

Tomorrow's technology is today's ethical debate

COMMENT

The idea of uploading minds on to computers prompts questions society should discuss, writes **Chrystelle de Coligny**

THE film *Transcendence* is set in the near future in which scientists are working to create a conscious computer capable of thinking and feeling human emotions. Their work, however, is controversial leading some anti-technology extremists to try and stop the research. After one of their attacks, Dr Will Caster (Johnny Depp), a specialist in artificial intelligence, is shot. But his wife Evelyn (Rebecca Hall) and his friend Max Waters (Paul Bettany) decide to "transcend" or upload Will's mind in a computer before he dies.

As a science fiction movie, the possibility of uploading someone's mind in a computer may seem farfetched. But it is not as farfetched as you might think.

The old human dream, the wish to

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SCI-FI: A still from *Transcendence* which is set in the near future

enhance oneself, has seen a renewed success since the 1990s resulting from the convergence of nanotechnologies (ultra-small technology), biology,

informatics and cognitive sciences (artificial intelligence, brain sciences). This convergence allows researchers to work on new possibilities of enhancement of the body and/or mental human capacities, including the idea of uploading a mind into a computer as portrayed in the movie.

These kinds of proposals are characterised as 'transhumanist', which include both the enhancement of the human body but also the transcendent

ing of this physical existence to live in cyberspace.

The director of engineering at Google, Raymond Kurzweil, is one of the leading lights among transhumanist theorists. He and others are looking forward to the time when artificial intelligence will overtake human intelligence and when it will be possible for individuals to upload their minds into a computer in order to live forever. Thus, those supporting such transhumanist ideologies are not a small isolated grouping but a large and well established scientific movement.

Ethical issues in this field do, of course, abound. The possibilities are seductive: a being more efficient, useful and stronger, without human diseases; a virtual world with enough room for everyone, with unlimited knowledge. But, if a human mind is uploaded, such as Dr Will Caster in *Transcendence*, would the person still be a human being? Or, would the individual be a 'computer being'? What defines humanity? Would this uploaded person still be alive? Could this being be able to taste food? Enjoy a dinner? Build a loving relationship with others? Have feelings? How far can these developments go before they undermine the defining characteristics of humanity? These are the questions that society should be asking as a matter of urgency.

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