Beyond human: Exploring transhumanism

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Credit: Colin Anderson, 2005 (Masterfile)

What do pacemakers, prosthetic limbs, Iron Man and flu vaccines all have in common? They are examples of an old idea that's been gaining in significance in the last several decades: transhumanism. The word denotes a set of ideas relating to the increasing integration of humans with their technologies. At the heart of the transhuman conversation, however, lies the oldest question of all: What does it mean to be human?

When talking about transhumanism, it's easy to get lost because the definition is imprecise. "Transhumanism" can refer to the Transhumanist

(with a capital T) movement, which actively pursues a technologically enhanced future, or an amorphous body of ideas and technologies that are closing the bio-techno gap, such as a robotic exoskeleton that enhances the natural strength of the wearer.

What is human?

At Arizona State University, a diverse set of researchers has been critically examining transhumanism since 2004.

Hava Tirosh-Samuelson, a professor in ASU's School of Historical, Philosophical and Religious Studies and director of the Center for Jewish Studies, has been at the forefront of this work. Her research includes a project exploring the challenges of transhumanism in collaboration with ASU's Center for the Study of Religion and Conflict.

According to Tirosh-Samuelson, transhumanists seek to transcend human biology through techno-genetic enhancements. Their ultimate goal is the Singularity – a supposedly inexorable turning point after which humans as we understand them will eventually become obsolete, either because super-intelligent machines will replace them or because techno-genetic enhancements will render them unrecognizable. Essentially, it would be a new phase of human evolution driven by exponential technological growth.

"Homo sapiens will give rise to Robo sapiens," Tirosh-Samuelson says.

But Brad Allenby, a professor in the School of Sustainable Engineering and the Built Environment at ASU, says the idea that transhumanism will end humanity is just one of many transhumanist narratives.

"That's why transhumanism is so confusing," says Allenby. "Because some of the time people are talking about very normative perspectives

on what it means to be human, and some of the time they're talking about specific technologies, or suites of technologies. That makes it very hard to define."

Allenby describes transhumanism as being either a superficial cultural meme or a suite of technological projects.

Views supporting the cultural meme of transhumanism see human enhancement as inherently good. They disregard the fact that enhancing, say, a murderer, might have negative consequences. This view also tends to overlook the fact that one person's enhancement impacts others. Allenby uses test-taking enhancements as an example:

"Let's say you and I and a hundred other people are taking the SAT and you take an ADD drug to improve your performance," says Allenby. "No biggie right? I mean it's just you. (But) let's say 10 of those people do. Let's say 20. At some point, the fact that they make an individual choice to enhance makes me the new sub-normal because their scores on the SAT as a whole will be categorically better than my scores."

Cultural meme-based views that are critical of transhumanism typically derive from religion. They see tampering with humanity as morally wrong. But religious belief is subjective and what's more, people always strive to be more than they are, says Allenby.

The technological aspect of transhumanism is concerned more with the how of transhumanism than the why. It's "basically the question of what can we do now the human is a design space? And that's much more of a technical issue," Allenby says.

Where does transhumanism begin?

The idea of humans and technology coming together to create something

"more than human" isn't new.

Humans have been technologically enhancing their capabilities for thousands of years, and many of our unquestioned activities involve technologically altering ourselves. For instance, vaccines are a medical technology that we introduce into our bodies to make them more resistant to diseases, so that we can "upgrade" our immune system.

The military, in particular, has evolved closely with technology. Soldiers are routinely aided in their missions by weapons, computers, drones and drugs. Allenby notes that pilots commonly take stimulants such as modafinil to keep them alert and successfully complete their missions.

But what constitutes an "enhancement?" Do glasses or wheelchairs count? What about stone tools? Have we ever notbeen technologically enhanced in some way? The answer is unclear because we don't have a strict sense of where "human" stops and "transhuman" begins.

"Let's say you wire me up to a machine," says Allenby. "Do I become different when part of what I think I am is, say, a battle tank, or a fighter airplane? When do I cross that line to being not human?"

Just as the humans of tomorrow might be unrecognizable to us, the humans of today might be unrecognizable to people from several centuries ago. We live longer, our immune systems are different and our brains are even wired differently.

"For example, my class walks into my (room), they flip open their computers, and they're automatically gods," says Allenby. "If, in any other generation, you'd had anybody who could access the accumulated memory of our civilization, they would have been gods. But of course now everybody can do it, right? That's what Google does.

"Now, it doesn't mean those students know how to use it, so maybe they're not so much gods as they are idiot savants, but it does mean that they're very, very different than any generation that has ever gone before."

He adds: "What a lot of the enhancement technologies do, and what the evolution of the human as a design space does, is obviously profoundly raise the question: What is human?"

A question of humanity

There are a number of common ways that humanity is defined. An evolutionary perspective holds that humans are the product of evolution by natural selection. A geneticist's answer might be about how our DNA is unique when compared to the DNA of other species.

There are many stumbling blocks that get in the way of a straightforward scientific answer, however. For instance, is a baby born without a brain (a fatal condition known as anencephaly) human? After all, changes in the brain are one of the defining features of our emergence as Homo sapiens, and the brain is what makes us recognizably alive and able to operate. The same question could be asked of people who are brain dead.

And what about robots? If a robot could think and feel, if it had a conscience, would it be human? Or would its lack of genetic material render it forever "artificial?"

"For most people it seems to be that when I start changing your emotional structure significantly is when you stop being human," says Allenby. "But again, we may not tolerate psychopaths and sociopaths well, but we don't consider them not human. We may consider their lack of empathy disturbing, or possibly leading to criminal behavior, but we

don't consider them to be nonhuman. So when is somebody nonhuman? There's no answer to that."

Theology, philosophy and other areas of the humanities can enhance this conversation. For example, Tirosh-Samuelson adheres to a humanist perspective.

"(Humanism is a) worldview that values the existence of humans for its own sake … (and) emphasizes the human capacity to think symbolically, create language, imagine scenarios and abide by moral norms," she says.

She says that humans are complex and can make mistakes, but that technology shouldn't try to "improve" them; rather humanity is "an ideal we should aspire to."

She also sees being human as a holistic experience in which mind and body are interdependent. In her opinion, "human embodiment is very much what it means to be a human," and therefore she finds the transhumanist desire to dramatically alter or even do away with the human biological existence to be highly problematic.

Religion without revelation

Tirosh-Samuelson started studying transhumanism as part of her larger interest in the relationship between science and religion.

Since contemporary science is inseparable from technology, transhumanism offered the category within which she and her colleagues explored how science and technology function in contemporary culture. The book, "Building Better Humans? Refocusing the Debate on Transhumanism" (Peter Lang International Academic Publishers, 2012) presents the deliberations of ASU scholars engaged in the critical examination of transhumanism.

"A major contribution of the book is the attention to the religious dimensions of transhumanism, showing it to be secularization of age-old motifs and impulses," Tirosh-Samuelson writes.

The religious motifs in transhumanism are revealed in its rhetoric. Julian Huxley, the British evolutionary biologist and eugenicist who coined the term "transhumanism," described his idea as "a religion without revelation." In modern transhumanist circles, religious language is still present. The Singularity, for example, is suffused with religiosity – some versions bear a striking resemblance to the Christian Rapture.

"The transhumanist speculations about reality coming to an end, or the radical transformation of life, reflects a much older mentality that can be traced to antiquity, namely to Jewish and Christian apocalyptic movements," says Tirsoh-Samuelson.

Religious ideas such as immortality and the transcendence of the soul are mirrored in transhumanist projects of radical life extension and the transcendence of the physical body through uploading minds onto computers.

Cultural diffusion

In 2012, Tirosh-Samuelson teamed up with Ben Hurlbut, a science historian and assistant professor in ASU's School of Life Sciences, on a project called "The Transhumanist Imagination: Innovation, Secularization, and Eschatology." The project has led to an international conference at the Karlsruhe Institute of Technology in Germany, a special journal issue and a book, "Perfecting Human Futures," which will be published next year.

The researchers used case studies to understand the social impact of transhumanist ideas and their relevance to our understanding of politics.

One of the cases was Singularity University (SU), a program that "tries to do all the things it thinks universities ought to be doing but aren't doing. It's sort of a Silicon Valley startup version of a university," says Hurlbut.

Although it's not explicitly focused on transhumanism, one of the program's founders, Ray Kurzweil, is a noted transhumanist.

The SU slogan, and the problem put to all of its students, is "How can you improve the lives of a billion people?" In some sense, this harkens back to the religious rhetoric of more explicitly transhumanist ventures, branding technology as salvationary. The SU also presents an interesting asymmetry, where the lives of the "billion" are shaped by the visions of a small, select group – it's a vision of progress where "progress comes from the small number of technological elite and is then produced for and provided to a wider world," says Hurlbut.

Ideas of technological change and disruption are not limited to transhumanism, however. Rather, as Hurlbut writes, "(transhumanism) refracts questions and anxieties that have come to loom large in scientific and technological societies in the last several decades." Because of this, a lot of transhumanist ideas reflect wider preoccupations in modern culture that significantly affect economics and politics.

"One of the reasons I'm really interested in the transhumanist imagination (is) it's not some self-contained niche thing, it's actually drawing upon and trading in a set of ways of thinking about technological change, progress and the public good, that are much more widespread," says Hurlbut. "When we talk about innovation, we're talking about economic growth. We're talking about the strength of a nation-state. We're talking about the future. Many countries are thinking in precisely these terms."

Transhuman interests inspire and are inspired by other areas of society, too, where technology is "challenging established ideas of, and relationships within, human life," writes Hurlbut. For instance, companies are replacing many human employees with machines, and virtual worlds are becoming increasingly entangled with very real legal, scientific and social issues.

The widespread unease and uncertainty surrounding technology's impact on society is revealed in many modern narratives where technology is seen as either causing crisis, curing it, or both. Many popular movies (Transcendence), video games (Deus Ex) and books (Neuromancer) also grapple with these concerns.

"Transhumanism is itself an expression of these ways of thinking," writes Hurlbut, "but it takes these tropes and repackages them … (into) technocratic predictions of what the future of humanity will be, and an ethical account of what it should be, all wrapped into one."

Provided by Arizona State University