

## Sex with robots? Androids are coming to our bedrooms and boardrooms

“Because I want an android body. I WANT immortality. I’ll live forever, Captain. I’ll be young and beautiful.”

So said Lieutenant Uhura on *Star Trek* (episode [I, Mudd](#), 1967) after being offered to have her brain put into an android body with a warranty of 500,000 years. In the episode, androids on a distant planet were talking about surgical transplantation of a human brain into the android body, but “brainy” people today are talking about mind uploading. It might be a tall order right now, but it could be possible at some point.

In the meantime, androids without human minds are making their way from science fiction to science reality. Short of becoming an android, might you eventually be friends with an android, have sex with an android, even marry an android replica of your long-lost spouse? The world of science fiction and soap operas has dreamed up characters that have [done all these things](#), but how far off are they in real life?

The answer depends on which experience we’re talking about. Android sex is probably not very far in the future, but friendship and marriage depend on the type of computer mind inside the android. It’s not clear how close we are to creating a computer mind that is sentient –conscious and self-aware– but artificial intelligence (AI) technology is advancing swiftly. Sophisticated AI could allow for sentient androids, and the rapid advances in AI do make human mind uploading at least fathomable. So don’t get scared that androids will takeover and push humanity aside. Some day, you might be an android yourself.

### Humanized robots

If we are pondering an age of sentient androids, then building robots with human looking exteriors, but specialized for a limited number of functions, is merely the beginning. But the non-thinking, human-looking robot is the level we are reaching today. In Tokyo, an exhibit at the [National Museum of Emerging Science and Innovation \(Mirai\)](#) shows off some of the [most human looking android](#) robots ever produced. They have human looking body shapes, faces, and hair. They can recite museum exhibit material from a computer program, giving you the illusion that you’re watching and listening to a human being.

“Prostibots”, “robostrututes” or “sexbots” –any of these terms will do, and surely you can think of more. While the idea of an android prostitute may sound like something that won’t happen until the far future, it could be one of the applications of androids that we’ll see first, and there are few logical reasons why. While AI technology is not on the verge of producing an android that you could converse with the way you do with other people, the capability to make robots that look –and move and feel– just like humans is only [just a few years away](#). This would not be a cyborg –a being with a human brain meshed with numerous robotic body parts– but a non-thinking robot, programmed for sexual activity, essentially a very sophisticated sex toy, not an entity that could be an emotional partner.

In addition to the obvious ethical benefit over human prostitution is the health benefit. Being mindless machines, prostibots could be sterilized between uses, thus avoiding association between human prostitution and sexually transmitted diseases. The only problem is the expected price. Currently, there are

sophisticated sex dolls made of silicon and designed to look human, and these can cost several thousand dollars. A sex android could use similar doll technology and add the needed motors, breathing, body fluids, and computers to control it. That would mean a price tag of tens of thousands of dollars. Given the sad state of affairs regarding human sex trafficking, from an economic standpoint, the type of prostibots likely to appear in the next few years will probably end up as toys for the wealthy. They're not likely to replace human prostitution.

## Smart androids

Now, when we really imagine androids, most of us think of the super-intelligent human-looking beings that science fiction has dreamed up, such as Star Trek's Data. To get there the field of AI needs to advance significantly. It is common these days for futurists to predict how much time it will be until humans create certain technologies imagined by science fiction. The predictions are made by calculating the present rate of technological progress in phenomena, such as computing power and speed. However, since they cannot really know anything about the obstacles that programmers and engineers will face along the way, the predictions are often wrong. In 2000, the popular futurist, transhumanist author Ray Kurzweil [predicted](#) this:

*By 2009, computers will disappear. Visual information will be written directly onto our retinas by devices in our eyeglasses and contact lenses. In addition to high resolution virtual monitors appearing to hover in space, these intimate displays will provide full-immersion visual virtual reality. We will have ubiquitous very high bandwidth wireless connection to the Internet at all times. "Going to a Website" will mean entering a virtual reality environment—at least for the visual and auditory senses—where we will meet other real people. There will be simulated people as well, but these virtual personalities will not be up to human standards, at least not by 2009. The minuscule electronics powering these developments will be invisibly embedded in our glasses and clothing. Thus we won't be searching for our misplaced mobile phones, Palms, notebooks, and other gadgets.*

## Becoming an android: Human mind uploading

While many of those predictions certainly could come true in the years to come, clearly they were too optimistic in 2000. When it comes to predicting when sentient computers will appear, things get even harder. Conventional computer programming is advancing at warp speed and works very well for a wide range of applications, from interpreting medical imaging data to controlling spacecraft, but the programmer needs to understand the system that the programming is designed to control. That simply does not work when the goal is to build a mind that learns, develops, and eventually thinks for itself. For this reason, AI scientists are using strategies inspired by evolutionary biology and neuroscience.

At the time of the Wright brothers, nobody could predict how long it would take before the first human moon landing. Similarly, today, we don't know how long it will take for sentient machines to appear. All we can say is that, at some point, a sentient, artificial mind will probably be created. When that happens, it will raise numerous ethical and legal questions about personhood and human rights (or android rights), and

we'll get into that issue in part II of this series.

## **Becoming androids ourselves**

Surely, one of the most intriguing possibilities related to androids is the prospect that humans could be able to [upload their minds](#) into a computer brain. In recent years, this idea has been [discussed](#) in relation to computers giving us the idea that, after death of the body, human consciousness could be persevered in a computer with undefined connections to the outside world. The disembodied mind might remain active and flourish through an ability to access and interact with the internet, for example.

The mere suggestion of mind uploading raises some fascinating questions in both neuropsychology and philosophy. When a computer file is uploaded, a copy is made, so there is now one copy at the old location and another at the new located (where it was uploaded). Where then would your consciousness be located, in the old brain that eventually dies, or in the computer where it was uploaded? Or, would there be two of the same person—dual existence? The answer is not clear, and we may not know until somebody actually does the experiment.

What is clear though is this: If and when mind uploading is achieved, if a person's ego can actually be transferred into a computer, then people will certainly want the receiving computer to give them as close to the usual human experience as possible. As Uhura said on Star Trek, she wants to live forever, but also to remain young and beautiful. A computer in an android body certainly would meet that preference better than anything.

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