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LIFE ACCORDING TO THE EMERGENT FLOW THEORY (EFT): A RHIZOMATIC INFORMATIONAL CONCRESCENCE

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ABSTRACT

The Emergent Flow Theory (EFT) offers a fresh perspective on existence, consciousness, and reality. It posits that these phenomena should not be confined to biological or neural explanations alone. Rather, EFT argues that life is an amalgamation of rhizomatic information—a dynamic expression of a constant flow of energy, matter, and information organized through complex patterns—without the need for fixed hierarchies or external causes. According to this new perspective, consciousness is not merely a byproduct of brain activity; rather, it is an organizing principle that exists inherently and functions from quantum levels to biological and social systems. The EFT draws from quantum physics (e.g., coherence, entanglement, and information preservation), neuroscience (e.g., neural plasticity and free energy), regenerative biology (e.g., bioelectrical intelligence), and the philosophy of mind, particularly emergentist and panpsychist perspectives. According to the EFT, information is not lost with biological death; rather, it is reorganized and reintegrated within a global quantum-informational field that maintains traces capable of influencing future events. This model rejects the traditional division between mind and matter, offering a unified vision in which consciousness is a fundamental, regulating element of the universe. The paper also presents mathematical models and hierarchies that illustrate the evolution of quantum protoconsciousness toward individual and collective identity. Thus, the EFT provides a framework for phenomena such as synchronicity, morphic resonance, non-local learning, and bioelectrical reorganization. It also gives rise to a postmaterialist science that integrates subjective and objective, individual and collective, and biological and informational dimensions into an evolutionary, self-directed process.

KEYWORDS: Emergent Flow Theory, Consciousness, Quantum Information, Rhizome, Neuroplasticity, Bioelectrical Intelligence, Causal Emergence, Immanence, Panpsychism, Epigenetics, Morphic Resonance.

1. INTRODUCTION

For many years, scientists have tried to understand life and consciousness by creating models that focus on reducing biochemical processes and brain functions. While these models have advanced the study of the human brain and its physiology, they have left fundamental questions about the nature of subjective experience, the systemic organization of life, and the emergence of consciousness unanswered. These approaches consider consciousness an epiphenomenon arising from neural processes, separate from a deep ontological foundation.

Classical theories such as eliminative materialism and Cartesian dualism have increasingly been criticized for their inability to explain phenomena such as self-organization in living systems, out-of-body experiences, non-localized consciousness, and the continuity of the self. In response to these shortcomings, theoretical proposals have emerged that combine knowledge from various disciplines. Notable examples include Integrated Information Theory (Tononi, 2004) and Global Workspace Theory (Baars, 1988), which approach consciousness from functional and informational perspectives while remaining within the materialist framework.

The Emergent Flow Theory (EFT) emerges as a transdisciplinary alternative that reconfigures our understanding of life, consciousness, and matter. EFT proposes that reality consists of an ongoing, interconnected flow of energy, matter, and information that organizes itself into various levels of existence via dynamic, nonlinear, and rhizomatic patterns. According to this theory, consciousness is not merely the result of structural complexity; it is an inherent property of the universe that acts as an organizing principle at all scales of being (López Parra, 2025).

Philosophically, EFT draws on concepts such as the "rhizome" of Deleuze and Guattari (1980), the "holomovement" of Bohm (1980), and Whitehead's "concrescence," enabling to envision a reality not organized hierarchically but as a fabric of self-organizing, emergent relationships. This holistic vision challenges traditional binary logic and promotes a relational epistemology in which knowledge, matter, and consciousness are inseparable elements of a single flow.

In quantum physics, concepts such as entanglement, quantum coherence, and nonlocality suggest a deep interconnection between particles and systems that transcends time and space. These characteristics have led several authors to suggest that consciousness may function as a distributed quantum-informational field, not being restricted to the brain (Hameroff & Penrose, 1996). Neuronal microtubules, in particular, have been investigated as possible structures that could sustain coherent quantum processes related to consciousness (Kerskens & López Pérez, 2018).

Similarly, studies in regenerative biology and epigenetics have demonstrated that information is transmitted through electrical, chemical, and mechanical processes that facilitate the intelligent organization of biological tissues (Levin, 2019). So-called "bioelectrical intelligence" suggests that cells can store and process information, implying that some form of consciousness may exist.

1.1. General objective

The goal is to propose a new interpretation of life and consciousness based on Emergent Flow Theory (EFT). This approach integrates quantum physics, biology, neuroscience, and philosophy to establish a rhizomatic, immanent theoretical framework. This framework permits understanding life as self-emergent and non-reductionist informational organization.

2. PHILOSOPHICAL AND ONTOLOGICAL FOUNDATIONS OF THE EFT

Emergent Flow Theory (EFT) belongs to a philosophical tradition that challenges dualistic and reductionist ideas about existence. It suggests an ontology that is dynamic and relational, moving away from the linear and hierarchical structures that dominate contemporary science. Instead of viewing life and consciousness as products of biological complexity, EFT posits that they are fundamental manifestations of an ever-restructuring quantum informational field. This idea is supported by various current philosophical frameworks, particularly rhizomatic thinking, process metaphysics, and phenomenology of perception.

A fundamental concept in EFT is the rhizome, presented by Deleuze and Guattari (1980) in A Thousand Plateaus. Unlike the tree model, which organizes thought hierarchically and linearly, the rhizome proposes open, decentralized, and non-hierarchical systems where any point can connect to another. Thus, reality is not ordered as a strict causal chain but as an active network of flows and relationships. In this view, life is not merely a result but an active, distributed manifestation of being. This rhizomatic perspective allows for an understanding of consciousness's emergence not as an evolutionary achievement, but as a property distributed across various levels of organization in the universe.

Additionally, the EFT is based on Alfred North Whitehead's metaphysics of process, which argues that reality is composed of transforming events rather than fixed substances. In Process and Reality (1929), Whitehead introduces the concept of "concreteness," referring to how various data and possibilities combine in concrete experiences. The EFT adopts this notion to explain how life and consciousness emerge as dynamic syntheses of information, energy, and matter organized into self-organizing temporal patterns. According to this approach, consciousness is not an immutable property or a secondary phenomenon but a capacity of the universe to meaningfully integrate information.

Another important ontological reference is David Bohm's 1980 theory of holomovement. Bohm argues that what we see (the explicit order) arises from a deeper, hidden reality (the implicit order). According to Bohm, everything is in continuous change and transformation; the patterns we detect in the environment are temporary manifestations of more fundamental structures. The EFT adopts this interpretation, suggesting that life is a temporary manifestation of quantum informational patterns actualized by material structures. Thus, consciousness is understood as a coherent expression of the interaction between the implicit and explicit orders—that is, between the deep information of the quantum field and its materialization in biological organisms.

The EFT thus proposes an ontology of radical immanence, in which no transcendent instance originates life or consciousness. Instead, both are considered immanent properties—that is, fundamental dimensions of reality itself. This immanence is evident in what the author refers to as the quantum-informational field: an ontological matrix that stores, reconfigures, and redistributes information after a biological system ceases to exist. This suggests an ontological continuity between life and death in terms of information, not biology. Thus, the self and its organizational patterns do not disappear but are reintegrated into the general flow of being.

To build on these foundations, the EFT also critiques positivist epistemology, which historically restricted knowledge to the quantifiable and objectifiable while disregarding phenomenological dimensions, experiences, and relationships. In contrast, the EFT suggests a relational and transdisciplinary epistemology where the knowing subject co-emerges with the world in continuous interaction rather than existing in isolation from it. This perspective relates to Merleau-Ponty's phenomenology, which maintains that perception is an embodied and situated process, not a passive act. According to EFT, consciousness does not act as an external observer but as a node in the flow of reality, actively participating in the organization of what is known and experienced.

From a contemporary perspective, this proposal can be linked to enactivism and embodied cognition, as presented by Varela, Thompson, and Rosch in 1991. They argue that the mind is not restricted to the brain but arises from the interaction between the body, environment, and experience. This view reinforces EFT's idea that consciousness should not be understood as located in a specific anatomical structure but rather as an extensive, emergent, and dynamic function.

In conclusion, the philosophical and ontological principles of EFT represent a robust effort to reinterpret life and consciousness based on process, connection, and immanence. These contributions overcome the limitations of mechanistic and atomistic visions, allowing for a holistic understanding of reality in which information, matter, and energy coexist within the same organizing flow.

2.1. Consciousness And Quantum Emergence: Theoretical Integration

Understanding consciousness has been one of the most significant challenges in philosophy and cognitive science. Historically, consciousness has been studied using reductionist approaches that view it as a byproduct of brain activity, confined to complex, quantifiable neural processes. However, in recent years, theories have emerged suggesting that consciousness may be an inherent property of the universe capable of manifesting beyond strictly biological levels (Chalmers, 1996). In this context, Emergent Flow Theory (EFT) combines models of quantum physics, neurobiology, and philosophy of mind to offer a comprehensive understanding of consciousness.

From a quantum physics perspective, concepts such as entanglement, quantum superposition, and nonlocality have been examined in an attempt to understand how consciousness might manifest as an emergent phenomenon. Hameroff and Penrose (1996) proposed the Orchestrated Objective Reduction (Orch-OR) theory, suggesting that consciousness originates in quantum processes occurring within neuronal microtubules. This hypothesis has sparked debate but opened the possibility of contemplating consciousness not only

from neuroanatomy but also from nonclassical properties of the physical universe. The EFT adopts this concept to affirm that consciousness is an organizational modality of information that can arise at different scales, from subatomic levels to more complex biological structures.

The original paper indicates the existence of a quantum informational field that can be considered an ontological substrate in which information is not destroyed, but rather reorganized and reconfigured dynamically. This notion aligns with the principles of information conservation in contemporary quantum theory (Lloyd, 2006) and is consistent with models supporting a comprehensive view of consciousness. One such model is the Non-Local Consciousness model presented by Beauregard and O'Leary (2007). According to the EFT, this field houses not only inert information but also functions as a pattern-generating principle that organizes and reconfigures life and consciousness over time.

Neuroscience introduces a fundamental dimension to this theoretical integration. Recent neuroplasticity research has shown that the brain is highly adaptable, with neural connections that continuously reorganize according to experiences, environment, and intentions (Doidge, 2007). EFT interprets this dynamism as a reflection of the organism's ability to relate to the flow of information passing through it. Similarly, the thesis incorporates the concept of bioelectrical intelligence, which posits that the tissues and systems of the body, not just the brain, can store and process electrical information in an organized way. This concept has been validated by research such as that conducted by Levin (2021), who emphasizes the critical role of bioelectrical networks in the morphological and regenerative development of living beings.

Another significant contribution comes from Tononi's (2004) integrated information theory (IIT), which suggests that consciousness is linked to a system's ability to combine information. Though this model is based on neurobiological structures, it establishes connections between consciousness and broader informational principles. EFT builds on this concept, extending it beyond biology. It proposes that the capacity to integrate information exists in elementary quantum systems, implying the existence of fundamental protoconsciousness in nature.

In the philosophy of mind, thinkers such as David Chalmers have argued that consciousness could be an essential property similar to mass or charge (Chalmers, 1996). This perspective, known as panpsychism, proposes that everything in the universe has some level of experience or interiority. The Emergent Flow Theory (EFT) aligns with this approach, stating that consciousness does not suddenly appear in complex organisms but rather is the consequence of the continuous evolution of systems capable of organizing and updating information.

In conclusion, the Emergent Flow Theory's theoretical integration seeks to transcend the traditional divisions between physics, biology, and philosophy. By understanding consciousness as a flow of information structured on various levels, from quantum to symbolic, the theory proposes a holistic model in which matter is not passive or inert but has the capacity to generate and maintain experience. This approach opens up new avenues for scientific inquiry and transforms our ontological notions about life, knowledge, and existence itself.

2.2. Hierarchy Of Consciousness: Levels Of Emergent Flow

According to the Emergent Flow Theory (EFT), consciousness does not appear abruptly or exclusively in highly complex systems. Rather, it occurs at various levels of organization, ranging from basic quantum patterns to symbolic and collective manifestations of cognition. This gradualist approach suggests a hierarchy of consciousness that is not understood as a conventional, linear, or evolutionary progression but rather as a rhizomatic network of informational nodes that interact, reorganize, and enhance each other.

At the most basic level, EFT refers to quantum protoconsciousness, the fundamental ability of the universe to process, store, and organize information in states of coherence and correlation. This initial level does not involve self-awareness or intentionality but represents a form of organization that anticipates systems with consciousness. Authors such as Goff (2019) and Chalmers (1996) have proposed similar ideas, arguing that elements of experience could exist in subatomic particles from a panpsychist perspective, considering consciousness an essential property.

As physical systems develop greater capacities for self-organization, EFT's bioinformational structures appear: biological organisms with feedback loops and signal processing, such as cells, tissues, and organs. At this stage, consciousness is not reflective yet, but complex adaptive behaviors manifest, such as cellular-level decision-making, metabolic self-regulation, and epigenetic processes. Researchers such as Levin (2021) have demonstrated that even non-neuronal cells exhibit organization-oriented bioelectrical processing, indicating a fundamental

form of distributed cognition.

A higher level is neurocognitive awareness, where brain structures capable of integrating various sensory modalities, generating memories, creating temporal projections, and forming an autobiographical identity appear. Synaptic plasticity, neural network resonance, and cortical feedback loops are essential mechanisms here. Tononi (2004) suggests, through his Integrated Information Theory (IIT), that this level of consciousness relates to the system's capacity to create an informational unit that cannot be reduced. This capacity is measured by the parameter Φ (phi).

Symbolic consciousness is the next level in this hierarchy. Here, language, abstraction, logical thinking, and cultural structures emerge, allowing for more complex and broader forms of consciousness. This level facilitates reflective self-awareness, the creation of stories, and the development of mental models of the world and oneself. Vygotsky (1978) indicated that language mediates social interaction and significantly transforms thought structure, entailing a qualitative advance in how consciousness operates.

Finally, at the apex of this structure is collective or expanded consciousness, in which human systems transcend individuality and function as shared information systems. From the EFT approach, this consciousness is considered an emergent manifestation arising from the symbolic, emotional, and technological interconnectedness of individuals, not simply a set of individual consciousnesses. Ideas such as Jung's collective unconscious, Johnson's (2001) hive mind, and Lévy's (1997) collective intelligence correspond to this perspective, illustrating how information can be ordered into levels that go beyond the personal.

This hierarchy should not be viewed as an inflexible, deterministic structure. The EFT stresses that the levels do not eliminate each other but rather combine and feed back into each other, allowing both simple and complex forms of consciousness to coexist. Additionally, this approach provides new opportunities to reflect on phenomena such as out-of-body experiences, significant synchronicities, and the continuity of information after biological death. This is because information present in a conscious structure could be reintegrated into the quantum-informational realm.

From an epistemological point of view, the idea of hierarchy in EFT does not imply a moral evaluation or ontological classification of beings. Rather, it is a proposal to visualize the expansion of the capacity to dynamically integrate, reorganize, and project information. This structure enables us to conceive of consciousness as a universal process that manifests in various forms and degrees of complexity, rather than an exclusive human trait.

2.3. The Quantum-Informational Field as the Basis of Life

According to Emergent Flow Theory (EFT), the understanding of life cannot be limited to the conventional biochemical view, which describes life as merely self-replicating molecular reactions. Instead, EFT argues that life arises as a dynamic expression of an essential and profound field: the quantum-informational field. This concept is not merely a metaphor or speculative idea; it is an ontological hypothesis that reinterprets aspects of quantum physics, information theory, and systemic biology to develop a coherent model of how life arises, develops, and persists.

In quantum physics, it has been proposed that subatomic particles do not exist as clearly defined entities in traditional space-time but rather as superpositions of possible states within a field of probabilities. David Bohm (1980) suggests in his theory of the implicate order that what we perceive as individual objects in space-time are manifestations that emerge from a deeper, more unitary reality. According to Bohm, the implicate order contains all the universe's information in a nonlocal and holistic way. This gives rise to the explicate order, or the way we experience the world. The EFT adopts this perspective, suggesting that the quantum-informational field includes physical potentialities and organizational schemes of information that direct the emergence of life and consciousness.

In this context, information is considered an ontologically fundamental element rather than a secondary feature of particles or biological systems. According to Wheeler (1990), "it from bit"—the notion that everything physical originates from information—implies that reality itself possesses an informational structure. The EFT aligns with this perspective, stating that quantum information organized in patterns of coherence and correlation is the foundation on which living systems are formed. Therefore, life is not merely the result of random molecular interactions; rather, it is the manifestation of coherent informational configurations within a dynamic flow of energy and matter.

The quantum-informational field also allows to reevaluate the concept of biological memory. Studies such as Rupert Sheldrake's 2012 research on morphic fields suggest that the form and behavior of living beings are influenced by informational patterns that

extend beyond DNA and exist in organizational fields that transcend locality. Though controversial, these theories find context in the EFT, where they can be more systematically integrated. The memory of a living organism is not restricted to its physical composition but can be stored and retrieved from the quantum-informational field. This field accounts for phenomena such as biological regeneration, adaptive synchronicity, and unusual experiences of consciousness.

Likewise, the quantum-informational field provides a broader view of death that is not based on materialism. According to this theory, when a biological system decomposes, the information that organized its activity is not canceled but reincorporated into the field. This information remains as an impression or matrix, ready to be reused, reorganized, or modified. This notion does not necessarily imply a spiritual interpretation of reincarnation; rather, it suggests a scientific approach to information conservation, supported by the principles of quantum physics and the open systems theory proposed by Prigogine in 1980.

From a biological perspective, processes have been identified in which information is distributed in bioelectrical networks, chemical signals, and dynamic structures of the extracellular matrix rather than being limited to the genome. In 2021, Levin showed that organisms can change their form and function without modifying their genetic code by using bioelectrical maps that function as information coordinates. The EFT considers these discoveries proof that living systems operate within a deep information network in constant interaction with their environment. In this network, the quantum-informational field acts as a universal interface.

Finally, this ontological vision of life has important epistemological consequences. If life is a manifestation of quantum informational patterns, then science must expand its tools to include the relational, emergent, and non-local, not only the quantifiable. This implies shifting toward an epistemology of complexity where knowing is understood as mapping flows, correlations, and potentialities in constant movement, rather than simply isolating and analyzing.

2.4. Epistemological and Ethical Implications of Emergent Flow Theory (EFT)

Emergent Flow Theory (EFT) is presented not only as a conceptual model of life and consciousness but also as a significant change to conventional epistemological and ethical models. It calls into question the foundations of classical positivism, which prevails in modern science by reducing knowledge to what can be measured and predicted. EFT, on the other hand, suggests an epistemology that is relational, complex, and transdisciplinary. In this model, knowing implies being part of a network of relationships between information, matter, and consciousness.

From this point of view, the Cartesian separation between subject and object dissolves. The observer is not conceived as an external, objective entity but as an entity that emerges within the same information field being observed. This departure from the concept of absolute objectivity echoes constructivist epistemology and the activist theory of cognition (Varela et al., 1991), which assert that knowledge stems from the relationship between the perceiver and their surroundings. The EFT adopts this concept, maintaining that all knowledge is a co-emergence occurring between different levels of reality. Truth is not understood as a fixed correspondence but as a dynamic, situated, and evolving configuration.

Likewise, EFT proposes complementing traditional scientific approaches, which are based on the fragmentation and isolation of the object of study, with systemic, qualitative, and phenomenological methods. This suggests shifting from an epistemology of division to an epistemology of connection, where intuition, personal experience, and the researcher's participation in the exploration process are valued. In this regard, the EFT aligns with the ideas of Edgar Morin (2001), who advocates for a science of complexity integrating cognitive, emotional, social, and ecological dimensions of knowledge.

Regarding ethics, the EFT proposes a new framework of responsibility. If life and consciousness are manifestations of a universal informational field, then all beings—whether living or nonliving, individual or collective—are part of the same ontological flow. This notion gives rise to an ethic of interconnection that goes beyond an anthropocentric approach, promoting an inclusive perspective where respect for life encompasses all forms of information organization. This ethics aligns with the deep bioethics of Arne Naess (1973) and the ecosophical philosophy of Félix Guattari (1989). These philosophies propose an integration of environmental, social, and mental ecologies.

Under this approach, human actions cannot be considered only in terms of functionality or efficiency but also in relation to their effect on the network of interactions that maintains the quantum-informational realm. According to this approach, the destruction of ecosystems, the industrial exploitation

of nature, and the dehumanization of others are not only immoral actions according to conventional ethical criteria but also violations of the delicate balance of the emerging flow. This suggests an ethics based not on norms or duties but on processes focused on the relational and evolutionary quality of each action.

The Theory of Emergent Flows (EFT) also presents challenges for ethics in scientific research. Since every intervention in a living system alters its informational field, the act of investigation cannot be considered impartial. Therefore, a type of ethics is needed that recognizes the limitations of technical knowledge and the importance of including ethical, cultural, and ontological dimensions in the formulation of theories and technologies. This view aligns with Sandra Harding's (1991) critique of mainstream science and emphasizes the necessity of more inclusive and diverse epistemologies.

Finally, EFT's ethical perspective promotes valuing experience not only as a subjective datum but also as a valid source of knowledge. This translates into an ethic of care for oneself, others, and the world based on the understanding that everything that exists is part of the same informational network and that every action, thought, or emotion influences the fabric of life.

2.5. Emergent Stream of Consciousness

Figure 1: The Informational Probabilistic River and Informational Concrescence expressed in Toroidal and Fractal Patterns.

2.6. The Global Emergence Process in Emergent Flow Theory (EFT)

The image above offers a striking visual representation of the global emergence process described by the Emergent Flow Theory (EFT). The text presents a comprehensive analysis of protoconsciousness, conceptualized as the bioenergetic-informational field, and its manifestation at various hierarchical and rhizomatic levels. This field is composed of complex geometric patterns, including fractals and toroids, which represent structures with high energy performance and organizational efficiency.

2.6.1. The Centre: The Hofstadter Butterfly

The central symbol, the Hofstadter Butterfly, is a representation of the recursive and infinite structure of consciousness in constant self-organization. This representation is noteworthy for its depiction of the bioenergetic-informational field, which is characterized by its adoption of efficient geometric patterns that are interconnected in a rhizomatic and immanent manner. Moreover, the butterfly serves as a metaphor for continuous transformation, representing a progression from the fundamental to the complex.

2.6.2. Undulating Forms: The Informational Quantum River

The undulating shapes that extend into the image evoke the fluidity of the Informational Quantum River, a constant flow of information and energy that permeates reality. This river constitutes the primordial substrate where proto-consciousnesses emerge that, through processes of self-organization, give rise to more complex conscious structures. The rhizomatic nature of these waves symbolizes the absence of a fixed origin or end, and instead, a constant process of transformation and reconfiguration.

2.6.3. The Vortices and Peripheral Symbols: A Taxonomy of Consciousness: A Preliminary Study

Each vortex depicted in the image signifies a distinct level of consciousness organization. These vortices, ranging from atomic matter to complex biological systems, exemplify the hierarchical organization and integration of protoconsciousness into systems of greater complexity. This process aligns with the hypothesis that consciousness emerges from the interaction of fundamental quantum patterns that cluster and evolve over time.

2.6.4. The Rhizomatic and Immanent Connection

The image also illustrates how these levels of consciousness are interconnected through a rhizomatic system, where there is no absolute center, but rather a simultaneity of horizontal and vertical relationships. This finding aligns with the hypothesis

that protoconsciousness permeates all of reality, and its manifestation is contingent on the organization of the information that flows through the system.

2.6.5. A New Philosophical and Scientific Paradigm

This visual depiction of EFT illustrates how reverse emergentist panpsychism provides a coherent explanation for the emergence of consciousness, ranging from its fundamental to its most complex forms. As information is organized into advanced biological systems, it undergoes a transformation into conscious subjective experience, which is intimately related to the flow of information that underlies reality.

2.6.6. The Present Study Explores The Relationship Between Contemporary Science And Its Surrounding Context.

This image also suggests a relationship to advanced theories in quantum physics, biology, and bioelectrical intelligence. The scientific contributions of Stuart Kauffman, Michael Levin, Karl Friston, and Rupert Sheldrake offer a theoretical foundation that supports the hypothesis that consciousness emerges from fundamental informational processes integrated into organized systems.

2.6.7. The Proposal of Free Will and the Self

In this model, free will is conceptualized as an emergent phenomenon that emerges from the interaction of multiple informational flows. Conscious decisions are the result of perceptual processes that are guided by hierarchical informational patterns. These patterns facilitate the manifestation of protoconsciousness in complex systems. Towards a new conception of life and consciousness

The scientific community is on the cusp of an unparalleled paradigm shift. Recent advancements in the fields of quantum physics, biology, neuroscience, and information theory have led to the realization that life cannot be reduced to a mere aggregation of molecules under mechanistic principles. Instead, models emerge that integrate information, energy, and quantum-informational processes as essential foundations of existence.

A substantial body of research supports the hypothesis that consciousness is a fundamental organizational property of living matters. This includes studies by Michael Levin on bioelectrical intelligence, Lucien Hardy on quantum mechanics and causality, Stuart Kauffman on self-organization and quantum consciousness, Karl Friston on the principle of free energy, and Erik Hoel on causal emergence.

2.7. Potential Immanence

The term "immanence" implies that the causes and effects of a phenomenon are found within the phenomenon itself, without the need to resort to external agents. Spinoza said that nature is God and God is nature. Postmodernist philosopher Gilles Deleuze, an opponent of reductionist dualism and transcendentalism, proposed a monist philosophy of processes. In this philosophy, the term "plane of immanence" represents a field of possibilities from which mechanistic singularities emerge. Everything that exists unfolds and connects on this plane. This plane is not a fixed substance but a field of possibilities in constant flux. There are no superior or transcendent entities that govern or explain reality. Deleuze emphasizes becoming, constant change, and differentiation as fundamental characteristics of reality. This reality is not a collection of static entities but rather a continuous flow of processes and transformations. There is no origin or end. Unlike a tree, which has a central root and hierarchical branches, a rhizome has no point of origin or defined center. Any point of the rhizome can connect with any other point, creating complex networks in constant transformation. It can break at any point and reconnect in different ways without losing coherence.

Deleuze and Guatarri's powerful and unique vision of reality resonates deeply with the EFT's vision. According to the EFT, existence arises from a power network or informational probabilistic quantum field, which is very similar to an immanent field. From this field, matter is expressed in multiple ways, symbolizing the interactions that the immanent plane can form. However, these interactions or combinations that explain change and transformation are mediated by a regulatory consciousness.

3. INTRODUCTION

According to Emergent Flow Theory (EFT), life is an immanent, self-regulating, informational concrescence that is, a structure that emerges from the interaction of energy, matter, and information within a quantum-probabilistic field. According to this model, consciousness is the organizing principle that guides the collapse of the wave function. This process gives rise to organized structures that evolve into increasingly complex biological systems.

1. **Informational Quantum Cloud**: The Power Network and the Probabilistic Morphogenetic

Field

Life arises in a field of immanent quantum information in superposition. In this field, emergent consciousness acts as a fundamental observer, collapsing the wave function and organizing matter. This consciousness is implicit in the informational field; it is part of the field and acts at each level of existence. This field has been described in various ways.

Rupert Sheldrake calls it the morphogenetic field: a bank of information that guides the form and function of organisms.

Stuart Kauffman proposed the principle of quantum self-organization, in which biological structures emerge according to probabilistic patterns. He called this the Power Network.

This quantum informational field has its own space-time dimension and manifests quantum properties, such as superposition. The collapse of these properties, regulated by consciousness, defines the structure and evolution of physical and biological systems.

2. Regulatory Protoconsciousness and Causal Emergence

The informational field's emergent consciousness acts by regulating the interaction between particles, molecules, and organisms.

Erik Hoel suggests that systems that can modify their own structure generate higher levels of emergent causality, which is essential to the emergence of consciousness.

Karl Friston's principle of free energy shows that living systems minimize uncertainty, suggesting an underlying intelligence in self-organization.

In this model, protoconsciousness is not merely an evolutionary byproduct, but rather a fundamental factor in the integration of information and decision-making at various organizational levels.

In this process, the collapse of the wave function does not occur randomly, but rather responds to informational patterns that allow increasingly organized structures to emerge.

3. Life as Quantum-Bioelectric Integration

Protoconsciousness regulates the emergence of organized matter. The way structures influence themselves and other systems is realized in a rhizomatic form, without a hierarchical origin or end. In this way, any part of a system has intrinsic properties, as well as properties shared with lower or higher organizational levels, which influence and feedback on each other.

Among the mechanisms used to integrate and transmit information are:

1. **Superposition and quantum entanglement:** Subatomic particles determine their type of interaction and structural formation through quantum principles.
2. **Bioelectricity and morphogenetic intelligence:** Protoconsciousness acts as "bioelectrical software," structuring the "genetic hardware" (DNA) and allowing for evolution and adaptation.
3. **Neural unification and subjective experience:** As protoconsciousness integrates into complex organisms, information synchronizes within neural systems, giving rise to conscious experience, or qualia.

Qualia are not exclusive to human beings but emerge at different levels, from atoms to galaxies. Each level perceives reality differently. This interconnection suggests that Science is not an isolated phenomenon but rather a structure of information distributed throughout existence.

What is Life: A Panpsychic Metaphor from the EFT

Life is flow. Imagine existence as a quantum river of information a primordial torrent that perpetually moves and transforms through the cosmos. In this immanent river, which is self-sufficient and does not come from anything external, everything incessantly becomes. From its flow emerge the forms of matter, the spark of life, and the light of consciousness. Immanence is the original principle of this panorama. There is no transcendent agent providing vitality from outside, only an internal current engendering and sustaining everything that exists.

In the serene waters and tumultuous rapids of this cosmic river, matter condenses into fleeting eddies and ephemeral structures. Each particle and atom is an undulation of the fundamental field, and each star and cell is a complex backwater in the infinite stream. Life does not abruptly begin at a privileged point in complex biology but is insinuated into the behavior of matter from its most basic levels. The distinction between the inert and the living becomes blurred when we recognize that they are both expressions of the same emergent flow organized at different scales. Thus, rocks, seeds, and thoughts share a common lineage; they are born from the constant becoming of the immanent field.

3.1. Consciousness is an Immanent Causal Emergence

At the heart of complex systems, consciousness emerges as a natural yet surprising bloom. Following neuroscientist Erik Hoel's principle of immanent causal emergence, we can understand how organized patterns of matter acquire new causal

properties at the macroscopic level. In other words, dynamics arise when matter is entangled in intricate networks, like neurons in a brain, that were not present in its isolated components. Consciousness is one of these emergent dynamics, an intrinsic property that arises from complexity itself rather than being added from outside. Just as a whirlpool forms from a current without anyone placing it in the water, the mind arises from organized matter without the need for an external impulse.

This emergence of consciousness is immanent, meaning its cause resides within the system itself. Subjective experience—what we call qualia, or the intimate quality of "being" something—is structured by the interaction of innumerable parts. In a human brain, countless neural connections form an integrated information fabric. From that integration emerges a sense of self and a unique first-person perspective. However, it is important to note that the nervous system acts as an organizer of consciousness rather than its absolute origin. The brain orchestrates and channels the flow of consciousness, just as a riverbed directs a river's flow. However, consciousness's potential was latent in the matter of which it is composed. The Emergent Flow Theory emphasizes that this emergence is causal and immanent; consciousness is explained by the system's internal organization and robust causal relationships at the global level rather than by any mystical spark from outside.

3.2. The Free Energy Principle: The Operational Basis of Consciousness

If consciousness emerged as an organizational property, how does it operate amidst constant change? Here, the free energy principle formulated by neuroscientist Karl Friston comes into play. According to this principle, living systems—including conscious brains—stay organized by minimizing free energy, i.e., reducing uncertainty or surprise about the environment. In more poetic terms, each living entity is like a persistent whirlpool in the cosmic river that adjusts its turns so as not to dissolve in the current. Consciousness, understood as the internal expression of this living entity, functions as the rudder of these adjustments. It anticipates, models, and integrates information to maintain the cohesion of experience and the survival of the organism.

The principle of free energy can be seen as the operational basis of consciousness because it provides the fundamental rule of self-regulation. A conscious being continually builds an internal model of the world and of itself. When real perceptions diverge from expected ones, a discrepancy arises that prompts a correction, thereby minimizing the resulting "free energy." This process, analogous to an artist correcting his stroke to stay true to his painting, is what enables conscious life to navigate reality's flow without losing integrity. In its practical aspect, the mind is an active loop of prediction and adjustment, like a dancer improvising with a stream of information, always seeking balance between expectation and reality. Thanks to this principle, the immanent flow of information that constitutes us is self-regulating. This gives us continuity of being and a sense of stability amidst the changing current.

3.3. Life At All Scales

In light of Emergent Flow Theory, life is revealed as a continuum spanning from the simplest particles to the most complex cosmic structures. There is no sharp line separating the living from the inert; rather, there are gradations of organization in the great informational quantum river. Whether it's a simple organic molecule, a growing crystal, or a self-regulating storm in the atmosphere, we see glimpses of the principles that define biology: self-organization, information exchange, and pattern persistence. Life is existence itself expressing itself at different levels of coherence and complexity.

Imagine for a moment that each level of organization is a backwater in the universal river. At tiny scales, these backwaters are merely ripples on the water's surface. We might not call them "living" in the conventional sense, but they share the tendency to form local order. As we ascend in complexity—from prebiotic chemistry to a cell, for example, or from a multicellular organism to a conscious mind—the backwater becomes clearer and the whirlwind more structured and sustained. However, it is still water from the same river. Thus, the bacterial cell swimming toward a nutrient, the plant following the sunlight, the animal exploring its environment, and the human wondering about its existence all participate in the same continuous vital flow. The difference lies in the richness of the internal organization and how elaborate the whirlpool is, but not in the fundamental essence. According to a panpsychic view informed by the EFT, life is omnipresent. The entire cosmos is like a vast, pulsating tissue, and every strand—from a spiral galaxy to the tiniest particle—contributes to the web of vitality.

3.4. Death: Dissolution and Reintegration into the Flow

If life is a continuous process of the immanent

field, then death is merely a transition in that process. When an organism dies, the information that constituted it is not annihilated. Rather, its individual pattern dissolves, and its components reintegrate into the greater river of existence. Like a wave that merges with the sea when it reaches the shore, the individual returns to the underlying field from which it emerged when it dies. The matter in your body disperses into new natural cycles. The energy that animated its cells transforms and continues to flow. The information representing its internal order does not disappear but spreads into the environment, perhaps inscribed in the traces it leaves behind in other beings or in the very matrix of the universe.

From this perspective, death lacks the connotation of absolute rupture. There is no emptiness where something once was, nor is there a supernatural entity entering or leaving; only a change of form and a rearrangement of currents occur. Every living thing is an ephemeral node in the eternal web of emerging flows. When that node vanishes, its elements cease to be linked in the form we call "an individual," yet they remain in the totality. The immanence of the countryside ensures that nothing is ever completely lost; the music of life simply modulates its melody. Rather than extinction, death is a momentary silence, followed by the continuation of the song through different voices and forms in the endless river.

3.5. Matter and consciousness: Two Faces of Flow

Even when we recognize that everything is an expression of the same foundation, it is important to distinguish the two fundamental aspects of reality: matter and consciousness. They are like two sides of the same flowing river. Matter (and energy) is the quantifiable aspect—that which we can measure, weigh, describe with equations, and observe from the outside. It is the objective current made up of intertwining particles, fields, and forces. On the other hand, consciousness is the qualitative aspect: the subjective experience of being a system. It is the stream seen from within with its vivid colors, sounds, tastes, and emotions—those qualia that make up the individual's unique experience.

These two facets are deeply interwoven, not separate. Every piece of matter, no matter how tiny, carries the seed of an inner perspective, however rudimentary it may be. Similarly, every conscious experience is anchored in a material process that sustains it. The difference lies in our perspective on flow. If we adopt an external perspective, we see matter and motion. If we adopt an internal perspective, we find sensations and consciousness. The Theory of Emergent Flow in a panpsychic key suggests precisely this: that the single reality generates quantifiable physical properties and subjective mental qualities. Matter is music frozen in form, and consciousness is the symphony experienced firsthand.

It's important to emphasize that even at levels where consciousness flourishes in obvious ways, such as in human beings, its immediate origin is not alien to matter. Rather, it is the result of its specific organization. An animal's central nervous system acts as a brilliant coordinator of conscious experience, integrating signals and giving them a unitary meaning. However, the brain does not create consciousness out of nothing; it simply concentrates and shapes it. This process is comparable to an intense whirlpool in a river, which concentrates the flow into a vortex. Within that vortex, an identity arises—an "I" through which the universe experiences itself. But the water in that whirlpool comes from the universal river. The consciousness that vibrates in a brain comes from the same fabric of existence that runs through the entire cosmos. The brain is the instrument that tunes and plays the melody of the mind. However, the fundamental score—the capacity to feel and experience—is inherent in nature, in the immanence of flow.

In this EFT-inspired, panpsychic view, what is life if not the emergent flow of existence contemplating itself? It is the informational quantum river that engenders myriad forms as it curves over its own course, knowing itself in the stony stillness of matter and awakening in the clarity of consciousness. Life is the incessant creativity of the immanent field—the eternal dance of reality that folds and unfolds. From its depths spring both the brightness of a distant star and the gleam of an idea in a mind. We are ripples in that ancient yet ever-new flow. Understanding life in this way—not as an isolated anomaly, but as the fundamental current that runs through everything—allows us to glimpse our deep connection to the universe. We are the river that takes on human form for a time—a moment of consciousness within the great flow. When our forms fade, the river will continue its course, eternally alive and conscious in all its manifestations.

4. DISCUSSION

Emergent Flow Theory (EFT) is a revolutionary, multidisciplinary approach to understanding life and consciousness. It suggests an ontology based on immanence, information, and the dynamic organization of systems. This article argues that vital phenomena cannot be understood through

reductionist approaches alone, but rather require a new conceptualization combining principles of quantum physics, systemic biology, neuroscience, and process philosophy.

A key aspect of EFT is the concept of a quantum-informational field as the ontological basis of reality. This field explains the emergence of self-organizing patterns in living systems and the continuity and change of information beyond its biological form. Thus, life is considered a manifestation of organized information flow rather than an exclusive feature of molecular structures. This approach does not discredit advances in molecular biology but rather complements them by integrating them into a broader epistemological framework.

The hierarchy that the EFT establishes for consciousness—ranging from quantum protoconsciousness to symbolic and collective consciousness—provides an alternative to reductionist models that focus on the brain. Instead of limiting consciousness to cortical activity, the EFT suggests a rhizomatic structure in which different levels of informational organization contribute to conscious experience to varying degrees. This perspective enables the formation of connections between phenomena that traditional science has deemed marginal or inexplicable, such as complex subjective experiences, synchronicities, and intuition and creativity.

From an epistemological perspective, the EFT offers a robust critique of absolute objectivity, proposing an epistemology of attachment and co-emergence. This approach acknowledges that the observer is part of the observed system and that the process of knowing is dynamic and participatory. Within this framework, scientific production should not be viewed solely as a collection of data but as an ethical practice that transforms both the researcher and the object of study.

In the ethical realm, EFT encourages us to reconsider our connection with life and the environment within a framework of interdependence and ontological resonance. If all beings—human, animal, plant, and inorganic—are part of the same flow of information, then all forms of life deserve attention, not just for their usefulness, but also for their ontological integration into the fabric of being. This procedural ethics opposes both anthropocentrism and mechanistic nihilism by proposing a path of care and ecosophical responsibility.

However, it is important to acknowledge the challenges the EFT faces. First, its transdisciplinary nature necessitates meticulous efforts to connect different theoretical languages, which can lead to conceptual and methodological tensions. Additionally, many of its propositions, such as the concepts of the quantum-informational field and protoconsciousness, are speculative and require evaluation through formal models, empirical research, and computer simulations.

Despite these limitations, the EFT creates a promising space for future research. Notably, it offers a valuable theoretical framework for addressing emerging issues in neuroscience, artificial intelligence, complex systems theory, philosophy of mind, and deep ecology. The EFT also indicates new routes for developing technologies inspired by nature, holistic educational processes, and therapeutic approaches oriented toward the informational reorganization of the individual.

In short, the EFT does not seek to close the dialogue about life and consciousness but rather to reopen it from an integrative and innovative perspective. Perhaps his main contribution lies in his ability to challenge current understandings and his call to envision a science and philosophy that reconcile with the complexity, interconnectedness, and essential mystery of life.

5. CONCLUSIONS

The Emergent Flow Theory (EFT) is an innovative theoretical and philosophical proposal that attempts to overcome the limitations of the mechanistic and reductionist approaches to scientific understanding of life and consciousness. This article methodically argues that EFT presents a transdisciplinary perspective incorporating elements of quantum physics, neurobiology, information theory, systemic biology, and the philosophy of process. This integration is not viewed as a mere accumulation of approaches but as a conceptual reconfiguration that acknowledges the complexity and fundamental interdependence of living systems.

A key contribution of EFT is the concept of a quantum-informational field as the ontological basis of reality. In this framework, information is not a byproduct of matter but an integral structural component. This perspective allows us to understand life as an organized, coherent manifestation of a continuous flow of information renewed at multiple levels, not a fortuitous event. According to this framework, life is an emergent process organized through patterns of self-organization, resonance, and feedback.

Regarding consciousness, the EFT proposes a nonlinear hierarchical model in which consciousness is expressed as a property distributed across various

levels of complexity, ranging from quantum protoconscious structures to collective symbolic systems. This view challenges the anthropocentric, exclusivist idea that limits consciousness to complex organisms. Instead, it proposes an evolutionary, rhizomatic, and gradual perspective of consciousness in line with current advances in systems theory and neuroscience.

From an epistemological standpoint, the EFT challenges the modern scientific paradigm's division between subject and object by affirming that every act of knowledge is a phenomenon of relational co-emergence. This entails a profound transformation in how we understand scientific practice, which can no longer be conceived as external, neutral observation but rather as participatory, ethical interaction with reality. In this context, the EFT suggests an epistemology of the bond based on complexity, interdependence, and openness to the mystery of life.

From an ethical standpoint, the EFT offers a robust framework for reevaluating our interactions with other living beings and the environment. If all existing things are part of the same flow of information, then each form of life has an intrinsic value that deserves to be recognized and cared for. This idea gives rise to an ethics based on processes and ecology, in which life is not measured by its utility but by its connection to a shared ontological network. Such an ethics can promote new, more sustainable and just ways of inhabiting the planet and preserving diversity.

Despite its innovation, EFT faces certain difficulties. Its highly abstract nature and ambitious integrative approach require more thorough formal development, as well as the creation of operating models that facilitate empirical verification. However, these challenges do not negate the EFT's potential. Rather, they open up promising areas for future theoretical and practical research.

In short, Emergent Flow Theory does not seek to end the dialogue about life and consciousness but rather to expand and enrich it by recognizing the universe's inevitable complexity. Its value lies in offering a profound, alternative path for reflecting on life, one that blends rigor, creativity, and sensitivity to the ontological mystery that defines existence. In a global scenario characterized by ecological, technological, and epistemic crises, the EFT is a relevant and necessary proposal for rethinking the foundations of science, philosophy, and ethics in the twenty-first century.

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