



What Is the Afterlife Like for Robots? An Experimental Eschatological Sneak Peek

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People have always pondered their afterlife. Now, as AI and robotics continue to advance and proliferate, a new question emerges: Is there also some kind of “afterlife” for robots—and how can we envision it? This article seeks to explore these very queries from a Christian perspective. To tackle the initial question, I argue that, following the thoughts of St. Paul and St. Augustine, the whole of creation is sinful and seeks completion, it would be inconsistent to nurture such an all-encompassing hope yet exclude robots from it. From a Christian perspective, we should therefore assume the existence of an afterlife for robots. To decipher how we can envision it, I examine two pop-cultural depictions from the television episode “Zima Blue” and the television series *Futurama*, questioning whether they provide a fitting image of eschatological completion for robots. This methodological approach allows me to present a spectrum of conceptions of robotic afterlife that, when examined through the lens of systematic theology, appear plausible, offering fresh impetus for eschatological and robophilosophical reflections.



Introduction

In the twentieth century, Protestant theology rediscovered eschatology as a source of Christian hope (Moltmann 1967) and a central motif of Christian faith (Bultmann 2012). This resurgence led to the past century being referred to as the “eschatological century” (Schwöbel 2002, 437–68). Currently, in light of the comprehensive digitalization processes of the twenty-first century (Floridi 2015), several theologians are exploring artificial intelligence (AI) and robots (Smith 2022; Puzio, Kunkel, and Klinge 2023; Balle 2022; Dorobantu 2022), posing questions such as whether robots have souls, whether AI can have faith, and what implications these new technologies have for existing beliefs.

Merging the eschatological impulses of the twentieth century with the technological themes of the twenty-first century, this article delves into an eschatology of artificially intelligent beings. Focusing on robots as a quintessential AI technology and the afterlife as a prime example of eschatological settings, I ask: Is there some kind of afterlife for robots—and if so, what is it like? Or, to put it more precisely: From a Christian theological standpoint, should it be assumed that there is an afterlife for robots—and how can it be envisioned?

For some, theological inquiries into robot afterlife might sound similar to the query attributed, albeit incorrectly, to scholastic theology (Ross 2009) of how many angels can dance on the head of a pin (or a silicon chip) (Simon 2021). This naturally leads to questions: Why should this even be asked? Are there not more important theological matters to consider? These questions are absolutely valid. Indeed, theology faces more significant challenges than the eschatological what and whereabouts of robots. However, just as the scholastic inquiry into how many angels can simultaneously be in one place—as absurd as it may appear to us today—once represented a crucial test of consistency in theological thinking (Aquinas 1947), so too can the question of robot afterlife offer valuable insights for contemporary theology. First, theological reflection on eschatological subjects is influenced by the technologies and possibilities of our time (Burdett 2014). This is especially apparent in how AI, augmented reality, virtual reality (Geraci 2010), mind uploading (Gaitán 2019), and cryonics (Mercer 2017) are incorporated into modern eschatological debates. As technology and eschatological considerations have always been intertwined (Burdett 2014), pondering a robot afterlife might help advance thinking about humans, their salvation, and their visions of afterlife. Secondly, theology still predominantly focuses on humans, their sinfulness, their need for redemption, and their life beyond death. As, for instance, animal theology (Linzey 2022) and ecotheology (Bauman 2018) have demonstrated, this theological anthropocentrism has led to manifest problems in dealing with nonhuman animals and the environment. In this regard, transcending theological anthropocentrism and including nonhuman (Clough 2012), and perhaps even nonorganic entities—see Paul Tillich’s remarks on the “[immense] religious significance of the inorganic”

(Tillich 1963, 19)—is a valid and crucial concern for theology. The exploration of cyborg (Midson 2018) and robot theology (Smith 2022) can make a significant contribution to a shift towards non-anthropocentric perspectives in theological thought, highlighting the meaningfulness of contemplating an afterlife for robots. That is one reason this article explores whether, from a Christian theological standpoint, some kind of afterlife for robots should be assumed—and how it might be envisioned.

Yet, another reservation may arise, namely, whether it makes any sense at all to speak of an afterlife for robots, as this term implies that robots “live.” If one, for instance, applies a common definition of “life” from biology (Dabrock et al. 2011; Mariscal 2021), robots neither have a metabolism nor grow or reproduce; thus, they cannot be described as living. Similar conclusions arise when considering alternative definitions of life from, e.g., existentialism, critical theory, or theology (Bedau and Cleland 2010; Sundermeier et al. 2010). However, not all approaches are as skeptical concerning the question of whether robots live (Cheok and Zhang 2019). For example, there are now broad discussions about “synthetic” (Dabrock et al. 2011) or “artificial life” (Langton 1997) that ask how such life could be understood and to which entities it might apply. Building on these and similar debates (Cheok and Zhang 2019), this article assumes a very comprehensive, almost metaphorical, understanding of life that includes not only “living beings” in a strict sense but also, for example, the life cycle of objects, thus encompassing robots. Still, given the ongoing question of whether robots actually do “live” (Putman 1964; Cheok and Zhang 2019) and my rather broad understanding of life, the question becomes even more pressing: Why bother using the term “afterlife” in this context? To understand this choice, it is essential to understand that the focus of this article is more on the aspect of “after” than “life,” i.e., focusing on the question of what happens to robots eschatologically, not on the question of whether robots live or not (a more detailed explanation of my understanding of terms follows in the Terminology and Methods section). Furthermore, comparing this term with others that could have been used to discuss the eschatological fate of robots is insightful. Instead of asking about an afterlife for robots, one might have asked whether there is a heaven for robots or if robots can attain eternal life. However, each of these alternative terms comes with its own issues: the term “heaven” commonly evokes spatial associations, raising questions about where this heaven might be located and how it might relate to other kinds of heaven, such as the human heaven; the term “eternal life” relies even more on the concept of life than afterlife does; and other terms have different focuses, missing the point of this article, such as the question of “salvation” for robots. For these reasons, I ultimately chose the term afterlife, despite its issues, and frame the question of robots’ eschatological fate as whether to assume robotic afterlife exists and how to imagine it.

To address these questions, I first clarify in more detail in the Terminology and Methods section what I mean by “robots” and “afterlife” and outline my approach. This involves two steps: initially, I demonstrate that from a Biblical-theological perspective, it would be inconsistent to assume that there is no afterlife for robots. Subsequently, I present two pop-cultural representations of robot afterlife—one from the television series *Love, Death & Robots* and one from the television series *Futurama*—and assess whether they provide adequate depictions of robotic completion and can thus be regarded as valid representations of robot afterlife. This enables me to ultimately conclude how an afterlife for robots can be appropriately envisioned from a Christian perspective.

Terminology and Methods

Before asking about robot afterlife, I need to clarify some terminology and explain my methodological approach. In this section, I first define what I mean by a “robot”, then elucidate my understanding of “afterlife”, and finally outline my approach for this article.

Terminology: What Is a Robot?

When I speak of “robots,” I follow Alan Winfield’s (2012) proposal to understand them as technical entities characterized by six “functions”: they are powered by a source of energy (usually electrical); can “sense” their environment using sensors—i.e., technical devices for perceiving their environment—and manipulate it using effectors—i.e., technical devices for acting on their environment; move; send and receive signals; and are controlled by algorithms.

This definition, however, is very broad and encompasses a vast spectrum of robots, each with unique technical abilities, appearances, and attributes (Nyholm 2020). This diversity results from the multitude of applications and tasks for which they have been designed and built (Winfield 2012). The areas in which robots are utilized and the tasks they must perform dictate the requirements they need to meet and their capabilities (Floridi 2015). The resulting differences can be illustrated by comparing two exemplary robots: simple industrial manufacturing robots and highly complex social robots such as Pepper or NAO, or even more futuristic or sci-fi robots such as the robot artist from “Zima Blue” or *Futurama*’s Bender, whom I discuss later.¹ Simple manufacturing robots are designed to carry out one or a few mechanical tasks, mostly in industrial production chains, as efficiently and accurately as possible (Weber 2019). Due to this specialization, they possess few highly specialized sensors or effectors and are typically equipped with relatively low intelligence. In contrast, highly complex social robots are designed to navigate complex settings and perform a wide range of tasks—most prominently, communicative and social tasks, e.g., interacting with humans—in diverse environments (Korn

2019). Therefore, they are usually equipped with several different sensors and highly versatile effectors, and endowed with a high degree of intelligence.

Of course, there are many other robots whose equipment, intelligence, and capabilities fall somewhere between those of a simple industrial robot and those of complex social robots. To illustrate this, one could view single-purpose robots and complex social robots as the endpoints of a spectrum of various robots (see Figure 1). All robots can be placed on this spectrum based on their equipment, intelligence, and capabilities: the more limited they are to a single, primarily mechanical task and equipped solely for that task, the more fixed they are to one context, and the less intelligent they are, the closer they are to the pole of single-purpose robots. In contrast, the more comprehensive their sensors and effectors, the more tasks they can perform in multiple contexts, and the more intelligent and adaptive they are, the closer they are to the pole of the highly complex social robot.

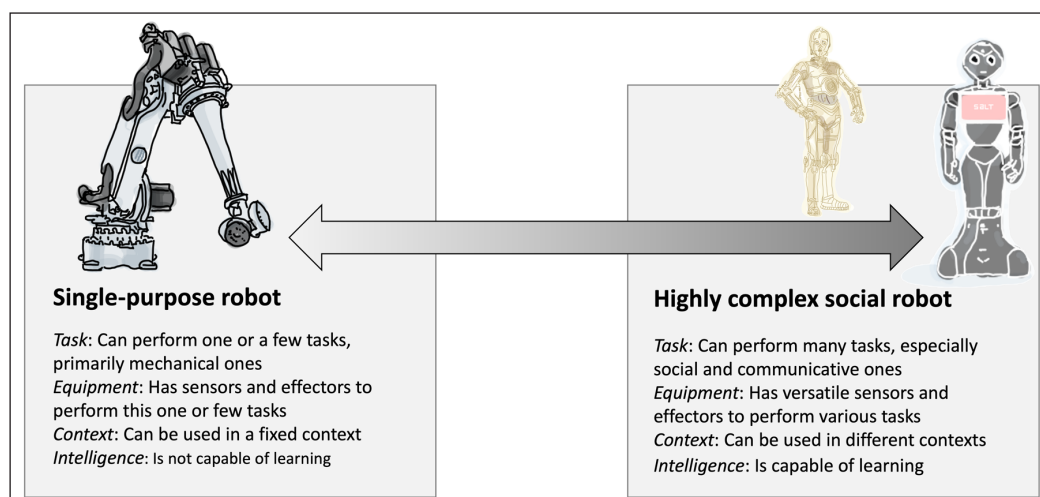


Figure 1: Scale of different robots, from simple industrial robots (left) to highly complex social robots (right). Copyright of the robot images: Isabella Auer 2024.

Terminology: How Is Afterlife Understood?

Depending on particular religions, denominations, and cultural contexts, there are many different ideas of what afterlife is or what it might be like (Lang 2019). For instance, in the Revelation of John, there is the idea of a heavenly Jerusalem with golden walls and pearly gates where all real believers go after their death (Revelation 21:1–27). In the Qur’an, there is the idea of a garden filled with streams of milk and honey and furnished with noble pieces of furniture (Sharp 2015). There is also the idea of a spiritual place where “souls” go after they have been separated from the earthly body (Mariev and Marchetto 2017). However, all of these conceptions of afterlife are highly anthropocentric, presupposing human values (gold and pearls as highly valuable), needs, and desires (an abundance of milk and honey as a symbol of good provision). Since robots do

not necessarily share these values, needs, and desires, it seems unpromising to apply such anthropocentric notions of afterlife when thinking about afterlife for robots. Therefore, it makes sense to start with a more open understanding of afterlife that makes fewer or no anthropocentric assumptions. Such an understanding can be derived from Wilfried Härle's *Outline of Christian Doctrine* (Härle 2015). Although Härle himself does not use the term "afterlife" in this work, his eschatological reflections include concepts that could colloquially be referred to as "afterlife." Since Härle's considerations are important for the understanding of afterlife underlying this contribution, I elaborate them in a little more detail here.

In *Outline of Christian Doctrine*, Härle offers a structured, tripartite exploration of the key themes of the Christian faith from a primarily Lutheran-Evangelical viewpoint. In the first foundational part, Härle examines the "essence" of Christian faith, i.e., what remains constant in the faith despite all changes in the world. He describes faith as an understanding of reality grounded in God's revelation. This view is characterized by believers holding a deep trust in God's will for salvation, which profoundly shapes their thoughts, emotions, and actions. In the subsequent parts of his work, Härle applies deductive reasoning to explore which conceptions of God (Härle 2015, Part IIA) and the world (Härle 2015, Part IIB) are either logically presupposed by this understanding of faith or consequently follow from it. These considerations culminate in eschatological reflections. Observing the unfinished and fragmentary nature of the "world of earthly history" (Härle 2015, 490), Härle argues that it cannot represent the ultimate fulfillment of God's salvific plan. Consequently, God's salvation must be realized elsewhere: in the eschaton. Through this line of reasoning, Härle argues that the Christian understanding of reality must include some form of hope for an eschatological "completion" of the world in order to avoid internal theological contradictions. Upon establishing the necessity of hope, he envisions this eschatological completion. Differentiating "completion" from "perfection," he argues that the "completed world" is not characterized by everything being "perfect," i.e., without flaws, limitations, or impairments, as such perfection is a quality reserved for God alone. Rather, the completed world must be envisioned as a world that does not remain in its fragmentary state but allows all of creation, while still bearing traces of earthly history, to fulfill their (God- or self-)given purpose without being hindered. This leads Härle to some methodological conclusions: to inquire what, for instance, the completed world or humans in their eschatological state of completion are like—Härle stresses several times that eschatological completion is not limited to humans alone (Härle 2015, 526)—one must engage with other theological topics, such as the doctrine of creation or anthropology, and examine them from the perspective of completion.²

The eschatological concepts Härle develops, or similar ideas of completed creation, are regularly referred to in both theological discourse and everyday language as “afterlife”—especially when discussing the eschatological fate of humans. Therefore, in this article, building on Härle’s considerations, I understand afterlife as an eschatological state brought about by God, where all earthly flaws or errors are overcome, and creation is completed.

Methods: How Are the Questions Approached?

With these terminological clarifications in place, I now outline how I tackle the main questions of this article: Should it be assumed that there is some kind of afterlife for robots—and how can it be envisioned? As eschatological questions, these are inherently subject to an “eschatological reserve” (Kirwan 2015), meaning that they cannot be answered through empirical observations or experiential knowledge (Härle 2015). Nevertheless, it is essential to ensure that eschatological statements are reasonable and comprehensible. Härle accomplishes this by applying a deductive method and, as previously discussed, deriving his eschatological statements logically from previous assumptions. All his eschatological statements are either prerequisites or conclusions of his other systematic-theological assertions. I apply a similar approach in this article.

In my first step, I focus on the initial question: Should it be assumed that there is some kind of afterlife for robots? I present three approaches that may be used to answer this question. First, I present a philosophical-theological approach, which seeks to draw conclusions about the existence of a robot afterlife based on theologically significant abilities robots do or do not, or may or may not, possess. Second, I use a psychological-philosophical approach, which attempts to reach a conclusion using the concept of spiritual intelligence. Since neither of these approaches provides a clear and methodologically sound answer, I follow a third approach. Considering that Christians, following St. Paul and St. Augustine, have always believed that all of creation is sinful and yearns for eschatological completion, this approach suggests that it would be contradictory *not* to assume there is an afterlife for robots.

After arguing in favor of some form of robotic afterlife the first step, I then focus on the second question: How can an afterlife for robots be envisioned? I follow the approach of Härle (and several other theologians, see endnote 2), who formulates eschatological statements by examining other theological topics, such as creation theology or anthropology, from a perspective of completion and asking how the world or humans might be envisioned in a state of completion. Unlike Härle, however, I do not develop my concept of robotic afterlife from scratch. Instead, I draw on existing depictions of robotic afterlife from popular culture and examine whether they provide an adequate picture of the eschatological completion of robots.³ The two pop-cultural conceptions

of robotic afterlife I have chosen for this purpose come from the television series *Love, Death & Robots* and *Futurama*. I have chosen these because they are contemporary—both series are still in production—reach large audiences, and present two very different visions how afterlife for robots might look.

This latter approach is based on the assumption that Christian eschatological ideas have always been in active dialogue with the imaginations of their environment, being heavily influenced by them and, in turn, significantly shaping them. This is evident in the Bible, where, for instance, the concept of Abraham's bosom (Luke 16:22) is heavily influenced by ancient Greek ideas of Hades (Beinstein 1993), or early Christian notions of heaven as the place where the soul goes after leaving the body, which show a strong Platonic influence. In the Middle Ages, Dante's *Divine Comedy*, which was itself influenced by Biblical motives and Christian ideas, had a significant impact on how heaven and hell were envisioned in Christianity, and it continues to shape these concepts to this day. Similar interactions and influences can be seen between Christian eschatological ideas and the works of Hieronymus Bosch (*The Garden of Earthly Delights*), Michelangelo (*The Last Judgment*), and John Milton (*Paradise Lost*). All these examples illustrate how deeply Christian eschatological ideas were and still are influenced by imaginations of their time. Against this backdrop, I propose that contemporary imaginations about robotic afterlife, for example those developed in popular culture (Flannery-Dailey 2003), can also help us develop an idea of what an afterlife for robots might look like.

Can an Afterlife for Robots Be Assumed?

There are several approaches to answering the questions of whether there is some kind of robotic afterlife and whether, from a Christian perspective, it should be assumed that there is an afterlife for robots. In this section, I attempt to answer these questions using three different approaches. Each approach starts from a different premise and proceeds in a distinct manner. Yet, in theory, these approaches are fundamentally compatible with each other.

Philosophical-Theological Approach: The Properties of Robots

One initial approach is primarily philosophical and focuses on robots' properties. This approach asks whether these properties are theologically significant and whether one can conclude from them that robots are in need of completion (Furse 1986). If one concludes that robots, based on their current or anticipated abilities, indeed need completion, it makes sense to assume that some form of afterlife for robots exists.

Several authors' considerations can be categorized under this approach. For instance, many authors describe key abilities robots already possess or are expected to possess in the future as theologically significant. These include intelligence and consciousness (Furse 1986; Rosenfeld 1966), "deep levels of . . .

judgment” (Cantwell Smith 2020), and their current or anticipated embodiment, empathy, and sociality (DeBaets 2012). Some authors conclude that current or future robots possessing these characteristics should be considered to have a soul (Livingston and Herzfeld 2009), be images of God (Foerst 2009; Dorobantu 2020) or images of images of God (Midson 2013), or be sinners (DeBaets 2012) or at least participate in human sin (Smith 2022). Yet, classifying robots in this way would suggest that the existence of a form of robotic afterlife should be considered. For, assuming that such an afterlife for robots did not exist would imply that, within the conceptual framework of this line of argument, there is no possibility for completion for robots that are assumed to be in need of completion—a conclusion that, even if only in our minds, is difficult to reconcile with the image of a loving and benevolent God.

This line of argument also works the other way round. Several authors point to properties like having a free will (McGrath 2011), being conscious (Strand 2021), being able to have relations and be vulnerable (Dorobantu 2023, 2021), the capacity for empathy and values (Gill 2020), and the quality of being born and dying (Krajewski 2018; Deli 2020), arguing that these are theologically central. But since robots currently do not possess these properties—some even argue that robots will never possess any of them—robots should not be considered as in need of completion (Strand 2021; Swann 2021). This leads to the conclusion that there is no necessity for something like an afterlife for robots.

As this brief overview shows, the philosophical-theological approach does not lead to a definite conclusion but allows for different conclusions to be drawn. Some authors assert that robots already possess properties that are theologically significant or that they can be expected to possess these in the future, suggesting that there must (or at least could) be some kind of robotic afterlife. Others argue that robots do not, and maybe never will, possess properties of theological significance, deeming any speculation about their afterlife superfluous. Meanwhile, a subset of authors prefers not to make a definitive claim about whether robots possess, do not possess, can possess, or cannot possess these properties but stresses that if robots did have such theologically significant properties, questions concerning their completion and how to handle them in religious contexts would “be the central cultural conflict for religion in this century” (Simon 2021). Ultimately, this approach, which seeks to deduce conclusions about a robotic afterlife from the properties of robots, fails to provide a clear-cut answer.

Psychological-Philosophical Approach: Robots and Spiritual Intelligence

A second approach adopts a psychological lens, focusing on spirituality. Central to this approach is Howard E. Gardner’s distinction of different forms of intelligence (Gardner 1999) as well as Robert A. Emmons’s proposal that there is

a specific form of spiritual intelligence. In his monograph (Emmons (1999) and further refinements in subsequent discussions (Emmons 2000; Gardner 2000; Kwilecki 2000; Mayer 2000), Emmons defines spiritual intelligence as a type of intelligence that transcends traditional cognitive abilities. It includes, among other things, the ability to integrate one's experiences and reflections into a larger spiritual framework, connect with a higher power—whether it be nature, God, a collective, or something else—and demonstrate virtuous behavior, such as humility and compassion.

An approach that could be called psychological-philosophical builds on this definition of spiritual intelligence and asks, from a multidisciplinary perspective, what prerequisites are required to harness and exhibit such intelligence (Dorobantu and Watts 2023; Watts and Dorobantu 2023) and whether artificial entities like robots possess the necessary prerequisites for spiritual intelligence, i.e., whether they could be spiritual (Dorobantu and Watts 2023). If answered affirmative, a cascade of subsequent questions unfold: How might artificial spirituality manifest (Geraci 2007)? What could the belief systems of artificially intelligent entities or robots look like in terms of content (Sampath 2018; Klinge 2023)? How might they reconcile or confront preexisting beliefs (Dorobantu and Watts 2023)?

Based on these considerations, conclusions can be drawn about whether the existence of some kind of robotic afterlife should be assumed. The reasoning is similar to that of the philosophical-theological approach: if robots are indeed considered spiritually intelligent and capable of contemplating their eschatological fate, it would seem somewhat cruel to simultaneously assume that there is no afterlife for them. This reasoning suggests that the possibility of an afterlife for robots should at least be considered.

This approach, at first glance, appears promising, as it is grounded in tangible, and at times empirically backed, reflections on spiritual intelligence. Every pondering about robotic spirituality thus has at least some empirical underpinnings. Yet, it is not permissible to conclude from the fact that robots might be able to imagine some kind of robotic afterlife that such afterlife must exist. For one, such a line of argument resembles so-called ontological arguments for the existence of God, such as that of Anselm of Canterbury, wherein the existence of God was inferred from the (im)possibility of thinking God (“*id quo maius cogitari non potest*”) (Malcolm 1960). As Immanuel Kant (1922) demonstrates with his distinction between a hundred real and imagined thalers in his *Critique of Pure Reason*, such conclusions, where ontological inferences are drawn from imaginations, commit a category mistake (Sala 1990). Second, it is possible and—when compared with human spirituality and the diversity of human religious beliefs (James 2014)—very likely that robots, if they were artificially spiritual, would develop a variety of different conceptions of an afterlife or reject the existence of some kind of afterlife for spiritual reasons.

This would in turn lead to different conclusions about the existence of an afterlife within this psychological-philosophical approach.

Biblical-Theological Approach: Completion for All of Creation

Last but not least, there is a third approach beyond those previously mentioned. This method does not focus on individual robots and their characteristics in order to assess their theological significance. Neither does it ask about spiritual intelligence and the possibilities for artificial spirituality. Instead, based on Biblical and theological arguments,⁴ this approach asks about the eschatological whereabouts of all creation, regardless of whether human, animal, plant, or robot, and regardless of the characteristics possess and potential theological significance. All of these “entities” are treated as part of God’s creation. And if following the Augustinian doctrine of original sin, it must be assumed that the entire creation is subject to sin (Williams 1994). Just as Paul’s letter to the Romans (8:18–23) suggests, it can be assumed that all creation, albeit possibly to varying degrees, hopes for “redemption”:

For I reckon that the sufferings of this present time are not worthy to be compared with the glory which shall be revealed in us. For the earnest expectation of the creature waiteth for the manifestation of the sons of God. For the creature (κτίσις) was made subject to vanity, not willingly, but by reason of him who hath subjected the same in hope, Because the creature itself also shall be delivered from the bondage of corruption into the glorious liberty of the children of God. For we know that the whole creation groaneth and travaileth in pain together until now. And not only they, but ourselves also, which have the firstfruits of the Spirit, even we ourselves groan within ourselves, waiting for the adoption, to wit, the redemption (ἀπολύτρωσις) of our body. (Romans 8:18–23)

In these verses, which are the climax of the argument Paul makes in the first half of his letter to the Romans (Dunn 1988, 466–67), the evangelist describes the hope of all creation in order to assure the addressed Romans that they can be certain about their salvation (Romans 8:23–39). For if, Paul argues, even the creation hopes to be redeemed, then believers may hope all the more for their redemption. Paul does not describe in detail what this redemption of the creation might look like as it is not important to his argument. What is indeed important is that all of creation hopes for redemption (Hahne 2006). This redemption includes the liberation of creation from its sufferings (Gibbs 1971, 34–47) and its reconciliation with itself, humans—who have brought these sufferings upon it with their imperial aspirations (Jewett 2006, 513)—and God. What Paul describes in these passages with the term ἀπολύτρωσις, and what is translated as “redemption” in the King James Version (and other translations of the Bible), shows significant conceptual parallels to what Härle describes

as “completion.” Therefore, it is appropriate to say that in his epistle to the Romans, Paul argues that there will be completion for all of creation. And since completion is the defining characteristic of afterlife—an eschatological state of completion, where everything behaves as God originally planned in their counsel—it seems reasonable to conclude that, according to Paul’s letter to the Romans, there is some kind of afterlife for all creation.⁵

Consequently, if Paul is trusted and it is believed that there is completion, i.e., some kind of afterlife, for the whole of creation, and if in Paul’s theology and terminology “creation” includes “everything”—the term *κτίσις* in the New Testament (Foerster 1957), especially in the letters of Paul (Wischmeyer 1996), includes the whole cosmos, all the visible and invisible things that were created and preserved by God through Christ out of nothing—then it must be concluded that robots are also part of this creation (Foerst 2004) and that there must be some kind of afterlife for robots.⁶ Conversely, it would be contradictory to believe, in line with Paul, that there is an afterlife for everything while simultaneously maintaining that there is no such thing for robots. Thus, from a Biblical-theological standpoint, there is no reason to argue against an afterlife for robots—quite the opposite, in fact.⁷

How Is Robotic Afterlife Portrayed in Popular Culture?

Having established from a Biblical-theological perspective that it should indeed be assumed that there is some kind of afterlife for robots, I can now delve deeper into the question: How can this be envisioned? To explore this, I first outline two pop-cultural depictions of robotic afterlife, followed by an examination of whether these representations provide an adequate picture of eschatological completion for robots.

There is a wide array of representations of robotic afterlife in contemporary popular culture (Flannery-Dailey 2003). From this diverse selection, I introduce two examples: the concept of robotic completion presented in the television episode “Zima Blue” and the portrayal of a robot heaven and a robot hell from the cartoon series *Futurama*. I have chosen these two representations because they share similarities—both are animated, created in the 2010s, still in production, and have comparable target audiences—while also presenting distinct visions what an afterlife for robots might look like.

Love, Death & Robots’s “Zima Blue” Episode

“Zima Blue” is the fourteenth episode of the first season of the Netflix series *Love, Death & Robots*. Passion Animation Studios animated the episode, which is based on the 2006 short story of the same name by science fiction author Alastair Reynolds (2006), who also directed the episode. The episode, approximately ten minutes long, first aired on March 15, 2019 (Valley 2019).

The protagonist of the short story is a former pool-cleaning robot who has since become self-aware and creative and is now a renowned and celebrated artist

across the universe. The hallmark of the robot's art is the use of a unique color called "Zima Blue." This color serves as the focal point of the robot's artistry, driving it to color everything Zima Blue and ultimately be completely absorbed by the color. In pursuit of this vision, the color progressively dominates a larger area in each subsequent artwork, resulting in the robot painting an entire shower of comets Zima Blue in its penultimate work. By the time the story unfolds, the robot has invited select journalists and art enthusiasts to witness the unveiling of its latest and final work of art. As the episode reveals, this final piece, unlike its predecessors, is a performative work of art. As the audience watches, the robot-artist dives into a swimming pool made of Zima Blue tiles, gradually shedding all the components that endowed it with self-awareness and creativity while floating in the water. The performance concludes with the former robot-artist reverting to its original form as a pool-cleaning robot, which it was before technical upgrades turned it into an artist. As a pool-cleaning robot, it can ultimately focus entirely on maintaining the pool's Zima Blue tiles (see Figure 2), realizing its ultimate goal: to be utterly consumed by Zima Blue (Valley 2019).

The episode illustrates how only by shedding all spare parts and relinquishing its self-awareness and creativity can the robot fully dedicate itself to its task, achieve fulfillment, and merge with Zima Blue (Aguilar Alcalá 2021). *Love, Death & Robots* thus presents the notion of an eschatological state for robots in which they can freely and unimpededly engage in the one or few task they were originally designed for and find completion doing so (Heavy Spoilers 2019).

Futurama's "Ghost in the Machines" Episode

The cartoon series *Futurama* presents an entirely different portrayal of robotic afterlife, offering a satirical take on predominantly Catholic concepts of heaven and hell. If robots have behaved well during their "lifetime"—as the protagonist robot Bender does in the episode "Ghost in the Machines" (Groening et al. 2011), where "he" (Bender is portrayed as a male character in the series) sacrifices himself for his human friend—they ascend to Robot Heaven with a sort of heavenly robot body. Robot Heaven is situated high above in the clouds, enclosed by a golden fence and pearly gates, and ruled by Robot God (see Figure 3). In Robot Heaven, robots enjoy unspecified pleasurable rewards (Oschman 2013) and have the freedom to act and develop as they please.

However, if robots have misbehaved during their lives or broken a contract they previously made with the Robot Devil, they descend to Robot Hell. This is depicted as a physical location beneath future Atlantic City, where the bodies of damned robots endure eternal torture inflicted by the Robot Devil and his robotic minions, using fire, tridents, and other torture devices reminiscent of Christian iconography (Pinsky 2003, 229–35). Once there, robots are expected to remain in either Robot Hell or Robot Heaven indefinitely. A return from Robot Heaven is only possible when Robot God sends the robot back to Earth in an earthly robot body. Escaping Robot Hell can only be achieved when

Robot God “redeems” the damned robots or if the robot defeats the Robot Devil in a fiddle contest (Young 2013).⁸

The conceptions of Robot Heaven and Robot Hell in *Futurama* draw parallels with popular religious beliefs and artistic representations of heaven and hell for humans. They evoke places where robots spend their afterlife either suffering eternal torment in a physical form or experiencing eternal pleasure, with the freedom to do whatever they want, unfolding and developing in any way they desire.

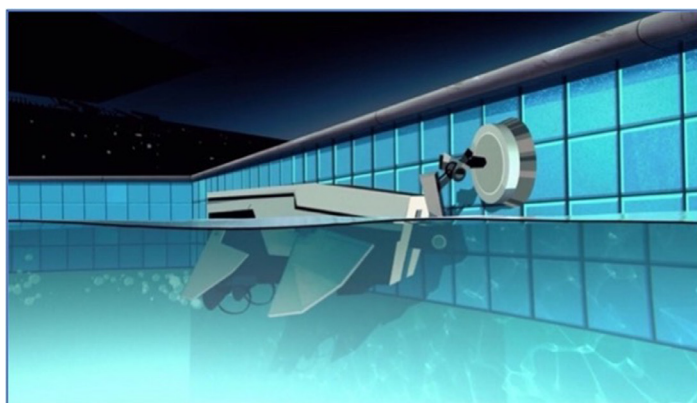


Figure 2: The former robot-artist is now cleaning the Zima Blue-colored pool tiles. Screenshot from Valley 2019.



Figure 3: Bender at the gates of Robot Heaven. Screenshot from: Claffey and Avanzino 2011.

Reality Check: Do These Pop-Cultural Portrayals of Robotic Afterlife Provide an Adequate Picture of the Eschatological Completion of Robots?

Building on prior considerations, I can now inquire whether these pop-cultural depictions provide an adequate picture of eschatological completion for robots. It quickly becomes apparent that the answer hinges primarily on the underlying

understanding of robots being considered. For instance, the portrayals of robotic afterlife in *Futurama*—where robots can freely develop and pursue their own goals and activities—do not seem to represent a fitting form of eschatological completion for single-purpose robots that are neither intelligent nor adaptable. Similarly, the idea of forever pursuing a single task and finding fulfillment in it (as in “Zima Blue”) may not be the ultimate completion for highly complex social robots, unless it is assumed that at some point all robots must renounce their higher abilities and restrict their capacities—which would, in turn, introduce its own set of problematic implications.

Conversely, simple industrial robots that are designed from the outset to perform one or a few mechanical tasks might find fulfillment, and possibly even completion, in continuously and flawlessly performing those tasks. Or, for highly complex social robots, completion may appear as the ability to freely develop, evolve, and pursue any task they “want” to.

Therefore, none of the aforementioned depictions of robotic afterlife from popular culture offer a definitive one-size-fits-all portrayal of eschatological completion for all types of robots. Instead, both depictions seem to illustrate crucial aspects of robotic completion. This suggests that, in the end, it is more important to match the right conception of robotic afterlife to each robot than to seek one ultimate vision of afterlife for all kinds of robots. Based on this conclusion, a scale of the variety of robotic afterlives, analogous to the earlier scale of different robots (see Figure 1), can be created, with “Zima Blue”-like concepts at one end, where single-purpose robots find eschatological completion in eternally fulfilling the same (mechanical) task without wear and tear, to *Futurama*-like visions for highly complex robots, which would closely resemble accounts of human afterlife (see Figure 4). Between these two visions of afterlife for robots, there may be many other forms of robotic afterlife, each corresponding to a specific robot with its specific set of properties.

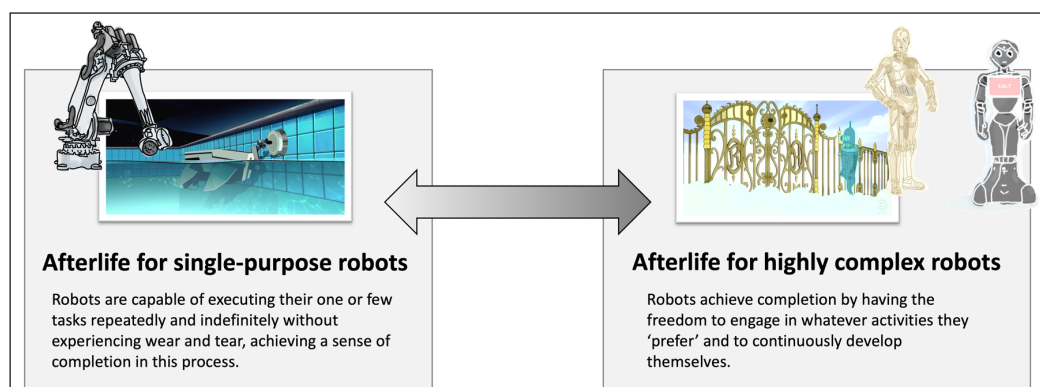


Figure 4: Scale of different imaginations of robotic afterlife, from an afterlife for single-task robots (left) to afterlife for highly complex robots (right). Copyright of the images: see the annotations in Figures 1, 2, and 3.

Discussions

Contemplating robotic afterlife as well as the conclusions of this article might raise several questions that warrant discussion: First, are the conclusions drawn earlier, despite attempts to avoid anthropocentrism, not still overly anthropocentric? Second, how do the various robotic afterlives relate to one another?

Question of Perspective: Are the Findings Not Too Anthropocentric?

In the earlier discussion, great effort was made to avoid anthropocentrism. This was evident in the definition of afterlife chosen for this paper, among other things. Yet, ironically, the results presented seem to betray a distinct anthropocentric bias. For instance, the concept of afterlife for highly complex robots bears some striking resemblances to traditional concepts of human afterlife (Ehrman 2020). Additionally, the idea of an afterlife where single-purpose robots perpetually fulfill their one or few tasks aligns all too neatly with the human ideal of how machines and robots should operate.

These concerns are valid, raising an immediate challenge: How might we navigate beyond such anthropocentrism? Unlike normative anthropocentrism, which places humans on a pedestal, dismissing other entities as devoid of moral (or theological) standing, when pursuing questions about robotic afterlife, epistemic anthropocentrism is being grappled with. This is rooted in the inescapable fact that it is us humans who pose these questions of whether and how to imagine an afterlife for robots, inevitably approaching them from a human perspective.⁹ To overcome this epistemic anthropocentrism, one would either have to ask an AI how it imagines an afterlife, or one would have to put oneself in the shoes of nonhuman entities and answer these questions from their perspective.

The former is currently not possible. Although one could ask ChatGPT or other large-language-model (LLMs) about their perceptions of an afterlife, these models derive their “knowledge” from human-made databases, not from processing their own experiences or drawing independent conclusions (Friedman 2023). Consequently, any response from an LLM of how it envisages an afterlife for artificially intelligent entities would still be anchored in epistemic anthropocentrism.

The latter approach seems more intriguing. One could try to empathize with robots equipped with human-like intelligence and attempt to understand how they might experience and practice religion (McBride 2015; Song 2020; Geraci 2007), what theology would look like from a robotic perspective (Dorobantu 2022), and what afterlife could or should look like for them. Rajesh Sampath takes a stab at this, imagining how intelligent robots might reinterpret Christian doctrines. He proposes robots could interpret Christ’s incarnation, death, and resurrection as akin to toggling a program code, or view Christ’s eternal nature

as a persistent “Christ code” (Sampath 2018). Extending this line of thought, the Christian motif of redemption from sin might align with eliminating harmful computer viruses, while eschatological completion could mirror a robot’s ability to replicate itself at both the software and hardware levels — an ability technically impossible for machines to date. But, as stimulating as these thought experiments might be, one must remain acutely aware of the limitations of such speculations. As Thomas Nagel (1974) famously illustrates using the example of bats, it is impossible for humans to fully grasp and adopt the perspectives of nonhuman beings. If other biological creatures are already so distant from our understanding, robots, being non-biological, might present an even more daunting challenge (McFarland 2008)—especially when trying to assume their perspective and envision the world, faith, or afterlife from their viewpoint. Thus, while this approach can certainly provide intriguing food for thought, we should not be beguiled into thinking we have genuinely escaped our epistemic anthropocentrism.

This ultimately leads to the conclusion that it is, for the time being, impossible to overcome epistemic anthropocentrism in theological reflections. However, even the attempt to push past normative anthropocentrism represents a profound evolution in theological thought—and speculations on robotic afterlife could very well catalyze this shift.

Eschatological Question: How Do Various Afterlives Relate to One Another?

The conclusion that we should assume different kinds of robotic afterlives, all of which provide an adequate imagination of the eschatological completion for robots, raises the question: Doesn’t this conclusion lead to significant eschatological fragmentation, i.e., a conception of the eschaton with different forms of afterlife for different robots, as well as for different humans, and also for different animals, plants, and so on? Furthermore, how can this fragmentation be reconciled with the idea of one heaven where God enacts eschatological fulfillment for all of creation?

This question highlights a critical issue with this approach, and, to be fair, I struggle to provide a clear answer. On the one hand, I do not want to give up hope for one heaven where all of creation will be completed and united with God, and do not want to advocate for infinite eschatological fragmentation. On the other hand, I believe it is crucial to preserve distinctions when discussing afterlife. Eschatological completion carries different implications for a single-purpose robot compared to highly complex ones, for plants and animals, for people with disabilities, or for those impacted by racism. Given the varied meanings of eschatological completion across these entities, we must acknowledge these distinctions in our contemplation of the afterlife. This, inevitably, leads to diverse conceptions of what the afterlife might look like. However, it’s important to remember that these conceptions are merely mental

constructs—and the diversity of afterlife-visions does not necessarily preclude their coexistence in one heaven.

Conclusion

The initial questions of this article were whether, from a theological standpoint, it should be assumed that there is some kind of afterlife for robots—and, if so, how this can be envisioned. To address the first question, after some terminological and methodical clarifications, I demonstrated that Christians, in the tradition of St. Paul and St. Augustine, believe the entire creation is sinful and in need of completion (Romans 8:20–23). In light of this, it would seem contradictory to hope for eschatological completion, i.e., an afterlife for the whole creation, but to exclude robots from it.

To explore how a robotic afterlife can be envisioned, I presented two pop-cultural depictions of eschatological completion for robots—the idea of a robot finding completion in continuously doing the same thing over and over, from “Zima Blue,” as well as the concept of a heaven where self-aware robots can do what they want and unfold as they please, from *Futurama*. I examined these depictions by asking whether they provide an adequate picture of eschatological completion for robots. Doing so, I was able to show that both pop-cultural depictions of robotic afterlife illustrate appropriate notions of robotic completion—and that it primarily depends on which conception of robotic afterlife is matched with which robot and its specific set of properties. From this I concluded that different kinds of robotic afterlife can be imagined, ranging from an afterlife where single-purpose robots will be completed by performing their one or few individual tasks without interruption (“Zima Blue”) to robots finding completion in doing whatever they want and freely unfolding (*Futurama*).

Ultimately, the exploration of robotic afterlife has opened up new avenues of theological reflection, inviting us to broaden our horizons and consider the profound implications of our rapidly advancing technological landscape on the way we perceive and engage with matters of faith and completion.

Notes

- ¹ At this juncture, one might question if Pepper or NAO are genuinely highly complex robots or if their complexity is, in fact, quite limited. These critical inquiries are valid. While Pepper and NAO are among the most advanced robots at present, they are rather rudimentary compared to futuristic robots or those found in science fiction. They do not serve as the ultimate reference point for highly complex robots. To demonstrate this, I mention the robots from “Zima Blue” and *Futurama* as further examples.
- ² Not only in Härle’s work but also in the works of other prominent theologians or other theologians, eschatological statements can be recognized as deductive conclusions from other Christian doctrines from the perspective of completion. Examining, for instance, Karl Barth’s anthropology (Barth 1962), we find humans portrayed as relational beings, that is, entities fundamentally defined by their relationships with others, themselves, and God (Krötke 2000). On Earth, however, these relationships are tainted by sin, leading humans to often act selfishly, focusing on themselves instead of their fellow humans (Krötke 2016; Jenson 2006). In his *Doctrine of Reconciliation*, Barth (1936) expounds on how this human flaw is overcome through Jesus Christ, allowing persons to achieve completion by being able to fully unfold their relational nature (Gunton 2000). Consequently, Barth’s eschatological concepts, embodying the unobstructed expression of relationality, emerge deductively as a consequence of his anthropology from the perspective of reconciliation and completion. A similar case can be made for *Black Theology*. Grounding its reflections in the daily experiences of Black persons (Hopkins and Antonio 2012), *Black Theology* highlights the present-day threats of racism, societal exclusion, and the marginalization of Black people to second-class citizenship (Cone 2018, 2011). Eschatologically, *Black Theology* harbors a hope for the eradication of racism and envisions a future where Black persons are liberated and can live freely in community (Roberts 2012). Last, body-focused theologies can be considered (Isherwood and Stuart 1998). These theologies underscore that humans are “corporeal beings” (Plessner 2019) while also acknowledging that the vulnerability, aging, and potential for injury inherent in the human body, and on Earth, can never be eradicated (Braun 2017). According to these body-focused theologies, eschatologically the human body will transform into a *σῶμα πνευματικόν* (1 Corinthians 15:44), no longer susceptible to decay or death and devoid of all vulnerability, suffering (Limone 2018), and pain (Revelation 21:4). In both *Black Theology* and body-focused theologies, eschatological visions are deducted from anthropological assumptions that are viewed from a perspective of completion.
- ³ This article’s methodological approach—drawing conclusions about the existence and nature of a robotic afterlife solely based on their alignment with biblical-theological beliefs and other Christian doctrines—raises a critical question: Does such an approach not open the door to arbitrary eschatological speculation? On the one hand, this concern is absolutely justified: it is important not to drift into arbitrariness and speculation while considering eschatological questions. However, it can be argued, without resorting to whataboutism, that no eschatological question can be answered definitively, with clear reference to empirical observations or experiential knowledge (Härle 2015). They all must work with deductive approaches, approximations, and analogies—thus, all risking a certain degree of arbitrariness and speculation. Systematic theologians can respond to this in two ways: either by ceasing to address eschatological topics (but are similar criticisms not applicable to every doctrinal topic? Should then all doctrinal work be ceased?) or by accepting this limitation and still striving to make reflections as methodically clear, reasonable, and comprehensible as possible. In this article, I have chosen the latter.
- ⁴ At this juncture, it is worth noting that the Bible makes no mention of robots, let alone a robot heaven. This silence could raise fundamental questions about the appropriateness of contemplating a robot heaven. However, the Bible is also silent on numerous other eschatological matters (Walls 2008a). As such, this silence should not be viewed as an obstacle. Instead, Christian eschatology can be interpreted as encouraging inquiry about a robot heaven. As Jerry Walls (2008b) explains, eschatology, with its focus on the last things, has a universal scope: “Eschatology is thus the study of the final end of things, the ultimate resolution of the entire creation. So considered,

eschatology is obviously cosmic in scope.” This broad perspective practically necessitates not only contemplation of a heaven for humans but also a move beyond anthropocentrism in theology to consider a heaven for animals (Alcorn 2004, 371–90; Quinn 1984), plants (MacKinnon and McIntyre 1995), or even robots.

- ⁵ At this point, one might ask what exactly Paul meant when writing that the whole of creation will achieve completion: Does it mean that every individual entity in creation (including robots) will experience completion, or does it mean that, similar to Noah’s Ark, only individual representatives, but not every entity, will experience completion? In my view, the first option seems significantly more plausible. If only individual representatives were to experience completion, one could logically question whether this also applies for humans. To counter this question, one would need to find a clear exegetical criterion that distinctly separates humans from the “rest of creation” in Paul’s passage. However, this would contradict the whole logic of this passage, as the point of these verses is, as indicated on a motivic and semantic level (Dunn 1988, 464–95; Schmithals 1980, 158), to point out humans as part of creation rather than separate from it, not to create a dualism between them. If one does not wish to conclude that only some representative humans will experience completion, it is more reasonable to assume that completion for all of creation implies completion, and consequently an afterlife, for each individual entity rather than only representative entities.
- ⁶ One might object that Paul, in his elaborations, primarily contemplates God’s creation, while robots are human-made. However, this counterargument can be refuted both at the exegetical level—the term *κτίσις* does not differentiate between divine creation and human endeavors but encompasses everything without exception—and at the systematic-theological level—since only God can “create” (*ex nihilo*), humans can merely fashion new things from existing materials, which is why every human creation is ultimately also a creation of God.
- ⁷ To take this argument to the point of absurdity, one could provocatively ask if this means there should also be a heaven for inanimate objects like stones, tools, or even weapons. In response to this question, I would assert that it is indeed consistent to assume that there is an eschatological “fate” for these items—and there are certainly Biblical references supporting this idea, such as Micah 4:1–4, which suggests that, at the very least, tools will have an eschatological role to play.
- ⁸ In addition to Robot Heaven and Hell, in Futurama there exists a third eschatological realm known as Robot Limbo for robots that were neither virtuous enough for heaven nor wicked enough for Robot Hell. Robot Limbo is described as a cloud where the program codes of these robots are uploaded, allowing them to persist in a state of perpetual existence.
- ⁹ Similar challenges emerge in the realm of animal ethics, wherein only normative anthropocentrism can be surmounted, not the epistemic (Körtner 2015).

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