HRI Reading Group
@ Instituto Superior Técnico
Spring 2019

Meeting #7 (April 5, 2019)

Paper

Takeshi Kimura. **"Masahiro Mori's Buddhist philosophy of robot."** *Paladyn Journal of Behavioral Robotics*, 9, pp. 72-81. 2018.

"We (humans) have become entangled with very strong co-habitants of machine and technology. We need to acquire a high spiritual status to control power originating from a combination of human power and mechanical power. To learn to do so, we need to learn religion."

Mori, 2003

[Meditation: Isha Kriya]

What is the Uncanny Valley?

Mismatch between the expectation and what appears in the eye of the beholder.

Discrepancies of the first impression (first judgment) and a the behavior/appearance over time (second judgement)

The more the details are perceived, the more uncanny it can be.
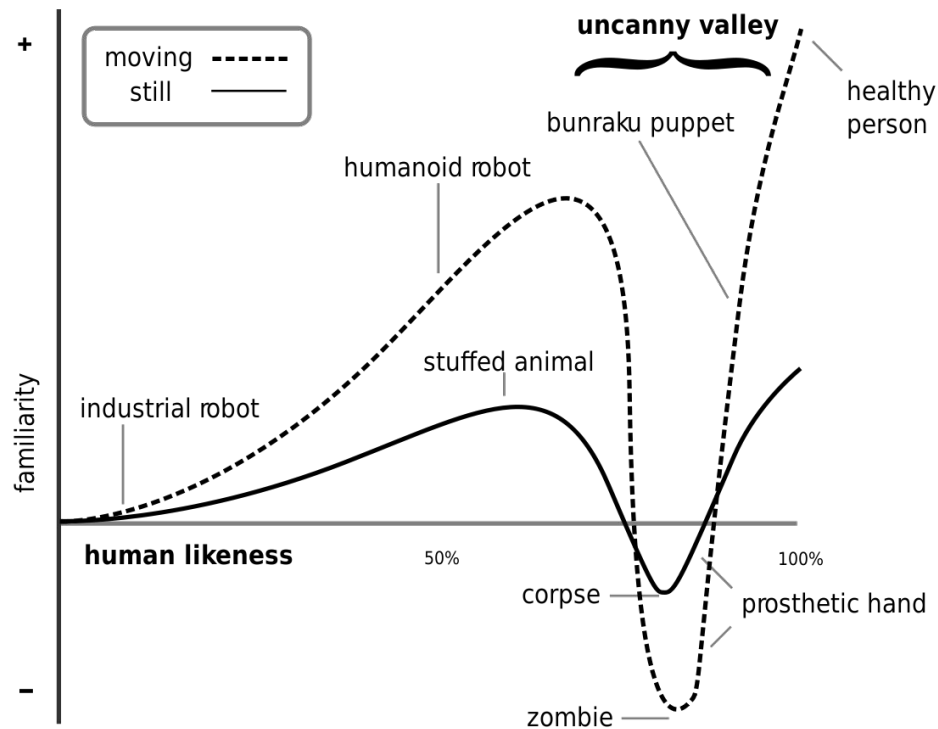
This phenomena occurs beyond humans, such as animals (dogs, cat), and goes beyond appearance to include the behaviors.

Mismatch between a previous expected model.

What is the Uncanny Valley? (Bukimino-tani)

Mori was coined the official inventor of the term "Uncanny Valley" in 2013 at IROS conference.

Antagonism: on the relationship between the logical/rational and the transcendent

"His [Mori] robotics work and his learning of Buddhism develop together side by side in an interesting intertwined manner."

Any examples that you know that translate this connection?

1. [Workshop on Religion and Robotics](#)
2. Special Issue on Journal of Social Robotics, called "[Religion in Robotics](#)"

How can religion connect with AI, robotics, autonomous and social technologies?

- Judeo-Christian religions like robots less than those following Eastern religions
- Organizations as a form of AI
- Religion as a form of technology (become part of who we are, e.g., pencil)
- Building AI systems as a form of God (all knowing, all sensing, all seeing)

Robotics and Buddhism

- Some Buddhist temples approach the latest technology and incorporate it from a practical viewpoint.
- AIBO Temple

Intuition, imagination, creativity, curiosity

Mori has the opinion that religious intuition and scientific/technologic intuitions are the same

"What is the backwards step? Instead of looking for a solution outwardly, it is necessary to sit still and look for a solution inwardly."

Turning car example

Neutral technology (knife example)

"He regards his Buddhist experience as a source of technological innovation."

"He shows how to recognize religious meaning in technology."

Intuition as another method (besides the scientific method), that is now being underestimated (and somewhat killed).

Intuition as a following an idea based on previous experiences but cannot be explained

Diamond Sutra - what is it?

- Robot Contest
- What is the Diamond Sutra and how can we relate this with robotics?

Antagonism

"Modern technologies have thus come to be understood as possessing transcendent or uncanny features, the encounter with which is phenomenologically comparable with the performative techniques of prayer, ritual action, or magic, or with the 'religious' experiences of ecstasy and awe" (Jeremy Stolow)

Zen as an intuition method (for design of new technologies and understanding of the existing ones)

Biomimicry thinking

- Crab and hand
- Dog and buddhahood

Individual sharing

Can you share with us a thought on the relationship between your spiritual seeking and your work/research?

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Meeting #8 (12 April 2019)