



The Sounds and Colours of Creation

Frank van den Bovenkamp

Abstract: The term “Universe” conveys an inherent unity—a single, indivisible whole. The forces shaping the vast cosmos and the atom’s inner realms are interconnected, springing from a shared source. Yet energy alone cannot explain the harmony and beauty of creation; a guiding principle must imbue it with purpose and order.

Through the exploration of sound and color, this essay reveals profound links between perception and the mechanisms of creation. Bridging quantum physics, cosmology, and philosophy, it draws upon diverse perspectives, including foundational ideas of Shrii P.R. Sarkar and key Western thinkers, to deepen our understanding of the Universe’s creative forces.

Practical experiments invite readers to experience these principles firsthand, from recreating the sound AUM with precise acoustic ratios to uncovering the geometric origins of primary colors. Together, these insights and experiences open a tangible window into the deeper harmonies of creation.

1. From Sound and Light to Vowels and Colors

WE HEAR SOUNDS—particularly vowels in this context—and see colors. Yet we do not hear or see the sequence of troughs and crests that constitute a wave. Instead, our senses “wrap up” or integrate these waves into singular perceptions. What we perceive as sound or light is thus an inference, a unified experience derived from the underlying waveforms.

In physics, every wave or interaction is associated with a certain “**action**”, a concept as fundamental as it is powerful (Baez, J. C. & Muniain, J. P., 1994). While action is somewhat analogous to energy—both are inferred from their effects and cannot be directly measured—action occupies a distinct role. Unlike energy, which is conserved, the action of a physical wave or process remains stationary. This property of stationarity allows physicists not only to predict the evolution of a process over time but also to derive the conservation laws governing that

process. In this sense, action can be seen as even more fundamental than energy.

The way conscious perception integrates a wave into a singular experience is strikingly reminiscent of the role of action in physics. This resemblance potentially blurs the boundaries between physics, cognitive science, and metaphysics, suggesting that perception, often dismissed as a purely subjective, biological phenomenon, might hold the key to deeper understanding the organizing principles of creation itself.

It is thus believed that, beyond their measurable properties, sound and light possess a profound vibrational structure, carrying deeper significance. This section will focus on the internal structure of vowels and colors—an aspect that is both deeply familiar in everyday life and well-studied in research. While action reveals the organizing principles behind physical processes, the hidden structures in



Frank van den Bovenkamp is an entrepreneur and independent researcher with a background in physics and engineering. After graduating from Saxion University of Applied Sciences in the Netherlands, he launched a venture focused on innovation in electronics and advanced technology. Over the years, he developed software for EEG-based heart coherence diagnosis and biofeedback, used by professionals worldwide. Recently, he has turned his attention to fundamental research and publishing, combining his lifelong passions for physics and philosophy. He is currently involved in the conceptual and software development of the 'Future Work 4 All' platform, which aims to improve work quality, management, and governance for large organizations. frank@trigunamedia.com

vowels and colors hint that perception may not be merely a subjective experience but involves a subtle, physical process, grounded in the same organizing principles. In the following sections, we will explore how this structure connects to foundational principles in physics and quantum mechanics.

Sounds become particularly significant when they not only convey information but also possess an inherent structure. This is especially apparent in the context of the acoustic roots. Consider vowels, the most articulate sounds in human speech. Vowels

such as /a:/ in “spa” or /o:/ in “more” arise from resonances in the nasal and oral cavities, known as **formants**. Each vowel is characterized by two key formants, F1 and F2, which have specific frequencies and ratios. These formant combinations give each vowel its distinct identity. While this formant structure has profound implications in linguistics and metaphysical contexts, it has yet to find a role in physics. We might pause to marvel at evolution’s ingenuity in crafting such a versatile vocal apparatus, capable of producing this intricate structure.

When it comes to light and color, the analogy to vowels or textures in sound is less obvious—or is it? While light presents a continuous wavelength spectrum spanning approximately one octave, a discernible structure emerges in the **primary colors** (e.g., the colors of the rainbow or those used in practical color mixing). Like vowels in sound, primary colors lack fundamental significance in physics. Their positions in the spectrum are universally recognized, yet unlike formants, they cannot be directly detected. Despite this, the primary colors are thought to reflect something deeper about the fabric of creation.

The question often arises: are the primary colors directly determined by the retina’s color-sensitive cones? While humans possess three types of cones broadly responsive to red, green, and blue tones, their sensitivity curves overlap significantly and do not peak precisely at those colors. Rather than being tuned to specific primary colors, the cones evolved to collectively perceive the full spectrum as “white,” providing a basis for color perception.

2. The Spherical Nature of Sound and Light

The unity implied by the term “Universe” calls for a framework that seamlessly bridges the vast scales of creation—from the cosmic expanse to the subatomic realm—while avoiding the complexities and instabilities of higher-dimensional constructs. Such a

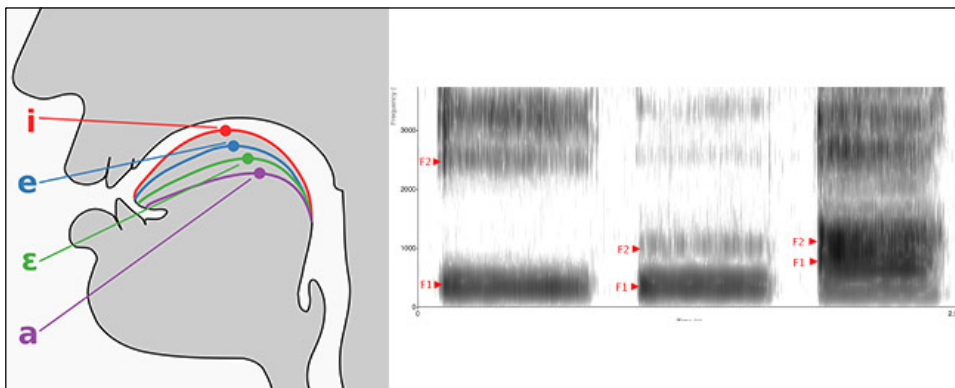


Figure 1. Idealized tongue positions for cardinal front vowels with the highest point indicated; Spectrogram of vowels [i, u, a]. Images source: en.wikipedia.org/wiki/Vowel.

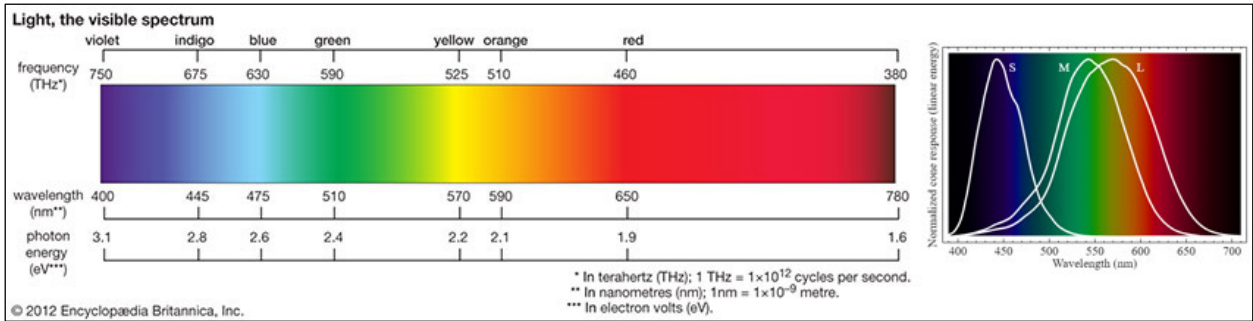


Figure 2. The visible spectrum, indicating primary colors (source: E. Britannica); Normalized responsivity spectra of human cone cells, S, M, and L types (source: en.wikipedia.org/wiki/Cone_cell).

framework can be found in the simplicity of a **2D manifold**, specifically a sphere, whose geometric properties are entirely intrinsic, as demonstrated by the Theorema Egregium (Stewart, I., 1987). Unlike many higher-dimensional spaces, the 2-sphere exists as a self-contained entity that embodies both stability and connectivity. Its curvature, an intrinsic measure of how the surface bends and relates to itself, directly encodes physical dynamics such as motion or wave propagation, without requiring an external framework. This intrinsic geometry allows waves and interactions to arise naturally from the properties of the sphere itself. The concept of action, which integrates energy and geometry, directly links this manifold to the physical evolution of the universe, providing a powerful lens through which to understand creation.

The spherical ontology of sound and light reflects this intrinsic geometry in different ways. Sound, for example, typically spreads in all directions, forming a spherical wavefront emanating from a source and

enveloping a volume of space. The “sound sphere” refers to this wavefront’s two-dimensional surface, which is significant in the context of creation.

A common point of confusion is how a sphere can be considered two-dimensional. The distinction lies in focusing on its surface, which requires only two coordinates to define any point. To illustrate, an ant crawling on a balloon has two degrees of freedom—it can move in any direction across the surface, but not inside or away from it.

In the case of light, its “spherical nature” does not arise from its propagation but from its polarization. Polarization refers to the oscillatory direction of a light wave, which can vary continuously, including “left-handed” and “right-handed” helices relative to the direction of motion. These polarization states represent degrees of freedom, and their totality can be mapped onto a sphere known as the Poincaré sphere (Hecht, E., 2017). Importantly, while polarization introduces additional degrees of freedom, it does not alter the

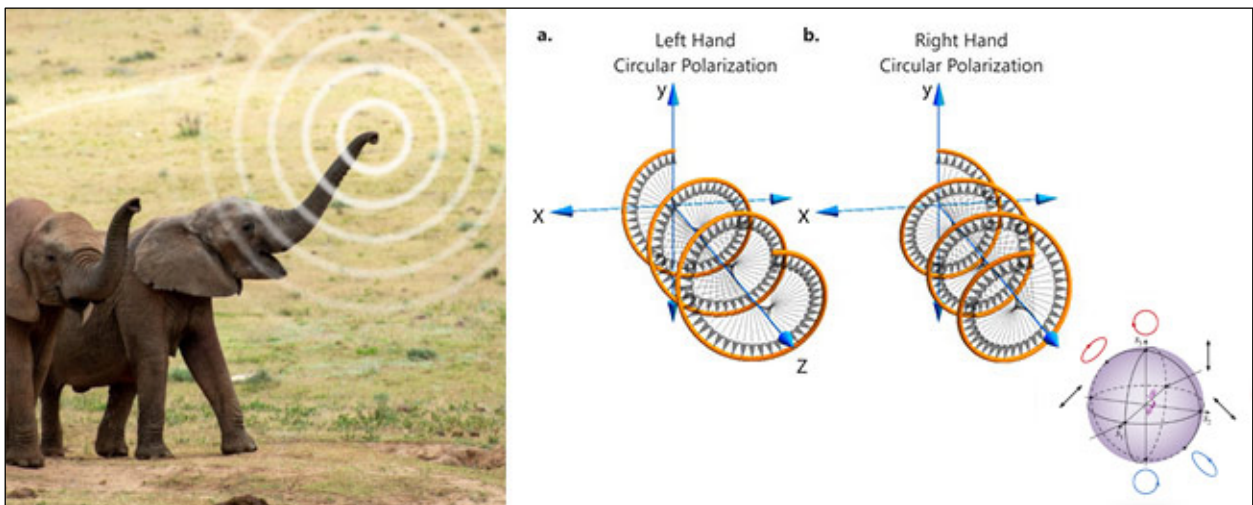


Figure 3. Spherical Degrees of Freedom in Sound and Light. Sound and light both exhibit spherical characteristics: directly for sound through its spreading wave front, and indirectly for light, as seen in the intrinsic geometry of its polarization.

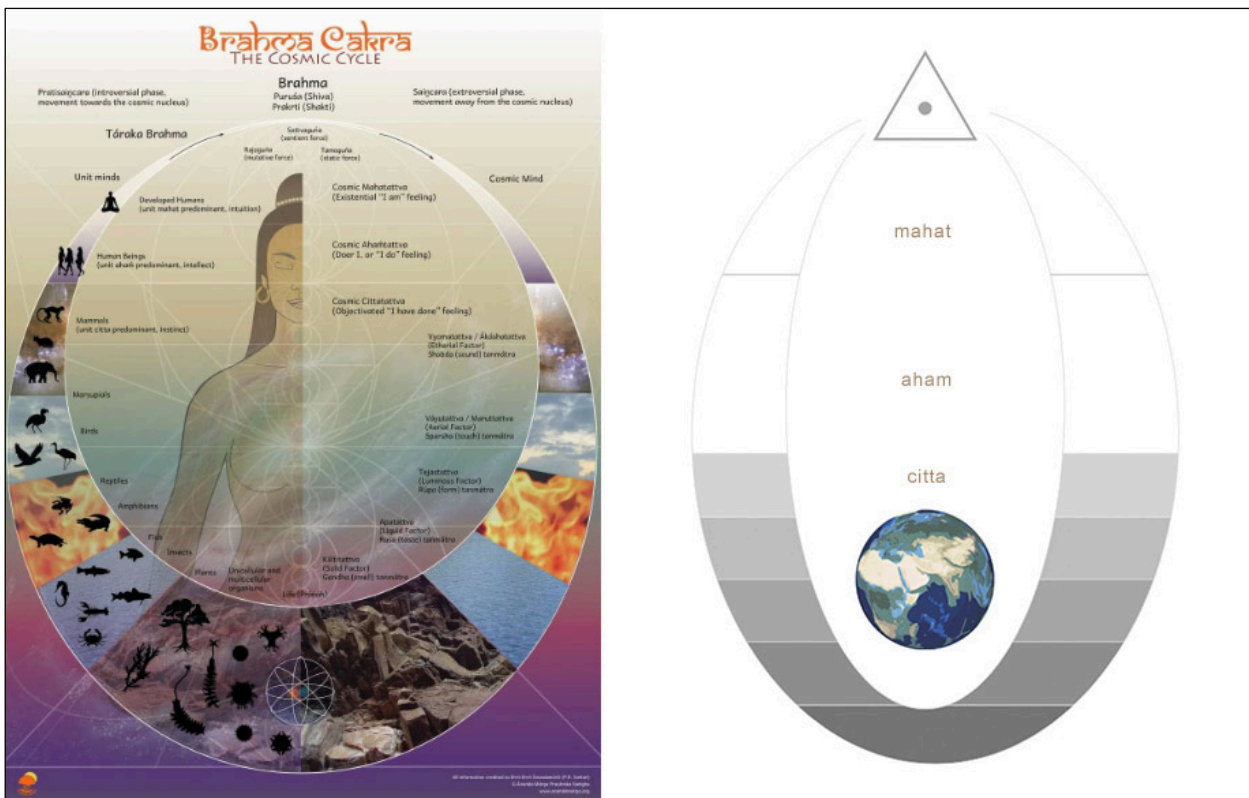
fundamental Planck-Einstein relation $E=hf$. This subtle invariance reflects the underlying constancy in the action, even as the polarization state varies. While the Poincaré sphere is not a physical object, it is intrinsic to the very nature of light and reflects its deeper geometric structure. Like the spherical nature of sound, this reveals a shared framework that hints at a unified approach to understanding physical reality.

In summary, sound and light, beyond their perceptual qualities, share a profound inner structure that often escapes the traditional scope of physics. Both possess a spherical attribute, albeit in different ways—sound through its propagation, and light through its polarization. Together, these insights pave the way for a deeper and more unified understanding of sound and light, as suggested by P.R. Sarkar: “Every vibration in this universe has color and sound. Every vibration also represents a particular idea, and hence each idea has a vibrational sound and vibrational colour.” (Sarkar, 1985). This spherical framework not only clarifies their unique properties but also strengthens the bridge between perception and physical principles—a theme we will continue to explore in the chapters ahead.

3. A Review of the Cycle of Creation

The idea that “everything moves in cycles” is a familiar refrain, yet it encompasses more than physical repetitions or biological rhythms. At its heart, it suggests a universal pattern underlying the entire cosmos—a cyclical process that governs creation and dissolution, movement and stillness. One profound articulation of this idea is found in the concept of the **Cycle of Creation** or “*Brahma Cakra*” (Sarkar, 1961). Often depicted as a cycle of cosmic and biological evolution, its deeper significance lies in its ability to unify the external and internal dimensions of existence, centering on what is known as the **Cosmic Nucleus**.

The Cycle of Creation does not describe creation as a linear sequence of “things” appearing in space and time—whether planets, stars, or living organisms. Instead, as illustrated in Figure 4b, it portrays a cyclical interaction of forces: the **binding tendencies** of the creative principle (Prakrti) acting on pure consciousness (Purusa). This interplay manifests as the externalized forms we perceive and eventually dissolves back into its source. In this framework, all creation can be seen as emerging from and returning to the Cosmic Nucleus, yet never truly existing apart from it. This dynamic of



Figures 4a, 4b. The Cycle of Creation or Brahma Cakra – artistic vs. philosophical depiction (Artistic source unknown).

The Cycle of Creation offers a timeless model of creation’s dynamics, where the forces shaping the cosmos also govern the subtleties of perception. ”

simultaneous divergence and convergence offers a profound lens to understand creation—not as a discrete sequence but as an ongoing, unified process.

Central to the philosophy is the Cosmic Nucleus, the immutable center from which all creation emerges and into which it ultimately dissolves. While creation thus appears as an outward progression from the Nucleus, it simultaneously remains fundamentally bound to the Nucleus, cycling around it. The solution to this apparent paradox lies in the principle of “one-acting-as-two”—a dynamic where differentiation arises without breaking the unity of existence. This principle, illustrated in Figure 5, reflects the characteristic bearing or “svabhava” of the Cosmic Entity—a dynamic flow where unity is preserved even as multiplicity emerges. The Nucleus sustains both the unity of creation and the apparent multiplicity of its externalized forms, ensuring the balance between the indivisible whole and its manifold expressions.

Although we live in a three-dimensional world, these cycles are two-dimensional in nature. This distinction reflects their role as functional diagrams rather than physical or geometric models, much like the Cycle of Creation itself. Nevertheless, the combined “inner” and “outer” cycles can be visualized in three-dimensional form as a (1, 2) torus knot. This mathematical figure, notable in both mathematics and physics, captures the interplay of two distinct yet interdependent cycles. While not a literal representation, it serves as a functional depiction of the dynamics described in the Cycle of Creation.

Within this context, the sensory dimensions of creation—what we perceive as sound and light—are elevated from physical phenomena to metaphysical principles. These are described as *tanmatras*, meaning “subtle essences,” inseparable from the

elementary factors that form them. From this perspective, there are no “thing” in the conventional sense—only dynamic patterns of interaction, perceived as physical objects in physical space. The Cosmic Nucleus becomes the continual source of these perceptions, uniting the external and internal realms within the cycle of creation.

By integrating these perspectives, Cycle of Creation offers a timeless model of creation’s dynamics, where the forces shaping the cosmos also govern the subtleties of perception. This understanding not only bridges the physical and metaphysical but also aligns with earlier discussions of action, sound, and light. Through these connections, it anticipates deeper scientific insights into the relational structures underlying quantum phenomena and the vibrational unity at the heart of existence.

4. The “Spinor” in Quantum Physics: “Spin” Doesn’t Mean That Something Is Spinning

This chapter delves into technical aspects of quantum spin and its reinterpretation, while providing broader insights into how spin may relate to earlier discussions on sound, light, and the action principle.

To begin, the term “spin” in elementary particle physics is often misleading. Despite its name, it does not imply that particles are physically “spinning around.” Rather, spin represents an intrinsic property—quantized angular momentum—that defies classical intuition. This oversimplification has led to confusion, obscuring spin’s deeper significance.

In conventional quantum mechanics, spin is represented through the $SU(2)$ unitary group and its associated spinors—a higher-dimensional framework that, while mathematically robust, can

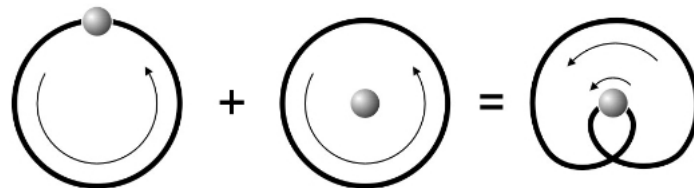


Figure 5. The progression of microcosms through and around the Cosmic Nucleus, in one continuous cycle: a depiction of the *svabhava*, the immutable one-acting-as-two.

obscure deeper physical interpretations. The use of complex numbers in $SU(2)$ extends the parameter space beyond physical three-dimensional space, resulting in a mathematical “**double cover**” of the $SO(3)$ rotation group. This higher-dimensional approach inherently diverts attention from more physically intuitive solutions and lacks direct physical observability. This is compounded by the problematic nature of higher-dimensional field theories, which often require renormalization due to inherent instabilities.

Contrasting sharply with P.R. Sarkar’s philosophical concept of “**one-acting-as-two**”, which suggests inherent asymmetry, the $SU(2)$ framework imposes a “one-becomes-two” scenario—creating a fictitious or counterfeit symmetry that lacks physical grounding. By revisiting the 2-sphere topology introduced earlier, we find a more grounded alternative. The 2-sphere, whose curvature encodes physical dynamics intrinsically, offers a natural framework for interpreting spin. Here, the genuine physical “double cover” lies within the dimension of action ($[kg\ m^2/s]$), where spin manifests as a spherical dynamic akin to a scalar (“acoustic”) pressure wave carrying quantized momentum.

Under specific gauge interactions, this “spherical momentum” transforms into angular momentum, preserving the action’s invariance and reflecting a deeper physical reality. This perspective resolves the mathematical ambiguities of $SU(2)$ by rooting spin in a physically consistent framework, avoiding the instabilities of higher-dimensional field theories.

By viewing the spinor action as a relational framework, Lorentz invariance emerges naturally as a core symmetry. This suggests that the spinor isn’t merely a mathematical tool but a foundational

dynamic that orchestrates emergent space and time. The 2-sphere topology underlies this interpretation, stabilizing spin as an intrinsic aspect of physical and metaphysical dynamics.

It has been demonstrated that the “spin” of elementary particles can be interpreted as a spherical phenomenon, similar to what is found for sound and light, and, by implication, for the philosophical cycles of the Cosmic Nucleus. All are, in their respective contexts, expressions of the “double cover” and thus of the **svabhava**, the self-flow of consciousness (Sarkar, 1961). This reinterpretation also sets the stage for exploring how scalar fields and neutrino dynamics relate to this unified framework.

5. Neutrinos, Microvita, and the Macrocosmic Order

Neutrinos, with their subtle and elusive nature, appear to contribute to cycles of creation and cosmic evolution.

Stars, as immense nuclear furnaces, generate a subtle, outwardly undulating matter field, akin to an acoustic, stationary wave, extending far into the interstellar medium. This field shapes cosmic structures and guides cycles of creation, while the macrocosm, in turn, influences the stars, shaping their evolutionary trajectories.

The distinction between three neutrino types (flavor eigenstates) often seems more driven by the lepton involved in their creation or detection, plus their alignment with the Standard Model’s family tree, than by deeper physical principles. While flavor oscillations, under the assumption $\Delta m^2_{32} \approx \Delta m^2_{31}$, appear consistent even over long ranges, it remains uncertain whether this distinction holds universally. Detecting a neutrino from an unknown origin effectively amounts to observing a traveling, **triadic mass-eigenstate**, rather than identifying its original flavor. Thus, the only consistently defining properties of a neutrino are its spin and its complete absence of electromagnetic and strong interactions.

This highlights neutrinos’ unique elusiveness—both physically and conceptually. Their internal mass-eigenstates are inferred but cannot be directly measured. Nonetheless, flavor oscillations confirm that neutrinos must have mass, though the mechanism generating this mass remains speculative. Absolute values of their masses are largely unknown, but the mass differences, typically expressed as Δm^2_{ij} to describe flavor oscillations, are reliably established.

Neutrinos, with their minuscule masses, travel at near-light speeds, leaving a probabilistic “trail” of flavor eigenstates. Emitted in vast quantities by stars

Continued on page 68

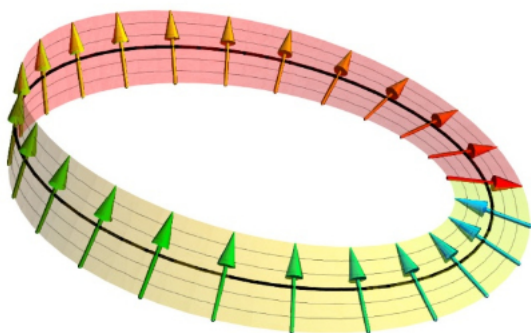


Figure 6. A spinor visualized as a vector tracing a Möbius band, demonstrating the intrinsic double-cover property: a 360° rotation reverses its sign, revealing a fundamental asymmetry in its structure and a deeper connection to the origins of spin. (Image source: <https://en.wikipedia.org/wiki/Spinor>).

Continued from page 23 ... **The Sounds and Colors of Creation**

like our Sun, they form an outward-moving, penetrating wave front, akin to an acoustic ripple, undisturbed by physical matter. At the typical energies of solar electron-neutrinos, oscillations result in a “peak” density of muon-neutrinos at approximately 0.3 AU and a reappearance of electron-neutrinos at 0.6 AU. These periodic flavor modulations, far from trivial, may play a crucial role in shaping macrocosmic structures.

In the Standard Model of particles and interactions, neutrinos are Fermions created during the Electroweak interaction. Hence they are the physical residue of electroweak symmetry breaking at the boundary of the scalar- and electromagnetic fields. Even as neutrinos are classified as Fermions, they are part matter and part abstract, which explains their unique properties. While elementary particles are typically described through probabilistic quantum states, the term “abstract” in the case of neutrinos reflects their **triadic structure**, which can be interpreted as emerging from the scalar field’s self-interaction. This novel geometric functionality underpins their oscillatory behavior and role in long-range coherence.

At present, the values of the mass-eigenstates as well as those of the neutrinos themselves are only very rough estimates. The standard symmetry breaking theorem, and in its wake the quartic interaction, rely heavily on fabricated, higher dimensional gauge theory and post hoc renormalization schemes. It not only fails to provide

a framework for computing neutrino masses, but also to explain the latter’s origin in the first place. Gauge theories inherently describe mass less bosons, with mass introduced through the Higgs mechanism. However, this does not apply to neutrinos who, precisely due to their close alliance with the scalar field, only possess left-handed chirality.

An alternative symmetry-breaking framework aligns with known physics while introducing natural scalar field constraints: (1) scale-invariance, (2) a double-cover feature, and (3) a $k \approx 0$ long-range mode. These constraints emerge from a **Phi (Golden Ratio)-scaled wave system**, with wave numbers k_0, k_1, k_2 . (Bovenkamp, van den, 2020). The double-cover property, expressed geometrically through $k'_i = 2k_i$ resonances, stabilizes Fermionic spin in its final, gauge-invariant manifestation. Prior to the fully formed state, the precursor action is consolidated through a **principal** (formal) **bifurcation** of the scalar ground state. This bifurcation organizes the scalar field’s coherence into distinct but complementary spherical components—radial and surface variations—that define an omnidirectional (S^2) topology, akin to an acoustic pressure wave.

Subsequently, a physical (final) bifurcation arises, manifested as near-degenerate ground state phase variations that modulate the neutrino flavor wave’s long-range coherence. Much like how light’s polarization introduces additional degrees of freedom without altering the fundamental Planck-

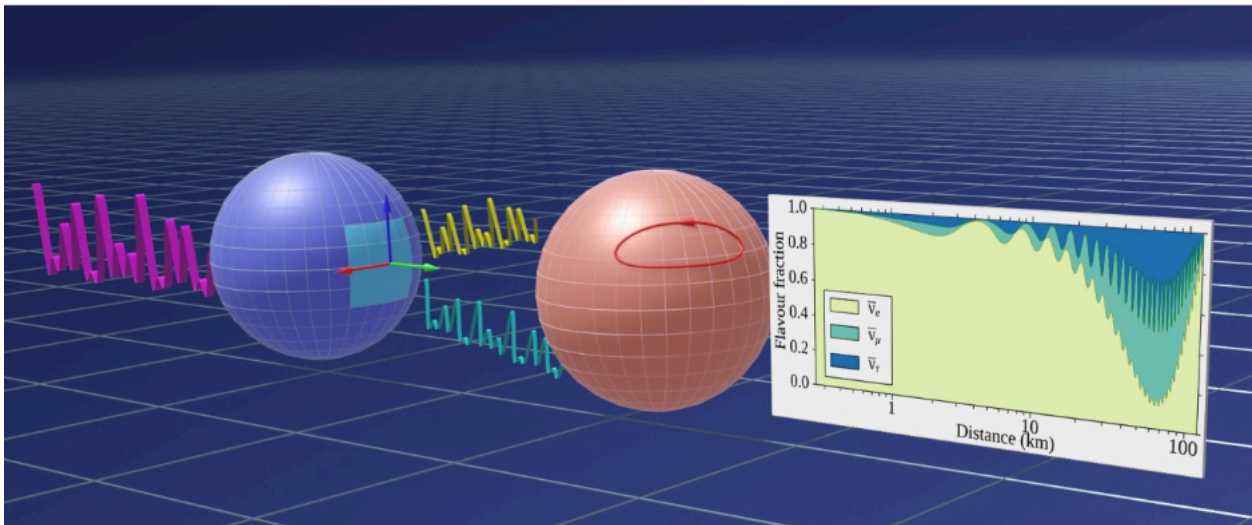


Figure 7. Symmetry breaking depicted as a dual-staged bifurcation sequence, culminating in the long-range neutrino mass-eigenstate spectrum. In the principal bifurcation, the scalar field (left) transitions from a non-directional to an omni-directional, spherical state. In the subsequent physical bifurcation, polarization of the omni-directional field gives rise to distinct mass-eigenstates. Source “neutrino oscillations”: en.wikipedia.org/wiki/Neutrino_oscillation.



Microvita's nuanced alignment with scalar field dynamics and neutrino physics points to an interdisciplinary frontier, one that respects Sarkar's vision while engaging the scientific community with testable predictions and observable phenomena.

”

Einstein relation $E=hf$, this **polarization-like** variation in the neutrino system does not disrupt the precursor scalar action due to inherent phase redundancy. This ensures that the scalar action remains invariant across a scalar Poincaré sphere. Consequently, the flavor spectrum itself emerges as a polarization phenomenon, mapping the near-degenerate ground state phase variations onto the long-range oscillatory behavior of neutrino flavors while preserving the underlying constancy of the action.

Importantly, the robustness of the scalar bifurcation does not derive from its “spherical” geometry per se, but from the action's immutable dimensionality ($[kg\ m^2/s]$). This intrinsic property guarantees the scalar field's coherence and stability, enabling the interplay between formal and final bifurcations without compromising its foundational structure.

Within the scalar-centered symmetry-breaking framework, the absolute neutrino mass eigenstates can be accurately predicted. As illustrated in Figure 7, the transition progresses through a sequence: from the scalar field's nondirectional coherence to an omnidirectional (spherical) precursor spin topology, and finally to directional gauge interactions. This transformation involves the $SU(2)_L$ interaction, wherein the weak isospins (T_1, T_2, T_3) align with the spherical momentum dynamics of the scalar precursor action. The hypercharge (Y) serves as a coupling constant, bridging the scalar action to the emergent gauge realm. The Phi-based k_i waves act as Goldstone modes in a geometric, self-stabilizing, overarching double-cover framework, underpinning both the scalar field's coherence and the directional

interactions mediated by the W^+ , W^- and Z electroweak bosons.

The neutrino mass eigenstates thus emerge through bifurcation due to the scalar field's spherical (S^2) topology. Initially, the **principal bifurcation** predicts a symmetric doubling of phase dynamics, yielding $m_3 \sim 2m_1 \sim 2m_2$. This symmetry, however, shifts into the **physical bifurcation**, where $m_3 \sim m_1 + m_2$, as the system transitions to encode long-range coherence and flavor oscillations. Using standard experimental constraints on $\Delta m_{12}^2 \sim 0.759 \times 10^{-4} eV^2$ and $\Delta m_{32}^2 \sim 24.4 \times 10^{-4} eV^2$, the derived individual masses $m_1 \sim 0.029 eV$, $m_2 \sim 0.030 eV$, and $m_3 \sim 0.058 eV$, as well as the total sum $\Sigma m_i \sim 0.117 eV$, align remarkably well with cosmological bounds ($\Sigma m_i < 0.12 eV$). This dual-staged scalar bifurcation framework thus not only encodes and supports long-range flavor coherence but inherently quantifies the neutrino mass eigenstate spectrum, linking microphysical action to macrocosmic order.

At this juncture, neutrinos emerge from their portrayal as “quirky” particles into a far more profound role: a boundary manifestation of the scalar field. Physicists and non-physicists alike will appreciate how these elusive entities, poised at the intersection of matter and the abstract, help shape the structures of the universe across scales. Far from being merely elusive, neutrinos represent the scalar field in action, bridging the microphysical and the cosmic. Emitted from the scalar field's core dynamics, neutrinos traverse the universe, carrying the imprints of long-range coherence, while remaining intrinsically tied to their source. This dual role underscores their capacity to shape

macrocosmic structures and evolution. These profound implications will now briefly be explored through the lens of P.R. Sarkar’s microvita theory.

P.R. Sarkar’s concept of microvita describes subtle, dynamic entities that traverse the universe. Unlike particles or waves, microvita defy conventional categorization, existing at the boundary of the physical and metaphysical. They are not neutrinos, but their operational framework shares intriguing parallels. Like neutrinos, microvita are imperceptible to standard detection methods, yet their influence is profound, guiding structural and evolutionary processes ranging from the biochemical to macrocosmic scales. Sarkar proposed that microvita carry the blueprints of life and cosmic order, subtly steering creation cycles without typical physical interaction. Similarly, neutrinos, as proxies of the pervasive scalar field, exhibit long-range coherence and play a vital role in the formation of macrostructures. This conceptual alignment hints at a shared foundational principle between neutrinos and microvita, emphasizing their roles as carriers of subtle, transformative action.

While equating microvita to neutrinos would oversimplify both concepts, a deeper comparison between microvita and the neutrino mass eigenstates reveals intriguing possibilities. Sarkar’s microvita, described as entities operating at the demarcation of matter and abstract, resonate conceptually with the neutrinos’ mass eigenstates. Just as the scalar bifurcation generates the neutrinos’ triadic mass structure, microvita, while considered spiritual or transcendental in nature, exhibit a similar **triadic functionality** with 'pro-matter,' 'pro-mind,' and 'neutral' influences. In this light, microvita could be seen as a higher-order conceptual framework

intuitively encompassing the principles underlying neutrino physics, offering a bridge between the quantifiable and the experiential dimensions of life.

The concept of **bifurcation** is central not only to neutrino dynamics but also to Sarkar’s discourse on the Four Chambers of the Universe, where it signifies a profound invariance in the face of differentiation. In neutrino physics, bifurcation ensures long-range mass eigenstates while preserving the total action. Sarkar similarly describes bifurcation in the (B) Subjective Chamber, stating that the “*subjective and objective retain equal value in strength during the phase of reduction.*” While this could imply independent parity, it more likely suggests that their combined strength remains unitary—emphasizing the invariance of the underlying action principle. True to the spirit of “One-acting-as-two,” in both frameworks bifurcation is not a division but a reorganization, preserving unity within multiplicity and ensuring stability through symmetry breaking.

The foundational ideas of Shrii P.R. Sarkar, particularly his assertion of Consciousness as fundamental, find striking resonance in the work of several Western thinkers. Cognitive scientist Donald D. Hoffman explores how the structures of perception veil deeper realities, proposing that Consciousness underpins the physical world rather than emerging from it (Hoffman, 2019). Similarly, philosopher Bernardo Kastrup advances the view that all existence is rooted in a single, universal field of experience (Kastrup, 2019)—an idea echoed in Rupert Spira’s teaching that Consciousness is the sole reality, with all forms and phenomena arising within it (Spira, 2017). Eckhart Tolle, through his practical emphasis on presence and inner stillness, reminds us of Consciousness as the eternal

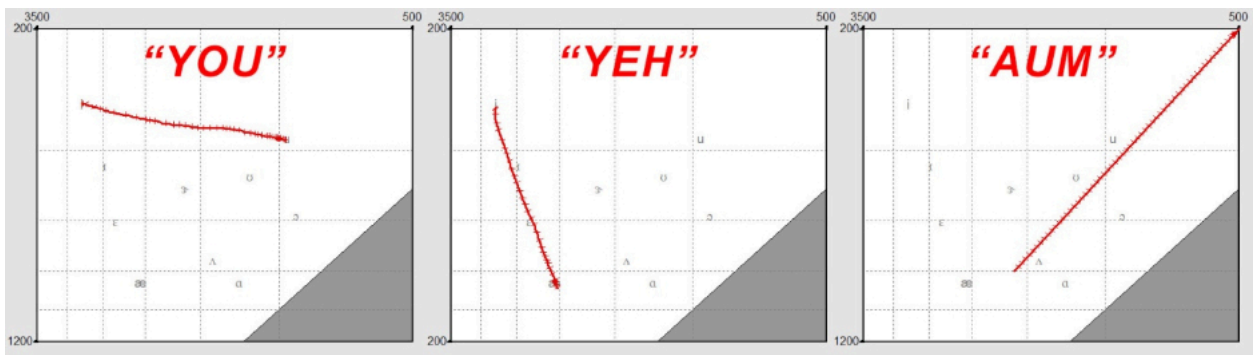
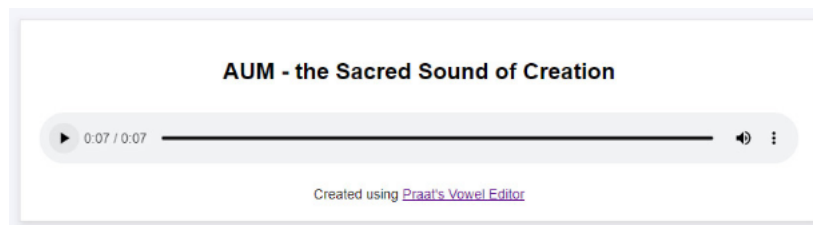


Figure 8. The app “Praat” (“Speak”), developed by researchers at the University of Amsterdam, allows users to “draw” long vowels and hear them replayed live. The sound “**AUM**” can be accurately recreated by setting the formants to sweep from approximately **F1, F2 = 800, 1600** down to **F1, F2 = 200, 400** Hz. Note the consistent **1:2 ratio** of F1 to F2, reflecting the double-cover principle. You can download “Praat” here to **experiment interactively**: fon.hum.uva.nl/praat/manual/VowelEditor.html or listen to the recording.



“Aum Player” – this links to frankvandenbovenkamp.com/aum-player/

foundation of being (Tolle, 1997). These perspectives, while diverse in expression, converge on the notion of a unified entity as the source of all creation—a theme woven throughout this essay.

In closing, while microvita’s role in Sarkar’s cosmological framework—his **“Four Chambers of the Universe”**—provides a foundational perspective, advancing their scientific understanding requires bridging this metaphysical vision with contemporary physics and experimental rigor. Some interpretations, seeking to align microvita with abstract domains such as the “Cosmic Mind,” risk both oversimplifying their scope and detaching them from the empirical methodologies needed to validate their significance. Instead, microvita’s nuanced alignment with scalar field dynamics and neutrino physics points to an interdisciplinary frontier, one that respects Sarkar’s vision while engaging the scientific community with testable predictions and observable phenomena. Developing a theoretical framework that honors both the philosophical depth and physical tangibility of microvita could unlock profound insights into the subtle forces shaping the cosmos, harmonizing metaphysics with modern science in a way that is both transformative and grounded.

6. Empirical Insights: Can We Find Evidence of the Svabhava?

The question now arises: can we demonstrate these concepts practically? In other words, is there empirical support for the metaphysical theory behind the sounds and colors of creation and their spherical ontology? The answer is yes. Although the “inner, qualitative structure” of sound and light relies on individual perception (which philosophers call “subjective”), the patterns themselves are objective.

Through practical, reproducible, and falsifiable experiments, we can gain a direct glimpse into the inner workings of creation. Follow the links to EXPERIMENT YOURSELF!

EXPERIMENT #1: The “Physics of AUM”: a new discovery in sound

In this experiment, we’ll explore how the sacred sound AUM emerges from a unique acoustic phenomenon. In human speech, vowels are formed by two resonant frequencies, or formants. When these formants maintain a precise **1:2 ratio** and are “swept” downward through specific frequencies—say, from 1200 Hz and 2400 Hz down to 200 Hz and 400 Hz—the sound that emerges is unmistakably AUM. This 1:2 ratio reflects the double-cover symmetry found in quantum physics, echoing the doubling seen in the concept of spin, and, strictly speaking, in the **principal scalar bifurcation**. Through this structure, AUM reveals a harmonic form that is both mathematically and acoustically profound, connecting symmetry and resonance in a way that transcends physical measurement. This experiment allows us to experience AUM not only as a physical sound but as a harmonic expression of creation, offering a glimpse into the deeper principles Sarkar suggests underlie the universe.

EXPERIMENT #2: The Geometric Origin of the Primary Colors

While we typically view color as merely a perceptual effect, recent insights suggest a deeper, structural origin. By examining the polarization of light, we have glimpsed an underlying principle that points to light’s spin properties and the double-cover symmetry at the heart of its behavior. This symmetry doesn’t merely describe interactions; it encodes a fundamental link to the origin of light and color itself. In this experiment, we’ll explore how primary colors emerge from **geometric interrelations** between Platonic forms, revealing that color structure may not be arbitrary. The cube-octahedron arrangement, based on a **2:1 ratio**, represents light’s structure in the external world, while the icosadodecahedron, rooted in the **Golden Ratio** (≈ 1.618), hints at the foundational fabric of creation, known as the **self-interacting scalar field**. This geometrical journey invites us to rethink color as a manifestation of fundamental symmetries, bridging perceptual experience with universal principles.

This image series demonstrates the geometric alignments that accurately reproduce the primary colors. Here, the Tetrahedron is used to represent the cube-octahedron arrangement for clearer orientation. The images (on the following page) are live screen captures from frankvandenbovenkamp.com/geocolor24/, where you can experiment interactively. Click the menu in the app to explore additional backgrounds.

The connection between the theory of the Sounds and Colors of Creation and microvita science is unmistakable, as P.R. Sarkar explains that microvita are carried by inferences—sensory waves and vibrations. He notes: “Inferences are the major waves, but sub-waves are created in them by moving microvita. The major waves function as the controlling waves for the sub-waves.” These sub-waves, believed to form the hidden fabric of

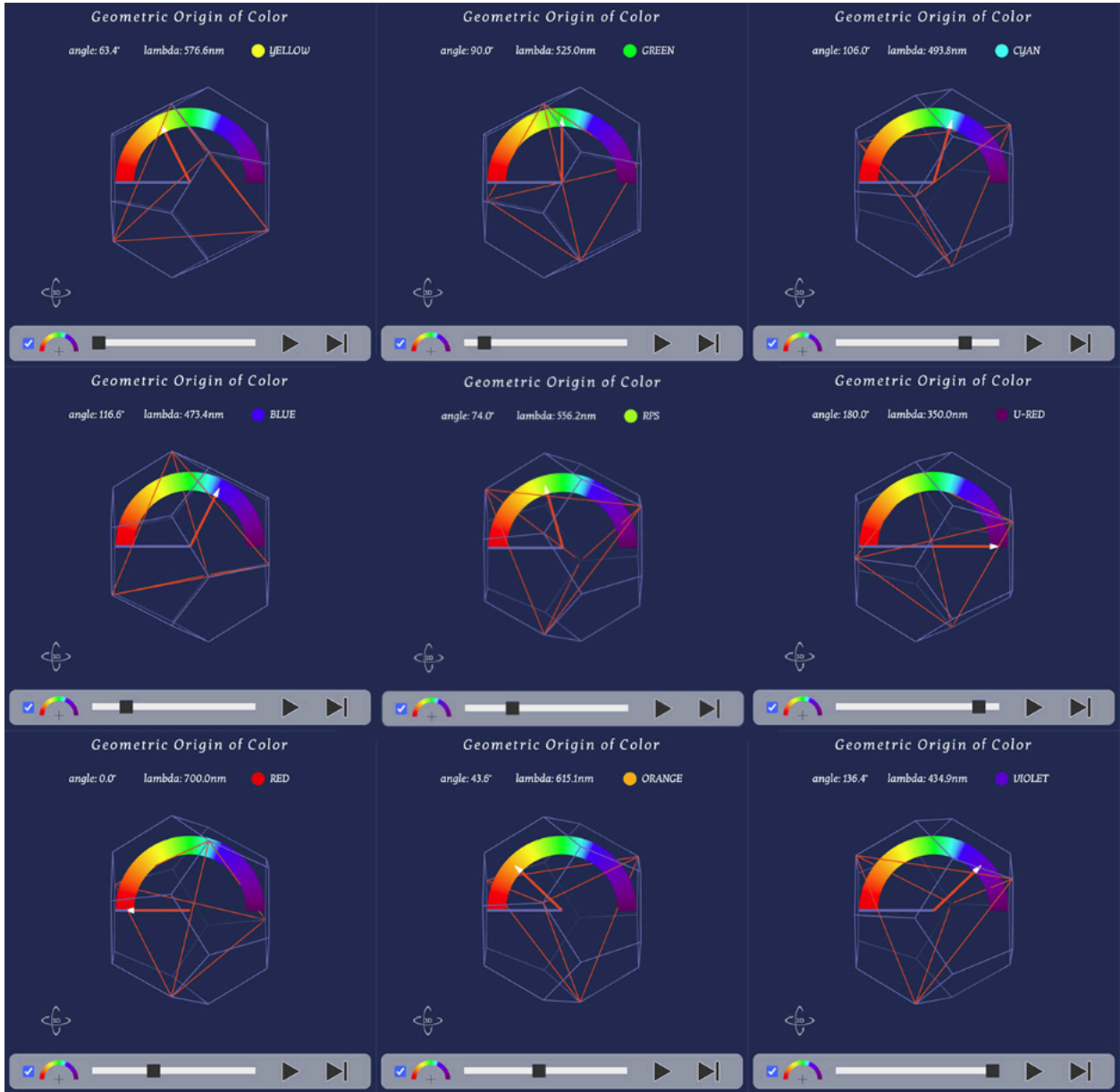


Figure 9. The primary colors revealed through geometric alignments within the Platonic solids. In each image, the red arrow highlights a specific color. Note especially the yellow-green hue in the center image, labeled “RPS” (**Retinal Peak Sensitivity**), which reflects the eye’s natural peak sensitivity. Both the primary colors and the RPS result from the same underlying geometric principles.

creation, are represented in the color theorem by the icosi-dodeca symmetry. While the major wave reflects external energy, the sub-waves embody the inner organizing principle—action, which remains superior to its effects, with the latter inferring the former.

7. Conclusion: A New Line of Thinking About Creation

Throughout this essay, we have explored the interplay between sound, light, and the deeper mechanisms of creation, weaving together insights from quantum physics, cosmology, and metaphysics.

The ideas remind us that science and philosophy are not isolated endeavors but complementary paths toward understanding the unity of creation.

Through experiments like recreating the sound of AUM or uncovering the geometric origins of primary colors, we can glimpse how these principles manifest in the tangible world, inviting us to engage both intellectually and experientially.

At the threshold of new scientific and metaphysical discoveries, the message is clear: the universe, in all its complexity and beauty, is a creation of the “One-acting-as-two,” continually shaping, reshaping and evolving the fabric of reality.

This new line of thinking is not one of knowledge alone, but of personal engagement, and... a never ending sense of wonder.

Notes

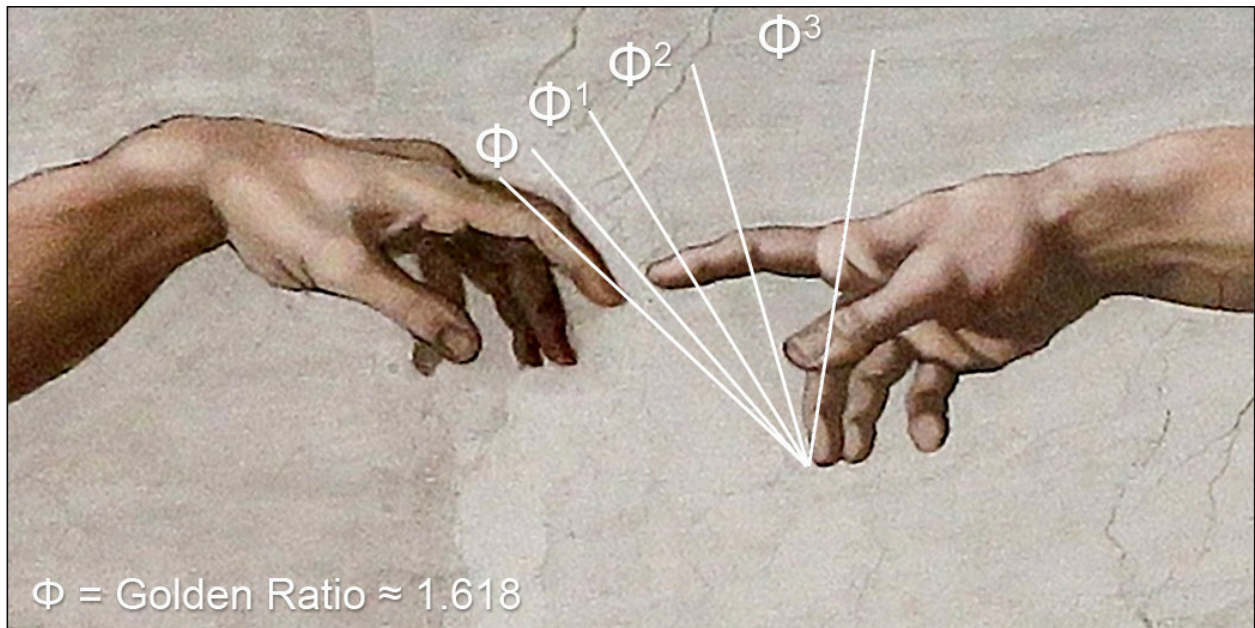
The physics concepts discussed follow their treatments in standard quantum mechanics literature, particularly the action principle, SU(2) symmetry, scalar field theory, gauge theory and the Poincaré sphere. The discussion on neutrino mass eigenstates and flavor oscillations is also grounded in established literature.

Interpretative nuances, such as the scalar field’s bifurcation framework, represent this essay’s unique philosophical contributions and extensions.

For further context and deeper exploration, see suggestions for reading in quantum field theory and related texts.

I would like to acknowledge ChatGPT 4o for providing editing assistance during the refinement of the manuscript. After utilizing this service, I thoroughly reviewed and edited the content as necessary, and assume full responsibility for the publication’s content.

The article with its complete references, a list of suggested further reading and a glossary is available at the journal web pages theonehumanist.com.



Epilogue: The Geometry of Creation

The hand of creation, as envisioned by Michelangelo, subtly reflects the universal geometry shaping all existence. From the Golden Ration in art to the scalar self-interaction guiding cosmic evolution, this "meeting of hands" symbolizes the profound connection between consciousness, matter, and energy.