

Science fiction enthusiasts have a positive attitude brain uploading

July 13 2018

Mind uploading is a prospective method to create functional copies of the human brain on computers. The development of this technology, which involves scanning the brain and detailed cell-specific emulation, is currently receiving billions in funding. Science fiction enthusiasts express a more positive attitude toward the technology compared to others.

"Mind upload is a [technology](#) rife with unsolved philosophical questions," says researcher Michael Laakasuo.

"For example, is the potential for conscious experiences transmitted when the brain is copied? Does the digital brain have the ability to feel pain, and is switching off the emulated brain comparable to homicide? And what might potential everlasting life be like on a digital platform?"

Such questions can be considered [science fiction](#), but the first breakthroughs in digitising the brain have already been made: for example, the nervous system of the roundworm (*C. elegans*) has been successfully modeled within a Lego robot capable of independently moving and avoiding obstacles. Recently, the creation of a functional digital copy of the piece of a somatosensory cortex of the rat brain was also successful.

Scientific discoveries in the field of brain digitisation and related questions are given consideration in both science fiction and scientific journals in philosophy. *Moralities of Intelligent Machines*, a research

group working at the University of Helsinki, is investigating the subject also from the perspective of moral psychology, in other words mapping out the tendency of ordinary people to either approve of or condemn the use of such technology.

"In the first sub-project, where data was collected in the United States, it was found that men are more approving of the technology than women. But standardising for interest in science fiction evened out such differences," explains Laakasuo. According to Laakasuo, a stronger exposure to science fiction correlated with a more positive outlook on the mind upload technology overall. The study also found that traditional religiosity is linked with negative reactions towards the technology.

A sub-study using data was collected in Finland indicated that people disapproved in general of uploading a human consciousness, regardless of the target, whether a chimpanzee, a computer or an android.

In a third project, the researchers observed a [positive outlook](#) and approval toward such technology in those troubled by death and disapproving of suicide. In this sub-project, the researchers also found a strong connection between individuals who are disgusted by sexual matters and who feel disapproval of the mind upload technology. This type of person finds, for example, the viewing of pornographic videos and the lovemaking noises of neighbours disgusting. The indications of negative links between sexual disgust sensitivity and disapproval of the mind upload technology are surprising, given that, on the face of it, the technology has no relevant association with procreation and mate choice.

"However, the inability to biologically procreate with a person who has digitised his or her [brain](#) may make the findings seem reasonable. In other words, technology is posing a fundamental challenge to our understanding of human nature," reasons Laakasuo.

Much like an amoeba, digital copies of the [human brain](#) could reproduce by division, which makes sexuality, one of the founding pillars of humanity, obsolete. Against this background, the link between sexual disgust and the condemnation of using the technology in question seems rational.

More information: Michael Laakasuo et al, What makes people approve or condemn mind upload technology? Untangling the effects of sexual disgust, purity and science fiction familiarity, *Palgrave Communications* (2018). [DOI: 10.1057/s41599-018-0124-6](https://doi.org/10.1057/s41599-018-0124-6)

Provided by University of Helsinki

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