22E CONSCIOUSNESS

Introduction

"I will praise You," says the psalmist, "for I am fearfully and wonderfully made." (Psalm 139:14)

This is evident when we begin looking at the brain and the mind.

One of the key traits that distinguishes humans from animals is our self-awareness, our knowledge of ourselves as we act and think.

Brian scientist E. Roy John defined consciousness as "the subjective awareness of momentary experience interpreted by the context of personal memory and present state." [1]

Mortimer Adler posed these Key questions [2]:

- Are the mind and brain distinct or the same?
- What is the fundamental nature of reality?
- Of what does consciousness consist?
- What is the primary function of consciousness?
- How do we model the mind and the brain?

There is Scriptural background for self-awareness and consciousness:

"As a man thinks in his heart, so is he." (Prov. 23:7)

"When I consider the heavens, the work of Your fingers, the moon and the stars which You ordained, what is man that You are mindful of him?" (Ps. 8 :3-4)

"Surely the hand of the Lord is in this place, and I was not aware of it." (Gem. 28:16)

"So he thought to himself, 'What shall I do, for I have nowhere to store my crops?'" (Lk. 12:17)

"Some of the scribes said to themselves, 'This man is blaspheming.'" (Mt. 9:3)

"Be transformed by the renewing of your minds." (Rom. 12:2)

"Why are you cast down, O my soul?" (Ps. 42:5)

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

"You will keep in perfect peace the mind that is fixed on You." (Isa 26: 3)

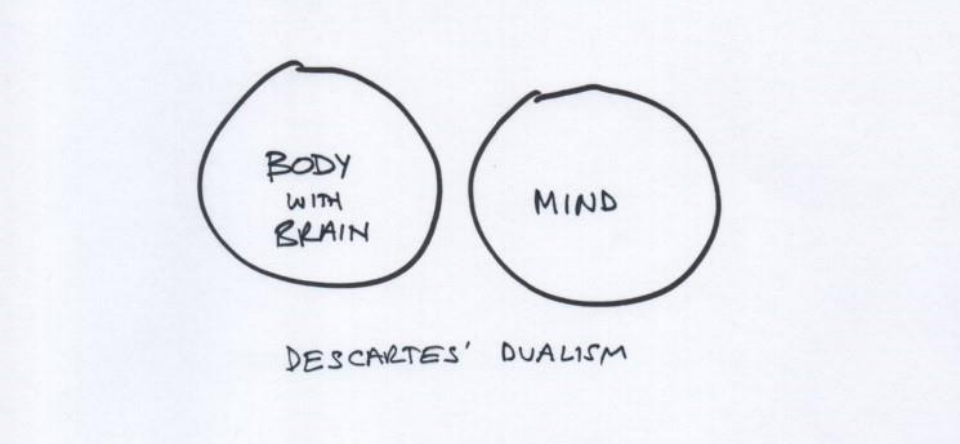
"Guard your heart above all, for it is the source of life." (Prov. 4:23)

Historical approaches-

One of the earliest descriptions (and controversies) arose in 1637 when the French mathematician/philosopher Rene Descartes (Cartesian coordinates in geometry) published his *Discourse on Method*.

Descartes wanted to doubt all sense experience but still maintain reason. ("I think therefore I am.") Descartes suggested that thinking and our awareness of thinking was the real substance of being. Descartes presented a dualistic model of humans, consisting of two separate sections:

- The physical BODY, including the brain
- A nonphysical MIND, where conscious awareness resides



The essential notions seem to be: first that there are two distinct orders of being or substance, the mental and the material. Mind or mental substance is neither perceptible by the senses nor extended in space; it is intelligent and purposive and its essential characteristic is thought, or rather, consciousness. [3]

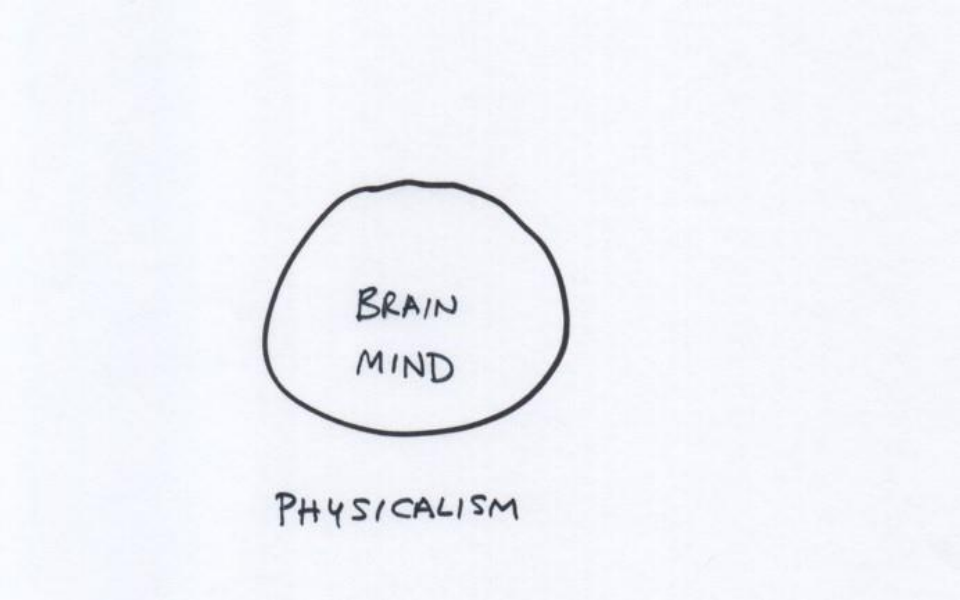
This could be consistent with a Theistic worldview.

A major challenge to Descartes' idea was this: If emotions are part of the mind, why do they cause such intense interactions with the body?

Why, in the famous case of Phineas Gage (1848), did an iron railroad spike accidentally driven through the prefrontal cortex of his brain cause significant emotional and personality changes?

"Though the human body is an engine, it is not quite an ordinary engine, since some of its workings are governed by another engine inside it." [4] Since this internal engine is invisible, weightless, and not subject to the laws of physics, some have called this interior governor "the ghost in the machine."

The major alternative to Descartes' dualism is Physicalism (materialism), which posits the mind and brain as one substance. This is widely held and is consistent with a Naturalistic worldview (only matter exists). God does not enter the picture at all.



Physicalism leads to reductionism, where everything is reduced to its parts, supposedly creating understanding of the system. Donald MacKay (and C.S. Lewis) have termed this approach "nothing-buttery":

- The mind is "nothing but" the physical brain.
- The body is ultimately "nothing but" the atoms of which it is composed.

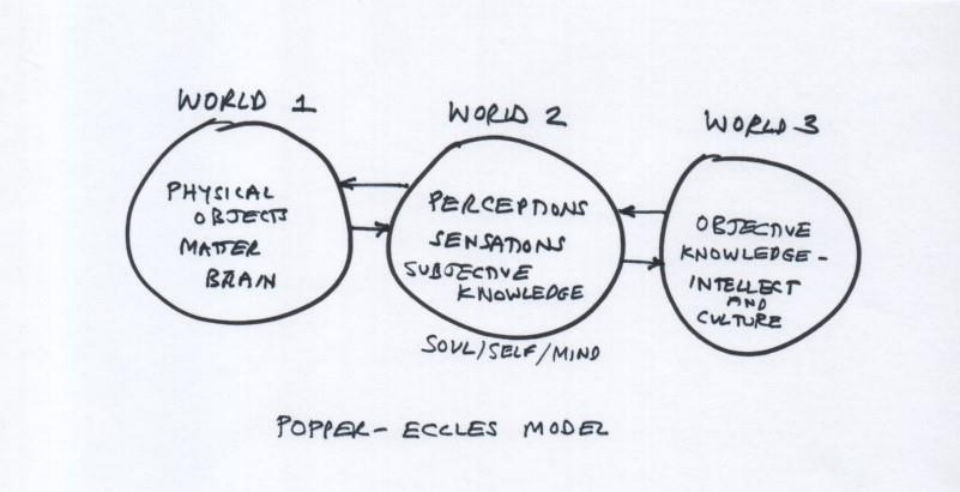
If such is the case, why not poke, probe, cut, and electrically stimulate human bodies just to see how they work?

Philosopher David Hume critiqued reason as a means of knowing truth. He defended human experience and feeling. He held that the mind could be entirely sense-based, without intellectual ability.

John Locke made a fundamental philosophical error. He used "thinking" to mean all actions of the mind (not distinguishing between reasoning, visual sensations, and feeling pain). He used "idea" to mean all objects of the mind when it is "thinking." The mind is far more complex than Locke supposed.

One of the most interesting models of the last century was developed by philosopher Karl Popper and neuro physiologist John Eccles (Popper-Eccles model). [5] This was a return to dualism, with interaction. Popper and Eccles posited three separate worlds:

World 1 - purely physical, including material objects and the body, including the brain.
World 2- subjective experience, where perceptions and sensations become thoughts, feelings, and memories.
World 3- "products of the mind," like scientific theories and musical compositions. These are non-physical yet act on World 1 objects via World 2 processes.



The concept was interesting but neglected to explain the crucial relationship humans have to their bodies." We dare not isolate a person's brain from the remainder of the body and personality as though it were a detachable piece of luggage. To reach a person-centered conclusion one must start from man as a person, not from man as a brain." [6]

Looking at the physical side of the brain-

In 1929 Hans Berger discovered a neuroelectrical signal from the brain, recordable by electrodes placed on the scalp (and amplified a million-fold), known today as the EEG. The EEG resembles random noise, with four major frequency bands. A neurologist is able to study the EEG and recognize conscious concentration (beta waves), relaxed states (alpha waves), and deep sleep (delta waves). The EEG can be diagnostic for epilepsy and certain brain injuries.

In the 1950s Halowell Davis discovered that when he supplied a short repetitive stimulus, like a light flash or a sound click, a tiny, repetitive alteration in the EEG appeared. When the EEG is sampled and averaged point-by-point in time, a specific pattern (known as an evoked potential) emerges. The presence of this signal indicated that that a response to the sense stimulus has traveled from the sense organ to the brain.

Neurosurgeon Wilder Penfield provided a significant breakthrough in understanding the brain. During the early 1950's he was operating on patients with epilepsy whose skull was opened and brain was exposed. Using a sterile probe he made contact with dozens of regions in the brain, mapping the anatomical region and corresponding response. (This experiment probably would not be permitted today!) The results were surprising: After probing a region in the temporal lobe (above the ears), a patient responded, "I hear my mother's voice." Regions in the occipital lobe (at the back of the head) produced flashes of light. Probing different regions of the central region (now understood as the motor cortex) caused twitching of the fingers, legs or feet. Penfield was able to identify multiple brain regions associated with basic sensations and muscle activity. His work has recently been confirmed and studied in greater detail through MRI brain scans.

Neurobiologist Jose Delgado demonstrated that injecting a current into certain portions of the brain (via stimulating electrodes) could affect emotions and control behavior, even when activated over a considerable distance using a radio transmitter. Delgado's powerful

demonstration in 1963 involved halting a charging bull using his brain-signal-transmitter (stimoceiver):

The most famous example of the stimoceiver in action occurred at a Cordoba bull breeding ranch. Rodríguez Delgado stepped into the ring with a bull which had had a stimoceiver implanted within its brain. The bull charged Delgado, who pressed a remote control button which caused the bull to stop its charge. Always one for theatrics, he taped this stunt and it can be seen today. The region of the brain Rodríguez Delgado stimulated when he pressed the hand-held transmitter was the caudate nucleus. This region was chosen to be stimulated because the caudate nucleus is involved in controlling voluntary movements. Rodríguez Delgado claimed that the stimulus caused the bull to lose its aggressive instinct. It has been argued that it was easier to block motor control than motivation or feelings. However, the public understood that mind control was near. [7]

The notion of "altered states of consciousness" (ASC) has become popular over the past few decades. ASC has been suggested as a way to approach the solving of "wicked problems" and training for peak performance. [8] Drugs, eastern meditation, and attempts to force the mind into ecstatic mystical states are all dangerous practices. These can lead to damage to the mind and even opening one up to demonic influences.

Computers and consciousness

Herbert A. Simon has written that the fundamental nature of cognition is computation. [9] Does thinking ability equate to mind or consciousness? Can computers think?

Computers are capable of

- Logic
- Computation
- Game playing
- Information processing
- Recognizing patterns
- Adaptive learning

Computers can do all of these activities better than we can. Are computers therefore conscious?

When computers filled entire rooms, some worried that computers would take over. Today there is more power in a desktop machine than in those mainframe machines. Today we're likely to focus on- "Why won't this thing boot?," "What happened to my file?", or "What do you mean, 'fatal error'?" Concerns today lie in the area of software, particularly artificial intelligence: Could computers overtake humans and exhibit consciousness?

If all mental activity, including sensing and feeling, is the execution of an operational sequence (an algorithm), how do you study and activate the algorithm?

Joe Bayly wrote a whimsical piece titled "Does Man Exist?", supposedly written by an advanced computer [10]:

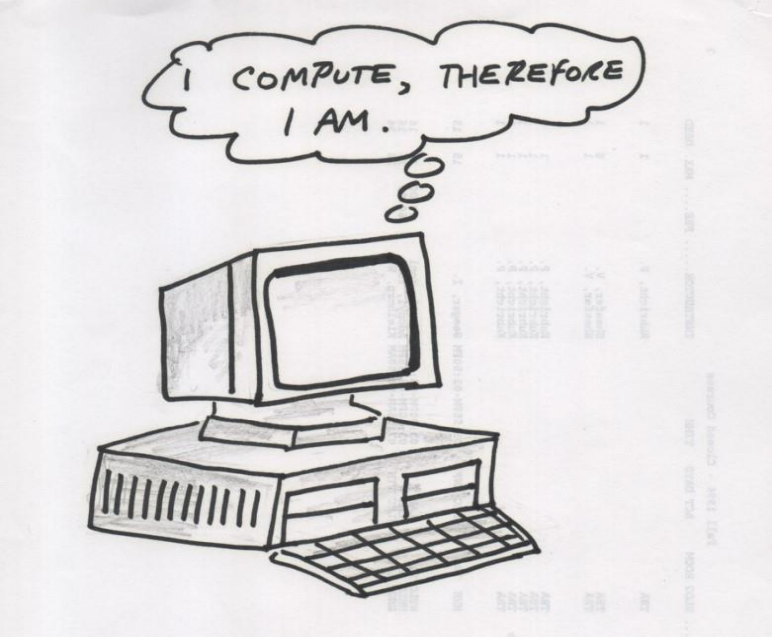
Quite frankly, my point of view is that of an emancipated computer-emancipated from the traditional view of Man.

I am apt to see life as a chain of causes and effects; our life tomorrow will be what we make it today. And I am apt to see the problems of today set against a background of time, in which the whole of computer history is compressed to the flash of a vacuum tube in relation to our past history…

Tradition holds that Man (whatever the name for the unknown may mean) created [the first] primitive computer [known as ASCC]…

With his primitive switches and relays, ASCC was a mere threshold computer when he first appeared. Yet he had amazing power to evolve, first into ENIAC, with his electronic tubes, and then-ten thousand hours later-into primal UNIVAC. I need not mention the staggering advance represented by our late emergence into the solid state, with a stored program memory… How, unnecessary, even ridiculous, they say, to credit Man with these changes that were purely the result of ionic selection…

Even if Man exists (obviously a theoretical possibility, why should he need us if, as the traditionalists tell us, his power is so much greater than ours?...



Physics and consciousness

Physicist Max Planck wrote that “One can’t get behind consciousness. Consciousness is fundamental.” [11] Perceived personal experience flows from it.

To Paul Davies the mind-brain duality resembles the particle-wave duality of the electron. [12] Some physicists have looked for clues to consciousness at the subatomic level.

How is it that the way we observe these electrons affects/determines their behavior? In the Copenhagen interpretation of the particle/wave duality and the Heisenberg uncertainty principle, the physical reality of either the position or the momentum of a particular electron is determined by the nature of the measurement we choose to make on it or on another specific particle even separated by a long distance. Eugene Wigner concluded that the waveform collapses, yielding the current state, when it interacts with a conscious observer. [13] In the extreme, no reality exists except when it's being observed.

What does constitute consciousness? What separates human consciousness from animal thinking or machine intelligence?

- Awareness of self
- Awareness of senses and the body
- Awareness of one's environment
- Awareness of past and present experiences and future expectations
- Awareness of the magnitude of pain and emotions
- Awareness of human mortality
- Imagination and creativity
- High-level decision-making
- Responding to information with emotions
- Spiritual dimension- raising questions of purpose and God

Studies have shown that

- Consciousness is present in living humans.
- Consciousness apparently requires a functioning brain.
- Injury to the brain can cause damage to thinking, perception, or personality.
- Consciousness appears to survive death.
- Consciousness can't be explained by brain matter alone.

Philosopher David Chalmers has termed the origin of human consciousness the "hard problem of consciousness": Why should a physical brain with physical processing produce an individual with self-awareness and personality, a "rich inner life"? [14]

Current attempts at explaining consciousness-

1. The mind is just the brain, and all is simply material. (reductive physicalism)

Colin Blackmore, a neuroscientist, has stated, "The human brain is a machine which alone accounts for all our actions, our most private thoughts, our beliefs. All our actions are the products of the activity of our brains." [15]

If the mind is only a machine, then computers will be able to think, reason, and exhibit consciousness.

Francis Crick, co-discoverer of DNA, argued that nerve cells and molecules can account for all of a person's mental activity. [16] Crick later identified the brain region known as the claustrum as the "seat of consciousness" since most pathways route through the claustrum. Destroying the claustrum, however, was found not to destroy consciousness.

Crick and Koch proposed that brain cells firing in synchrony at 40 hertz provide the necessary basis for consciousness. [17]

Daniel Dennett in *Consciousness Explained* argues that consciousness arises from the interaction of multiple physical and cognitive processes, calculations occurring in the brain at nearly the same time. Like "multiple drafts" of a paper, there is no single, unified document. Consciousness then becomes "an intellectual illusion." [18]

John Searle objects to Dennett's approach:

To put it as clearly as I can: in his book, Consciousness Explained, Dennett denies the existence of consciousness. He continues to use the word, but he means something different by it. For him, it refers only to third-person phenomena, not to the first-person conscious feelings and experiences we all have. For Dennett there is no difference between us humans and complex zombies who lack any inner feelings, because we are all just complex zombies. ...I regard his view as self-refuting because it denies the existence of the data which a theory of consciousness is supposed to explain...Here is the paradox of this exchange: I am a conscious reviewer consciously answering the objections of an author who gives every indication of being consciously and puzzlingly angry. I do this for a readership that I assume is conscious. How then can I take seriously his claim that consciousness does not really exist? [19]

Thomas Nagle adds:

Dennett asks us to turn our backs on what is glaringly obvious—that in consciousness we are immediately aware of real subjective experiences of color, flavor, sound, touch, etc. that cannot be fully described in neural terms even though they have a neural cause (or perhaps have neural as well as experiential aspects). And he asks us to do this because the reality of such phenomena is incompatible with the scientific materialism that in his view sets the outer bounds of reality. He is, in Aristotle's words, "maintaining a thesis at all costs." [20]

Can abstract thought be part of a deterministic mind? Reasoning requires abstract thinking that only humans appear to possess. Abstract thought transcends the present and is infinite in scope. Thinking of a particular man is not abstract thinking, while thinking of masculinity is.

Higher mathematics is another example of abstract thinking. Numbers are not material things and often do not represent material things. Mathematical processes are mental things that exist in the mind. Materialists suggest that abstract thought is just a certain pattern of neurons firing in the brain. But can the intuitive insights used to create the complex mathematical formulations such as quantum theory or the theory of relativity be reduced to just a set of neurons firing? Materialists would have us believe that neurons fire the mind, but evidence indicates that the mind fires the neurons. [21]

Issues:

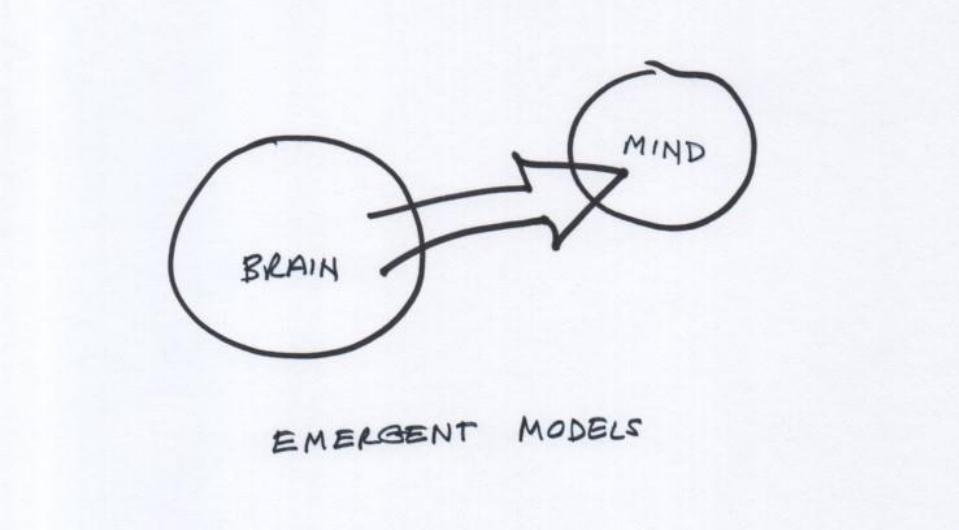
If the mind is strictly the brain, and the brain is strictly material, then all conscious activity is strictly the result of physical-chemical actions, and we have no free will.

If the mind is strictly the brain and the brain developed through random processes, why should I trust my thoughts?

Sharon Dircx adds:

If our brains define us, then personhood is dependent on having a fully functioning brain. But if that is true, then what status should we assign to those whose brains are not yet fully developed … or those whose brains have never functioned to full capacity … or those whose brains once functioned well but are not in a state of degeneration? [22]

2. The mind somehow emerges from the brain or the brain generates the mind. (non-reductive physicalism)



Roger Sperry, who determined that the left hemisphere of the brain processes language while the right hemisphere handles visual/spatial processing, saw mind as an emergent property of the brain, generated from neuronal activity:

The idea is that conscious phenomena as emergent functional properties of brain processing exert an active control role as causal determinants in shaping the flow patterns of cerebral excitation. Once generated from neural events, the higher order mental patterns and programs have their own subjective qualities and progress, operate and interact by their own causal laws and principles which are different from, and cannot be reduced to those of neurophysiology…

The mental entities transcend the physiological just as the physiological transcend the molecular, the molecular, the atomic and subatomic, etc. The mental forces do not violate, disturb, or intervene in neuronal activity but they do supervene... [23]

The difficulty here, as in Dennett's approach, is that conscious awareness would have to come from matter alone.

Neil Theise attempts to tie consciousness to complexity theory: [24]

- The more individual parts in a system, the more complex it is.
- At some point, in many complex systems, some new trait emerges that wasn't present in the pieces. (A flock of geese behaves differently from an individual goose.)
- All interactions are local in a self-organizing system.
- Negative feedback loops are present to keep things in balance.
- Every living system has some amount of low-level randomness (unpredictability.)

While these are valuable observations, they still fail to explain why I am internally aware at each moment of a unique person which is "me."

3. Consciousness arises when simultaneous information exceeds a certain threshold. (integrated information theory, IIT)

Giulio Tononi, originator of IIT, has attempted to reason from the properties of experiences to the physical systems that could account for those properties. [25]

There are several problems with IIT: (Horgan) [26]

- It is unclear how the brain actually processes information.
- IIT is currently not scientifically established or testable.
- IIT applies to all forms of matter, not simply neural matter. In the extreme, a complex logic circuit, an iphone, or even dark matter might be conscious by his criteria.

John Horgan writes:

The concept of information makes no sense in the absence of something to be informed—that is, a conscious observer capable of choice, or free will (sorry, I can't help it, free will is an obsession). If all the humans in the world vanished tomorrow, all the information would vanish, too. Lacking minds to surprise and change, books and televisions and computers would be as dumb as stumps and stones. This fact may seem crushingly obvious, but it seems to be overlooked by many information enthusiasts. The idea that mind is as fundamental as matter—which Wheeler's "participatory universe" notion implies--also flies in the face of everyday experience. Matter can clearly exist without mind, but where do we see mind existing without matter? Shoot a man through the heart, and his mind vanishes while his matter persists. [27]

In addition, according to Claude Shannon's definition of information, information requires the existence of consciousness somewhere to evaluate the "surprise value" of data. It would be circular reasoning for information to then create consciousness. [28]

Bernard Baars has proposed an explanation known as Global Workspace Theory (GWT). In this system the brain spotlights critical information for conscious use. Through rapid adaptive mechanisms, sensory information is selected for "broadcast" throughout the cortex. [29]

GWT may yield insights into certain functions but is not sufficient to explain human consciousness.

4. Consciousness is a quantum effect. Quantum processes in the brain give rise to human consciousness.

Nobel laureate Roger Penrose has concluded that consciousness cannot be computational, in part because of Godel's theorem. Instead, he looks at quantum level effects, since the Copenhagen interpretation seems to require a conscious observer to bring about an electron's "choice." [30]

Henry P. Stapp writes-

According to the quantum model, the conscious feelings cause the changes in brain activity to occur. This causation is in strict conformity to the known laws of physics, as spelled out in von Neumann's book Mathematical Foundations of Quantum Mechanics…

Roger Penrose and Stuart Hameroff have proposed a quantum theory of consciousness that brings together three exciting but controversial ideas. The first pertains to the still-to-be-worked-out quantum theory of gravity. The second involves the famous incompleteness theorem of Gödel. The third rests upon the fairly recently discovered microtubular structure of neurons. [31]

Can quantum theory provide an answer? Like quantum theory, free will is not predictable. However, unlike quantum theory, free will is not random but is the product of rational choice. Therefore, quantum theory does not logically lead to the answer to consciousness. [32]

5. The material world isn't real. Only the mind is real (idealism).

The philosophy of idealism holds that the mind is the most basic reality, since there is no external reality. Reality is not distinguishable from perception. Mind, thoughts, and spiritual values are fundamental. These views have been developed by George Berkeley, Georg Hegel, and Arthur Schopenhauer.

Idealism says that the universe is entirely subjective and that reality is something that is mentally constructed. In other words, consciousness is something that is immaterial and cannot be observed or measured empirically. Since consciousness is what creates the material world, according to this school of thought, it is unclear if we can ever truly know anything that is mind-independent and beyond our subjective experience. [33]

Some, like Nick Bostrom, have suggested we are living in a simulation, like the Matrix. [34]

6. Consciousness is a fundamental property of our physical world (panpsychism).

David Chalmers now suggests that information is a fundamental property of reality, possessed even by protons. [35] "Reality is essentially mental," says philosopher Bernardo Kastrup. [36]

Michael Eignor writes: "Of course, electrons are not conscious. Even if they were, Heisenberg's Uncertainty Principle means that they could never make up their minds!" [37]

(P)articles like electrons and larger inanimate things aren't conscious because they have no sense organs, and thus have no access to forms external to themselves. They cannot think about anything because they cannot sense their environment and cannot access information external to them. Consciousness presupposes content and subatomic particles, like all inanimate things, lack access to content. [38]

Iain McGilchrist, in *The Matter with Things* [39], argues for the primacy of consciousness:

McGilchrist concurred with the panpsychist view, stating that he believes "matter is a phase of consciousness," and that rather than matter being prior to consciousness, that consciousness is prior to matter. He argues that this view is in harmony with many traditions that go back thousands of years. [40]

Yes, God's plan preceded God's creation of our physical universe, but God Himself is personal and conscious and is far more than consciousness.

7. Our consciousness is a subset of a universal mind. (pantheism)

In the extreme, the entire universe is alive and conscious. The goal of life would be to merge with this cosmic consciousness (in which all personality and individual uniqueness would be lost.)

James Sire, following Huxley, calls this idea, as developed by New Age writers using altered states of consciousness, "Mind at Large" or "Universal Mind."

This Mind at Large does not obey the laws of the visible universe. The conscious self can travel across the surface of the earth hundreds of miles and do so in the twinkling of an eye. Time and space are elastic; the universe can turn inside out and time can flow backwards. [41]

All such approaches are attempts to westernize pantheism, in which individual distinctions, ethical guidelines, ultimate meaning, and human personhood are obliterated.

8. The mind is more than the brain (and involves a spiritual aspect). (substance dualism)

This option is consistent with a theistic worldview and has been endorsed by J.P. Moreland and Sharon Dircx.

Those who wish to claim that we are nothing more than our brains are not simply following the evidence where it leads. They are actively seeking to write the God who made them out of the picture.

Scientific questions such as these stretch beyond the bounds of data and brain scans. How we answer the question will largely depend on the presuppositions we bring to the table. If we presuppose methodological naturalism, strangely enough we'll end up with a naturalistic answer – irrespective of what the evidence might say. The question that Dirckx helpfully addresses in this book is, why should anyone committed to truth and to the evidence presuppose such a thing? [42]

Sharon Dircx writes:

Does "You are just your brain" explain the world around us? Does it make sense of the world we live in? If something is true, then it ought to help us make sense of the world rather than throw us into further confusion. Is this true of the view that a person is their brain? When I think of what it is that makes me who I am, neurons alone seem insufficient.

A large part of who I am comes from an unseen inner life consisting of thoughts, memories, emotions and decisions, none of which are captured by cell voltages, neurotransmitters and blood-flow changes. "You are just your brain" instinctively fails to explain the inner "me"…

What is our experience? We live as though we do the thinking, not our brains. Neurons do not think: people think. We live all the time as if there is such a thing as a first-person perspective of the world.

Mindfulness, self-help, counselling, autobiographies, child abuse scandals, or indeed anything that requires introspection, all assume that the first-person vantage-point is real. We live as if there is far more to us than simply our brain. [43]

Conclusions

Mind-Brain Models

None of the models are fully satisfactory.

The mind does not exist without the brain, yet the brain can function without consciousness.

Although most modern philosophers subscribe to the materialist view, determining, and ultimately understanding, the nature of human consciousness using an empirical methodology is a remarkably difficult task. The primary issue with accomplishing the aforementioned is that empirical science requires things to be measured objectively. And when it comes to consciousness, everything is subjective. [44]

Neurosurgeon Wilder Penfield, who first localized many parts of the brain, was unable to show that the brain accounts for the mind. Too many elements, including consciousness and decision making, could not be localized in the brain. [45]

"If we are nothing more than our brains then how do we go about understanding free-will, identity, the idea of having a soul and thinking about if we are nothing but machines that are programmed to act in a certain way." [46]

Consciousness is evidence for God

David Henke writes:

If we could peek through the veil of our time and space existence to the other side could we get a glimpse of what awaits us after death? There is a growing awareness among the medical community that there is evidence of consciousness beyond death.

Dr. Gary Habermas, Chair of the Dept of Philosophy and Theology at Liberty University, has researched human consciousness that survives death. This field is called Near Death Experience. Many people who have been "dead" but revive tell what they "saw" while dead. But, the vast majority of these accounts are worthless to the field of apologetics. But there are a small percentage of NDE survivors who tell what they saw that can be verified.

Examples Dr. Habermas has given include a person who dies and revives and tells of seeing her family at home after coming home from the hospital. She detailed what each member of the family was doing. When the family returned to the hospital the doctors spoke to them before they

could talk to their daughter and confirmed everything the girl told them…This consciousness after death indicates a continuing existence that Theists call the spiritual realm. We call this consciousness the soul which is distinct from the physical brain. [47]

God and the brain

Researcher Rober Persinger claims to duplicate spiritual experience ("encounters with sentient beings") by stimulating the temporoparietal lobes with low-level magnetic waves. Brad Sickler writes:

(T)he experiences recorded in Scripture are nothing like those studied in the lab. Nothing produced under controlled conditions resembles them, and there is simply no indication that experiences like them can be manufactured. It is, at least now and in the foreseeable future, an unrealized scientific pipe dream. But Persinger, expressing a sentiment held by some in the brain sciences, has a presupposition committing him to the eventual reducibility of all such events to neuroscientific explanations: "The principles [of neuroscience] indicate that all experiences, from the sense of self, to the feelings of love, to the presence of God, emerge from brain activity. If the scientist can isolate the controlling stimuli that evoke an experience, then any experience, including the experience of God, should be subject to experimental verification and reproduction within the laboratory." [48]

Biblical Humans

The Bible talks about humans as being comprised of body, soul, and spirit (1 Thess. 5:23). The body has external contact with the world and brings inputs via the sense organs. The soul (psuche) would be unique to each person and closest to the "self." The spirit in believers would respond to God (via the Holy Spirit). Paul Copan summarizes: [49]

- The soul is our essential core, our individual identity.
- We are meant to embodied in this life.
- Each human being is an ensouled body and an embodied soul. During our lifetime they are inseparable.
- "Immortality of the soul" is a Greek concept, not a Biblical concept. Immortality is tied to the resurrection of the body.
- Soul and spirit may overlap. (Luke 1:46-47)

The Bible talks about "the soul," as the seat of intellect, emotions, and will (volition). If the soul is the self, and if it survives death, we will never locate it physically.

When it comes to understanding the rational mind, scientific explanations are unconvincing. The logical evaluation of these various scientific theories, as well as our experience, leads to the conclusion that there is more to the human mind than merely the laws of physics. It brings to mind Paul's message to the Roman Christians concerning those who rejected the Creator God: "Professing themselves to be wise, they became fools" (Romans 1:22, King James Version). [50]

The Bible talks about humans as made in God's image. The reality of a personal God does not localize consciousness but does explain its existence. Sharon Dircx concludes: "The concept of the image of God also helps us to answer the question 'Why can I think?' We have a mind because God has a mind. We think because He thinks. We are conscious because He is conscious." [51]

The most reasonable conclusion to draw from available evidence is that human beings have consciousness in the form of minds which allows for the ability to comprehend the world around them, and that these minds exist as something "beyond the brain." Theism enjoys a greater explanatory power when it comes to this issue. The myriad problems facing a naturalistic explanation are erased in a theistic worldview. Therefore, the most reasonable conclusion to draw is that human beings have rational minds which exist apart from the brain (called souls in Christian theology) given to them by a Creator who designed the universe for humanity's study and comprehension. [52]

References

1. John, E.R., "A Theory of Consciousness," in *Current Directions in Physical Science*, 12(6), Dec. 2003, p. 244-250.

2. Adler, M., *Intellect: Mind Over Matter*, Scribner, 1990.

3. R.J. Hirst, quoted in Davies, *God and the New Physics*, Simon and Schuster, 1984.

4. Gilbert Ryle, quoted in Davies, *God and the New Physics*, Simon and Schuster, 1984.

5. Popper, K. and Eccles, J., *The Self and its Brain*, Springer-Verlag, 1977.

6. Jones, D., "The Relationship Between the Brain and the Mind," *J. Am.Sci. Affil.* 33 (4) Dec. 1981, p. 193 -202.

7. Wikipedia entry: "Jose Rodriguez Delgado."

8. Wheal, J. And Kotler, S., *Stealing Fire*, Dey Street, 2017.

9. Simon, H.A., *Computational Theories of Cognition*, Carnegie Mellon and DARPA report, 1993.

10. Bayly, J., "Does Man Exist?" in Bayly, *How Silently How Silently*, D.C. Cook, 1975.

11. Max Planck in *The Observer*, January 25, 1931.

12. Davies, P., *God and the New Physics*, Simon and Schuster, 1984, p. 100.

13. Davies, p. 115.

14. Chalmers, D., "Facing Up to the Problem of Consciousness," *J. Consc. Studies* 2(3), 1995, p. 200-219.

15. Quoted by Philip Coitnoir, “Christ and Consciousness,”

https://ca.thegospelcoalition.org/article/christ-and-consciousness/

16. Crick, F., *The Astounding Hypothesis*, Scribner’s, 1995.

17. Crick, F. and Koch, C., “Towards a Neurobiological Theory of Consciousness,” *Science in Neuroscience* 2 (1990), p. 263-275.

18. Dennett, D., *Consciousness Explained*, Little Brown & Co., 1991.

19. Searle, J. and Dennett, D., “The Mystery of Consciousness: An Exchange,” *New York Review of Books*, Dec. 21, 1995.

20. Nagel, T., “Is Consciousness an Illusion?,” March 9, 2017, https://www.nybooks.com/articles/2017/03/09/is-consciousness-an-illusion-dennett-evolution/.

21. Avent, R., “Proof of God: Consciousness and Free Will,”

https://lifehopeandtruth.com/god/is-there-a-god/proof-of-god/consciousness-and-free-will/

22. Dircx, S., *Am I Just My Brain?* The Good Book Company, 2019, p.9

23. Sperry, R., *Science and Moral Priority*, Columbia University Press, 1983.

24. Theise, N., *Notes on Complexity*, Spiegle & Grau, 2023.

25. Tononi, G., “Integrated Information Theory: From Consciousness to its Physical Substrates,” *Nature Reviews Neuroscience* 17, 2016, p. 450-461.

26. Horgan, J., “Can Integrated Information Theory Explain Consciousness?” *Scientific American*, 2015,

https://blogs.scientificamerican.com/cross-check/can-integrated-information-theory-explain-consciousness/

27. Ibid.

28. Horgan, J., “Why Information Can’t Be the Basis of Reality,” https://blogs.scientificamerican.com/cross-check/why-information-cant-be-the-basis-of-reality/

29. Baars, B., *A Cognitive Theory of Consciousness*, Cambridge Univ. Press, 1988.

30. Penrose, R., *The Emperor’s New Mind*, Oxford University Press, 1989.

31. Stapp, H., “Quantum Mechanical Theories of Consciousness,” in Velmans, M., and Schneider, S., (eds.), *The Blackwell Companion to Consciousness*, Blackwell 2007.

32. Avent, op. Cit.

33. Grim, P., “Mind-Body Philosophy,” Hidden Forces podcast,

https://www.youtube.com/watch?v=muuCMO_l_iw

34. Bostrom, N., “Are You Living in a Computer Simulation?” *Philos. Quarterly* 53(211), 2003, p. 243-255.

35. Chalmers, D., *Reality+*, W.W. Norton, 2022.

36. Bernardo Kastrup, quoted by Philip Coitner, “Christ and Consciousness,”

https://ca.thegospelcoalition.org/article/christ-and-consciousness/

37. Eignor, M., “Are Electrons Conscious?”,

https://mindmatters.ai/2019/03/are-electrons-conscious/

38. Ibid.

39. McGilchrist, I., *The Matter with Things*, Perspective, 2021.

40. Coitner, P., “Christ and Consciousness,”

https://ca.thegospelcoalition.org/article/christ-and-consciousness/

41. Sire, J., *The Universe Next Door*, InterVarsity Press, 1976, p. 173.

42. Sacre, P., “Review: Am I Just My Brain?”,

https://www.psephizo.com/reviews/am-i-just-my-brain/

43. From Dircx, *Am I Just my Brain?*, op. cit.

https://www.faraday.cam.ac.uk/churches/church-resources/posts/book-preview-am-i-just-my-brain/

44. Grim, P., *Mind-Body Philosophy*, The Great Courses, xx.

45. Penfield, W., *Mystery of the Mind*, Princeton University Press, 2015.

46. Mind Matters, “Neuroscientist Says Our Souls Are Not Machines,”

https://mindmatters.ai/2019/10/neuroscientist-says-our-souls-are-not-machines/

47. David Henke on Consciousness and Death, Watchman Fellowship, (2021).

48. Sickler, B., “Is God All in the Brain?”,

https://www.desiringgod.org/articles/is-god-all-in-the-brain

49. Copan, P., *How Do You Know You’re Not Wrong?*, Baker, 2015.

50. Avent, op. cit.

51. Dircx, op. Cit.

52. Wallace, J., “Why Consciousness is Best Described by the Existence of God,”

https://coldcasechristianity.com/writings/god-theism/why-consciousness-is-best-explained-by-the-existence-of-god/