

Japanese Researcher Explores Potential of Illusions



<https://www3.nhk.or.jp/nhkworld/en/news/videos/20230228201832752/>

Albert Einstein once suggested that reality is merely an illusion. Some other intellects have dedicated their careers to studying tricks of the mind. One in Japan has some lessons on things that are not as they seem.

Kodaka Kenri is an associate professor studying how illusions can affect the human body. His work has been attracting worldwide attention. His latest work was published in an academic journal overseas in 2022. A pile of slime is placed on a table next to a mirror. The subject of the experiment places their hand on the other side of the mirror, opposite of the slime.

Please look into the mirror reflecting the slime

Then Kodaka pinches the skin of the subject's hand as he pulls on the slime at the same time. The subject experiences the sensation of their hand being stretched endlessly. Kodaka named this phenomenon: the slime hand illusion. In these experiments the subjects feel that their skin is being stretched on average about 30cm.

We can only vaguely sense how much our skin is being stretched. When the limited physical sensation and the visual perception successfully overlap, the visual information takes over.

Kodaka used to do research on robots. In 2012 when he was reading through studies on the human body, he learned about an illusion in which people said that they physically felt that a fake rubber hand was actually their own hand.

When I first experienced it, I thought I had been liberated from my body for the first time in my life. I

realized the vastness of the world stretching beyond ourselves.

Since then, he has been working to discover more illusions related to the human body. In 2022 his team won an award at an international technology competition in South Korea for their entry: X-ray head. The subject sits in front of a special mirror that allows light to pass through. A glowing skeleton is placed behind the mirror. The image of the skull and the mirror's reflection of the subject's face overlap. It looks as though the subject's skull is being exposed. Then Kodaka lightly touches the subject's head and exerts more pressure on the virtual skull simultaneously. The subject feels like someone is touching their skull directly.

I hope to make people feel that they are slightly altered after experiencing an illusion. I want to create experiences that can completely change perception of the world, ourselves, and reality.

Kodaka points out that such illusions have the potential to be utilized in the world of the metaverse. Using the physical sensations created by illusions in addition to virtual avatars, Kodaka says we can approach virtual communication that is close to that of human beings in the real world.

Source: (NHK World News)

Now discuss the questions with a partner.

1. What's your opinion about Kodaka's research?
2. Have you ever heard of such experiments or similar experiments?
3. How might Kodaka's research into illusions be used in fields outside of virtual communication, such as healthcare, entertainment, or education?
4. Can you think of any bad effects of these types of illusions? What ethical considerations should be taken into account when using illusions to alter people's perceptions of reality?
5. Would you like to be a subject in these experiments? Why or why not?