# Artificial Intelligence: Can We Create Machines in Our Own Image?

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**Abstract**

The field of Artificial Intelligence (AI) leads to many questions about what it means to be human. Some researchers claim that inevitably computers will reach a certain threshold of complexity that will enable them to "think" and artificial consciousness will emerge. This speculation, taken a step further, leads some to believe that computer technology will eventually free humans from the frailty of their bodies and enable them to achieve immortality. Underlying these claims is a reductionistic philosophy about what it means to be human and how one approaches the mind-body problem. Ever since the fall people have wanted to be like God, and the pretension that humans can create a conscious being in their image illustrates a pride like that found at the "Tower of Babel". These notions illustrate a general trust in technology as savior of the human condition known as technicism. Related to the questions of what it means to be human is the notion of personhood. Even though they are not human, could computers or robots one day be considered as persons? These claims will be examined in the light of the scriptural notion of what it means to be created in the image of God along with normative principles for the role of artificial intelligence and computer technology.

## 1 Introduction

The birth of artificial intelligence began in the 1950's with work by researchers such as John McMCarthy at Dartmouth College [12]. The 1950's and 1960's was a period of early work in the field and was accompanied by great expectations. Big predictions and grand claims were made about the possibilities of AI that lay just around the corner. The hype diminished as early predictions failed to materialize.

More recently, with the rapid change fueled by Moore's Law and distributed computing, there is renewed optimism about the capabilities of artificially intelligent computers. In 1997, for the first time in history, a computer beat the world reigning chess player, Garry Kasparov. This event raised many questions about how the capabilities of computers may one day be able to match or exceed humans in other ways. Some recent books that speculate on these matters include: *The Age of Spiritual Machines* [7], *Robot: Mere Machine to Transcendent Mind* [8], and *Beyond Humanity: CyberEvolution and Future Minds* [9].

### 1.1 The Turing Test

Even in the early days of computing, people began to think about the concept of intelligence. In his 1950 paper "Computing Machinery and Intelligence", Alan Turing proposed a test to determine whether a computer can be said to "think". Turing suggested a test whereby a remote human interrogator must distinguish between a computer and a human subject based on their replies. Turing's assumption was that the human mind can be replicated in a computer and he predicted that the test he proposed would be passed by about the year 2000.

### 1.2 AI and Popular Culture

It is not uncommon to attribute "human" characteristics to computers in our every day language. For instance, when a computer is busy calculating, we say that it is "thinking", and when a computer enters a suspended state we say that it is "sleeping". Although we may not necessarily realize it, using such

anthropomorphic language with regards to computers can perpetuate the notion that computers are in some ways like humans. Edsger Dijkstra, a well-know computer scientist, has been quoted as saying that "The question of whether a computer can think is no more interesting than the question of whether a submarine can swim".

Artificial intelligence has also captured the imagination of many writers and film makers. The archetype of creatures trying to become like its creator is evident in the story of Pinocchio who wants to become a real boy and in the "Wizard of Oz" where a tin man wants to have a real heart. The story of Frankenstein tells the story of a creature who is brought to life and who ultimately turns on his creator. The movie "2001: A Space Odyssey" introduces an intelligent talking computer named HAL who also turns on his human operators. In the movie "A.I.", an artificial boy is depicted who is "adopted" by a family only later to be abandoned by his human adopted mother. The rest of the movie traces his search for his mother, and as the movie progresses, the noble character of the artificial boy is contrasted with the real humans that he encounters along the way. More recently, films like "I Robot", "Terminator" and "The Matrix" have painted a grim picture of a future where machines have turned against their creators and seek to destroy humanity. These films illustrate a postmodern view of technology, one which views technology with despair. This view predicts amazing advancements in AI, but this technology will ultimately become a threat to humanity. These films reflect certain attitudes about technology and ultimately what it means to be human.

### 1.3 Questions Related To AI

The question of artificial life, leads to several philosophical and religious questions. Some of these questions include:

- Could computer hardware or software replicate the human brain?
- What is the connection between mind and body? Is there a soul distinct from the body? If so, how are the body and soul linked?
- Can we create machines in our own image? What does it mean to be made in the image of God?
- What does it mean to be human? What does it mean to be a person?
- What is consciousness? Could a machine ever become self-aware?

Some of the most intriguing philosophical questions that arise in AI are questions surrounding the nature of the human mind. The "Mind-Body Problem" is the problem of describing the relationship between the mind and body and is explored further in the following section.

## 2 The Mind-Body Problem

Over time, various different views have been suggested regarding the relationship between the mind and the body. In general, the different views on the relationship between the mind and body can be categorized as *monism* or *dualism*. Monism asserts that humans are made of one substance. In contrast to this, Dualism asserts that humans are somehow made up of two parts, often identified as the body and the soul.

A third less-common view, known as trichotomy, goes a step further and suggests that there are actually three constituent elements in humans: body, soul, and spirit. Dualists generally accept that soul and spirit are synonyms, but trichotomists hold that these are actually distinct elements. Trichotomy has been influenced by Greek philosophy, particularly with Plato who had a tripartite understanding of human nature [5]. Trichotomists often appeal to literal interpretations of New Testament verses such as 1 Thessalonians 5:23 to support their view. In this passage we read "...May your whole spirit, soul and body be kept blameless at the coming of our Lord Jesus Christ". However, care should be used in the interpretation of such verses. The point of this verse is not that we have three parts, but rather that our *whole* person be preserved and kept.

Both monism and dualism are discussed in more detail in the following subsections. These common views are representative of different approaches to the mind-body problem and are relevant to articulating a response to the notion of artificial life.

## 2.1 Monism

Monism is the view that we are made up of one substance rather than separate parts. Thomas Hobbes was one of the first modern spokesman of monism and he argued that consciousness and souls arise from the internal functions of the body alone[4]. According to Hobbes, in the resurrection, God will raise bodies along with souls as well.

One modern form of monism that is common today among those who believe computers can replicate humans is *materialism*. Materialism holds to the position that all creatures consist only of matter and its functions. Materialists explain complexity by the interactions of many simple entities leading to "emergent behaviour". Complex systems cannot be understood by examining their parts, but rather they work because of the interaction between many components. In this manner the brain has been compared to a large ant colony [6]. Although each ant has minimal intelligence, the ant colony as a whole exhibits complex behavior which seems to somehow emerge at the colony level. Likewise, the brain consists of billions of neurons and our minds arise not from the property of individual neurons, but rather from the interaction of a myriad of neurons. This view holds that complex things can always be explained by simpler things and complex biological systems use the same basic laws that govern inanimate matter. Some predict that with the current pace of technology that artificial life will soon be possible. The human brain has about $10^{11}$ neurons with about $10^{14}$ synaptic connections between neurons [12]. Moore's Law predicts that the gate count on CPU's will equal the number of neurons in the human brain by around the year 2020.

Underlying these claims is a reductionistic philosophy about what it means to be human and how one approaches the mind-body problem. Such a view denies the presence of a spiritual world outside and beyond what can be seen. This is a form of ontological reductionism that should be rejected by Christians who believe that we are created in the image of God.

## 2.2 Dualism

The 17th century philosopher René Descartes explored the mind/body problem and was an early proponent of dualism. His position was that the mind and body are separate entities. He argued that part of the mind must be free of physical laws in order for humans to have free will. This led to more questions about the nature of the link between mind and body. Many theories exist about how the body and soul are separate but related. These theories include the following [1]:

**Occasionalism** matter and spirit work under separate laws

**Parallelism** body and soul are in harmony

**Realistic Dualism** body and soul are distinct substances and interact in mysterious ways

Some Biblical scholars are suspicious of dualism because of its apparent similarity with Platonic Greek thought. Platonic dualism saw the body as an earthly packaging for the spirit, a necessary evil to be eventually discarded. We must be careful to distinguish ourselves from this form of dualism and reject the notion of drawing a line between a higher spiritual realm and a more corrupt physical one. Rather, both the physical and spiritual realms have been created by God and should be affirmed by Christians. The Bible clearly affirms the value of the body. Our bodies are "temples of the Holy Spirit" (1 Cor. 6:19) and both this earth and our bodies will one day be restored and renewed.

In Question and Answer 1 of the the *Heidelberg Catechism* we read that "I belong, in life and death, in body and soul, to my faithful saviour Jesus Christ". Is this confession using poetic language or is a literal description of how we are made? The language used in the Bible cannot always be interpreted literally, and sound hermineutical principles need to be employed when referencing scripture. However, scripture seems to support some kind of dualistic view of body and soul [1]. Many references in the New testament identify two parts: "flesh and spirit" or "body and soul". Another important clue in scripture is references to the concept of the "intermediate state" between death and the final resurrection. In the Bible we read Paul's comforting statement that "we are confident, I say, and would prefer to be away from the body and at home with the Lord" (2 Cor. 5:8).

Is it possible to understand clearly the relationship between body and soul from scripture? It is important to realize that the Bible is *not* a scientific anthropology textbook [2]. We need to be careful about making

conclusions on the constituent elements of human nature based on individual verses. For instance, in Mark 12:30 we read that we are to "Love the Lord your God with all your heart and with all your soul and with all your mind and with all your strength". Does this imply that we are comprised of four parts: heart, soul, mind, and strength? Clearly, these characteristics are overlapping attributes meant to emphasize the whole person. It is also important to be familiar with the nuances of the original Greek or Hebrew text. Perhaps the relationship of "body" and "soul" will remain a mystery to us. The psalmist makes this clear when he writes: "For you created my inmost being; you knit me together in my mother's womb. I praise you because I am fearfully and wonderfully made; your works are wonderful, I know that full well." (Psalm 139:13-14). Despite this mystery, the psalmist reminds us of the comfort that Christians have, knowing that whatever happens "your right hand will hold me fast" (Psalm 139:10b).

# 3 A.I. and Creation

The story of creation also informs us about how we should view the topic of artificial life. The story of creation is important because it teaches us about how human life began. In Genesis 2:7 we read "the Lord God formed the man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being". This suggests that human life seems to require two ingredients: the material dust of the earth, and the "breath" of God. A similar image is given in Ezekiel 37 where we read of the dry bones being reconstituted into flesh, yet the breath of the Lord is still necessary to impart life.

Two other aspects of the creation story also indicates how humans are special compared to other created entities. First of all, man's creation followed a divine counsel: "Let us make man in our image, after our likeness" (Gen. 1:26). Next, in distinction from other creatures, man was created "in the image of God" whereas birds, fishes, and animals were created "after their kind".

## 3.1 Imago Dei

What does it mean to be made in the image of God? For John Calvin, the image of God was essentially spiritual in nature, extending "...to the whole excellence by which man's nature towers over all the kinds of living creatures." Interpretations of what being made in the image of God have varied. However, there are a few concepts that are helpful when one is considering how humans are distinct from other parts of the creation. The implications of being made in the image of God include the following [10]:

- God has given us dominion and responsibility (Gen. 1:28)
- We are to live in loving communion with each other
- We reject materialist reductions of our status
- We reject humanistic exaggerations of our status: we are not gods, but only images of God

There are some clear implications of being made in the image of God. By rejecting materialist reductions of our status, we assert that we are more than just machines. In fact, the best picture of the image of God is found in Jesus Christ, who is the perfect image of God. Jesus makes this clear in John 14:9 when he says "Anyone who has seen me has seen the Father". Consequently, Christians should strive to be more and more like Jesus who demonstrated a perfect love.

This leads to the next question: can we create machines in our own image? Computers, by their nature, are limited to representing those aspects that are reducible to numbers and logic. However, technology itself is not neutral - it embeds the values of those who make it. Neil Postman makes this clear when he states:

> Embedded in every tool is an ideological bias, a predisposition to construct the world as one thing rather than another, to value one thing over another, to amplify one sense or skill or attitude more loudly than another [11]

In this sense, the machines we create will reflect us in the sense that they will reflect our values.

## 3.2 The Image of God and the Fall

Due to the fall, our ability to image God is now marred and distorted. We do not show love to God or neighbour as we ought and we do not care for the earth the way we ought. When it comes to technology, we embed sinful values into our technology and we develop technology in ways and for purposes for which it was not intended.

Instead of being faithful image bearers, we want to become "like God", the same desire which accompanied the first sin by Adam and Eve. Through technology, some seek immortality, omnipotence, omnipresence, and omniscience. Speculation about artificial life leads some to believe that computer technology will eventually free humans from the frailty of their bodies and enable them to achieve immortality. Driven by the slogan "knowledge is power", some pursue technical research as a means to strive for a form of omnipotence. Technologies such as virtual reality, haptics, and tele-operation, and wireless communications enable the possibility of a kind of omnipresence. Finally, some pursue database, surveillance and searching technologies to achieve some form of omniscience. The technologies listed above are not bad in themselves, however, the temptation to use technology to "become like God" is wrong. We are not gods, but only images of God.

A "tower-of-Babel" culture replaces God with a reliance on technology. This is a form of idolatry; looking to created things rather than to the creator. Some people believe that technology will eventually solve all our problems and will usher in a "new age". Technicism is the secularized faith in technology as savior or rescuer of the human condition [13]. This philosophy is one of the "spirits of our age" that Christians must be able to discern.

# 4 Consciousness and Personhood

Two other issues related to artificial intelligence are the questions that arise in connection with consciousness and personhood.

## 4.1 Consciousness

What is consciousness and is artificial consciousness a real possibility [3]? Marvin Minsky in his book *The Society of Mind* states that "There's something queer about describing consciousness: whatever people mean to say, they just can't seem to make it clear. How could anything seem so close, yet always keep beyond our reach?". Indeed, the notion of consciousness is a difficult concept to define. Nevertheless, many proponents of *strong AI* claim that machines will someday become self-aware and conscious. Since there is no real test to prove consciousness, it is not clear how people will ever be able to prove a machine is conscious. It is possible that one day complex machines may be able to pass tests like the Turing test, but this will not prove they are conscious. John Searle illustrates this issue in a well-known thought experiment called the "Chinese room argument" [14].

## 4.2 A.I. and Personhood

Even though artificially intelligent robots will never be human, could they ever be regarded as "persons"? Before one can answer that question, one must identify what is meant by "personhood". Not all people have always been recognized as persons. For instance, at different times throughout history there have been people such as slaves who have not been recognized as persons. More recently, the notion of personhood has been raised in the context of contemporary bioethics. Christians accept the notion that all humans have been made in the image of God and justice demands that they be recognized as persons. However, is it possible to consider non-humans as persons? If some things that are not human, such as corporations, can be recognized as persons, is it possible that a robot could one day be regarded as a "person"? One definition of personhood is that it is attributed by a legal, moral, or political community. If one accepts this definition, it is conceivable that someday robots or artificially intelligent systems could be considered as "persons" by society. Someday, if intelligent robots mimic humans in convincing ways, they may be also be granted recognition and certain "rights" by society. As such, it is possible that they may even be considered as "persons", albeit "artificial persons".

# 5 Redeeming A.I.

AI is part of the latent potential that God placed in the structure of creation. Technology is not a result of the fall, it is part of a creation that was originally created "good". If God created the possibility for AI, Christians should seek out normative ways to use AI technology. This can be realized by using AI to create useful machines to perform tasks requiring intelligent behavior in ways that show love to God and neighbor. Some examples of this technology include speech and image recognition to aid those with disabilities, intelligent web and e-mail content filters, service robots, and expert diagnostic systems. In addition, working with AI can foster a greater admiration for the complexity we find in Gods creation.

# 6 Conclusion

The topic of AI is ripe with philosophical and religious questions about what it means to be human and made in God's image. AI is part of the latent potential that God placed in creation and that we are called to discover and develop. As a consequence of the fall, there are distortions in the use and place of AI and technology. As Christians, we are called to to reject technicism in all its forms, and work to shape technology in ways that answer God's call to look after the earth and to show love to our neighbours. A Christian view of technologies such as AI is summarized well in the words of Article 52 of the contemporary testimony *Our World Belongs to God*:

> Grateful for advances in science and technology,
> we make careful use of their products,
> on guard against idolatry and harmful research,
> and careful to use them in ways that answer
> to God's demands to love our neighbor
> and to care for the earth and it creatures.

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