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The Eternal Breath: A Scientific and Spiritual Inquiry into Immortality, Consciousness, and the Undying Value of the Human Spirit

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Abstract: *This review paper explores the nature of immortality, consciousness, and the enduring significance of the human spirit by integrating scientific and spiritual perspectives. It begins by examining the concept of "living forever" through the lens of modern science, including biological immortality observed in species such as Turritopsis dohrnii, the nature of consciousness and the "hard problem" articulated by David Chalmers, quantum approaches to consciousness such as the Penrose–Hameroff "Orch OR" model, and the persistence of information. It then investigates spiritual perspectives on the eternal spirit, drawing from Hindu, Buddhist, Christian, Sufi, Indigenous, and Jewish traditions. The paper highlights the importance of the spirit at the end of life, supported by research on near-death experiences, terminal lucidity, and spiritual well-being in palliative care. By integrating these two domains, this review proposes that the human spirit possesses undying value and that understanding its nature requires both empirical inquiry and contemplative wisdom.*

Keywords: *Immortality; Consciousness; Spirituality; Near-Death Experience; Terminal Lucidity; Quantum Consciousness; Panpsychism; Palliative Care*

I. Introduction

The opening quote of this seminar "Man lives forever in this world, and his spirit is important till the end of his life" encapsulates a profound and ancient intuition: that there is something about human existence that transcends biological death, and that the inner core of a person never loses its value, not even in the final moments of life. This review paper undertakes a systematic inquiry into these two claims, drawing equally from contemporary scientific research [1]–[4] and from the world's spiritual and philosophical traditions [11], [12].

The paper is structured as follows. Section 2 examines what "living forever" means scientifically, reviewing biological immortality, consciousness studies, quantum approaches to the mind–brain problem, and the persistence of information. Section 3 turns to spiritual perspectives on the eternal spirit, exploring concepts of the soul or atman across major traditions and the spiritual dimensions of the end of life. Section 4 integrates these two domains, discussing near-death experiences [6], terminal lucidity [7], spiritual well-being in palliative care [11], [12], and the block universe theory of time [17], before concluding with an ethical reflection on the desirability of immortality [16].

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II. Research Methods

2.1 Scientific Perspectives on Living Forever

2.2 Biological Immortality: Negligible Senescence and the Immortal Jellyfish

The scientific study of aging has revealed that senescence, physiological deterioration leading to increased mortality is nearly universal but not inevitable. A growing body of research has identified species that exhibit "negligible senescence," maintaining reproductive capacity and physiological function over extended lifespans [1], [13]. Notable examples include the Greenland shark (exceeding 400 years), the naked mole-rat (over 30 years), the ocean quahog (507 years), and the genus *Hydra*, which is theoretically immortal [1], [2]. These organisms defy typical aging patterns through enhanced DNA repair, oxidative stress resistance, robust stem cell maintenance, and unique proteostasis and epigenetic regulation [2].

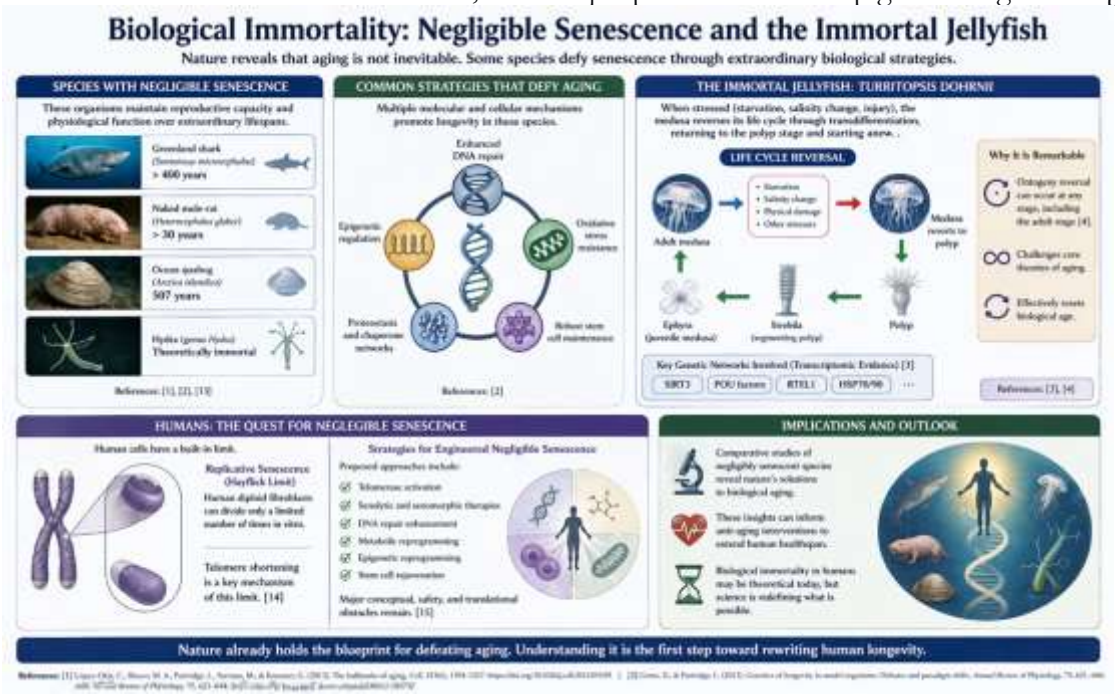


Figure 1: Negligible senescence and life cycle reversal illustrate biological mechanisms underlying theoretical immortality across diverse species.

Figure 1 illustrates biological immortality through species exhibiting negligible senescence, highlighting mechanisms such as enhanced DNA repair, stem cell maintenance, and proteostasis (López-Otín et al., 2013; Gems & Partridge, 2013). Central emphasis is placed on Turritopsis dohrnii, whose transdifferentiation enables life cycle reversal, challenging conventional aging paradigms (Piraino et al., 1996; Hasegawa et al., 2016).

The most remarkable case is the cnidarian *Turritopsis dohrnii*, commonly known as the "immortal jellyfish." When faced with stressful conditions such as starvation, sudden changes in salinity, or physical damage, the medusa of *T. dohrnii* avoids death by reverting to the polyp stage through a process called transdifferentiation, effectively reversing its life cycle [3], [4].

Recent transcriptomic studies have shown that during this life cycle reversal, *T. dohrnii* manipulates genetic networks of high relevance to mammalian biology, including SIRT3, POU factors, RTEL1, and HSP70/90 [3]. The process challenges basic theories of aging, as ontogeny reversal can occur at any stage of medusa growth, including the adult stage [4].

For humans, biological immortality remains a theoretical possibility rather than a practical reality. Research into replicative senescence the phenomenon whereby human diploid fibroblasts can divide only a limited number of times in vitro, known as the Hayflick limit has

identified telomere shortening as a key mechanism [14]. Strategies for engineered negligible senescence have been proposed, but significant conceptual and translational obstacles remain [15]. Nevertheless, comparative studies of negligibly senescent species offer transformative insights for anti-aging interventions that could extend human healthspan and potentially redefine the boundaries of human life [1], [2].

2.3 Consciousness and the Hard Problem

While the possibility of biological immortality remains distant, the nature of consciousness, the very seat of the spirit presents an even more profound scientific challenge. The philosopher David Chalmers famously distinguished between the "easy problems" of consciousness (explaining cognitive functions and behaviors) and the "hard problem": why and how physical processes give rise to subjective experience, or what it is like to be a conscious being [5]. As Chalmers writes, "The hard problem is: how could a physical system yield subjective states? How could there be something it is like to be a physical system?" [5]. The hard problem remains unresolved within standard neuroscience and cognitive science. While researchers have identified neural correlates of consciousness brain activity patterns associated with conscious awareness—these correlations do not explain why such activity should be accompanied by subjective experience. This explanatory gap has led some philosophers and scientists to consider more radical hypotheses, including panpsychism, the view that consciousness is a fundamental and ubiquitous feature of the physical world [8]. Philip Goff has argued that panpsychism offers a solution to the hard problem by positing that consciousness is not an emergent property of complex matter but a basic constituent of reality itself [8].

Figure 2 illustrates the philosophical and scientific challenge known as the "hard problem" of consciousness, as formulated by David Chalmers. It distinguishes between "easy problems," addressing cognitive and neural functions, and the unresolved question of how subjective experience arises from physical processes (Chalmers, 1995). The diagram further presents the explanatory gap between neural correlates and lived experience, alongside alternative interpretations such as panpsychism, notably advanced by Philip Goff, which posits consciousness as a fundamental feature of reality (Goff, 2017). The figure emphasizes the limits of reductionist neuroscience.

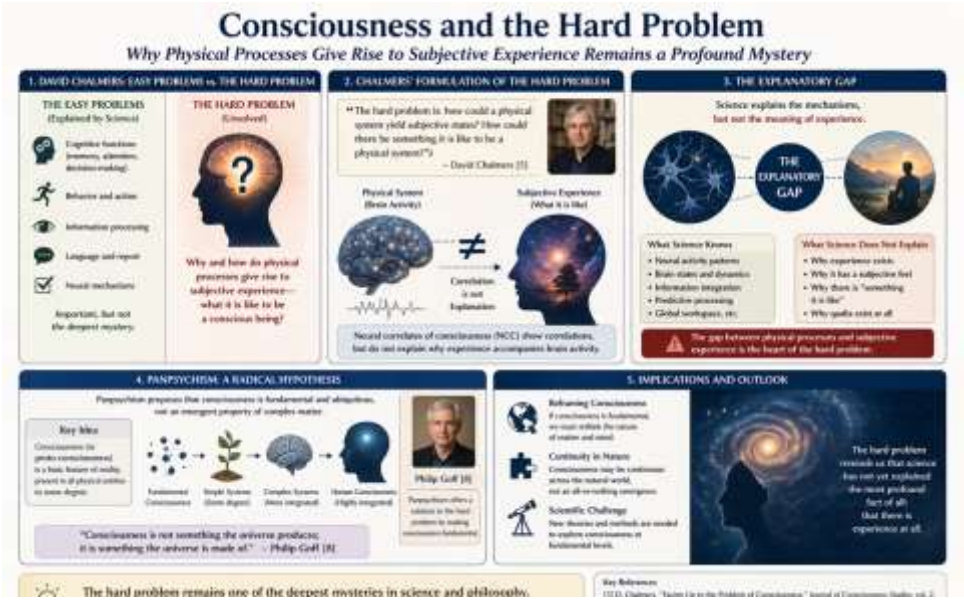


Figure 2: Distinction between easy and hard problems of consciousness highlighting explanatory gap and fundamental philosophical challenges.

2.4 Quantum Approaches to Consciousness

One of the most ambitious attempts to bridge the gap between physical processes and subjective experience is the Penrose–Hameroff "Orchestrated Objective Reduction" (Orch OR) model. Proposed by physicist Roger Penrose and anesthesiologist Stuart Hameroff, Orch OR suggests that quantum superposition and quantum computation occur in microtubules cylindrical protein lattices within the brain's neurons [9]. Unlike technological quantum computers, which rely on environmental decoherence to produce outputs, Orch OR proposes that reduction of microtubule quantum superposition occurs through an objective factor: Penrose's quantum gravity threshold, stemming from instability in Planck-scale separations in spacetime geometry [9], [10].

The model has been updated and defended in light of criticisms and developments in quantum biology, neuroscience, physics, and cosmology [10]. Hameroff and Penrose conclude that consciousness plays an intrinsic role in the universe and that there is a connection between the brain's biomolecular processes and the basic structure of spacetime [10]. While the Orch OR model remains controversial the "warm, wet and noisy" environment of the brain poses significant challenges for maintaining quantum coherence; it represents a serious scientific hypothesis that consciousness may be irreducible to classical neural computation [9], [10].

2.5 Information Persistence and the Nature of Self

A complementary scientific approach to immortality focuses on information rather than biology or consciousness. Quantum information theory includes the no-cloning and no-deleting principles, which suggest that information cannot be destroyed. Some researchers have explored the possibility that consciousness may obey quantum principles, particularly the no-hiding theorem, which asserts that quantum information cannot be destroyed but only redistributed within a system [17]. This framework opens avenues for understanding the continuity of self and the resilience of memory in terms of information persistence [17].

The block universe theory, derived from Einstein's theory of relativity, offers another scientific perspective on immortality. In the block universe, past, present, and future coexist as a fixed four-dimensional spacetime manifold, and the flow of time is understood as an illusion. If this view is correct, then every moment of a person's life exists eternally within the spacetime block [17]. This perspective aligns with spiritual intuitions about an "eternal now" and suggests that in a fundamental physical sense, one's life never ceases to exist.

III. Result and Discussion

3.1 Spiritual Perspectives on the Eternal Spirit

a. The Concept of Spirit across Traditions

Spiritual traditions worldwide have developed rich concepts of the eternal essence of the human person [11], [12]. In the Hebrew tradition, *ruach* refers to the breath or wind of God that animates living beings. In Hinduism, the *atman* is the eternal self, identical with Brahman, the ultimate reality, and is never born and never dies (Bhagavad Gita 2.20). Buddhism offers a more nuanced view, positing no permanent *atman* but a stream of consciousness that continues across lifetimes, like a flame passed from candle to candle. In Christianity, eternal life is understood as beginning in this world ("The Kingdom of God is within you") and culminating in the resurrection of the body. Sufism speaks of the *ruh* (spirit) as a divine command, and every human being as a breath of God. Indigenous traditions hold that ancestors are not gone but continue to walk, speak, and guide the living, ensuring that the spirit lives forever in community memory [11].

These diverse perspectives share a common affirmation: the spirit is real, precious, and enduring. Its importance does not fade with age or illness. On the contrary, many traditions teach that the spirit deepens with age and becomes most potent at the threshold of death [12].

3.2 The Spiritual Importance of Aging and the End of Life

Spiritual traditions universally affirm that the spirit retains its importance until the very end of life. Elders are honored as wisdom keepers, and old age is often seen as a blessing and a sign of spiritual favor. The Christian tradition developed the *Ars Moriendi* (the art of dying), which treats dying as a spiritual climax. The Tibetan Book of the Dead guides the consciousness through the stages of death and rebirth, affirming that the spirit matters most at the threshold. Hospice reports consistently describe dying people speaking of light, loved ones, and meaning, and experiencing unfinished business, forgiveness, and gratitude [11], [12].

These spiritual affirmations are now being supported by empirical research. Studies of purpose and spiritual well-being in older adults have shown that a sense of meaning reduces mortality risk and improves quality of life [12]. Spiritual well-being at the end of life is associated with greater hope and acceptance [11], [12]. Interventions that allow for a life review help facilitate reflection on regrets, unresolved issues, and an understanding of the legacy that generates comfort and dignity [11].

Figure 3 synthesizes converging evidence from spiritual traditions, hospice observations, and empirical research to illustrate the enduring significance of the human spirit at the end of life. It visually integrates elements such as the *Ars Moriendi* and the Tibetan Book of the Dead with reported hospice experiences of light, relational presence, forgiveness, and meaning-making [11], [12]. The central imagery highlights transition and transcendence, while surrounding panels depict life review, purpose, and emotional reconciliation. Empirical findings reinforce that spiritual well-being enhances acceptance, reduces mortality risk, and promotes dignity, supporting a holistic model of end-of-life care [11], [12].



Figure 3: Integration of spiritual traditions, hospice experiences, and research on end-of-life meaning and well-being.

3.3 Integrating Science and Spirituality

a. Near-Death Experiences: A Bridge between Worlds

Near-death experiences (NDEs) represent one of the most compelling areas of overlap between scientific and spiritual inquiry. The AWARE (AWAreness during REsuscitation) studies, led by Sam Parnia and colleagues, have prospectively studied mental experiences in relation to death [6]. The AWARE-II study, a multi-center investigation of consciousness and awareness in cardiac arrest, has documented cases of recalled experience of death, including out-of-body perceptions that have been veridically corroborated [6]. Parnia has concluded that "contrary to perception, death is not a specific moment, but a potentially reversible process that occurs after any severe illness or accident causes the heart, lungs and brain to cease functioning" [6].

NDEs consistently feature elements such as a tunnel of light, a life review, meeting deceased relatives, and a sense of timelessness and peace [6]. Some researchers propose neurophysiological explanations (e.g., hypoxia, temporal lobe activity), these do not fully account for the coherence, veridical perceptions, and transformative aftereffects of NDEs [6]. The phenomenon suggests that consciousness may function independently of brain activity during cardiac arrest, lending scientific credibility to spiritual concepts of an enduring self.

4.2 Terminal Lucidity: The Spirit's Final Clarity

Terminal lucidity refers to the unexpected return of mental clarity and memory shortly before death in patients suffering from severe psychiatric and neurological disorders, including dementia, Alzheimer's disease, schizophrenia, brain abscesses, tumors, strokes, and meningitis [7]. This phenomenon has been reported in the medical literature for over 250 years but has received little systematic attention. A review of 83 published cases suggests that during terminal lucidity, memory and cognitive abilities may function by neurologic processes different from those of the normal brain [7].

Terminal lucidity is particularly striking in patients with advanced dementia, who may suddenly recognize family members, engage in coherent conversation, and express love and forgiveness shortly before death [7]. Some researchers have proposed that this phenomenon reflects a "paradoxical lucidity" that could represent a paradigm shift for the neurobiology and treatment of severe dementias [7]. From a spiritual perspective, terminal lucidity offers powerful evidence that the spirit remains intact and capable of expression even when the brain has been severely compromised.



Figure 4: Terminal lucidity showing unexpected cognitive clarity, emotional reconnection, and possible non-ordinary neural mechanisms before death.

Figure 4 illustrates the phenomenon of Terminal lucidity as a convergence of clinical observation and emerging theoretical interpretation. It depicts patients with advanced neurological and psychiatric disorders, including dementia and Alzheimer's disease, who unexpectedly regain memory, recognition, and coherent communication shortly before death [7]. Central imagery emphasizes relational restoration, where individuals reconnect with loved ones, express forgiveness, and demonstrate emotional clarity. Peripheral elements highlight the long historical documentation of this phenomenon and its proposed characterization as "paradoxical lucidity," suggesting alternative neural mechanisms [7]. The figure also integrates a spiritual interpretation, proposing that consciousness or the human spirit may remain functionally intact despite severe brain deterioration [7].

3.4 Spiritual Well-Being in Palliative Care

Contemporary palliative care increasingly recognizes spirituality as a core dimension alongside physical, psychological, and social care. Research has shown that spiritual well-being improves hope and acceptance at the end of life [11], [12]. A prospective, controlled longitudinal study of palliative care patients in Portugal found significant improvement in hope among patients receiving spiritual care interventions, with patients reporting greater acceptance and positive feelings despite functional decline [12].

The spiritual care intervention "In Dialogue with Your Life Story" has been shown to improve spiritual well-being in palliative clients [11]. Bibliometric analyses reveal growing attention to spiritual care in palliative medicine and end-of-life care [11], [12]. These findings empirically validate the spiritual intuition that the spirit matters until the very end, and that attending to spiritual needs improves both the quality and meaning of life's final chapter.

3.5 The Block Universe: Scientific Eternity and Spiritual Eternal Now

The block universe theory of time, derived from Einstein's theory of relativity, offers a striking convergence with spiritual concepts of an "eternal now." In the block universe, all moments in time past, present and future exist equally and eternally. The flow of time is not a fundamental feature of reality but a subjective illusion [17]. If this is correct, then every person's entire life exists forever within the spacetime manifold. In a very real sense, one lives forever in this world [17].

This scientific perspective resonates with mystical teachings across traditions. Meister Eckhart spoke of "the now-moment of eternity," and Ramana Maharshi taught that "time is only an idea." The block universe does not prove the existence of an afterlife or an immortal soul, but it does demonstrate that the concept of "living forever" is not merely metaphorical. At the level of fundamental physics, the life of every conscious being is eternally present.

Figure 5 presents the conceptual convergence between the Block universe theory and spiritual notions of an eternal present. The left panel illustrates spacetime as a four-dimensional manifold in which past, present, and future coexist equally, reflecting the relativistic view that temporal flow is not fundamental but perceptual [17]. The right panel depicts mystical interpretations of the "eternal now," drawing on teachings associated with Meister Eckhart and Ramana Maharshi, emphasizing timeless awareness. The central imagery integrates these perspectives, suggesting that individual existence is permanently embedded within reality. Together, the figure highlights a philosophical and scientific alignment supporting the idea of enduring presence [17].

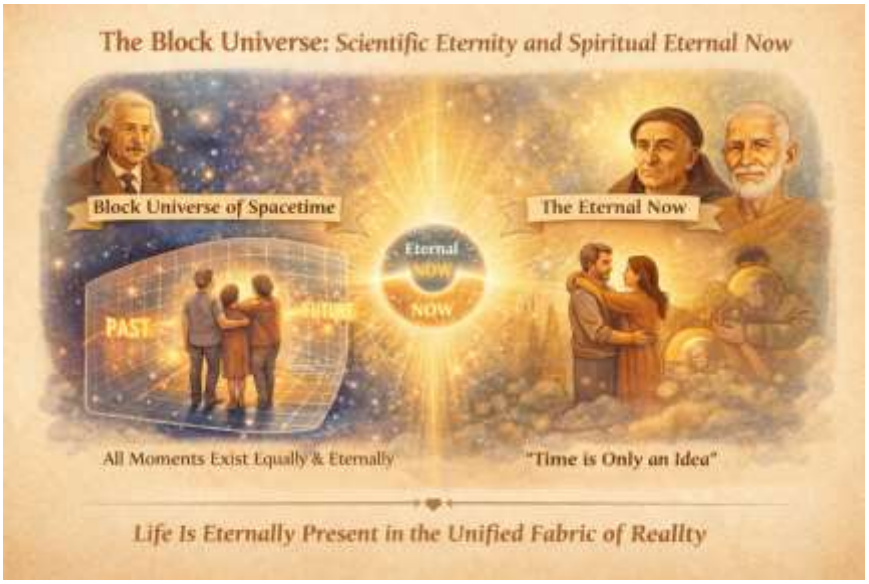


Figure 5: Block universe and eternal now illustrating convergence of physics and spirituality on timeless existence.

3.6 The Ethics of Immortality: Is Living Forever Desirable?

If biological or digital immortality were to become possible, would it be desirable? Philosophical reflection on this question reveals important tensions. Some philosophers have argued that immortality would be undesirable because our confidence in our values depends on our status as mortals leading temporally bounded lives [16]. Others have argued that a recognizable and potentially desirable immortality that grounds the core features of diachronic agency is coherently conceivable [16].

From a spiritual perspective, eternal life without love, meaning, or relationship would be a form of hell. The Christian tradition teaches that eternal life is not merely endless duration but a transformed quality of existence in communion with God. Similarly, the Buddhist concept of *nirvana* is not eternal existence but the cessation of the cycle of rebirth [11]. These perspectives suggest that the desirability of immortality depends entirely on the quality and character of the immortal life.



Figure 6: Ethical perspectives on immortality highlighting philosophical limits and spiritual conditions for meaningful eternal existence.

Figure 6 critically examines the ethical tension surrounding immortality by integrating philosophical and spiritual perspectives. The left panel reflects philosophical arguments that immortality may undermine meaning, as temporally bounded lives provide structure for values, purpose, and agency [16]. The central imagery contrasts finite existence with endless duration, symbolizing the potential loss of urgency and the emergence of stagnation. The right panel presents spiritual interpretations, including Christian notions of eternal life as relational communion and the Buddhist concept of nirvana as liberation from cyclical existence [11]. Collectively, the figure emphasizes that immortality's desirability depends not on duration alone but on the qualitative dimensions of meaning, love, and transformation [11], [16].

IV. Conclusion

This review paper has explored the two claims at the heart of the seminar: that man lives forever in this world and that his spirit is important till the end of his life [1]–[4]. From a scientific perspective, "living forever" can mean biological immortality (exemplified by Turritopsis dohrnii [3], [4]), digital immortality through mind uploading, or information-theoretic persistence [17]. While none of these are currently possible for humans, they are no longer the stuff of pure fantasy. Consciousness remains the deepest scientific mystery, with quantum approaches such as Orch OR [9], [10] and philosophical positions such as panpsychism [8] offering provocative hypotheses.

From a spiritual perspective, all major traditions affirm that the spirit is real, precious, and enduring [11], [12]. The importance of the spirit does not fade with age or illness; on the contrary, many traditions teach that the spirit deepens with age and becomes most potent at the threshold of death. This spiritual intuition is now supported by empirical research on near-death experiences [6], terminal lucidity [7], and spiritual well-being in palliative care [11], [12].

The integration of science and spirituality does not require either domain to surrender its distinctive methods and insights. Science asks "how," while spirituality asks "why." Both seek truth, but through different paths. The spirit is too important to be left to only one discipline. By bringing scientific rigor to bear on spiritual phenomena, and by bringing spiritual wisdom to bear on scientific questions, we can develop a richer, humbler, and more hopeful understanding of what it means to be human.

The eternal breath is within each person, now and always. Living as if the spirit matters because it does, until the very end is perhaps the most important conclusion of this inquiry.

References

[1] J. Mikuła-Pietrasik, M. Pakuła, M. Markowska, P. Uruski, L. Szczepaniak-Chichel, A. Tykarski, and K. Książek, "Nontraditional systems in aging research: an update," Cell. Mol. Life Sci., vol. 78, pp. 1275–1306, 2020. doi: 10.1007/s00018-020-03658-w.

[2] D. Aphkhazava, N. Sulashvili, G. Maglakelidze, and J. Tkemaladze, "Ageless creatures: Molecular insights into organisms that defy aging," Georgian Scientists, vol. 7, no. 3, pp. 346–396, 2025. doi: 10.52340/gs.2025.07.03.24.

[3] Y. Matsumoto and M. P. Miglietta, "The genetic networks of regeneration, cell plasticity, and longevity of the Immortal Jellyfish Turritopsis dohrnii (Cnidaria, Hydrozoa)," bioRxiv, 2025. doi: 10.1101/2025.07.02.660568.

[4] V. Velasco-Muñoz, M. Uribe-Gaviria, S. A. Suárez-Gómez, A. Villamizar-Romero, A. Ricaurte-Fajardo, I. C. Vásquez-Vélez, and C. A. Cano-Gutiérrez, "Regenerative characteristics of the immortal jellyfish, Turritopsis dohrnii, and their potential implications for human aging," Rev. Esp. Geriatr. Gerontol., vol. 60, no. 3, p. 101607, 2025. doi: 10.1016/j.regg.2024.101607.

[5] D. J. Chalmers, "The hard problem of consciousness," in The Blackwell Companion to Consciousness, M. Velmans and S. Schneider, Eds. Hoboken, NJ, USA: Wiley-Blackwell, 2007, ch. 3, pp. 32–42. doi: 10.1002/9780470751466.ch18.
[6] S. Parnia, T. Keshavarz Shirazi, J. Patel, L. Tran, N. Sinha, S. O'Reilly, M. Findlay, M. McBrine, T. T. Le, C. J. Hu, A. Nguyen, and A. W. Kang, "AWAreness during REsuscitation - II: A multi-center study of consciousness and awareness in cardiac arrest," Resuscitation, vol. 191, p. 109903, Oct. 2023. doi: 10.1016/j.resuscitation.2023.109903.
[7] M. Nahm, B. Greyson, E. W. Kelly, and E. Haraldsson, "Terminal lucidity: A review and a case collection," Arch. Gerontol. Geriatr., vol. 55, no. 1, pp. 138–142, Jul. 2012. doi: 10.1016/j.archger.2011.06.031.
[8] P. Goff, "The case for panpsychism," in Consciousness Studies in Sciences and Humanities: Eastern and Western Perspectives, P. S. Satsangi, A. M. Horatschek, and A. Srivastav, Eds. Cham, Switzerland: Springer, 2024, pp. 55–61. doi: 10.1007/978-3-031-13920-8_5.
[9] S. Hameroff and R. Penrose, "Quantum computation in brain microtubules? The Penrose–Hameroff 'Orch OR' model of consciousness," Phil. Trans. R. Soc. A, vol. 356, no. 1743, pp. 1869–1896, Aug. 1998. doi: 10.1098/rsta.1998.0254.
[10] S. Hameroff and R. Penrose, "Consciousness in the universe: A review of the 'Orch OR' theory," Phys. Life Rev., vol. 11, no. 1, pp. 39–78, Mar. 2014. doi: 10.1016/j.plrev.2013.08.002.
[11] A. Syaikhu, A. R. bin Haji, R. R. Budiyanti, and A. A. N. P. Lubis, "Spiritual well-being in palliative care: Reflecting on Kerala's model through the lens of Buya Hamka," Palliat. Care Soc. Pract., vol. 20, p. 26323524251413282, 2026. doi: 10.1177/26323524251413282.
[12] J. C. S. de Oliveira, M. A. P. da Silva, F. R. de Carvalho, L. C. de Sousa, and A. L. B. da Silva, "Hope and acceptance at the end of life: Impact of spirituality on patients in palliative care," Cureus, vol. 17, no. 10, p. e95249, Oct. 2025. doi: 10.7759/cureus.95249.
[13] C. E. Finch, "Variations in senescence and longevity include the possibility of negligible senescence," J. Gerontol. A Biol. Sci. Med. Sci., vol. 53A, no. 4, pp. B235–B239, Jul. 1998. doi: 10.1093/gerona/53A.4.B235.
[14] L. Hayflick, "The cell biology of aging," J. Gerontol., vol. 36, no. 3, pp. 260–269, May 1981. doi: 10.1093/geronj/36.3.260.
[15] B. Warner, E. Ratner, A. Datta, and A. Lendasse, "A systematic review of phenotypic and epigenetic clocks used for aging and mortality quantification in humans," Aging-US, vol. 16, no. 16, pp. 11585–11615, Aug. 2024. doi: 10.18632/aging.206098.
[16] A. Sheldrake, "Cellular senescence, rejuvenation and potential immortality," Proc. R. Soc. B, vol. 289, no. 1970, p. 20212434, Mar. 2022. doi: 10.1098/rspb.2021.2434.
[17] C. Pereira, "Electromagnetic radiation, a living cell and the soul: A collated hypothesis," J. Conscious. Explor. Res., vol. 7, no. 1, pp. 32–40, Jan. 2016. doi: 10.13140/RG.2.1.5119.3049.