

Exploration

Physiology of Spiritual Influences: An Integrative Exploration of Consciousness, Coherence & Mind–Energy Interactions

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Abstract

This paper offers a multidisciplinary exploration into the physiology of consciousness and its proposed interactions with morontial and spiritual influences – concepts originating from *The Urantia Book* that denote intermediate (morontial) and spiritual levels of reality. Bridging neuroscience, quantum physics, systems theory, and theology, we develop an integrative framework to understand how physical brain processes, mind-level phenomena, and putative spiritual energies might coalesce in the production of consciousness. We review contemporary scientific theories of consciousness (such as Integrated Information Theory, quantum consciousness models, and embodied cognition) alongside philosophical perspectives (process philosophy, panpsychism) and theological insights from *The Urantia Book*. We propose that consciousness can be viewed as a hierarchical, unified mechanism operating across multiple levels of reality, stabilized by coherence processes – from neural synchrony and quantum coherence in microtubules, to putative “spirit coherence” at higher levels.

Keywords: Consciousness, coherence, integrated information theory, quantum consciousness, *Urantia Book*, morontial energy, mind-body integration, transpersonal physiology.

1. Introduction

Consciousness remains one of the most profound and puzzling phenomena studied across fields. Neuroscience and psychology investigate how subjective experience arises from brain activity, whereas philosophy grapples with the “hard problem” of why physical processes produce an inner life at all. Beyond academic science, spiritual traditions posit that consciousness is more than brain chemistry – potentially an irreducible cosmic quality or a gift of divine mind. Bridging these domains requires a broad theoretical approach. This paper examines consciousness through multiple lenses: contemporary scientific theories, philosophical frameworks, and theological insights – particularly those from *The Urantia Book*, a modern spiritual text offering a detailed cosmology of mind and spirit and a multidimensional view of the human mind (Valverde 2018).

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We focus on synthesizing perspectives on how mind–energy interactions and coherence mechanisms might enable an interface between the physical brain and hypothesized spiritual influences.

A central challenge in consciousness studies is reconciling “bottom-up” explanations (mind emerging from matter) with “top-down” influences (mind or spirit acting upon matter). In scientific terms, bottom-up causation sees consciousness as an emergent property of complex neural interactions. In contrast, top-down causation in theological terms might assert that mind and consciousness originate from a higher or divine source. A combined perspective has been proposed in which energy evolves into sentient beings via physical processes, while higher influences guide this evolution. In other words, evolution may produce the brain’s complexity that enables consciousness, but conscious personalities then further self-develop with assistance from spiritual inputs. This aligns with *The Urantia Book’s* view of ascending (material) and descending (spiritual) agencies in tandem.

This introduction sets the stage for an integrative framework. We begin by reviewing *The Urantia Book’s* conceptual background that motivates terms like “morontial.” In Urantian terminology, reality is stratified into material, morontial, and spiritual levels. Morontial refers to an intermediate state of reality – which could be described as a form of “hard light” or supersubtle energy that is more refined than gross physical matter yet not purely spirit. It is suggested to be a bridge realm where mind and soul operate in conjunction with transformed physiological substrates. While unconventional, this concept offers a hypothetical spectrum: matter and spirit are not disconnected domains but joined by continuum levels (morontia) where patterns of energy and information become increasingly spiritual or enduring in quality. We will use this as a heuristic to explore how consciousness might span physical and spiritual dimensions.

In the sections that follow, we outline the theoretical frameworks informing our inquiry (scientific theories of consciousness, coherence theory, process philosophy, and Urantia teachings). We then reflect on methodology, which in this work is a form of conceptual analysis and synthesis rather than experimental study. Next, in the Discussion (Section 4), we delve into key themes: the consciousness process and its hierarchical nature; the role of physiology (from neurons to quantum processes) in enabling mind; the concept of coherence as a connecting principle; and the potential influence of spiritual factors (such as the Urantia concept of an indwelling divine “Thought Adjuster”). We integrate existing theories with these ideas, highlighting points of convergence or tension. Finally, we conclude with implications for an expanded science of consciousness that respects both empirical findings and experiential/spiritual insights.

2. Theoretical Framework

2.1 Scientific and Philosophical Foundations

Contemporary cognitive science and philosophy offer a range of theories for how consciousness arises (see Table 1 in the original text). A prominent example is Integrated Information Theory (IIT), which posits that consciousness corresponds to the capacity of a system to integrate information across many components. In IIT, a numerical value Φ (“phi”) quantifies this integration; higher Φ indicates a system with more unified, complex internal structure and hence higher consciousness. IIT thus suggests that consciousness is a fundamental property of organized networks – it “is a web of integrated information,” and a brain (or any system) that is more interconnected generates richer experience. This theory provides a framework to link measurable brain properties (complex connectivity, information flow) with levels of awareness. However, IIT has notable critiques: while it can quantify integration, it does not readily explain why integrated information should feel like anything from the inside (the hard problem), and calculating Φ for complex brains is computationally daunting.

Other cognitive theories include Global Workspace Theory (consciousness as a global broadcast of information in the brain) and Higher-Order Theories (which argue that consciousness of a mental state requires a higher-order representation of that state). For example, a Higher-Order Thought model sees conscious experience as arising when the brain not only processes information but also reflects upon it (a thought about a thought). These theories address different aspects – the global availability of information, or the self-referential aspect of mind – but share a common materialist assumption that the substrate of consciousness is neural activity organized in particular ways.

In philosophy of mind, property dualism and panpsychism have gained attention as ways to circumvent the hard problem. David Chalmers, for instance, argues that consciousness might be a fundamental feature of the universe, not reducible to physical processes. This naturalistic dualism treats subjective experience (qualia) as an irreducible “property” of matter or information, analogous to fundamental physical properties. While this move secures consciousness’ existence ontologically, it does little to explain mechanism. Panpsychism similarly proposes that some form of proto-consciousness could pervade all matter – thus complex brains would not create consciousness *ex nihilo* but rather organize preexisting conscious potentials.

As Table 1 indicates, mainstream scientific theories generally ground consciousness in physical processes and often adopt methodological naturalism, excluding non-physical causation. *The Urantia Book*–inspired perspective, however, invites us to consider a participatory ontology: mind is not an epiphenomenon but an arena where material and spiritual energies interact. It asserts that mind is bestowed (by a cosmic mind source) upon living material organisms and that a fragment of divine spirit indwells the human mind to guide its spiritual growth. These claims

are theological, not empirically verified, but intriguingly they align with some philosophical ideas like dualism and panpsychism, giving them a more personal and teleological flavor (mind given for a purpose of soul growth).

Table 1 summarizes several representative theories of consciousness, illustrating how each conceptualizes the mind–body relationship and whether it permits any role for non-material aspects:

Table 1. Representative Theories of Consciousness and Their Key Premises

Theory / Framework	Core Premise	Mind–Body Relation	Notes on Spiritual Dimension
Integrated Information Theory (IIT) (Tononi, 2008)	Consciousness corresponds to integrated information (high Φ).	Brain seen as an information network; more integration = more consciousness.	Treats information as ontologically fundamental; does not address spirit, though can align with panpsychist notions of inherent consciousness.
Orchestrated Objective Reduction (Orch-OR) (Penrose & Hameroff, 2014)	Quantum processes in microtubules produce moments of conscious awareness (wave-function collapses orchestrated by the brain).	Brain is not just biochemical but also quantum-coherent; connects mind to fundamental physics.	Implies consciousness taps into fundamental space-time geometry; some interpret this as opening a door to cosmic or universal mind.
Higher-Order Theories (e.g. Rosenthal, 2005)	A mental state is conscious only if accompanied by a higher-order thought about that state (self-reflection).	Strictly brain-based representational model (mind as the brain’s self-model).	No role for non-physical factors; consciousness is an emergent property of complex representation.
Embodied & Enactive Cognition (Varela et al., 1991)	Consciousness arises through active sensorimotor engagement; mind is <i>embodied action</i> .	Mind is distributed across brain–body–environment; not confined to brain alone.	Generally secular; spiritual views could see bodily practices (e.g. meditation, yoga) as aligning body and spirit, consistent with emphasis on embodiment.
Property Dualism / Panpsychism (Chalmers, 1996)	Consciousness is a fundamental property of matter or information, present in some form at all levels.	Mind is neither reducible to matter nor separate – it is <i>intrinsic</i> to matter (dual-aspect).	Resonates with <i>panpsychist spiritual</i> philosophies (e.g. that a Universal Consciousness pervades reality) but typically framed non-theistically in analytic philosophy.
Quantum	It intends to explain	Studying altered states	The theory aims to bridge or

Theory / Framework	Core Premise	Mind–Body Relation	Notes on Spiritual Dimension
Hologram Theory of Consciousness (Valverde et al. 2022)	how consciousness works, especially in non-ordinary or altered states (e.g. near-death experiences, transpersonal experiences).	(e.g. meditation, near death experiences, etc.), and using technologies like biofeedback, gas discharge visualization, neurofeedback, etc., can help test or explore aspects of QHTC and how consciousness relates to body.	unify science, spirituality, psychology, metaphysics— attempting to provide a framework that includes both empirical measurement and subjective/experiential data.
Urantia Book Framework (theological)	Consciousness results from the interplay of material brain, imbued mind (adjutant mind-spirits), and a divine spirit fragment (Thought Adjuster). Personality and mind are <i>patterns</i> superimposed on energy.	Explicit <i>dual (or triple) aspect</i> : material body, mindal medium, and spirit influence must all align for full consciousness. The brain enables mind; mind mediates spirit influence.	Consciousness is ultimately rooted in cosmic mind ministry; allows direct top-down influence (spirit adjusting mind) while maintaining bottom-up biological development. Death is viewed as the transition of consciousness from the material to the morontial/soul level, under guardian seraphic custody.

(Sources: Tononi, 2008; Hameroff & Penrose, 2014; Rosenthal, 2005; Varela et al., 1991; Chalmers, 1996; Valverde et al., 2025, *Urantia Book*, 1955)

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Coherence and Integration: A concept of recurring across frameworks is coherence. In physics and systems theory, coherence refers to orderly, in-phase operation of components – as seen in laser light (photons in phase) or synchronized neural oscillations in the brain. Coherence can

amplify effects (just as coherent photons produce a powerful laser beam). Our inquiry will examine whether coherence mechanisms might link different scales of consciousness: from molecular to neural to perhaps spiritual. For example, electromagnetic phase locking between neural assemblies could create global brain states associated with conscious awareness. Some have speculated that quantum coherence in microtubule networks could tie into consciousness (as Orchestrated Objective Reduction suggests). *The Urantia Book* similarly speaks of harmonizing mind with spirit through “alignment” or attunement – essentially a coherence metaphor, where the personal mind aligns in phase with cosmic mind patterns.

Process philosophers like Alfred North Whitehead also implicitly use a coherence idea: reality is not made of static bits but processes that achieve momentary unifications (“actual occasions”) which then influence subsequent ones. Consciousness in a process view is ongoing integration – each moment of experience integrates past data and anticipates future, in a self-organizing flow. Recent theoretical work (e.g. Viscous Time Theory cited in our source text) explicitly suggests that information coherence gradients drive physical processes, not just thermal gradients. In that view, entropy increase (disorder) might be reinterpreted as loss of coherence over time. While speculative, this approach resonates with the idea that increasing organization (pattern, coherence) underlies evolution – including the evolution of consciousness. It dovetails with Urantia teachings that “continuing evolution modifies nature by augmenting the content of Paradise perfection and diminishing the content of evil, error, and disharmony”. In other words, perfection could be seen as maximal coherence or alignment with divine pattern, whereas evil is metaphorically a state of discord or broken coherence in the universal fabric.

2.2 *The Urantia Book* Framework (Theological)

Because it plays a prominent role in our narrative, *The Urantia Book*’s key teachings on mind and morontial reality need brief outlining. According to this text (first published in 1955), the human mind is a gift of the Infinite Spirit via seven adjutant mind-spirits that endow evolutionary mortals with capacities like intuition, understanding, courage, knowledge, counsel, worship, and wisdom. These mind-spirits operate through the brain but are super-material in origin. The capacity of a material creature to respond to spirit influences depends on this mind endowment, which in fact guided the course of biological evolution toward increasing intelligence. Thus, mind is portrayed as a mediating field between pure spirit and matter, one that can evolve and expand.

Crucially, personality and soul in this framework are considered real patterns that are superimposed upon energy systems. Pattern, in *Urantia Book* usage, means the design or form imposed on energy – it is neither energy nor spirit itself, but the configuration that energy can take under mind/spirit direction. A living being is composed of energy organized in certain patterns (biological, mental, spiritual). Notably, the *Urantia Book* claims that spirit patterns do not occupy space as material patterns do; they exist “in relation to space.” This implies that spirit

is present without displacing physical space – a notion consistent with thinking of spirit as a higher-dimensional reality casting “shadows” into our space-time (the text even uses the metaphor of the material as a shadow of the more real spirit substance).

The morontia level is exactly such an intermediate pattern: it has aspects of material reality (it can have form and even respond to a kind of gravity) but does not follow all physical laws as we know them. Morontia substance might be described as a “supersolid form of light” – essentially where photons are organized into quasi-material atoms. This imaginative concept anticipates what in physics might be called exotic states of light (there is indeed the idea of “solid light” where photons behave as if having mass under certain conditions). The *Urantia Book* teaches that our local universe contains these three tiers: matter, morontia, spirit. Human beings, upon death, transition to morontia forms, taking up life on higher planes with new morontia bodies that retain our identity and memories as carried by the soul. This soul is defined as the evolving morontia self – the joint creation of the mortal mind and the divine spirit within.

In Urantia theology, every normal-minded human receives a Thought Adjuster, which is described as a fragment of God’s spirit indwelling the mind, usually around the age of moral consciousness in childhood. This Adjuster’s mission is to gradually spiritualize the mind by leading it toward truth, beauty, and goodness, ultimately aiming to fuse with the human soul if the person chooses the divine will. Our source document emphasizes that Adjusters face difficulties communicating with us because of the “vast gulf” between the human and divine mind: we are very “electrically and chemically controlled” and emotionally reactive, lacking the deep “courageous decisions and consecrated cooperation” that would allow direct guidance. This paints the human challenge: to attune our mind and body (through self-mastery and spiritual growth) such that the inner spirit can more effectively guide us.

The life of Jesus is given as an example of supreme alignment: “Jesus possessed the ability effectively to mobilize all his powers of mind, soul, and body on the task immediately in hand... enabled him serenely to endure the trials of a difficult mortal existence – to live as if he were ‘seeing Him who is invisible’.” In other words, Jesus achieved perfect coherence among his physical, mental, and spiritual aspects, focusing them like a lens on each moment’s purpose. This ideal of triune harmony (body, mind, spirit in sync) is said to maximize the receptivity to divine light and truth.

In summary, the Urantia framework contributes several ideas to our theoretical toolkit: (a) multi-layered reality (matter–morontia–spirit as a continuum); (b) mind as the connecting medium that can associate with spirit while animating matter; (c) pattern and coherence as the means by which higher influences translate into lower levels (e.g., how a spiritual idea might take root in a neural network as a pattern); and (d) purposeful evolution – consciousness is on a trajectory of

growth, with personality survival predicated on choosing alignment with spiritual values, thereby literally shifting the identity center toward unity with the divine.

2.3 Coherence and Integration

A concept recurring across frameworks is coherence. In physics and systems theory, coherence refers to orderly, in-phase operation of components – as seen in laser light (photons in phase) or synchronized neural oscillations in the brain. Coherence can amplify effects (just as coherent photons produce a powerful laser beam). Our inquiry examines whether coherence mechanisms might link different scales of consciousness: from molecular to neural to perhaps spiritual. For example, electromagnetic phase-locking between neural assemblies could create global brain states associated with conscious awareness. Some have speculated that quantum coherence in microtubule networks could tie into consciousness (as the Orchestrated Objective Reduction model suggests).

The *Urantia Book* similarly speaks of harmonizing mind with spirit through “alignment” or attunement – essentially a coherence metaphor, where the personal mind aligns in phase with cosmic mind patterns. Process philosophers like Alfred North Whitehead also implicitly use a coherence idea: reality is not made of static bits but processes that achieve momentary unifications (“actual occasions”) which then influence subsequent ones. Consciousness in a process view is ongoing integration – each moment of experience integrates past data and anticipates future, in a self-organizing flow. Recent theoretical work (e.g. Viscous Time Theory cited in our source text) suggests that information coherence gradients drive physical processes, not just thermal gradients. In that view, entropy increase (disorder) might be reinterpreted as loss of coherence over time. While speculative, this approach resonates with the idea that increasing organization (pattern, coherence) underlies evolution – including the evolution of consciousness. It dovetails with *Urantia* teachings that “continuing evolution modifies nature by augmenting the content of Paradise perfection and diminishing the content of evil, error, and disharmony.” In other words, perfection could be seen as maximal coherence or alignment with divine pattern, whereas evil is metaphorically a state of discord or broken coherence in the universal fabric.

2.4 The *Urantia Book* Perspective on Mind and Reality

Because it plays a prominent role in our narrative, *The Urantia Book*’s teachings on mind and morontial reality have deeply influenced our model. It presents mind as a mediating field that can both animate matter and bridge to spirit. For example, the text describes personality and soul as enduring patterns superimposed on energetic systems and asserts that higher “Thought Adjusters” indwell human minds to guide spiritual growth. It also emphasizes that spirit does not displace material space but exists in relation to it, suggesting a higher-dimensional realm influencing the physical.

Importantly, *the Urantia Book* treats pattern as a key concept: mind and personality are patterns that impose form on energy. Spirit and morontial bodies, therefore, are organized patterns of

energy that carry identity beyond physical death. The morontia level is portrayed as a “supersolid form of light” – imagine photons organized into quasi-material atoms – bridging matter and spirit. This view implies a continuum rather than a dichotomy between the brain and soul: as consciousness evolves, the human entity transitions to increasingly subtle energy patterns.

The Urantia framework thus provides metaphors and hypotheses (rather than empirical facts) about mind–spirit interaction. We use these ideas not as proof but as inspiration: to explore whether concepts like “mindal substance” or “spirit gravity” could correspond to unknown physical processes (e.g. information fields or coherence effects) that influence the brain. Throughout, we differentiate between established science and speculative interpretation. Our role is to map *Urantia Book* concepts onto modern scientific language, seeking analogies without abandoning critical analysis.

3. Methodological Reflections

This work is theoretical and synthetic in nature. Our methodology involves integrating insights from neuroscience, physics, psychology, and theology to form a coherent narrative about consciousness. We acknowledge that much of what is discussed (especially regarding spiritual influences or morontial energy) is not directly testable with current scientific methods. The approach is akin to a metatheoretical analysis or what some scholars call a “consilience” approach – attempting to align different branches of knowledge into a unified explanatory picture. We draw upon existing scientific literature (for example, research on brain connectivity, quantum biology, near-death experiences, etc.) as referenced throughout and use *The Urantia Book*’s text as a source of hypotheses or analogies rather than as proven fact.

One methodological challenge is the potential for category errors – mixing spiritual language with scientific terminology. To mitigate this, we strive to be clear when a statement is coming from empirical evidence versus when it is a speculative extrapolation or a theological premise. For instance, if we speak of “spirit gravity” (a term from Urantia teachings meaning the attractive power that spirit realities have on spirit substances), we compare it to analogous known forces (like physical gravity on matter) to see if it can be conceptually coherent rather than asserting it as a measured force. Indeed, *The Urantia Book* explicitly states: “Spirit substance (quality) is just as responsive to spirit gravity as the organized energy of physical matter (quantity) is responsive to physical gravity. Spiritual values and spirit forces are real.” We treat such statements as propositions that, if taken seriously, might guide new ways of thinking about how values or meaning could have a tangible effect (perhaps via psychophysical principles not yet understood).

Another note: because this is an interdisciplinary, integrative study, we rely on a wide array of sources, from peer-reviewed scientific papers to philosophical essays to spiritual texts. All

information is cited, and the reference list reflects this diversity. By the nature of the topic, some ideas will inevitably outrun the available evidence – these are presented as suppositions and extrapolations (as the author of our source document stated) intended to spur dialogue and further research, not as final answers. The guiding intent is to strengthen the plausibility of a worldview where consciousness is more than an emergent brain process – by identifying points of resonance between spiritual models and scientific findings, thereby encouraging a transpersonal paradigm in consciousness studies.

With these foundations and caveats in place, we now proceed to the main discussion (Section 4), where we explore how these pieces come together in the phenomena of consciousness and human experience.

4. Discussion

4.1 Consciousness as a Multi-Level Process

Consciousness can be viewed as a process unfolding across multiple levels of reality, from subcellular events in neurons up through whole-brain dynamics, and – if one accepts the hypothesis – further into transpersonal or spiritual domains. Based on our synthesis, we propose that despite its many facets, consciousness is fundamentally unified in operation. The notion of “Consciousness as a Unified Mechanism” suggests that various states of consciousness (wakefulness, dreaming, meditative absorption, etc.) are not utterly distinct phenomena but different configurations of one underlying process. This process is hierarchical and flexible: it can range from highly localized neural activity (as in focused attention on a task) to globally synchronized patterns (as in restful awareness or peak experiences), but these are all degrees of unity in the system rather than completely separate modules.

Neuroscientific evidence supports gradations of integration. For instance, during general anesthesia or deep sleep, functional connectivity between brain regions (especially frontoparietal networks and the default mode network) diminishes, and measures of complexity or entropy in EEG signals drop and primarily involves the activity of microtubules. As the person regains consciousness, these indicators increase, reflecting a more globally integrated brain state (Demertzi *et al.* 2019; Mashour *et al.* 2020). IIT’s Φ value would likewise be low in unconscious states and higher in conscious ones. Our source text specifically notes studies where patterns of neuronal activity are distinctive and low-complexity in coma or anesthesia yet become richer and more variable in normal wakefulness. This aligns with the hierarchical model: in unconscious states, the “mechanism” of consciousness is still present (the brain still has electrical activity, etc.) but it’s constrained to lower-level local loops, lacking the higher-level unification.

We might visualize the consciousness hierarchy as layers: subcortical structures (brainstem, thalamus) providing the foundational level of arousal and basic feeling of being (sometimes called core consciousness), and cortical networks providing content-specific awareness (percepts, thoughts – extended consciousness). The brainstem has been likened to an “engine” or accelerator/brake for consciousness – it modulates overall level (awake vs. asleep, etc.), while cortical circuits elaborate the details. This is consistent with the idea in our source that subcortical structures are “initializing components” and can act to start, stop, or modulate the flow of conscious processing. In a hierarchical sense, global coherence of brain rhythms (e.g., the alpha oscillation that can synchronize widely) might reflect the base level unity, upon which more complex patterns are superimposed.

Crucially, this hierarchy concept extends to a possible mind–spirit integration: if material and spiritual aspects of consciousness exist, they too might form a continuum. Rather than thinking of a separate “spiritual consciousness,” one can think of one consciousness process that can incorporate spiritual inputs when the system is appropriately configured. For example, a person in deep prayer or worship might achieve a state where their mind is highly unified, receptive, and resonant with what they perceive as a divine presence. Neurologically, such states often correlate with synchronous gamma oscillations and elevated activity in attention and value-processing regions (prefrontal cortex, anterior cingulate, etc.), along with quiescence of the default mode network (allowing a loss of self-focus) – a pattern also seen in long-term meditators experiencing non-dual awareness (Brewer *et al.* 2011; Newberg and d’Aquili 2008).

We could interpret that as the brain achieving a temporary configuration of maximal coherence, perhaps enabling consciousness to “tune in” to subtler influences. Indeed, *The Urantia Book* asserts that in a mind of “perfect poise,” housed in a healthy body and with balanced function, the maximum of spiritual truth can be imparted. This suggests that there is an optimal physiological state for spiritual experience – something modern research might frame as the flow state or peak coherence state of brain and body.

One novel hypothesis from our source is that time and timelessness interplay in consciousness. *The Urantia Book* intriguingly describes time as “our consciousness of the everlasting now” (implying time is a feature of consciousness, originating from a Paradise source). If Paradise (the divine center) is atemporal, then our temporal experience is a sort of projection. The Viscous Time Theory (VTT) builds on this by integrating thermodynamics and information theory, positing that what we perceive as heat flow (time-bound change) might actually be the relaxation of coherence over time. The flow of time, then, is tied to how information structures lose alignment. Consciousness – always “now” – might be the point of collapse of possibilities into actual experience (more on this when we discuss quantum aspects). The notion that the present moment is the collapse of the wavefunction is echoed in quantum consciousness theories. In any case, seeing consciousness as hierarchical and unified helps us frame mystical notions in

potentially scientific terms: the “eternal now” could correspond to the highest level of unified information (or infinite Φ) where time’s sequential order dissolves. Mystical experiences often report a feeling of timelessness and unity – possibly indicating an extreme integration of conscious processes (both within the brain and perhaps linking beyond the individual).

4.2 Brain, Body, and Coherence Mechanisms

We now turn to the physiological substrates that might serve as conduits or focal points for the mind–energy interactions in question. The human brain is an extraordinarily complex network: roughly 86 billion neurons, each with thousands of synapses, generating and responding to electrochemical signals at millisecond speeds. At this “classical” level, neuroscience maps many correlates of consciousness: certain brain regions and networks are especially important (for example, the thalamo-cortical system, the default mode network for self-referential thinking, and the fronto-parietal network for attention and working memory). Our everyday consciousness clearly depends on these circuits. Disrupting them (by injury or deep anesthesia) abolishes normal conscious experience. But how do these neural firings translate to the subjective feeling of being? This is the crux where some theorists invoke quantum processes or other novel physics, suggesting that purely classical interactions may not suffice.

4.2.1 Quantum Brain Hypothesis

One bold idea is that quantum coherence in microstructures of the brain might produce the “bridge” between material processes and consciousness. The most elaborated of these is the Penrose–Hameroff **Orch-OR model**, which focuses on microtubules – the cytoskeletal filaments within neurons. Microtubules are largely known for their structural and transport roles in cells (they form the mitotic spindle, for example). But Hameroff and others have pointed out that microtubules also have interesting properties that could support quantum effects: they are hollow, periodic lattice structures of tubulin protein, and their inner lumens could in theory host coherent dipole oscillations or support quantum bits (qubits) via the collective behavior of tubulin states. Our source document delves into microtubule physics, noting that electromechanical energy interacts with electro-optical energy in microtubules in a coordinated fashion by reversibly exchanging energy for momentum.

In simpler terms, microtubules might convert electrical signals to vibrational (mechanical) and even photonic signals and back, acting as nanoscale information transducers. Two key conservation principles apply – momentum and energy – and energy can temporarily go into momentum (motion) and then back to energy. This dynamic hints at why vibrations in microtubules could matter: if they allow a reversible exchange, they could create a resonant system that is both local (mechanical) and distributed (electromagnetic).

Notably, the source states: “You can’t separate the part from the whole... At the quantum level, things directly act as aspects of the whole and they derive their definition and meaning from that whole.” This is essentially describing quantum nonlocality or holism – parts of a quantum system lack independent reality, only gaining definite properties in relation to the whole system’s state. In the brain context, it suggests that if microtubules (or other biomolecules) achieve quantum entanglement or coherence, neurons could become entangled with each other and possibly with the wider environment, blurring the line between individual and system. It’s speculated that Thought Adjusters (the indwelling spirit) and ultimatons (Urantia’s name for the smallest energy particles constituting electrons) could be the “localized presentations” of the spiritual and material wholes, respectively.

In metaphor, the Adjuster is a fragment of God (the spiritual Whole) and the ultimatons are fragments of the cosmic physical whole. If there is an overlapping domain where these two fragments meet, it might be at the level of quantum electromagnetic energy. In other words, mind could interface with matter through the quantum electromagnetic field, since EM phenomena can link quantized events (photons, electron states) with global patterns (fields extending through the brain and beyond).

Our source goes further to outline how quantum field theory provides two fields – an electromagnetic field (whose quanta are photons) and an electron field (whose quanta are electrons) – that interact. Photons influence electrons via the electromagnetic potential, changing their momentum. If we use Urantia terms symbolically: material field = electron field, mindal field = photon field, spiritual field = some “cosmic field” beyond these. Then an intersection might occur where frequencies overlap. The text posits that maybe the optical frequency range is a meeting ground between material and mindal energy – i.e., perhaps biophotons (ultraweak light emitted by cells) play a role in mind–brain interaction.

Biophotons are a real scientific phenomenon; neurons do emit and absorb photons in the UV range, and some speculative models propose that coherent biophoton fields could enable quantum communication in the brain (Jibu and Yasue 1995; Persinger and Lavallee 2012). It’s fascinating that the Urantia-inspired view labels morontia as operating in the ultraviolet (just above visible light), matching the idea that “hard light” is at a higher frequency. If so, one might conjecture that the human system’s interface with morontia energies could occur via biophotonic UV emissions and corresponding resonance in microtubule networks.

What evidence could support any of this? A few suggestive pieces: Bandyopadhyay et al. (2013) reported gigahertz and terahertz oscillations in microtubules at physiological temperature – implying they have spectral resonances in microwave and far-infrared ranges. Others have shown microtubules can influence or produce electromagnetic fields and might even act like waveguides for light (Hakonen *et al.* 2015). Moreover, quantum tunneling has been proposed in

certain brain enzymes and receptors. Our source highlights ferritin molecules in the brain (iron storage complexes) where electrons can tunnel between iron clusters, a process sensitive to electromagnetic fields. Ferritin is abundant in the substantia nigra of the midbrain and elsewhere; if electron tunneling in ferritin is modulated by brain activity, it could serve as a biological quantum switch.

This might be tangential to conscious processing, but it underlines the point: the brain is not a uniformly warm, noisy system devoid of quantum effects – there are micro-environments and mechanisms that could exhibit quantum behavior (ferritin, microtubules, ion channels, even nuclear spins of phosphorus atoms as Fisher 2015 hypothesized in the context of quantum cognition).

Quantum Consciousness Theory as summarized in our source essentially says that phenomena like superposition, entanglement, and wavefunction collapse could be exploited in the brain. If a portion of the brain's state is in quantum superposition, when it collapses, that discrete “actualization” might correspond to a conscious moment (a thought or decision). The Orch-OR version suggests collapse happens on the order of 10–100 milliseconds (10^8 MHz) orchestrated by microtubule entanglement reaching a threshold – interestingly in line with the known ~40 Hz (25 ms) gamma cycles of conscious perception. Penrose controversially ties this collapse to gravitational self-energy criteria – linking consciousness to quantum gravity in some yet-unclear way.

Our source emphasizes a simpler upshot: the collapse of the quantum wavefunction is where consciousness arises, and subsequent cascades of collapse influence other levels. Essentially, consciousness might be the inside perspective of a wavefunction collapse event – a radical but intriguing notion (Wigner and von Neumann also entertained it long ago). Each conscious choice or even perception could be the universe (through that brain) “making up its mind” among quantum possibilities, which then trickle up to classical behavior (neuron firing patterns that lead you to speak, move, etc.). The source text poetically adds: “These invisible streams of information explain how a thought tenses muscles, an image triggers tears or faith heals.” In other words, an intention (which might start as a quantum selection at mind level) can produce physical effects (muscle movement, endocrine changes) through these cascading information patterns.

This is speculative, but it strives to give a mechanism for mind-over-body phenomena.

For instance, consider the placebo effect or psychoneuroimmunology findings where belief and thought clearly modulate physical health (endorphin release, immune response). In a purely classical model, it's hard to pinpoint how a non-material belief translates to cytokine levels – we typically say “via stress hormones and nervous system signals.” The quantum-consciousness viewpoint might suggest that coherent information fields (perhaps at the level of microtubule

networks entangled with brain-wide states) directly affect molecular events in cells by tipping probabilities (like which genes are expressed or which chemical reaction path is taken).

This is conjectural – no current technology can detect such a process – but it’s one way to visualize top-down causation in a bottom-up physical world: the top (the conscious pattern) biases the stochastic processes of the bottom (molecules), which then yields measurable physiological outcomes (healing, etc.). Some support for unusual mind–body interactions comes from neuroscience experiments that show, for example, focused ultrasound (8 MHz) targeted at the brain can alter mood and arousal (Folloni *et al.* 2019), or that patterned transcranial magnetic fields can induce experiences – hinting that the brain is an electromagnetic instrument sensitive to more than just chemical inputs.

The source material also identifies quantum coherence as the overlap of classical and holistic behavior and speculates that it might involve an interface with “Supreme” energies. This verges on the mystical: in *The Urantia Book* terms, “God the Supreme” is the evolving deity of the universe – essentially the cosmic oversoul or the accumulation of all creature experience. To say quantum coherence may involve the Supreme implies that when things are in coherence, they participate in a larger whole (which in theology is the Supreme Being). Translated to non-theological terms: any time parts of a system become coherent, they start acting as one entity, and that oneness could be considered a higher-order entity with its own properties. Think of how a coherent laser beam can do things individual photons cannot, or how a synchronized neural assembly can carry information an isolated neuron can’t. So when the brain achieves a coherent state, perhaps it gains access to a “whole” that is beyond the sum of its parts – maybe accessing information non-locally or coupling to an environmental field. Some researchers (e.g. Persinger and Lavalley 2012; McFadden 2020; Pockett 2000 [not in our list but illustrative]) have suggested consciousness might be an electromagnetic field itself, not just a product of neural networks. If so, coherence in that field might extend beyond the head – conceivably explaining anecdotes of telepathy or distant healing (very speculative, but interestingly Grinberg-Zylberbaum *et al.* 1994 reported correlated EEG changes between isolated subjects, hinting at “paired mind” effects).

To sum up this section: multiple coherence mechanisms in the body may facilitate mind’s unity. These include:

- **Neural synchrony:** Phase-locked oscillations (like gamma or theta waves) linking disparate brain regions (e.g. during conscious perception or memory recall). This is well documented in neuroscience and likely necessary for binding sensory features into one experience.
- **Electromagnetic field coherence:** The brain’s EM field may itself carry information; if large brain areas oscillate coherently, the field becomes more ordered. Some theorists call this the

conscious electromagnetic information (CEMI) field (McFadden 2020). It's one avenue for how mental states could imprint on the body: via field effects on voltage-gated processes.

- **Quantum coherence in micro-structures:** As discussed, microtubules or molecular rings (like in certain proteins) might maintain coherence briefly. While room-temperature sustained quantum states are debatable, living systems might use clever tricks (e.g., “shielding” or topological quantum effects – a well-known example is in photosynthesis, where quantum coherence in chlorophyll excitons enhances energy transfer efficiency at ambient temperatures).
- **Physiological coherence:** The term used in psychophysiology when referring to heart rhythm coherence and heart–brain synchronization. Techniques like HeartMath's focus on positive emotion and breathing can induce a very stable sinus rhythm and entrain brainwaves, a state correlated with emotional well-being and intuition. One might view this as aligning the autonomic nervous system with brain activity – a form of internal resonance that could make the whole organism more sensitive or receptive.
- **Behavioral coherence:** Even actions like rituals of prayer, service, worship – mentioned in our source as personal coherences involving actions and soul growth – could contribute by aligning one's behavior with one's highest values, thereby reducing internal conflict. In effect, living in congruence (coherence) with one's beliefs might reduce “noise” in the psyche and allow clearer influence of any higher guidance.

One final intriguing point from the source: it asks, what prevents backsliding once a step toward perfection is made? It answers that once perfection in any facet is achieved, coherence ensures future stability of that facet. This could be interpreted biologically: when a new favorable pattern is established in the brain (say recovery from trauma, or overcoming an addiction, or attaining a new level of insight), repeated coherence might “lock it in” – like how a laser, once in coherent mode, stays in that mode until conditions change. Perhaps on a soul level, once a virtue is truly attained, it becomes a stable part of character (a coherent pattern in the soul's energy that doesn't unravel). We see analogies in neural plasticity: once a certain skill is learned (like walking), the networks are pruned and optimized – you rarely lose it completely barring injury. This might be a material shadow of a morontia truth: coherence achieved is not easily lost, which could be a reassuring principle for personal growth.

4.3 Mind, Emotion, and the Soul: Toward a Transpersonal Physiology

Beyond the technical aspects of brain dynamics, consciousness is also about qualities – thoughts, emotions, sense of self, and the quest for meaning. A comprehensive view must account for these experiential realities and how they connect to the physical.

Emotion and Homeostasis. Emotions are deeply embodied. Fear, joy, anger – all come with physiological signatures (hormone surges, autonomic changes, facial expressions). The neuropsychohormonal network underpins this integration. Emotions can be seen as a bridge between body and mind: they often originate from subconscious appraisals (body sensing something, responding via limbic system), then rise into conscious feeling, and then influence thought and behavior. The source document addresses emotional processes and self-mastery as key areas, emphasizing that gaining control over reactive emotions (through practices or understanding) is part of opening to spiritual influence. Indeed, the *Urantia Book* in fact suggests that “the body and mind of perfect poise” is key to receiving spiritual light. This implies a balanced emotional life, stable neural energies, and good health practices. We can correlate this with the scientific concept of homeostasis: the body’s tendency to maintain internal stability. Consciousness can be perturbed if homeostasis is off (e.g., severe hunger, pain, or illness cloud the mind). Conversely, practices that promote physiological balance (proper nutrition, sleep, exercise, breathing exercises) often report enhanced mental clarity or spiritual experience readiness.

Thoughts and Beliefs. Cognitively, our thinking patterns shape how we perceive reality. Intriguingly, the *Urantia Book* asserts that mind uniformly matures by the exercise of expanding creativity. In building our model, we consider that creative thinking and imagination might tap into a deeper layer of mind – possibly the level where the subconscious meets the Adjuster’s prompts. From a neuroscience view, creative insight often involves transiently silencing the inner critic (lateral prefrontal cortex) and letting associative networks (default mode) recombine ideas freely, followed by evaluation. It’s during quiet mind-wandering or meditation that people sometimes feel they “receive” ideas or guidance beyond their usual pattern. Could this be an instance of top-down influence? Perhaps the Adjuster (or one’s higher self, if speaking secularly) can “speak” in the gaps when the analytical mind quiets – hence practices like meditation, prayer, and daydreaming can facilitate intuitive knowledge emerging seemingly from nowhere. The concept of “phase-locked feedback loops” is relevant here. In engineering, a phase-locked loop locks onto a frequency and tracks it – analogously, the mind can lock onto a narrative or belief and then filter perceptions to fit it (confirmation bias, etc.). To break out or elevate consciousness, sometimes one must “de-phase” from old patterns (often through some disruptive insight or reframing experience). This might allow re-locking to a higher pattern (a more coherent narrative or understanding). Indeed, transformative spiritual experiences often break the loop of ordinary thought and introduce a new, broader perspective (e.g., seeing the unity of all life can shatter a loop of selfish rumination).

Near-Death Experiences (NDEs) and Soul Physiology. Any discussion bridging material and spiritual consciousness must consider NDEs and similar phenomena. NDEs reported by some individuals revived from clinical death often involve feelings of leaving the body, encountering a light or spiritual beings, a life review, and then returning. From a materialist perspective, NDEs are puzzling – some aspects occur when the brain is supposedly inactive (flat EEG). Could this be evidence for the soul as a real entity? Our Urantia perspective would say that at death, the morontia soul indeed separates, taking with it identity and memory patterns to an interim state until resurrection on a morontia world. Some NDE researchers (e.g., Valverde *et al.* 2024, Valverde & Swanson 2020) have catalogued veridical observations during NDEs (seeing things in the operating room, later verified, while the person was “dead”). While controversy remains, NDEs at least suggest that mind can experience consciousness even when brain activity is minimal – implying either a non-local aspect of mind or a last gasp of brain activity creating a vivid dream.

Our integrated view can hypothesize: perhaps at the edge of death, quantum coherence spikes. As oxygen drops and normal electrochemical gradients fail, the brain’s integrative autopoiesis might collapse to a quantum level – freeing the mind to temporarily experience a broader reality beyond the body’s confines (akin to a quantum wave spreading when not measured). The return to the body then collapses that wave back, leaving memory of a profound experience. Admittedly speculative, but it resonates with the “Supreme mind” concept: NDErs often report a sense of oneness and intense love, which could be interpreted as touching the Supreme Consciousness or the presence of God. The source list included “Near Death Experiences” as a topic, indicating it sees NDEs as relevant data points. Modern studies have indeed recorded surges of gamma coherence just at death in rat brains and even in a human patient – possibly the brain’s final integrative effort or release (Hawkins *et al.* 2023).

Soul as the Unifier. In theological terms, the soul is the emerging immortal identity – the joint creation of the material mind and divine spirit. Is there a physiological counterpart? One might think of the soul as an information pattern that gradually forms within and around the brain’s activities but is not strictly locked to the brain’s synapses. Perhaps it is recorded in some “field” associated with the body (some have posited ideas like a quantum hologram or morphogenetic field encoding individual life experiences) (Valverde *et al.* 2022). The *Urantia Book* suggests that while living, the soul is housed in the mind but after death it persists in a morontia form held by spiritual guardians. If one were to speculate scientifically: maybe the process of living and learning creates a kind of quantum-entangled imprint in the world – a distributed record of one’s life (some might liken to the “Akashic records” concept). At death, if consciousness “nonlocalizes,” it could latch onto that record (the soul pattern), maintaining continuity. This is, of course, beyond current science – but interestingly, physicist Roger Penrose in his musings on quantum consciousness speculated about the possibility of some “quantum memory” of an

individual persisting in spacetime geometry even after death (Penrose 1994), which is not altogether dissimilar in concept.

Valverde *et al.* (2025) present a formal alternative to the Penrose–Hameroff Orch-OR model called the **Quantum Intelligence (QI) model**. It models intelligence itself as a quantum particle that traverses curved spacetime. By analogy with the Higgs boson, this quantum intelligence binds to material matter and confers consciousness. The QI model explains that consciousness is a quantum particle that comes from the black and white box regions of curved spacetime of Penrose’s diagram (Hameroff and Penrose 2014) and by connecting to particles, it makes them intelligent. According to the model, immortality is not an unattainable dream, but as near-death studies suggest (Tressoldi and Woollacott 2023), death is probably a transition from one stage to another stage of life. Hameroff and Chopra (2011) propose that consciousness can exist outside the body, as in near-death experiences, which can be explained by the Penrose–Hameroff model. This quantum approach to consciousness connects brain processes (quantum computations inside neurons) to fluctuations in fundamental spacetime geometry, which is the fine-scale structure of the universe. Recent evidence for significant quantum coherence in warm biological systems, scale-free dynamics and end-of-life brain activity supports the notion of a quantum basis for consciousness which could conceivably exist independent of biology in various scalar planes in the spacetime geometry of the Penrose–Hameroff Orch-OR model (Valverde *et al.* 2024).

5. Conclusions

In this extended exploration, we have attempted to synthesize a comprehensive view of consciousness that honors scientific knowledge while embracing the possibility of spiritual influences on the mind. We framed consciousness as a hierarchical, unified mechanism – one that is rooted in the physical brain’s complex interactions but not confined to them. Through concepts like coherence, integration, and pattern, we traced how personal consciousness might emerge from and also affect the body’s physiology, potentially linking to higher-order realities (morontial and spiritual domains as described in *The Urantia Book*).

Our journey took us from subatomic events in microtubules to the cosmic concept of the Supreme mind. Along the way, we found that many disparate pieces – quantum biology, information theory, process philosophy, and theological insight – converge on common themes: wholeness, relationship, and purpose. Consciousness appears to be the relational dance of parts becoming whole (in each moment of awareness, billions of neural firings form a single experience; in a life well-lived, countless experiences form a cohesive personality; perhaps in a cosmos, countless personalities contribute to a Supreme consciousness). This view aligns with Heraclitus’s ancient idea that “everything flows” and with Whitehead’s philosophy of process –

reality is not static bits but interwoven becomings. It also resonates with modern theoretical moves treating information as fundamental (as in IIT or John Wheeler’s “It from Bit” idea).

Critically, our synthesis does not claim to prove the spiritual dimension – rather, it shows that introducing concepts like a soul or divine fragment doesn’t require abandoning rational coherence. There are plausible mechanisms (albeit not yet empirically verified) by which such influences could manifest – for example, via quantum informational effects or field resonance. The hope is that by articulating these mechanisms, we encourage scientific inquiry into areas that have been traditionally taboo, like the study of consciousness during clinical death, or the impact of intention on random systems (mind–matter interaction experiments), or rigorous studies of advanced meditators.

We acknowledge the speculative nature of parts of this paper. The frontier of consciousness research is, by necessity, a mix of solid findings and bold hypothesis. Our use of *The Urantia Book* was as a source of inspiration for hypotheses about multi-level reality and purpose in evolution. Some readers may take those teachings as revealed truth; others may see them as metaphor. Either way, they served to enrich the discussion and remind us that human knowledge might be a subset of a much larger cosmic context. In a professional consciousness studies journal, it is appropriate to examine even extraordinary models as long as we maintain critical thinking. The integration of theological perspective is not an attempt to smuggle in faith uncritically, but to widen the scope of discourse – to consider that consciousness may not be fully explained by neural correlates and might involve something fundamentally new in science. In concluding, we emphasize a key testable prediction of our integrative model: increasing coherence in the human system correlates with indications of higher consciousness (cognitively, emotionally, and perhaps spiritually).

This could be tested in various ways – e.g., measure physiological coherence (heart rate variability, brain synchrony) in individuals undergoing spiritual practices and see if it predicts subjective and behavioral markers of enhanced consciousness (insights, compassion, sense of unity). If consistently validated, it would encourage a paradigm where cultivating coherence (through meditation, ethical living, etc.) is seen as integral to not only personal health but also to cognitive evolution – essentially a scientific backing for ancient wisdom that discipline of mind and body prepares the soul for illumination.

In the grand view, perhaps the “physiology of spiritual influence” is telling us that the universe is set up such that when a mind aspires and aligns (an internal tuning), there are actual energetic pathways that respond – much like adjusting an antenna to the right frequency brings in a broadcast clearly. We might then metaphorically say the “brain–mind” is the antenna, “mortal mind” the tuner, and spirit the broadcast. Our job in science is to figure out the circuitry of the antenna; our job in life might be to practice tuning our inner dials towards truth, beauty, and goodness – the hallmarks of that broadcast.

In summary, the integrated narrative presented here invites both humility and excitement: humility that consciousness is a more vast and deep phenomenon than any one discipline has grasped, and excitement that by combining our insights across fields, we may inch closer to understanding our place in the cosmos. The pursuit of such understanding is itself a unifying act – bringing together neurons firing in laboratories and inspirations arising in silent sanctuaries – all contributing to the gradual illumination of what it means to be conscious, to be human, and perhaps, to be ascending souls in a purposeful universe.

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