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A New Catechism for the Digital Age

by Bruce Baker¹

Preaching and teaching in our digital age demands theological reflection to answer challenging questions raised by exponential technologies. Can an AI become conscious? Is AI intelligent, really? Can a robot sin? Can we program morality? Can we upload our minds? Is transhumanism a technical possibility? Do we need to rethink eschatology? In this paper I hope to contribute to a constructive dialog. I suggest this catechism format as a means to support the need of the Church to teach sound theological doctrine with respect to these challenging questions. By no means do I wish to imply that this catechism is a definitive statement by any church tradition. It is merely a discussion-starter. It should be thought of as a mere draft for the purpose of generating further thought.

The catechism format has advantages and disadvantages. It can help clarify points of doctrine, and show how theology sheds light on philosophical discourse. Since the catechism presumes a posture of faith, it is intended for use within a community of faith, and is not as helpful as a presentation of apologetics for a secular audience.

Q 1. Why do we need a new catechism? Aren't the old ones good enough?

The old catechisms are as good as ever; they remain profound and relevant. From time to time however, the Church has felt a need to articulate fresh expressions of faith. The need for a new catechism arises not because the old answers are wrong, but rather because the questions are being asked in new ways. Technological advancements bring cultural change, and the popular moral imaginary faces puzzling new questions. Not because timeless affirmations of faith have lost relevance, but because things look different in the light of new knowledge.

Frank Wilczek, recipient of the 2004 Nobel Prize in physics, sums up popular interest in, and anxiety over, AI by asking three “contentious questions”:

Can an artificial intelligence be conscious?

Can an artificial intelligence be creative?

Can an artificial intelligence be evil?²

Wilczek answers simply:

¹ Portions of this paper were presented at the Fifth Annual conference of the Center for Pastor Theologians, October 14, 2019, in Chicago IL.

² Wilczek, F. “The Unity of Intelligence,” in Brockman, J. (ed.). 2019. *Possible Minds: 25 Ways of Looking at AI*. New York: Penguin, 66-75,

Based on physiological psychology, neurobiology, and physics, it would be very surprising if the answers were not Yes, Yes, and Yes.³

Wilczek bases his simple answers on Francis Crick's "Astonishing Hypothesis"—

The Astonishing Hypothesis is that "You," your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behavior of a vast assembly of nerve cells and their associated molecules. As Lewis Carroll's Alice might've phrased it: "You're nothing but a pack of neurons."⁴

Based on this axiom, Crick concludes that

[T]he idea that man has a disembodied soul is as unnecessary as the old idea that there was a life force. This is in head-on contradiction to the religious beliefs of billions of human beings alive today.⁵

Crick's statement is indeed astonishing, not for its scientific rigor, but for its distorted, even perverse idea that human person can be divided into two parts—a body and a disembodied soul. What a fraudulent description of humanity!

Crick displays ignorance of the Bible on this account of human nature. He is not alone. Crick here gives voice to a strong stream of popular thinking about what we can learn from science and technology regarding our humanity. Hence, the need for a new catechism to address these sorts of speculations head-on, for such misunderstandings are as likely to arise within the Church as outside it.

I therefore offer this "new catechism," not as a corrective to any established catechisms or Church traditions, but rather in hope of providing a background for sound biblical teaching and preaching in light of the impact of technological advances upon popular cultural imagination.

Q 2. Can an AI become conscious?

Conscious and consciousness are not biblical words. The term "consciousness" needs to be placed in some sort of contextual frame of meaning in order to provide a satisfactory theological answer to the question. The first response to this question is therefore another question: What do you mean by "conscious"?

Byron Reese and Max Tegmark offer helpful guidelines in an effort to narrow down the meaning of the term.⁶ They pose questions about worldview and metaphysics. How you

³ Ibid.

⁴ Crick, F. 1994. *The Astonishing Hypothesis: The Scientific Search for the Soul*. Scribner's, 3.

⁵ Ibid., 261.

⁶ Reese, B. 2018. *The Fourth Age: Smart Robots, Conscious Computers, and the Future of Humanity*. New York: Atria Books. Tegmark, Max. 2017. *Life 3.0: Being Human in the Age of Artificial Intelligence*. New York: Alfred A. Knopf.

answer their surveys predicts to an extent how you would answer the question of whether an AI (or machine) can become conscious.

Here, for example are Reese's survey questions:

- Does the Chinese room think?
- Does the Chinese room or the Librarian *understand* Chinese?
- Whatever you think "the juice" is, could the machine a be [sic] get it? (If you don't think it exists at all, count that as a yes answer.)
- Do you answer the "What are we?" Foundational question with "machines"?
- Did you answer the "What is your 'self'?" question with either "a trick of the brain" or "emergent mind"?
- Did you answer the "What is the composition of the universe?" question with monist?⁷

Consciousness is generally used to describe a living being's sense of *self-awareness*. This entails a capacity to have feelings, sensations, and interior thoughts, which implies the existence of a mind that can originate creative ideas and express them. This presumably requires some degree of intelligence, as a pre-requisite to being able to discern reality, to think, and to interact with the surrounding environment. Self-expression, imagination, and art are sophisticated marks of consciousness.

The question about AI consciousness needs to be broken down into its constituent questions in order to make sense. Can a machine or AI can be intelligent? Be a self? Become self-aware? Be imaginative? Have (or be) a soul?

In biblical context, perhaps the most significant way to frame this question is to back up and look at the underlying biblical meaning of soul. Both the Old and New Testaments are rich with nuance and implications for the meaning of soul. The English word "soul" translates, but fails to capture the rich meaning of two broadly used biblical referents—*nephesh* (נֶפֶשׁ) and *psychē* (ψυχή)—the Hebrew and Greek words most commonly used.

The question of consciousness thus leads immediately to the next question (below) about soul.

Gen. 2:7 "then the Lord God formed the man of dust from the ground and breathed into his nostrils the breath of life, and the man became a living creature (נֶפֶשׁ)."

Deut. 6:5 "You shall love the Lord your God with all your heart and with all your soul (נֶפֶשׁ) and with all your might."

Ps. 103:1 "Bless the Lord, O my soul (נֶפֶשׁ)."

Matt. 22:37 "You shall love the Lord your God with all your heart and with all your soul (ψυχή) and with all your mind."

Matt. 16:26 "For what will it profit a man if he gains the whole world and forfeits his soul (ψυχή)? Or what shall a man give in return for his soul?"

⁷ Reese, p. 179.

John 12:27 “Now is my soul (ψυχή) troubled.”

Q 3. Can an AI possess or become a soul?

As seen in the previous discussion, we need to attempt a definition of “soul” before we can answer this question. The creation story in Genesis introduces the concept of soul in the context living, breathing creatures created by God. If Genesis is interpreted as making a definitive statement of what it means to be a *nephesh-haya* (“living creature/soul”) then the answer is: No, machines and AIs are not souls. As human-made artifacts, and not living creatures, they are categorically different from the beings created by God and described by the words *nephesh-haya*. Soul refers to the very life of the creature, sustained in some mysterious way by God’s design, creativity and active will.

It is worth noting that this term is used broadly and with many poetic meetings to describe many aspects of both animals and humans. In the creation story, God brings forth many kinds of living creatures, all designated as *nephesh-haya* (נֶפֶשׁ חַיָּה): sea-life and birds (Gen. 1:20), livestock, creeping things, and beasts of the earth (Gen. 1:24), and ultimately humankind (Gen. 2:7). The human soul is distinctly different from the other animal souls. Humans are made male and female in the image of God, and human persons are elevated to the status of children of God. These are not attributes transferrable to non-living machines made by humans.

This much seems obvious. Perhaps the more interesting question, to engage in constructive dialog with secular thinkers, is to ask whether an AI or machine can demonstrate levels of intelligence, creativity, artistry, emotion, and other traits generally assigned to humans.

Gen. 2:7 “then the Lord God formed the man of dust from the ground and breathed into his nostrils the breath of life, and the man became a living creature.”

Rom. 8:11 "If the Spirit of him who raised Jesus from the dead dwells in you, he who raised Christ from the dead will give life to your mortal bodies also through his Spirit that dwells in you."

Rom. 8:16 “The Spirit himself bears witness with our spirit that we are children of God.”

Q 4. What do science and philosophy teach about consciousness?

Scientists and philosophers offer many different answers, depending on their personal worldviews, faith perspectives, and theological interpretations. There are many ways to define the term, based upon vastly different notions of spirituality and existence. There is no one “scientific” answer any more than there is one “theological” answer.

Spiritual reality requires to be studied within a framework that acknowledges spiritual modes of perception, and the force of revealed truth. Any other approach to the subject

matter is either abjectly closed-minded (regarding the possibility of a bigger reality than can be explained in mechanistic, materialistic terms), or is patently non-scientific (by refusing to bring a rational approach to the study of revealed truth)—

You know something only in accordance with its nature, and you develop your knowledge of it as you allow its nature to prescribe for you the mode of rationality appropriate to it. That is the kind of objectivity we adopt in all rational behavior whatsoever.⁸

To keep in step with this burden of rational inquiry into consciousness—to develop our knowledge of something in accordance with its nature—requires that we not treat consciousness as though it were a mere biological artifact of deterministic materialism in a godless universe. That is not a rational argument, but rather an axiomatic, *a priori* declaration of faith in such a worldview. It begins in a false, unprovable premise, takes that false premise as given, and ultimately denies any reason to place trust in its own conclusions.

Byron Reese is right to point out that what you think of the prospects for AI consciousness will depend upon your belief system. The challenge that leads to failure in dialog is due to unspoken differences between competing belief systems—

In beginning of his book, Reese refers to the debate over ideas about living machines, and computer consciousness:

To those who follow all this debate, the net result is confusion and frustration. Many throw their hands up and surrender to the cacophony of competing viewpoints and conclude that if the people at the forefront of these technologies cannot agree on what will happen and what hope do the rest of us have?

Is there a path out of this? I think so. It begins when we realize that these experts disagree not because they know different things, but because they *believe* different things.⁹

If consciousness is a *qualia* or experience of a human person, made in the image of God, then rational scientific inquiry will treat it as such. A biblical understanding of the created order gives scientists and philosophers good reason to study the biological, material, and metaphysical aspects of mindfulness, consciousness, and intelligence without blindly “defining away” the function of consciousness as a *qualia* of the soul.

Col. 2:8 “See to it that no one takes you captive by philosophy and empty deceit, according to human tradition, according to the elemental spirits of the world, and not according to Christ.”

1 Cor. 1:20 “Where is the one who is wise? Where is the scribe? Where is the debater of this age? Has not God made foolish the wisdom of the world?”

⁸ Torrance, T. F. 1971. *God and Rationality*. Oxford University Press, 52.

⁹ Byron Reese. (2018). *The Fourth Age: Smart Robots, Conscious Computers, and the Future of Humanity*. New York: Atria Books, x-xi.

Q 5. Why does the question of AI consciousness get so much attention?

Because it offers a tantalizingly plausible way to rationalize belief in nothingness—the belief that there cannot exist any real, spiritually transcendent point to human existence. [Note: as shown in the discussions above, such attempts falter and lack the cohesiveness that a wider perspective of spiritual reality provides. Nonetheless, the questions persist, because many people desire to rationalize their belief in the antithesis of a universe created by God.]

The desire to rationalize belief in a universe devoid of God is perfectly natural, and it has been with humankind throughout history. AI is simply the latest and greatest place to look for some counterexamples to the biblical affirmation that human identity entails a spiritual reality of a persistent, eternal “soul.”

AI continues to achieve an impressive string of milestones, continually pushing back the boundary between human and machine capability. In recent memory Deep Blue defeated the world chess champion (1997), then Watson defeated the world’s Jeopardy champion (2011), then AlphaGo defeated the world Go champion (2017).

AI has made great strides in the creative arts, as well. One of the most interesting and telling demonstrations of the challenge of creating artistic beauty by AI is the case of *The Next Rembrandt*—an attempt to teach an AI how to paint like Rembrandt. Data scientists at Microsoft and Delft University teamed up to code a machine learning algorithm to paint like the master. Microsoft executive Ron Augustus described the goal of the project: “We are using technology and data like Rembrandt uses his paints and brushes to create something new.”¹⁰

After 18 months of data crunching and 500 hours of rendering, the team finally felt ready to reveal to the world its attempt to resurrect Rembrandt. The painting was unveiled on April 5, 2016 in Amsterdam and immediately caught the public’s imagination, with over 10 million mentions on twitter the first few days of it’s [sic] going on display.¹¹

The desire to push back the distinction between artificial and human intelligence is driven by more than the psychological desire to avoid cognitive dissonance, in order to justify belief in a godless universe. There are powerful financial incentives at work also, as du Sautoy notes well:

The current drive by humans to create algorithmic creativity is not, for the most part, fueled by desires to extend artistic creation. Rather, the desire is to enlarge company bank balances. There is a huge amount of hype about AI, even

¹⁰ du Sautoy, Marcus. 2019. *The Creativity Code: Art and Innovation in the Age of AI*. Cambridge: Belknap Press, p. 118f.

¹¹ Ibid.

as so many initiatives branded as AI offer little more than statistics or data science.

Businesses have a large stake in convincing the world that AI is so great that he can now write incisive articles on its own, and compose lovely music, and paint Rembrandts. It is all fuel for convincing customers that the AI on offer will transform their businesses, too, if they invest. But look beyond the hype, and you see it is still the human code that is driving this revolution.¹²

So far, there remains a qualitative difference between humans and machines when it comes to creative arts, general intelligence, creative puzzle solving, moral deliberation, empathy, natural language, sports agility, and a host of other attributes. Nonetheless, the boundaries will continually move. The questions are here to stay.

Rom. 1:19-21 “For what can be known about God is plain to them, because God has shown it to them. For his invisible attributes, namely, his eternal power and divine nature, have been clearly perceived, ever since the creation of the world, in the things that have been made. So they are without excuse. For although they knew God, they did not honor him as God or give thanks to him, but they became futile in their thinking, and their foolish hearts were darkened.”

1 Tim. 6:20 “O Timothy, guard the deposit entrusted to you. Avoid the irreverent babble and contradictions of what is falsely called “knowledge”

Q 6. Is there a plausible scenario for an AI or machine to achieve consciousness?

The basic argument goes like this: (1) Since human beings are material beings—our bodies and brains are entirely physical, (2) our minds, thoughts, feelings, and sense of self must be “emergent properties” of material existence. (3) We have no good reason to believe that our ability to build ever more complicated machines, computers, and code is limited by any physical impossibility. (4) Therefore at some point in the future, we are likely to be able to build a “thinking machine” capable of consciousness, and (5) we will probably discover this new form of consciousness by surprise, without having realized what has happened, when the machine expresses itself in some manner we have not yet imagined.

This argument might sound plausible on the surface, but it begins with the false presumption that human consciousness is based in a purely “material” existence. This fails to acknowledge biblical teaching. Human beings are more than merely material substances. Humans bear the image of God (Gen. 1:26). Humans are filled with the Spirit

¹² du Sautoy, p. 282.

of God (Gen. 6:3, 41:38; 1 Cor. 3:16). Humans are both spirit and flesh (Rom. 8:1-17; Gal. 5:17), in relationship with God (John 17).

Thus, from a biblical perspective, the argument is specious. In ascribing consciousness to a machine, the very notion of consciousness has been redefined as something different from what a human being would possess. But from a purely materialist perspective, it hangs together better (it has at least a modicum of coherence).

The second step in this argument is based in the premise of “emergent phenomenon”, a concept that “has a lot of cachet in science at the moment,” as Marcus du Sautoy says. The reason for the popularity of this concept is that offers a way out of the conundrum of how transcendent, apparently inexplicable properties such as consciousness can exist if everything in the cosmos is purely material. Du Sautoy explains why this is a popular point of view:

It is an antidote to the mechanistic view that everything can be boiled down to atoms and equations. The phenomena heralded as emergent range from the wetness of water to human consciousness. One molecule of H₂O is not wet, but at some point a collection of molecules gains the property of wetness. One neuron is not conscious, yet a combination of many can become so.¹³

This is clearly a different understanding of consciousness and self-awareness from any portrait of human nature given in the Bible. Although we may not be able to give a precise, analytical, reductive definition of the meaning of the word “soul”, theological anthropology readily affirms that human persons are more than merely material, and that our identity, life, and soul are more than merely emergent properties defined entirely materialistic terms.

1 Cor. 3:16 "Do you not know that you are God's temple and that God's Spirit dwells in you?"

Q 7. Is there a way to combine materialism with a biblical understanding of human nature?

If you're talking about the strictest sense of materialism, then the answer is no, there is not. They are mutually exclusive ideas. “Eliminative materialism”, as defined by Churchland, “denies the existence of immaterial thoughts and experiences.”¹⁴ Similarly, Dennett “denies the existence of ontologically distinct experiences, over and above bodily events.”¹⁵ These two philosophers base their arguments upon an axiomatic, *a priori*, and abject denial of anything that can't be explained as strictly material. In other words, nothing exists unless they say so, by definition, because they claim the prerogative to define what is material and what is not. According to their definition of

¹³ Du Sautoy, p. 281

¹⁴ Churchland, P. M. 1981. “Eliminative Materialism and the Propositional Attitudes,” *Journal of Philosophy*, 78: 67-90.

¹⁵ Boden, M. 2018. *Artificial Intelligence: A Very Short Introduction*. Oxford: Oxford University Press, p. 129.

materialism, there is no such a thing as consciousness, as the word is normally used, with reference to a transcendent sense of self. This is why they call their worldview *eliminative* materialism—because it eliminates the possibility of consciousness or anything else they can't explain in their materialistic metaphysical concepts.

This is obviously circular logic. The rationale goes like this:

(A) (“Eliminative”) Materialism is the sum total of reality, by definition.

(B) Consciousness, as popularly understood, implies mindfulness (thoughts and experiences) that transcend materialism.

(C) Therefore, consciousness (at least as popularly understood) does not exist, because that would violate the axiom (A).

We finish where we began, by denying the possibility of any reality other than that which can be explained by sheer materialism. Materialism is all there is, by definition. By this line of circular reasoning, there exists nothing which the materialistic philosophers cannot explain by dint of their materialism.

This rationale is patently incoherent. If materialism (or “naturalism” as Alvin Plantinga calls it) is true, then we have no reason to trust our mental faculties as explaining the meaning of anything, because the output of our minds is nothing more than an accident of nature, without rhyme or reason. The naturalist therefore has no rational reason to trust his or her cognitive faculties.

We assume our cognitive faculties are reliable. But ... The naturalist as a reason against this initial assumption, and should give it up. I don't mean to argue that this natural assumption is false; like everyone else, I believe that archiving faculties are, in fact, mostly reliable. I do mean to argue is that the naturalist at any rate a naturalist accepts evolution—is rationally obliged to give up this assumption.¹⁶

You are forgiven if this seems confusing. People of different views on the meaning of the metaphysics often end up talking past one another, unable to mount any persuasive arguments. The problem usually boils down to a failure to clarify their differing axioms and presumptions of worldview and faith at the outset. Margaret Boden, a renowned philosopher, sums up aptly, “The topic is a philosophical morass.”¹⁷

Other philosophers have made attempts to meld a softer sort of materialism with the experience of transcendent, “spiritual” reality, by painting fuzzier boundaries around materialism, essentially abandoning the strictures of “eliminative materialism.” We might label these attempts as “soft” materialism, to distinguish them from Churchland's and Dennett's “strong” materialism.

Warren Brown and Nancey Murphy are proponents of “soft materialism.” They try to avoid the self-defeating logic of “eliminative materialism” and allow for the qualia of

¹⁶ Plantinga, A. 2011. *Where the Conflict Really Lies*, p. 326.

¹⁷ Boden, p. 122.

“souliness” to emerge from within a materialistic framework.¹⁸ Murphy and Brown propose a metaphysics in which “souliness” is an emergent property of the organism that arises from the material substrate of biological existence. They label their approach “non-reductive physicalism” (NRP), because they are trying to hold in tension the paradox that the human person is alive as a physical/material entity, and yet at the same time possesses qualities that cannot be reduced to physical cause-and-effect explanations.

The approach of NRP is more promising than strict materialism or naturalism, but not without its own problems. NRP at least acknowledges that “souliness” (whatever that means) is a spiritual reality, and thus leaves the door open to the biblical description of human persons as being both finite, bounded, physical creatures, and at the same time possessing immortal, imperishable identity. Under closer scrutiny, the boundary lines NRP places around materialism/naturalism are difficult to discern, and depending upon how the idea of emergence is interpreted, it may be debated whether NRP actually succeeds in “squaring the circle” or falls into the same trap as “eliminative materialism” with respect to sustaining a coherent statement of material existence as something that can stand aloof from active relationality with the living God.

The whole premise of NRP swings on the hinge of *emergence*, as Brown explains:

It must be emphasized that the term “emergent” does not here refer to emergent *entities* or to new physical forces, but rather to emergent *levels of causal efficacy*. If “emergence” is so restricted in meaning, the term “emergent monism” is generally equivalent to nonreductive physicalism.¹⁹

Note that Brown invokes here the term “monism” in order to defend his stance on NRP. This is an attempt to avoid the heretical teachings of dualism that divide human persons into two or more separate parts or substances—say, a physical body and a disembodied spirit/soul. Monism refers to the biblical view of the human person as being a unified whole—a person made in the image of God—and not two or more different things. Monism affirms the unity of the human person.

It is to this concrete monism that we found ourselves guided by the biblical view and the biblical concept of the “soul.” The abstract dualism of the Greek and traditional Christian doctrine, and the equally abstract materialist and spiritualist monism, are from this standpoint a thoroughgoing and interconnected deviation. ... [I]t is the Spirit, i.e., the immediate action of God Himself, which grounds, constitutes and maintains man as soul of his body. It is thus the Spirit that unifies him and holds him together as soul and body.²⁰

¹⁸ Brown, W. 2004. Neurobiological Embodiment of Spirituality and Soul, in Malcolm Jeeves, ed., *From Cells to Souls – and Beyond: Changing Portraits of Human Nature*. Grand Rapids, MI: Eerdmans. Murphy, N. 2006. *Bodies and Souls, or Spirited Bodies?* Cambridge University Press.

¹⁹ *Ibid.*, p. 65.

²⁰ Barth, K., Bromiley, G. W., & Torrance, T. F. (2004). *Church Dogmatics: The Doctrine of Creation, Part 2* (Vol. 3, p. 393). London; New York: T&T Clark.

Monism affirms the unity of soul and body, as an inseparable, coherent whole. Ray Anderson prefers the term “contingent monism”²¹ to draw attention to the active will relationship of the living God in sustaining and bringing this unity about.

Malcom Jeeves, neuroscientist and Christian philosopher of science, suggests the term, “irreducible, intrinsic interdependence”—

This way we avoid using words like monism, dualism, and physicalism... Thus we see mental activity “embodied” in brain activity. The link is not a causal one in the most common way of using causal in science... The relationship is between two independent levels.²² [23]

These refinements to the concept of NRP, each adding a layer of nuance, show how difficult it is to sustain a coherent statement of physicalism as the basis for human personhood. Even NRP, which would seem to be the most promising attempt to posit a purely material basis for [whatever we mean by] “soul” or “souliness” falters against the witness of Scripture, tradition and doctrine regarding the relational identity of human persons. It seems that a metaphysical understanding of the soul (or the experience of “souliness”) needs to move along other lines of theological anthropology that are not rooted in physicalism.

1 Cor. 15:50 “I tell you this, brothers: flesh and blood cannot inherit the kingdom of God, nor does the perishable inherit the imperishable.”

Q 8. Can an AI be spiritual or display “souliness”?

Based the foregoing theological interpretation we can say that a purely physical machine or virtual machine (any form of AI) is not capable of becoming or being a soul, as the word is used in Scripture (see Q 3).

This is not to deny that robots, virtual machines, and AIs may exhibit thought processes, communication skills, and behaviors that mimic human spirituality and the intractable qualities referred to as “souliness” (see Q 7). Indeed, it seems to be the norm that AI will continually do things that seem surprisingly human. This leads to an ironic but practical definition of AI:

“Artificial Intelligence is the science and engineering of making computers behave in ways that, until recently, we thought required human intelligence”²³

²¹ Anderson, Ray. 1998. “On Being Human: The Spiritual Side of a Creaturely Soul,” in *Whatever Happened to the Soul?*, Warren S. Brown, et. al. eds., p. 186.

²² Myers D. G., and Jeeves, M. A. 2003. *Psychology through the Eyes of Faith*. Harper, p. 23.

²³ High, P. 2017. “Carnegie Mellon Dean of Computer Science on the Future of AI”, *Forbes*, Oct 30, 2017. <https://www.forbes.com/sites/peterhigh/2017/10/30/carnegie-mellon-dean-of-computer-science-on-the-future-of-ai/>, accessed October 11, 2019. Douglas Hofstadter puts it even more succinctly, paraphrasing Tesler’s Theorem: “AI is whatever hasn’t been done yet.” Hofstadter, D. 1980. *Gödel, Escher, Bach: an Eternal Golden Braid*, p. 601.

To ask whether a virtual machine could display “souliness” is, in essence, merely a restatement of the Turing Test. Alan Turing proposed in 1950 that the best way to settle the question, of whether or not a machine could think, would be to hide it behind a curtain, and carry on a conversation with it. If the virtual machine could fool enough of the people enough of the time (Turing proposed 30% was good enough), into thinking that they were communicating with a real person, then it would be fair enough to say, yes, the machine is indeed thinking. This was a tongue-in-cheek proposal by Turing, who no doubt understood the difference between being a thinking person and mimicking the conversation of one.²⁴

Another computer scientist famously quipped that asking whether a computer can think is like asking whether a submarine can “swim.” The point is that observable behaviors do not prove ontological identities. This is certainly true when it comes to human dignity and the *imago Dei*.

The caveat in all this metaphysical pondering is that sound theology stops short of telling God what God can or cannot do. On matters of mystery (and the soul is certainly a mystery), we may be obliged to remain apophatic.

Perhaps there is some mysterious possibility in the unforeseeable future that a merger of living persons and virtual machines might result in an identity that retains the in-breathed Spirit of God, and becomes an instance of *nephesh-haya* (“living creature/soul”). With this sort of thought experiment however, we have entered the realm of either fantasy or speculative theology. Such speculation takes us beyond the reach of biblical witness.

Suffice it to say, a purely materialistic artifact is categorically different from a living soul, as described in Scripture.

Isa. 40:13 “Who has measured the Spirit of the Lord, or what man shows him his counsel?”

Job 5:9 “He does great things and unsearchable, marvelous things without number.”

Rom. 11:33 “Oh, the depth of the riches and wisdom and knowledge of God! How unsearchable are his judgments and how inscrutable his ways!”

1 Cor. 15:51 “Behold! I tell you a mystery. We shall not all sleep, but we shall all be changed.”

John 1:18 “No one has ever seen God. It is God the only Son, who is close to the Father's heart, who has made him known.”

Q 9. Can an artificial intelligence be evil?

The capacity to do good and evil flows from the freedom and willful power of a soul to make choices, act and bear responsibility for those actions. AI, like countless other

²⁴ Boden, p. 120.

technologies that have come before, can be used as tools or weapons, for good or evil purposes. The destructive power of the technology stems not from the device *per se*, but rather from the powers and principalities that unleash it and set it free to serve a false god, and a goal that does not seek to bestow grace and shalom, and to edify others, but rather to profit thereby at the expense of others.

The danger with the powerful new technology of AI stems from the opportunity for evil through sins of selfishness, idolatry or violence. The cyborg, robot or AI lie outside of the relationship of communion with the Trinitarian God. Evil flows from spiritual power which they do not have.

The good news is that God makes all things new in the eschaton. God redeems the creation and heals the hurts and brokenness wrought by evil. The resurrection is the final word, not the word of evil.

Luke 6:45 “The good person out of the good treasure of his heart produces good, and the evil person out of his evil treasure produces evil, for out of the abundance of the heart his mouth speaks.”

John 3:19 "And this is the judgment, that the light has come into the world, and people loved darkness rather than light because their deeds were evil.”

Eph. 6:12 “For we do not wrestle against flesh and blood, but against the rulers, against the authorities, against the cosmic powers over this present darkness, against the spiritual forces of evil in the heavenly places.”

Rom. 2:9-10 “There will be tribulation and distress for every human being who does evil, the Jew first and also the Greek,¹⁰ but glory and honor and peace for everyone who does good, the Jew first and also the Greek.

Rev. 21:1 "Then I saw a new heaven and a new earth; for the first heaven and the first earth had passed away, and the sea was no more."

2 Cor. 5:17 "So if anyone is in Christ, there is a new creation: everything old has passed away; see, everything has become new!"

Q 10. What does being made in the image of God affirm about human identity?²⁵

The Athanasian Creed affirms: “we worship one God in trinity and the trinity in unity, neither blending their persons nor dividing their essence.”

²⁵ *The Study Catechism* of the PC(USA) (1998) asks a very similar question: “Question 17. What does our creation in God's image reflect about God's reality?”

God is relational in God's very being. To be made in the image of God is therefore to be a person-in-relationship, or persons-in-communion,²⁶ to put it more accurately. Core to human identity is participation in the innertrinitarian life of God.

"Humans are not defined in essential but relational terms. That is, unlike the philosophical stream running from Plato to Descartes and into the present, Scripture is not concerned with defining human life with reference to the necessary 'parts.' Nor does it concern itself with explaining what we may regard as a philosophically satisfying way the nature of our physicality in life, death, and afterlife. Instead, Scripture presents the human person above all in relational terms. And it marks the human being as genuinely human and fully alive only within the family of humans brought into being by Yahweh, in relation to the God who gives life-giving breath, and in harmony with the cosmos God has made."²⁷

Human identity is inextricably bound up in this relationality. Ultimately, this is the *sine qua non* of human personhood that separates the human person from other creatures, and from the artificial creations of human ingenuity. No matter how sophisticated its programming, how complex its mechanisms, how elaborate its circuitry, or how convincing its behavioral replication of human behavior and thought patterns, machines and virtual machines remain ontologically distinct from humans in this regard.

Als will continually gain ground in their ability to match and exceed human thought and behavior in diverse ways. This does not however pose any threat to the affirmation of God's Trinitarian personhood and the image of this personhood borne by the human race.

2 Cor. 13:13 "The grace of the Lord Jesus Christ, the love of God, and the communion of the Holy Spirit be with all of you."

John 1:1-4 "In the beginning was the Word, and the Word was with God, and the Word was God. He was in the beginning with God. All things came into being through him, and without him not one thing came into being. What has come into being in him was life, and the life was the light of all people."

John 5:19 "Jesus said to them, "Very truly, I tell you, the Son can do nothing on his own, but only what he sees the Father doing; for whatever the Father does, the Son does likewise."

John 17:21-22 "As you, Father, are in me and I am in you, may they also be in us, so that the world may believe that you have sent me. The glory that you have given me I have given them, so that they may be one, as we are one."

²⁶ For a fuller treatment of this concept see: Torrance, Alan J. 1996. *Persons in Communion: An Essay on Trinitarian Description and Human Participation, with Special Reference to Volume One of Karl Barth's Church Dogmatics*. Edinburgh: T. & T. Clark.

²⁷ Green, J. 2019. "Identity," in *Fuller Magazine* #15.

1 Cor. 13:12 “For now we see in a mirror dimly, but then face to face. Now I know in part; then I shall know fully, even as I have been fully known.”