The Ontological, Temporal, and Teleological Unity of Consciousness and the Body: A Response to Reductionism and Dualism

Walter Huddell

Abstract: David Chalmers' so-called *hard problem of consciousness* is concerned with how one can give an account of phenomenal conscious experience in physicalist terms. In this article, after a brief account of Cartesian dualism, I consider how John Paul II's *Theology of the Body* speaks to the prospects of a reductionist approach. This is then considered in light of Chalmers' description of the hard problem. This analysis will have implications for related questions about the engineering of strong artificial intelligence from a nonbiological substrate as well as some of the ambitions of the transhumanist movement. I suggest that to be human is to be an essential unity—a unity of our bodies and that within us which experiences the world. Furthermore, I propose that this unity has a kind of ontological, temporal, and teleological continuity. It provides us with sacramental meaning as human persons and affirms the redemptive meaning of the resurrection.

Keywords: artificial intelligence; consciousness; dualism; reductionism; transhumanism

Walter Huddell is a Professor of Mathematics at Eastern University in St. Davids, Pennsylvania, USA. He holds a PhD from Bryn Mawr College in Functional Analysis. He has authored several papers in Mathematics and Mathematical Philosophy as found in *Christian Scholars Review*.

Even as recently as a decade ago, the origins and nature of consciousness might not have seemed to be a conversation in which ordinary Christians would choose to engage. Recent advancements in machine learning models, however, have made this area an important one for Christian thinkers and for grassroots discussion. It is now obvious that tensions arise between Christian accounts of what consciousness is and how it emerges, reductionist accounts, and the views of representatives of the "transhumanist" movement. Our contemporary technological context presents an opportunity for Christian contributions to the conversation, aiming to arrive at a more robust understanding of the human person.

In the present paper, I hope to make a modest contribution in that direction by considering a few of the ways consciousness and its relationship to the body have been understood by some prominent Christian and non-Christian thinkers. The discussion begins with the classic dualistic outlook of René Descartes, setting it alongside the intentionally sacramental view of John Paul II. This stark contrast will then lead to a consideration of contemporary questions, as well as the problems associated with engineering consciousness. Finally, I argue that a Christian understanding of consciousness and its relationship to the body offers an important cautionary word about the promises put forward by transhumanism with its technologically driven utopian vision for human persons.

The Classic Dualistic Vision: Descartes' Legacy

Most relevant for the shape of this conversation in the modern world is the thinking of Descartes. An intellectual descendant of Plato, Descartes is rightly categorised as a rationalist. In his *Discourse on Method*, his aim is primarily epistemological: To ground all of his thinking in the certainty he found in the mathematics of Euclid, a world wherein he found indubitability, logical necessity, and precision. He hesitated over the Aristotelian philosophy of his time as articulated by Aquinas and his intellectual progeny, wherein the contents of

the intellect were thought to be completely dependent on the senses. In turn, his notion of mathematical rigour compelled him to doubt the reliability of sensory experience. He articulates this in his *Discourse on Method*, as follows: "Thus, because our senses sometimes deceive us, I wanted to suppose that nothing was exactly as they led us to imagine."[1] He goes on to assume that he is without a body, without a world, and without a place—a disembodied, diszlocated mind. In arriving at his now infamous *cogito*, he argues on the basis of what he believes to be pure rationality that, as a thinking thing, he must exist.

Our focus is less on Descartes' quest for epistemic certainty and more on his assertions about the relationship between his body and his mind or soul. Once he has established his existence, he goes on, "Thus, this *I*, that is to say, the soul through which I am what I am, is entirely distinct from the body and … even if there were no body at all, it would not cease to be all that it is."[2] In his *Meditations on First Philosophy*, he defines himself as "a thing that thinks," and again as "a thing that doubts, understands, affirms, denies, wills, refuses, and that also imagines and senses."[3] Furthermore, this thinking thing is largely passive with respect to its reception of perceptible things from the senses. In fact, they are "produced without my cooperation and often even against my will."[4] Thus, his "I" is somewhat isolated from the body, versus what Aristotle or even Plato supposed.

The issues raised by Descartes in his *Discourse* and *Meditations* leave us with a number of questions that philosophers have been wrestling with ever since he raised them. Among them is the relationship between the mind or subject or self and the body. If the mind and the body are distinct substances, or, as Descartes puts it, if the human

1 René Descartes, *Discourse on Method* (Indianapolis: Hackett Publishing Company, 1998), 18.

2 Descartes, *Discourse on Method*, 19.

3 René Descartes, *Meditations on First Philosophy* (Indianapolis: Hackett Publishing Company, 1998), 66.

4 Descartes, *Meditations on First Philosophy*, 97.

person "is essentially a thinking thing, entirely distinct from the body," how are these aspects of our humanity related?

For example, is the thinking thing that we are, the seemingly transcendent subject, an illusion, wherein mental states are simply reducible to physical states? Is what we think we are, the "I" for Descartes, just a byproduct of physical and chemical processes—a cog in a broader physical machine? Asked differently, are mental states just a subset of physical states? This view is known broadly in the literature as the reductive physicalist view where the phenomena of experience are reducible to physical laws.[5]

Let's pose an additional but related question: Is the external physical world an illusion? Are we subjects living in a simulation generated by a computer? This view had been labeled the idealist position, according to which our experience of the external world is in some way false.[6] It is noteworthy that most of us hold to this view on at least a limited level. Our experience of the external world does not reveal the underlying nature of, for example, the world at the quantum mechanical level. We do not have a subjective experience of the Higgs boson, or quarks, or the strange probabilistic nature of elementary particles modelled by the wave function. Nevertheless, most of us do not think that what we do experience is being fed to us by some sort of "evil genius, supremely powerful and clever,"[7] for the purpose of deceiving us. Nor do most of us think that we are in some version of *The Matrix*.

A Christian Alternative: John Paul II's Sacramental View

I find that one of the most compelling Christian responses to these questions is provided by John Paul II's exegesis of Matthew 19 and Gene-

5 See David Chalmers, *The Conscious Mind: In Search of a Fundamental Theory* (New York: Oxford University Press, 1996), 93; J. J. C. Smart, "Sensations and Brain Processes," *The Philosophical Review* 68, no. 2 (1959): 142.

6 Paul Guyer and Rolf-Peter Horstmann, "Idealism," *The Stanford Encyclopedia of Philosophy* (Spring 2023 Edition), https://plato.stanford.edu/archives/spr2023/entries/idealism/ (accessed 9 September 2025).

7 Descartes, *Meditations on First Philosophy*, 62.

sis 1–3. In Matthew 19, the Pharisees are testing Jesus with a question about marriage and the Law's accommodation of divorce. "Is it lawful to divorce one's wife?"[8] The Pharisees are here pitting two competing schools of contemporary rabbinic teaching against one another: The conservative school of Shammai, wherein divorce was allowed only in the case of unchastity, and the more liberal school of Hillel, in which a man could divorce his wife in cases as trivial as a spoiled dish.

In his reply, as he often does, Jesus disables the premise of their question, by telling them that divorce is a kind of accommodation due to the "hardness" of human hearts.[9] In this context, he then refers twice to "the beginning" and cites passages from the creation account found in Genesis. This double reference to "the beginning" is central: It sets the paradigm for God's intention for marriage, giving the paradigm, as John Paul puts it, "normative meaning."[10] Using profound typology, the creation account in Genesis tells us what it means to be human among so many other things. The church fathers saw in Genesis the human person revealed as a kind of microcosm (literally a "little cosmos") in which the greater cosmos is reflected.[11]

The Lord's response to the Pharisees includes references to both chapter 1 and chapter 2 of Genesis. We find an objective emphasis on our human personhood in Genesis 1, and a subjective emphasis in Genesis 2. The objective focus is on what it is to be human. The subjective focus is on what it is like to be human. Let us consider each of these in turn.

The reference in Genesis 1 is to humans (*adam*) created in God's image as male and female. This appears in what some biblical scholars call the Elohist account of creation (versus the Yahwist account in Genesis 2). Of the Elohist account, John Paul says,

8 Matthew 19:3b. Biblical quotations are taken from the English Standard Version.

9 Matthew 19:8.

10 John Paul II, *Man and Woman He Created Them: A Theology of the Body* (Boston: Pauline Books and Media, 2006), 132.

11 See Gregory of Nyssa, *On the Making of the Human Being* 16.177; Maximus the Confessor, *Ambigua* 41.

> Given that the creation of man as male and female … is placed in the rhythm of the seven days of creation of the world, one could attribute to it above all a cosmological character: man is created together with the visible world.[12]

He goes on to point out that human persons are placed at the pinnacle of the cosmos (*kosmos*, literally the ordered world as first applied by Pythagoras[13]). Humans are in the visible world, part of "the visible totality of bodies."[14] They are in bodies but are unique as image-bearers. Thus, we see the objective character of the Elohist account, with its physical perspective on humankind (and the world), but also its metaphysical account of humans as image-bearers. This is what the human person is.

On the other hand, the Yahwist account in Genesis 2, which Jesus quotes directly in his debate with the Pharisees, is just as rich, but it has a different character, with human subjectivity especially highlighted. It is an older and more anthropocentric account. Even in the name of God used in this account, Yahweh, we see the covenantal relationship between God and humanity revealed.[15] There is a kind of relational intimacy found in the description of our creation here, where God "breathed into his nostrils the breath of life, and the man became a living creature."[16] He is placed by God in the garden to work the very ground out of which he is made (which has not yet been cursed). The description of the Tree of Life further indicates God's covenantal relationship with humanity.

In addition, the Tree of the Knowledge of Good and Evil reveals people's self-determination, their agency as subjects. So, we see our subjectivity not only in our relationship with God, but also in our abil-

12 John Paul II, *Man and Woman*, 135.

13 Kenneth Sylvan Guthrie and David Fideler, *The Pythagorean Sourcebook and Library* (Grand Rapids, MI: Phanes Press, 1998), 22.

14 John Paul II, *Man and Woman*, 135.

15 John Paul II, *Man and Woman*, 142.

16 Genesis 2:7.

ity to exercise his will; to choose obedience and continued covenantal relationship with God, including access to the Tree of Life, or disobedience and death. Covenants, by their nature, suggest subjectivity. Again, in John Paul II's words,

> This man … is manifested … as a subject of the covenant, that is, a subject constituted as a person, constituted according to the measure of "partner of the Absolute," inasmuch as he must consciously discern and choose between good and evil, between life and death.[17]

Man's subjectivity is further uncovered in his original solitude, his being alone, which he himself discovers through naming the animals. After naming these other bodies in the visible world, he understands that embodiment is common to all visible creatures (creatures in bodies), including himself. Yet, in the process of naming them, he "gains the consciousness of his superiority"[18] over them. He uniquely understands himself as a subject, but also as a body amongst other visible bodies. This is what it is like to be a human person.

The Tree of the Knowledge of Good and Evil also serves as a boundary between people's condition of innocence before the fall, and their sinfulness after. The fact that Christ refers to the beginning points to what John Paul II calls an "essential continuity"[19] in human persons between these two states. In addition, the Protoevangelium found in Genesis 3:15 points to the redemptive hope for the fallen creature found through Christ's work. This redemption entails the objective and subjective natures of persons as hoped for by Paul in Romans 8:23: "And not only the creation, but we ourselves, who have the firstfruits of the Spirit, groan inwardly as we wait eagerly for adoption as sons, the redemption of our bodies."

17 John Paul II, *Man and Woman*, 151.

18 John Paul II, *Man and Woman*, 148.

19 John Paul II, *Man and Woman*, 142.

We are struck by the change from the repetition of created *goods* in Genesis chapter 1 to a condition that is *not* entirely *good* in chapter 2. What is not good, is that among all the visible bodies in creation, human beings alone are conscious, free subjects in an objective body. They are not like the animals. They are unique among those creatures in the visible world, being image-bearers endowed with agency and self-understanding. In Heideggerian terms, people are the kind of Being for whom being is an issue.[20] Notice that this realisation comes as a result of engagement with the visible world, the world of bodies. The invisible nature of the human person—as subject, image-bearer, self-conscious creature with agency—is revealed by means of the visible—through the trees and the animals. Here is the heart of sacramental theology: A visible sign of an invisible reality.

This theology is found in Paul's description of humanity's accountability in Romans 1:19–20:

> 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.

The invisible is made manifest in the visible. That is, things that are impossible to see (eternal power and divine nature) are "perceived" from things that have been made, and this has been so since the creation of the world. The visible world serves to show us invisible realities. And it is our being in a body that allows us to interact with and take in information from the visible world of objects.[21]

So, we see that, in a sacramental picture, embodiment takes on a much more critical role in our humanity and our knowledge of God. John Paul II writes, "The body, in fact, and only the body, is capable of

20 Martin Heidegger, *Being and Time*, trans. John Macquarrie and Edward Robinson (New York: Harper & Row, 1962), 32.

21 Other examples found in Scripture of the revelation of the invisible by means of the visible world of bodies include Psalm 19:1–6 and Jeremiah 5:21–22.

making visible what is invisible: the spiritual and the divine."[22] In the prologue to his gospel, John tells us that, "No one has ever seen God; the only God, who is at the Father's side; he has made him known."[23] The incarnation of the Word—the life, teaching, death, and resurrection of Jesus—is our clearest revelation of God to us. In John Paul II's words,

> The fact that theology also includes the body should not astonish or surprise anyone who is conscious of the mystery and reality of the Incarnation. Through the fact that the Word of God became flesh, the body entered theology—that is, the science that has divinity for its object … through the main door.[24]

Of course, the resurrection of our own bodies is also central to the Christian understanding of the gospel, since it is included in the matters "of first importance" that Paul delivered to the Corinthians.[25]

This understanding of the body calls the hard Cartesian distinction between the body and the mind into question. Descartes' view is that the subjective aspect of the human person "has no need of any place nor depends on any material thing."[26] The sacramental model, by contrast, posits a body which is central to our perception of the invisible world.

Chalmers on the Hard Problem of Consciousness—Reductionist/Physicalist Dualism

Thus far, we have discussed Descartes' rationalist program for grounding knowledge in reason alone and the questions regarding consciousness and its relationship to the body that Descartes raises. Particularly

22 John Paul II, *Man and Woman*, 203.

23 John 1:18.

24 John Paul II, *Man and Woman*, 221.

25 1 Corinthians 15:3.

26 Descartes, *Discourse on Method*, 19.

relevant for our purposes is the disembodied "I" that he puts forward. Descartes advocates for a soul that is a substance "entirely distinct from the body."[27] We then considered one possible Christian alternative[28] in John Paul II's *Theology of the Body*, in which the objective, visible nature of the human person's being plays a much more pivotal role in our humanity. In this sacramental understanding, we are not spirits trapped in bodies. We are a kind of mystical union of subject and object, spirit and body, that is not so easily split.

We now want to turn our attention to more contemporary questions. Recall, at the outset we suggested that there were potential problems that consciousness poses for a reductionist or physicalist view of the universe. How can purely physical systems give rise to the phenomenon of consciousness? Is consciousness reducible to biology, chemistry and, ultimately, physics? If so, can we imagine engineering consciousness? If consciousness is reducible to physics, then one might ask if it is independent of the substrate in which it is physically housed. That is, could the wetware of biology be replaced by the hardware of silicon? To begin, let us consider the reducibility question.

One of the leading thinkers in consciousness studies over the last twenty years is Australian philosopher David Chalmers, who codirects New York University's Center for Mind, Brain, and Consciousness. Interestingly, while he is no advocate for any kind of traditional Christian theism, Chalmers is critical of a purely materialist, reductionist account of consciousness. Before considering his critique, we would do well to establish some definitions.

Chalmers acknowledges that a definition of consciousness is notoriously difficult to pin down. He quotes Stuart Sutherland who bemoans consciousness' resistance to clear definition in *The International Dictionary of Psychology*, wherein he points out that "it is impossible to specify what it is, what it does, or why it evolved. Nothing worth

27 Descartes, *Discourse on Method*, 19.

28 That is not to say that Descartes was not trying to argue within his understanding of a Christian framework.

reading has been written about it."[29] Chalmers distinguishes between consciousness and notions like perception and thought, which may be unconscious. Rather, he associates consciousness with experience. Experience seems just as slippery with respect to definitions, but for our purposes it will suffice to understand experience as our subjective awareness, or the internal aspect of the qualities associated with perceiving and thinking.

The characteristics of experience differ from the computational work done by the neurons in our brains. When we perceive the colour red, our retinas receive light into them at a certain wavelength, the optic nerve then sends that information to the brain where it is processed in some way by its neural network. We recognise the input as red. But this algorithmic, quantitative, physical description, in some ways, fails to capture our subjective experience of redness. If one were to explain to a person who was blind the physical, chemical, and biological processes in as much detail as is currently possible from our scientific understanding, would that truly capture the experience of redness? The experience of pain may be another useful example. Can any of us truly know what the experience of a kidney stone feels like from any description short of actually going through the pain associated with a kidney stone in the first person?

Philosophers call the study of these aspects of consciousness phenomenology. Phenomenology, as one might expect, considers the nature of phenomena, or as the *Stanford Encyclopedia of Philosophy* puts it, "things as they appear in our experience."[30] The focus here is not on a scientific description of phenomena. A psychological description is closer to the mark, but may still be misleading. This sort of analysis resists quantitative explanation and rather is primarily qualitative.[31] In

29 Chalmers, *The Conscious Mind*, 3.

30 David Woodruff Smith, "Phenomenology," *Stanford Encyclopedia of Philosophy*, 2013, https://plato.stanford.edu/entries/phenomenology/ (accessed 10 November 2025).

31 It has been recently posited that Descartes' differentiation between the mind—the "I"—and the body aimed at deciding where qualitative and quantitative assessments were supposed to be applied. See Doru Costache, "Consciousness

fact, philosophers have coined the term *qualia* for the properties that are brought about by experience. The non-materialist asserts that the qualia associated with redness are distinct from any formulaic account of how redness produces the associated mental state. It is often said that phenomenology considers "what it is like to be something," language which was used above.

It should be mentioned that phenomenology extends beyond the consideration of sensory experience alone. We also have experiences such as introspection, mental calculation, and imagination, to name a few, which are not due to immediate sensory input. Descartes considers these as part of the things that make up the self from which he draws the conclusion that he exists. It is precisely consciousness in all of these forms that is the most real thing to us, that which cannot be doubted. So, in some sense, experience is the most immediate thing that we know.

We note that many aspects of this understanding of consciousness are not unique to human persons. Presumably, there is something along the lines of "what it is like to be" a chimpanzee or a dog. The questions that arise in this field are legion. Just how far can we extend the question of experience down the genetic ladder? Are cats self-conscious or is their being an issue for them? To what degree, if any, is silicon-based hardware capable of phenomenal experience? Most of these questions are beyond the scope of our current interests. We take for granted, though, that at least mammals have phenomenal experience of sensory information.

The phenomenal aspects of consciousness focus on what Chalmers refers to as the "hard problem of consciousness": How can we account for conscious experience on the basis of a reductionist explanation? This differs from what he calls the "easy problems": "How does the brain process environmental stimulation … [and] integrate infor-

in the Cosmos: From René Descartes to David Bohm's Revolution," *Journal of Consciousness Studies* 32, no. 5–6 (2025): 155–179, esp. 159–166, https://doi.org/10.53765/20512201.32.5.155.

mation?"[32] Much progress has been made in the last forty years in our understanding of the easy problems. Neuroscientists and computer scientists in particular have made great strides in this area. We understand the operation of the brain to a much greater degree than we did forty years ago. We have, furthermore, been able to engineer artificially computer simulations of certain tasks performed by conscious beings, many of which are able to pass the Turing test.[33] The phone in my pocket can correctly label faces, "know" when I have started my car, tell me the time required to reach my next presumed destination, and, via verbal direction, process language and tell me tomorrow's weather. These problems are "easy" in the sense that we can now engineer them—or that we have a reasonable expectation that in the future we will be able to explain and simulate these behaviours. Arguably though, these advances fail to simulate "what it is like" to experience the seeing of a face or the colour red in the same way that explaining the physics and biology of the processing of light to a blind person, or presenting a deaf person with the algorithm associated with the recognition of one of Mozart's symphonies, fails to adequately provide that person with the experience of colour or music, respectively. The hard problem asks if subjective, conscious experience in this sense can be reduced to the physical explanation.

A somewhat weaker notion of reducibility in analytic philosophy is that of "logical supervenience." Logical supervenience is concerned with when a set of B-properties can be reduced to a set of A-properties. As Chalmers has it, "B-Properties supervene logically on A-properties if no two logically possible situations are identical with respect

32 Chalmers, *The Conscious Mind*, xi–xii.

33 The Turing test, which Alan Turing referred to as "The Imitation Game," was his way of thinking about the question, "Can Machines Think?" He outlines the test in his 1950 paper entitled, "Computing Machinery and Intelligence," *Mind* 59, no. 236 (1950): 433–460, https://doi.org/10.1093/mind/LIX.236.433. The machine is said to pass if a human interrogator, when unknowingly engaged in a dialogue with a machine, is unable to distinguish the machine's answers from those of another human.

to their A-properties but distinct with respect to their B-properties."[34] For example, the biological world logically supervenes on the physical world. Equivalently, if two entities are the same physically (imagine atom-for-atom), they must be the same biologically. In terms of the hard problem, we ask if the properties of consciousness logically supervene on physical properties, i.e., if physicalism is true.

Chalmers' answer here is *no*. Among other arguments that he uses to make his case, his logical argument associated with "philosophical zombies" may be the most compelling. A philosophical or phenomenological zombie is a being associated with me, a copy that is physically identical to me in every way, atom-for-atom. This physical structure produces identical functional effects. When it eats an apple fritter, its taste buds process the sugar, sending an identical signal to the brain which thereby undergoes an identical chemical effect to that produced in my brain. The zombie smiles and communicates pleasure to the external world just as I would. The only difference[35] between me and my "philosophical zombie" is that my zombie has no phenomenological or subjective experience; the lights are simply not on. He does not actually experience the pleasure of the apple fritter (a tragedy indeed). To an external observer, no difference would be perceived between us: Our behaviour would be identical, but when I look at a cloudless sky, not only would I go through all of the physical processing associated with seeing blue, I would also have the experience of blueness. My zombie *doppelganger* would process the information through the same physical mechanisms but would not have the experience of seeing blueness as I do. In short, the zombie is not phenomenologically conscious.

Now, this is a logical argument from conceivability, not an argument from biological possibility in our world. It is not relevant if such a being could exist in our physical universe, according to our physical

34 Chalmers, *The Conscious Mind*, 35.

35 To address the objection that my zombie and I cannot occupy the same spatiotemporal location, Chalmers here adds the supposition that the zombie "is embedded in an identical environment." Chalmers, *The Conscious Mind*, 95.

laws. Rather, we are only interested in the logical conceivability of such a being. For example, we could logically conceive of a universe where the acceleration of gravity on Earth is different from 9.8 m/s^2. But we could not logically conceive of a bachelor who was married, nor a five-sided triangle. The terms are contradictory. Unlike a five-sided triangle, Chalmers argues, we could conceive of a "philosophical zombie" without logical or conceptual contradiction.

The argument that consciousness does not logically supervene on the physical is a *modus tollens* argument. We assume that physicalism is true. A "philosophical zombie" is logically conceivable and thus metaphysically possible (it does not violate any conceptual laws). But if physicalism is true, the consciousness that exists in me must be implied in my zombie since we are physically identical. But, by definition, my zombie is not conscious. Therefore, our assumption that physicalism is true is contradicted. Equivalently, consciousness does not logically supervene on the physical.

Here we have found two beings (the zombie and me) which are identical with respect to our physical properties. Yet, we are distinct with respect to consciousness: I am conscious, the zombie is not. Thus, we have provided a counterexample to the definition of "logical supervenience."

A second compelling argument against reductionism is found in a paper that has become a standard reference with respect to these matters, entitled "What Is It Like to Be a Bat," by New York University emeritus professor Thomas Nagel.[36] Nagel considers the divergence of phenomenal experience between, say, a human being's experience of the external world to that of a bat, which navigates by echolocation. The physical account of the bat's processing of the world in which it moves will obviously differ significantly from the account of our own primarily visual processing. How "what it is like" for me to walk through a room compares to "what it is like" for a bat to navigate the same room is mysterious, to say the least. Nagel suggests that what it is like for the

36 Thomas Nagel, "What Is It Like to Be a Bat?," *The Philosophical Review* 83, no. 4 (1974): 435–450, https://doi.org/10.2307/2183914.

bat can only be understood from the point of view of the bat. A first person (or more appropriately a first bat) point of view is required.

Nagel uses this case to argue against a reductionist explanation of phenomenal experience.

> For if the facts of experience—facts about what it is like *for* the experiencing organism—are accessible only from one point of view, then it is a mystery how the true character of experiences could be revealed in the physical operation of that organism.[37]

Physical laws, by their objective nature, are accessible to all equally, regardless of one's point of view. We can write down equations that model these laws that can be objectively understood by anyone. The example of the subjective experience of the bat's navigation of its environment, however, seems to indicate a phenomenon that transcends that sort of objective access; only the bat (or, perhaps, other bats as well) truly knows what it is like to be a bat.

Again, it should be mentioned that the resistance of subjective experience to reductionist explanation extends beyond simply sensory or empirical experiences such as sight or sound. We likewise find it difficult to imagine an adequate physical account of our experience of introspection, or the "aha!" moment experienced by the mathematician when a previously obscure solution to a problem is exposed to the light of understanding. These examples of subjective experience call for an explanation of consciousness that draws on more than what physics and chemistry can offer.

So, I have argued that naturalistic reductionism falls short of being an adequate account of human subjective experience. Among several alternative explanations of consciousness other than reducibility that Chalmers puts forward is what he calls "naturalistic dualism."[38]

37 Thomas Nagel, "What Is It Like," 442.

38 With less enthusiasm, Chalmers offers a second explanation known as panpsychism. Chalmers, *The Conscious Mind*, 293–301. See also Phillip Goff, *Galileo's Error: Foundations for a New Science of Consciousness* (New York: Pantheon, 2019).

He suggests that we need something else to explain consciousness besides our physics as it is now understood; a new fundamental property.[39] As an analogy, he cites Maxwell's equations that govern electromagnetism.[40] The Newtonian categories of mass, space, and time were insufficient to describe the behaviour of electricity and magnetism. Electric charge serves as an example of a new fundamental property that provides a way to describe the behaviour of electricity and magnetism with mathematical rigour. Perhaps consciousness requires some new fundamental *protophenomenal* properties alongside our current physics. This naturalistic dualism, Chalmers argues, would provide an explanatory framework for consciousness.

A related naturalistic account prominent in the literature is that of "emergent dualism."[41] Herein, consciousness, or mind, emerges as a product of the brain. John Searle, for example, writes, "consciousness is a causally emergent property of systems. It is an emergent feature of certain systems of neurons in the same way that solidity and liquidity are emergent features of systems of molecules."[42] William Hasker adds that mental properties "manifest themselves when the appropriate material constituents are placed in special, highly complex relationships."[43] To present this, Hasker uses the analogy of a magnetic field: "As a magnet generates its magnetic field, so the brain generates its field of consciousness."[44] This emergent consciousness is not a collection of properties but rather an emergent substance, a unity that cannot be decomposed. While it is caused by the physical substrate, as an emergent substance, it remains distinct from that substrate.

39 He is not the only one to think along these lines. Physicist David Bohm did, too. See Costache, "Consciousness in the Cosmos," 171–176.

40 Chalmers, *The Conscious Mind*, 127.

41 Cf. Marc Cortez's helpful summary in *Theological Anthropology: A Guide for the Perplexed* (New York: T&T Clark International, 2010), 72–79.

42 John Searle, *The Rediscovery of the Mind* (Cambridge: MIT Press, 1992), 111–112.

43 William Hasker, *The Emergent Self* (Ithaca: Cornell University Press, 1999), 189–190.

44 Hasker, *The Emergent Self*, 190–191. It should be noted that Hasker is careful to warn us against pressing the analogy of the physical field too far.

One notices in both accounts that analogies are made to electromagnetic fields. Like consciousness, before Maxwell's equations, these fields had an air of mystery about their nature. Maxwell's equations, however, have rigorous mathematical foundations with broad empirical support, which these accounts are lacking.[45] Similarly, the ontology of elementary particles such as electrons and the fields they generate remains a point of some contention. Physicists admit that they do not agree on "what, at rock bottom, quantum mechanics actually says. Physicists are extremely good at *using* quantum mechanics … But it's a bit of a black box."[46] Again, however, unlike natural and emergent dualism, quantum mechanics is widely understood to be the most successful physical theory ever devised; it remains remarkably precise. So, while the "top quantum physicists in the world do not agree on what's going on to produce the results they predict and observe so successfully,"[47] they are in fact successful in their predictions. As in the case of electromagnetism, there is an entirely rigorous mathematical framework that underlies the Standard Model of particle physics. Natural and emergent dualism lack the theoretical framework and empirical verification of electromagnetism and quantum mechanics.

Furthermore, and more significant for the theist, while these dualistic descriptions attempt to provide explanations of how a seemingly immaterial consciousness arises from the material, they appear less adequate to account for causality in the other direction. This is sometimes referred to as the dissimilarity argument.[48] In the case of emergent dualism, how can a volition that occurs in the mind—a distinct substance from the physical—cause an action in the body, which is a physical substance operating in a closed system? How are

45 Giulio Tononi's "Integrated Information Theory" is cited as having the potential mathematical framework for such an explanation. See Francis Fallon, "Integrated Information Theory of Consciousness," *Internet Encyclopedia of Philosophy*, https://iep.utm.edu/integrated-information-theory-of-consciousness/ (accessed 10 September 2025).

46 Sean Carroll, *Quanta and Fields* (New York: Dutton, 2024), 2.

47 Carroll, *Quanta and Fields*, 2.

48 For this and other critiques, see Cortez, *Theological Anthropology*, 75–77.

we to understand human agency, an attribute so central to image-bearing creatures, in a meaningful way in this framework?

Also important for the theist is the question of personal identity and its continuity, another critical aspect of image-bearers. How can a sense of self that emerges from the physical carry on beyond the demise of the body? Hasker, in his account of dualism, is helpful here, suggesting that God could maintain the emergent soul after death and that it would even retain its memory. In his words, "One might suppose that, were God to choose to maintain an emergent self in existence, he would be sufficiently astute to make sure that it was the same self he was maintaining, rather than a series of distinct individuals."[49]

John Paul II's sacramental anthropology of embodied spirits provides a compelling alternative to these approaches, particularly for the Christian theist. For one, his view of the ontological, or essential, continuity and unity of the human person provides a bridge for the causal gap that affects other forms of dualism. For a being that is ontologically continuous, the agency of the soul is intimately connected to the action of the body. The invisible will and the visible body are unified as human elements. In turn, our ontological continuity is a critical aspect of our access to the unseen. It is our phenomenal consciousness and its relationship to the body that provide a mechanism for making visible the invisible and for making accessible the divine. This anthropology lies at the heart of sacramental thinking.

Second, the ontological and temporal continuity of the body and soul describes well our experience of brokenness in ways that other accounts do not. This continuity across the boundary of the Fall explains how these two aspects of ourselves are in tension in ways contrary to our design. At the centre of human brokenness lies now a stress, a groaning between one's agency and one's action. "For I do not understand my own actions. For I do not do what I want, but I do the very thing I hate."[50] Paul describes a "war" raging between his "members" and his mind, his "inner being."

49 Hasker, *The Emergent Self*, 233–234.

50 Romans 7:15.

Third, these ontological and temporal continuities point to a teleological continuity which provides one with a powerful account of human history. John Paul II's analysis of Jesus' dialogue with the Sadducees who denied the resurrection is insightful here. Therein, drawing on Paul's language of spiritual bodies in 1 Corinthians 15, John Paul considers our spiritualisation, the healing of the aforementioned tension between the body and the mind at the eschaton.

> "Eschatological" man will be free from this "opposition." In the resurrection, the body will return to perfect unity and harmony with the spirit: man will no longer experience the opposition between what is spiritual and what is bodily in him. Spiritualisation signifies not only that the spirit will master the body, but … that it will also fully permeate the body.[51]

Resurrection is the end, the *telos* towards which history moves us.

Furthermore, essential unity and continuity in the resurrection explain why I remain a unique individual across the boundaries of Fall, Death, and Redemption. For John Paul, as it is for Hasker, miraculous divine action is still required for the soul's maintenance after death and it does not require the kind of asymmetrical dependence of the soul on the body.[52] Therefore, we see in John Paul II's anthropology of ontological, temporal. and teleological unity and continuity, a kind of three-dimensional response to reductionism and substance dualism.

Can Consciousness Be Engineered?

Two things emerge in this anthropological account. First, consciousness is not reducible to physical processes. A purely materialist explanation of phenomenal consciousness is inadequate; a kind of dualism is needed. Second, to separate our conscious selves from our physical

51 John Paul II, *Man and Woman*, 391.

52 It ought to be said that, in most Christian accounts of being, the continued existence of all creatures at all times requires the divine maintenance of the *Logos*, "in whom all things hold together" (Colossians 1:17).

bodies is to do meaningful harm to the way God ordered the cosmos. In particular, our physical bodies in the visible world enable us to perceive the invisible world, thereby we perceive God's eternal power and divine nature. Baptism and the eucharist point us to the meaning of Christ's death and resurrection. A great number of invisible realities are accessible to us in the visible world through our bodies.

We now want to pivot to thinking about artificial systems. With respect to our first suggestion above, can we envision engineering computer-based systems with something like phenomenal consciousness? A related query is whether our own consciousness is the result of a simulation produced by a being of superior intelligence to our own. Might our subjectivity be the artefact of such a simulation? Furthermore, how does our being in a body relate to the hardware of an artificial system?

We first address whether consciousness could arise in an inorganic computational system. At first glance, our conclusion about the irreducibility of consciousness to the physical seems not to permit consciousness arising from a silicon-based system. Let us consider the import of the irreducibility conclusion more carefully. If we find Chalmers' argument compelling, then it has been shown that consciousness does not logically supervene on the physical; that phenomenal consciousness is not among the features that are reducible to the laws of physics. Descartes argued that the subject was a substance different from the body. Chalmers, in turn, offers the proposal that consciousness is a property. Now, while this property is not reducible to other physical properties as currently understood, such as mass or charge, he suggests that it "arises" from the physical body as a kind of artefact. He describes this property dualism as follows: "Conscious experience involves properties of an individual that are not entailed by the physical properties of that individual, although they may depend lawfully on those properties."[53]

53 Chalmers, *The Conscious Mind*, 125. Furthermore, Chalmers argues against epiphenomenalism (*The Conscious Mind*, 150–160).

Put another way, consciousness is a property, not a substance, that arises from our physical bodies but is not reducible to our bodies. "It is a feature of the world over and above the physical features of the world."[54] The being of these phenomenal properties are "ontologically independent of physical properties."[55] We should note here that, unlike Chalmers, the Christian tradition is happy to accept the existence of "substances" over and above the physical, with no ontological dependence on the physical whatsoever. We say that God exists *a se*, that is, in and of himself.[56] Nevertheless, with respect to our first suggestion that we need something over and above the physical to account for consciousness, Chalmers offers that property dualism opens the possibility for consciousness arising from the physical. At the same time, he does not say it necessitates it. In the end, he leaves the matter open. Later, we will consider some of the implications of property dualism as it relates to artificial intelligence.

An important and well-known case in opposition to strong artificial intelligence has been put forward by University of California at Berkeley philosopher John Searle, known as the Chinese Room Argument.[57] Imagine a monolingual English speaker sitting in a closed room. In this room is a large basket full of Chinese characters. In addition, the room contains a complicated formula for exchanging certain Chinese symbols for others. The formula is written in English. We may imagine that this formula may be quite complicated, providing rules for exchanging even long sequences of Chinese characters for other sequences of Chinese characters. The formula only gives rules for the exchanging of symbols, nothing else. From outside of the room, the person inside is fed sequences of such Chinese characters. According to the formula, she exchanges certain symbols in the sequence for others and then sends the new sequence of characters back out of the

54 Chalmers, *The Conscious Mind*, 125.

55 Chalmers, *The Conscious Mind*, 125.

56 Exodus 3:14; John 1:4.

57 John Searle, "Minds, Brains, and Programs," *The Behavioral and Brain Sciences* 3 (1980): 417–457. For Chalmers' response to Searle's argument, see Chalmers, *The Conscious Mind*, 322–328.

room. Suppose further, unbeknownst to the person in the room, that we call the incoming sequence of characters "questions," the outgoing sequences "answers," the formula "the program," and the person in the room "the CPU." This is the essential makeup of a digital computer. We imagine that one could remain in this role of following the formula for decades, acquiring great skill in following the formula, perhaps even approaching the speed of a digital computer. Searle's argument is that at no point is the person in the room demonstrating anything approximating an understanding of Chinese. She is simply manipulating symbols according to the rules. The exercise is one composed entirely of syntax (symbol manipulation) with no semantics (conscious understanding of the meaning of the symbols). This is all a digital computer is capable of, according to Searle. Conscious experience involves at least semantics and thus a digital computer is incapable of grasping the meaning of things in the world and therefore is unable to attain conscious experience.

Searle's argument here is compelling. A digital computer is essentially just a manipulator of symbols following certain syntactical rules.[58] A conscious agent must have semantic understanding and, since digital computers cannot, they cannot attain consciousness. Even so, let us grant Chalmers the benefit of the doubt, so that we might indulge ourselves with the possibilities that are opened up by conscious machines.

First, however, we should not sidestep an important issue in this context: Our previous discussion of reducibility focused on biological systems, whereas now we are considering silicon-based hardware. If consciousness does arise from a biological substrate, as Chalmers suggests is possible, it seems reasonable to suppose that it could arise from an inorganic one. Wetware vs hardware does not seem to be the determining factor for the possible arising of the property of consciousness.

58 Recent advances in neural networks and transformer-based large language models are quickly pushing back against simple characterisations of what computers are and do.

That consciousness can arise independently of the substrate is also relevant with respect to our second suggestion: That in God's order of creation the body provides the soul with a means of perceiving physical things that reveal attributes of God which are not visible. If consciousness is substrate independent, then one might entertain the possibility that not only can consciousness as a property arise from inorganic material, but that material is also capable of perceiving physical things in the visible world. We see this in abundance already. There exist a plethora of cameras, microphones, proximity sensors, thermometers, and accelerometers—to name a few that afford machines those perceptions, if that is the right word to apply. On one level, perception of the visible world is one of the easy problems. If so, then, it seems that there are ethical implications associated with our treatment of these machines.[59] Given our assumptions, these are not trivial matters. Let us briefly consider their significance in a bit more detail.

As we have seen, there is a great deal of debate about the feasibility of digital consciousness. This debate began in earnest in the late 1960s, largely fell out of favour in 1980s and 90s, and has more recently been revived. This revival is partially due to the enormous advances in computational and networking power that have occurred in recent decades. Transistors are on the brink of being constructed so small that quantum effects will need to be taken into account in their engineering. Google engineer and futurist Ray Kurzweil, in his book *The Singularity Is Near*,[60] observes that technology advances at an exponential rate. Moore's Law, for example, which predicts that the number of transistors that could be placed on a circuit would double every twenty-four months, has mostly held consistently since the inventor of the integrated circuit Gordon Moore observed the trend in the mid

59 See Carrie S. Alexander, "Domains of Uncertainty: The Persistent Problem of Legal Accountability in Governance of Humans and Artificial Intelligence," *Christian Perspectives on Science and Technology*, NS, 3, special issue: Artificial and Spiritual Intelligence (2025): 182–215.

60 Ray Kurzweil, *The Singularity Is Near: When Humans Transcend Biology* (New York, Penguin Books, 2006).

1970s.[61] Exponential growth begins slowly, almost imperceptibly. Yet, at a certain point, that growth explodes with a rapidity far beyond that which had come before (the singularity). Kurzweil suggests that we will have machines able to simulate human intelligence by 2030.[62] Once there, the exponential growth continues, quickly moving beyond human intelligence into spheres of understanding that we are unable to imagine.[63] In this model, we would be akin to chimpanzees trying to understand the engineering of the Large Hadron Collider. If these machines are able to self-replicate—a not unreasonable hypothesis given the underlying assumptions regarding their intelligence—we now have all the ingredients that make up the best (or worst) of science fiction's fantasies.

Conclusion: The Multi-Dimensional Unity of the Human Person

Recall that John Paul II offered a sacramental picture of our being that is ontologically continuous, that unites objectively the fact of being in a body—the "what it is to be" human—with its subjective, conscious dimension—the "what it is like to be" human. But he also argued for a temporal, "essential continuity" between our being in its state of original innocence and its current sinful condition. This continuity was justified on the basis of Christ's reference to "the beginning" in his

61 Kurzweil, *The Singularity Is Near*, 111. Strictly speaking, Moore's 1965 article predicted transistor doubling every year, which he revised to every two years in the mid 1970s. It has since held at that rate.

62 Before immediately dismissing this prediction, consider that about 86% of Kurzweil's predictions about technology since 1980 have been very much on the mark, depending on how one measures the accuracy. On another note, observe that Kurzweil is using the word "intelligence" in a way that differs from our use of the word "consciousness." Kurzweil's intelligence is closer to the notion of computational ability.

63 It is important to point out in this context that Kurzweil often uses a very particular definition of human "intelligence." It may be better said that these artificial agents are simulating human intelligence and behaviour to a high degree. The very heart of Searle's Chinese Room argument is that these agents are incapable of phenomenal experience and that they are merely performing a simulation.

discourse with the Pharisees in Matthew 19. It is important to add that this temporal continuity does not only apply to the boundary between a state of innocence and our current state of sin, but also, via the Protoevangelium,[64] to a redeemed state. "To the words that [Christ] speaks with his own lips, we have the right to attribute at the same time the whole eloquence of the mystery of redemption."[65] This is to say that Christ offers us a picture of human beings that have a kind of temporal and teleological continuity—as a unity of body and mind from prehistory, through the present, and forward into the eschaton.

So, the ontological unity—of people being temporally and teleologically continuous—is also the condition of our being in the resurrection. This account is also in accord with the Apostle Paul's eschatological vision. Paul refers to Jesus' resurrected body as a kind of firstfruits. In an agricultural context, the firstfruits of a harvest serve as an indication of the quality of the rest of the harvest that is to follow. In the same way, Jesus' resurrected body is an indication of the nature of the resurrected bodies that will follow.[66] In terms of the importance of the resurrection of our bodies, it is noteworthy that Paul says that, without it, our "faith is futile."[67]

What is Christ's prototypical resurrected body like? Well, first of all, it is a body. That is, we find that the resurrected Christ is not some sort of ghost. He presumably has the experience of hunger and asks for food.[68] He eats.[69] In the accounts of both John and Luke, he explicitly refers to his flesh and bones, and shows his hands and feet for these

64 Genesis 3:15.

65 John Paul II, *Man and Woman*, 143.

66 1 Corinthians 15:20–23. While illustrative, it is beyond the scope of this text to undertake a proper exegesis of the Apostle Paul's distinction in 1 Corinthians 15 between the "spiritual" (*pneumatikos*) body that we receive in the eschaton and the "natural" (*psychikos*) body we have now. John Paul II suggests that it may be related to the future spiritual body being freed from opposition to the spirit; an opposition that the present body is subject to; while still remaining united to our spirit.

67 1 Corinthians 15:17.

68 Luke 24:41.

69 Luke 24:43; John 21:9–15.

bear the marks of his passion.[70] Second, it is a body that in some important ways is unlike those that we have now. He appears among the disciples in a room with locked doors.[71] Perhaps his resurrected body is able to pass through walls or is not subject to the three-dimensional spatial limitations that we are bound to. That is, while still being a body, united with a consciousness having subjective experience, his body's relationship to the laws of physics as we currently understand them differs significantly from that of our current bodies.

Furthermore, there is some sort of continuity between his resurrected body and the body that endured the passion. Thomas is invited to "put out [his] hand and place it in [Jesus'] side."[72] In the same vein, Augustine speculates that in the Kingdom even the wounds of the martyrs will be somehow transformed into something beautiful. "For this will not be a deformity, but a mark of honour, and will add lustre to their appearance, and a spiritual, if not a bodily beauty."[73] Thus, the resurrected body in some way retains the marks of the body from before the resurrection, an indication of continuity across a boundary. Presumably, the resurrected person also carries with it the conscious memory of the pre-resurrected body.

Even our present subjective experience of suffering points us to the ontological unity of our consciousness and our bodies in the future. In the context of our lost innocence and present condition, John Paul II points out that "our human experience is in some way a legitimate means for theological interpretation."[74] He cites Paul: "we ourselves, who have the firstfruits of the Spirit, *groan inwardly* as we wait eagerly for … the redemption of our bodies."[75] Thus, the phenomenological experience of suffering now points to bodies to come, which will be imperishable. Our "groaning" further points to this kind of eschato-

70 Luke 24:39–40; John 20:20

71 John 20:19.

72 John 20:27.

73 Augustine, *The City of God* 22.19.

74 John Paul II, *Man and Woman*, 145.

75 Romans 8:23.

logical aspect.[76] Again, therefore, the unity of our conscious selves and our bodies holds within our ontology *and* holds temporally across the thresholds of our fall and redemption, providing it with teleological meaning.

We have already observed how this unified view of humanity differs from that of Descartes. It also bears distinction from some of what Chalmers puts forward. While Chalmers resists the understanding that reduces consciousness to our current understanding of physics—merely a serendipitous byproduct of the physics of our bodies—in his naturalistic dualism he leaves open the possibility of a new kind of fundamental property.[77] This "protophenomenal" property gives rise to phenomenal experience. But this naturalistic dualism fails to provide the kind of teleological appeal that we have outlined above. Furthermore, while not needing to appeal to God as an explanation, naturalistic dualism is not itself an explanation. It merely speculates the existence of a new, yet undiscovered fundamental property such as mass or charge.[78]

In even more stark contrast to the unified view of humanity put forward in the Christian tradition I have outlined, we find Kurzweil and others[79] in the transhumanist community. As Kurzweil suggests,

> when our human hardware crashes, the software of our lives—our personal "mind file"—dies with it. However, this will not continue

76 This is one of the more intriguing matters concerning the necessity of suffering in our own existence. Certainly, God thought it important that Job go through his trial. How many other biblical figures come to mind, whom God permitted to suffer for his own transcendent reasons? Hosea, Ezekiel, and Jesus come immediately to mind.

77 Chalmers, *The Conscious Mind*, 126.

78 Even Tononi's Integrated Information Theory, while mathematical and in some sense scientific, is criticised for being untestable.

79 Valeria Graziani, "Transhumanism in the Age of ChatGPT: Five Thoughts from Transhumanist Zoltan Istvan," *Singularity Group*, 22 February 2023, https://www.linkedin.com/pulse/transhumanism-age-chatgpt-five-thoughts-from-futurist/ (accessed 15 November 2025). See also P. Sheehan (ed.), *Humanity 2.0? Christian Perspectives on Transhumanism*, ISCAST Discussion Papers, 17 October 2025, https://iscast.org/transhumanism (accessed 15 November 2025).

> to be the case when we have the means to store and restore the … information represented in the pattern that we call our brains … At that point, the longevity of one's mind file will not depend on the continued viability of any particular hardware medium (for example, the survival of a biological body and brain).[80]

At that point, Kurtzweil argues, our minds can be uploaded into virtual bodies that inhabit either virtual worlds or are projected into the physical world.[81] Kurzweil acknowledges the need for a body, but not the continuity, unity, and integrity of our present body with our consciousness. Rather, he predicts the increasing augmentation of our biology with the nonbiological to a predictable end. In a very different teleological vision from the one outlined above, he asks, "In the 2040s, when the nonbiological portion will be billions of times more capable, will we still link our consciousness to the biological portion of our intelligence?"[82]

As the name "transhumanist" indicates, with its self-described optimism, whatever this immortal being is, it is *not* human. Any disunity of body and spirit constitutes something that is unnatural for the human person. John Paul II provides more help here in his analysis of Jesus' dialogue with the Sadducees about the resurrection.[83] To be a truly alive human is to be psychosomatic.[84] In his words,

> In fact, the truth about the resurrection clearly affirms that man's eschatological perfection and happiness cannot be understood as the state of the soul alone, separated … from the body, but must be understood as the definitively and perfectly integrated state of man brought about by such a union of the soul with the body, that it definitely qualifies and assures this perfect integrity.[85]

80 Kurzweil, *The Singularity Is Near*, 325.

81 Kurzweil, *The Singularity Is Near*, 198, 312, 317.

82 Kurzweil, *The Singularity Is Near*, 377.

83 Cf. Matthew 22; Mark 12; Luke 20.

84 John Paul II, *Man and Woman*, 389.

85 John Paul II, *Man and Woman*, 390.

It is in this eschatological vision of the multidimensionally unified person that "we shall bear the image of the man of heaven."[86]

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86 1 Corinthians 15:49.