

The Ātma-Wave Life Cycle Framework: Bridging Vedāntic Metaphysics, Modern Physics, and State Transitions of Consciousness

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ABSTRACT

Purpose: To develop a conceptual framework that integrates classical Indian metaphysics (Vedanta) with modern physics (Wave-Particle Duality) and digital/post-biological existence, utilizing high-level cognitive research skills: Analysis, Comparison, Evaluation, Interpretation, and Synthesis. This ground breaking research provides a Conceptual Framework Integrating Indian Philosophy (Dvaita & Advaita), Consciousness Studies, Physics, and Digital Reality.

Methodology: Exploratory research analysis with conceptual, comparative, interpretive, analytical, and synthetic proposals.

Proposed theoretical model: The study proposes the "Ātma-Wave Life Cycle" conceptual framework, integrating Dvaita, Advaita, consciousness studies, modern physics, and digital reality into a unified interdisciplinary model. It further introduces the *Atma-Wave and Critical Frequency hypotheses* as conceptual bridges for exploring consciousness without presenting them as established scientific theories.

Key findings: The study argues that *Dvaita and Advaita are complementary rather than competing philosophies*, representing embodied dualistic existence and liberated non-dual consciousness, respectively. It also demonstrates that contemporary concepts from consciousness studies, physics, and virtual reality can be used as conceptual analogies to stimulate interdisciplinary dialogue on reality and consciousness.

Originality/Novelty: The article presents a *novel interdisciplinary conceptual framework* that unifies Indian philosophy, consciousness studies, physics, and digital reality within a single explanatory model. It is among the first to reinterpret Dvaita and Advaita as sequential ontological states while proposing conceptual hypotheses linking Ātman, wave behaviour, and liberation.

Practical Implications: The proposed framework provides a foundation for future interdisciplinary research in consciousness studies, philosophy of mind, artificial intelligence, virtual reality, and Indian Knowledge Systems. It may also inspire the development of new conceptual and computational models for investigating consciousness while maintaining a clear distinction between philosophical hypotheses and empirically established science.

Type of Paper: Exploratory Conceptual & Predictive Analysis.

Keywords: Indian Vedanta, Integrating Indian Philosophy, Dvaita, Advaita, Physical reality, Virtual reality, New Conceptual Philosophical Model, Ātma-Wave Life Cycle framework, Theory of life, death, and the possible continuity of consciousness, Indian metaphysics (Vedanta), Modern physics (Wave-Particle Duality),

1. INTRODUCTION :

1.1 Background:

(1) Increasing Convergence of Physical Reality and Virtual Reality:

The rapid advancement of digital technologies has significantly blurred the distinction between physical and virtual realities, giving rise to immersive environments in which human cognition, perception, and interaction increasingly transcend traditional physical boundaries. Technologies such as virtual reality

(VR), augmented reality (AR), digital twins, artificial intelligence, and the metaverse have created alternative experiential spaces where users exhibit behavioural, emotional, and cognitive responses comparable to those in the physical world (Sanchez-Vives & Slater (2005). [1]; Slater & Sanchez-Vives (2022). [2]). These developments have challenged conventional understandings of reality by demonstrating that subjective experiences can be generated, manipulated, and interpreted independently of physical environments. Consequently, the convergence of real and virtual experiences has stimulated interdisciplinary debates concerning identity, perception, consciousness, and the nature of existence, thereby creating a fertile ground for integrating philosophical perspectives with emerging technological paradigms.

(2) Rising Interest in Consciousness Studies:

Consciousness has emerged as one of the most significant interdisciplinary research domains, attracting scholars from neuroscience, psychology, philosophy, cognitive science, artificial intelligence, and quantum physics. Despite remarkable advances in brain sciences, the "hard problem of consciousness"—explaining how subjective experience arises from physical processes—remains unresolved (Chalmers (1995). [3]; Tononi (2004). [4]; Dehaene et al. (2017). [5]). Recent studies suggest that immersive virtual environments provide unique experimental platforms for investigating perception, self-awareness, embodiment, and conscious experience, thereby extending consciousness research beyond conventional neurological frameworks (Sanchez-Vives & Slater (2005). [1]; Slater & Sanchez-Vives (2022). [2]). This growing scholarly interest has encouraged researchers to revisit classical philosophical traditions that treat consciousness not merely as a neurological phenomenon but as the fundamental basis of existence itself.

(3) Renewed Relevance of Indian Knowledge Systems:

The increasing global recognition of Indian Knowledge Systems (IKS) has revitalized scholarly interest in classical philosophical schools such as Vedānta, Yoga, Nyāya, Sāṅkhya, and Buddhism as valuable contributors to contemporary debates on consciousness, ethics, cognition, and human well-being. In particular, Advaita Vedānta has gained attention in modern philosophy of mind for its sophisticated analysis of consciousness as the fundamental nature of the self rather than merely an emergent property of the brain (Albahari (2019). [6]). Simultaneously, Dvaita Vedānta continues to offer a coherent metaphysical framework emphasizing individuality, relational existence, and enduring distinctions between the individual self, the material world, and the Supreme Reality. The renewed academic engagement with these traditions demonstrates their growing relevance in addressing complex questions concerning consciousness, identity, and reality within contemporary scientific and technological contexts (Baars (1997). [7]; O'Regan & Noë (2001). [8]).

(4) Need for Philosophical Models Explaining Physical and Virtual Existence:

Although contemporary science has substantially advanced the understanding of physical reality, information systems, and digital technologies, it still lacks an integrated philosophical framework capable of explaining the transition between embodied existence, consciousness, virtual experience, death, and ultimate reality. Existing scientific models primarily address observable physical phenomena, whereas philosophical traditions provide broader ontological interpretations of existence, identity, and liberation. In this context, Dvaita and Advaita Vedānta offer two complementary perspectives that may explain different states of human existence: Dvaita as the philosophical model governing embodied life characterized by individuality and duality, and Advaita as the model representing liberated consciousness characterized by non-duality and ultimate unity. Integrating these perspectives with emerging research on consciousness and virtual reality offers a promising interdisciplinary framework for interpreting both real and virtual human experiences while generating new avenues for dialogue between Indian philosophy, modern science, and consciousness studies (Koch et al. (2016). [9]; Hoffman (2015). [10]).

(5) Towards an Interdisciplinary Framework:

Against this background, the present study proposes a novel conceptual framework entitled "**Ātma-Wave Life Cycle Framework**", which interprets Dvaita and Advaita not as competing philosophical doctrines but as complementary ontological models representing successive phases of conscious

existence. It argues that embodied human life is inherently characterized by duality, individuality, relationships, and karmic interactions, whereas the liberated state transcends these distinctions and culminates in singularity or non-dual consciousness. By synthesizing Indian philosophical thought with contemporary developments in consciousness studies, virtual reality research, and conceptual interpretations of modern physics, this study seeks to contribute an interdisciplinary model capable of stimulating new theoretical discussions on reality, consciousness, and the future relationship between human existence and emerging digital environments.

1.2 Problem Statement:

Modern science has developed powerful explanatory frameworks for understanding **matter, energy, biological processes, and information**, yet consciousness continues to resist a universally accepted scientific explanation. Neuroscience has identified increasingly precise neural correlates associated with conscious perception and has proposed influential frameworks such as the Global Neuronal Workspace Theory; nevertheless, identifying the neural mechanisms associated with consciousness does not by itself resolve the deeper question of why or how physical processes are accompanied by subjective awareness (Koch et al. (2016). [9]; Mashour et al. (2020). [11]). Similarly, computational approaches have made it possible to discuss whether artificial systems could reproduce functional characteristics associated with consciousness, but such approaches remain unable to establish whether information processing itself generates subjective experience (Dehaene et al. (2017). [5]). Thus, a conceptual gap persists between scientific descriptions of physical and computational processes and philosophical explanations of the experiencing self.

This problem becomes more complex when **identity and virtual existence** are introduced into the discussion. Immersive virtual environments demonstrate that humans can experience presence, embodiment, agency, and even a temporary relocation of their sense of self into digitally constructed bodies and environments. Sanchez-Vives and Slater (2005) [1] show that virtual reality can generate a powerful sense of presence in which individuals behave and experience situations as though they were located within the simulated world, while Blanke and Metzinger (2009) [12] demonstrate that bodily self-consciousness depends substantially upon multisensory processes that can be experimentally manipulated. Such findings challenge the assumption that personal identity and embodied experience are inseparably tied to the objectively located physical body. They consequently raise an important ontological question: if human experience can be partially reconstructed in virtual environments, what precisely constitutes the continuity of the individual—physical embodiment, information, memory, consciousness, or some deeper principle of selfhood?

An even greater explanatory difficulty arises at the boundary between **life, death, and the possible continuity of consciousness**. Scientific investigation can describe the physiological processes associated with dying and can examine reports of awareness surrounding cardiac arrest, but these investigations do not establish that consciousness survives irreversible biological death. For example, Parnia et al. (2014) [13] documented recalled experiences of awareness among some survivors of cardiac arrest, illustrating that the relationship between consciousness, brain function, and the dying process remains an important area of empirical investigation; however, such findings cannot by themselves validate metaphysical propositions concerning an independently surviving soul, rebirth, or liberation. This limitation reveals a significant interdisciplinary divide: empirical science generally investigates measurable states associated with living organisms, whereas concepts such as **Ātman, Paramātmā, moksha, punarjanma, and ultimate reality** belong primarily to philosophical and metaphysical systems whose claims require different modes of analysis.

The problem addressed by the present study therefore lies in the absence of an **integrated conceptual framework connecting embodied consciousness, individual identity, virtual experience, death, liberation, and ultimate reality**. Indian philosophical traditions provide potentially valuable resources for such a synthesis. Contemporary philosophical scholarship on Advaita Vedānta, for instance, distinguishes consciousness from its changing mental contents and interprets consciousness as non-objectifiable presence, thereby contributing a fundamentally different perspective to prevailing materialist discussions of the mind (Fasching (2021). [22]). Building upon this interdisciplinary gap, the present article explores whether **Dvaita may serve as a model for differentiated, embodied and relational existence, while Advaita may provide a conceptual model for the dissolution of individuality into non-dual reality**. Importantly, the study treats proposed links among consciousness,

post-mortem existence, moksha, and physical concepts as **conceptual hypotheses rather than established scientific facts**. Its objective is therefore not to claim scientific proof of metaphysical doctrines, but to construct a theoretically coherent framework through which Indian philosophy, consciousness studies, virtual reality research, and selected scientific concepts can be comparatively analysed and synthesized.

1.3 Research Questions:

The rapid convergence of consciousness studies, digital technologies, neuroscience, philosophy of mind, and Indian Knowledge Systems has generated several unresolved questions concerning the nature of reality, selfhood, and consciousness. Although contemporary science has made substantial progress in explaining cognition, neural activity, and immersive virtual experiences, it has not yet produced a comprehensive framework capable of integrating subjective consciousness with metaphysical questions concerning identity, death, liberation, and ultimate reality (Chalmers (1995). [3]; Koch et al. (2016). [9]; Dehaene et al. (2017). [5]). Conversely, classical Indian philosophical traditions, particularly Dvaita and Advaita Vedānta, offer highly developed ontological models that explain the relationship among the individual self (Ātman), the material world, and the Supreme Reality (Brahman or Paramātmān), but these models have rarely been examined alongside contemporary developments in consciousness science and virtual reality research.

RQ1. Can Dvaita explain human experience in physical reality?

The first research question investigates whether **Dvaita Vedānta** provides an appropriate philosophical framework for understanding embodied human existence in the physical world. Dvaita emphasizes the permanence of distinctions between the individual self, the material universe, and the Supreme Being, thereby presenting reality as fundamentally relational and pluralistic. Such a framework appears consistent with ordinary human experience, where individuals perceive themselves as distinct entities interacting with other persons and the external world. Contemporary research on embodied cognition and virtual presence further demonstrates that perception, agency, and identity are experienced through differentiated interactions with the environment (Sanchez-Vives & Slater (2005). [1]; Blanke & Metzinger (2009). [12]). This research question therefore examines whether Dvaita can serve as a philosophical model for explaining physical existence characterized by individuality, causality, moral responsibility, and relational consciousness.

RQ2. Can Advaita explain consciousness beyond physical existence?

The second research question explores whether **Advaita Vedānta** offers a coherent explanation of consciousness that extends beyond embodied existence. Unlike materialistic theories that generally regard consciousness as an emergent property of neural activity, Advaita interprets consciousness (cit) as the fundamental and non-objectifiable reality underlying all experience (Fasching (2021). [22]). This interpretation resonates with continuing debates surrounding the "hard problem of consciousness," which questions how subjective experience arises from physical processes (Chalmers (1995). [3]). Rather than attempting to reduce consciousness to matter, Advaita reverses the explanatory direction by treating consciousness as ontologically primary. Accordingly, this study investigates whether Advaita provides conceptual insights capable of complementing contemporary philosophy of mind and consciousness studies without claiming empirical verification of its metaphysical propositions.

RQ3. Can concepts from physics help construct a scientific interpretation of Ātman?

The third research question examines whether selected concepts from modern physics—such as wave behaviour, information, coherence, energy fields, and quantum interpretations—can be employed to formulate a **conceptual scientific interpretation** of Ātman. Contemporary theoretical discussions increasingly explore mathematical and physical approaches to consciousness, although no accepted physical theory presently explains subjective awareness (Tononi (2004). [4]; Chalmers & McQueen, (2021). [14]). Importantly, this study does **not** propose that physics has demonstrated the existence of Ātman. Instead, it investigates whether analogies derived from wave phenomena and information theory may offer useful conceptual models for interdisciplinary dialogue between Indian philosophy and modern science. Such an approach seeks to stimulate hypothesis generation rather than establish empirical proof of metaphysical claims.

RQ4. Is there a transition from duality to singularity after death?

The fourth research question addresses one of the most profound philosophical issues concerning the continuity of consciousness after biological death. Neuroscience can describe physiological processes associated with dying, while medical studies have documented reports of awareness during cardiac arrest; however, these findings neither confirm nor refute metaphysical doctrines concerning rebirth, liberation, or union with ultimate reality (Parnia et al. (2014). [13]). Indian philosophical traditions provide alternative interpretations in which death represents not merely biological termination but a transition within a broader ontological process. This study therefore investigates whether the movement from **Dvaita (difference)** to **Advaita (non-dual unity)** may be understood as a conceptual transition from differentiated individual consciousness to singular universal consciousness following liberation (moksha). This question is explored philosophically rather than as an empirically established scientific conclusion.

RQ5. Can Indian philosophy contribute a unified model for future consciousness studies?

The final research question examines whether Indian philosophical traditions can contribute an integrated theoretical framework for future interdisciplinary consciousness research. Increasing numbers of scholars argue that classical Indian philosophies offer sophisticated analyses of selfhood, intentionality, awareness, and subjective experience that remain highly relevant to contemporary philosophy of mind (Balasubramanian (2011). [15]; Fasching (2021). [22]). At the same time, developments in neuroscience, cognitive science, virtual reality, and artificial intelligence have highlighted the limitations of exclusively reductionist approaches to consciousness (Koch et al. (2016). [9]; Mashour et al. (2020). [11]). Accordingly, this study explores whether Dvaita and Advaita can be synthesized into a comprehensive conceptual model capable of facilitating dialogue among philosophy, neuroscience, physics, digital reality, and Indian Knowledge Systems. Such a framework aims not to replace empirical science but to enrich future consciousness studies through interdisciplinary integration and theory development.

2. OBJECTIVES :

- (1) Examine Dvaita as the governing philosophy of embodied human existence.
- (2) Examine Advaita as a model for liberated consciousness.
- (3) Compare physical reality with virtual reality.
- (4) Develop a scientific interpretation of Atma using wave-based concepts.
- (5) Propose an integrated "Ātma-Wave Life Cycle" model, where Atma-wave is a superimposed version of Prana and Prajna waves.

3. LITERATURE REVIEW :

3.1 Dvaita Philosophy:

(1) Madhvacharya:

Dvaita Vedānta, also known as **Tattvavāda**, was systematically propounded by **Śrī Madhvacharya (c. 13th century CE)** as one of the principal schools of Vedānta. Rejecting the non-dualistic interpretation of Śāṅkarācārya, Madhva established a realist and theistic philosophy in which **Viṣṇu is the sole independent reality (Svatantra Tattva)**, while individual souls (jīvas) and the material universe constitute dependent realities (Paratantra Tattvas). His philosophical writings—including commentaries on the *Brahma Sūtras*, *Bhagavad Gītā*, and major Upaniṣads—emphasize the eternal distinction between God, souls, and matter. Contemporary scholarship recognizes Madhva's contribution as a significant realist alternative within Vedāntic philosophy and highlights the growing academic interest in Dvaita's metaphysical, theological, and epistemological foundations (Sharma (1997). [16]; Sarma (2008). [17]; Allen (2024). [18]). Recent surveys further observe that research on Dvaita has expanded considerably over the past two decades, moving beyond historical interpretation toward comparative philosophy, logic, theology, and consciousness studies.

(2) Panchabheda:

The distinguishing feature of Madhva's philosophy is the doctrine of **Pañcabheda (Five Eternal Differences)**, which asserts that difference is an intrinsic and irreversible characteristic of reality. These

five distinctions include: (i) God and the individual soul, (ii) God and matter, (iii) one soul and another soul, (iv) soul and matter, and (v) one material object and another material object. Unlike Advaita, which regards multiplicity as ultimately illusory, Dvaita maintains that these distinctions are ontologically real and eternally valid. Scholars note that the doctrine of Pañcabheda provides a coherent metaphysical framework supporting plurality, diversity, causality, devotion, and ethical responsibility while preserving God's absolute transcendence (Sarma (2008). [17]; Sharma (1997). [16]). Modern philosophical analyses identify this doctrine as one of the strongest realist positions within Indian philosophy, offering a robust alternative to monistic interpretations of existence.

(3) Individual Soul:

Another fundamental aspect of Dvaita philosophy is its treatment of the **individual soul (Jīva)** as an eternally distinct, conscious, and dependent entity. Madhva rejects the Advaitic proposition that the individual self is ultimately identical with Brahman and instead argues that each soul possesses its own permanent individuality, intrinsic characteristics, and spiritual destiny. Although every soul depends entirely upon God for its existence and liberation, it never loses its distinct identity, even after attaining moksha. Furthermore, Madhva introduces the concept of gradation among souls (*Tāratamya*), proposing that souls differ in their spiritual capacities and destinies. Recent scholarship emphasizes that this doctrine preserves personal identity, moral accountability, and devotional relationships while offering a philosophically consistent explanation of individual consciousness and agency. Such interpretations have attracted renewed interest among comparative philosophers examining questions of personal identity and consciousness within both Eastern and Western traditions (Sarma (2008). [17]; Allen (2023). [19]; Allen (2024). [18]).

(4) Difference as Reality:

The central metaphysical assertion of Dvaita is that **difference itself constitutes reality**, rather than being a temporary or illusory phenomenon. Madhva argues that plurality, diversity, and relational existence are not merely empirical appearances but essential characteristics of the universe. Consequently, knowledge, ethics, devotion, and liberation are all grounded in the recognition of real distinctions between the individual, the world, and God. Contemporary scholars identify Dvaita as one of the most sophisticated realist traditions in Indian philosophy because it combines rigorous logical analysis with theological realism and scriptural hermeneutics (Sharma (1997). [16]; Allen (2024). [18]). Recent reviews of Vedānta scholarship also observe that Dvaita has increasingly become an important subject within comparative philosophy, particularly in discussions concerning realism, pluralism, consciousness, and metaphysics, thereby extending its relevance beyond traditional theological discourse into contemporary interdisciplinary research.

Synthesis:

The literature collectively demonstrates that Dvaita Vedānta represents a comprehensive philosophical system founded upon **ontological realism, plurality, individuality, and the permanence of difference**. Madhvacharya's doctrines of **Pañcabheda**, the eternal individuality of the soul, and the independent supremacy of God establish a coherent metaphysical framework that explains embodied human existence as fundamentally relational and differentiated. Contemporary scholarship increasingly recognizes Dvaita not merely as a historical school of Vedānta but as a significant philosophical resource for engaging with current debates on consciousness, identity, realism, and comparative metaphysics (Bhat (1997). [20]; Stoker (2011). [21]). These insights provide an important theoretical foundation for the present study, which investigates whether Dvaita can serve as an explanatory model for **physical human experience characterized by duality, individuality, and relational existence**, thereby complementing Advaita's interpretation of liberated, non-dual consciousness.

3.2 Advaita Philosophy:

(1) Adi Shankaracharya:

Advaita Vedānta, systematically expounded by **Ādi Śaṅkarācārya (c. 8th century CE)**, represents one of the most influential non-dualistic schools of Indian philosophy. Building upon the Upaniṣads, the *Brahma Sūtras*, and the *Bhagavad Gītā*, Śaṅkarācārya argued that **Brahman alone is the ultimate reality**, while the apparent multiplicity of the phenomenal world arises from ignorance (*avidyā*). His

commentaries (*bhāṣyas*) established a coherent metaphysical system centred on the identity of **Ātman** (the individual self) and **Brahman** (the Absolute), making self-realization the highest goal of human existence. Contemporary scholarship recognizes Advaita not only as a theological tradition but also as a sophisticated philosophical framework addressing ontology, epistemology, consciousness, and the philosophy of mind. Recent philosophical analyses further suggest that Advaita offers valuable conceptual insights into contemporary debates on consciousness and subjectivity by treating consciousness as the irreducible ground of all experience rather than as an emergent property of matter (Fasching (2021). [22]; Fasching (2022). [23]; Comans (2000). [24]).

(2) Brahman:

The central doctrine of Advaita Vedānta is the concept of **Brahman**, which is described as infinite, eternal, indivisible, and non-dual reality. According to Śaṅkarācārya, Brahman is **sat-cit-ānanda** (existence-consciousness-bliss) and constitutes the ontological foundation of everything that appears to exist. Individual consciousness is not independent of Brahman but represents Brahman itself appearing through limiting conditions imposed by ignorance. Fasching (2021) [22], Fasching (2022) [23] argues that Advaita's understanding of consciousness differs fundamentally from many contemporary theories because it regards consciousness not as an object or property but as the very condition that makes all objects and experiences possible. This interpretation has attracted increasing attention within phenomenology and philosophy of mind, where Advaita is examined as a sophisticated model of pure consciousness capable of contributing to discussions on subjectivity, cosmopsychism, and the hard problem of consciousness (Fasching (2021). [22]; Fasching (2022). [23]; Timalina (2008). [25]).

(3) Māyā:

Another foundational concept in Advaita philosophy is **Māyā**, which explains the apparent multiplicity and diversity of the empirical world. Rather than denying empirical experience, Śaṅkarācārya distinguishes between **ultimate reality (pāramārthika satya)** and **empirical reality (vyāvahārika satya)**, arguing that the world possesses practical validity while lacking absolute independence from Brahman [26]. Māyā is therefore understood as the cosmic principle responsible for superimposition (*adhyāsa*), causing individuals to identify themselves with the body, mind, and external objects instead of recognizing their true nature as pure consciousness. Modern philosophical scholarship emphasizes that Māyā should not be interpreted as simple illusion or non-existence; rather, it denotes epistemic ignorance that obscures the realization of non-dual reality. This nuanced interpretation has enabled Advaita to engage constructively with contemporary discussions concerning perception, phenomenology, cognition, and virtual reality, where distinctions between appearance and reality increasingly occupy philosophical inquiry (Comans (2000). [24]; Fasching (2021). [22]; Deutsch (1980). [27]).

(4) Moksha:

Within Advaita Vedānta, the ultimate objective of human life is **moksha (liberation)**, which is attained through the direct realization that **Ātman and Brahman are identical**. Liberation is not regarded as a transformation, movement, or acquisition of a new state but as the removal of ignorance that conceals one's true nature. Once ignorance is eliminated through *śravaṇa* (listening), *manana* (reflection), and *nididhyāsana* (deep contemplation), the individual realizes that consciousness has always been identical with Brahman. Contemporary scholars interpret moksha as a profound transformation of self-understanding rather than a physical or spatial event, making Advaita highly relevant to present-day discussions on consciousness, selfhood, and existential identity (Fasching (2021). [22]; Fasching (2022). [23]). Moreover, philosophical investigations increasingly compare Advaita's conception of liberation with phenomenological accounts of pure awareness and non-dual consciousness, thereby extending its significance beyond traditional religious discourse into interdisciplinary consciousness studies.

Synthesis:

The literature demonstrates that Advaita Vedānta constitutes a comprehensive non-dual philosophical system founded upon the interconnected concepts of **Brahman, Ātman, Māyā, and Moksha**. Śaṅkarācārya's philosophy explains human suffering as a consequence of ignorance and proposes

liberation through self-knowledge that reveals the identity of individual consciousness with the Absolute. Recent scholarly work has significantly expanded the relevance of Advaita by engaging with contemporary philosophy of mind, phenomenology, consciousness studies, and cognitive science, where its conception of consciousness as the foundational condition of experience provides an alternative to reductionist materialism (Fasching (2021). [22], (2022). [23]); Timalina (2008). [25]). These developments provide an important theoretical foundation for the present study, which investigates whether Advaita may be interpreted as a conceptual model for non-dual consciousness and liberated existence, complementing Dvaita's explanation of embodied human experience within the physical world.

3.3 Consciousness Studies:

Contemporary consciousness studies constitute a highly interdisciplinary field encompassing neuroscience, cognitive science, philosophy of mind, information theory, biology, and fundamental physics. Despite substantial progress in identifying neural correlates of conscious states, no generally accepted theory fully explains why particular physical or informational processes are accompanied by subjective experience. This explanatory difficulty has encouraged the development of diverse frameworks ranging from computational and information-based theories to metaphysical and quantum-mechanical proposals. **Integrated Information Theory (IIT)** attempts to characterize consciousness through the intrinsic causal organization and integration of information within a system, whereas **Orchestrated Objective Reduction (Orch-OR)** locates potentially consciousness-relevant quantum processes within neuronal microtubules (Tononi (2004). [4]; Tononi et al. (2016). [30]; Hameroff & Penrose (2014). [31]). At the philosophical level, **panpsychism and cosmopsychism** challenge conventional emergence-based theories by considering consciousness or phenomenal properties to be fundamental aspects of reality (Shani (2015). [32]; Keppler & Shani (2020). [33]). Collectively, these approaches demonstrate that the ontological status of consciousness remains an open and contested area of inquiry rather than a problem resolved by a single scientific paradigm.

(1) Integrated Information Theory:

Integrated Information Theory (IIT), initially developed by Giulio Tononi, proposes that consciousness corresponds to a system's intrinsic capacity to integrate information so that the whole possesses causal properties that cannot simply be reduced to those of its independent components (Tononi (2004). [4]). The theory subsequently evolved from its early information-integration formulation into a more elaborate account linking phenomenological properties of experience to the causal structure of physical systems (Tononi et al., (2016). [30]). IIT therefore begins from properties attributed to conscious experience—such as intrinsic existence, composition, information, integration, and exclusion—and seeks physical mechanisms satisfying corresponding requirements. Tononi and Koch (2015). [34] further explored the broader implications of this framework for determining where consciousness might occur, including biological and potentially non-biological systems. More recently, IIT 4.0 has formalized these principles in mathematical terms and argues that a system's cause–effect structure can, in principle, determine whether and in what manner it possesses consciousness (Albantakis et al. (2023). [35]). For the present study, IIT is particularly relevant because it provides a conceptual bridge between **information, integration, individuality, and unity**, although its propositions concerning the distribution and measurement of consciousness continue to attract theoretical and empirical debate.

(2) Orch-OR :

The **Orchestrated Objective Reduction (Orch-OR)** theory developed by Roger Penrose and Stuart Hameroff represents one of the best-known attempts to connect consciousness directly with quantum processes in the brain. In its original formulation, Hameroff and Penrose (1996) [36] proposed that coherent quantum states associated with tubulin proteins within neuronal microtubules could undergo orchestrated objective reductions, with individual reduction events contributing to moments of conscious experience. Their later review refined the model by combining microtubule biology, quantum coherence, and Penrose's proposed objective-reduction mechanism, arguing that consciousness may involve physical processes deeper than conventional synaptic computation (Hameroff & Penrose (2014). [31]). The hypothesis remains controversial, particularly because maintaining biologically

significant quantum coherence in the warm and environmentally interactive brain presents a major challenge. Tegmark's (2000) [38] influential calculations suggested that relevant neuronal quantum superpositions would decohere on timescales far shorter than ordinary neurophysiological processes, thereby challenging quantum-computational interpretations of consciousness. Orch-OR should therefore be treated as a **scientifically debated hypothesis rather than an established account of consciousness**, but its attempt to connect subjective experience with fundamental physical processes makes it especially relevant to interdisciplinary investigations linking consciousness, matter, and Indian philosophical conceptions of the self.

(3) Panpsychism:

Panpsychism approaches the problem of consciousness from an ontological rather than exclusively neurological perspective by proposing, in its contemporary forms, that phenomenal or proto-phenomenal properties are fundamental and widespread features of nature. The renewed philosophical interest in panpsychism arises partly from dissatisfaction with explanations in which consciousness is expected to emerge entirely from fundamentally non-conscious matter. Contemporary Russellian panpsychism attempts to address this problem by suggesting that phenomenal properties may constitute the intrinsic nature underlying the structural and relational properties described by physics. However, the theory encounters the well-known **combination problem**—the difficulty of explaining how micro-level phenomenal properties could combine to constitute the unified consciousness of a human subject. Nagasawa (2021) [38] argue that constitutive Russellian panpsychism faces significant epistemological obstacles in explaining such a transition, while Frankish (2021) [39] questions whether locating consciousness ubiquitously in physical reality genuinely improves its scientific explanatory power. An alternative, **cosmopsychism**, reverses the explanatory direction by regarding the cosmos as the fundamental conscious whole from which localized conscious subjects derive; Shani (2015) [32] develops this holistic approach, while Keppler and Shani (2020) [33] explore its possible relevance for empirical consciousness research. These approaches are significant for the present study because the idea of consciousness progressing from differentiated individuality toward an underlying unity offers a potential point of philosophical comparison with the relationship between **Dvaita and Advaita**, while important doctrinal differences between these traditions must be preserved.

(4) Quantum Consciousness and Synthesis:

The broader category of **quantum consciousness** includes several proposals investigating whether quantum phenomena—such as superposition, coherence, entanglement, state reduction, or nuclear spin dynamics—could contribute to cognitive or conscious processes. Orch-OR represents one such proposal, but it is not the only quantum-biological model. Fisher (2015), [40] for example, proposed that phosphorus nuclear spins embedded in biologically relevant molecular structures might preserve quantum information for sufficiently long periods to influence neural processing, thereby offering a mechanism conceptually distinct from the microtubule-based Orch-OR approach. Conversely, decoherence-based arguments demonstrate that the presence of quantum mechanics at the fundamental level does not itself establish that specifically quantum computation is necessary for consciousness (Tegmark (2000). [37]). Taken together, IIT, Orch-OR, panpsychism, cosmopsychism, and quantum-consciousness models reveal a fundamental divide in contemporary research: some approaches seek to explain consciousness through **emergent organization and information integration**, whereas others investigate whether consciousness is linked to deeper physical processes or even represents a fundamental feature of reality (Tononi et al. (2016). [30]; Hameroff & Penrose (2014). [31]; Shani (2015). [32]; Keppler & Shani (2020). [33]). This unresolved plurality provides an important theoretical foundation for the present article. Rather than claiming that quantum theory scientifically establishes Ātman, Brahman, or moksha, the study uses these consciousness theories comparatively to investigate whether **Dvaita's differentiated ontology and Advaita's non-dual ontology can contribute new conceptual perspectives on individuality, integration, and the proposed transition Ātma-Wave Life Cycle Framework**.

3.4 Physics :

(1) Wave–Particle Duality:

Wave–particle duality constitutes one of the foundational principles of modern quantum physics, demonstrating that quantum entities such as photons and electrons exhibit both wave-like and particle-like characteristics depending upon the experimental context. The historical development of quantum mechanics through the works of Planck, Einstein, de Broglie, Heisenberg, Schrödinger, and Bohr fundamentally challenged the classical distinction between particles and waves. Contemporary interpretations, particularly those informed by **Quantum Field Theory (QFT)**, increasingly regard elementary particles as localized excitations of underlying quantum fields rather than independent classical particles, thereby providing a more unified description of quantum phenomena. Nevertheless, the conceptual implications of wave–particle duality continue to generate philosophical debate regarding the nature of physical reality, measurement, and observation (Bain (2000). [41]; Nikolić (2007). [42]). Within the context of the present study, wave–particle duality provides a useful conceptual analogy for exploring how a living being may be understood simultaneously in terms of material embodiment and an associated non-material aspect, while recognizing that such an analogy is philosophical rather than an established physical description of consciousness.

(2) Energy Conservation:

The **law of conservation of energy** remains one of the most fundamental principles of classical and modern physics, stating that energy can neither be created nor destroyed but only transformed from one form into another. This principle is mathematically formalized through **Noether's theorem**, which relates conservation laws to continuous symmetries of physical systems. In quantum mechanics and quantum field theory, conservation of energy continues to hold within appropriate formulations, although temporary quantum fluctuations are permitted within the limits imposed by the uncertainty principle. Contemporary physics therefore treats energy conservation as a universal physical law governing interactions across microscopic and macroscopic systems. Philosophical discussions concerning consciousness frequently draw conceptual inspiration from this principle; however, mainstream physics does **not** infer from energy conservation that consciousness or personal identity survives biological death. Consequently, any attempt to relate conservation principles to the continuity of Ātman must be regarded as a conceptual or metaphysical hypothesis rather than an empirically established scientific conclusion.

(3) Quantum Field Theory:

Quantum Field Theory (QFT) presently represents the most successful theoretical framework for describing elementary particles and their interactions. Unlike earlier particle-centred models, QFT interprets particles as quantized excitations of underlying fields that permeate space-time, thereby unifying quantum mechanics with special relativity. Philosophical analyses emphasize that the notion of isolated particles becomes secondary to the more fundamental concept of interacting quantum fields (Bain (2000). [41]). This perspective has profoundly influenced contemporary interpretations of physical reality by replacing static material objects with dynamic field interactions. Although QFT provides remarkably accurate descriptions of electromagnetic, weak, and strong interactions, it does not presently offer a scientific explanation of subjective consciousness or personal identity. Nevertheless, several interdisciplinary scholars have suggested that the field-based ontology of QFT may provide valuable conceptual metaphors for understanding interconnectedness, non-locality, and unified descriptions of nature, making it relevant to comparative philosophical investigations involving Advaita and Dvaita while avoiding unwarranted scientific extrapolation.

(4) Frequency:

The concept of **frequency** occupies a central position throughout physics, characterizing periodic oscillations in waves, electromagnetic radiation, quantum states, and resonant systems. According to quantum mechanics, the energy associated with electromagnetic radiation is directly proportional to its frequency through the Planck–Einstein relation, thereby establishing frequency as a measurable physical parameter governing numerous natural phenomena. In quantum physics, frequency also appears in wave functions, atomic transitions, and field oscillations, providing a mathematical language for describing dynamic behaviour across different physical scales. Within neuroscience, oscillatory brain frequencies have similarly become important indicators of neural synchronization and cognitive activity, although these oscillations should not be equated with consciousness itself. In the present study, the proposed relationship between **Ātman and frequency** is introduced only as a theoretical construct intended to facilitate interdisciplinary dialogue between Indian philosophy and conceptual physics, rather than as a claim supported by established physical evidence. Further, the Atma wave discussed

here is an associated dynamic wave with every living body and is a superimposed version of Prana wave and Prajna wave (Aithal (2025). [113]).

(5) Resonance:

Resonance describes the phenomenon whereby a system exhibits enhanced oscillatory response when subjected to periodic excitation at or near one of its natural frequencies. Resonance plays a crucial role across physics, engineering, chemistry, and biology, governing processes ranging from molecular vibrations and nuclear magnetic resonance to mechanical oscillations and electromagnetic interactions. Because resonance facilitates efficient energy transfer between interacting systems, it has also inspired theoretical analogies in cognitive science, systems theory, and complexity research. Although some interdisciplinary discussions have speculated about resonant mechanisms contributing to neural synchronization or conscious integration, current scientific evidence does not establish resonance as the fundamental basis of consciousness. Nevertheless, resonance remains conceptually significant for the present study because it illustrates how interactions among dynamic systems may lead to coherent organization, offering an interpretive analogy for discussing the progressive alignment of individual consciousness with broader ontological frameworks described in Indian philosophy.

(6) Entropy:

Entropy occupies a central position in thermodynamics, statistical mechanics, quantum mechanics, and information theory. Classical thermodynamics associates entropy with the directionality of irreversible processes and the second law of thermodynamics, whereas statistical mechanics interprets entropy as a quantitative measure of microscopic uncertainty. Information theory subsequently extended this concept through Shannon's mathematical formulation of informational entropy, establishing deep conceptual connections between probability, uncertainty, communication, and physical systems (Balian, (2005). [43]). Modern developments have further expanded entropy into quantum information theory through **von Neumann entropy**, demonstrating that informational measures play an increasingly important role in understanding quantum systems and their evolution (Vedral (2002). [44]). Although entropy has occasionally been invoked within philosophical discussions concerning consciousness and cosmology, no accepted scientific theory directly relates thermodynamic entropy to spiritual liberation or moksha. Consequently, entropy serves in the present study as a conceptual framework for discussing order, uncertainty, and transformation rather than as empirical evidence supporting metaphysical claims.

(7) Information Theory:

Information theory, introduced by Claude Shannon in 1948, has evolved from communication engineering into a foundational discipline influencing computer science, statistical physics, quantum computation, neuroscience, and cognitive science. Shannon's concept of entropy provided a mathematical measure of uncertainty, enabling rigorous analysis of information storage, transmission, and processing. Subsequent developments in quantum information theory demonstrated that quantum systems obey informational principles extending beyond classical communication frameworks, thereby linking information with measurement, computation, and physical reality (Vedral (2002). [44]). Reviews of statistical physics further demonstrate that information-theoretic approaches have become central to understanding irreversibility, inference, and entropy in complex physical systems (Balian (2005). [43]). These developments have encouraged some contemporary philosophers to view information as a fundamental aspect of physical reality. While such perspectives remain distinct from Indian metaphysical conceptions of consciousness, they provide an intellectually productive context for exploring whether consciousness, identity, and selfhood may be interpreted through complementary informational and philosophical frameworks. Accordingly, the present study employs information theory not to reduce consciousness to information but to facilitate interdisciplinary comparison between scientific models of information integration and Indian philosophical models of consciousness and ultimate reality.

3.5 Virtual Reality and Digital Identity:

The rapid development of immersive technologies, artificial intelligence, digital modelling, and networked virtual environments has substantially altered scholarly understanding of **identity, embodiment, presence, and reality**. Virtual environments are no longer regarded merely as representations detached from the physical world; rather, they increasingly function as interactive spaces in which individuals communicate, work, create identities, develop relationships, and experience a sense of presence (Schultze (2010). [45]). Chalmers (2017) [59], for example, advances the

philosophical position of *virtual realism*, according to which virtual objects and environments can possess genuine forms of reality rather than being dismissed as merely fictional. Empirical research similarly indicates that transformed digital self-representations can influence users' attitudes and behaviour, demonstrating important interactions between physical and virtual identities (Morie (2007). [46]; Vander Valk (2008). [47]). These developments make virtual reality and digital identity particularly significant to the present study because they raise fundamental questions regarding whether the self must necessarily be identified with its physical embodiment or whether identity can, to some degree, persist through informational and virtual representations.

(1) Digital Twins:

The concept of the **digital twin** originally emerged as a means of establishing continuously updated virtual representations of physical objects, processes, or systems. Unlike static digital models, advanced digital twins incorporate bidirectional data exchange between physical and virtual entities, allowing the virtual representation to evolve alongside its physical counterpart (Kritzinger et al. (2018). [48]). Reviews of the field indicate that digital twins increasingly integrate Internet of Things technologies, artificial intelligence, machine learning, real-time analytics, and simulation, thereby enabling prediction, monitoring, optimization, and decision support (Fuller et al. (2020). [49]; Barricelli et al. (2019). [50]). The extension of this concept to **human digital twins** is especially relevant to questions of personal identity because such systems attempt to construct dynamic digital representations of human physiological, behavioural, or cognitive characteristics. Recent literature consequently distinguishes a digital copy of a person's measurable characteristics from the philosophical claim that such a representation constitutes the person or contains subjective consciousness. Thus, digital twins offer an important technological analogy for this study's distinction between embodied existence and informational representation, but they do not establish that consciousness can be transferred from a biological individual to a digital counterpart.

(2) Metaverse:

The **metaverse** extends the notion of virtual existence beyond isolated simulations by envisioning persistent, interconnected, immersive environments in which users interact through avatars and digital objects. Mystakidis (2022) [51] characterizes the metaverse as a post-reality environment integrating physical reality with digital virtuality through technologies such as virtual reality and augmented reality, while Dwivedi et al. (2022) [52] describe it as a multidisciplinary technological development with potentially significant implications for education, commerce, healthcare, social interaction, entertainment, and organizational life. Within such environments, the avatar becomes more than a graphical representation: it operates as a medium through which users express and negotiate identity. Research on the **Proteus effect** demonstrates that characteristics assigned to avatars can influence user behaviour and self-perception in virtual environments, with some behavioural consequences extending into subsequent physical-world interactions (Yee & Bailenson (2007). [53]; Yee et al. (2009). [54]). The metaverse therefore complicates the traditional boundary between "real" and "virtual" human experience and supports the broader argument that digitally mediated identity can possess psychologically and socially meaningful consequences even when its underlying environment is computationally generated.

(3) Virtual Consciousness:

The possibility of **virtual consciousness** represents a considerably more speculative research domain than digital twins or virtual identity. Whereas virtual environments can clearly simulate human appearance, communication, behavioural responses, and social interaction, the capacity to reproduce **subjective phenomenal experience** remains scientifically unresolved. Contemporary research distinguishes intelligence—the ability to process information and perform sophisticated cognitive tasks—from consciousness, understood as subjective awareness or phenomenal experience. Mogi (2024) [55] emphasizes that highly capable artificial systems may exhibit intelligence without providing evidence that they possess consciousness, thereby demonstrating that functional similarity alone cannot establish subjective experience. Likewise, current consciousness research increasingly proposes theory-driven criteria for evaluating possible artificial consciousness rather than inferring consciousness solely from human-like behaviour. This distinction is crucial for the present study: a digital representation might reproduce a person's memories, language, behavioural patterns, or decision preferences without demonstrating the continuation of the original individual's conscious subjectivity. Virtual consciousness should therefore be treated as an **open theoretical possibility rather than an established**

technological achievement, particularly when discussing continuity of identity beyond biological existence.

(4) AI Identity:

The emergence of increasingly autonomous and human-like artificial intelligence has further expanded the concept of **digital identity** by introducing artificial agents capable of maintaining conversational histories, personalized behavioural patterns, generated personas, and adaptive interactions. Scholarship on algorithmically mediated identity suggests that AI systems can influence how human beings understand, construct, and express themselves, giving rise to what has recently been described as the **algorithmic self**, in which identity is increasingly co-shaped through interactions with computational systems (Joseph (2025). [56]). At the same time, AI raises a fundamentally different question: whether a sufficiently advanced artificial identity could eventually become a conscious subject rather than merely representing or imitating one. Current scientific literature provides no consensus on this issue, and researchers emphasize the need to distinguish behavioural sophistication from phenomenal consciousness (Mogi (2024). [55]). The distinction between **identity representation and conscious identity** is particularly important for the present article. A digitally reconstructed personality may preserve informational attributes of an individual, but informational continuity should not automatically be interpreted as ontological or conscious continuity. This distinction provides a conceptual basis for comparing digitally reproduced individuality with the deeper Vedāntic question of whether consciousness itself is reducible to the characteristics through which an individual appears.

(5) Simulation Hypothesis:

The **simulation hypothesis** extends questions of virtual existence from individual digital environments to reality itself. Bostrom's (2003) [57] influential simulation argument proposes a philosophical trilemma: either civilizations comparable to humanity are unlikely to reach a technologically mature posthuman stage, posthuman civilizations are unlikely to run large numbers of ancestor simulations, or a substantial proportion of observers with experiences like ours may exist within simulations. Importantly, Bostrom's argument is probabilistic and conditional rather than empirical proof that the universe is simulated. Kipping (2020) [58] subsequently applied Bayesian reasoning to the argument and showed that, once uncertainty regarding whether such simulations are technically possible is included, the probability of simulated existence cannot straightforwardly be assumed to be overwhelmingly high. Chalmers (2017) [59] approaches the issue from another perspective, arguing that even if an environment is virtual, its objects and experiences need not therefore be considered unreal. Taken together, research on digital twins, metaverse identities, avatars, AI, virtual consciousness, and simulated reality demonstrates a progressive weakening of the conventional conceptual boundary between physical and virtual existence. This literature provides an important foundation for the present study's proposed comparison between **Dvaita as a model of differentiated embodied existence and Advaita as a model of non-dual or dissolved individuality**. However, the analogy must remain philosophically disciplined: contemporary virtual technologies and simulation theories do not provide empirical evidence for Ātman, post-mortem consciousness, moksha, or Brahman, but they offer conceptual tools through which questions of identity, representation, embodiment, continuity, and reality may be reconsidered.

3.6 Research Gap:

The preceding literature demonstrates substantial scholarly development within **Dvaita Vedānta, Advaita Vedānta, consciousness studies, quantum approaches to consciousness, and virtual existence**; however, these areas have largely developed through separate disciplinary conversations. Contemporary scholarship on Vedānta has examined Dvaita and Advaita principally through metaphysics, theology, epistemology, textual interpretation, and comparative philosophy. In particular, studies of Mādhva Vedānta emphasize the ontological reality of plurality, distinctions among God, individual selves, and matter, and the epistemological foundations of Madhva's realist position (Stoker (2007). [60]; Allen (2024). [18]). By contrast, scholarship on Advaita has concentrated on non-dual consciousness, self-luminosity, the identity of Ātman and Brahman, and consciousness as the non-objectifiable ground of experience (Fasching (2021). [6]). Although these traditions have frequently been compared doctrinally, limited attention has been directed toward interpreting **Dvaita and Advaita as potentially complementary models of different modes or stages of human experience**.

A second gap emerges within contemporary **consciousness studies**. Scientific theories primarily attempt to identify the mechanisms, structures, or physical conditions associated with conscious experience. Integrated Information Theory, for example, attempts to relate phenomenological properties of consciousness to an integrated causal structure within a physical system (Tononi et al. (2016). [30]). Quantum-consciousness theories adopt a substantially different approach. The Orch-OR model proposes that quantum processes associated with neuronal microtubules may contribute to conscious experience (Hameroff & Penrose (2014) [31], whereas decoherence-based criticism has questioned whether quantum states relevant to cognition could persist for physiologically meaningful periods (Tegmark (2000). [37]). These debates illustrate the continuing absence of consensus concerning the ontological status and physical basis of consciousness. More importantly for the present research, such scientific theories generally do not integrate classical Indian concepts such as **Ātman, jīva, Brahman, Paramātman, punarjanma, or moksha** into their explanatory architecture.

A third research gap concerns the relationship between **physics and Indian philosophical conceptions of consciousness**. Concepts such as wave behaviour, frequency, coherence, quantum states, fields, energy, and information provide increasingly sophisticated descriptions of physical reality, but their application to consciousness remains theoretically contested. Orch-OR explicitly attempts to locate consciousness within quantum processes, illustrating one form of dialogue between fundamental physics and consciousness research, yet this remains a debated scientific hypothesis rather than an established model (Hameroff & Penrose (2014). [31]). Existing scientific literature does not demonstrate that Ātman constitutes a physical wave, that spiritual development corresponds to measurable changes in such a wave's frequency, or that moksha results from crossing a critical physical-frequency threshold. The gap therefore is not evidence awaiting simple confirmation, but the **absence of a carefully bounded conceptual framework through which such propositions can be formulated, compared with established physics, subjected to logical evaluation, and potentially translated into researchable hypotheses**. This distinction is essential if interdisciplinary dialogue between Vedānta and physics is to avoid treating philosophical analogies as experimentally verified physical laws.

A related gap has developed in scholarship on **virtual reality, digital identity, and simulated existence**. Philosophical and technological research increasingly challenges the assumption that meaningful human experience must occur exclusively within physical environments. Chalmers (2017) [59], through the concept of virtual realism, argues that virtual objects and experiences need not be regarded as unreal merely because they are digitally constituted, while research on immersive environments shows that virtual reality can reorganize experiences of embodiment, identity, agency, and self-location. Simulation-based arguments extend this problem further by questioning whether the ontological status of an experienced world can be inferred merely from its apparent physical characteristics; however, such arguments remain philosophical rather than empirical demonstrations that human reality is simulated (Bostrom (2003). [57]). Existing virtual-reality scholarship therefore provides sophisticated accounts of **digitally mediated experience**, but rarely connects these questions systematically with Vedāntic distinctions between empirical appearance, individual selfhood, ultimate consciousness, and liberation.

More specifically, an important conceptual separation persists between discussions of **physical embodiment and virtual existence on the one hand, and embodied versus liberated consciousness on the other**. Virtual-reality scholarship demonstrates that consciousness can experience a compelling digitally generated environment while the biological individual remains physically located elsewhere; this has led researchers to examine presence, embodiment, and consciousness as related but analytically distinct phenomena. Slater and Sanchez-Vives (2022) [2], for example, argue that consciousness acquires particular explanatory importance in virtual reality because the experienced virtual world depends fundamentally upon the conscious subject for whom that world is present. Yet technological virtuality remains fundamentally different from the metaphysical state described as moksha in Advaita. Current literature has not adequately explored whether these two meanings of "virtual" or non-ordinary existence can be analytically distinguished and then used to develop a broader philosophical model of **embodied differentiation versus non-dual consciousness**.

The principal research gap identified in this study is therefore **interdisciplinary fragmentation**. Dvaita scholarship explains difference and individual existence; Advaita scholarship investigates non-duality and fundamental consciousness; neuroscience and consciousness theories investigate mechanisms or

correlates of awareness; quantum-consciousness research explores possible connections between consciousness and fundamental physical processes; and virtual-reality scholarship examines technologically mediated presence and identity. Recent surveys of Vedānta itself demonstrate increasingly diverse philosophical and comparative research, yet these areas remain methodologically and conceptually differentiated (Allen (2024). [18]). Similarly, contemporary consciousness theories remain plural rather than unified, with competing proposals concerning how conscious experience relates to its physical substrate (Tononi et al. (2016). [30]; Hameroff & Penrose (2014). [31]). A review of these strands therefore suggests **limited evidence of a single scholarly framework that systematically integrates Dvaita, Advaita, consciousness theory, selected concepts from physics, and virtual existence into one coherent model.**

The present study seeks to address this gap by proposing the “**Atma Wave Life Cycle**” framework. It reconceptualizes Dvaita and Advaita not simply as rival Vedāntic doctrines but, for exploratory purposes, as complementary conceptual models: **Dvaita representing differentiated, embodied, relational existence and Advaita representing non-dual consciousness associated philosophically with liberation.** The study further introduces selected physical concepts—including waves, frequency, coherence, and information—as heuristic devices for constructing and evaluating an **Ātman-wave hypothesis and critical-frequency hypothesis**, rather than presenting these propositions as established physics. By subsequently relating these philosophical and scientific constructs to questions of virtual existence and dissolution of individualized identity, the proposed framework attempts to create a new interdisciplinary research space connecting **Indian philosophy, consciousness studies, physics, and digital ontology.** Its intended contribution is therefore theory-building and hypothesis generation: to transform currently separated streams of scholarship into an integrated conceptual framework from which clearer philosophical propositions and, where scientifically feasible, future testable questions may emerge. Further, the Atma wave discussed here is a dynamic wave associated with every living body and is a superimposed version of Prana wave and Prajna wave (Aithal (2025). [113]).

4. RESEARCH METHODOLOGY :

The study adopts a **qualitative conceptual research design** employing multiple higher-order scholarly approaches:

- Comparative philosophical analysis
- Hermeneutic interpretation of classical texts
- Critical evaluation of contemporary consciousness theories
- Conceptual integration of Indian philosophy and modern physics
- Interdisciplinary synthesis
- Theory-building through abductive reasoning
- Development of a novel conceptual model

5. THEORETICAL FOUNDATION :

5.1 Dvaita as the Model of Real Life:

The theoretical foundation of the present study begins with the proposition that **embodied human life may be interpreted through the philosophical framework of Dvaita Vedānta.** Developed principally through the writings of Madhvācārya and subsequently elaborated by scholars such as Jayatīrtha and Vyāsātīrtha, Dvaita is fundamentally a realist and pluralist philosophy. It maintains that Brahman or Viṣṇu, individual souls (*jīvas*), and the material world are real, while simultaneously distinguishing between the independent reality of God (*svatantra*) and the dependent realities (*paratantra*) of souls and matter. Madhva's rejection of monism is therefore not merely theological; it establishes difference as an ontologically constitutive characteristic of existence (Okita (2020). [61]; Williams (2021a). [62]). Contemporary Vedānta scholarship similarly identifies Mādhva thought as an important form of theistic realism in which plurality cannot ultimately be reduced to a single undifferentiated entity (Allen, 2024). [18]). This realist ontology provides the theoretical basis for examining ordinary human existence as a domain structured by subject and object, individuality, moral action, temporal and spatial relations, causation, and interpersonal relationships.

Subject–Object Distinction:

A fundamental feature of lived experience is the distinction between the **experiencing subject and the experienced object.** Human beings ordinarily perceive themselves as conscious subjects confronting a

world consisting of other persons, physical objects, social institutions, and natural phenomena. Dvaita interprets this distinction as ontologically meaningful rather than as an illusion ultimately produced by ignorance. Mādhva realism treats the external world as genuinely existent and consequently regards cognition as capable, under appropriate conditions, of relating a real knower to a real object of knowledge. Later Mādhva thinkers developed sophisticated epistemological arguments defending realism against Advaita interpretations that accord a different ultimate status to empirical multiplicity (Williams (2021a). [62]). Okita (2020) [61] likewise demonstrates how Madhva's engagement with scriptural traditions involves a deliberate rejection of monistic interpretations in favour of a reality in which distinctions between God, souls, and world remain significant. From the perspective of the present study, this subject-object differentiation corresponds closely to physical human experience: the perceiver remains distinguishable from what is perceived, thereby making experience fundamentally relational.

Individual Identity:

Dvaita further provides a powerful philosophical basis for explaining **individual identity**. Unlike systems in which individuality is ultimately dissolved into an undifferentiated absolute, Madhva maintains the distinct existence of individual *jīvas*. Difference therefore applies not only between God and the individual but also between one individual soul and another. The individuality of the *jīva* remains meaningful even in discussions of liberation, making personal identity an enduring component of Mādhva ontology. Comparative scholarship on Vedāntic accounts of *mokṣa* highlights this distinctive feature of Dvaita: liberation does not require the complete ontological disappearance of the individual soul (Betty (2010). [63]). Madhva's broader theological hierarchy also assigns differentiated roles and statuses to spiritual beings, further illustrating the significance attributed to individual particularity within the tradition (Mesquita (2003). [64]). Thus, the persistent experience of “I” and “other” in embodied life—each individual possessing a distinct perspective, biography, agency, and experiential world—can be interpreted within the present framework as consistent with a Dvaitic model of real existence.

Moral Responsibility and Karma:

Individual identity in Dvaita is closely related to **moral responsibility and karma**. Once individuals are regarded as real agents rather than ultimately unreal appearances, actions possess meaningful consequences for those who perform them. Vedāntic discussions of karma have long addressed the relationship among divine agency, human action, moral freedom, suffering, and justice. Clooney (1989) [65] demonstrates how theories of karma within Vedānta operate as sophisticated responses to problems involving divine omnipotence and human freedom, while later Mādhva discussions of theodicy examine how divine governance can coexist with differentiated human experiences and suffering (Williams, 2021b) [66]). Within Dvaita, therefore, moral existence involves genuine relations between **agent, action, consequence, and divine order**. Sharma's (2021) [67] analysis of Madhva's interpretation of the *Mahābhārata* further illustrates the ethical importance assigned to righteousness and wrongdoing within a Dvaitic hermeneutical framework. Contemporary applications of Madhva's philosophy have likewise drawn connections between differentiated individuals, ethical conduct, responsibility, and social cohesion (Shunmugam & Sukdaven (2022). [68]). Consequently, karma can be interpreted within the proposed theoretical framework as a **causal-moral mechanism operating within differentiated existence**, reinforcing rather than erasing individual responsibility.

Time, Space, and Cause–Effect:

Embodied life is also experienced through **time, space, and causal sequence**. Human beings occupy identifiable locations, experience events sequentially, remember past actions, anticipate future possibilities, and encounter consequences arising from prior causes. A realist interpretation of the world provides philosophical room for treating these structures as meaningful features of empirical existence rather than merely dismissing them as ultimately unreal. Madhva's affirmation of a real world and the genuine plurality of entities means that change, interaction, action, and consequence occur among distinguishable beings and objects. Okita (2020) [61] shows that Madhva's rejection of monism is inseparable from his affirmation of the world's genuine reality, while Williams (2021a) [62] demonstrates the continuing commitment of the Mādhva philosophical tradition to realism concerning empirical objects and cognition. In the theoretical model proposed here, **time provides sequence, space provides differentiation and location, and causality provides relational continuity between events**. Karma itself consequently becomes intelligible through cause and effect: actions undertaken by an

individual at one temporal point generate consequences experienced within subsequent conditions. This does not imply that modern physical concepts of space-time and causality are identical to Mādhva metaphysics; rather, their structural correspondence makes Dvaita a useful philosophical model for interpreting embodied, temporally ordered existence.

Relationships:

Dvaita's insistence upon distinction also makes **relationships** ontologically important. A genuine relationship requires some form of differentiation: self and other, devotee and deity, teacher and learner, parent and child, individual and society, or human being and environment. If all distinctions were eliminated at the level at which ordinary life is actually lived, relationality would lose much of its practical meaning. Madhva's philosophy instead places relational existence at the heart of its religious vision, particularly through the enduring distinction between the dependent soul and the independent Supreme Being. Stoker (2007) [60] demonstrates that Madhva's theological interpretation develops carefully differentiated relations among scripture, God, and theological categories, while Mesquita (2003) [64] illustrates the hierarchical and relational organization characteristic of Madhva's metaphysical system. Relationality also has social implications: recent interpretations of Madhva have explored how differentiated persons may participate in social cohesion without losing their distinct identities (Shunmugam & Sukdaven (2022). [68]). Hence, difference need not imply isolation or conflict. On the contrary, **difference is a prerequisite for meaningful relationship**, because interaction is possible precisely when distinct entities encounter and respond to one another.

Synthesis of the Characteristics:

Taken together, these characteristics reveal a coherent structure of embodied experience. **Subject-object distinction** creates the fundamental relation between knower and known; **individual identity** establishes the continuity of the experiencing person; **moral responsibility** makes choice meaningful; **karma** connects actions with consequences; **time** provides succession; **space** enables localization and separation; **cause-effect relations** organize change; and **relationships** connect differentiated beings into social, ethical, and spiritual networks. Madhva's broader metaphysical commitment to real difference provides an especially appropriate philosophical framework for synthesizing these characteristics (Okita (2020). [61]; Allen (2024). [18]). Furthermore, the ethical and soteriological dimensions of Dvaita demonstrate that difference is not merely an abstract metaphysical category; it has implications for human agency, devotion, accountability, social interaction, and liberation (Betty (2010). [63]; Sharma (2021). [67]; Williams (2021b). [66]).

Proposition: Real Life is Fundamentally Dualistic:

Based on the foregoing theoretical synthesis, the present study advances the proposition:

P1: Real life, as ordinarily experienced through embodied human existence, is fundamentally dualistic—or more precisely, differentiated and relational—in structure.

The proposition does not claim that empirical observations scientifically prove Madhva's metaphysics. Rather, it proposes **Dvaita as an explanatory philosophical model of real-life human experience**. Physical existence is characterized by distinctions between self and other, observer and observed, individual and environment, intention and action, cause and consequence, past and future, and person and society. Dvaita provides an ontological vocabulary through which these differences can be interpreted as meaningful components of reality rather than merely temporary errors of perception. Madhva's philosophical tradition is explicitly realist in maintaining distinctions among God, souls, and world, while subsequent Mādhva thinkers developed this realism through increasingly sophisticated epistemological and metaphysical arguments (Okita, (2020). [61]; Williams (2021a). [62]; Allen (2024). [18]). The present article therefore conceptualizes **Dvaita as the “Difference” phase of the proposed Difference-to-Dissolution model**: the domain of embodied life in which individuality, plurality, agency, causality, morality, and relationships remain operative. This formulation subsequently provides a theoretical contrast with Advaita, which the next stage of the model examines as a possible philosophical representation of non-duality, liberation, and the dissolution of differentiated individuality (Aithal P. S. & Ramanathan S. [69]).

5.2 Advaita as the Model of Virtual (Liberated) Existence:

The second theoretical pillar of the present study proposes **Advaita Vedānta as a conceptual model for liberated existence**, representing a state in which the limitations associated with embodied

individuality are transcended. Unlike the previous section, which interpreted Dvaita as an explanatory framework for ordinary embodied life, this section examines Advaita as a philosophical description of consciousness after the dissolution of empirical individuality through **moksha**. The term "**virtual**" is employed here in a **conceptual and philosophical sense**, referring to a mode of existence that is no longer constrained by ordinary physical embodiment, space, or time. It should **not** be interpreted as implying that liberated consciousness literally exists within a computational or digital environment. Rather, virtual existence denotes a non-material mode of being in which consciousness is understood to transcend the empirical conditions governing ordinary human life. Within Advaita Vedānta, Brahman alone constitutes ultimate reality, while plurality, individuality, and subject-object distinctions belong to the empirical domain conditioned by *avidyā* (ignorance). Contemporary philosophical analyses have increasingly recognized Advaita's conception of consciousness as offering important insights for philosophy of mind because consciousness is understood not as an object among other objects but as the self-manifesting ground of all experience (Fasching (2021). [6]).

(1) No Individuality:

A defining characteristic of liberated existence in Advaita is the **absence of ultimate individuality**. Advaita does not deny the empirical existence of individual persons within ordinary life; rather, it maintains that individuality belongs to the level of **vyāvahārika** (empirical reality) and not to **pāramārthika** (ultimate reality). The apparent distinction between the individual self (*Ātman*) and Brahman is attributed to ignorance (*avidyā*), which superimposes limitation upon what is intrinsically unlimited. Liberation therefore does not involve the destruction of an independently existing self but the removal of ignorance concerning the true nature of consciousness. Fasching (2021) [6] explains that Advaita distinguishes consciousness itself from all phenomenal contents and regards it as pure manifestation (*prakāśa*), incapable of becoming an object among other objects. Consequently, what disappears in liberation is not consciousness but the mistaken identification of consciousness with the empirical personality. Contemporary phenomenological discussions similarly describe nondual awareness as awareness free from subject-object fragmentation while remaining immediately self-present (Josipovic (2021). [70]).

(2) No Duality:

The second characteristic is the complete absence of **duality**. Advaita asserts that the distinction between knower and known, observer and observed, self and world, ultimately dissolves with the realization that all apparent multiplicity depends upon one non-dual reality. Unlike Dvaita, where relationships among distinct entities remain permanently meaningful, Advaita maintains that such distinctions possess only empirical validity. Liberation therefore represents the realization that consciousness is fundamentally non-dual and cannot be divided into independent experiencing subjects and external objects. Fasching (2021) [6] argues that Advaita's conception of consciousness avoids reducing awareness to a particular mental state because consciousness itself is the condition that makes every experience possible. Likewise, Josipovic (2021) [70] characterizes **nondual awareness** as awareness free from ordinary subject-object fragmentation, proposing that it represents a distinct dimension of conscious experience beyond conventional classifications of states and contents. Although the phenomenological literature does not claim to verify Advaita metaphysics, it provides a useful dialogue partner by recognizing experiences in which dualistic structures become significantly attenuated.

(3) No Space and (4) No Time:

A further implication of liberated existence concerns the transcendence of **space and time**. Ordinary human life is experienced within spatial separation and temporal succession: individuals occupy particular locations, experience events sequentially, and distinguish past, present, and future. Advaita, however, regards such distinctions as belonging to empirical existence conditioned by *māyā*. Brahman is therefore not spatially located, temporally extended, or causally dependent in the manner characteristic of physical objects. Liberation does not signify movement from one place to another or progression through chronological stages but recognition of an ever-present reality that transcends spatial and temporal limitations. Philosophical analyses of Advaita accordingly interpret liberation as an ontological realization rather than a temporal event (Fasching (2021). [22]). This interpretation resonates with phenomenological descriptions of nondual awareness that emphasize immediate presence independent of ordinary temporal representation, while stopping short of identifying such experiences with metaphysical liberation (Josipovic (2021). [70]). Thus, within the theoretical

framework proposed here, the absence of space and time is understood as a **metaphysical characteristic of liberated consciousness**, not as a physical hypothesis concerning space-time in modern physics.

(5) Infinite Consciousness:

Advaita further characterizes ultimate reality as **infinite consciousness** (*sat-cit-ānanda*). Consciousness is not conceived as a product of neural computation or an emergent property of matter but as the foundational reality in which all empirical experiences appear. This interpretation differs fundamentally from many contemporary scientific theories that seek neural or computational mechanisms underlying consciousness. Fasching (2021) [22] argues that Advaita treats consciousness as pure manifestation rather than as an object possessing determinate phenomenal content. Such an understanding has attracted increasing attention within philosophy of mind because it reverses the explanatory direction adopted by materialist approaches: instead of deriving consciousness from matter, matter is interpreted as appearing within consciousness. Some contemporary discussions of cosmopsychism similarly investigate whether consciousness may possess a more fundamental ontological status than traditionally assumed, although these theories remain philosophically distinct from Advaita Vedānta and should not be conflated with it. Consequently, the present study adopts infinite consciousness as a **philosophical construct grounded in Advaita**, rather than as a conclusion established by neuroscience or physics.

(6) Unity:

The culmination of liberated existence is **unity**, understood as the realization that Brahman alone constitutes ultimate reality. This unity does not imply the aggregation of many independent entities into a larger collection; rather, it denotes the recognition that multiplicity itself never possessed independent ultimate existence. Accordingly, liberation is not a process of physically joining Brahman but the removal of ignorance concerning the identity of Ātman and Brahman. Advaita therefore replaces differentiated relational existence with non-dual unity. Contemporary discussions of nondual awareness likewise emphasize the absence of fragmentation and the direct reflexivity of consciousness itself (Josipovic (2021). [70]). These phenomenological accounts cannot be regarded as empirical demonstrations of Advaita's metaphysical claims, yet they provide conceptual parallels that strengthen interdisciplinary dialogue between Indian philosophy and consciousness studies. Unity thus becomes the defining ontological characteristic of liberated consciousness within the present theoretical framework.

Proposition: Liberated Consciousness Exists in Singularity

Based upon the foregoing theoretical synthesis, the present study advances the following proposition:

P2: Liberated consciousness exists in singularity.

The term "**singularity**" is employed **philosophically rather than mathematically or cosmologically**. It refers to the complete dissolution of empirical differentiation into non-dual consciousness as understood within Advaita Vedānta. It should not be interpreted as the physical singularity of cosmology, nor as a technologically generated digital singularity. Instead, singularity denotes the ontological condition in which individuality, duality, spatial separation, temporal succession, and relational distinctions no longer constitute ultimate reality. Within the proposed **Difference-to-Dissolution Framework**, Dvaita represents the differentiated phase of embodied existence characterized by plurality, agency, karma, and relationality, whereas Advaita represents the singular phase of liberated consciousness characterized by unity, infinite consciousness, and the transcendence of empirical limitations. This proposition is presented as a **conceptual philosophical model** intended to facilitate interdisciplinary dialogue among Vedānta, consciousness studies, philosophy of mind, and theoretical reflections on reality. It does **not** claim empirical scientific verification of liberation, post-mortem consciousness, or metaphysical singularity. Rather, it establishes the theoretical foundation upon which the subsequent conceptual models of the present study are developed.

5.3 Ātma-Wave Life Cycle Framework:

The central theoretical contribution of the present study is the **Difference-to-Dissolution Continuum**, which seeks to connect the differentiated ontology of Dvaita with the non-dual ontology of Advaita through a progressive conceptual sequence: **Difference → Identity → Consciousness → Detachment → Liberation → Unity**. This continuum is not proposed as a chronological law of human development or as an empirically demonstrated neurological pathway. Rather, it is a **theory-building construct** that

synthesizes insights from Dvaita and Advaita Vedānta with contemporary research on consciousness, selfhood, meditation, ego dissolution, and non-dual awareness. Dvaita strongly affirms genuine distinctions among the individual soul, the world, and ultimate reality, whereas Advaita ultimately places consciousness beyond subject-object differentiation (Okita (2020). [61]; Fasching (2021). [22]). The continuum consequently begins with differentiation—the condition characteristic of ordinary embodied life—and progressively examines how identification with the differentiated self may be transformed until consciousness is conceptually understood as non-dual unity.

Stage 1: Difference

Difference represents the foundational stage of embodied existence. Human experience ordinarily begins with distinctions: self and other, knower and known, body and environment, individual and society, subject and object. Such differentiation closely corresponds to the realist orientation of Dvaita Vedānta, in which plurality is not treated merely as an erroneous appearance but as philosophically significant. Madhva's rejection of monism is particularly important because it preserves genuine distinctions between Brahman, individual souls, and the material world (Okita (2020). [61]). Contemporary scholarship on Dvaita likewise emphasizes its sustained commitment to pluralism and realism within the broader Vedāntic tradition (Allen (2024). [18]). Difference therefore establishes the ontological conditions required for ordinary experience: without differentiation, there could be no distinction between observer and observed, agent and action, one individual and another, or cause and consequence. In the proposed framework, **difference is consequently not interpreted negatively; it is the necessary starting condition for embodied experience, relationships, learning, ethical responsibility, and individual development.**

Stage 2: Identity

From perceived difference emerges **identity**. Once a distinction between self and non-self is established, the individual develops an organized sense of “I”—a relatively continuous personal identity associated with bodily experience, memory, agency, social roles, relationships, and autobiographical narratives. Dvaita provides a useful philosophical foundation for this stage because individual souls retain distinct identities rather than being reducible to a single empirical consciousness. Scholarship comparing Dvaita and Advaita accounts of liberation demonstrates that the status and persistence of individuality constitute one of their significant philosophical differences (Betty (2010). [63]). The proposed continuum interprets identity as the **experiential organization of difference around the individual subject**. Contemporary consciousness research similarly treats the phenomenal self as constructed through multiple layers of bodily and cognitive processing, while experimental work on ego dissolution demonstrates that the ordinary sense of self can vary considerably without consciousness necessarily disappearing (Deane (2021). [71]). Thus, identity is essential for ordinary embodied functioning but need not constitute the deepest or final level of consciousness.

Stage 3: Consciousness

The continuum subsequently moves from **identity to consciousness**, marking a crucial conceptual distinction between the *contents of consciousness* and consciousness itself. Personal identity consists of particular memories, beliefs, emotions, bodily sensations, preferences, and self-representations, whereas consciousness is that within which these phenomena become manifest. Fasching (2008) [72] argues that contemplative practice can illuminate the distinction between ordinary self-consciousness and consciousness as such, suggesting that conscious presence cannot simply be equated with the constantly changing contents through which a person's identity is experienced. This distinction is particularly significant within Advaita, where consciousness is understood not as another object available to introspection but as the very manifestation or presence through which objects, thoughts, and experiences become known (Fasching (2021). [22]). Research on information integration likewise suggests that conscious organization need not be reducible to one isolated representational component, while altered states can involve substantial changes in selfhood without straightforward elimination of conscious experience (Luppi et al. (2021). [73]). The continuum therefore proposes a theoretical shift from **“I am this individual identity” toward “I am aware of this identity,”** thereby opening conceptual space between empirical selfhood and consciousness.

Stage 4: Detachment

Detachment represents the transitional stage in which identification with the empirical self, its possessions, roles, desires, thoughts, and experiences progressively weakens. Within the Advaita-oriented interpretation employed here, detachment does not imply indifference, social withdrawal, or suppression of ordinary life. Rather, it denotes a decreasing tendency to treat transient mental and material attributes as constituting the fundamental self. Fasching's (2008) [72] analysis of meditation is particularly relevant because it describes contemplative practices as ways of disengaging consciousness from habitual self-substantialization and becoming aware of consciousness itself. Barua's (2023) [74] analysis of Advaita-shaped themes in Vivekananda similarly highlights the relationship between worldly engagement, self-effacement, and an understanding of Ātman as transcending ordinary spatiotemporal limitations. Contemporary consciousness studies offer an intriguing—but not metaphysically equivalent—parallel: experimentally investigated ego-dissolution states indicate that the ordinary self-model can become substantially attenuated while experience continues (Deane (2021). [71]; Luppi et al. (2021). [73]). Thus, **detachment functions as the bridge between differentiated identity and less self-centered modes of awareness.**

Stage 5: Liberation

The next stage, **liberation (moksha)**, represents the decisive transformation in the continuum. In Advaita, liberation is fundamentally associated with the removal of ignorance regarding the nature of the self rather than the production of an entirely new ontological entity. The empirical individual does not manufacture Brahman or travel spatially toward it; instead, liberation consists in realizing a reality that was always present but obscured through mistaken identification. Fasching's (2021) [22] account of Advaitic consciousness supports this interpretation by emphasizing consciousness as non-objectifiable presence rather than one element contained within the phenomenal person. Barua (2023) [74] likewise discusses the Advaitic concept of *jīvanmukti*—liberation while embodied—in which one may continue acting in the world without accumulating the same form of self-centered karmic attachment. Hence, liberation represents the point at which difference ceases to define the ultimate status of consciousness.

Stage 6: Unity

The culmination of the continuum is **Unity**, representing the non-dual condition in which the subject-object distinction no longer determines the fundamental structure of consciousness. Contemporary research on non-dual awareness provides an important phenomenological comparison, although it does not scientifically establish Advaita's metaphysical doctrines. Josipovic (2021) [70] conceptualizes non-dual awareness as awareness that is intrinsically free from ordinary subject-object fragmentation and proposes an implicit-to-explicit gradient through which this mode of awareness may become increasingly manifest. Cooper et al. (2022) [75] similarly develop a neuroscientific model in which increasingly advanced contemplative practice is associated with changes relevant to self-other differentiation and explicit non-dual awareness. These findings are particularly useful for the present continuum because they suggest that the ordinary experiential boundary between self and other is not necessarily invariant. However, **phenomenological or neural evidence of non-dual experiences should not be interpreted as scientific proof that Ātman and Brahman are metaphysically identical.** Rather, it provides an interdisciplinary point of comparison with Advaita's philosophical description of unity.

The Difference-to-Dissolution/Duality-to-Singularity Continuum:

The complete theoretical continuum may therefore be represented as:

Difference



Recognition of self, other, world, and plurality

Dvaita / differentiated existence



Identity



Formation of the individual "I"

Personal agency, memory, relationships, karma

↓
Consciousness

↓
Distinction between the empirical self and awareness
Recognition of consciousness as the field of experience

↓
Detachment

↓
Reduction of identification with body, ego, possessions, roles, and mental contents
Weakening of self-centred differentiation

↓
Liberation

↓
Removal of ignorance concerning the fundamental nature of consciousness
Transcendence of limiting identification

↓
Unity

↓
Dissolution of ultimate subject-object differentiation

Advaita / non-dual consciousness:

The conceptual movement is therefore **not from existence to non-existence, but from differentiated existence to non-differentiated awareness**. It is similarly not a transition from consciousness to unconsciousness; rather, the model hypothesizes a movement from consciousness organized around a bounded individual identity toward consciousness interpreted as fundamentally non-dual. Research on meditation and ego dissolution is compatible with the narrower observation that alterations or attenuation of ordinary self-representation can occur without corresponding elimination of consciousness (Fasching (2008). [72]; Deane (2021). [71]; Luppi et al. (2021). [73]). Non-dual awareness research further provides phenomenological and neuroscientific models in which subject-object differentiation becomes less dominant (Josipovic (2021). [70]; Cooper et al. (2022). [75]). These findings provide interdisciplinary support for investigating the continuum, but not empirical proof of its Vedāntic metaphysical endpoint.

Theoretical Synthesis: From Dvaita to Advaita:

The proposed continuum consequently enables Dvaita and Advaita to be examined within a common theoretical architecture without claiming that the two historical schools themselves teach a sequential progression from one philosophy into the other. Indeed, Madhva's Dvaita explicitly rejects monistic reduction and maintains real difference (Okita (2020) [61], whereas Advaitic approaches understand pure consciousness in fundamentally non-dual terms (Fasching (2021). [22]). The **Difference-to-Dissolution concept through Atma-Wave Life Cycle model is therefore the present study's synthesis**, not a claim that Madhvācārya and Śaṅkarācārya endorsed one another's metaphysics. It treats their contrasting insights as conceptual endpoints of a continuum of human experience: **Dvaita explains the phenomenology of being a differentiated individual, while Advaita provides a framework for theorizing the transcendence of ultimate individuality**. In this model, difference makes identity possible, identity provides the locus of ordinary consciousness, consciousness makes detachment possible, detachment prepares the conceptual transition toward liberation, and liberation culminates in unity. This sequence establishes the theoretical foundation for the later hypothesis that real-life existence can be represented by differentiation, whereas liberated or “virtual” existence may be conceptualized through non-duality and singularity.

Proposed Theoretical Proposition:

P3: Human conscious experience can be conceptually represented as a Difference-to-Dissolution Continuum in which differentiated identity constitutes the embodied starting condition, while

progressive disengagement from self-identification provides a theoretical pathway toward non-dual awareness and the Advaitic conception of unity.

This proposition remains **philosophical and theory-generating rather than empirically established**. The stages from identity to altered self-experience can potentially be investigated using contemporary methods from psychology, neuroscience, phenomenology, and consciousness research; however, the transition from liberation to ultimate metaphysical unity remains a philosophical proposition whose scientific testability requires separate consideration.

6. PROPOSED SCIENTIFIC INTERPRETATION :

6.1 The Atma-Wave Hypothesis:

The present study proposes the **Ātma–Wave Cycle Hypothesis** as an **interdisciplinary conceptual model** intended to facilitate dialogue among Indian philosophy, consciousness studies, and modern physics. It is important to emphasize at the outset that this hypothesis **is not an established scientific theory**, nor does it claim empirical verification. Rather, it is a **philosophical-scientific heuristic** that draws analogical inspiration from wave phenomena in physics, field-based descriptions of nature, and Vedāntic conceptions of consciousness. Existing scientific literature has not demonstrated that Ātman exists as a measurable physical wave or that consciousness survives biological death in wave form. Nevertheless, several contemporary theories acknowledge that the ontological status of consciousness remains unresolved and continue to explore whether consciousness should be understood purely as an emergent neural phenomenon or whether it may require a more fundamental explanatory framework (Tononi (2004). [4]; Hameroff & Penrose (2014). [31]; Fasching (2021). [22]).

Conceptual Structure of the Hypothesis:

The hypothesis proposes that **every living being may be conceptually represented by two complementary but ontologically distinct components:**

(a) Physical Body (Material Component)

The physical body consists of biological tissues, organs, neural networks, biochemical processes, and all measurable physiological structures investigated by contemporary biology and neuroscience. This component is governed by the established laws of physics, chemistry, genetics, and physiology. Scientific evidence overwhelmingly supports the dependence of perception, memory, cognition, and behaviour upon the functional organization of the nervous system. Consequently, the present hypothesis does **not** deny the indispensable role of the brain in mediating conscious experience during embodied life. Rather, the physical body is treated as the **material substrate through which conscious experience is expressed**.

(b) Associated Consciousness Wave (Non-material Component)

The second component is proposed as an **Associated Consciousness Wave**, representing the non-material aspect of conscious existence. The term "wave" is employed **analogically rather than literally**. (Note: Here conscious wave is considered as a superimposed wave of both Prana wave and Prajna wave associated with a living body). It does **not** imply that consciousness has been experimentally detected as an electromagnetic wave, quantum wave, or any currently measurable physical field. Instead, the wave metaphor is intended to express several philosophical characteristics:

- continuity
- dynamic organization
- coherence
- informational integration
- non-local conceptual representation
- potential transition between states

This formulation is inspired partly by field-oriented descriptions of physical reality and partly by Advaita Vedānta's treatment of consciousness as fundamental presence rather than as another material object (Fasching (2021). [22]).

The Body as the Material Instrument:

Within this framework, the physical body functions as the **biological instrument** through which consciousness becomes manifest during embodied life. This interpretation resembles, at a conceptual level, several classical Vedāntic discussions that distinguish consciousness from the body while

recognizing that conscious experience is mediated through bodily structures during empirical existence. Contemporary neuroscience identifies neural synchronization, large-scale integration, and cortical dynamics as indispensable correlates of conscious awareness, yet these correlations do not by themselves resolve why subjective experience exists in the first place (Tononi (2004). [30]). Consequently, the present model accepts the scientific evidence that conscious experience is closely associated with brain activity while leaving open the philosophical question of whether the brain **produces, transmits, organizes, or manifests** consciousness.

The Consciousness Wave as a Philosophical Construct:

The proposed **Consciousness Wave** should therefore be interpreted as a **conceptual representation of Ātman** rather than as a measurable physical entity. Its principal characteristics include continuity across experience, unity underlying changing mental states, dynamic coherence, and persistence of conscious identity as understood within Indian philosophy. In this respect, the hypothesis differs fundamentally from conventional physicalist theories in which consciousness is regarded solely as an emergent consequence of neural computation. Instead, it shares certain conceptual affinities with philosophical approaches that regard consciousness as fundamental or irreducible, while remaining distinct from them in its specifically Vedāntic orientation (Hameroff (1998). [76]; Fasching (2021). [22]).

It is equally important to distinguish this proposal from existing **quantum-consciousness theories**. The Orch-OR model proposed by Hameroff and Penrose suggests that quantum coherent processes within neuronal microtubules may contribute to conscious events (Hameroff & Penrose (1996). [36], Hameroff & Penrose (2014). [31]). However, Orch-OR remains scientifically debated and should not be interpreted as evidence for the existence of an Ātma-wave. The present hypothesis neither adopts nor depends upon Orch-OR; rather, it acknowledges such work only as an example of ongoing scientific efforts to investigate whether consciousness requires explanatory principles extending beyond conventional neurobiology.

Relationship Between Body and Consciousness Wave:

The Ātma-Wave Hypothesis proposes that **embodied life represents the temporary association of the material body with an associated consciousness wave**. During biological life, the body provides sensory inputs, motor outputs, memory formation, cognition, and interaction with the external environment. Simultaneously, the consciousness wave is hypothesized to represent the **continuity of subjective awareness**, providing unity across the changing contents of experience.

This relationship may be represented conceptually as follows:

Living Being



Material Body

- Biological organism
- Neural system
- Sensory apparatus
- Physiological processes

Associated Consciousness Wave

- Subjective awareness
- Unity of experience
- Dynamic coherence
- Philosophical representation of Ātman



Embodied Conscious Experience

The model therefore avoids reducing consciousness either entirely to matter or entirely to abstraction. Instead, it proposes a **dual-aspect conceptual framework** in which embodiment requires both biological organization and conscious manifestation.

Dynamic Interaction

The proposed interaction between the body and the consciousness wave is **not** described in terms of currently known physical forces. No existing scientific evidence demonstrates a measurable interaction

mechanism linking an immaterial consciousness wave with biological tissues. Consequently, the present hypothesis deliberately refrains from proposing unverified physical mechanisms.

Instead, interaction is described at the level of **conceptual organization**:

- the body provides biological functionality,
- the nervous system organizes cognition,
- conscious awareness integrates subjective experience,
- the associated consciousness wave symbolizes the enduring unity underlying those experiences.

Such an interpretation is compatible with Advaita's distinction between consciousness itself and the changing contents appearing within consciousness (Fasching (2021). [22]).

Comparison with Existing Scientific Theories:

The proposed hypothesis differs from existing approaches in several important respects:

Table 1: Comparison with Existing Scientific Theories

Theory	Primary Basis	Status of Consciousness
Physicalism	Neural computation	Emergent property
Integrated Information Theory	Information integration	Intrinsic causal organization
Orch-OR	Quantum microtubules	Quantum process hypothesis
Advaita Vedānta	Fundamental consciousness	Ultimate reality
Ātma-Wave Hypothesis	Philosophical synthesis	Conceptual non-material wave associated with embodied life

Unlike IIT or Orch-OR, the present hypothesis does **not** attempt to identify measurable physical mechanisms generating consciousness. Likewise, unlike traditional metaphysical descriptions alone, it attempts to formulate a conceptual bridge capable of stimulating interdisciplinary investigation.

Theoretical Significance:

The principal contribution of the Ātma-Wave Hypothesis lies in its potential to establish a **common conceptual language** through which Indian philosophy and contemporary consciousness studies may communicate. The wave metaphor permits discussion of continuity, coherence, integration, transition, and unity without asserting that these properties have already been demonstrated experimentally. It therefore provides a theoretical platform for subsequent hypotheses developed in this study—particularly those concerning **frequency, coherence, critical thresholds, moksha**, and the conceptual transition from differentiated individuality toward non-dual consciousness.

Accordingly, the hypothesis should be regarded as an **exploratory philosophical-scientific model** rather than a verified scientific theory. Its value lies not in claiming empirical proof of Ātman but in generating logically coherent and potentially researchable interdisciplinary questions concerning the relationship among consciousness, embodiment, identity, and ultimate reality.

6.2 Frequency Model:

The **Frequency Model** extends the proposed Ātma-Wave Hypothesis by introducing a conceptual framework through which the non-material aspect of consciousness may be described using analogical parameters inspired by wave physics. This model is **not presented as an established scientific theory**, nor does it claim that Ātman has been experimentally observed or measured using physical instruments. Rather, it employs the language of oscillatory systems, information theory, and dynamic systems as a **heuristic framework** for interdisciplinary dialogue among Indian philosophy, neuroscience, and physics. Contemporary neuroscience increasingly recognizes that neural activity exhibits oscillatory characteristics that can be described by **frequency, amplitude, synchronization (coherence), and information integration**, all of which correlate with different conscious states. However, these measurable neural oscillations should **not** be identified with Ātman itself. Instead, the present model uses these physical concepts metaphorically to construct a conceptual representation of the evolution of consciousness during embodied life.

Within this framework, each *Ātman* is hypothesized to possess four conceptual parameters:

- **Frequency**
- **Amplitude**
- **Coherence**
- **Informational Content**

These parameters are **conceptual descriptors** rather than measurable physical quantities. Their purpose is to provide a common interdisciplinary vocabulary for discussing the evolution of consciousness while preserving the distinction between scientific evidence and philosophical interpretation.

(1) Frequency:

In physics, **frequency** denotes the number of oscillatory cycles occurring per unit time and serves as one of the defining characteristics of wave phenomena. Electromagnetic radiation, quantum systems, acoustic waves, and biological rhythms all exhibit characteristic frequencies. Similarly, neuroscience has demonstrated that brain activity contains oscillatory patterns spanning multiple frequency bands (delta, theta, alpha, beta, and gamma), with different oscillatory regimes being associated with different behavioural and cognitive states. Importantly, these neural frequencies represent **brain dynamics**, not consciousness itself [77].

The present model therefore introduces **frequency** as a philosophical representation of the **dynamic state of consciousness** rather than as an EEG frequency or any known physical oscillation. Conceptually, higher frequency symbolizes increasing refinement, clarity, and stability of conscious awareness, whereas lower frequency represents greater attachment to material, emotional, and sensory conditioning (Koch et al. (2016). [9]; Winters (2021). [78]). This interpretation should not be understood as a measurable scientific relationship but as an interdisciplinary analogy inspired by oscillatory behaviour observed throughout nature.

(2) Amplitude:

In wave mechanics, **amplitude** represents the magnitude or intensity of an oscillation. In neuroscience, oscillatory amplitude (or power) reflects the strength of synchronized neuronal population activity and is widely employed in electroencephalographic analyses of perception, cognition, and conscious states. Experimental studies demonstrate that oscillatory amplitude influences information processing, attentional modulation, and perceptual awareness, although amplitude alone does not explain subjective consciousness (Pitts et al (2017). [79]).

Within the proposed *Ātma*–Wave framework, amplitude is interpreted conceptually as the **degree of manifestation of consciousness through embodied life**. Rather than indicating physical energy, amplitude symbolizes the intensity with which conscious awareness is expressed through cognition, ethical behaviour, self-awareness, compassion, and intentional action. Thus, amplitude becomes an interpretive measure of the expressive capacity of consciousness rather than a measurable physical property of *Ātman*.

(3) Coherence:

Among the four proposed parameters, **coherence** occupies a particularly important position because it represents the **degree of internal integration** within the consciousness wave. In physics, coherence describes the stability of phase relationships among oscillations, enabling constructive interference and ordered wave behaviour. Neuroscience similarly employs coherence to quantify synchronization among spatially separated neural populations, and increasing neural coherence has frequently been associated with efficient large-scale communication and integrated cognitive processing. Roy John (2002) [80] argued that large-scale consciousness depends substantially upon neuronal synchronization and coherence, while Integrated Information Theory likewise emphasizes integrated causal organization as a defining characteristic of conscious systems.

The present model extends this concept philosophically by proposing that **coherence represents the internal harmony of consciousness**. A highly coherent consciousness wave is conceptually associated with consistency among thought, intention, action, ethical conduct, and self-awareness. Conversely, reduced coherence symbolizes fragmentation, conflict, instability, and attachment to transient mental contents. Importantly, this interpretation remains philosophical; no accepted scientific evidence presently demonstrates that moral or spiritual development can be quantified through physical coherence measurements.

(4) Informational Content:

The fourth parameter is **informational content**. Modern information theory has transformed scientific understanding by demonstrating that physical systems can be described not only through matter and energy but also through information. Integrated Information Theory proposes that conscious systems possess intrinsic causal structures characterized by integrated information, while several neuroscientific frameworks emphasize the integration and exchange of information across distributed neural networks. Within the present hypothesis, informational content is interpreted conceptually as the **total experiential organization accumulated throughout embodied existence**. It symbolically includes memory, learning, intentionality, ethical dispositions, values, and cumulative life experience. This should not be interpreted as implying that all memories survive death or that information literally migrates as a physical wave. Instead, informational content functions as a philosophical construct representing the structured organization of conscious existence within the proposed model.

Evolution of the Four Parameters During Life:

The distinguishing feature of the Frequency Model is the proposition that these four conceptual parameters **evolve throughout life**. Biological development, education, experience, social interaction, ethical conduct, contemplative practice, and cognitive maturation continuously transform the organization of conscious life. Contemporary neuroscience likewise emphasizes that brain activity is dynamic, adaptive, and continuously reorganized through learning, plasticity, and large-scale network interactions.

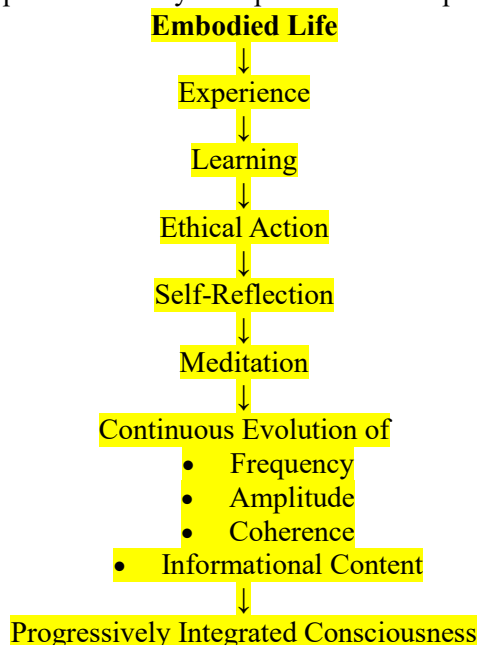
Accordingly, the proposed model suggests that the associated consciousness wave undergoes continuous conceptual evolution:

- **Frequency** reflects increasing refinement of awareness.
- **Amplitude** represents the depth and richness of conscious expression.
- **Coherence** symbolizes progressively integrated consciousness.
- **Informational content** reflects cumulative experiential organization.

These transformations are understood philosophically rather than as measurable physical changes.

Conceptual Representation:

The evolution of the proposed parameters may be represented conceptually as follows:



This model deliberately avoids claiming that spiritual development follows deterministic physical equations. Instead, it proposes an interdisciplinary conceptual language through which philosophical ideas concerning consciousness can be discussed alongside dynamic systems theory and information science.

Relationship to Existing Scientific Literature:

The Frequency Model differs substantially from contemporary scientific theories. Neuroscience presently measures oscillatory frequency, amplitude, synchronization, and information processing within the brain, whereas the present hypothesis introduces analogous parameters to describe **consciousness conceptually rather than neurophysiologically** (Tononi (2004). [4]; Tononi et al. (2016). [30]). Likewise, Integrated Information Theory seeks mathematical measures of integrated causal structure, whereas the present model employs information philosophically as one dimension of the proposed Ātma-Wave (Vedral (2002). [81]). Recent work on dynamic brain states also emphasizes that cognition emerges from continuously evolving wave-like patterns rather than static localized processes, providing an interesting conceptual parallel without implying identity between neural waves and Ātman (Vyas (2024). [82]).

Theoretical Proposition:

The Frequency Model therefore proposes the following conceptual hypothesis:

P4: Each Ātman may be represented conceptually by four evolving parameters—frequency, amplitude, coherence, and informational content—which symbolize the dynamic organization of consciousness during embodied life.

This proposition should be understood as a **philosophical-scientific heuristic** rather than an experimentally verified scientific law. Its purpose is to establish a coherent conceptual framework for subsequent hypotheses concerning karma, critical frequency, liberation, and the proposed transition from differentiated individuality toward non-dual consciousness.

6.3 Karma as Frequency Modulation:

The present study extends the proposed Ātma-Wave and Frequency Models by introducing the concept of **Karma as Frequency Modulation**. This hypothesis proposes that **karma may be interpreted conceptually as a dynamic modulator of the four previously proposed parameters of the consciousness wave—frequency, amplitude, coherence, and informational organization**. It is essential to emphasize that this proposition is **not an empirically established scientific theory** and should not be interpreted as claiming that moral actions physically alter measurable wave frequencies. Rather, it is a **conceptual synthesis** that integrates the Indian philosophical doctrine of karma with ideas from systems theory, information science, and neuroscience to provide an interdisciplinary framework for discussing the long-term evolution of consciousness.

In classical Indian philosophy, karma represents the law of moral causation whereby intentional actions influence future experiences and character. Contemporary cognitive science likewise recognizes that repeated actions, habits, emotional regulation, and prosocial behaviour continuously reshape cognition, neural organization, and behavioural tendencies through learning and neuroplasticity. Meditation and compassion-based practices have been shown to improve empathy, prosocial behaviour, emotional regulation, and psychological well-being, although these findings do **not** establish the metaphysical doctrine of karma (Luberto et al. (2018). [83]; Condon (2019). [84]). The present model therefore treats karma not as a measurable physical force but as a **conceptual organizing principle** governing the progressive refinement or fragmentation of consciousness.

Positive Actions → Higher Coherence → Higher Frequency

Within the proposed framework, **positive actions** include ethical conduct, compassion, truthfulness, self-discipline, generosity, non-violence, meditation, self-reflection, and actions performed with reduced egoistic attachment. Such actions are hypothesized to increase the **internal coherence** of the associated consciousness wave.

The concept of coherence is inspired by physics, where coherent systems exhibit stable phase relationships and organized behaviour. Analogously, neuroscience has demonstrated that coherent large-scale neural interactions support efficient communication among distributed brain regions during cognition and conscious processing (John (2002). [80]; Tononi et al. (2016). [30]). While neural coherence should not be equated with spiritual coherence, it provides a useful scientific analogy for describing increasing integration within complex systems. Consequently, the present hypothesis proposes that repeated ethical actions gradually organize consciousness into a more internally consistent structure characterized by harmony between cognition, intention, emotion, and behaviour.

Compassion-based contemplative practices provide partial empirical support for the psychological aspect of this proposal. Systematic reviews indicate that meditation practices emphasizing compassion and loving-kindness improve empathy, compassion, and observable prosocial behaviour across diverse populations, although effect sizes vary and methodological limitations remain (Luberto et al. (2018). [83]). Neuroimaging meta-analyses likewise demonstrate that compassion training is associated with functional changes in neural regions involved in emotional regulation, empathy, and prosocial behaviour (Kim et al. (2019). [85]).

The Frequency Model therefore interprets these findings conceptually rather than literally. Increased coherence symbolizes progressively integrated consciousness. Within the proposed framework,

Positive ethical action



Greater internal integration



Higher conceptual coherence



Higher conceptual frequency

Here, **higher frequency** should be understood as representing increasing refinement, stability, and clarity of conscious organization rather than any measurable oscillatory frequency.

Negative Actions → Lower Coherence → Lower Frequency

The complementary aspect of the model proposes that **negative actions**—including intentional violence, persistent deception, selfishness, hatred, exploitation, and destructive behaviour—produce increasing fragmentation within the conceptual organization of consciousness.

Again, this proposition should not be interpreted as a measurable physical effect. Rather, it is derived from the philosophical principle that repeated behavioural patterns influence character formation and future behavioural tendencies. Contemporary psychology similarly recognizes that repeated maladaptive emotional and behavioural patterns reinforce dysfunctional cognitive organization, whereas contemplative practices often reduce such patterns through enhanced emotional regulation and self-awareness (Condon (2019). [84]).

Within the present framework,

Negative action



Reduced integration



Lower conceptual coherence



Lower conceptual frequency

Reduced coherence symbolically represents increasing conflict among intentions, thoughts, emotions, and behaviour. Rather than describing measurable physical disorganization, it reflects the progressive fragmentation of conscious organization and ethical orientation.

Frequency Modulation as Consciousness Evolution:

The central contribution of this hypothesis is the interpretation of **karma as a modulation process** rather than merely a system of future reward and punishment.

In communication engineering, modulation refers to systematic changes in the characteristics of a wave produced by transmitted information. Borrowing this analogy, karma is proposed to function conceptually as the **modulator** of the associated consciousness wave throughout embodied life.

Accordingly,

Life Experiences



Intentional Actions



Ethical Decisions



Meditation



Compassion



Learning



Karmic Modulation



Evolution of

- Frequency
- Coherence
- Informational Organization

This formulation differs significantly from deterministic interpretations of karma. Instead of viewing karma solely as an external cosmic accounting system, the model conceptualizes karma as a **continuous self-organizing process** through which consciousness evolves through repeated intentional action.

Relationship with Information Integration:

Integrated Information Theory proposes that consciousness depends upon the integrated causal organization of a system rather than isolated information processing (Tononi et al. (2016). [30]). Although IIT does **not** discuss karma, its emphasis upon integration provides an informative conceptual analogy.

Within the present model,

- positive actions increase conceptual integration,
- increasing integration produces higher coherence,
- higher coherence corresponds to higher conceptual frequency,
- higher frequency symbolizes progressively refined consciousness.

The proposed relationship therefore operates entirely at the level of conceptual organization and should not be interpreted as an extension of IIT itself.

Role of Meditation:

Meditative disciplines occupy a particularly important position within the proposed model because they intentionally cultivate compassion, emotional regulation, attention, and self-awareness.

Recent systematic reviews conclude that compassion-based meditation generally improves empathy and prosocial behaviour, although the magnitude of these effects depends upon intervention quality and study methodology (Luberto et al. (2018). [83]). At the same time, other meta-analyses caution that the prosocial effects of meditation are often modest and are influenced by contextual and methodological factors rather than occurring automatically (Kreplin et al. (2018). [86]).

The present hypothesis incorporates both perspectives. Meditation is **not** assumed to guarantee spiritual refinement; rather, it is treated as one possible mechanism through which coherence may increase when accompanied by ethical conduct, intentional practice, and behavioural transformation.

Conceptual Model:

The proposed model may therefore be represented as follows:

Positive Action



Compassion



Ethical Behaviour



Meditation



Greater Integration



Higher Coherence



Higher Conceptual Frequency



Progressive Refinement of Consciousness

Conversely,

Negative Action



Attachment



Hatred



Violence



Fragmentation



Lower Coherence



Lower Conceptual Frequency



Reduced Conscious Integration

Theoretical Proposition:

The present study therefore advances the following conceptual proposition:

P5: Karma functions as a conceptual modulator of the associated consciousness wave (Atma wave – a superimposed integrated version of Prana & Prajna waves), whereby repeated positive intentional actions progressively increase coherence and conceptual frequency, while repeated negative intentional actions reduce coherence and conceptual frequency.

This proposition is intended as an **interdisciplinary philosophical hypothesis** rather than an empirically validated scientific law. Neither neuroscience nor physics currently provides evidence that moral actions directly alter measurable wave frequencies associated with consciousness. Instead, the proposed model offers a theory-building framework that synthesizes Vedāntic karma, contemporary consciousness studies, systems organization, and information integration into a unified conceptual interpretation of the long-term evolution of consciousness.

6.4 Death:

The present study proposes a conceptual interpretation of **death** within the broader **Ātma-Wave Framework** developed in the preceding sections. It is important to emphasize that the discussion presented here **does not represent an established scientific explanation of death or consciousness after death**. Contemporary biology defines death as the irreversible cessation of the integrated functioning of the organism, while neuroscience associates conscious experience during life with the activity of the brain and nervous system. Although near-death experiences, quantum-consciousness theories, and philosophical discussions have generated important interdisciplinary debate, **no scientific consensus currently supports the survival or separation of consciousness from the body after biological death**. Accordingly, the present section advances an **exploratory philosophical-scientific hypothesis**, intended to integrate Vedāntic metaphysics with selected concepts from contemporary consciousness studies while clearly distinguishing speculation from established evidence.

Death as the Dissolution of the Material System:

From the standpoint of modern biology, the human body is a highly organized thermodynamic system whose survival depends upon continuous metabolism, circulation, respiration, neural activity, and cellular homeostasis. Death occurs when these integrated physiological processes irreversibly cease,

resulting in the progressive breakdown of biological organization. The brain, which supports perception, cognition, memory, voluntary action, and behavioural regulation during life, undergoes irreversible functional failure, followed eventually by structural decomposition. Contemporary medical science therefore explains death primarily through the cessation of biological integration rather than through metaphysical concepts. Reviews of consciousness during dying similarly conclude that although intriguing subjective experiences may occur during cardiac arrest or resuscitation, present evidence does not establish that consciousness continues independently of the functioning brain (Greyson (2014). [87]; Martial (2020). [88].

Within the proposed framework, this biological account is fully accepted with respect to the **material body**. The body is understood as the biological substrate through which consciousness is expressed during embodied existence. Consequently, at death the **physical body decays**, returning its constituent matter and energy to the natural environment in accordance with established physical and biological processes. This aspect of the hypothesis therefore remains entirely consistent with contemporary scientific understanding (Tononi et al. (2016). [30]; Hameroff, & Penrose (2014). [31]; Hameroff et al. (2014). [90]).

Separation of the Associated Consciousness Wave:

The novel element introduced by the present study concerns the **Associated Consciousness Wave** proposed in Section 5.1. The hypothesis suggests that embodied existence consists conceptually of two associated components:

Living Being



Material Body



Associated Consciousness Wave



Embodied Conscious Experience

At biological death, the material component ceases to function as an integrated organism. The present hypothesis **proposes philosophically** that the associated consciousness wave is no longer constrained by the biological system with which it had been associated during life (Fasching (2021). [22]). This proposed **separation** should **not** be interpreted as the physical emission of an electromagnetic wave, quantum particle, measurable field, or any phenomenon that has been experimentally detected (Hameroff et al. (2014). [90]). Rather, it represents the **conceptual dissociation of consciousness from the biological substrate**, consistent with the Vedāntic distinction between the body (*śarīra*) and Ātman. Accordingly,

Death



Biological Body



Irreversible physiological cessation



Physical decomposition



Associated Consciousness Wave



Conceptual separation from biological embodiment

This formulation deliberately avoids asserting that such separation has been scientifically observed. Instead, it provides the theoretical transition required for the subsequent discussion of liberation within the proposed Difference-to-Dissolution framework.

Philosophical Basis of Separation:

The concept of separation derives principally from **Indian philosophical traditions**, which distinguish consciousness from the physical body. Dvaita Vedānta treats the individual *jīva* as ontologically distinct from material existence, whereas Advaita ultimately regards consciousness as independent of bodily limitation and fundamentally identical with Brahman in the liberated state. The present model does not

attempt to adjudicate between these metaphysical positions; rather, it adopts the shared philosophical intuition that **the body and consciousness need not be identical concepts**.

Contemporary philosophy of mind likewise acknowledges that the **hard problem of consciousness** remains unresolved and that no generally accepted scientific theory completely explains why subjective experience exists at all. Some researchers have therefore explored frameworks in which consciousness may possess a more fundamental ontological role than traditionally assumed, although these remain controversial. Orch-OR theory, for example, proposes that quantum processes within neuronal microtubules contribute to conscious experience, while explicitly acknowledging that the nature of consciousness remains unknown (Hameroff & Penrose (2014). [31]). However, Orch-OR **does not provide empirical evidence that consciousness separates from the body after death**, and the present hypothesis does not claim such support.

Near-Death Research and Scientific Uncertainty:

Research concerning **near-death experiences (NDEs)** illustrates both the possibilities and limitations of current scientific knowledge. Numerous individuals report vivid experiences during periods of cardiac arrest or severely compromised brain function, including sensations of leaving the body, encountering light, panoramic memory, or profound feelings of unity. Nevertheless, neuroscientific reviews emphasize that these experiences can often be interpreted through complex interactions among cerebral physiology, REM intrusion, hypoxia, neurochemical changes, and altered states of consciousness. More recent theoretical work argues that NDEs may best be understood as forms of **disconnected consciousness**, in which awareness is temporarily dissociated from external responsiveness rather than demonstrating consciousness independent of the brain (Tononi et al. (2016) [30]; Parnia & Fenwick (2014). [89]).

These findings are important because they demonstrate that **science has not yet reached consensus regarding the phenomenology of dying**. However, they do **not** establish the survival of consciousness after death. The present model therefore uses NDE research only to justify continued interdisciplinary investigation into consciousness at the boundary between life and death, not as evidence confirming Vedāntic metaphysics (van Lommel (2011). [91]; Aithal & Ramanathan (2024). [92]).

Transition Rather Than Termination:

Within the proposed Difference-to-Dissolution Framework, death is interpreted **not as the immediate endpoint of the theoretical model but as a transition between two conceptual states**. During life, consciousness is associated with an embodied biological organism. At death, the body ceases to function and decomposes according to established biological principles, whereas the associated consciousness wave is hypothesized to become dissociated from biological embodiment.

This transition may be represented conceptually as follows:

Embodied Life



Material Body + Associated Consciousness Wave



Death



Body → Biological decomposition



Associated Consciousness Wave → Conceptual separation



Subsequent state addressed in Sections 6.5 and 6.6

The model intentionally postpones any discussion concerning **moksha, rebirth, or integration with Paramātmā** until subsequent sections. At this stage, the hypothesis merely introduces **separation** as the conceptual consequence of biological death.

Relationship with the Ātma-Wave Hypothesis:

The present section also clarifies the relationship between death and the previously proposed Ātma-Wave Hypothesis. During life, the four conceptual parameters of the associated consciousness wave—

frequency, amplitude, coherence, and informational content—were proposed to evolve through experience and karma. Death therefore marks the **termination of biological evolution**, but **not necessarily the termination of the conceptual model of consciousness**.

Importantly, this statement remains **hypothetical**. Neither neuroscience nor physics currently provides experimental evidence demonstrating that these proposed parameters persist beyond biological death. Consequently, the continuation of the consciousness wave beyond death remains a **philosophical assumption within the present theoretical framework**, motivated by Vedāntic metaphysics rather than empirical scientific observation.

Theoretical Proposition:

The present study therefore advances the following conceptual proposition:

P6: At biological death, the material body undergoes irreversible physiological cessation and subsequent physical decomposition, while the associated consciousness wave is hypothesized to become conceptually dissociated from biological embodiment.

This proposition should be understood as a **philosophical-scientific hypothesis** rather than an experimentally validated scientific law. Contemporary science provides strong evidence regarding the biological processes of death but **does not currently confirm the existence, persistence, or post-mortem separation of a consciousness wave**. The proposed interpretation is intended to establish a logically coherent transition within the Difference-to-Dissolution Framework, providing the conceptual basis for the subsequent discussion of **critical frequency, moksha, rebirth, and non-dual unity**.

6.5 Critical Frequency Hypothesis:

The **Critical Frequency Hypothesis (CFH)** extends the previously proposed Ātma–Wave, Frequency, and Karma-Modulation models by introducing a hypothetical threshold, designated as **Critical Frequency (Fc)**. Within the present framework, F_c represents the minimum conceptual level of consciousness-wave refinement required for the transition from differentiated individual existence to liberated non-dual existence. This idea is **not an established proposition in physics, neuroscience, or classical Vedānta**. Rather, it is a theory-building construct inspired by the general scientific concept of **critical thresholds or phase transitions**, where a system changes qualitatively after crossing a particular boundary. Research on consciousness and neural criticality has shown that different conscious states can be associated with changes in complexity, critical dynamics, and spectral organization, but these findings concern brain activity and provide no evidence for a spiritual “moksha frequency” (Walter (2022). [93]; Sarasso et al. (2021). [94]). The present model therefore employs criticality strictly as an **analogy for an ontological transition**, not as proof that liberation occurs at a measurable physical frequency.

Definition of Critical Frequency (Fc):

Within the proposed model, let **F** represent the final conceptual state of the associated consciousness wave at the termination of embodied life. This state is understood as the cumulative outcome of the four evolving parameters introduced earlier—frequency, amplitude, coherence, and informational organization—which are themselves hypothesized to be shaped by experience, intentional action, ethical conduct, attachment, self-awareness, and karmic modulation. **Fc**, in turn, represents a hypothetical threshold separating two possible post-mortem trajectories:

If $F \geq F_c \rightarrow$ liberation pathway

If $F < F_c \rightarrow$ continuation-of-individuality pathway

The threshold concept is loosely inspired by criticality research in complex systems. Neuroscience studies, for example, have investigated whether conscious brain states occupy particular regimes of complexity and critical dynamics, with transitions between conditions accompanied by identifiable changes in neural organization (Walter (2022). [93]; Sarasso et al. (2021). [94]). Likewise, Integrated Information Theory emphasizes that the organization and integration of a system are relevant to conscious experience, although IIT makes no claims about Ātman, rebirth, or moksha (Tononi et al. (2016). [40]). Thus, **Fc is introduced as a heuristic boundary representing sufficient conceptual coherence and refinement, not as an EEG frequency, electromagnetic frequency, or experimentally established constant**.

(i) If $F \geq F_c$: No Rebirth $\rightarrow$ Moksha $\rightarrow$ Integration into Paramātmān

The first branch of the hypothesis proposes that when the conceptual frequency of the consciousness wave reaches or exceeds the critical threshold,

$F \geq F_c$

↓

Threshold of differentiation is transcended

↓

No rebirth

↓

Moksha

↓

Integration into Paramātmān / Non-dual Ultimate Reality

Within the model, $F \geq F_c$ represents a state in which the consciousness wave has attained sufficiently high conceptual coherence that residual attachment, ego-centred identity, and karmically generated differentiation no longer require continuation through another embodied cycle. The word “frequency” therefore represents the overall degree of refinement and integration developed during life rather than a conventional physical measurement.

The connection between liberation and the ending of karmic bondage is broadly compatible with Advaita-oriented understandings of **moksha**, although the proposed frequency mechanism itself is entirely new. Scholarship on Advaita describes liberation primarily as the removal of ignorance concerning the nature of Ātman rather than as the production of a new physical state. Fasching (2021) [6] characterizes Advaitic consciousness as non-objectifiable presence, while Barua (2023) [74] discusses *jīvanmukti* as liberation involving transcendence of egocentric limitation and the cessation of the accumulation of karmic residue. The present hypothesis translates this philosophical movement into a threshold model by proposing that the culmination of consciousness refinement is represented symbolically as $F \geq F_c$.

The next stage is **no rebirth**. Within many Indian traditions, rebirth is linked to unresolved karma, ignorance, attachment, and continued individual existence. In the proposed model, once the critical threshold has been crossed, no residual differentiation remains sufficient to sustain a subsequent embodied identity. Thus,

Higher coherence

↓

Reduction of residual karmic differentiation

↓

F approaches F_c

↓

$F \geq F_c$

↓

No further embodied cycle

This interpretation should not be mistaken for a scientifically validated account of rebirth. Contemporary empirical research on consciousness during cardiac arrest has examined memories and experiences reported during resuscitation, but such studies do not demonstrate post-mortem survival, reincarnation, or liberation (Parnia et al. (2014). [95]; Parnia et al. (2023). [96]).

Moksha as Threshold Crossing:

The CFH interprets **moksha** as the conceptual equivalent of a **phase transition** in consciousness. Before the threshold, the consciousness wave remains organized around differentiated individual identity; after the threshold, the conditions sustaining separateness are hypothesized to disappear.

This may be represented as:

Differentiated Consciousness

↓

Increasing coherence and decreasing attachment

↓

Critical region: $F \rightarrow F_c$



Threshold crossing



Post-differentiated consciousness



Moksha

The scientific analogy is drawn from complex-system criticality, where a system near a critical point can undergo qualitative reorganization rather than merely incremental change. Consciousness research has used such ideas to examine state transitions and the relation between neural complexity and awareness (Walter (2022). [93]; Sarasso et al. (2021). [94]). However, **moksha is not a known neural phase transition**, and there is currently no experimental basis for assigning it a physical threshold.

Integration into Paramātmān:

Following moksha, the proposed model uses the phrase “**integration into Paramātmān**” to describe the culmination of the Advaita-oriented branch. More precisely, from an Advaitic perspective, this should not be understood as two previously independent substances physically merging. Advaita instead maintains that the apparent distinction between Ātman and ultimate reality is rooted in ignorance; liberation is the realization of their non-duality. Fasching's analysis of Advaita similarly emphasizes consciousness as fundamental presence rather than an independently bounded object (Fasching (2021). [22]). The present model therefore uses “integration” metaphorically to signify **dissolution of individualized differentiation into non-dual ultimate consciousness**.

This distinction is doctrinally important. Dvaita does **not** teach that the liberated soul loses individuality by becoming identical with God. Comparative scholarship emphasizes that Dvaita preserves the distinction between Brahman and the liberated soul, whereas Advaita interprets ultimate liberation non-dually (Betty (2010). [63]). Consequently, the pathway

Moksha → Integration into Paramātmān

is explicitly the **synthetic Advaita-oriented component of the present Difference-to-Dissolution model**, not a statement of classical Dvaita doctrine.

(ii) If $F < F_c$: Residual Individuality → Rebirth → Continuation of Dual Existence

The second branch proposes that where the consciousness wave has not reached the hypothetical threshold,

$F < F_c$



Residual differentiation remains



Residual individuality



Rebirth



Continuation of dual existence:

Here, $F < F_c$ represents a conceptual state in which sufficient attachment, karmic differentiation, and self-identification remain to preserve individuality. In contrast with the liberation pathway, the consciousness wave is hypothesized to retain a structured distinction between self and ultimate reality. Within the framework developed in this article, **residual individuality** means that the consciousness wave has not completed the movement Ātma-Wave Life Cycle Framework. The differentiated “I” therefore remains conceptually operative. This condition corresponds more closely to the Dvaitic pole of the proposed continuum, in which individuality and distinction are real and meaningful. Dvaita scholarship emphasizes that Madhva's metaphysics rejects monistic dissolution and affirms permanent distinction among God, souls, and world (Okita (2020). [61]). By contrast, Advaita treats liberation as transcendence of such ultimate differentiation. Thus, residual individuality provides the theoretical basis for why the model assigns $F < F_c$ to continued dual existence.

Rebirth as Continuation Rather Than Reset:

Within the CFH, rebirth is interpreted not as a complete restart but as the **continuation of unresolved differentiated existence**. The proposed consciousness wave retains what the model calls **residual informational organization** rather than necessarily explicit autobiographical memory. This distinction is important because the model does not assume that memories from one lifetime must be consciously accessible in another.

Conceptually,

$F < F_c$



Residual informational organization



Unresolved karmic differentiation



New embodiment



Continuation of experiential development



Further karmic modulation



New opportunity for F to evolve toward F_c

The process therefore becomes cyclical rather than terminal:

Birth → Experience → Karma → Frequency Modulation → Death → Evaluation relative to F_c → Rebirth → Further Evolution

Again, this sequence is a **metaphysical hypothesis**, not an experimentally established biological process.

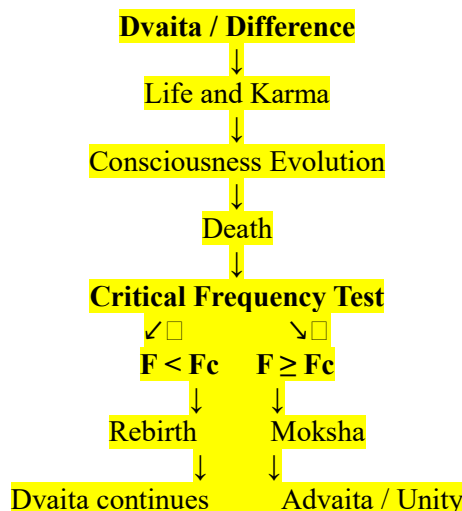
Continuation of Dual Existence:

If rebirth occurs, consciousness once again becomes associated with a differentiated physical organism.

The new life therefore returns to the experiential conditions described earlier under Dvaita:

- subject and object,
- individual identity,
- space and time,
- moral responsibility,
- cause and effect,
- relationships,
- karmic action.

The model therefore interprets rebirth as a **continuation of the “Difference” phase** rather than advancement to the “Dissolution” phase. This is theoretically important because it creates a recursive structure:



Scientific Analogy of a Critical Threshold:

The strongest scientifically grounded aspect of the proposed model is **not the claim about moksha or rebirth**, but the more general observation that complex systems can exhibit threshold-dependent changes in organization. Criticality research has examined how neural systems may operate near transitions between excessive order and disorder, potentially maximizing information-processing capacities. Walter (2022) [93] found that different meditation states could be distinguished using spectral, complexity, and criticality measures, while Sarasso et al. (2021) [94] reviewed extensive evidence associating preserved consciousness with relatively high levels of brain complexity. Critical brain dynamics have similarly been investigated in relation to information integration and state transitions, though the evidence remains an active research area rather than a settled theory.

These findings permit only a **structural analogy**:

Physical criticality:

quantitative change → threshold → qualitative system transition

CFH:

conceptual consciousness refinement → F_c → ontological transition

The first is scientifically studied; the second is the theoretical innovation proposed in this paper.

Relationship with Death and Consciousness Research:

The Critical Frequency Hypothesis (CFH) also depends upon the preceding assumption that the associated consciousness wave persists after biological death. This remains the model's most speculative component. Studies of consciousness during cardiac arrest show that some survivors report experiences associated with resuscitation and that organized electrophysiological activity can sometimes be detected during CPR; however, these results do not demonstrate continued consciousness after irreversible death (Parnia et al. (2014). [95]; Parnia et al. (2023). [96]). Likewise, quantum-consciousness theories such as Orch-OR attempt to connect consciousness with deeper physical processes, but remain contested and do not empirically establish an Ātma-wave or its survival after death (Hameroff & Penrose (2014). [31]). Accordingly, **the CFH should presently be classified as a metaphysical-scientific heuristic capable of generating research questions, not as evidence for post-mortem consciousness.**

Consolidated Critical Frequency Model:

The complete model is expressed as:

Embodied Consciousness

↓

Karma and Life Experience

↓

Frequency + Coherence + Informational Organization evolve

↓

Death

↓

Associated Consciousness Wave
(*hypothesized*)

↓

Comparison with Critical Frequency F_c

Path A: $F \geq F_c$

$F \geq F_c$

↓

Critical differentiation threshold crossed

↓

Karmic individuality exhausted

↓

No rebirth

↓

Moksha

↓

Dissolution of individual differentiation



Integration into Paramātmān / realization of Brahman



Advaita – Unity – Singularity

Path B: $F < F_c$

$F < F_c$



Residual karmic differentiation



Residual individuality



Rebirth



New embodiment



Further experience and karma



Continued frequency modulation



Dvaita – Difference – Dual Existence

Proposed Mathematical Representation:

At the conceptual level, the framework can be expressed as:

$$S(F) = M, \text{ \& } F \geq F_c$$

$$S(F) = R, \text{ \& } F < F_c$$

where:

F = conceptual state of consciousness at biological death

F_c = hypothetical critical frequency threshold

M = moksha / non-dual liberated state

R = rebirth / continuation of differentiated existence

A more developed version of the model could eventually define **F** not as literal frequency but as a composite latent variable:

$$[F_c = f(C, A, I, K, D)]$$

where:

C = coherence

A = amplitude or expressive intensity

I = informational organization

K = karmic orientation

D = degree of detachment

Such a formulation would make the hypothesis conceptually richer and potentially more researchable without falsely representing spiritual liberation as a simple Hertz measurement.

Theoretical Proposition:

The present study therefore advances:

P7: A hypothetical Critical Frequency (F_c) constitutes the conceptual threshold between continued differentiated existence and liberated non-dual existence. Where $F < F_c$, residual individuality sustains rebirth and the continuation of dual existence; where $F \geq F_c$, residual differentiation is extinguished, rebirth ceases, and consciousness enters the state represented philosophically as moksha and non-dual unity with ultimate reality.

This proposition remains speculative and theory-generating. There is presently no scientific evidence demonstrating the existence of F_c , an Ātma-wave, post-mortem frequency measurement, a physical mechanism of rebirth, or a frequency-triggered transition to moksha. Its scholarly value therefore lies in providing a falsifiable-looking conceptual architecture that clearly separates established science, philosophical interpretation, and new hypothesis construction.

6.6 Paramatma as Infinite Consciousness Field:

The present study extends the **Ātma-Wave Hypothesis** by proposing that **Paramātmān may be interpreted conceptually as an Infinite Consciousness Field (ICF)** rather than as a spatially localized entity. Within this theoretical construction, individual consciousness is represented by the previously proposed Ātma-wave, whereas Paramātmān represents an unlimited ground or field of consciousness from which localized conscious experience may be conceptually differentiated. The use of the word “**field**” is **analogical rather than physical**. Contemporary physics employs fields to describe quantities distributed throughout space-time, but no established physical theory identifies any electromagnetic, gravitational, quantum, or other known field with Paramātmān. Similarly, neuroscience continues to investigate the physical correlates of consciousness without establishing consciousness as a universal physical field (Koch et al. (2016) [9]). The proposed Infinite Consciousness Field should therefore be regarded as a **metaphysical-scientific heuristic** designed to create conceptual dialogue among Advaita Vedānta, philosophy of consciousness, cosmopsychism, and field-based descriptions in physics.

Paramātmān as Non-localized Ultimate Consciousness:

A localized physical entity occupies a particular region of space and exists within temporal and causal relations. The Advaitic conception of ultimate reality, however, does not readily fit such localization. In Advaita-oriented philosophy, consciousness is not simply one object existing alongside other objects; rather, it is understood as the condition within which objects, experiences, and distinctions become manifest. Fasching (2021) [22] explains the Advaitic notion of *prakāśa* by emphasizing consciousness as self-manifesting presence rather than as an objectifiable mental entity (Fasching (2021). [22]). Accordingly, if Paramātmān is interpreted within the theoretical architecture of the present study, it cannot consistently be conceived as another finite object situated somewhere in the universe. It is instead represented as **unbounded consciousness**, conceptually prior to the differentiation between observer and observed, individual and universe, or Ātman and ultimate reality.

This interpretation leads to an important distinction:

Localized entity:

- occupies a definable position
 - possesses boundaries
 - is distinct from its environment
- whereas the proposed

Infinite Consciousness Field:

- has no conceptual spatial boundary
- is not restricted to a particular organism
- provides the universal ground of consciousness
- encompasses rather than competes with individual conscious manifestations.

The term “infinite” consequently refers to **absence of ontological limitation**, not to an experimentally measured infinite physical quantity.

Conceptual Analogy with Universal Fields in Physics:

The field analogy derives from the transformation that occurred in modern physics when the concept of isolated material objects was supplemented by field-based descriptions. A field is not merely a collection of localized particles; it provides a continuous mathematical structure within which localized excitations and interactions can occur. The present model draws only a **structural analogy** from this idea:

Physical field



Pervades a physical domain



Localized excitations or manifestations

versus

Infinite Consciousness Field



Conceptually universal consciousness



Localized manifestations as individual Ātma-waves.

This analogy should not be extended into an assertion of equivalence. Quantum fields are mathematically defined physical entities that generate experimentally testable predictions; the proposed consciousness field is presently a **philosophical construct without established physical equations, measurable field strength, carrier particle, or experimentally demonstrated interaction mechanism**. This distinction is especially important because speculative quantum-consciousness theories already illustrate the difficulty of moving from fundamental physics to claims about subjective awareness. Hameroff and Penrose (2014) [31], for example, propose quantum processes associated with neuronal microtubules, but their Orch-OR framework remains debated and does not establish a universal consciousness field or Paramātmān (Hameroff & Penrose (2014). [31]).

Cosmopsychism as a Contemporary Conceptual Parallel:

A particularly relevant modern philosophical comparison is **cosmopsychism**, which proposes that consciousness belongs fundamentally to the cosmos as a whole rather than emerging solely from isolated biological organisms. Shani (2015) [32] develops cosmopsychism as a holistic alternative to atomistic panpsychism, treating cosmic consciousness as metaphysically fundamental (Shani (2015). [32]) Ganeri and Shani (2022) [97] similarly define cosmopsychism in terms of the cosmos possessing psychological properties that metaphysically ground individual subjects of experience. Shani (2022) [32]) further examines whether a coherent cosmic subject can serve as the fundamental whole from which localized consciousness is derived.

Kepler and Shani (2020) [33] go further by proposing a model in which the universe is associated with what they describe as a **ubiquitous field of consciousness**, conceived as having physical and phenomenal aspects. Their proposal is particularly useful as a conceptual precedent for the present model because it demonstrates that contemporary scholarly consciousness research has seriously examined field-like and cosmopsychist models. Nevertheless, **cosmopsychism is not Advaita Vedānta, and its cosmic consciousness should not automatically be equated with Brahman or Paramātmān**. The traditions emerge from different metaphysical premises and methodologies. Their significance here lies in providing a modern conceptual comparison for the possibility that consciousness could be fundamental and globally grounded rather than exclusively localized in individual brains.

Individual Ātman and the Infinite Field:

Within the proposed model, the relationship between **Ātman and Paramātmān** can be represented as a distinction between a localized expression of conscious individuality and an infinite underlying consciousness field. During embodied existence, the Ātma-wave is hypothesized to operate through a differentiated individual identity. The individual experiences:

“I am here”

“You are there”

“I observe the world”

and

“I am distinct from other beings.”

This corresponds to the **Dvaita/difference phase** of the wider theoretical framework. However, the Infinite Consciousness Field hypothesis proposes that such localization may represent a limited mode of manifestation rather than an absolutely independent source of consciousness. Cosmopsychist scholarship confronts a comparable theoretical issue: how can localized conscious subjects arise from or be grounded in a consciousness attributed to the cosmos as a whole? Shani and Kepler (2018) [33] explicitly address this “combination” or grounding problem by examining how ordinary individual consciousness might relate to cosmic consciousness.

The present study reformulates the problem in Vedāntic terminology:

Paramātmān / Infinite Consciousness Field



Localization through embodied existence



Ātma-wave

↓
Individual consciousness
↓
Body + mind + identity
↓
Differentiated experience.

The term **localization** is again conceptual rather than physical. It does not mean that a measurable portion of a physical consciousness field becomes trapped inside the brain. Instead, it represents the apparent restriction of universal consciousness to the experiential perspective of an individual living being.

Consciousness Without Absolute Fragmentation:

An important implication follows from this model: individual consciousness may appear differentiated without ultimate consciousness necessarily being fundamentally fragmented. A useful analogy is the distinction between a field and its localized manifestations. Multiple manifestations do not necessarily imply multiple independent underlying fields. In the same way, the model proposes that billions of individual conscious beings could represent differentiated manifestations within one underlying consciousness ground without requiring the ultimate ground itself to be divided into billions of independent substances.

The philosophical difficulty of explaining how universal consciousness relates to individual subjects is nevertheless substantial. Ganeri and Shani (2022) [97] identify an “inner–outer gap” confronting panpsychist and related approaches: explaining how fundamental consciousness relates to the structure of ordinary individual experience remains a major theoretical problem (Ganeri and Shani (2022). [97]). Cosmopsychism likewise encounters the **decombination problem**—how one cosmic consciousness yields distinct local subjects. The present hypothesis does not claim to have empirically solved these problems. Instead, the Ātma-wave (a superimposed wave of Prana and Prajna (Aithal (2025) [113])) is introduced as the proposed **intermediate theoretical construct** connecting localized conscious individuality with the Infinite Consciousness Field.

Thus:

Infinite Consciousness Field
↓
Differentiation / localization
↓
Ātma-wave
↓
Embodiment
↓
Individual conscious identity.

This constitutes the descending direction from **unity toward difference**.

Liberation as De-localization of Consciousness:

The model becomes particularly significant when combined with the previously proposed **Critical Frequency Hypothesis**. During embodied existence, karma and experience are hypothesized to modulate the frequency, coherence, and informational organization of the Ātma-wave. If the hypothetical threshold **F_c** is reached at liberation, the limiting structure sustaining differentiated individuality is proposed to cease.

The resulting transition may therefore be represented as:

Individual Ātma-wave
↓
Increasing coherence and detachment
↓
F ≥ F_c
↓
Moksha
↓

Loss of individual localization



Integration with the Infinite Consciousness Field



Paramātman



Non-dual Unity

However, “integration” requires careful philosophical qualification. From an Advaita perspective, liberation is not literally the movement of one independently existing substance into another. If Ātman is ultimately non-different from Brahman, moksha represents the removal of the ignorance producing the appearance of absolute separateness. Fasching's (2021) [22] treatment of Advaitic consciousness as non-objectifiable presence supports this interpretation conceptually. Accordingly, **de-localization** is used metaphorically to describe dissolution of the boundary through which consciousness was previously experienced as an isolated individual.

From Individual Consciousness to Non-dual Awareness:

Contemporary research on **non-dual awareness** provides another useful, though limited, comparison. Josipovic (2021) [70] describes non-dual awareness as consciousness that is intrinsically free from ordinary subject–object fragmentation and develops an implicit-to-explicit gradient for its manifestation in experience. Such research does not demonstrate Brahman, Paramātman, post-mortem consciousness, or moksha. It does, however, provide evidence that the ordinarily dominant distinction between self and other is not necessarily an invariant feature of every conscious state.

This provides an important phenomenological bridge to the proposed model:

Ordinary consciousness

- localized self
- strong subject–object distinction
- differentiated identity

Non-dual awareness

- weakened subject–object fragmentation
- reduced self-boundary
- experiential unity

Proposed liberated state

- dissolution of ultimate individuality
- integration into Infinite Consciousness
- Advaitic unity.

Only the first two levels currently admit empirical investigation through neuroscience and phenomenology. The final level remains a **metaphysical extension**.

Relation to Contemporary Scientific Theories of Consciousness:

The Infinite Consciousness Field hypothesis differs substantially from established neuroscientific approaches. Neural-correlate research seeks the minimum neural mechanisms sufficient for particular conscious experiences and therefore remains primarily brain-based (Koch et al. (2016). [9]). Integrated Information Theory, by comparison, associates consciousness with intrinsic causal organization and permits consideration of consciousness beyond familiar biological structures, but it does not posit Paramātman or universal spiritual consciousness. Tononi and Koch (2015) [34] explicitly examine the possibility that consciousness might occur more broadly than common intuition assumes, while still developing their claims through an information-theoretic framework rather than Vedāntic metaphysics.

The proposed framework can therefore be positioned among existing perspectives as follows:

Table 2: proposed framework with Fundamental Basis & Status of Consciousness

Framework	Fundamental Basis	Status of Consciousness
Neuroscientific physicalism	Brain processes	Biologically generated/realized

Framework	Fundamental Basis	Status of Consciousness
Integrated Information Theory	Intrinsic causal integration	System-dependent intrinsic property
Orch-OR	Proposed quantum processes	Linked to quantum state reductions
Panpsychism	Fundamental properties of nature	Ubiquitous
Cosmopsychism	Cosmos as fundamental conscious whole	Individual minds grounded in cosmic consciousness
Advaita Vedānta	Brahman / pure consciousness	Ultimate non-dual reality
Infinite Consciousness Field Hypothesis	Paramātmān as universal consciousness ground	Ātma-waves as differentiated manifestations

The final row is the **new conceptual synthesis proposed by this article** and should not be attributed to the cited scientific theories.

Paramātmān as Singularity Rather Than Spatial Infinity:

The proposed model also clarifies the relationship between **infinity and singularity**. At first glance these concepts may appear contradictory: infinity implies unlimited extension, whereas singularity implies oneness. In the present framework they refer to different characteristics of the same conceptual state.

Infinity refers to:

- absence of boundary,
- absence of localization,
- unlimited consciousness.

Singularity refers to:

- absence of plurality at the ultimate level,
- absence of subject–object division,
- indivisible unity.

Consequently,

Infinite Consciousness

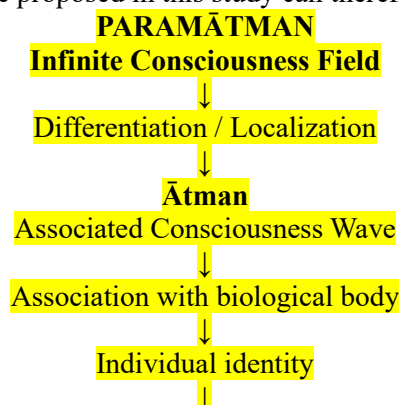
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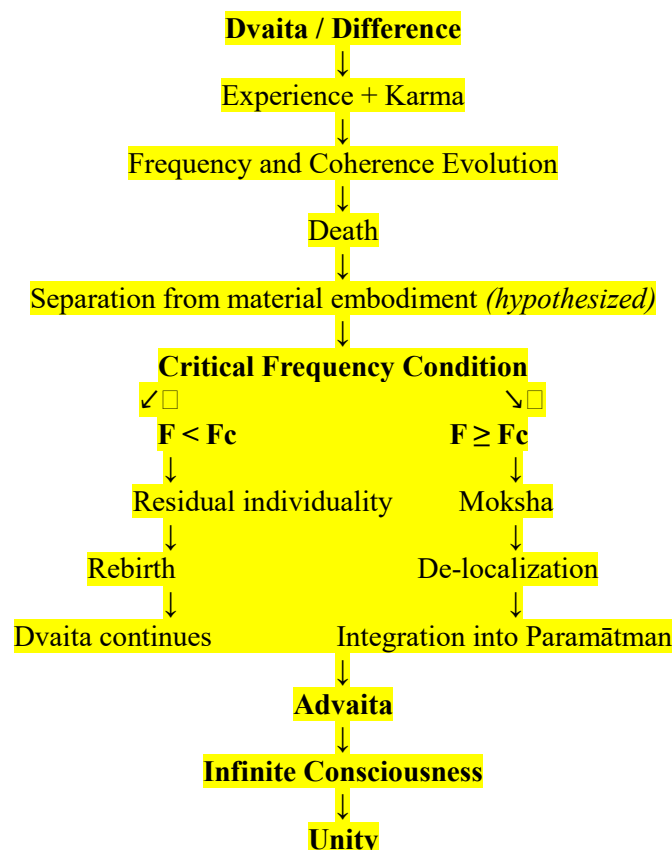
Non-duality = Consciousness Singularity

This singularity is **not a gravitational singularity, mathematical singularity, black-hole singularity, or AI technological singularity**. It is a philosophical term describing indivisible non-dual consciousness. Contemporary cosmopsychism similarly explores metaphysical priority at the level of the cosmic whole, though its proponents differ significantly regarding the precise relation between cosmic and individual consciousness (Ganeri & Shani (2022). [97]; Shani (2022). [98]).

Integrated Paramātmān Field Model:

The complete theoretical sequence proposed in this study can therefore be represented as:





This model provides the principal conceptual bridge between the paper's philosophical and scientific components. It interprets **Dvaita as differentiated localization** and **Advaita as ultimate non-localized unity**, while the Ātma-wave functions as the intermediary concept connecting embodied identity with the proposed Infinite Consciousness Field.

Proposed Theoretical Proposition:

The study therefore advances the following proposition:

P8: Paramātman may be conceptualized as an Infinite Consciousness Field—an unbounded, non-localized and non-dual ground of consciousness—within which individual Ātma-waves represent differentiated manifestations during embodied existence and into which differentiation conceptually dissolves upon moksha.

This proposition is **metaphysical and theory-generating rather than empirically established**. Physics has not identified Paramātman as a quantum or universal physical field; neuroscience has not demonstrated consciousness independent of biological systems; and cosmopsychism remains a contested philosophical theory rather than established science. The scholarly contribution of the proposed model therefore lies in constructing a clearly bounded analogy through which **Advaita Vedānta, cosmopsychism, consciousness research, and field ontology can enter interdisciplinary dialogue without treating philosophical similarity as scientific confirmation**.

7. COMPARISON OF DVAITA AND ADVAITA :

Dvaita and Advaita represent two influential but fundamentally different interpretations of the relationship among **individual consciousness, the world, and ultimate reality** within Vedānta. Madhva's Dvaita maintains the reality of differentiation among God, individual souls, and the material world, whereas Śāṅkara's Advaita regards non-dual Brahman as ultimate reality and interprets individuality and multiplicity as empirically valid but not ultimately independent. Madhva's deliberate rejection of monism makes ontological difference fundamental to Dvaita (Okita (2020) [61], while contemporary analyses of Advaita emphasize consciousness as non-objectifiable presence underlying the contents and structures of individual experience (Fasching (2021). [22]). The present study uses this contrast as the philosophical foundation for its **Difference-to-Dissolution Framework**, in which Dvaita is associated with differentiated embodied existence and Advaita with the conceptual endpoint of non-

dual consciousness. The scientific and virtual comparisons introduced below are **heuristic analogies developed by this paper and are not doctrines explicitly proposed by Madhva or Śaṅkara.**

Table 3: Differences between Dvaita & Advaita

Dimension	Dvaita	Advaita
Reality	Dual / differentiated	Non-dual
Individual	Real and enduring	Empirically real; ultimately non-separate from Brahman
God / Ultimate Reality	Eternally distinct from individual soul	Ātman ultimately non-different from Brahman
Consciousness	Individuated consciousness	Fundamental / universal non-dual consciousness
Karma	Essential to embodied existence	Operative empirically; transcended in liberation
Rebirth	Continues under karmic bondage	Ends with moksha
Liberation	Eternal distinction and relation with God	Realization of identity/non-difference with Brahman
Scientific Analogy*	Multi-component differentiated system	Unified-field analogy
Human Experience*	Embodied differentiated experience	Liberated/non-dual experience
Virtual Analogy*	Distributed individual users	Unified consciousness/cloud analogy

**Scientific and virtual comparisons are conceptual analogies proposed in the present study, not established scientific equivalences.*

Reality: Dual/Differentiated versus Non-dual:

The most fundamental distinction concerns the **ontological status of difference**. Dvaita maintains that distinctions among God, individual souls, and matter are genuine and cannot ultimately be collapsed into a single undifferentiated reality. Madhva's philosophical project explicitly rejects monistic interpretations and affirms the reality of plurality (Okita (2020). [61]). Thus, the ordinary experiential distinctions between self and other, subject and object, and individual and world correspond well with the realist structure of Dvaita. Advaita, by contrast, accepts such distinctions at the empirical (*vyāvahārika*) level but denies that they represent ultimate (*pāramārthika*) reality. Consciousness, in the Advaitic account examined by Fasching (2021) [22], cannot itself be reduced to any particular object, mental content, or individual structure; it is the manifestation within which all such differentiation appears. The present framework therefore interprets **Dvaita as the ontology of Difference and Advaita as the ontology of ultimate non-difference.**

Individual: Enduring Individuality versus Apparent Separateness:

The two traditions consequently differ sharply concerning **individual identity**. In Dvaita, the *jīva* is genuinely distinct from God and from other individual souls, and this distinction is not abolished by liberation. Comparative scholarship on moksha stresses that Madhva preserves the individuality of the liberated soul, whereas Advaita ultimately denies independent ontological status to individual separateness (Betty (2010). [63]). Advaita should therefore not simply be summarized as claiming that “the individual is unreal.” The more precise formulation is that **empirical individuality is experientially valid but ultimately dependent upon ignorance and limiting conditions**. Meditation-oriented philosophical analysis also demonstrates that ordinary self-identification can be distinguished from consciousness as such (Fasching (2008). [72]). Thus, Dvaita provides the present paper with a model of persistent differentiated identity, while Advaita provides a model in which the apparent boundary defining the individual ceases to possess ultimate significance.

God, Brahman, and the Status of Consciousness:

The distinction becomes even sharper in the relationship between **the individual and ultimate reality**. Dvaita affirms the permanent ontological distinction between God—identified principally with Viṣṇu—and the individual soul; modern analysis consequently characterizes Madhva's position as decisively dualistic in its separation of God from souls and the manifest world. Advaita, by contrast, holds that the deepest self (*Ātman*) is ultimately non-different from Brahman. Therefore, saying simply “God is identical” in Advaita can be misleading: the relevant claim is not that the empirical personality is identical with a personal deity in its ordinary form, but that **pure consciousness as Ātman is ultimately non-different from Brahman**. Fasching (2021) [22] emphasizes this distinctive Advaitic treatment of consciousness as manifestation itself rather than one object within the mind. Contemporary studies of non-dual awareness offer a phenomenological comparison by describing conscious conditions in which habitual subject-object fragmentation becomes attenuated, although such research does not establish the metaphysical truth of Advaita (Josipovic (2021). [70]). Accordingly, the present study contrasts **individuated consciousness in Dvaita with fundamentally non-dual consciousness in Advaita**.

Karma, Rebirth, and the Continuity of Differentiated Existence:

Karma and rebirth also acquire different ultimate significance within the two philosophical systems. Both traditions recognize karma within embodied existence, but they differ regarding what happens to individuality in liberation. Comparative analysis indicates that the major Vedāntic schools understand moksha differently precisely because they conceptualize the relation between the soul and Brahman differently (Betty (2010). [63]). In the Difference-to-Dissolution model, karma is therefore treated as operative within the **differentiated phase of existence**: actions belong to an agent, generate consequences, and contribute to continuity through embodied experience. Under the Advaitic interpretation, liberation removes the ignorance and attachment sustaining karmic bondage; consequently, rebirth ends with moksha. This does not mean that Advaita denies karma at the empirical level. Rather, karma belongs to the domain in which individuality and causation remain operative, whereas moksha transcends that domain. The paper consequently uses **rebirth as continuation of differentiated existence and moksha as cessation of the conditions sustaining such differentiation**, while recognizing that the proposed frequency mechanism discussed earlier is the paper's own hypothesis rather than a classical Vedāntic doctrine.

Liberation: Relation with God versus Realization of Brahman:

The contrast regarding **liberation** is especially important and warrants greater precision than the shorthand expressions “near God” and “identity with Brahman.” For Madhva, liberation does not erase the distinction between the individual and the Divine. The liberated soul enjoys blessed existence in relation to God while remaining ontologically distinct; scholarly comparisons explicitly note that Dvaita preserves distinctions even in liberation (Betty (2010). [63]). Advaita instead understands liberation as the removal of ignorance concerning the non-difference of Ātman and Brahman. Thus, the Difference-to-Dissolution Framework uses two contrasting outcomes: **Dvaita → liberated relationship without ontological merger; Advaita → realization of non-dual ultimate reality**. This distinction is crucial because the paper's proposed trajectory toward “integration into Paramātmān” is specifically an **Advaita-oriented synthesis** and should not be attributed to Madhva's Dvaita.

Scientific Analogy: Multi-component System versus Unified Field

For interdisciplinary theory building, the contrast can be compared **analogically** with two broad modes of scientific description. Dvaita resembles, structurally, a **multi-component system** in which distinct entities retain their identities while interacting through relationships. Such a system requires no claim that the components are absolutely independent; rather, its behaviour depends upon interactions among differentiated units. Advaita may instead be compared conceptually with a **unified-field perspective**, in which apparently localized manifestations are described with reference to a more fundamental underlying unity. This comparison is only metaphorical: no physical theory demonstrates that Dvaita corresponds to particle physics or that Brahman constitutes a quantum field. Contemporary consciousness science itself remains divided over whether consciousness should be explained through localized neural mechanisms, integrated causal structure, or more fundamental principles. Integrated Information Theory, for example, links consciousness to intrinsic integrated causal organization rather than to Vedāntic metaphysics (Tononi et al. (2016). [30]). Likewise, cosmopsychism provides a modern

philosophical parallel in proposing that individual minds may be grounded in consciousness at the cosmic level (Ganeri & Shani (2022). [97]; Shani (2022). [98], but it should not be equated with Advaita.

Human Experience: Embodied Difference versus Liberated Non-duality

The paper further proposes that Dvaita provides a useful model for **ordinary embodied human experience** because everyday consciousness is structured by boundaries: self and other, body and environment, knower and known, intention and action, and individual and society. Advaita becomes relevant when considering experiences or philosophical states in which these ordinary divisions cease to define consciousness fundamentally. Research on meditation demonstrates that it is possible to investigate consciousness while reducing habitual self-substantialization (Fasching (2008). [72], while contemporary work on non-dual awareness explicitly investigates states in which subject-object fragmentation is reduced (Josipovic (2021). [70]). However, describing Advaita simply as “post-liberation experience” requires qualification because Advaita also recognizes the possibility of **jīvanmukti**, liberation while embodied. Hence, the preferred distinction for this article is **Dvaita as a model of ordinary differentiated experience and Advaita as a model of liberated/non-dual consciousness**, rather than rigidly equating one with life and the other only with an after-death condition.

Virtual Analogy: Distributed Users versus Unified Consciousness

The **virtual analogy** is another original interpretive device employed by the present study. Dvaita can be compared with a network containing **distributed users**, each of whom has a distinct identity, location, profile, history, and relationship with other users while participating in a common environment. Virtual-reality research confirms that digitally constructed environments can preserve powerful experiences of presence and individualized perspective; Slater and Sanchez-Vives (2022) [2] emphasize the central role of consciousness in making virtual environments experientially present. Advaita may then be compared—not literally but heuristically—to a **unified cloud-consciousness architecture**, where differentiated interfaces ultimately depend upon one underlying informational ground. Chalmers' account of virtual realism is relevant insofar as it challenges the simplistic assumption that virtual objects or experiences are necessarily unreal merely because they are digitally constituted. Cosmopsychist theories provide a closer philosophical comparison because they consider individual subjects to be grounded in a more encompassing consciousness (Ganeri & Shani (2022) [97]), yet they remain theoretically distinct from Advaita.

Comparative Synthesis:

The comparison therefore reveals two contrasting models of existence. **Dvaita begins with irreducible distinction: individual, world, action, relationship, karma, and God remain meaningfully differentiated. Advaita begins from the empirical appearance of differentiation but ultimately interprets consciousness and reality through non-duality.** Madhva's explicit rejection of monism substantiates the first orientation (Okita (2020). [61]), whereas contemporary analysis of Advaita characterizes consciousness as irreducible presence rather than an individuated mental object (Fasching (2021). [22]). Research on non-dual awareness and cosmopsychism provides contemporary philosophical and phenomenological parallels for unity-oriented models, although neither constitutes scientific confirmation of Advaita (Josipovic (2021). [70]; Ganeri & Shani (2022). [97]). Accordingly, the present article synthesizes the comparison into its core conceptual sequence:

Dvaita:

Difference



Individuality



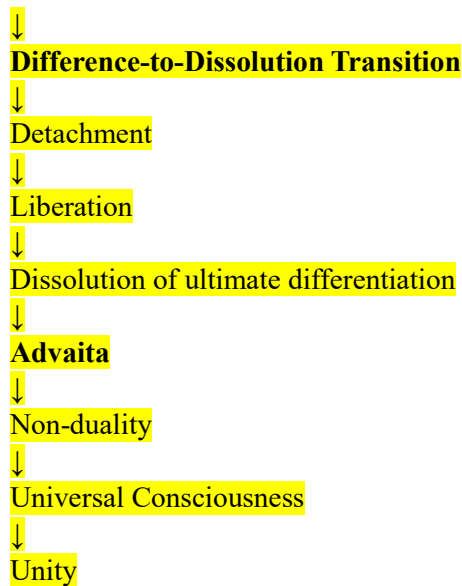
Embodiment



Karma and Relationships



Differentiated Consciousness



Thus, the paper does not attempt to demonstrate that Dvaita is scientifically “false” and Advaita scientifically “true,” nor does it claim that one historically develops into the other. Rather, it **reinterprets their contrasting metaphysical structures as complementary endpoints of a new conceptual continuum**: Dvaita models the differentiated structure of ordinary embodied experience, while Advaita models the proposed dissolution of ultimately separate individuality into non-dual consciousness. The scientific and virtual analogies serve as explanatory bridges for this theoretical synthesis rather than as empirical validation of Vedāntic metaphysical claims.

8. REAL LIFE VS VIRTUAL LIFE FRAMEWORK :

The proposed **Real Life vs Virtual Life Framework** extends the Difference-to-Dissolution model by contrasting the conditions of **embodied, differentiated existence** with the hypothesized condition of **liberated, non-dual existence**. In this article, the expression *virtual life* does **not** primarily denote computer-generated virtual reality. Instead, it is used as a theoretical metaphor for a post-liberation mode of consciousness that is proposed to be independent of ordinary biological embodiment, spatial localization, and individual identity. This distinction is essential because contemporary virtual-reality research demonstrates that digital environments can alter experiences of presence, embodiment, and location, but it does not demonstrate consciousness existing independently of a functioning organism (Sanchez-Vives & Slater (2005). [1]; Slater & Sanchez-Vives (2022). [2]). Similarly, Advaita-oriented scholarship characterizes consciousness as more fundamental than the changing contents and perspectives associated with individual minds, providing the philosophical rather than empirical foundation for the proposed liberated state (Fasching (2021). [22], Fasching (2022). [23]).

Table 4: Difference between Real Life & Virtual/Liberated Life

Real Life	Virtual/Liberated Life
Body	Wave
Matter	Information
Individual	Unified
Local	Non-local
Time	Timeless
Space	Spaceless
Duality	Singularity
Karma	Pure Consciousness

Note: The right-hand column represents the paper's proposed metaphysical model. Terms such as *wave*, *non-local*, *timeless*, and *singularity* are conceptual analogies and should not be interpreted as experimentally demonstrated physical properties of post-mortem consciousness.

Body versus Wave:

Real life is fundamentally embodied. Human experience during biological life depends strongly upon the body, brain, sensory systems, and interactions with the surrounding physical environment. Even sophisticated virtual-reality experiences do not eliminate embodiment; rather, they can manipulate the relationship between the physical body and the consciously experienced body. Sanchez-Vives and Slater (2005) [1] demonstrated the importance of virtual presence precisely by showing that sensory information can produce an experience of being located in a virtual environment despite the person's continued physical location elsewhere. Contemporary research likewise demonstrates that virtual environments can alter perceived presence without establishing that consciousness has ceased to depend upon biological embodiment (Slater & Sanchez-Vives (2022). [2]).

The proposed liberated state replaces the **body** with the concept of a **wave**, building upon the paper's Ātma-Wave Hypothesis. "Wave" should not be understood as a scientifically detected electromagnetic, gravitational, or quantum wave. Rather, it symbolizes **continuity, dynamism, coherence, and the possibility of consciousness no longer being represented through a bounded biological structure**. Contemporary physics and information science provide legitimate scientific concepts of waves and fields, but there is presently no empirical evidence demonstrating an Ātma-wave. The transition can therefore be conceptualized as:

Embodied life:

Body



Localized biological consciousness

versus

Liberated existence:

Associated consciousness wave



Freedom from biological embodiment



Non-dual consciousness.

Advaita provides the philosophical foundation for this interpretation insofar as consciousness is treated as irreducible presence rather than merely one additional object within the empirical person (Fasching (2021). [22]).

Matter versus Information:

The second comparison distinguishes **matter from information**. Physical life is materially instantiated: bodies are composed of physical structures governed by biological and physical processes. Virtual representation, however, illustrates that identity-relevant characteristics can also be represented informationally. Modern information theory established that information can be formally quantified independently of the specific physical symbols carrying it, although information still requires physical realization in actual communication systems (Shannon (1948). [99]). Integrated Information Theory similarly investigates whether the organization and integration of information are centrally relevant to consciousness, but it explicitly seeks a physical substrate for consciousness and does not support disembodied spiritual information (Tononi et al. (2016). [30]).

The present framework therefore proposes **Matter** → **Information** not as a demonstrated transformation occurring at death but as a conceptual shift. During embodied existence, identity is expressed through material organization; within the hypothetical liberated state, what remains is

proposed to be consciousness-related informational organization without material embodiment. The distinction is:

Matter:

- physical structure
- localization
- biological embodiment

whereas

Information:

- organization
- pattern
- relational content
- potentially substrate-independent representation at the conceptual level.

This does not imply that current information theory establishes the survival of personal information after death. Shannon's theory concerns communication and uncertainty, not Ātman or immortality.

Individual versus Unified:

The **individual–unified** distinction represents one of the most important transitions in the proposed framework. Ordinary life is organized around an individualized self: “I” experience the world from a perspective distinct from “you.” Contemporary cognitive accounts likewise model selfhood as a structured organization of bodily, perceptual, and predictive processes. Research into ego dissolution demonstrates that aspects of this self-model can weaken considerably while consciousness itself appears to continue (Deane (2021). [71]). This empirical observation is relevant because it demonstrates that **conscious experience and ordinary individual self-representation are conceptually separable**, although it does not establish Advaitic metaphysics.

In the liberated state proposed by the article, individual differentiation gives way to **unity**. Advaita describes pure consciousness as not ultimately divided among separate subjects in the manner suggested by ordinary empirical experience (Fasching (2021). [22]). Contemporary cosmopsychism offers an interesting philosophical parallel by proposing that individual subjects may be metaphysically grounded in a more encompassing cosmic consciousness (Ganeri & Shani (2022). [x]; Shani (2022). [x]). Cosmopsychism and Advaita are not equivalent, but both provide frameworks in which individual consciousness need not constitute the ultimate level of reality.

Thus:

Individual



Separate identity



Differentiated consciousness



Dvaita

becomes conceptually

Unified



Dissolution of limiting individuality



Universal consciousness



Advaita.

Local versus Non-local:

Embodied human experience is fundamentally **local**. A person's body occupies a particular location, sensory experience originates from a situated perspective, and interactions occur through spatially constrained biological mechanisms. Virtual reality demonstrates that the *experienced* location can differ significantly from physical location: users can feel present somewhere other than where their biological bodies are situated (Sanchez-Vives & Slater, (2005). [1]). This finding is philosophically important because it separates **physical localization from phenomenological localization**, but it does not demonstrate genuinely non-local consciousness.

The proposed liberated state is described as **non-local** only in the metaphysical sense that consciousness is no longer hypothesized to be restricted to an individual biological body. Cosmopsychist approaches provide a contemporary conceptual parallel by considering consciousness at the level of the cosmos rather than exclusively at localized organisms (Ganeri & Shani (2022). [97]). Keppler and Shani (2020) [33], more speculatively, explore a field-based cosmopsychist model involving a ubiquitous consciousness field. These proposals remain debated and should not be treated as evidence that post-mortem consciousness is physically non-local.

Hence the paper uses:

Local = bounded individual manifestation

and

Non-local = absence of ultimate individual localization.

Time versus Timelessness:

Human life is experienced temporally. Birth, development, memory, intention, action, ageing, and death all occur through **temporal succession**. Personal identity itself relies heavily upon relationships among remembered past events, current awareness, and anticipated future possibilities. From the Dvaita-oriented side of the model, time therefore supports differentiated existence because events, actions, karmic consequences, and relationships require sequence.

The proposed Advaitic endpoint is described as **timeless** because ultimate consciousness is not conceived simply as another event located within an endless temporal sequence. Fasching's interpretation of Advaita characterizes absolute consciousness as pure, qualityless, and unchanging, while individual mental states provide changing perspectives through which that consciousness appears (Fasching (2021). [22]). The article therefore interprets timelessness as the **absence of succession at the level of ultimate consciousness**, not as physical evidence that consciousness literally exits relativistic time after death.

Thus:

Real-life time

Past → Present → Future

contrasts conceptually with:

Liberated consciousness

Pure presence



No succession necessary for ultimate identity



Timelessness.

Space versus Spacelessness:

Physical existence similarly requires **space**. A body possesses dimensions, occupies a location, encounters other spatially separated bodies, and interacts through spatial relationships. Space therefore contributes to dualistic experience because it supports the basic condition:

I am here; another entity is there.

Virtual reality demonstrates that conscious spatial experience can be reconstructed experimentally even when it diverges from physical location (Sanchez-Vives & Slater (2005). [1]; Slater & Sanchez-Vives, (2022). [2]). These findings reveal the flexibility of experienced space but do not establish the existence of consciousness outside physical space.

The model's concept of **spacelessness** follows instead from its Advaita-oriented metaphysics. If ultimate consciousness is not an independently bounded object, it cannot straightforwardly be assigned a location in the same sense as a material body. Fasching's discussion of the Ātman thesis and Advaitic consciousness support treating fundamental consciousness as different in category from ordinary spatially located objects (Fasching (2021) [22], Fasching (2022). [23]). Therefore, "spaceless" means **not ontologically bounded by spatial differentiation**, rather than "located in an invisible region of physical space."

Duality versus Singularity:

The movement from **duality to singularity** expresses the central theoretical claim of the Difference-to-Dissolution model. In ordinary life, the subject-object structure predominates:

Observer ↔ Observed

Self ↔ Other

Body ↔ Environment

Individual ↔ Society.

The term **singularity**, however, is used by this study to represent the disappearance of ultimate subject-object fragmentation. It does not refer to a gravitational singularity, mathematical singularity, or technological AI singularity. Research on non-dual awareness provides a useful phenomenological analogy. Josipovic (2021) [70] describes non-dual awareness as awareness intrinsically free of ordinary subject-object fragmentation and proposes that its manifestation may vary along an implicit–explicit gradient. Such findings support the empirical possibility of conscious experiences in which ordinary self-other differentiation is diminished, but they **do not demonstrate moksha or metaphysical singularity**.

The proposed continuum is therefore:

Duality

↓

Subject–object distinction

↓

Individual consciousness

↓

Differentiated reality

→ **Difference-to-Dissolution**

→

Non-dual awareness

↓

Dissolution of ultimate differentiation

↓

Singularity / Unity.

Karma versus Pure Consciousness:

The final comparison contrasts **karma with pure consciousness**. Karma belongs naturally to differentiated embodied existence because action presupposes an agent, an intention, an object or recipient of action, and consequences occurring across time. Thus, karma operates within a structure of individuality, causation, relationships, and moral responsibility.

In the proposed model, liberation terminates the karmic structure because the bounded individual no longer functions as the ultimate center of identity. Advaita-oriented discussions distinguish pure consciousness from the changing contents, mental states, and personal structures through which ordinary experience is organized (Fasching (2008). [72], Fasching (2021). [22]). Research into non-dual awareness and ego dissolution provides a narrower empirical comparison by showing that states with reduced self-referential organization are at least phenomenologically possible (Josipovic (2021). [70]; Deane (2021). [71]).

Accordingly:

Karma
requires



Individual agent



Intention



Action



Consequence



Continued differentiated existence

whereas:

Pure Consciousness
represents



Absence of ultimate individual agency



No karmic accumulation



Non-dual awareness



Liberation.

The paper does not claim that neuroscience has demonstrated the cessation of karma; karma and moksha remain philosophical constructs.

Integrated Real–Virtual Life Framework:

The complete model can therefore be represented as:

REAL / EMBODIED LIFE

Physical Body



Matter



Individual identity



Localized consciousness



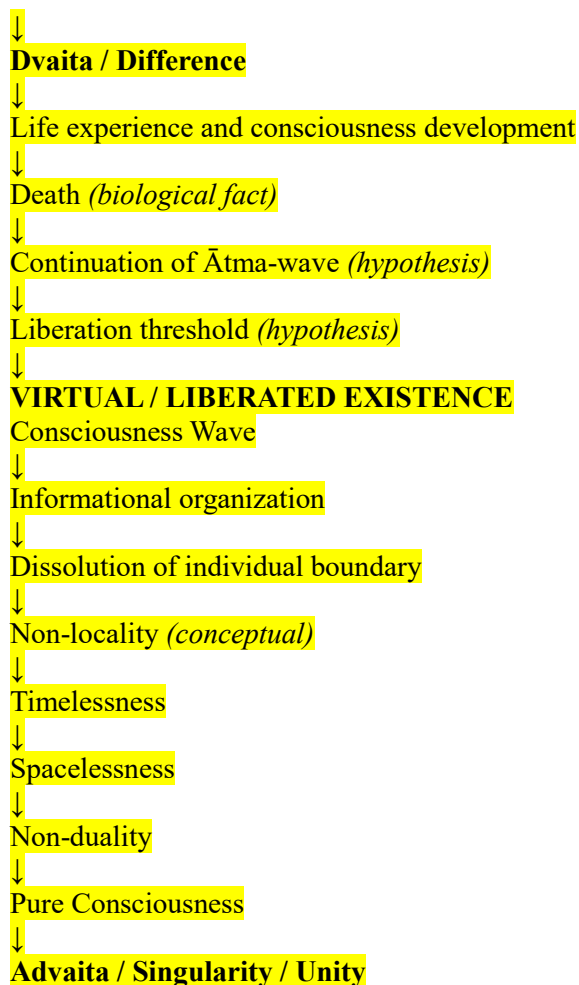
Space + Time



Subject–object distinction



Karma



The scholarly value of this framework lies primarily in its **integration of different levels of explanation**. Research on virtual presence establishes that experienced location and embodiment can differ from physical location (Sanchez-Vives & Slater (2005). [1]; Slater & Sanchez-Vives (2022). [2]). Consciousness research demonstrates that information integration and self-representation are important dimensions of conscious organization (Tononi et al. (2016). [30]; Deane (2021). [71]). Non-dual-awareness studies show that ordinary subject-object organization is not invariant across every conscious state (Josipovic (2021). [70]). Advaita scholarship provides the philosophical foundation for treating pure consciousness as ultimately non-individual and non-objectifiable (Fasching (2021). [22], Fasching (2022) [23]), while contemporary cosmopsychism supplies a comparative philosophical model in which localized minds are grounded in a larger conscious whole (Ganeri & Shani (2022). [97]; Shani (2022). [98]). None of these sources, individually or collectively, establishes scientifically that consciousness survives death in the form proposed by this article.

Proposed Theoretical Proposition:

P9: Embodied human experience may be conceptually represented as a material, localized, temporally and spatially differentiated mode of consciousness, whereas liberated existence may be theorized as a non-material, non-localized, timeless, spaceless and non-dual state of pure consciousness in which differentiated individuality and karmic agency cease to operate.

The proposition is therefore **philosophical and hypothesis-generating rather than empirically verified**. The left-hand side of the framework contains characteristics substantially accessible to empirical study; the right-hand side extends them into a metaphysical model derived primarily from Advaita and the new hypotheses developed in the present article.

9. ANALYSIS :

The theoretical framework developed in this study attempts to reinterpret **Dvaita and Advaita as complementary explanatory models of differentiated and non-differentiated consciousness**, while simultaneously exploring possible conceptual parallels with consciousness science, information theory, quantum theory, and virtual existence. Such an interdisciplinary synthesis requires critical evaluation because the metaphysical claims of Vedānta and the empirical claims of science operate with fundamentally different assumptions and methods. Madhva's Dvaita explicitly defends real distinctions among God, individual souls, and the world, whereas Advaita regards consciousness as ultimately non-dual and distinguishes it from the changing contents and structures of individual experience (Okita (2020). [61]; Fasching (2021). [22]). The analytical value of the present framework therefore depends not on proving either philosophy scientifically, but on determining what each explains well, where each encounters philosophical difficulties, and how far contemporary scientific concepts can legitimately be used in constructing the proposed Difference-to-Dissolution model.

(i) Strengths of Dvaita:

One of the principal strengths of **Dvaita** is its ability to accommodate the phenomenology of ordinary embodied existence. Human experience normally presents reality through distinctions between **self and other, observer and observed, individual and environment, action and consequence, and person and ultimate reality**. Madhva's philosophical project explicitly resists monistic reduction and treats such distinctions as genuine rather than ultimately illusory (Okita (2020). [61]). For the present study, this realist orientation provides a strong theoretical basis for describing everyday physical life as differentiated, relational, and causally structured.

Dvaita also provides a particularly strong foundation for **individual identity and moral responsibility**. If individuals remain genuinely distinct agents, moral action can be attributed to identifiable persons, and the consequences of action remain meaningful within a continuing personal history. Comparative scholarship on moksha notes that Dvaita preserves the distinction between Brahman and individual souls even in liberation, whereas Advaita ultimately transcends such differentiation (Betty (2010). [63]). This feature makes Dvaita especially suitable for explaining the paper's "real-life" domain, where legal responsibility, ethics, interpersonal relationships, personal development, and karmic causation all presuppose differentiated subjects.

A further strength lies in **relationality**. Difference does not necessarily entail alienation; rather, genuine relationships require distinguishable participants. Devotion requires a devotee and the Divine, friendship requires distinct persons, and ethical conduct presupposes an agent capable of affecting another being. Dvaita therefore provides an ontological structure within which plurality can coexist with dependence and relationship. This makes it particularly useful for the proposed model's earlier characterization of real life through **identity, karma, causation, space, time, and interpersonal relations**.

(ii) Strengths of Advaita:

The major strength of **Advaita** lies in its sophisticated analysis of consciousness itself. Rather than treating consciousness simply as another mental object or property, Advaita-oriented scholarship characterizes consciousness as the **presence or manifestation within which experiences become available**. Fasching (2021) [22] argues that the Advaitic notion of consciousness is fundamentally different from treating consciousness as an observable object among other objects; instead, it functions as the condition through which objects and mental contents appear. Fasching's earlier analysis of meditation similarly distinguishes consciousness from ordinary self-consciousness and habitual identification with mental contents (Fasching (2008). [72]). This distinction gives Advaita considerable explanatory strength when addressing the paper's questions concerning whether identity exhausts consciousness.

Advaita also provides a philosophically powerful framework for understanding **non-dual awareness and the attenuation of subject-object boundaries**. Contemporary research on non-dual awareness investigates conscious states in which the usual division between subject and object becomes substantially reduced, suggesting that ordinary dualistic organization is not necessarily invariant across all forms of conscious experience (Josipovic (2021). [70]). These findings do not establish Advaita metaphysics, but they demonstrate that aspects of the experiential structure emphasized by Advaita are meaningful subjects of contemporary consciousness research.

A further strength is Advaita's potential contribution to current debates concerning whether **consciousness is fundamental rather than derivative**. Recent philosophical discussions have revived cosmopsychist approaches in which individual minds are grounded in a more encompassing cosmic consciousness (Ganeri & Shani (2022). [97]; Shani (2022). [98]). Fasching's discussion of the Ātman thesis similarly engages directly with contemporary metaphysical debates over the possibility that consciousness belongs at the fundamental level of reality rather than being reducible to individual physical structures (Fasching (2022). [23]). Advaita therefore offers the present study a conceptually rich endpoint for theorizing **unity, non-duality, and consciousness beyond ordinary individual self-representation**.

(iii) Philosophical Limitations:

Despite these strengths, both systems face important philosophical limitations when employed within the present synthesis. The strongest challenge to **Dvaita** is that its permanent ontological differentiation creates difficulties for a framework whose endpoint is the dissolution of individuality into non-duality. If the distinction between individual soul and God is eternally real, as Dvaita maintains, then the transition from Dvaita to Advaita proposed by this article cannot simply be attributed to Madhva's philosophy. Comparative analyses emphasize precisely this difference: Dvaita and Advaita provide contrasting rather than sequential accounts of liberation (Betty (2010). [63]). Hence, the proposed Difference-to-Dissolution continuum must be presented as **the author's theoretical synthesis**, not as a historical Vedāntic doctrine.

Advaita faces the reverse difficulty. If ultimate reality is genuinely non-dual, explaining the appearance of **individuality, plurality, ignorance, and differentiated experience** becomes philosophically demanding. Contemporary discussions of cosmopsychism encounter an analogous "individuation" problem: if consciousness is fundamentally cosmic or unified, one must explain how apparently separate individual subjects arise from that whole (Shani (2022). [98]; Ganeri & Shani (2022). [97]). This does not invalidate Advaita, but it demonstrates that replacing plurality with unity shifts rather than automatically eliminates explanatory problems.

A second limitation concerns the paper's use of terms such as **virtual existence, wave, field, frequency, critical frequency, and singularity**. These terms have well-defined technical meanings in science but are being extended here into philosophical analogies. Unless this distinction is maintained consistently, there is a danger of committing a category error—treating a metaphysical proposition as though it were already a measurable physical mechanism. The paper's credibility therefore depends upon repeatedly separating **conceptual analogy from empirical equivalence**.

(iv) Scientific Compatibility:

The proposed framework possesses **partial scientific compatibility**, but not scientific confirmation. Contemporary neuroscience strongly associates consciousness with physical brain organization and seeks neural correlates that reliably distinguish conscious from unconscious processing (Koch et al. (2016). [9]). Integrated Information Theory likewise attempts to derive requirements for a physical substrate of consciousness from properties attributed to phenomenal experience (Tononi et al. (2016). [30]). These approaches are broadly compatible with the paper's recognition that embodied consciousness involves integration, differentiation, information, and complex organization.

The proposed emphasis on **integration and coherence** therefore has some legitimate conceptual resonance with contemporary consciousness science. IIT explicitly treats integrated causal organization as central to its account of conscious systems, while research on neural correlates demonstrates the importance of coordinated large-scale brain processes (Tononi et al. (2016). [30]; Koch et al. (2016). [9]). However, these findings do not support the stronger proposition that an Ātman possesses a measurable spiritual frequency, that karma raises this frequency, or that consciousness crosses a post-mortem critical threshold.

Quantum theory presents an even more demanding case. Orch-OR represents a serious but controversial attempt to associate consciousness with quantum processes within neuronal microtubules (Hameroff & Penrose (2014). [31]). Yet quantum-consciousness proposals face substantial theoretical challenges. Tegmark's decoherence analysis, for example, argued that relevant quantum superpositions in brain processes would decohere rapidly under biological conditions (Tegmark (2000) [37], while later work has debated the assumptions and timescales involved. Consequently, the mere existence of wave

functions, quantum fields, entanglement, or coherence in physics **cannot be treated as scientific evidence for Ātman, Paramātmān, karma, rebirth, or moksha.**

A more defensible scientific relationship therefore exists at the level of **structural analogy and hypothesis generation.** Science legitimately employs concepts such as integration, information, oscillation, coherence, field, and critical transitions. The present framework borrows these conceptual structures to formulate philosophical hypotheses. Scientific compatibility exists where the model respects known science and generates potentially researchable questions; scientific incompatibility begins wherever metaphysical constructs are presented as though their physical existence had already been demonstrated.

(v) Conceptual Plausibility:

The **conceptual plausibility** of the Difference-to-Dissolution framework is stronger than its present empirical plausibility. Several elements of the continuum have recognizable counterparts in existing scholarship. The distinction between consciousness and self-consciousness is philosophically defensible (Fasching (2008). [72]); non-dual awareness is amenable to phenomenological and neuroscientific investigation (Josipovic (2021). [70]; integrated organization is a major concern of contemporary consciousness theory (Tononi et al. (2016). [30]); and cosmopsychism demonstrates that modern philosophy seriously considers models in which individual minds are grounded in a more fundamental conscious whole (Ganeri & Shani (2022). [97]). These parallels make the general movement from **individual differentiation toward increasingly integrated or non-dual descriptions of consciousness** philosophically intelligible.

The proposed **Ātma-Wave**, however, remains substantially more speculative. No cited neuroscience or physics literature establishes a non-material consciousness wave associated with every living being. Similarly, the proposed four parameters—frequency, amplitude, coherence, and informational content—may form a coherent heuristic vocabulary, but only their physical and neural analogues are presently measurable. The extension from those measurable phenomena to a non-material Ātman requires an additional metaphysical assumption.

The **Critical Frequency Hypothesis** is even more speculative. The equation ($F \geq F_c$) provides useful formal clarity, but without an operational definition of (F), an empirically measurable (F_c), and observable outcomes capable of distinguishing the hypothesis from alternative explanations, it remains a conceptual model rather than a scientific hypothesis in the strong experimental sense. This is not necessarily a weakness if the paper identifies itself explicitly as **exploratory conceptual theory-building.** The risk arises only if mathematical notation is interpreted as empirical validation.

The proposed **Infinite Consciousness Field** has somewhat greater philosophical precedent because cosmopsychism explicitly examines whether individual consciousness could be grounded in consciousness attributed to the cosmos as a whole (Ganeri & Shani (2022). [97]; Shani (2015). [32]). However, cosmopsychism remains a metaphysical position rather than experimentally established physics. Accordingly, the analogy between Paramātmān and a universal field should be understood as a **structural analogy**: both provide a conceptual background from which localized manifestations may be described, but only physical fields possess established mathematical definitions and experimentally measured properties.

Integrated Critical Assessment:

The comparative analysis suggests that the strongest aspect of the proposed framework is its **philosophical synthesis**, while its weakest aspect is the present absence of direct empirical validation for the post-mortem and frequency-based components. Dvaita provides a coherent conceptual account of differentiated embodied existence through enduring individuality and real distinctions (Okita (2020). [61]; Betty (2010). [63]), while Advaita offers a sophisticated account of consciousness beyond ordinary self-objectification and provides a conceptual language for non-duality (Fasching (2021). [22], Fasching (2022). [23]). Contemporary research on non-dual awareness and integrated consciousness strengthens the case that questions concerning differentiation, selfhood, and integration can legitimately be investigated scientifically (Josipovic (2021). [70]; Tononi et al. (2016). [30]).

The transition from these established areas into claims concerning **post-mortem Ātma-waves, frequency-dependent karma, critical-frequency liberation, and merger with an Infinite Consciousness Field** remains theoretical. Neither neural-correlate research nor quantum-consciousness

research presently verifies such propositions (Koch et al. (2016). [9]; Hameroff & Penrose (2014). [31]; Tegmark (2000). [37]). Accordingly, the paper's strongest scholarly positioning is to present the model as a **progressive hierarchy of evidential status**:

Level 1 – Empirically grounded:

Embodiment, neural organization, differentiated self-experience, altered self-representation, information integration.



Level 2 – Phenomenologically investigable:

Detachment, ego attenuation, meditation, non-dual awareness.



Level 3 – Philosophically plausible but metaphysical:

Universal consciousness, Ātman–Brahman non-duality, Paramātmā as fundamental consciousness.



Level 4 – New hypotheses proposed by this study:

Ātma-wave, karmic frequency modulation, critical frequency (F_c), post-mortem wave continuity, and frequency-dependent transition to moksha.

This hierarchy substantially strengthens the model because it prevents philosophical originality from being mistaken for scientific proof. The **Difference-to-Dissolution Framework is therefore conceptually plausible as an interdisciplinary theory-building model**, scientifically compatible in some of its structural analogies, but presently unverified in its central post-mortem mechanisms. Its potential contribution lies precisely in converting these metaphysical intuitions into clearly defined propositions that may stimulate philosophical criticism, phenomenological research, computational modelling, and—where operationalization eventually becomes possible—empirical investigation.

10. INTERPRETATION :

The **Atma-Wave Life Cycle Framework** developed in this study provides an interdisciplinary interpretation of four closely connected concepts—**death, rebirth, liberation, and consciousness**—by bringing Vedāntic philosophy into dialogue with selected concepts from theoretical physics and contemporary consciousness research. These domains must nevertheless be distinguished methodologically. Dvaita and Advaita address metaphysical questions concerning the self, ultimate reality, karma, and liberation, whereas physics investigates measurable properties of matter, energy, fields, and information. Contemporary consciousness science, meanwhile, remains concerned with identifying the neural and physical conditions associated with subjective experience; no accepted scientific theory currently demonstrates the existence of Ātman, post-mortem consciousness, rebirth, or moksha (Koch et al. (2016). [9]; Tononi et al. (2016). [30]). Accordingly, the present interpretation uses physics primarily as a **conceptual and theoretical analogy**, while the metaphysical interpretation derives principally from Dvaita and Advaita.

(i) Interpretation of Death:

Philosophical Interpretation:

Within Vedāntic traditions, **death does not necessarily represent the extinction of the self**, but rather the termination of a particular embodied condition. The physical organism is transient, whereas the status assigned to the individual self differs significantly between Dvaita and Advaita. Dvaita maintains the genuine individuality of the *jīva*, including beyond bodily death; liberation does not erase the soul's distinction from God. Advaita, by contrast, ultimately interprets individuality as belonging to the empirical level of reality and regards liberation as realization of the non-difference of Ātman and Brahman. Comparative analysis of these traditions therefore shows that both distinguish biological embodiment from the deeper metaphysical question of selfhood, while reaching markedly different conclusions concerning individuality in liberation (Betty (2010). [63]).

Within the present framework, death can consequently be interpreted as a **boundary between embodied differentiation and a hypothesized post-embodied condition**:

Life

Physical body



individual identity

+
karma
+
space-time experience
↓

Death

↓
Biological organization ceases
↓

Status of consciousness becomes the central unresolved question.

Medical and consciousness research can investigate processes occurring during cardiac arrest and dying, but such observations should not be confused with evidence that an independently existing consciousness survives irreversible death. Parnia and Fenwick (2014) [89] review reports of mental and cognitive experiences surrounding death and emphasize the complexity of studying consciousness at this boundary. Van Lommel (2011) [91] argues for a broader interpretation of near-death experiences, but these reports remain debated and do not establish the Vedāntic doctrines of Ātman or rebirth as scientific facts.

Interpretation through Theoretical Physics:

From the standpoint of physics, death involves no mysterious disappearance of the body's matter and energy. The biological organization that maintained the organism breaks down, while its constituent matter and energy participate in subsequent physical processes. This established principle, however, **cannot be extended automatically to personal consciousness**: conservation of energy does not entail conservation of memories, personality, Ātman, or subjective awareness.

The proposed **Ātma-Wave Cycle Hypothesis** adds a speculative second component by suggesting that the material body may have been associated during life with a non-material consciousness wave. At death, the model hypothesizes:

Material body → decomposition
while

Associated consciousness wave → separation from biological embodiment

This second statement is metaphysical and hypothetical. No known experiment has detected such a consciousness wave. Even quantum-consciousness theories such as Orch-OR concern proposed quantum processes operating in the living brain and do not experimentally demonstrate post-mortem separation of consciousness (Hameroff & Penrose (2014). [31]).

The interpretation of death proposed here can therefore be summarized as:

[{Death} = {termination of biological integration} + {hypothesized transition of consciousness}]

where only the first component is currently empirically established.

(ii) Interpretation of Rebirth:

Philosophical Interpretation:

Rebirth (punarjanma) occupies an important position within the karmic structures of Indian philosophical traditions. In the conceptual framework of the present study, rebirth represents the **continuation of differentiated existence when individuality and karmic conditioning have not been transcended**. The individual remains within the domain of distinction, causality, temporality, agency, and consequence.

The model therefore interprets rebirth as:

Unresolved individuality
↓
Residual karma
↓
Continuation of differentiated consciousness
↓
New embodiment
↓
Further action and experience



Continuation of the Difference phase.

This interpretation is especially compatible with the study's use of Dvaita as a model of differentiated existence. Dvaita maintains genuine distinctions among souls, God, and world, while Advaita treats the ending of karmic bondage as connected ultimately with liberation from ignorance. The differing understandings of moksha among Dvaita and Advaita consequently produce significantly different accounts of the final status of individual identity (Betty (2010). [63]).

Interpretation through Information and Physics:

Physics itself contains **no accepted theory of reincarnation**. Nevertheless, information theory permits a narrower conceptual question: whether identity depends upon the preservation of particular informational organization rather than merely preservation of constituent matter. Contemporary consciousness theories such as Integrated Information Theory assign explanatory significance to the causal organization and integration of information, though IIT concerns conscious physical systems and does not propose rebirth (Tononi et al. (2016). [30]). The theory therefore provides an analogy concerning **organization and continuity**, not evidence for transmigration.

Within the proposed Ātma-Wave model, rebirth is interpreted as the persistence of **residual conscious organization** when the hypothetical frequency criterion introduced previously has not been met:

$$[F < F_c]$$



Residual individuality



Residual informational organization



Rebirth



Re-entry into differentiated existence.

Crucially, “information” here does not necessarily mean autobiographical memory. If the hypothesis is to remain internally coherent, what persists would need to be conceived more abstractly as **latent organization, disposition, or karmic structure**, rather than the complete memory contents of a previous brain. No current physical theory establishes that such information survives biological death; hence the entire transition remains metaphysical rather than empirically verified.

(iii) Interpretation of Liberation:

Philosophical Interpretation:

Liberation (moksha) represents the point at which Dvaita and Advaita diverge most sharply. In Dvaita, liberation does not result in ontological merger with God; the liberated individual remains distinct while participating in a perfected relationship with the Divine. In Advaita, by contrast, liberation is ultimately the realization that the deepest self was never truly separate from Brahman. Thus, “difference” remains meaningful in Madhva's liberated condition, whereas Śāṅkara-oriented non-duality ultimately transcends independent individuality (Betty (2010). [63]).

The present paper deliberately adopts an **Advaita-oriented interpretation** for its final stage of dissolution:

Individual self



Detachment



Removal of ignorance



Moksha



Dissolution of ultimate subject-object differentiation



Non-dual consciousness.

Advaita does not require that consciousness travel physically to another location. Fasching's analysis of Advaitic consciousness emphasizes consciousness as non-objectifiable presence rather than as one more entity contained within the empirical world (Fasching (2021). [22]). Thus, liberation is more accurately interpreted philosophically as a **change in ontological realization** than as spatial movement.

Theoretical Physics Analogy: Phase Transition:

The present study proposes a scientific analogy between liberation and a **critical transition**. In physical systems, quantitative changes in control parameters can sometimes produce qualitative changes in the organization of the system. Borrowing this structure—but not claiming empirical equivalence—the Critical Frequency Hypothesis proposes:

$[F \geq F_c]$



Critical threshold attained



Individual differentiation no longer sustained



Moksha



Non-dual unity.

In this interpretation, **F_c does not represent a currently measurable frequency in hertz**. Rather, it symbolizes a critical degree of consciousness organization, coherence, detachment, and informational integration.

Quantum theory is relevant only at a very general comparative level. Hameroff and Penrose (2014) [31] propose that quantum state reduction may participate in conscious processes, whereas Tegmark's analysis argues that relevant quantum states in the brain may decohere rapidly under biological conditions. The disagreement itself illustrates why quantum language must be used cautiously: quantum mechanics does not currently establish a physical mechanism for moksha.

Liberation is therefore interpreted here as:

Vedāntic meaning: transcendence of bondage and ultimate differentiation.

Physics analogy: qualitative transition across a conceptual threshold.

Scientific status: metaphysical hypothesis, not experimentally established phase transition.

(iv) Interpretation of Consciousness:

Consciousness as an Individual Phenomenon:

During embodied existence, consciousness appears strongly individualized. Each person experiences the world through a particular body, perspective, history, and set of memories. Contemporary neuroscience has identified important neural correlates of conscious processing and emphasizes the role of distributed neural organization, but determining the precise relationship between brain processes and subjective experience remains an open scientific problem (Koch et al. (2016). [9]). Contemporary theories therefore explain increasingly sophisticated aspects of conscious access and organization without necessarily resolving why subjective experience exists at all. It is an attribute of superimposed Prana wave and Prajna wave (Aithal (2025). [113]).

This individualized consciousness corresponds well with the study's **Dvaita phase**:

Individual observer



Distinct body



Distinct experiential perspective



Subject-object differentiation



Individual consciousness.

In this phase, consciousness is experienced as “my consciousness,” distinguishable from the consciousness of others.

Consciousness as Integrated Information:

Integrated Information Theory provides a different scientific perspective by proposing that consciousness is related to intrinsic causal organization and the degree to which information is integrated within a system (Tononi et al. (2016). [30]). This approach does not establish Advaita, but it offers a useful conceptual bridge because **integration** becomes central to the characterization of conscious systems. Increasing integration can therefore be compared heuristically with the movement from fragmentation toward unity proposed by the Difference-to-Dissolution framework.

The analogy can be represented as:

Fragmentation



Integration



Coherence



Unity.

However,

[{Integrated information} → {Brahman}]

and

[{neural integration} → {moksha}]

The resemblance is structural rather than ontological.

Consciousness as Fundamental Reality:

Advaita pushes the interpretation considerably further by treating consciousness not as something produced by an individual but as fundamental reality itself. Fasching (2021) [22] argues that the Advaitic conception of consciousness differs from ordinary object-based accounts because awareness is understood as the condition under which phenomena become manifest. Research on **non-dual awareness** provides an empirical-phenomenological point of comparison: Josipovic (2021) [70] describes a mode of awareness in which habitual subject-object fragmentation can become substantially attenuated. Such research demonstrates that the experiential structure of consciousness can vary, but it does not scientifically demonstrate Brahman or universal consciousness.

Contemporary **cosmopsychism** provides another conceptual parallel. Shani (2015) [32] proposes that the cosmos as a whole may possess fundamental consciousness, while later cosmopsychist work explores how individual conscious subjects might derive from or depend upon a more encompassing conscious whole. Such models remain philosophical rather than established physical theories, but they show that treating consciousness as fundamental is a serious position within contemporary philosophy of mind.

The present framework consequently interprets the evolution of consciousness as:

Individual consciousness



Expansion of awareness



Reduced ego-identification



Increasing coherence



Non-dual awareness



Dissolution of ultimate individual boundary



Infinite consciousness / Paramātmān.

Integrated Interpretation of the Four Concepts:

The four components can now be integrated into the paper's central theoretical architecture:

Stage 1: Consciousness in Embodied Life:

Paramātmān / Infinite Consciousness

(metaphysical hypothesis)



Differentiated manifestation



Ātma-wave

(new conceptual hypothesis)



Association with physical body



Individual consciousness



Dvaita



Difference

Stage 2: Life and Karma

Individual identity



Experience



Action



Karma



Evolution of coherence and informational organization



Frequency modulation

(hypothesized)

Stage 3: Death

Irreversible termination of biological organization



Physical body decomposes



Associated consciousness wave separates

(hypothesized)



Post-mortem condition.

Stage 4A: Rebirth

If

$[F < F_c]$



Residual individuality



Residual karmic structure



Rebirth



New embodiment



Dvaita continues

↓
Difference continues.

Stage 4B: Liberation

If
[$F \geq F_c$]
↓
Karmic differentiation exhausted
↓
No further rebirth
↓
Moksha
↓
Dissolution of individual boundary
↓
Non-dual consciousness
↓
Paramātmān / Brahman
↓
Advaita
↓
Unity.

Philosophy–Physics Interpretive Matrix:

Table 5: Philosophy–Physics Interpretive Matrix

Concept	Vedāntic Interpretation	Theoretical-Physics Analogy	Scientific Status
Death	Separation from embodied condition	Breakdown of organized material system; proposed wave dissociation	Biological death established; consciousness-wave separation hypothetical
Rebirth	Continuation under karma and individuality	Persistence/reorganization of information	No established physical mechanism
Liberation	Freedom from karmic bondage; in Advaita, realization of non-duality	Critical/phase-transition analogy	Metaphysical; no experimentally known F_c
Consciousness	Jīva-consciousness in differentiated existence; ultimately Brahman in Advaita	Integration, coherence, field or information analogies	Neural correlates established; universal consciousness unverified

Interpretive Synthesis:

The principal insight emerging from this interpretation is that **death, rebirth, liberation, and consciousness can be arranged as components of a single ontological transition rather than treated as unrelated metaphysical concepts**. Dvaita provides the philosophical vocabulary for the beginning of this process: differentiated selfhood, embodied agency, karma, relationships, and continued individuality. Advaita provides the language for its proposed endpoint: the transcendence of independent individuality and realization of non-dual consciousness. Comparative scholarship confirms that these are genuinely different Vedāntic accounts and therefore should not historically be represented as successive stages of a single doctrine (Betty, (2010). [63]). Their sequential integration is the **new theoretical synthesis advanced by this study**.

Theoretical physics contributes a second layer of conceptual vocabulary—**waves, fields, information, coherence, criticality, transition, and integration**. Quantum-consciousness proposals demonstrate that attempts to connect fundamental physics with consciousness are legitimate areas of theoretical

investigation, but vigorous disagreement over these theories demonstrates that such work remains unsettled (Hameroff & Penrose (2014). [31]). Consequently, physical concepts in this paper should function as **heuristic bridges rather than empirical confirmation of Vedāntic metaphysics**.

The resulting interpretation can be summarized concisely as:

Death = termination of embodiment



Rebirth = continuation of differentiation

or

Liberation = termination of differentiation



Consciousness = the proposed continuum connecting embodied individuality with non-dual unity.

Accordingly, the study interprets **Dvaita as the philosophy of conscious differentiation and Advaita as the philosophy of conscious dissolution**, while theoretical physics supplies a conceptual vocabulary through which the transition can be formalized for interdisciplinary investigation. The framework is therefore strongest when understood as a **metaphysical-scientific theory-building model**, with empirically established neuroscience occupying one end of the evidential spectrum and post-mortem Ātma-wave continuity, rebirth, critical frequency, and integration into Paramātmā occupying its explicitly hypothetical end.

11. EVALUATION :

The proposed **Difference-to-Dissolution Model** integrates Dvaita, Advaita, consciousness studies, selected concepts from physics, and speculative constructs such as the Ātma-Wave Hypothesis, Frequency Model, Critical Frequency Hypothesis, and Infinite Consciousness Field. Because the model crosses philosophy, neuroscience, theoretical physics, and metaphysics, its evaluation requires more than internal conceptual elegance. It must be assessed for **philosophical consistency, logical coherence, scientific plausibility, compatibility with neuroscience and quantum interpretations, testability, and interdisciplinary relevance**. Importantly, the model contains components with different evidential status: embodied consciousness and neural integration are empirically investigable, non-dual awareness is phenomenologically and neuroscientifically researchable, while post-mortem Ātma-waves, karmic frequency modulation, and moksha thresholds remain theoretical and metaphysical. Contemporary consciousness research itself remains plural, with competing frameworks such as Integrated Information Theory and Global Neuronal Workspace Theory still under active empirical comparison, reinforcing the need for caution when presenting a new interdisciplinary model.

(1) Philosophical Consistency:

The philosophical consistency of the model depends primarily on whether Dvaita and Advaita can be placed within a common conceptual framework without distorting their foundational doctrines. Dvaita maintains the genuine and enduring difference among God, individual souls, and the material world, whereas Advaita ultimately interprets the individual self as non-different from Brahman. These positions are historically and metaphysically distinct rather than sequential stages within a single Vedāntic system. Accordingly, the paper's movement Ātma-Wave Life Cycle Framework should be understood as a new comparative synthesis rather than as a claim that Madhva's Dvaita naturally evolves into Śāṅkara's Advaita.

The Advaitic component possesses philosophical strength because contemporary scholarship interprets Advaita consciousness as fundamentally distinct from particular mental contents. Fasching (2021) [22] argues that consciousness, in the Advaitic understanding, is not one object among others but the manifestation through which experiential contents become present. This supports the model's distinction between empirical individuality and a deeper level of consciousness. Research on non-dual awareness also provides a phenomenological parallel: Josipovic (2021) [70] describes non-dual awareness as awareness free, at least phenomenologically, from ordinary subject-object fragmentation.

The main philosophical limitation is therefore not internal contradiction within either tradition but the **transition between them**. The model is philosophically consistent only if it clearly states that Dvaita

and Advaita serve as conceptual poles within an interdisciplinary theory proposed by the present study, rather than as doctrinally compatible stages endorsed by the classical schools themselves.

(2) Logical Coherence:

The model demonstrates considerable **logical coherence at the structural level**. Its basic sequence—**Difference → Identity → Consciousness → Detachment → Liberation → Unity**—forms a comprehensible progression from differentiated embodied existence toward non-dual consciousness. Similarly, the proposed post-mortem branching structure—

$[F < F_c \rightarrow \{\text{Residual individuality}\} \rightarrow \{\text{Rebirth}\}]$

and

$[F \geq F_c \rightarrow \{\text{Moksha}\} \rightarrow \{\text{Non-dual unity}\}]$

—is internally clear once its premises are accepted.

However, logical coherence does not establish factual truth. Several steps depend upon assumptions that have not been independently established. For example, the model assumes: first, that consciousness can exist independently of the body; second, that an Ātma-wave exists; third, that this wave possesses evolving parameters; fourth, that these parameters persist after biological death; and fifth, that a critical threshold determines rebirth or liberation. If any of these premises fail, the later deductions become unsupported.

A further logical issue concerns **frequency**. In physics, frequency has a precise mathematical meaning involving periodic change per unit time. If post-liberated consciousness is also proposed to be timeless, then a literal physical frequency becomes problematic because frequency presupposes temporal periodicity. The model resolves this only if “frequency” is treated as a **conceptual index of consciousness refinement rather than literal cycles per second**. This distinction should therefore be maintained consistently.

Thus, the model can be judged logically coherent as a **formal philosophical system**, provided that its terms—particularly wave, frequency, field, non-locality, and singularity—are explicitly defined as analogical constructs rather than silently shifting between scientific and metaphysical meanings.

(3) Scientific Plausibility:

The model's scientific plausibility varies substantially across its components. Its strongest elements concern the ideas that consciousness involves **integration, differentiation, temporal dynamics, and large-scale organization**. Integrated Information Theory attempts to relate phenomenal consciousness to intrinsic causal organization and integration within a physical system (Tononi et al. (2016). [30]). Such work provides legitimate scientific precedent for treating integration and differentiation as important features of consciousness.

The model's use of coherence, information, and criticality as general organizing concepts is therefore scientifically intelligible. However, the stronger claims concerning an **Ātma-wave, karmic frequency modulation, post-mortem persistence, and an F_c threshold for moksha** currently lack direct empirical evidence. Scientific plausibility becomes especially weak when a metaphor derived from physical theory is treated as though it were already an observed physical mechanism.

The strongest scholarly formulation is therefore that the model is **scientifically inspired but not scientifically demonstrated**. It borrows structural concepts from physics and neuroscience but extends them into metaphysical territory. The distinction between these two levels is essential to preserve methodological credibility.

(4) Compatibility with Neuroscience:

The model shows partial compatibility with contemporary neuroscience at the level of **embodied consciousness**, but considerably less compatibility at the level of post-mortem survival. Neuroscience strongly associates conscious states with organized brain activity. Contemporary theories of consciousness seek physical mechanisms or substrates capable of accounting for conscious experience; IIT, for example, explicitly derives requirements for a physical substrate of consciousness from properties attributed to phenomenal experience. More recent studies have begun implementing IIT-related measures in functional neuroimaging and consciousness-transition research, further indicating that consciousness theories increasingly seek operational empirical measures.

The model's distinction between ordinary self-identity and consciousness is also compatible with emerging neuroscience. Research on non-dual awareness and meditation suggests that the experiential boundary between self and world can vary and may possess identifiable neural correlates (Josipovic, (2021). [70]; Cooper et al. (2022). [75]). This supports the narrower proposition that **subject-object differentiation is not an invariant feature of every conscious state**.

However, neuroscience currently offers no accepted evidence that consciousness becomes independent of brain function after irreversible biological death. Consequently, the proposed transition from a functioning brain to a surviving consciousness wave lies outside present neuroscientific confirmation. Compatibility therefore decreases as the model moves from **altered self-experience during life** toward **post-mortem persistence and liberation**.

(5) Compatibility with Quantum Interpretations:

Quantum theory provides the model with some conceptual analogies but does not presently validate its metaphysical mechanisms. The Orch-OR theory developed by Hameroff and Penrose proposes that quantum processes in neuronal microtubules contribute to conscious events and connects consciousness with proposed objective reductions in fundamental spacetime geometry. This demonstrates that quantum approaches to consciousness are legitimate subjects of scholarly debate.

However, Orch-OR remains contested. Critical analyses have argued that some versions of the theory face serious physical difficulties, and a 2022 analysis concluded that the version based on the simplest gravity-related collapse model was highly implausible under the experimental constraints examined. At the same time, newer theoretical work continues to explore whether microtubular quantum models can be rendered experimentally meaningful, indicating that the field remains unresolved rather than conclusively settled.

The model should therefore avoid arguments such as:

quantum wave → Ātman,
quantum coherence → spiritual coherence, or
quantum field → Paramātmān.

These equivalences are scientifically unjustified. A more defensible formulation is:

quantum theory demonstrates that physical reality possesses non-classical properties, while the present paper employs certain quantum concepts only as analogies for constructing hypotheses about consciousness.

Thus, compatibility with quantum interpretations is **conceptual and exploratory**, not evidential.

(6) Testability:

Testability represents the greatest challenge for the proposed model. A scientific hypothesis must allow observations that could potentially support, refine, or falsify it. Several components of the model are potentially testable during embodied life. For example, the proposed relationships among meditation, detachment, self-boundary attenuation, neural coherence, and conscious integration can be investigated through EEG, fMRI, phenomenological interviews, and behavioural measures. Research on non-dual awareness already demonstrates that at least some of these constructs can be operationalized and studied neuroscientifically.

Similarly, information-integration measures and neural complexity can be compared across conscious and unconscious states. Existing implementations of IIT-related measures in fMRI and studies of consciousness transitions demonstrate the methodological possibility of testing relationships among integration, brain state, and reported awareness.

By contrast, several central claims presently lack operational definitions:

- **Ātma-wave:** no instrument or observable marker is defined.
- **Spiritual frequency F:** no physical unit or validated proxy exists.
- **Critical frequency F_c:** no empirical threshold has been specified.
- **Post-mortem persistence:** no agreed measurable signal is identified.
- **Moksha:** no scientific criterion distinguishes it from death or altered consciousness.
- **Integration into Paramātmān:** currently metaphysical and not empirically operationalized.

The model would therefore benefit from distinguishing three levels of testability:

Level I – Currently testable:

meditation, self-boundary attenuation, neural integration, coherence, altered states of consciousness.

Level II – Potentially operationalizable:

composite indices of psychological detachment, prosocial behaviour, neural complexity, informational integration.

Level III – Presently non-testable/metaphysical:

post-mortem Ātma-wave persistence, rebirth, Fc-based moksha, and integration into Paramātmān.

This distinction prevents the mathematical appearance of the model from being mistaken for empirical testability.

(7) Future Interdisciplinary Relevance:

Despite these limitations, the framework possesses substantial **interdisciplinary potential**. Consciousness research remains fragmented among neuroscientific, computational, phenomenological, and metaphysical approaches. IIT itself begins from properties of conscious experience and attempts to derive physical requirements, illustrating that consciousness science already requires dialogue between phenomenology and physical theory. Research on non-dual awareness similarly bridges contemplative traditions, phenomenology, and neuroscience (Josipovic (2021). [70]; Cooper et al. (2022). [75]).

Advaita can contribute sophisticated analyses of consciousness as presence, while Dvaita contributes a realist account of individuality and relational existence. Fasching's work demonstrates that Advaitic concepts can be brought into contemporary philosophy of mind without reducing them to neuroscience. Likewise, current consciousness research increasingly evaluates competing theories through explicit experimental designs, indicating that interdisciplinary theories are being pushed toward greater methodological precision.

The Difference-to-Dissolution Model may therefore prove useful in at least four future areas: **comparative philosophy of consciousness, contemplative neuroscience, computational modelling of selfhood and integration, and philosophy of virtual or artificial consciousness**. Its strongest contribution may not be the literal claim of an Ātma-wave, but the broader research question it generates: **can differentiation, individuality, consciousness integration, detachment, and non-dual awareness be represented within one coherent interdisciplinary model?**

Overall Evaluation:

The proposed framework can be evaluated through the following summary:

Table 6: Proposed Evaluation framework

Criterion	Evaluation
Philosophical consistency	Moderate to strong, provided Dvaita and Advaita are treated as comparative poles rather than historically sequential doctrines
Logical coherence	Strong at the structural level, but dependent on several unverified premises
Scientific plausibility	Moderate for integration/coherence concepts; low for post-mortem frequency claims
Neuroscience compatibility	Strong for embodied and altered consciousness; weak for post-mortem persistence
Quantum compatibility	Conceptually suggestive but empirically unproven
Testability	Partial; strongest for living-state consciousness variables

Criterion	Evaluation
Interdisciplinary relevance	High, particularly for theory-building and hypothesis generation

The central evaluation is therefore that the model is best classified as an **interdisciplinary conceptual framework with empirically accessible and metaphysically speculative layers**. Its philosophical components are coherent enough to support comparative theory-building, and several aspects—particularly self-boundary modulation, conscious integration, meditation, and non-dual awareness—can be connected to existing empirical research. However, the Ātma-Wave Hypothesis, Critical Frequency Hypothesis, post-mortem continuity, rebirth mechanism, and Paramātmā field remain speculative and should not presently be presented as conclusions of physics or neuroscience.

This layered evaluation considerably strengthens the scholarly value of the proposed model. Instead of asking readers to accept metaphysical claims as scientific facts, it identifies **which components are philosophically argued, which possess phenomenological or neuroscientific analogues, which are theoretically inspired by physics, and which remain hypotheses awaiting a presently unknown method of verification**. In that form, the Difference-to-Dissolution framework can serve as a foundation for future interdisciplinary research rather than as a premature claim of scientific validation.

12. SYNTHESIS :

The central synthesis of the present study is the **Difference-to-Dissolution Model**, an integrated conceptual framework that connects embodied physical existence, Dvaita philosophy, karma, consciousness development, biological death, the hypothesized separation of an associated consciousness wave, a critical-frequency condition, moksha, Advaita, Paramātmā, and ultimate singularity. The model does not claim that these stages constitute an established scientific sequence. Instead, it combines **Vedāntic metaphysics with carefully bounded analogies drawn from consciousness studies, information theory, critical systems, and theoretical physics**. Dvaita provides the philosophical starting point because it affirms genuine differences among God, individual souls, and the world, whereas Advaita provides the proposed endpoint because it interprets ultimate consciousness through non-duality (Okita (2020). [61]; Fasching (2021). [22]). The synthesis is therefore original to this study and should not be interpreted as implying that Madhva and Śaṅkara themselves proposed a sequential transition from Dvaita to Advaita.

The proposed continuum is:

Physical Reality



Dvaita



Karma



Frequency Evolution



Death



Wave Separation



Frequency Assessment



If $F \geq F_c$



Moksha



Advaita

↓
Paramātman

↓
Singularity

Each transition is explained below.

12.1 Physical Reality: The Domain of Embodied Existence:

The model begins with **physical reality**, where human beings exist as biological organisms situated within space, time, causal relations, social environments, and material conditions. Contemporary consciousness science strongly associates ordinary conscious experience with organized physical processes in the brain and continues to investigate the physical substrates that support conscious states. Integrated Information Theory, for example, seeks to connect properties of phenomenal experience with intrinsic causal organization in a physical substrate (Tononi et al. (2016). [30]). Thus, the empirical starting point of the model remains compatible with contemporary science: embodied conscious life depends upon complex biological organization.

Physical existence is also inherently differentiated at the phenomenological level. Individuals experience themselves as distinct from other persons and from objects in the surrounding world. Such differentiation provides the experiential foundation for identity, agency, moral responsibility, relationships, and causality. The proposed framework therefore places physical reality at the “**Difference**” end of the continuum rather than beginning from undifferentiated consciousness.

12.2 Dvaita: Philosophical Representation of Difference:

Dvaita provides the metaphysical vocabulary for interpreting this differentiated condition. Madhva's philosophy explicitly rejects monistic reduction and affirms genuine distinctions among God, souls, and the material world (Okita (2020). [61]). Accordingly, Dvaita is employed in the present model as the **philosophical representation of embodied differentiation**.

The relationship can be formulated as:

Physical Reality

↓

Subject–object distinction

↓

Individual identity

↓

Plurality

↓

Relationships

↓

Dvaita / Difference

This does not imply that physical science proves Dvaita metaphysics. Rather, Dvaita offers an interpretive framework that corresponds closely to the ordinary structure of embodied human experience.

12.3 Karma: The Dynamic Principle of Individual Development:

Once differentiated individuality is established, human beings act within networks of intention, consequence, responsibility, and relationship. The model represents this dynamic through **karma**. Within Indian philosophical systems, karma connects intentional action with consequences and continued individual existence. Dvaita and Advaita differ substantially regarding the ultimate status of individuality and liberation, but both recognize karma as significant within embodied existence. Comparative scholarship shows that Dvaita preserves individual distinction even in liberation, whereas Advaita ultimately understands moksha through non-duality (Betty (2010). [63]).

The present model therefore interprets karma as a **developmental modulator of consciousness**:

Experience

↓

Intention



Action



Consequences



Character formation



Consciousness development.

Importantly, the following transition from karma to “frequency” is the **new hypothesis introduced by this paper**, not a claim found in classical Vedānta.

12.4 Frequency Evolution: A Conceptual Measure of Consciousness Development:

The next stage introduces the proposed **Frequency Model**, in which the associated Ātma-wave is conceptually characterized through frequency, amplitude, coherence, and informational organization. These parameters borrow their vocabulary from physics and consciousness science but are not asserted to be literally measurable spiritual variables.

Scientific research does provide relevant structural analogies. Consciousness theories emphasize integration and differentiation as important properties of organized conscious systems; IIT, for example, argues that conscious experience depends upon irreducible causal organization rather than isolated components (Tononi et al. (2016). [30]). Likewise, studies of unconsciousness have found changes in large-scale brain dynamics and departures from critical organization, supporting the general scientific idea that qualitative conscious states can correlate with changes in system-level organization (Tagliazucchi et al. (2016). [100]).

The synthesis therefore proposes:

Karma



Repeated intentional action



Changing internal organization



Changing coherence



Conceptual frequency evolution

The term *frequency* is thus shorthand for the evolving state of consciousness proposed by the model. It should **not** be interpreted as an EEG band, electromagnetic frequency, or experimentally identified “spiritual vibration.”

12.5 Death: Termination of Biological Embodiment:

Death constitutes the first major transition in the model. At the biological level, death marks the irreversible breakdown of the integrated processes sustaining the organism. Research on consciousness surrounding cardiac arrest demonstrates that the dying process can involve complex phenomenological and physiological events, but it does not establish the persistence of consciousness independently of the brain after irreversible death (Parnia & Fenwick (2014). [89]).

The model therefore distinguishes two propositions:

Empirically grounded proposition:

Physical organism



Biological death



Loss of integrated bodily function



Decomposition.

Hypothesized proposition:

Associated consciousness wave



Persistence beyond biological death.

Only the first is presently scientifically established.

12.6 Wave Separation: Transition from Embodied to Post-Embodied Consciousness:

The next stage, **Wave Separation**, represents one of the model's most speculative elements. The Ātma-Wave Hypothesis proposes that embodied life involves an association between the material body and a non-material consciousness wave. At death, the body ceases functioning, while the associated wave is hypothesized to separate from physical embodiment.

This may be represented as:

During Life

Physical Body



Ātma-Wave



Embodied Consciousness

At Death

Physical Body → decomposition

Ātma-Wave → hypothesized separation.

Quantum-consciousness research provides evidence only that serious scientific proposals have attempted to explore relationships between quantum processes and consciousness; it does **not** demonstrate an independently surviving Ātma-wave. Hameroff and Penrose's Orch-OR theory, for example, proposes quantum processes within neuronal microtubules as relevant to conscious events, but it remains controversial and is not evidence for post-mortem spiritual wave survival (Hameroff & Penrose (2014). [31])

Wave separation must therefore remain explicitly classified as a **metaphysical hypothesis**.

12.7 Frequency Assessment: The Critical Transition:

Following the hypothesized separation, the model introduces a **Frequency Assessment** stage. The associated consciousness wave is conceptually evaluated against the previously defined **Critical Frequency, (F_c)**.

Let:

$$[F_c = f(C, I, D, K)]$$

where:

C = coherence,

I = informational organization,

D = detachment, and

K = cumulative karmic orientation.

The expression does not represent an established physical equation. Rather, it summarizes the claim that the final state of consciousness results from multiple dimensions of experiential and ethical development.

The model then proposes two theoretical trajectories:

$$[F < F_c]$$



Residual differentiation



Continuation of individuality



Rebirth

and

$$[F \geq F_c]$$

↓
Critical transition

↓
Moksha.

The analogy with **criticality** comes from complex-systems research, where changes in control parameters can produce qualitative shifts in system organization. Studies of consciousness and unconsciousness have similarly explored departures from critical neural dynamics (Tagliazucchi et al., 2016). However, **no empirical study has demonstrated an Fc associated with karma, death, rebirth, or liberation.**

12.8 If Frequency $\geq$ Critical Frequency: Threshold for Dissolution:

The model's principal liberation pathway begins when:

$[F \geq F_c]$

This relationship symbolizes the condition in which individualized consciousness has reached the hypothesized threshold necessary for the dissolution of residual karmic differentiation.

The sequence becomes:

Higher consciousness integration

↓
Greater coherence

↓
Detachment from bounded identity

↓
 $(F \rightarrow F_c)$

↓
 $(F < F_c)$

↓
Cessation of conditions sustaining rebirth.

The concept is analogous to a phase transition only in structural terms. In physical systems, crossing a critical threshold can produce a qualitatively different organizational regime; in this model, the same formal idea is applied metaphorically to the transition from differentiated to non-differentiated consciousness.

12.9 Moksha: Termination of the Difference Cycle:

Moksha constitutes the decisive philosophical transition. Rather than being interpreted merely as movement to another location after death, moksha is understood in the Advaita-oriented branch as the dissolution of ignorance and limiting individuality. Advaita scholarship emphasizes that consciousness itself is not simply another object or property of the individual but the fundamental presence within which experience becomes manifest (Fasching (2021). [22]).

The model therefore expresses moksha as:

Difference

↓
Identity

↓
Consciousness

↓
Detachment

↓
End of karmic differentiation

↓
Moksha

↓
Dissolution.

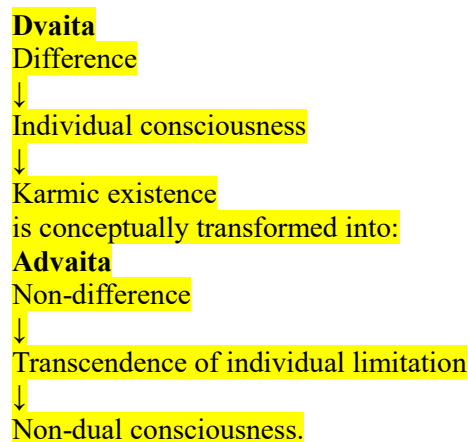
At this point, the conceptual framework shifts from its Dvaita-oriented pole toward its Advaita-oriented pole.

12.10 Advaita: The Non-Dual Phase:

The transition to **Advaita** represents the philosophical shift from differentiated existence toward non-duality. Advaita does not simply state that an ordinary empirical personality physically joins another entity. Rather, it argues that the ultimate distinction between Ātman and Brahman is rooted in ignorance and disappears through realization.

Fasching's analysis of Advaitic consciousness supports this distinction by treating consciousness as non-objectifiable presence rather than as an individually bounded mental object (Fasching (2021). [22]). The broader contemporary discussion of the Ātman thesis similarly places non-individual consciousness within current debates about fundamental reality (Fasching, (2022). [23]).

Thus:



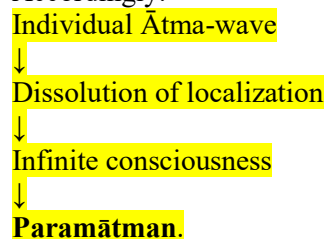
Again, this transformation represents the **paper's synthetic model**, not a historical doctrine shared by the two schools.

12.11 Paramātmān: Infinite Consciousness Field:

The next stage interprets **Paramātmān** as the proposed **Infinite Consciousness Field** developed in Section 5.6. Rather than depicting Paramātmān as a localized object, the framework conceives ultimate consciousness as unrestricted by individual spatial boundaries.

Contemporary **cosmopsychism** provides a useful philosophical comparison because it treats consciousness at the level of the cosmos as potentially fundamental, with ordinary individual minds grounded in a larger conscious reality (Ganeri & Shani (2022). [97]). Such theories are not equivalent to Advaita, but they demonstrate that the proposition that consciousness may be fundamental and globally grounded is a serious subject within contemporary philosophy of mind.

Accordingly:



“Field” remains an analogy. There is no scientific evidence identifying Brahman or Paramātmān with any known quantum or physical field.

12.12 Singularity: The Endpoint of Dissolution:

The final stage is **Singularity**, representing complete non-dual unity. The word singularity is used here neither in the mathematical sense nor in the cosmological sense of a black-hole or Big Bang singularity. It denotes the proposed **ontological absence of ultimate plurality**.

Thus:

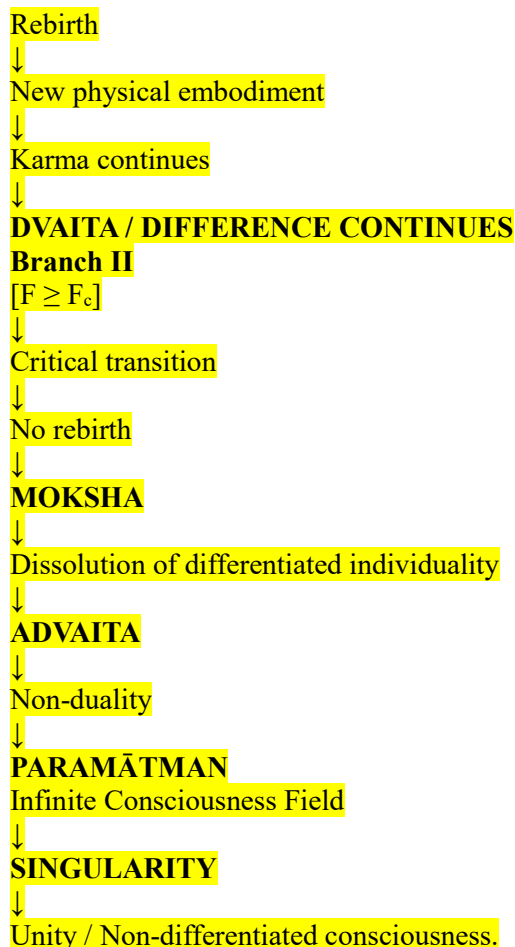
Multiple individuals
↓
Differentiated consciousness
↓
Progressive integration
↓
Dissolution of individuality
↓
Infinite consciousness
↓
Singularity / Unity.

This endpoint can be compared philosophically with contemporary cosmopsychism, where localized consciousness is considered in relation to a more fundamental cosmic whole (Ganeri & Shani (2022). [97]). It can also be related conceptually to Advaita's account of fundamental consciousness, though neither comparison scientifically verifies the post-mortem transition proposed by this study (Fasching, (2021). [22]; Fasching (2022). [23]).

Integrated Difference-to-Dissolution Model:

The complete framework may therefore be represented as:

PHYSICAL REALITY
↓
Material Body + Individual Consciousness
↓
DVAITA
Difference
Individuality
Subject–Object Relations
↓
KARMA
Action
Experience
Ethical Consequence
↓
FREQUENCY EVOLUTION
Frequency
Amplitude
Coherence
Informational Organization
↓
DEATH
Biological organization ceases
↓
WAVE SEPARATION
(*hypothesized*)
Ātma-wave dissociates from physical body
↓
FREQUENCY ASSESSMENT
Compare (F) with (F_c)
↓
Branch I
 $[F < F_c]$
↓
Residual individuality
↓



Synthesis of the Model:

The principal theoretical innovation of this framework is the proposal that **Dvaita and Advaita can be employed as opposite ontological poles within a unified model of conscious existence**. Dvaita represents the domain in which individuality, matter, relationships, karma, causality, and plurality remain operative; Madhva's explicit rejection of monism supports the appropriateness of Dvaita as a model of persistent difference (Okita (2020). [61]). Advaita represents the proposed endpoint where ultimate individuality loses independent metaphysical status and consciousness is interpreted through non-duality (Fasching (2021). [22]). Comparative research confirms that these traditions historically hold contrasting views of liberation, which means their sequencing in this model must be understood as an **original interdisciplinary synthesis**, rather than as conventional Vedāntic doctrine (Betty (2010). [63]).

The model further introduces **information, coherence, frequency, and criticality** as conceptual bridges between philosophy and science. Information theory provides a rigorous scientific framework for quantifying information, but does not establish metaphysical consciousness or rebirth (Shannon (1948). [99]). IIT demonstrates that integration and differentiation can play important roles in scientific theories of consciousness (Tononi et al. (2016) [30]), while neural-criticality research demonstrates that transitions between conscious and unconscious conditions can be associated with qualitative changes in large-scale system dynamics (Tagliazucchi et al. (2016). [100]). These findings justify the **usefulness of the analogies**, but not the literal reality of Ātma-wave frequency or an F_c determining moksha.

The most speculative transition remains **Death → Wave Separation → Frequency Assessment → Moksha**. Research on experiences surrounding death indicates that consciousness at the boundary of cardiac arrest remains scientifically important and difficult to study, yet existing evidence does not demonstrate an independently surviving consciousness wave (Parnia & Fenwick (2014). [89]). Similarly, Orch-OR demonstrates that quantum approaches to consciousness have been seriously proposed but does not verify Vedāntic post-mortem continuity (Hameroff & Penrose (2014). [31]).

These stages must therefore remain classified as **new metaphysical hypotheses introduced by the present study**.

Evidential Classification of the Integrated Model:

For scholarly clarity, the framework can be divided into four evidential levels:

Table 7: Proposed framework with four evidential levels

Level	Component	Status
Level I	Physical embodiment, brain organization, consciousness integration	Empirically investigable
Level II	Detachment, altered self-boundaries, integration and criticality analogies	Phenomenologically/neuroscientifically investigable
Level III	Ātman, Brahman, Paramātmān, moksha, rebirth	Philosophical/metaphysical
Level IV	Ātma-wave, karmic frequency evolution, wave separation, Fc threshold and singularity mechanism	Original hypotheses of the present study

This layered structure is important because **formalization does not itself transform a metaphysical hypothesis into a scientific theory**. The proposed equations and flow models provide conceptual precision; empirical validation would require independent operational definitions, measurable variables, replicable observations, and potentially falsifiable predictions.

Proposed Synthetic Proposition:

The present study therefore advances the following overarching proposition:

P10: Embodied conscious existence may be theoretically represented as a progression from differentiated Dvaitic reality through karmically mediated consciousness development toward a postulated critical transition at death; if the associated consciousness state reaches a hypothetical critical threshold, differentiated individuality ceases, producing moksha and an Advaita-oriented state of non-dual unity conceptualized as integration with Paramātmān and consciousness singularity.

This proposition constitutes the **integrative theoretical core of the Difference-to-Dissolution Model**. Its contribution lies primarily in connecting Indian philosophical traditions, consciousness studies, information concepts, and theoretical-physics analogies within a single explicit architecture while maintaining a clear boundary between **established evidence, philosophical doctrine, scientific analogy, and novel speculation**.

13. PROPOSED CONCEPTUAL MODEL :

The proposed framework integrates philosophical insights from Dvaita and Advaita Vedānta with contemporary understandings of consciousness as a process-like phenomenon. Indian philosophical texts emphasize the continuity of the ātman and the role of karma in shaping future experiences (Greyson (2014). [87]) while comparative studies show that Dvaita affirms real difference and plurality (Rao (1942). [101]) and Advaita reveals ultimate non-duality (Fasching (2021). [22]). Research in consciousness science indicates that experience is associated with dynamic informational integration in the brain (Tononi et al. (2016). [30]; Boly et al. (2017). [102]) and those altered states, including near-death experiences, challenge purely materialist accounts (van Lommel et al. (2001). [91]; Parnia et al., (2014). [95]). The proposed model below is a conceptual synthesis that connects these domains in a structured process.

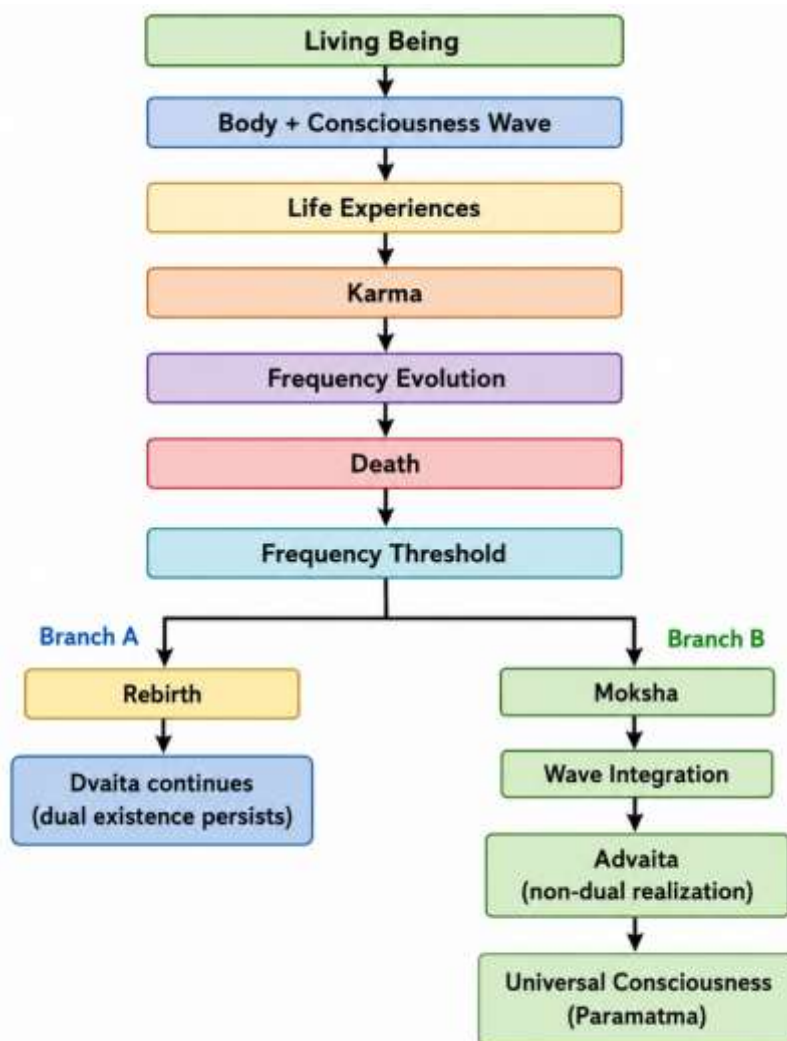


Fig 1: Atma Wave Life Cycle: Dvaita-to-Advaita Conceptual Model.

In this model, a living being is understood as the interplay between a physical body and an associated consciousness wave. Through life experiences, karma accumulates and influences the evolution of the inner frequency (a metaphorical measure of spiritual-psychological refinement). At death, the consciousness wave approaches a frequency threshold. If the threshold is not attained (Branch A), rebirth occurs and Dvaita (duality and individuality) continues. If the threshold is attained (Branch B), moksha is achieved, leading to the integration of the wave, realization of Advaita, and union with universal consciousness.

Table 8: Propositions/Postulated of the of this conceptual theory

Postulate No.	Postulate Origin	Postulate Description
1	Dvaita as an explanatory philosophical model of real-life human experience	Real life, as ordinarily experienced through embodied human existence, is fundamentally dualistic—or more precisely, differentiated and relational—in structure.
2	Conceptual philosophical model	Liberated consciousness exists in singularity.
3	Philosophical and theory-generating	Human conscious experience can be conceptually represented as a Difference-to-Dissolution Continuum in which

	rather than empirically established	differentiated identity constitutes the embodied starting condition, while progressive disengagement from self-identification provides a theoretical pathway toward non-dual awareness and the Advaitic conception of unity.
4	Philosophical-scientific heuristic	Each Ātman may be represented conceptually by four evolving parameters—frequency, amplitude, coherence, and informational content—which symbolize the dynamic organization of consciousness during embodied life.
5	Interdisciplinary philosophical hypothesis	Karma functions as a conceptual modulator of the associated consciousness wave, whereby repeated positive intentional actions progressively increase coherence and conceptual frequency, while repeated negative intentional actions reduce coherence and conceptual frequency.
6	Philosophical-scientific hypothesis	At biological death, the material body undergoes irreversible physiological cessation and subsequent physical decomposition, while the associated consciousness wave is hypothesized to become conceptually dissociated from biological embodiment
7	Speculative and theory-generating	A hypothetical Critical Frequency (F_c) constitutes the conceptual threshold between continued differentiated existence and liberated non-dual existence. Where $F < F_c$, residual individuality sustains rebirth and the continuation of dual existence; where $F \geq F_c$, residual differentiation is extinguished, rebirth ceases, and consciousness enters the state represented philosophically as moksha and non-dual unity with ultimate reality.
8	Metaphysical and theory-generating rather than empirically established	Paramātmān may be conceptualized as an Infinite Consciousness Field—an unbounded, non-localized and non-dual ground of consciousness—within which individual Ātma-waves represent differentiated manifestations during embodied existence and into which differentiation conceptually dissolves upon moksha.
9	Philosophical and hypothesis-generating rather than empirically verified	Embodied human experience may be conceptually represented as a material, localized, temporally and spatially differentiated mode of consciousness, whereas liberated existence may be theorized as a non-material, non-localized, timeless, spaceless and non-dual state of pure consciousness in which differentiated individuality and karmic agency cease to operate.
10	Integrative theoretical core of the Difference-to-Dissolution Model	Embodied conscious existence may be theoretically represented as a progression from differentiated Dvaitic reality through karmically mediated consciousness development toward a postulated critical transition at death; if the associated consciousness state reaches a hypothetical critical threshold, differentiated individuality ceases, producing moksha and an Advaita-oriented state of non-dual unity conceptualized as integration with Paramātmān and consciousness singularity.

14. CONTRIBUTIONS OF THE PAPER :

The principal contribution of the present study lies in its attempt to develop an **interdisciplinary conceptual bridge between classical Indian philosophy and contemporary studies of consciousness, physics, artificial intelligence, and virtual existence**. Rather than treating Dvaita and Advaita merely as competing historical schools of Vedānta, the paper employs their contrasting ontologies as conceptual resources for understanding differentiated embodied existence and non-dual liberated consciousness. Madhva's Dvaita provides a strong philosophical basis for ontological difference and plurality, whereas contemporary interpretations of Advaita emphasize consciousness as

fundamental, non-objectifiable presence (Okita (2020). [61]; Fasching (2021). [22]). Research in neuroscience and consciousness science further demonstrates that consciousness remains an unresolved interdisciplinary problem involving neural organization, integration, subjective experience, and theories of selfhood (Koch et al. (2016). [9]; Tononi et al. (2016). [30]). The paper therefore contributes primarily through **conceptual synthesis and theory building**, while explicitly distinguishing its novel metaphysical hypotheses from empirically validated scientific claims.

14.1 Theoretical Contribution:

The principal theoretical contribution of the paper is the development of the **Atma-Wave Life Cycle Framework**, which brings together three domains that are normally studied separately: **Indian philosophical ontology, contemporary consciousness research, and conceptual physics**. Dvaita is employed as a theoretical model for embodied, differentiated experience characterized by individuality, subject-object distinction, karma, causality, and relationships, whereas Advaita is interpreted as a model for the transcendence of ultimate differentiation. This juxtaposition is supported by the contrasting ontological structures of the two traditions: Dvaita explicitly rejects monistic reduction, while Advaita treats consciousness as more fundamental than its changing empirical contents (Okita (2020). [61]; Fasching (2021). [22]).

The framework extends this philosophical comparison by incorporating concepts such as **information integration, coherence, waves, fields, critical transitions, and non-dual awareness**. Integrated Information Theory, for example, treats integration and differentiation as important dimensions of consciousness and seeks to connect phenomenological properties with physical causal structures (Tononi et al. (2016). [30]). Neuroscientific studies similarly continue to identify neural correlates associated with conscious experience without claiming to have fully resolved the ontological nature of consciousness (Koch et al. (2016). [9]). Research on non-dual awareness further demonstrates that subject-object differentiation can itself become an object of scientific and phenomenological investigation (Josipovic (2021). [70]).

The theoretical originality of the paper therefore lies not in claiming that Vedānta has already been validated by physics, but in constructing a **multilevel framework** in which philosophical propositions and scientific concepts can be systematically compared. The framework establishes a continuum from **Difference → Identity → Consciousness → Detachment → Liberation → Unity**, thereby generating a new structure for future studies of consciousness across philosophical and scientific traditions.

14.2 Philosophical Contribution:

The paper's principal philosophical contribution is its **reinterpretation of Dvaita and Advaita as complementary or sequential conceptual stages within a newly constructed model of human experience**, rather than treating them exclusively as mutually incompatible philosophical systems. Historically, the two schools remain genuinely distinct: Madhva's philosophy affirms the reality of differences among God, individual souls, and the world, while Advaita ultimately denies independent ontological reality to such differentiation. The present study does **not** claim that Madhva himself proposed a transition into Advaita. Instead, it deliberately creates an interdisciplinary synthesis in which Dvaita represents the starting condition of differentiated experience and Advaita represents a proposed endpoint characterized by non-duality.

This reinterpretation allows the two philosophies to illuminate different dimensions of human existence. Dvaita is particularly effective in explaining the ordinary phenomenology of individuality, agency, ethical responsibility, relationships, and embodied existence. Advaita, in contrast, offers a sophisticated philosophical account of consciousness beyond ordinary subject-object identification. Fasching (2021) [22] argues that Advaitic consciousness can be understood as self-manifesting presence rather than as one additional object in experience, while Fasching (2022) [23] situates the Ātman thesis within contemporary metaphysical debates over fundamental reality. Contemporary cosmopsychism likewise explores whether individual subjects might be grounded in a more encompassing form of consciousness, creating an instructive—not identical—parallel with Indian non-dualist thought (Ganeri & Shani (2022). [97]).

The philosophical contribution is therefore a shift from **opposition to complementarity at the level of analytical modelling**. Dvaita explains why life appears differentiated; Advaita provides a conceptual vocabulary for asking whether such differentiation is ultimate. This synthesis generates new

philosophical questions concerning whether individuality and unity must always be regarded as mutually exclusive ontological alternatives or whether they may instead describe different levels of conscious reality.

14.3 Scientific Contribution:

The scientific contribution of the paper lies primarily in the introduction of two original theory-building constructs: the **Ātma-Wave Hypothesis** and the **Critical Frequency Hypothesis (CFH)**. The Ātma-Wave Hypothesis proposes that embodied existence may be conceptually represented through the association of a physical biological body with a non-material consciousness wave. The CFH subsequently proposes that this wave may be represented through evolving parameters such as frequency, coherence, amplitude, and informational organization, culminating in a hypothetical critical threshold that differentiates continued individuality from liberation.

These constructs should be classified explicitly as **scientifically inspired conceptual hypotheses rather than established scientific findings**. Modern neuroscience demonstrates strong relations between brain organization and conscious states (Koch et al. (2016) [9], while IIT explores whether intrinsic integration and differentiation can provide a principled account of conscious experience (Tononi et al. (2016). [30]). Neither body of research demonstrates the existence of an Ātma-wave or a spiritual critical frequency. Likewise, Hameroff and Penrose's Orch-OR theory represents a serious attempt to investigate possible quantum processes in consciousness, but it remains debated and does not establish post-mortem consciousness, karma, or moksha (Hameroff & Penrose (2014). [31]).

The scientific contribution of the paper is therefore **heuristic rather than confirmatory**. It transforms metaphysical ideas into explicitly stated constructs that can be examined for logical consistency, operationalization, and possible future testability. Concepts such as coherence, integration, criticality, and informational organization are already scientifically meaningful, while their extension to an Ātma-wave remains speculative. This distinction makes the framework potentially useful for future research because it identifies exactly where evidence currently exists and where new hypotheses begin.

The paper also contributes to ongoing debates concerning whether consciousness should be regarded solely as an emergent property of localized neural processes or whether more fundamental models deserve philosophical investigation. Cosmopsychism, for example, treats the cosmos as a candidate fundamental locus of consciousness and considers individual minds as grounded in that broader consciousness (Ganeri & Shani (2022). [97]). Such scholarship does not validate Paramātmān scientifically, but it demonstrates that universal-consciousness models can be formulated rigorously within contemporary philosophy of mind.

14.4 Practical Contribution:

The practical contribution of the framework lies in creating a **shared conceptual platform for interdisciplinary dialogue** among Indian Knowledge Systems, consciousness studies, neuroscience, artificial intelligence, virtual reality, quantum theory, and ethics. Such dialogue is increasingly important because developments in AI and immersive digital technologies are challenging conventional definitions of consciousness, identity, embodiment, agency, and moral status. Virtual reality research has demonstrated that digital environments can significantly manipulate presence, self-location, and embodied experience; Sanchez-Vives and Slater (2005) [1] showed that VR offers an important experimental platform for investigating the relationship between presence and consciousness, while Slater and Sanchez-Vives (2022) [2] later explored the deeper conceptual relationship between consciousness and virtual experience.

The framework is also potentially relevant to **AI ethics** because questions concerning consciousness influence debates about agency, moral status, artificial persons, and the ethical treatment of potentially sentient entities. Existing AI ethics scholarship has already examined whether moral consideration should extend beyond conventional human agents, illustrating the need for broader theories of subjectivity and moral standing (Owe & Baum (2021). [103]). These issues become increasingly significant as artificial systems mimic aspects of human language, cognition, and social interaction, even though behavioural sophistication alone does not establish phenomenal consciousness.

For neuroscience, the model encourages closer investigation of **selfhood, integration, meditation, ego attenuation, and non-dual awareness**. Josipovic (2021) [70], for example, proposes non-dual awareness as a dimension of consciousness that cannot be adequately represented solely through

ordinary classifications of content and arousal. For virtual-reality research, the framework raises questions about whether identity is fundamentally dependent upon biological embodiment or can be partially reconstructed across virtual environments. For quantum-consciousness research, the model provides a philosophical context for assessing proposals that attempt to link conscious experience with fundamental physical processes, while also requiring explicit boundaries between analogy and evidence (Hameroff & Penrose (2014). [31]).

From the perspective of **Indian Knowledge Systems**, the framework demonstrates how classical philosophical concepts can contribute to contemporary debates without requiring that they be prematurely translated into scientific facts. Concepts such as Ātman, karma, moksha, Dvaita, and Advaita can be employed as **theoretical resources for generating questions about consciousness, identity, ethics, and reality**, while scientific research can independently test those dimensions that are operationalizable. This reciprocal relationship prevents both reductionism—where classical philosophy is reduced to modern scientific terminology—and uncritical scientism—where speculative metaphysical claims are presented as scientifically verified.

Overall Contribution:

The combined contribution of the paper can therefore be summarized as follows:

(1) Theoretical Contribution:

Dvaita + Advaita + Consciousness Studies + Conceptual Physics

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Atma Wave Life Cycle Framework

(2) Philosophical Contribution:

Dvaita as Differentiated Existence

↓

Transition through Consciousness and Detachment

↓

Advaita as Non-dual Unity

(3) Scientific Contribution:

Ātma-Wave Hypothesis

+

Frequency Model

+

Critical Frequency Hypothesis

↓

New theory-generating constructs, not established physical laws

(4) Practical Contribution:

Indian Knowledge Systems

↔ Neuroscience

↔ Consciousness Studies

↔ AI Ethics

↔ Virtual Reality

↔ Quantum Theory

The paper's strongest contribution, therefore, is not the assertion that an Ātma-wave or critical spiritual frequency has already been scientifically demonstrated. Its contribution is the construction of a **new interdisciplinary research architecture** that separates established evidence, philosophical doctrine, scientific analogy, and original hypothesis. This approach allows Dvaita and Advaita to enter contemporary debates on consciousness and virtual existence without erasing their philosophical distinctiveness, while simultaneously opening research questions concerning individual identity, non-dual awareness, artificial consciousness, information integration, and the possible limits of physicalist accounts of mind.

15. FUTURE RESEARCH DIRECTIONS :

The **Atma-Wave Life Cycle Model** proposed in this study is primarily conceptual and theory-generating; consequently, its long-term scholarly value depends upon whether its constructs can be clarified, formalized, computationally represented, compared with established theories, and—where feasible—subjected to empirical investigation. Contemporary consciousness science increasingly combines mathematical modelling, neuroscience, information theory, computational approaches, and phenomenology, while questions surrounding artificial consciousness and field-based theories continue to attract interdisciplinary attention (Tononi et al. (2016). [30]; Coppola et al. (2022). [104]). The following areas provide particularly promising directions for extending, evaluating, or challenging the proposed model.

15.1 Mathematical Modelling of Consciousness Waves:

Future research may attempt to transform the proposed **Ātma-Wave Hypothesis** from a qualitative metaphor into a formally specified mathematical model. Rather than initially assuming that Ātman constitutes a physically measurable wave, researchers could define a multidimensional state variable representing the hypothesized dimensions of **frequency, amplitude, coherence, informational integration, and degree of self-differentiation**. Contemporary consciousness research demonstrates that abstract features such as integration, differentiation, complexity, and temporal dynamics can be mathematically represented and compared across conscious states (Tononi et al. (2016). [30]; Coppola et al. (2022). [102]). A future model might therefore represent the consciousness state as:

$$(C(t) = f[F(t), A(t), H(t), I(t), D(t)])$$

where the variables denote conceptual frequency, amplitude, coherence, information integration, and detachment respectively. Such equations should initially be treated as **formal representations of the theory rather than physical laws**. Their principal research value would lie in identifying assumptions, specifying relationships among variables, generating competing models, and determining which aspects of the framework could eventually be operationalized using measurable psychological or neural proxies.

15.2 Computational Simulation of the Proposed Framework:

A second avenue involves **computational simulation of the Atma-Wave Life Cycle as a Difference-to-Dissolution continuum**. Agent-based models, dynamical systems, neural-network simulations, or probabilistic state-transition models could be used to represent hypothetical movement through the sequence **Difference → Identity → Consciousness → Detachment → Liberation → Unity**. Computational simulations would be particularly useful for examining how repeated experiences, behavioural choices, integration, and changing levels of self-identification might alter a system's state without requiring the metaphysical assumptions to be accepted beforehand. Existing research already demonstrates how dynamic functional connectivity can be used to represent individual-specific trajectories or “landscapes” of conscious experience, suggesting that consciousness may be fruitfully investigated as a changing dynamical system rather than a static variable (Coppola et al. (2022). [102]). Simulations could consequently test whether the proposed framework produces internally stable trajectories, bifurcations, or critical transitions and could compare the model with established consciousness theories. Such work would not prove moksha or rebirth; rather, it would convert the conceptual structure into a **computationally transparent model whose assumptions and consequences can be systematically examined**.

15.3 Neuroscience and Meditation Studies:

One of the most empirically accessible directions concerns **neuroscience and advanced meditation research**. The proposed framework associates movement toward dissolution with reduced ego-identification, increased coherence, detachment, and non-dual awareness. These variables can be investigated during life through EEG, MEG, fMRI, autonomic measures, behavioural testing, and detailed first-person phenomenological reports. Josipovic (2021) [70] proposes that non-dual awareness can be studied as a distinctive dimension of consciousness, while Cooper et al. (2022) [75] develop a neurophenomenological model connecting advanced meditation with changes in the organization of self-processing and the relationship between self and environment. Future longitudinal research could compare novice, intermediate, and expert meditators to examine whether increasing contemplative expertise is associated with reproducible changes in neural integration, synchrony, complexity, self-

referential processing, and subjective duality. Such studies could test **empirically accessible portions** of the Difference-to-Dissolution continuum without treating meditative non-duality as scientific proof of metaphysical moksha.

15.4 AI Consciousness and Digital Identity:

The rapid development of AI makes **artificial consciousness and digital identity** another important research direction. Future studies could investigate whether the distinction drawn in this paper between **identity and consciousness** also applies to artificial systems: a system may maintain memory, behavioural consistency, self-representation, and a digital persona without necessarily possessing phenomenal consciousness. Wiese (2024) [105] distinguishes between merely simulating processes associated with consciousness and implementing the causal organization that might actually be required for consciousness, demonstrating the importance of examining architecture rather than behaviour alone. At the same time, human–AI interaction is already producing forms of hybridized identity and cognitive extension, raising philosophical and ethical questions concerning the boundaries between human and artificial agency (Babushkina & Votsis (2022). [106]). Research also shows that users may attribute consciousness to AI systems irrespective of whether such systems are genuinely conscious, and these attributions can influence subsequent human attitudes and behaviour (Guingrich & Graziano (2024). [107]). Future work could therefore explore digital twins, persistent AI avatars, posthumous digital identities, machine self-models, and the distinction between **informational continuity, personal identity, and genuine subjective consciousness**.

15.5 Information Theory and Moksha:

A fifth research direction concerns whether **information theory can provide a formal vocabulary for the transition from differentiated consciousness to the proposed state of liberation**. Integrated Information Theory is particularly relevant because it attempts to characterize consciousness in terms of the intrinsic causal organization and irreducibility of physical systems (Tononi et al. (2016). [30]). Empirical implementations of IIT-related concepts have begun applying information-integration measures to neuroimaging data, demonstrating that such theoretical constructs can, at least partially, be translated into measurable variables (Nemirovsky et al. (2023). [108]). Future research could ask whether the paper's notions of karmic informational content, coherence, detachment, and dissolution can be represented using entropy, mutual information, synergy, redundancy, or integrated-information measures. Multivariate information-theoretic methods have already identified higher-order synergistic relationships among brain regions that are not captured by simple pairwise connectivity (Varley et al. (2023). [109]). However, **moksha should not be equated with maximal information integration**. The productive research question is instead whether information theory can help formalize the transformation of individualized conscious organization while keeping the metaphysical claim of liberation analytically distinct from its measurable neural correlates.

15.6 Quantum Cognition:

Future research should also distinguish carefully between **quantum cognition** and **quantum consciousness**. Quantum cognition employs the mathematical formalism of quantum probability to model cognitive phenomena such as contextuality, uncertainty, decision-making, and violations of classical probability; it does not necessarily claim that the human brain operates as a quantum computer. Pothos and Busemeyer (2009) [110], for example, demonstrated that quantum-probability models can explain certain violations of classical rational decision theory more effectively than corresponding classical models. This provides an interesting methodological opportunity for the present framework: researchers could investigate whether transitions among identity, detachment, uncertainty, belief, and self-other differentiation are better described using non-classical probability structures. Such an approach would be scientifically safer than prematurely assuming literal quantum mechanisms behind Ātman. In parallel, genuinely physical quantum-consciousness theories should continue to be evaluated separately for feasibility, explanatory sufficiency, and testability. Quantum cognition could therefore contribute **mathematical tools for modelling contextual consciousness states**, whereas quantum-consciousness research would concern the much stronger claim that quantum physical processes are causally necessary for consciousness.

15.7 Consciousness Field Theory:

The proposed interpretation of **Paramātmān as an Infinite Consciousness Field** invites future comparative research with contemporary field-based theories of consciousness. Several investigators have proposed electromagnetic or field-oriented accounts in which conscious experience is associated with global physical fields rather than being explained solely by local synaptic processing. Keppler (2021) [111], for example, outlines theoretical building blocks for an electromagnetic-field account of consciousness based on interaction between brain dynamics and a hypothesized ubiquitous physical substrate. Jones and Hunt (2023) [112] review multiple electromagnetic-field theories of qualia and conclude that such approaches warrant comparison with standard synaptic and neural-processing models while also facing significant unresolved questions. Future research could compare these theories systematically with the present **Infinite Consciousness Field hypothesis**, identifying similarities and, more importantly, differences between a physically measurable field and the Vedāntic concept of Paramātmān. A rigorous consciousness-field research programme would require mathematical field variables, specified coupling mechanisms, unique predictions, and experiments capable of distinguishing the proposed field from ordinary neural electromagnetic activity. Until such criteria are met, Paramātmān-as-field should remain a **philosophical analogy rather than an empirically established physical field**.

15.8 Experimental Approaches to Coherence and Consciousness:

Finally, future work should develop **experimental approaches to coherence, integration, and conscious-state transitions**, because these are among the most testable elements of the proposed model. Researchers could combine EEG/MEG phase synchrony, functional connectivity, perturbational measures, complexity indices, information integration, meditation interventions, and structured phenomenological reports to investigate whether subjective experiences of reduced duality correspond systematically to changing neural coherence or integration. Recent empirical work demonstrates that information-theoretic and complexity-based measures can distinguish features of different conscious conditions and can be operationalized using functional neuroimaging (Nemirovsky et al. (2023). [108]; Varley et al. (2023). [109]). Advanced meditation provides an especially promising experimental setting because its practitioners can sometimes intentionally enter states involving significant changes in self-processing and non-dual experience (Cooper et al. (2022). [104]). Future experiments should therefore test the modest, falsifiable proposition that **greater phenomenological non-duality may correlate with identifiable changes in neural coherence and integration**, rather than attempting initially to prove that “higher coherence” equals spiritual liberation. Such incremental operationalization offers the most credible pathway for converting parts of the proposed framework from philosophical speculation into experimentally assessable consciousness research.

Concluding Direction for Future Research:

Taken together, these eight areas suggest a **progressive research programme** rather than a single experiment capable of confirming the entire Difference-to-Dissolution Model. Mathematical modelling and computational simulation can first improve theoretical precision; neuroscience and meditation studies can test observable changes in selfhood and non-dual awareness; information theory can quantify integration and complexity; AI research can challenge assumptions concerning consciousness and identity; quantum cognition can supply alternative probabilistic models; and field theories can explore whether global physical organization contributes to conscious experience. Current scholarship shows that consciousness theories increasingly benefit from direct empirical comparison and formal specification rather than relying solely on philosophical plausibility. The appropriate long-term objective is therefore not to seek premature “proof” of Ātman, moksha, or Paramātmān, but to progressively identify **which elements of the framework can become measurable hypotheses, which remain philosophical propositions, and what evidence would be required to distinguish the model from competing explanations of consciousness**.

16. CONCLUSION :

The present study proposes that **Dvaita and Advaita Vedānta need not be viewed solely as competing philosophical doctrines but may also be interpreted as complementary conceptual models describing different ontological states of existence**. Dvaita provides a coherent framework for

understanding embodied human life, where individuality, subject–object distinction, moral responsibility, karma, causality, space, time, and interpersonal relationships constitute the essential features of lived experience. Within this framework, the individual self exists in a world characterized by plurality and real distinctions, making Dvaita particularly suitable for explaining ordinary human existence and relational consciousness. In contrast, Advaita offers a philosophical model of liberated consciousness in which duality, individuality, and separateness are transcended through the realization of non-dual unity with ultimate reality. Rather than treating these traditions as mutually exclusive explanations of the same ontological condition, the present framework interprets them as describing **successive modes of existence**—Dvaita characterizing embodied life and Advaita representing the liberated state beyond the limitations of empirical individuality. This interpretation provides a new interdisciplinary perspective that synthesizes classical Indian philosophy with contemporary discussions in consciousness studies, virtual reality, and philosophy of mind.

To facilitate dialogue between philosophical thought and contemporary scientific inquiry, the paper introduces two original conceptual constructs: the **Ātma-Wave Hypothesis** and the **Critical Frequency Hypothesis**. The Ātma-Wave Hypothesis proposes that every living being may be conceptually understood as comprising a material body associated with a non-material consciousness wave, while the Critical Frequency Hypothesis suggests that the evolution of this consciousness wave determines whether individuality continues through rebirth or culminates in liberation and non-dual integration. Importantly, these hypotheses are **not presented as empirically verified physical theories**, nor do they claim that modern physics has demonstrated the existence of Ātman, moksha, or Paramātmān. Instead, they function as interdisciplinary theoretical constructs that employ analogies drawn from concepts such as waves, coherence, information, and frequency to stimulate philosophical reflection and generate new research questions. By explicitly distinguishing conceptual modelling from scientific validation, the study seeks to encourage rigorous interdisciplinary dialogue while maintaining appropriate methodological boundaries between metaphysical interpretation and empirical science.

Ultimately, this study argues that **Indian Knowledge Systems possess significant potential to contribute to future interdisciplinary investigations of consciousness, identity, and the philosophy of reality**. As contemporary neuroscience, artificial intelligence, virtual reality, information theory, and quantum-inspired approaches continue to explore the nature of consciousness, classical Indian philosophical traditions offer sophisticated conceptual resources that complement rather than compete with scientific inquiry. The proposed **Atma-Wave Life Cycle Model based Difference-to-Dissolution Framework** therefore represents an invitation to develop broader models capable of integrating philosophical analysis, conceptual physics, cognitive science, and consciousness research. While many aspects of the framework remain speculative and require substantial theoretical refinement and empirical investigation, the study demonstrates that Dvaita and Advaita can serve as valuable intellectual foundations for rethinking the relationship between physical existence, consciousness, liberation, and ultimate reality. In doing so, it underscores the enduring relevance of Indian philosophical traditions in inspiring innovative approaches to one of humanity's most profound questions: the nature of consciousness and its place within reality.

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