From stone dildos to sexbots—how technology is changing sex

July 2 2018, by Dave Parry

As the TV series Westworld wraps up its second season, the show continues to spark discussion about a potential future that involves lifelike sex robots.

Meanwhile, Australia's largest adult sexuality and lifestyle expo, SEXPO , is making its way around the country with the theme "Feel the Future" – a nod to all things sex and tech.

But while more lifelike sex dolls are beginning to hit the market, they aren't the only innovations on the horizon.

What's next for sex?

The use of technology to enhance sexual pleasure is ancient.

A stone dildo discovered by researchers in a German cave dates back 28,000 years. And sculptures with strong erotic imagery from more than 35,000BC are thought by some scientists to be an early form of pornography.

The main technologies that are likely to be important for developments in sex over the next few years are:

- Increasing miniaturisation of motors and batteries for stimulation and to simulate human movement,

- improved touch-based (haptic) interfaces, virtual reality and brain computer interaction,
- materials development, such as skin that stretches, and
- artificial intelligence for control and response.

Sex aids

Sex aids for solo or coupled sex remain extremely popular. More natural skin-like covers, ranges of movement, battery life and wireless control are major areas of innovation.

Devices such as the We-Vibe have gone mainstream, and are now sold by Amazon.

But, as with many technologies, hi-tech sex aids have their downsides. The manufacturer of We-Vibe recently settled a class-action law suit following allegations the company breached users privacy by remotely tracking use of the device.

Teledildonics

New technologies can facilitate sex with a partner who is present, a partner who is distant, as well as solo activity. These aspects merge in the field of teledildonics, which involves partners getting together without being together.

Teledildonics is an extension of web-cam or phone sex. Remotely controlled sex toys can be used to facilitate pleasuring a partner when they are not there.

We may see apps like Tinder and Grindr move in this direction, limiting perceived risks associated with physical contact. Sexy Vibes – an

alternative to Tinder – already works by turning a phone into a vibrator.

Virtual reality

Since a lot of sexual pleasure is experienced in the brain, advances in virtual reality that make a simulated sexual encounter more realistic and engaging may be more important than anatomically accurate physical devices.

You might be familiar with online games where people change gender, appearance, and even species as they wish. Sex is already relatively common in games such as World of Warcraft, and there are a huge range of sex-games available.

Virtual reality could remove the need to have any link to the real world whatsoever.

Sexbots

Sexual robots that behave like humans are a staple of science fiction. Without going into the ethical questions surrounding their development – which have become the subject of activist campaigns – sexbots to the fictional standard are difficult to make and suffer from the "uncanny valley" effect effect. They are close to human, but noticeably different.

And once you have built a sexbot, you need some way of controlling its behaviour. A distant partner may be one approach, a pre-programmed "digital prostitute" may be another. It is possible to imagine a future where one could personalise a robot using 3-D printing and a set of prebuilt responses to appear and act like a particular human being.

Alternatively, advances in machine learning could enable a sexbot to

change its behaviour in response to the desires and actions of the user, constructing a completely artificial personality.

Voice interfaces, such as Amazon's Alexa, are already reliable. Haptic interfaces could be used to stimulate behaviour, along with gesture recognition or even brain-computer interfaces.

It's possible we may see a future where robots are considered more understanding than humans, encouraging people to share intimate details about themselves more readily.

A sexual response Turing test

The fully fledged sexbot that can be mistaken for a human is still beyond current technology.

Major barriers to this include duplicating the kind of human movement that depends on hundreds of muscles, the development of skin that can feel, and the creation of a nervous system that can respond to stimuli.

Even in ten years time, it is unlikely that the movement and appearance of people could be duplicated unless there is a breakthrough in artificial muscle design and biomimetic materials.

A sexbot that could pass a "sexual response Turing test" – much like Google's Duplex is able to pass as a human caller – would be much easier to develop in a virtual world.

Beyond pleasure

Some new technologies may have benefits that go beyond just pleasure. These tools might be used to help people with concerned about genital

function, appearance or type.

There are already a wide array of prosthetic penises and vaginas, often marketed for transgender people. Adding feeling to function – by using biomimetics and sensory feedback – may make them more acceptable than surgery for some people.

Sex and technology link in many different ways – whether its helps overcome a disability or separation from a loved one, or is simply be a way to increase pleasure and excitement. In the future, physical technologies may be complementary to virtual ones, and fantasy might trump realism in their design and use.

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