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FINDINGS

Our Lives, Controlled From Some Guy's Couch

By [JOHN TIERNEY](#)

Until I talked to Nick Bostrom, a philosopher at [Oxford University](#), it never occurred to me that our universe might be somebody else's hobby. I hadn't imagined that the omniscient, omnipotent creator of the heavens and earth could be an advanced version of a guy who spends his weekends building model railroads or overseeing video-game worlds like the Sims.

But now it seems quite possible. In fact, if you accept a pretty reasonable assumption of Dr. Bostrom's, it is almost a mathematical certainty that we are living in someone else's computer simulation.

This simulation would be similar to the one in "The Matrix," in which most humans don't realize that their lives and their world are just illusions created in their brains while their bodies are suspended in vats of liquid. But in Dr. Bostrom's notion of reality, you wouldn't even have a body made of flesh. Your brain would exist only as a network of computer circuits.

You couldn't, as in "The Matrix," unplug your brain and escape from your vat to see the physical world. You couldn't see through the illusion except by using the sort of logic employed by Dr. Bostrom, the director of the Future of Humanity Institute at Oxford.

Dr. Bostrom assumes that technological advances could produce a computer with more processing power than all the brains in the world, and that advanced humans, or "posthumans," could run "ancestor simulations" of their evolutionary history by creating virtual worlds inhabited by virtual people with fully developed virtual nervous systems.

Some computer experts have projected, based on trends in processing power, that we will have such a computer by the middle of this century, but it doesn't matter for Dr. Bostrom's argument whether it takes 50 years or 5 million years. If civilization survived long enough to reach that stage, and if the posthumans were to run lots of simulations for research purposes or entertainment, then the number of virtual ancestors they created would be vastly greater than the number of real ancestors.

There would be no way for any of these ancestors to know for sure whether they were virtual or real, because the sights and feelings they'd experience would be indistinguishable. But since there would be so many more virtual ancestors, any individual could figure that the odds made it nearly certain that he or she was living in a virtual world.

The math and the logic are inexorable once you assume that lots of simulations are being run. But there are a couple of alternative hypotheses, as Dr. Bostrom points out. One is that civilization never attains the technology to run simulations (perhaps because it self-destructs before reaching that stage). The other hypothesis is that posthumans decide not to run the simulations.

“This kind of posthuman might have other ways of having fun, like stimulating their pleasure centers directly,” Dr. Bostrom says. “Maybe they wouldn’t need to do simulations for scientific reasons because they’d have better methodologies for understanding their past. It’s quite possible they would have moral prohibitions against simulating people, although the fact that something is immoral doesn’t mean it won’t happen.”

Dr. Bostrom doesn’t pretend to know which of these hypotheses is more likely, but he thinks none of them can be ruled out. “My gut feeling, and it’s nothing more than that,” he says, “is that there’s a 20 percent chance we’re living in a computer simulation.”

My gut feeling is that the odds are better than 20 percent, maybe better than even. I think it’s highly likely that civilization could endure to produce those supercomputers. And if owners of the computers were anything like the millions of people immersed in virtual worlds like Second Life, SimCity and World of Warcraft, they’d be running simulations just to get a chance to control history — or maybe give themselves virtual roles as Cleopatra or Napoleon.

It’s unsettling to think of the world being run by a futuristic computer geek, although we might at last dispose of that of classic theological question: How could God allow so much evil in the world? For the same reason there are plagues and earthquakes and battles in games like World of Warcraft. Peace is boring, Dude.

A more practical question is how to behave in a computer simulation. Your first impulse might be to say nothing matters anymore because nothing’s real. But just because your neural circuits are made of silicon (or whatever posthumans would use in their computers) instead of carbon doesn’t mean your feelings are any less real.

[David J. Chalmers](#), a philosopher at the Australian National University, says Dr. Bostrom’s simulation hypothesis isn’t a cause for skepticism, but simply a different metaphysical explanation of our world. Whatever you’re touching now — a sheet of paper, a keyboard, a coffee mug — is real to you even if it’s created on a computer circuit rather than fashioned out of wood, plastic or clay.

You still have the desire to live as long as you can in this virtual world — and in any simulated afterlife that the designer of this world might bestow on you. Maybe that means following traditional moral principles, if you think the posthuman designer shares those morals and would reward you for being a good person.

Or maybe, as suggested by [Robin Hanson](#), an economist at George Mason University, you should try to be as interesting as possible, on the theory that the designer is more likely to keep you around for the next simulation. (For more on survival strategies in a computer simulation, go to www.nytimes.com/tierneylab.)

Of course, it’s tough to guess what the designer would be like. He or she might have a body made of flesh or plastic, but the designer might also be a virtual being living inside the computer of a still more advanced form of intelligence. There could be layer upon layer of simulations until you finally reached the architect of the first simulation — the Prime Designer, let’s call him or her (or it).

Then again, maybe the Prime Designer wouldn't allow any of his or her creations to start simulating their own worlds. Once they got smart enough to do so, they'd presumably realize, by Dr. Bostrom's logic, that they themselves were probably simulations. Would that ruin the fun for the Prime Designer?

If simulations stop once the simulated inhabitants understand what's going on, then I really shouldn't be spreading Dr. Bostrom's ideas. But if you're still around to read this, I guess the Prime Designer is reasonably tolerant, or maybe curious to see how we react once we start figuring out the situation.

It's also possible that there would be logistical problems in creating layer upon layer of simulations. There might not be enough computing power to continue the simulation if billions of inhabitants of a virtual world started creating their own virtual worlds with billions of inhabitants apiece.

If that's true, it's bad news for the futurists who think we'll have a computer this century with the power to simulate all the inhabitants on earth. We'd start our simulation, expecting to observe a new virtual world, but instead our own world might end — not with a bang, not with a whimper, but with a message on the Prime Designer's computer.

It might be something clunky like "Insufficient Memory to Continue Simulation." But I like to think it would be simple and familiar: "Game Over."

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