

## 21C Are we living in a simulation?

### Introduction

In the 1998 movie *The Truman Show* Jim Carrey plays Truman Burbank, a young man whose entire life has been lived out in an elaborately staged setting for other peoples' TV entertainment, the ultimate reality-fantasy. For the show to continue successfully, Truman must never learn the truth of his situation. In the end, Truman discovers that everything around him was fake, constructed for the show, and that every person in his life was an actor.

In *The Matrix* movies the character Neo learns that he, along with earth's inhabitants, has been living in a simulation. He is faced with a choice: Take the red pill and discover the ugly world outside the simulation, or take the blue pill and remain content within the simulation.

Is it possible, ask many in the computer science world, that we are actually living in a simulation deliberately created by a more advanced civilization for their own research or amusement? The extreme picture is that of a brain in a vat, with cables to a computer.

*In The Matrix, human brains are tied to computer software systems. In effect, they are "world simulators" complete with full sensory stimulation to the brain that impacts volitional motor acts.*

*Computer simulation is a dramatic and compelling idea. Imagine human life and brain function completely reliant on a computer. This is where philosophers enter the picture to answer the many subsequent conundrums. It is the stuff of science fiction for sure, to many, but can it really be dismissed as fluff? [1]*

*Elon Musk thinks we're living in the Matrix. "If you assume any rate of improvement at all, games will eventually be indistinguishable from reality," he told Joe Rogan in 2018, before somehow concluding: "We're most likely in a simulation." In an interview with NBC, Neil deGrasse Tyson said there's "better than 50-50 odds" that Musk is right. "I wish I could summon a strong argument against it, but I can find none." [2]*

Philosopher Nick Bostrom popularized the simulation idea with a three-part argument:

*Many works of science fiction as well as some forecasts by serious technologists and futurologists predict that enormous amounts of computing power will be available in the future. Let us suppose for a moment that these predictions are correct. One thing that later generations might do with their super-powerful computers is run detailed simulations of their forebears or of people like their forebears. Because their computers would be so powerful, they could run a great many such simulations. Suppose that these simulated people are conscious (as they would be if the simulations were sufficiently fine-grained and if a certain quite widely accepted position in the philosophy of mind is correct). Then it could be the case that the vast majority of minds like ours do not belong to the original race but rather to people simulated by the advanced descendants of an original race...*

*A technologically mature “posthuman” civilization would have enormous computing power. Based on this empirical fact, the simulation argument shows that at least one of the following propositions is true: (1) The fraction of human- level civilizations that reach a posthuman stage is very close to zero; (2) The fraction of posthuman civilizations that are interested in running ancestor- simulations is very close to zero; (3) The fraction of all people with our kind of experiences that are living in a simulation is very close to one. If (1) is true, then we will almost certainly go extinct before reaching posthumanity. If (2) is true, then there must be a strong convergence among the courses of advanced civilizations so that virtually none contains any relatively wealthy individuals who desire to run ancestor-simulations and are free to do so. If (3) is true, then we almost certainly live in a simulation. [3]*

Bostrom’s primary (but unproven) assumption is that consciousness is possible in a machine:

*A common assumption in the philosophy of mind is that of substrate- independence. The idea is that mental states can supervene on any of a broad class of physical substrates. Provided a system implements the right sort of computational structures and processes, it can be associated with conscious experiences. It is not an essential property of consciousness that it is implemented on carbon-based biological neural networks inside a cranium: silicon-based processors inside a computer could in principle do the trick as well. [4]*

David Kyle Johnson writes-

*Why do some philosophers think this might be true? First of all, simulated universes are possible and could be created in our own universe. The more we learn about the brain, the more it is evident that our mental life, as well as our actions, result from the neural activity of our brains. We also have discovered that such neural activity can be reproduced using computer chips; such silicon-based chips are nearly identical to the carbon-based neurons that make up our brains. Not only does this technology make androids—minded physical beings with silicon based brains—possible, but minded beings whose neural configuration is found solely on a computer hard drive are also possible. Such beings could be introduced to a computer simulated universe, even en masse, and would interact with it in the same way we interact with our universe—even believing it to be a physical reality. The rate of progression in technological development makes the possibility of such computer simulation universes likely. Primitive versions can already be found in The Sims games. Additionally, motivations for the creation of such universes are almost endless. Future academics could potentially use them to study history, politics, economics and human behavior. One could end debates on the consequences of proposed legislation by observing how such legislation affects a computer simulation of our universe. One could even figure out how the world would be different if Hitler had won WWII by programming a computer simulation that replicates the conditions of a 1940s earth and gives Hitler knowledge of the D-Day invasion...*

*And in a multiverse where there are a million simulated universes but only one real one, given the fact that the inhabitants of a simulated universe can’t tell that it is simulated, one should conclude that one’s own universe is simulated. In short, by creating a simulated universe, we will have established that there are likely millions of simulated universes, and only one real one.*

*Given that we can't tell if our universe is simulated, we will be forced to conclude that it most likely is. It would be a million to one chance that it is not. By creating a simulated universe, we will have proven that it is most likely that we inhabit one. Of course, all societies may destroy themselves before becoming that advanced, or they may be opposed to such simulations for moral reasons, but they are equally likely to develop them. [5]*

Jonathan Bartlett adds-

*There's kind of a faulty logic that goes to why a lot of people think we live in a simulation. Let's say that there's only one actual universe, but then we figure out how we can simulate a universe. Well, as soon as we can simulate a universe, if we successfully simulate that universe, that means that in that universe that we're simulating, there are going to be creatures who figure out how to simulate a universe. And as soon as that happens, we're going to have more simulated universes than we have actual universes, and therefore, your chances of winding up in a simulated universe are actually much higher than your chance of existing in the actual universe. And that's the logic that's oftentimes used. [6]*

*And it gets even weirder. [Joshua] Rothman suggests that the original programmers of our simulated reality could "find it interesting to watch us fight the battles they have already lost or won." Others have suggested that perhaps thousands or even millions of simulations are running at the same time. Philosopher Eric Steinhart speculates in his book Your Digital Afterlives that simulations are nested within other simulations. Within this "great chain of being," some people could be "promoted" to a higher reality when they die, attaining a kind of immortality or "resurrection." On a darker note, if the "computational cost" on our creators' processors ever becomes too great, perhaps they'll simply pull the plug on all of us.*

*If this all begins to sound a bit metaphysical, Rothman agrees. One of the appeals of simulation theory, he thinks, is that it "gives atheists a way to talk about spirituality," or something like it. It offers "a source of awe." It even brings up similar questions for our simulators that one might ask of God: "Why did they create us? Why did they allow evil in their simulation?" "Why are we here?" And perhaps even, "Do they love us?" [7]*

## Practical issues

Mathematician Jonathan Bartlett points out a major difficulty with the simulation idea: There's simply not enough computing power available:

*The problem with that is that it always takes more stuff to simulate something than the thing that you're simulating. For example, I can make a model of atoms moving around, but it actually requires entire computers, which are all made of trillions of atoms, to make that simulation. And so you actually wind up with a space problem that you can't simulate as much as you have reality. And so even if you could make a perfect simulation of reality, it would have to be a smaller reality than what you're simulating it with. [8]*

*In Reality+*, [David] Chalmers doesn't give much actual detail of how computers are going to create the entire universe, beyond the fact that Call of Duty games are better than they were in 2003, time and the market will bring further improvements, and time and the market will presumably keep going for a good long while. [9]

## Philosophical issues

Explaining the simulation hypothesis quickly exposes its flaws:

1. There are no computers and no software capable of simulating the entire universe outside oneself (which is why the idea invokes some advanced (intergalactic or extradimensional) civilization. With virtual reality systems we can create part of a Roman village or the equipment in a welding lab, but we can't begin to simulate an entire city with every possibility of interaction.
2. Simulators are involved as "machines of deception."

*Two issues arise. The first is that the simulation becomes lost in the maze of conjecture. It becomes minimized and overlooked. The second is that simulations are deemed unreal in principle. They have no ontological status. It all leads to complexity and confusion...*

*A third issue now arises: the import of the problem on Christian belief and the nature and role of God. It would be hard to preserve traditional Christian values in the face of an odd hypothesis with little concrete evidence beyond philosophical "arguments". It may not be plausible to prove or accept Simulation Theory without severe consequences. [10]*

3. Anomalies may arise

J. Werner Wallace writes-

*According to Dr. [Preston] Greene, one way to test the [simulation] theory is to look for anomalies in the computer simulation. For example, a future scientist might make a mistake in the program that would result in a flaw we might experience today. If this theory is true, a single scientist's error in programming might result in a devastating tornado or in some human misbehavior. Greene warns, however, that we shouldn't test the simulation. In fact, he says that testing the simulation might anger the future programmers who are watching us: "If our universe has been created by an advanced civilization for research purposes, then it is reasonable to assume that it is crucial to the researchers that we don't find out that we're in a simulation. If we were to prove that we live in a simulation, this could cause our creators to terminate the simulation-to destroy our world." [11]*

Wallace goes on to observe that Greene's analysis shows that he believes that (1) someone has the ability to create our entire world, (2) fallenness in the form of a programming imperfection is to be expected, and (3) advanced programmers would take their anger out on us. [12]

4. "Simulation theory... makes the massive assumption that consciousness can arise from and be transferred through matter. And yet, it never explains the origin of consciousness in the first place." [13]

## Theological issues

What does Christian theology have to say to simulation theory? Michael Warren Davis suggests-  
*[The answer is] what we might call Christian realism, which boils down to three main principles.*

1. *God is the absolute reality. He is the True, the Good, and the Beautiful—the standard by which truth and goodness and beauty are measured. For instance, if man is defined by his relationship with God, then he is fundamentally the imago Dei: a creature made in God's own image and likeness. He created us to serve Him in this life and to be happy with Him in the next. That's what man is. That's why man is.*
2. *The universe is basically reasonable or intelligible. You can basically trust your senses. Everything is more or less as it appears—even when it isn't. Take miracles. Because God is the creator of everything, He's able to "break" his own laws, just as an artist is able to alter his own painting.*
3. *Man is governed by certain unalterable laws, which he knows intuitively. (His conscience is one of those trustworthy "senses.") Obedience to these laws is known as virtue. Virtue is conformity to the good. Evil is never expedient, because God, who created these laws, is the source of all goodness. Man can't flourish by defying Him any more than a boat can sail away from the sea.*

*Put simply, "realism" refers to followers of Plato and Aristotle. They're a minority in ancient Rome, though their numbers include great thinkers like Cicero. Realism only becomes the dominant Western philosophy during the Christian era, thanks to the efforts of figures like Justin Martyr, Augustine, Boethius, and Anselm. Realists fight among themselves a bit during the Middle Ages, with some (like Aquinas) favoring Aristotle and others (like Bonaventure) favoring Plato. But later Christian realists like Erasmus, Pascal, and Newman rarely keep up the old divisions.*

*"Realism" was originally used in reference to the problem of universals. I'm using it a little more broadly here, because Christians have lately found themselves defending commonsense things against pointless doubts. We believe the external world is quite real—unlike Descartes, with his radical doubts. We believe that a rose is really beautiful—unlike Hume, who thought beauty is simply a matter of taste. We believe that some practices, like pedophilia, are truly evil—unlike Foucault, who thought of them as mere taboos. We believe that God is real—unlike Marx, who called Him a delusion, or Freud, who said He was a complex. And we believe He's very much alive—unlike Nietzsche, who's quite dead. [14]*

Scott Arledge and Brian Thomas make these points:

- 1) *If we're just brains, someone could build machines to simulate or become conscious beings that weren't created by God. However, the Bible reveals you are more than neurons firing in a brain; you have both body and soul. Otherwise, Jesus wouldn't have admonished His disciples, "And do not fear those who kill the body but cannot kill the soul" (Mt. 10:28)...*
- 2) *Even the best AI hardware with twice the synapses of the brain—complete with advanced software—will never become a human being. Earthly devices cannot simulate spirits. The simulation argument is over before it even gets started.*
- 3) *Simulation proponents thus reject the idea that humans have an immaterial spirit. They conclude that a spirit wouldn't be of this universe, yet they appeal to a server running outside of the simulated universe. By definition their imaginary server isn't part of that universe and is therefore a supernatural server. The simulation argument is self-defeating...*
- 4) *Whoever writes such a code would need to know how the entire universe works—i.e., have godlike intelligence and ability. Psalm 19:1 should then say the heavens declare the glory of—the programmer. An evolved human "god" replaces Jesus Christ as Creator, and Jesus becomes an unimportant part of the simulation past and not Creator God. [15]*

Robert Marks observes that "There is an uneasy parallel with Judeo/Christian beliefs":

*Simulation requires a model and the Genesis account says God created man "in his own image." In that view, however, we are not the products of only DNA or other computer code. Algorithms are incapable of qualia, creativity or love." Those who believe we are simulations can believe life is too complicated to be explained by Darwin. Or the universe is too fine tuned to be explained by chance. There is no God, and panspermia, the belief that space aliens seeded life on Earth, is too whacky. So they reason, we must be a computer simulation. [16]*

Simulation theory suggests a Designer, if only a game-designer or simulation designer, but proponents aren't ready to call this "God."

*In seeing why the "simulation hypothesis" doesn't make sense, I think it helps to first notice that in many ways, it simply re-words the foundational concepts of theism in language more palatable to technophiles who don't think of themselves as religious. What, after all, is this hypothesis arguing? It's saying that the world we live in, the universe and all that we see and experience, was intentionally created by a human-like someone. It was designed. That someone is essentially omnipotent (if the world is a big computer program, presumably the programmer could reprogram it or turn it off). And if they wanted to, they could be omniscient, although perhaps they're not watching us all the time. They live outside the world we see. They are, then, an invisible creator-being who put all this here for a reason... [17]*

The world we live in appears designed but not quite perfect: injured/broken/fallen. The Bible has an explanation for this in the Fall. For the simulation believer, this lack of perfection is a large problem area—This is not the ideal simulation they would want to create.

## Scriptural analysis

The Bible clearly describes God's creating of the world, creating humans, and giving us actual choice. There is no game-playing here. We have real lives to live and an ultimate purpose of glorifying God.

The strongest physical argument against simulation is human consciousness and all that we understand about senses and motor (muscular) control. The complexity of the world is enormous.

## The Experience Machine

In 1974 Robert Nozick proposed a thought experiment related to choosing a simulated reality. He called it "The Experience Machine."

*Suppose there were an experience machine that would give you any experience that you desired. Superduper neuropsychologists could stimulate your brain so that you would think and feel you were writing a great novel, or making a friend, or reading an interesting book. All the time you would be floating in a tank, with electrodes attached to your brain. Should you plug into this machine for life, preprogramming your life's experiences?*

*If you are worried about missing out on desirable experiences, we can suppose that business enterprises have researched thoroughly the lives of many others. You can pick and choose from their large library or smorgasbord of such experiences, selecting your life's experiences for, say, the next two years. After two years have passed, you will have ten minutes or ten hours out of the tank, to select the experiences of your next two years.*

*Of course, while in the tank you won't know that you're there; you'll think it's all actually happening. Others can also plug in to have the experiences they want, so there's no need to stay unplugged to serve them. (Ignore problems such as who will service the machines if everyone plugs in.) Would you plug in? What else can matter to us, other than how our lives feel from the inside? Nor should you refrain because of the few moments of distress between the moment you've decided and the moment you're plugged. What's a few moments of distress compared to a lifetime of bliss (if that's what you choose), and why feel any distress at all if your decision is the best one. [18]*

Joseph Roberts considers the following problems:

- The Experience Machine suggests that hedonism-maximizing pleasure- is all that ultimately matters.
- We prefer to actually do given actions, rather than to simulate them or to simply sense the experience.
- We would no longer exhibit patience, compassion, or trustworthiness.
- We would no longer exhibit positive character traits or be a developing person.

- True interpersonal interactions with other living humans would be out of reach. It would be like ending one's life. [19]

## Conclusions

Many people today actually are living in a simulated reality for a large fraction of their lives. They've created a virtual life through Second Life or My Virtual Life. In many cases, their screen life seems more real than their actual life and they prefer their screen identity to their real identity.

Escape is not a good option. Life may be difficult, but we have the opportunity to encounter God Himself and to love actual people within the real world. This is what we were designed for.

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