linear time through their relationship with robots? Will robots improve our ability to care for each other? These are questions of an 'ethics of care' particularly in healthcare that form the core of roboethics (Wynsberghe 2016).

People die, robots don't. Robots don't suffer either. We should not create robots that are able to suffer. This is a key issue particularly for Buddhist ethics.

Will humans be dominated or liberated by robots? Will robots exacerbate capitalism? Robots are based on algorithms that may or may not remain in accordance with rules of fair play and global justice in and among human societies.

Will robots humanize war? The question of humanizing or dehumanizing war has many facets which are at an early stage of discussion (Capurro & Marsiske 2012).

A key issue that public policy, academics, and industry meet at is in the need for robot regulations in industry, such as will be the case for autonomous cars. A hundred years ago nobody thought deeply on the importance of car and traffic standardization and regulations, but it soon became mandatory to address them. Such will be the case for robot standardization.

4. Conclusion

Who are humans in the robot era? And what are robots in the robot era?

In some cases, we might posit that human being is becoming more like robot being. In other cases, robots are becoming more like humans. So, again, the starting question of "and," human and robots, is addressed. There will be different views on the matter according to cultural traditions as well as to social, economic and political needs and interests. The human-robot *interaction* and the human-human *interplay* in which freedom is a main issue are different (Capurro, Eldred & Nagel 2013). The cultural embeddedness of humans and the history of people, the history of nations, the bad things and the good things people have done to humanity and to themselves, play a basic role in roboethics.

Providing society with "social immune systems" is crucial (Sloterdijk 2009, 708–714). Without an immune system living creatures cannot survive. In nature, as soon as the environment changes, living creatures have to change the immune system, because otherwise they will die. Morality and law are a symbolic immune system of society: rules help humans to survive and to have a better life. We should develop symbolic immune systems that regulate dynamically, i.e., based on an intercultural ethical and legal monitoring reflection, human-robot interactions in different contexts and cultures (Capurro & Nakada 2013; Nishigaki 2012; Kimura et al. 2011).

Taking care of each other in the common world and taking care of robots in the robot era, raises, again, the question of the "and." Humans have to take care of things. Every living being dies. Every machine breaks down. We have to think about situations in which a robot will break down and the consequences of such for individuals and society with regard to safety and security.

According to Cosima Wagner, robots mirror the dreams and desires of human beings at a certain time: "As a source for a Japanese history of objects 'social' robots exemplify the cultural meaning of robots, the expectations of the Japanese state and economy, the mentality of Japanese engineers and scientists, and last but not least the socio-cultural change, which the ageing Japanese society is about to face." (Wagner 2013). This is the reason why robo-ethics should deal with intercultural issues.

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