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# Cyborg rights: Tech progress brings questions of discrimination

Futurists say biggest obstacle to widespread cyborg adoption is stigma and fear of human-computer conjoinment



Neil Harbisson, 34, lives with an antenna fixed to his skull. The preeminent "cyborg" uses the device to interpret sounds from colours. (SYSTEM / LARS NORGAARD)

By **ALEX BALLINGALL** News

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Cyborgs are people, too.

That's part of what Neil Harbisson wants the world to realize. The 34-year-old lives with an antenna fixed to the back of his skull, and it sometimes restricts where he's allowed to go. Certain shops, churches, casinos and the like have blocked his entry, and once he was nearly prevented from getting a new passport photo. But the trade-off, he said, is more than worthwhile.

Thirteen years after the artificial protuberance was drilled to his cranium, Harbisson is one of the world's pre-eminent cyborgs, a futurist thinker who travels from city to city to defend his choice to enmesh his body with technology and promote a future where anyone is free to follow his lead. The device serves as an "extra sense" by translating light frequencies picked up by a sensor into tones that vibrate inside his head from the base of the antenna. In this way he can [perceive colour as sound](#), an ability that he uses to paint in shades he associates with notes from music and political speeches. Harbisson and his collaborator Moon Ribas, a dancer with an [earthquake-sensing chip in her arm](#), will be at Massey Hall Saturday as part of Generator, the second annual science-based variety show created by Canadian astronaut Chris Hadfield.

"We give talks non-stop to normalize this, so that people understand that it's not bad to merge with technology and also that we are all free to decide," Harbisson told the Star. "You can become the species that you want to be, that you feel you are."

Harbisson is among an emerging host of thinkers—researchers, artists, futurists, aestheticists—who believe we're entering the era of the cyborg, a term used to describe the incorporation of computer technology with the human body. As Harbisson explained, human beings have always been in a state of evolutionary flux, from microbes through to homo sapiens. The addition of computers into our biology, he argues, is the next step along the evolutionary spectrum, an inevitable stage in the progress of our species that some call "transhumanism."

The origins of these ideas can be traced back several decades. Since the 1980s, Steve Mann, a professor at the University of Toronto, has tinkered with augmented reality eye-glasses that led

to him being dubbed a “cyborg.” And in 1998, British researcher [Kevin Warwick](#) was hailed as the first person to be implanted with a silicon chip that would turn on lights when he entered a room.

Today, alongside artists like Ribas and Harbisson, there is the “biohacker” or “Grinder” subculture, where people modify their bodies with computer technology and espouse a philosophy that demands such procedures to be safe, affordable and available through open source research. Examples of such “human augmentation” procedures include the installation of magnet-activated LED lights under the skin, as well as implantable devices that can read medical data like one’s heart rate and transmit it to the Internet.

“There are lots of people thinking about this,” said Nikolas Badminton, a futurist in Vancouver who has a chip in his left hand that acts as a key card to his office door. And while it remains a fringe practice, Badminton predicts that “human augmentation” will become more affordable and join the mainstream culture in the years to come — much like the widespread adoption of mobile phones and tattoos. But in the short term the main obstacle is the risk of discrimination, he said — the “weird out” factor.

“When I got my chip, I got a lot of abuse online, people claiming that I was the anti-Christ,” Badminton said. “If you do take the step forward to become a cyborg, you’re an outcast from the beginning.”

Mann, the U of T professor, claimed in 2012 that he was approached by an “erratic” man who tried to pull off his EyeTap glasses device in a Paris McDonald’s. He is now one of the proponents of a “Human Augmentation Code” to protect the rights and responsibilities of people who choose to equip their bodies with computer technology. This includes the proclamation that people should have the right to create their own “digital identities” through the use of cameras and instruments that collect information, as well as the right to know when and how they’re being recorded.

Toronto filmmaker Rob Spence has experienced these issues first-hand. Spence lost his eye after it was badly damaged in a shotgun accident when he was 9, and since 2009 he has occasionally worn a specially-made fake eye that’s equipped with a miniature camera. He said while many people are intrigued by the novelty of the camera-eye, others are frequently put off and concerned about being recorded.

“My right to have a video camera eye overlaps other people’s right to have privacy. There’s no easy way around that,” Spence said.

But much like growing comfort with perpetual Internet connectivity—not to mention the

ubiquity of camera-enabled smartphones—Spence expects that social norms will change to accommodate devices that people incorporate into their bodies. Harbisson agreed, believing that most people living today are already “psychological cyborgs” because of their proximity to, and reliance upon, the information matrix of the web.

Steven Mizrach, a professor at Florida International University, said in an email that he believes human beings have been conjoining with technology for thousands of years, whether it is through the advent of clothing, the use of tools and weapons or the widespread adoption of automobiles and computers. The big question, for him, is whether anything will be lost as these connections become more intimate and physical, melding the organic and the artificial in a way that gives us control over how we look, what abilities we have, and maybe even how we think.

“What aspects of humanity might we be giving up?” he asked. “What makes us human?”

The answer might get complicated sooner than you think.

*For tickets and more information on Generator, see <http://www.generatorevent.com> .*

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