

Contemporary Media Forum

The Uncanny in the Digital Age

The digital age has brought to us a new kind of relationship: the human being and the humanoid machine. Researchers have discovered an interesting phenomenon that arises when a person encounters a robot, android, or other artificially intelligent being who in many ways comes very close to seeming human, but falls just short of the mark. It was first identified by the Japanese roboticist Masahiro Mori (1970) and later called *the uncanny valley* by Jasia Reichardt (1978). Many of us might have experienced this phenomenon when watching animated movies. As long as the characters seem somewhat human but still artificial, we feel comfortable. But when such beings appear very real while deviating almost imperceptibly from a perfect human likeness, our comfort level suddenly drops into the uncanny valley. Something about the creature does not seem right. People feel revulsion or find the experience eerily disturbing. Similarly, unsophisticated robots in movies that act or look somewhat like a real person can be delightful companions, but when very human-like androids do the slightest thing that make us suspect they are machines, the movie director pushes us into the creepy sensation of the uncanny valley.

The uncanny was discussed as early as 1906 by the German psychiatrist Ernst Jentsch in his essay "The Psychology of the Uncanny." He focused on a story written by the horror and phantasy author Ernest Hoffman in which a man falls in love with a woman who is actually an automaton doll invented by a scientist. Also an admirer of Hoffman's mastery of the uncanny in literature, Freud (1919) later elaborated on Jentsch's concept in his article "Das Unheimliche," which translates as "the opposite of what is familiar." Rather than simply explaining the uncanny as something mysterious, Freud described it as the peculiar mixture of the familiar and the unfamiliar, how something different can feel strangely familiar or how something familiar can feel strangely different. He identified the uncanny as anything that reminds us of the frightening realm of our own unconscious mind, of repressed memories and impulses from childhood that feel unknown but vaguely and threateningly recognizable. We project this anxiety into the ambiguously human machine, for it too might harbor a hidden force operating inside it, a force that might be hostile, with evil intentions to harm us, steal our identity, or consume the essence of who we are. Some prominent theorists and researchers worry about the inevitable "singularity" – the point in technological development when machines not only become sentient, but

surpass human intelligence. Will these hypothesized superhuman machines that manifest our fear of unconscious impulses decide to control or destroy us?

In terms of contemporary psychoanalytic theory, the uncanny might be explained as the ambiguity about whether something is self or other. It is the vague sense of our own unconscious identity, including its internalizations and introjects, as an eerily hidden other that we project into the uncanny experience of a computer-generated being. It is an anxiety-provoking ambiguity in the developmental challenges of establishing our separation and individuation as distinctly alive human beings, for when we encounter the uncanny mechanical device we wonder whether the thing is an animate version of oneself or an inanimate, otherly thing. Because researchers like the futurist Kurzweil (2013) and the sociologist Bainbridge (2014) believe we will someday be able to recreate an individual's personality via artificially intelligent entities programmed with all of one's behaviors, beliefs, and emotions, we might eventually confront the uncanny dilemma of not knowing for sure whether the thing is me as a unique person, or not me – a dilemma to which Freud alluded when he noted the eerie awareness of one's superego as the internalized, self-observing doppleganger. According to the theory of cyberpsychology architecture (Suler, 2016), all uncanny phenomena entail ambiguity in the identity and reality dimensions of digital experience.

Jentsch (1906) emphasized that intellectual uncertainty adds to the uncanny when one cannot find a rational solution to the dilemma. Writers of stories about the uncanny capitalize on this uncertainty by not clarifying whether a being is truly human, whether what is happening in the story is reality versus imagination, or even directly addressing the idea that this uncertainty exists. Intellectual debates among both scientists and philosophers as to whether artificial intelligence can be sentient or not, whether an android replication of a person is truly that person or simply a programmed approximation, adds to the ambiguity of the uncanny. We do not yet know whether the sentient machine is a possible reality or simply the stuff of imaginative science fiction. Even when confronted with an artificially intelligent being who truly seems human, we cannot look inside the black box of its "mind" to know for sure whether it is or is not human, just as we cannot see inside the mind of any being.

Uncanny Presence

The concept of "presence" is a fundamental one in the theories and research about virtual reality. In a computer generated environment, what are the factors that contribute to your feeling that you know where you are and that other people also exist there. In my research in the avatar community called The Palace (Suler, 2016), I once entered a room in which I found another avatar, in the form of a human male, sitting in a chair. I said hello but the person did not reply. I again attempted conversation but it just sat there motionless. For a brief moment I felt that experience of the uncanny, for I did not know for sure

whether there was an actual human being who existed behind that avatar but was simply ignoring me, or whether the owner of the avatar had stepped away from his computer. I was uncertain about whether another person was present or not – and if someone was present, about his intentions towards me. Films about monsters draw on this sense of the uncanny due to the anxiety that arises from this uncertainty about the presence, identity, and intentions of the creature.

Such uncanny ambiguities also occur in one's experience of presence in the virtual environment itself. One day at The Palace I made my way down the hallway towards the study. As soon as I entered the room, I stopped dead in my tracks, because I found myself standing in the middle of an uncanny blackness. Where were the comfy chairs, the chessboard, the bookshelves, the glowing fireplace? All I could see was my avatar owl standing in the middle of a featureless void. Was The Palace software suffering from some kind of glitch? Or maybe there was something wrong with my browser. I stepped back into the hallway where reality popped back into existence. Everything looked normal there: the carpeted floor, the pictures on the wall. So I stepped back into the study. Sure enough, nothingness enveloped me once again. The familiar had become unfamiliar. It was quite eerie and disorienting, as if I did not exist anywhere in particular, or if I did exist it was in some strange representation of the dark unconscious mind. Then I noticed that the space was not a total vacuum. Along the perimeter of the emptiness I could see slivers of the study. Now I finally understood what was happening. Some mischievous person had painted black all over the walls, floor, and ceiling, while missing a few spots along the edges. "Clean" I said, invoking the command that wiped away anything users added to a room. Sure enough, the study reassuringly popped back into existence around me. Once more, it existed and I within it. In his article about the uncanny, Freud (1919) also referred to such uncanny disorientations in an environment, as when you become lost in the woods, wandering through unknown territory, only to discover that you are retracing your steps – or when supposedly random numbers seem to recur in a meaningful way.

In virtual reality, an environment can be designed to react as if it understands what we are thinking and feeling, which gives the impression that it thinks and feels independent of us, as if it were a conscious being unto itself. Research on *ambient intelligence* (AmI) focuses on developing virtual environments where a pervasive, unobtrusive intelligence supports the activities and interactions of the people there. The experience of such places could easily spill over in the realm of the uncanny, especially when people do not realize they have entered an AmI environment, or when its actions are very subtle. As you reach for a hot cup of coffee, it moves ever so slightly towards your hand. When you groan at how bitter it tastes, a drop leaps out of the cup to sting your finger. How could we not have that eerie feeling that an inexplicably disembodied ghost was operating behind the synthesized scene? But we are not sure. Is the environment simply a collection of inanimate things,

or does it have human-like intentions? In his films, Alfred Hitchcock mastered this feeling of the uncanny even in a seemingly mundane location. As with the uncanny robot or android, the uncertainty of being in a seemingly sentient environment reminds us of the familiar but unfamiliar realm of the unconscious.

It is ironic that as communication technology advanced, making it much easier for people to get to know each other and locate valuable information, the distinction between reality and phantasy progressively blurred, most notably in the so-called “reality shows” and supposedly real-life videos on YouTube that actually turned out to be deliberately contrived. In this new digital age everyone’s ability for reality testing – for determining what is real and what is phantasy, what is machine intelligence versus human intention – is being challenged. Will we become so accustomed to the uncanny that we begin to accept it, or will its proliferation produce a level of discomfort that makes us avoid digital spaces?

To Anthropomorphize or Not

The philosopher David Hume said that, “There is a universal tendency among mankind to conceive all beings like themselves.” We see ourselves in our pets. Advertisers count on the fact that we attribute human traits to cars. In their theory about the *media equation*, Reeves and Nass (2003) argued that people intrinsically treat computers as if they are humans. In one study, subjects were more honest when writing up their critique of a computer’s performance on another computer, as opposed to doing it on the computer they were critiquing. It seemed that they did not want to offend the computer. In the 2010s, when SONY discontinued both production and repair of AIBO, its artificially intelligent robotic dog, devoted owners of their beloved pet formed support groups to help each other fix its mechanical problems, and even to comfort each other when the creature finally “died.”

Because our tendency to anthropomorphize the machine can get us into trouble, as when people throw their mobile device against the wall because it “betrayed” them, some researchers believe the design of computers should discourage human-like features. If so, we know what features to avoid. As Blascovich and Bailenson (2012) described in their book on virtual reality, the more computer-generated beings mimic our body language and speech, the more we subliminally experience them as trustworthy, credible, and intelligent beings – that is, until we realize they are mimicking us, at which point we feel mocked by a clever machine. The more interface designers inject their own personalities into the program – which might unintentionally include their own intrapsychic dynamics – the more users will sense a human being inside the electronics, including the uncanny presence of hidden unconscious intentions.

Depending on their level of object relations, people differ in how much they anthropomorphize the machine, which in turn might affect their experience of

the uncanny. Neglecting or frustrating the child's basic needs for someone who will acknowledge, affirm, and soothe the child's sense of self can lead to an adult who seeks out that kind of relationship in the machine. In a twinship transference, people might personalize the synthesized being as their best friend. In an idealizing transference, they might perceive it as their hero. Might a machine that subtly encourages then frustrates these transference reactions enhance the uncanny uncertainty about self versus other, me versus not me, familiar versus unfamiliar? By contrast, might people with narcissistic personalities, who demonstrate little ability to empathize with anyone, show more resistance to the uncanny experience of very humanlike machines, especially when those machines do not cater to the narcissist's self-esteem? Psychopaths go to the extreme in lacking empathy, love, or any sentimental feeling towards anyone, which not only makes them less likely to care about synthesized beings as possibly being real humans, but also leads some people to wonder whether severe psychopaths are even human themselves. People vary greatly in whether they perceive a synthesized being as human, whether they see other humans as humans, and how much they themselves act human – with all these factors affecting the experience of the uncanny.

The uncanny phenomenon points to a larger issue, to the mixed feelings we feel about the machines we construct. On the one hand, we are fascinated by and take pride in our ability to construct such complex devices. On the other hand, we begin to feel anxious when they too closely mimic who we are. We have difficulty predicting our own future, so how can we predict the outcome of machines that seem to act like we do? We have difficulty understanding how the unconscious affects us, so how can we be sure we do not accidentally program our unconscious impulses into intelligent machines that turn into an uncanny Frankenstein's monster, especially if the designers of such machines know little about their own intrapsychic dynamics? The robotics engineer Daniel Wilson noted, "The robots really embody that love–hate relationship we have with technology." It is the love–hate relationship we have with our own intrapsychic world.

REFERENCES

- Bainbridge, W. S. (2014). *Personality capture and emulation*. London: Springer.
- Blascovich, J., & Bailenson, J. (2012). *Infinite reality: The hidden blueprint of our virtual lives*. New York: William Morrow.
- Freud, S. (1919). The Uncanny. In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 17, pp. 219–256). London: Hogarth Press.
- Jentsch, E. (1906). The psychology of the uncanny. *Psychiatrisch-Neurologische Wochenschrift*, 8(22), 195–198.
- Mori, M. (1970). The uncanny valley. *IEEE Robotics & Automation Magazine*, 19(2), 98–100.
- Kurzweil, R. (2013). *How to create a mind: The secret of human thought revealed*. New York: Penguin Books.
- Reeves, B., & Nass, C. (2003). *The media equation: How people treat computers, television, and new media like real people and places*. Stanford, CA: Center for the Study of Language and Information.

Suler

Reichardt, J. (1978). *Robot: Fact, fiction, and prediction*. New York: Penguin Books.

Suler, J. (2016). *Psychology of the digital age: Humans become electric*. New York: Cambridge University Press.

John Suler
Rider University
Lawrence Township, NJ, USA
suler@mindspring.com