“Taking The Red Pill”:
Exploring Nick Bostrom’s Simulation Hypothesis in *The Matrix* (1999)

Justin Smeya

HUMAH 1302: Honors Introduction to Humanities II

April 20, 2025

Abstract

This study explores the parallels between Nick Bostrom's Simulation Hypothesis (2003) and *The Matrix* (1999), with an aim to identify the religious and philosophical implications of viewing reality as a computer simulation. Bostrom, a philosopher and Oxford professor, argues that future civilizations, known as "posthumans," may one day use advanced technology to develop simulated realities indistinguishable from our own. Predating his hypothesis, the movie provides an influential perspective on this principle by showcasing a world in which artificial intelligence machines have imprisoned humanity into computer simulations. Examining the theoretical framework of Bostrom's hypothesis, this research analyzes how closely it aligns with the computer illusion depicted in *The Matrix*. Although the film's portrayal of a digital realm supports Bostrom's general idea of a computer-generated reality and reflects his emphasis on the need for advanced technology, it diverges in several ways. *The Matrix* presents a different account of how such a reality would function, who its creators and subjects would be, and whether multiple, nested simulations could exist. This study reveals the concerns with considering one is living in a computer simulation, which include the inevitable subjection to suffering, challenges toward the idea of free will, and the replacement of godly figures with simulation creators. Future research could assess the correlation, if not causal link, between an increase in technological advancements and the truth of Bostrom's hypothesis.

Although much of life on earth revolves heavily around instinct and survival, humans reign as outliers in the natural world. The human species has distinctively set itself apart through complex forms of communication, collaboration, and independent thought. Most notably, humans possess an exceptional quality of exploring the unknown by contemplating the origins of existence and questioning the possibility of life after death. While these existential reflections have long been concentrated through forms of religion and philosophy, they have also become heavily manifested in modern entertainment and explored through research and statistical analysis. Among the many theories born to explain the very fabric of existence, one stands out through its audacity: the idea that we are living in a computer simulation.

Written and directed by Lana and Lilly Wachowski, *The Matrix* (1999) is a science fiction film centered around a civilization trapped in a manipulative, artificial world. *The Matrix* places heavy emphasis on the central idea of a digital construct and serves as a cultural lens to examine the Simulation Hypothesis. Nick Bostrom, a philosopher and Oxford professor, proposed this argument in 2003, shortly after the movie's release, which aims to deconstruct the probability of whether any reality could be a virtual construct. Nick Bostrom's Simulation Hypothesis provides a strong framework to evaluate *The Matrix*'s parallels and reveals broader religious and philosophical implications of questioning reality.

Bostrom's hypothesis is a widely controversial subject in terms of religion, philosophy, and the origin of our existence. Thankfully, there is a rich plethora of information regarding the matter in the scholarly community, with scholars, philosophers, and physicists offering diverse perspectives. For additional clarification, Bostrom argues that at least one of three propositions is true:

i. The human species is very likely to go extinct before reaching a "posthuman" stage;
ii. Any posthuman civilization is extremely unlikely to run a significant number of simulations of their evolutionary history (or variations thereof);
iii. We are almost certainly living in a computer simulation.

Although Bostrom addresses numerous angles to his hypothesis, he seems to fall short of other perspectives.

Thankfully, scholars and philosophers have brought up a great deal of these implications regarding the hypothesis. In a paper inspired by Bostrom's argument, economist and author Robin Hanson offers a moral perspective in which he argues that accepting the Simulation Hypothesis involves disregarding the well-being of others and focusing on maximizing day-to-day outcomes on an individual basis. Additionally, Hanson argues that believing life to be a virtual environment may require a person to eventually become observed by a simulator, so increasing their presence in the artificial world is imperative. Moreover, in a paper refuting Bostrom's argument, scholar and author Dan Bruiger deems Bostrom's perspectives as "dubious" (as stated in the title of each analysis section) since they are based on numerous assumptions that are nearly impossible to empirically approach in today's society. Physicist and author Sabine Hossenfelder does not deem the Simulation Hypothesis as a serious scientific argument, mainly since it makes drastic assumptions on the digital replication of a world's natural processes, which aligns with Bruiger's perspective. Notably, in a paper discussing various ideas of computer fabrications, philosophy professor Eric Schwitzgebel determines that the creators would, to some extent, fit the concept of a monotheistic god with the power to create and destroy the world, stop time, interfere with individual lives, and all else. In reality, throughout history, and for many different communities, religion has been a driving factor in understanding or explaining the origins of the universe and the nature of our existence. The religious danger of assuming a

simulated reality thus boils down to the idea of replacing a monotheistic god with a posthuman behind a computer screen or similar. Furthermore, philosopher and economist Peter Boettke discusses free will by exploring themes in *The Matrix*. Freedom of decision-making is exceptionally important in Bostrom's argument, as a false reality raises numerous philosophical questions regarding free will in humankind.[1]

Overall, while Nick Bostrom's simulation argument provides a captivating perspective on the nature of our existence, numerous scholars have had much to say regarding the ethical, religious, and philosophical implications of considering a fabricated reality through Bostrom's hypothesis. These authors address societal moral perspectives, the hypothesis's lack of falsifiability, and the comparison of a monotheistic God to a posthuman observer. These concerns and perspectives can be aligned with the central theme of *The Matrix* and its virtual world.

The Matrix

As previously mentioned, *The Matrix*'s central theme lies in the deception of society through the veil of a computer simulation. The film[2] follows Thomas Anderson, an IT professional by day, and an underground hacker, Neo, by night. Neo is plagued by a feeling that something is deeply wrong with the world and becomes restless in uncovering the meaning behind the cryptic messages he discovers on his computer. He is contacted by a group of hackers

---

[1] Nick Bostrom, "Are You Living In A Computer Simulation?" *The Philosophical Quarterly* 53, no. 211 (2003): 1, https://simulation-argument.com/simulation.pdf; Robin Hanson, "How To Live In A Simulation," Robin Hanson, June 26, 2001, https://mason.gmu.edu/~rhanson/Lifeinsim.html; Dan J. Bruiger, "A Refutation of the Simulation Argument," (2023): 2-4, https://philarchive.org/archive/BRUARO-6; Sabine Hossenfelder, "The Simulation Hypothesis is Pseudoscience," Backreaction, February 13, 2021, https://backreaction.blogspot.com/2021/02/the-simulation-hypothesis-is.html; Eric Schwitzgebel, "If We're Living in a Simulation, the Gods Might Be Crazy," *Slate Magazine*, June 25, 2022, https://slate.com/technology/2022/06/this-but-again-computer-simulation-theories.html; Peter J. Boettke, "Human Freedom And The Red Pill," in *Taking The Red Pill: Science, Philosophy, and Religion in The Matrix*, ed. Glenn Yeffeth, (Dallas, TX: BenBella Books, 2003), 153.

[2] *The Matrix*, directed by Lana Wachowski, and Lilly Wachowski (Burbank, CA: Warner Bros., 1999), DVD.

and introduced to Morpheus, a mysterious man labeled a terrorist by the authorities. Morpheus becomes Neo's mentor and offers him two paths in the form of two pills: the blue pill, representing blissful ignorance, and the red pill, representing truth and awakening. Neo takes the red pill. Upon doing so, he awakens in the real world, revealing that the reality he knew is nothing more than an elaborate computer program—the Matrix—designed by artificial intelligence machines to mask reality and keep humans under control to harvest their energy. The rest of the film follows Neo's journey in uncovering the Matrix and bringing freedom to humanity.

The Simulation Hypothesis

Proposed in 2003, Nick Bostrom's Simulation Hypothesis aims to deconstruct the probability of whether humanity's current reality is a mere digital environment. In his article, Bostrom initially clarifies and summarizes the argument:

> This paper argues that at least one of the following propositions is true: (1) the human species is very likely to go extinct before reaching a "posthuman" stage; (2) any posthuman civilization is extremely unlikely to run a significant number of simulations of their evolutionary history (or variations thereof); (3) we are almost certainly living in a computer simulation. It follows that the belief that there is a significant chance that we will one day become posthumans who run ancestor-simulations is false, unless we are currently living in a simulation.[3]

Essentially, he argues that there is a near certainty that humanity is living in a programmed world if it is eventually able to run detailed digital illusions that are indistinguishable from reality. If this is not the case, then the chance of reality being fabricated is near zero. Bostrom builds off the idea that "forecasts by serious technologists and futurologists predict that enormous amounts

[3] Bostrom, "Are You Living," 1.

of computing power will be available in the future."[4] Running full-fledged ancestor simulations would not be possible without these technological advancements. This is the most prominent assumption that lays the foundation for Bostrom's argument in its entirety.

Parallels

The Matrix's central theme lies in manipulating humankind through a digital illusion, and Bostrom's argument centers around the probability of any reality being an artificial world. With all of its complex details, the Simulation Hypothesis provides a framework for examining *The Matrix* to determine how well the two align. Although the film does agree with Bostrom's hypothesis in the general sense of simulated realities and technologically advanced civilizations, the film does not work well when considering computational costs to create the system, the entities and creators, the idea of nested realities, and the connection to the real world.

On the surface level, *The Matrix* strongly engages with Bostrom's argument, solely due to the general depiction of a false digital realm that is explored in both the film and the hypothesis. In the movie, in an introductory conversation with Neo, Morpheus tells him, "[The world you know] exists now only as part of a neural-interactive simulation that we call the Matrix."[5] Morpheus explicitly states that Neo's reality is a computer-generated environment, which directly agrees with Bostrom's argument since it rests on the idea of an artificial reality.

Regarding future requirements, both *The Matrix* and Bostrom agree with the idea of technologically advanced civilizations as a prerequisite to constructing simulated realities. Bostrom touches on the predisposition of this creation, writing, "One thing that later generations

---

[4] Ibid.

[5] *The Matrix*, 00:40:42.

might do with their super-powerful computers is run detailed simulations […]. Because their computers would be so powerful, they could run a great many such simulations."[6] His argument rests on the notion that, in the future, technological advancements are imperative to permit these constructs due to the system resources he mentions. This certainly aligns with the machine-sophisticated world that is presented in *The Matrix*. In the film, in a conversation regarding humanity's past, Morpheus tells Neo, "We marveled at our magnificence as we gave birth to A.I. […] The Matrix is a computer generated dream world built to keep us under control in order to change a human being into [energy]."[7] Morpheus emphasizes these vast digital developments, ultimately leading to A.I.'s control over the world and the harvesting of humans for energy. This undoubtedly aligns with Bostrom's requirement for large-scale power to run simulations. However, regarding minute details of the Simulation Hypothesis, *The Matrix*'s alignment varies in several ways. To clarify again, the film does not align with the hypothesis's concepts of costly operations, entities, creators, nested programs, and the connection to the real world.

Although *The Matrix*'s simulation is a product of machine advancement, efficient computing power is not as necessary for its functionality. Bostrom describes a virtual world's computing power (in terms of his own hypothesis), and identifies the main cost as the human brain, writing, "The main computational cost in creating simulations that are indistinguishable from physical reality…resides in simulating organic brains down to the neuronal or sub-neuronal level."[8] This structure is not consistent with the fabricated realm outlined in *The Matrix* because there is no need for formulating organic human minds. As a result, in the film's reality, humans

---

[6] Bostrom, "Are You Living," 1.

[7] *The Matrix*, 00:41:32.

[8] Bostrom, "Are You Living," 5.

are real biological entities subject to the machines' control rather than direct products of the simulation itself, which Bostrom argues would be the case. In his conversation with Neo, Morpheus says, "What is real? How do you define real? If you're talking about what you feel, taste, smell, or see, then real is simply electrical signals interpreted by your brain."[9] Although it is a computer-generated world, the Matrix's functionality lies in the manipulation of the human minds that are already present in reality. As previously discussed, Bostrom argues that the main cost of developing a digital fabrication would lie in the creation of the human mind. Since the Matrix does not entail the creation of human entities, it does not call for vast amounts of computing power. Thus, the technological limitations and demands of Bostrom's argument—in terms of creating organic, conscious minds—and the entities of a simulation cannot be applied to the digital reality in *The Matrix*.

Similarly, there are differences between the creators in the Bostrom's argument and the overlords in *The Matrix*. Bostrom argues that these creators are part of a posthuman civilization and explicitly points toward the idea that these posthumans are direct descendants of humans and therefore still part of the human race.[10] However, in *The Matrix*, the creators of the constructed reality are complete artificial intelligence machines and not direct descendants of humans, so they do not fall under the 'posthuman' category that Bostrom presents. Additionally, if one were to assume Bostrom held the notion that posthumans run ancestor simulations for the purpose of studying evolutionary history and scientific development (among other things), regardless of ethical concerns, *The Matrix*'s A.I. overlords would not align with Bostrom's posthumans. This

[9] *The Matrix*, 00:40:16.

[10] Bostrom, "Are You Living," 3.

largely results from the machine's inhumane control over the human population for harvesting resources. Overall, the facade's creators in *The Matrix* are inconsistent with the Simulation Hypothesis's idea of posthumans.

Another notable conflict between Bostrom's hypothesis and *The Matrix* is the idea of nested realities—a concept presented in the Simulation Hypothesis. Bostrom states that a digital realm, though seemingly real, "is not located at the fundamental level of reality."[11] According to Bostrom, this is because "it's possible to simulate a machine simulating another machine, and so on, in arbitrarily many steps of iteration."[12] Thus, the argument accepts the possibility that a virtual world can exist within another system, which may continue indefinitely. This concept cannot be applied to the Matrix realm because, first off, society is not technologically advanced enough to run simulations of its own, and second, the Matrix is a controlled environment used to manipulate its external subjects—it is not a free world. All things considered, *The Matrix* does not work well with applying Bostrom's notion of nested worlds.

With this lack of parallel, a big difference between Bostrom's argument and *The Matrix* is the connection between the real world and the false reality. The Simulation Hypothesis should support the assumption that a simulation's confines are not dependent on the entire construct itself. That is, the illusion is a contained and controlled environment, so the 'real world' cannot be escaped. It is worth mentioning that this must be plausible for Bostrom's central argument to remain relevant. If this assumption were false, then the nested false realities Bostrom describes would possibly collapse. If one domain can be escaped, then its subsequent and derivative

[11] Bostrom, "Are You Living," 11.

[12] Ibid., 11-12.

simulation could be escaped, and so on, with the pattern continuing indefinitely. As far as *The Matrix* goes, throughout the entire film, the characters constantly travel and communicate between the Matrix and the real world.[13] This does not align with the previous assumption, as these programs shouldn't maintain the possibility of escape. Therefore, *The Matrix* does not align with the Simulation Hypothesis, since the constraints of the Matrix environment are minimal, relative to Bostrom's structure.

Implications

Although *The Matrix* does not fully align with Bostrom's Simulation Hypothesis, it is still a fascinating cultural exploration of an illusory existence. However, in any scenario, considering the theory that humanity is living in a computer situation comes with substantial implications, including raising ethical concerns, diminishing free will, misrepresenting religious deities, and damaging the perception of reality.

First, engaging with the belief that conscious experience is a computer simulation raises numerous ethical concerns. There are a number of reasons as to why posthumans would want to create complex digital worlds, ranging from research to entertainment, though it is nearly impossible to predict directly. Unfortunately, developing fully functional, organic worlds would subject many species to inevitable suffering. Bostrom touches on this idea, stating, "One can speculate that advanced civilizations all develop along a trajectory that leads to the recognition of an ethical prohibition against running ancestor-simulations because of the suffering that is inflicted on the inhabitants of the simulation."[14] Since these worlds would entail an independent,

---

[13] *The Matrix*, 1:25:24.

[14] Bostrom, "Are You Living," 11.

conscious being, the fabricated mind would be capable of experiencing all forms of pain resulting from a wide range of processes that take place within that world. Therefore, if an individual assumes their reality to be a computer simulation, they can blame the creators for the collective torment and hardship they've endured throughout their lifetime, as well as others'.

Similarly, assuming existence to be a computerized illusion leads to concerns surrounding free will. In an article on freedom and *The Matrix*, economist and philosopher Peter Boettke writes, "Our moral sensibility emerges through our experience with free choices."[15] In its entirety, a fully simulated world has the potential to manipulate the decision-making process of organic minds within conscious beings. Moreover, in his own argument, Bostrom states that posthumans may manipulate "certain parts of the mental lives of simulated beings and [give] them false memories."[16] This possibility can be philosophically demanding, as it raises questions of how to distinguish between a person's authentic and artificial memories. In addition, Boettke goes on to write, "The freedom to choose is directly tied to our accepting responsibility for our choices. If we are not responsible for our choices, our moral sense and our prudent self are truncated to our detriment as free individuals."[17] Morality is governed by the option to make different decisions. That is, a 'favorable' decision exists only in the presence of a destructive one—just as there is no light without darkness, and vice versa. If this option is removed from simulated beings, then natural ethics and morality are rendered obsolete, and all efforts toward morally just decisions become worthless, or at the very least, diminished.

---

[15] Boettke, "Human Freedom," 153.

[16] Bostrom, "Are You Living," 13.

[17] Boettke, "Human Freedom," 153.

Moreover, considering humanity to be the result of a computer simulation ultimately twists the belief systems of many theistic religions through the misrepresentation of one or many gods. In many religions, accepting an illusory existence demolishes the attributes of a god(s) that is often associated with the creation of the world. As Bostrom puts it, "We have been created out of software as part of a scientist's research project. Or perhaps created by a posthuman teenage girl for her science homework."[18] Similarly, as philosopher Eric Schwitzgebel points out, the creator of the simulation—that a believer may interpret as a god—could interestingly be a "sadistic adolescent" posthuman, who holds the power to incessantly tinker with the world and the life of mankind.[19] This is a dangerous concept to digest since religion can be a fundamental component of an individual's identity and core values; it can determine or direct the everyday decisions they make, whether minuscule or life-changing.

Furthermore, perceiving humankind as subjects of a digital construct raises problems regarding the nature of existence and reality. In an article detailing how to ideally navigate a simulation, author and economist Robin Hanson writes, "Simulating events in full detail can be enourmously costly. […] The possibility that we [are] living in a limited simulation with varying detail offers many more implications for how we should live our lives."[20] Hanson argues that since these processes are costly, they are inevitably temporary; thus, creators would seek to minimize resource usage and maximize the output of their creation, with whatever purpose that may be. Therefore, individuals should focus on making the most of their life right now rather

---

[18] Nick Bostrom, "Are We Living In *The Matrix*? The Simulation Argument," in *Taking The Red Pill: Science, Philosophy, and Religion in The Matrix*, ed. Glenn Yeffeth, (Dallas, TX: BenBella Books, 2003), 241.

[19] Schwitzgebel, "If We're Living."

[20] Hanson, "How To Live."

than planning for or pondering the future. Hanson details this and states, “So all else equal you should care less about the future of yourself and of humanity, and live more for today.”[21] This is undoubtedly a dangerous pill to swallow, as it eliminates morality, authenticity, and life experience as a whole. Additionally, Hanson argues that individuals should align their lives with the purpose of the simulation, either through historical significance, entertainment, fame and recognition, or moral credibility.[22] Similarly, Bostrom says there may be “constraints imposed on [a simulation’s] inhabitants by the possibility that their actions…may affect the treatment they receive.”[23] These motivations can surely remove the direction an individual may take in their lifetime—by any means—which heavily diminishes the beauty and value of life. Thus, considering the possibility of a false reality engages with dangerous philosophical concepts regarding the meaning of life and the nature of existence.

Counterargument

Although Bostrom’s Simulation Hypothesis holds the possibility to be extremely dangerous, it is still only a hypothesis and stands as a thought-provoking notion. Surprisingly, Bostrom writes from his perspective: “It is worth emphasizing that the simulation argument doesn’t purport to show that we are living in a computer simulation.”[24] He simply argues that one of his three conclusions—which were stated previously—must be true. After all, his article is titled “Are You Living In A Simulation?” and not “You Are Living In A Simulation.” However, the flexibility of the hypothesis ultimately leads to its demise. To deconstruct the hypothesis is to

---

[21] Hanson, “How To Live.”

[22] Ibid., 3.

[23] Bostrom, “Are You Living,” 12.

[24] Bostrom, “Are We Living,” 238.

disagree with the methods that it employs, not the possibilities for which it argues. That is, the counterargument to the Simulation Hypothesis does not reside in refuting the probability of a fabricated reality. Rather, it lies in examining the basis on which it stands. With this in mind, one refutation of Bostrom's argument has to do with the many assumptions he makes. Scholar Dan Bruiger notes these as "dubious assumptions."[25] Although the Simulation Hypothesis details technological advancements and specific computational resources as a requirement for the creation of illusory worlds, it assumes that these requirements will be satisfied, though it is currently impossible to predict that this will be the case in the future. Physicist and author Sabine Hossenfelder writes on her frustrations:

> And that's my issue with the simulation hypothesis. Those who believe it make, maybe unknowingly, really big assumptions about what natural laws can be reproduced with computer simulations, and they don't explain how this is supposed to work. But finding alternative explanations that match all our observations to high precision is really difficult. The simulation hypothesis, therefore, just isn't a serious scientific argument. This doesn't mean it's wrong, but it means you'd have to believe it because you have faith, not because you have logic on your side.[26]

Thus, the main shortcoming of Bostrom's hypothesis revolves around unfalsifiable assumptions of the technological limitations of future societies, as it is currently impossible to digitally replicate the complex processes of our natural world.

Conclusion

To reiterate, *The Matrix* (1999) explores themes of a simulated reality, free will, and the nature of existence. Released shortly after, in 2003, Nick Bostrom proposed the Simulation Hypothesis, a work written to uncover the probability of living in a computerized world. The

---

[25] Bruiger, "A Refutation," 1.

[26] Hossenfelder, "The Simulation Hypothesis."

various aspects of this argument can be examined through *The Matrix* to see how well it aligns with the hypothesis. Overall, while the film has some elements that align with Bostrom's argument, the inconsistencies seem to heavily outweigh the parallels. At face value, *The Matrix* and the Simulation Hypothesis both agree on the general premise of an artificial reality. In addition, both works emphasize the reliance and saturation of technological advancement as a necessity for running computer fabrications. However, the movie fails to align with numerous details within the simulation argument. First of all, the previously mentioned reliance on technology is not necessarily imperative in the Matrix construct. Although Bostrom identifies the highest cost of computing power to be the development of the human brain, the Matrix simulation does not require this, since humans are real, biological entities whose minds are directly manipulated as a function of the environment. Thus, the technological limitations of Bostrom's hypothesis cannot be applied to the digital reality in *The Matrix*. Second, the creators of the Matrix world, the A.I. machines, are not consistent with Bostrom's belief of posthuman creators because of their malicious origins and intentions. Third, the concept of nested realities in Bostrom's argument cannot be applied to *The Matrix*. Lastly, the film's virtual construct is closely connected to the real world, whereas the Simulation Hypothesis assumes that these false realities are not escapable or transferable. The film does not align with Bostrom's argument in this way because of the bounds and constraints of a false digital reality. Therefore, overall, *The Matrix* does not closely align with the details of Nick Bostrom's Simulation Hypothesis, though some surface-level consistency remains.

As far as the modern implications of acknowledging Bostrom's hypothesis, considering a simulated existence raises ethical concerns and questions of free will, and blemishes theistic religion and the perception of reality. Since posthuman simulations have the capacity to create

fully authentic minds, this would lead to inevitable suffering throughout the lifetime of each simulant. Additionally, a fabricated reality would diminish the possibility that each individual has complete freedom in decision-making, which poses a danger to morals and ethics. The idea of living in a computer simulation also threatens theistic religion by replacing god(s) with a potential posthuman research scientist(s), at best. Moreover, the purpose of life may be misguided by assuming the material world to be a virtual construct, since an individual's motives and desires could rest solely on what they believe to be the "successful" way of living in the simulation.

Overall, it goes without saying that Nick Bostrom's Simulation Hypothesis is an intriguing yet demanding perspective on the nature of existence. Although *The Matrix* does not closely align with Bostrom's hypothesis, it still serves as a compelling cultural perspective that represents the perception of thought-provoking philosophical concepts. It is imperative to acknowledge and reflect on these conversations, as they showcase and broaden the natural curiosity of humankind that drives life-changing intellectual development.

Bibliography

Boettke, Peter. “Human Freedom And The Red Pill.” In *Taking The Red Pill: Science, Philosophy, and Religion in The Matrix*, edited by Glenn Yeffeth, 145-157. Dallas, TX: BenBella Books, 2003.

Bostrom, Nick. “Are You Living In A Computer Simulation?” *The Philosophical Quarterly* 53, no. 211 (2003): 1-13. https://simulation-argument.com/simulation.pdf.

Bostrom, Nick. “Are We Living In A *The Matrix*? The Simulation Argument.” In *Taking The Red Pill: Science, Philosophy, and Religion in The Matrix*, edited by Glenn Yeffeth, 233-241. Dallas, TX: BenBella Books, 2003.

Bruiger, Dan. “A Refutation of the Simulation Argument.” (2023): 2-4, https://philarchive.org/archive/BRUARO-6.

Hanson, Robin. “How To Live In A Simulation.” Robin Hanson. June 26, 2001. https://mason.gmu.edu/~rhanson/Lifeinsim.html.

Hossenfelder, Sabine. “The Simulation Hypothesis is Pseudoscience.” Backreaction. February 13, 2021. https://backreaction.blogspot.com/2021/02/the-simulation-hypothesis-is.html.

Schwitzgebel, Eric. “If We’re Living in a Simulation, the Gods Might Be Crazy.” *Slate Magazine*, June 25, 2022. https://slate.com/technology/2022/06/this-but-again-computer-simulation-theories.html.

The Matrix. Directed by Lana Wachowski, and Lilly Wachowski. Burbank, CA: Warner Bros., 1999. DVD.