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Do Robots Have Soul? A Study over the Influence of Social Ecology over Robotic Design

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Abstract: In real life, we always see some cute and harmless robots that interact with us like animals or humans. Social ecology embeds the fundamentals of techno-animistic thinking in different societies and lead to the variances of technological design on robotic features. Techno-animism denotes the formation of human cognition towards technological creations. In this regard, this paper discusses the impact of human cognition on the design of robots.

Keywords: social ecology, animism, dualistic cognition

1. Introduction

It is emphasized by scholars of science and technology studies (STS) that human perception over technological creations is of a dualistic structure where the technological creations are perceived in terms of their technical features and the concerned social ecology of the situated social context is the fundamental spectrum for the formation of human cognition on the physical surroundings [1]. It is to the core elements of social ecology that human's recognition of nonhuman turns [2]. Animism was initially brought up by E. B. Tylor's in his work, Primitive Culture [3], where the evolutionist thinker defined it as the phenomenon of people attaching anthropomorphic attributes to non-human entities. Tylor treated animism as a form of epistemology unique to the peoples of 'primitive' and small-scaled cultures in the aforementioned work. This account of animistic phenomena was generally criticized as a failing epistemology by Tylor's peers. On the other hand, contemporary concepts of animism, or neoanimism, discard its earlier ideological enterprise by focusing on problems about the point of separation between the social (human) and natural (nonhuman), animate and inanimate worlds. Rather than approaching animism as a set of perceptual frameworks for assigning life to objects, current animism tendencies refocus the field's attention on the factors that influence humans' perceptions of their interactions with nonhumans.

Martin Holbraad's critique of traditional animism attitudes best expressed the contradictions seen in traditional animism stances. Holbraad points out the "cognitive trap" that animistic occurrences are viewed as essentially a process of mystifying objects into inert beings carrying souls in early studies on animism [4]. He claims that granting souls to inanimate nonhumans would establish the existence of material agencies imbedded in non-material phenomena. A renaissance of animism study, according to Holbraad, should focus on an ideological base that recognizes the dynamic character of relation.

Social ecology will be outlined in reference to techno-animism in this paper. According to the relevant studies, techno-animism denotes the formation of human cognition towards technological

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creations. Social ecology embeds the fundamentals of techno-animistic thinking in different societies and lead to the variances of technological design on robotic features. The term "techno-animism" denotes the increasing notion of concepts and objects in everyday life shedding their "modern" lenses, in which the difference between reality and fiction, the animated and inanimate is distinct, in favour of a more blurred version of existence. The trend of techno-animistic phenomenon progresses as technology becomes more responsive to human commands and more intune with human wills and desires. For example, our cell phones could only respond to our commands ten years ago, but now, they can advise us alternatives and provide different suggestions and even issue the commands for us. Siri, Cortana, Alexa, these are just the tip of the iceberg regarding the possibilities of techno-animistic technology. Aside from improving the efficacy of our daily routines, in Japan, techno-animistic robots and AI can even interact with humans directly, creating an environment in which the organic and inorganic can bond with each other like equals. However, as we move forward into this era where technology and humankind can potentially coalesce as one, many are doubtful and even downright fearful of the risks and unknowns we will encounter along the way as we imbue and then accept more and more technology with seemingly human forces within their designs such as consciousnesses and even souls. More and more people require an explanation or at least the discussions about where to draw the line between those that live and breathe and those that do not.

2. Definitions of 'Robot' and Animism

2.1. Definitions of 'Robot'

(Social organisation) kojien, the definition of robot: Japanese dictionary, *Kojien*, defines robots, not as programmable 'machines', but as artificial 'persons'. It is specified that the usage of this word can extend to human individuals that are controlled by others. Interestingly, *Kojien* cites the play of *R.U.R* first shown in Tokyo theatres by 1924 as the source of a synonym to robot, '*jinzo ningen'* which literally means 'artificial human'. The Japanese version of robot's definition differs from OED version due to its special way of recognition towards robots' role as compared to humans'.

I will firstly inspect on Japanese animistic ontology that I argue as embedding the social imaginaries concerning robots, and the understanding of their actions. Japanese people's affective engagement with robots is found to be in line with Japan's particular animistic ontology. I borrow the term techno-animism for the denotation of the phenomena of people infusing inanimate creations with spiritual properties.

In the Oxford English Dictionary (OED), a robot is defined as "a machine that resembles a human or certain animal and is capable of replicating certain the concerned movements"; "a machine capable of carrying out automatically a series of movements, especially for the programmable"; and "[not necessarily limited to ones in material presence, a program that can perform a genre of tasks without continuous human intervention." The word "robot" is attributed to Czech writer Karel Kapek's science fiction novel R.U.R: Rossum's Universal Robots. The word "robot" was derived from the Czech word "robota," which referred to enslaved tenants. The above-mentioned OED definitions of robot encapsulate the R.U.R context of robots' duty. OED dictionary, defines robot as a machine that can perform a complicated series of tasks by itself, and is made to look like a human and that can do some things that a human can do.

2.2. Techno-animism

Animism has been long taken as the heritage of the infamous stance following ideological school of evolutionary anthropology. Mechanical epistemology has used the theory of spirit part of thought, the idea is to emphasize our these whether in cognitive non-human animals, plants or other natural environment, we will from the perspective of human to think about those animals are also like we

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will consider all aspects to this kind of life style. This is the animistic mode of thought. We put the human mind on the animal. That's what we used when we wrote mechanistic spiritualism. And we leave behind what Tylor and Morgan write below, "Now western society is in a much more developed stage, much more developed than western society." Morgan said, "These animist societies were in the wilderness," because The British society where Morgan lived was already organized in a way that was very similar to the way we organize families today, where every family was father, mother and child. It's not like the eastern families, where you have big families living together, and the family unit is very large. European and American societies were already forming in a new way.

2.3. Tylor and Morgan, Animism

Animist ideas are no inferior to the monotheistic religions of the West. As the representative of evolutionary thinking, Tylor accentuated on the animistic features of non-western religions and correlated such features with the disadvantageous development of the relevant societies when compared with the western society. Tylor disagreed with the contention of some early-nineteenth-century French and English writers, led by Comte Joseph de Maistre, that groups such as the American Indians and other indigenous peoples were examples of cultural degeneration [5]. He believed that peoples in different locations were equally capable of developing and progressing through the stages. Primitive groups had "reached their position by learning and not by unlearning". Tylor maintained that culture evolved from the simple to the complex, and that all societies passed through the three basic stages of development suggested by Montesquieu: from savagery through barbarism to civilization. "Progress," therefore, was possible for all. Each nation and each culture have its own unique history of cultural development, and there is no universal and absolute critical standard to measure culture.

Morgan analyzed and inferred the early form of family system from the perspective of kinship appellation, which created a new way to study the history of human family. Morgan believed that family units became progressively smaller and more self-contained as human society developed. His postulated sequence for the evolution of the family, however, is not supported by the enormous amount of ethnographic data that has been collected since his time. For example, no recent society that Morgan would call savage indulges in group marriage or allows brother-sister mating. Social organization in barbaric and barbaric times was based on kinship [6].

2.4. Japanese Imaginaries on Robots

The phenomena of treating technological creations as things alive is widespread in Japan. The emotional contact between Japanese and robots is consistent with Japan's special animist ontology. A similar notion that robots hold a special place in the eyes of the Japanese has been widely discussed in academic circles. The Japanese approach to non-human and surrounding environments as living and even anthropomorphic beings is thought to be embedded in the larger "animistic unconscious". According to Allison [7], the craze of adopting virtual pets, or Pokemon (translated as 'pocket pets'), in a video gameunder the same name has been phenomenal since this game's introduction to public by 1996. People of different age genres are emotionally engaged with their pokemons and treat these 'pets', that are only in virtual presence, as their friends or part of the families. They feed the pokemons on an hourly basis, and exchange pokemons with other players of the game temporarily to gain certain outfits for their pikachus, one of the most popular pokemons for this video game series.

The basis of the relationship between human and non-human in Japanese narration is the connection with the traditional Japanese value system, which is rooted in the display of Japanese

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social culture. Human perception of robots is a process of associating the mechanical appearance of robots with the condensed set of meanings held by humans. The phenomena of treating non-living technological creations as things alive is widespread in Japan. According to Jennifer Robertson [8], household robots in Japan are designed to be in the appearance with general likeness to human child. Such humanoid robots5 may carry certain attributes that can be related with human characteristics. This kind of correlation, reported by the roboticists interviewed by Robertson, can lead to better human acceptance of robots. Case in point, Mitsubishi's humanoid robot, Wakamura, is designed to be in general yet ambiguous assemblance to a human boy. It is officially referred to as kun (the reference used to address male teenagers). In a public demonstration of Wakamura to showcase its functionality as a household humanoid, it is dressed in child clothes as this way of dressing can resonate with people's impression of an actual child [9]. Humanoids are animated with many human characteristics in Japanese people's imaginations. In terms of effect, such robots are similar to members of the home. The 'real reality' of robots is linked to their perceived presentation by Japan's coded social milieu. Robots are considered as a 'third existence' in this coded environment, with their own 'life.'

In effect, there is a distinction between living and non-living things. People's affective connection with robot pictures and behaviors stems from generic imaginaries shared by the Japanese public, which in turn confirms the social abstration of robotic imagery.

What part of cultural perception commands the definition of nonhuman beings as inert or alive – but a more in-depth characterisation of human individual's responses to human-made things that reside on the borderline between organic and inorganic, living and non-living, people perceptually refer to as "fetishes and icons, values and virtues" are the "excesses" created given the contextual criteria surrounding the objects? The boundary between living and inanimate is marked by perceptually induced "excesses."

2.5. Animistic Cohabitation with Robots

Japanese people's cognition of these humanoid robots between human beings and non-human beings is different from that of western people. Japanese people's classification of human beings and non-human beings is not broken, and it isnot divided into two levels. We create it according to the image in our mind. This is not the same place is that they will be more inclined to take these with a basic sense of artificial intelligence robot as their peers, as a can go to accompany him, is due to this tendency, in the design of the robot to the people in Japan, will tend to make them more cartoon, harmless some more.

An anthropologist examines the border between human and nonhuman, animate and inanimate, as a result of the shift in scholarly thought in terms of animism. Rather than the reality of animistic ideas, this new ideological movement emphasizes the effects of human engagement with nonhumans. In the age of smart technologies, this shift in conceptual posture offers animism a feasible ideological tool for further investigation of human apprehension, communication, and interaction with robots and artificial intelligence. However, the current literatures do not provide a comprehensive analytical framework for humans' animistic manner of thought in relation to robots in Japanese culture.

The boundary between living and inanimate is marked by perceptually induced "excesses." Following this line of reasoning, the discussion of material agency in the context of Japanese robotics should center on the understanding of animistic manifestations of "excesses" in intelligent, robotic devices. Sena suggests that the concept of yorishiro - identifying things with unique spiritual essences – best reflects Japaneseness [10]. Each thing of concern contains its own spirit, which is peculiar to this animistic frame of thought. Atomu's spirit is imbued with a distinct set of sociocultural characteristics that resonate with Japan's unique response to technological modernity.

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Atomu, the Astro kid, is a symbol, or, as Sone puts it, “an integral part of the Japanese robotic spirit” manifested through “the existence of robots.”

3. Conclusion

Through systematic literature review, the existing literature is reviewed, and the influence of socioecology on robot design and the introduction of techno-animism concepts are studied. This paper describes how mechanical auraism affects people’s cognition and thus affects the manufacture of robot shapes. The animism of everything embodies the relationship between humans and non-human interactions by injecting spiritual essence or soul into inanimate objects. Social ecology embeds the basic theory of techno-animism thinking into different societies, and led to differences in technical design on robot characteristics. “Technological animism means that more and more concepts in daily life are no longer just obvious differences between life and non-animate. Instead, it is replaced by a more vague existence. As technology becomes more and more sensitive to human commands and more coordinated with human desires, the trend of techno-animism is constantly developing.

The important factors affecting the auraism of technology and social ecology and cultural background should be related to one of the dualistic foundations of social ecology. How the dual social ecological foundation affects people’s thinking mode as the result of the auraism of everything. In this paper, the definition of “robot” has been refined: robots are defined as “robots that can automatically perform a series of actions”, which is defined in the Oxford Dictionary, while in Japan’s kojien dictionary, robots are defined as not programmable “machines”, but “humans”. In particular, it is pointed out that this word can be extended to human individuals controlled by others. Human beings will be uneasy about this, and then think that the robot is strange or creepy. Mori Masahiro believes that it is harmful to let robots get too close to human beings.

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