

Face and Mind of AI: Uncanny Valley and Ascription of Different Types of Attributes to Robots

The question of the impact of the new technologies and AI on human society becomes ever more pressing. Children of the next generations will be born into the world full of new stimuli that will form their thinking in the crucial years of development. It is possible that they will ascribe certain specifically human traits to robots that will exhibit certain behavioural patterns. In our interview study with children and teenagers (N=209, 109 F, age range 6-17, mean age=11.05) we decided to test the children's reaction to different types of robots.

In the first part of the interview, the children were shown pictures of 6 different robot faces created by an industrial designer. The pictures were intended to be a spectrum from the most robotic to the most human-like face. The children were supposed to judge how much the particular face appears friendly to them on a 6-point (?) scale. As we hypothesised, in the resulting graph we observed an obvious uncanny valley. The friendliest robot was the one with eyes, but without other facial features, while the least friendly was the robot with human facial features set on the metal head, together with two robot heads with no facial features whatsoever. The robot that had all the facial features, hair and skin, scored as the second most friendly-looking robot.

In the second part of the interview, the children were asked to judge whether they would ascribe certain attributes (sense perception, thinking, emotions, self-reflexion, life, soul, and freedom) to different beings or entities described to them. The training examples were an ordinary dog and a human girl or a boy. Then they were asked about a robot with basic perception and motor abilities that can also do complicated maths and talk, and a robot who is also capable of being an active participant of a dialogue and can talk about how it perceives the world in a way indistinguishable from a real person. The results showed that children were more prone to ascribe certain human abilities to the android than to the mathematical robot (esp. emotions and freedom). Both robots scored highly in sense perception and thinking, and android scored also in self-reflexion. However, even the android didn't score when it comes to the ascription of life and the soul. Participants ascribed soul and life only to the living beings.

The results show that the children are capable to ascribe certain level of cognition, emotions and even freedom to sufficiently complex robots, but are still reluctant to see robots as living beings with a soul. The concept of the soul may be understood as an essential moral core of the person that is capable of moral conduct and deep interpersonal bonds and which is conceptualized differently than the mind (e.g. Richert & Harris, 2006, 2008). Despite their behavioural complexity and intelligence, robots might not manage to cross the boundary between machines and full-fledged persons in the eyes of children.