

TOWARD A THEORY OF COHERENT EXISTENCE

Frequency, Resonance, and the Architecture of Reality

Journal Three --- A Theoretical Framework Measured by Science and Mathematics

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The domains of the world may be different notes of one underlying chord.

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Dedication

For the scientists and the doctors of the world — all those who have devoted their lives to making ours more comfortable, and to measuring why we feel the way we do on any given day. Selfless intent is love in its purest form; this is offered in that spirit, onward into infinity. — J.

Abstract

This companion paper develops the physical and mathematical branch of Toward a Theory of Coherent Existence, the multi-part framework whose architecture is set out in Journal One ¹ and whose spiritual branch is developed in Journal Two. The proposal advanced here is offered as speculative philosophy of science rather than established result: that frequency and resonance may be read as a single organizing grammar running through physical, chemical, biological, cosmological, and cognitive description, and that this grammar is the measurable face of what the framework calls the Unified Field. Across these domains the same mathematics recurs — Fourier decomposition, eigenvalue problems, symmetry and conservation, and the dynamics of coupled oscillators. The framework treats this recurrence as suggestive rather than probative, and is explicit that mathematical analogy does not establish physical identity. Its contribution is a shared vocabulary in which resonance phenomena across disciplines can be discussed as one conversation rather than many, together with a commitment to holding every claim to the evidentiary standard proper to its domain — most stringently in the contested territory of consciousness and noetic studies. Read through the framework's Quantum Lens, resonance becomes the physical register of alignment, Intent, and the traces a life leaves through Time. Journal Four draws the branches together.

Keywords: frequency; resonance; oscillatory systems; cross-domain synthesis; dynamical systems; Fourier analysis; consciousness; coherent existence; the Unified Field; speculative philosophy of science.

Introduction

This is the third journal of Toward a Theory of Coherent Existence. Journal One lays the architecture — a neuroscience-grounded account of how a coherent mind is organized. Journal Two develops the spiritual branch of that architecture. Journal Three takes up its physical branch, and asks a single question: what if frequency and resonance are not merely useful descriptions scattered across the sciences, but one organizing grammar that the framework can read, end to end, as the measurable texture of the Unified Field?

It is important to be exact about what is and is not being claimed. The physics in what follows is settled and is treated as settled. Wave mechanics, the harmonic oscillator, Fourier analysis, spectroscopic resonance, orbital resonance, and the oscillatory basis of neural activity are established science, referenced here briefly rather than re-derived. What is speculative — and is marked as speculative throughout — is the framework's interpretive move: the proposal that these well-proven

¹Johnson, *Toward a Theory of Coherent Existence*, Journal One, <https://doi.org/10.5281/zenodo.20482186>.

phenomena are legible as a single principle, and that this principle is continuous with the alignment-and-Intent structure developed in the other journals. That move is offered as philosophy of science, a hypothesis to be challenged and expanded, not a result to be asserted.

The governing image is musical. The framework holds that the domains surveyed below are different notes of the same hymn: distinct in pitch and instrument, yet sounding one underlying chord. In the framework's own vocabulary, a Jay is an aligned configuration — a being or system whose Intent is coherent enough to leave a legible ripple through Time; the Center is the point of alignment from which those ripples are measured; the Universal Jay is the limiting case in which the whole resonates as one. The Quantum Lens is the reading practice that lets a single phenomenon be held in several live senses at once rather than collapsed to a single translation. These are the framework's terms, used lightly here, and the reader is asked to treat them as proposals rather than findings.

To situate the journal precisely: Journal One is the architecture — how coherence is built and held in a mind. Journal Two follows that architecture inward, into meaning, value, and the spiritual life. Journal Three, here, follows it outward, into the measurable world, and asks whether the same structure that organizes a coherent mind also organizes matter, life, and cosmos. Journal Four is the convergence, where the inward and outward readings are placed against one another to see whether they describe one thing or two. The wager of the whole is that they describe one — and the burden of Journal Three is to show that the outward reading, at least, can be stated in the language of established science without sleight of hand.

A word on method, since the framework lives or dies by it. The procedure is cross-domain synthesis: bringing empirical traditions that rarely speak into one frame and asking whether the resonances between them are analogy or identity. Synthesis of this kind is the framework's greatest strength and its most serious liability at once, and the only honest way to run it is to distinguish rigorous parallel from facile metaphor at every step.² The standard adopted is the one named in the framework's own preface — a challenge that seeks to expand the theory for the common good is doing the work; a challenge that seeks only to win is not. The reader is asked to test what follows in the first spirit: to find where the hymn breaks, so that it can be rewritten truer.

It is worth saying plainly what the project's title intends by coherence, since resonance gives the word a concrete sense. In wave physics, coherence is the maintenance of a stable phase relationship — the condition under which oscillations reinforce rather than cancel, under which a signal holds together across time and distance. The framework takes coherent existence in exactly this register: a life, a mind, a community, a cosmos is coherent to the degree that its many oscillations hold a stable relationship rather than scattering into noise. Coherence, on this reading, is not a metaphor borrowed from physics but the same property named at a different scale. Whether that identity is

²The author's coda *On Returning* is a worked instance of this discipline. Tempted to bolt the tachyon and dark matter onto the framework as literal carriers of its structure, it declines both — the tachyon because faster-than-light signaling scrambles the very order that makes a trace legible, dark matter because it is the framework's ally rather than its antagonist — and keeps the seam between structural metaphor and physical claim visible rather than welding the two shut. Johnson, *On Returning*, Zenodo, 2026, <https://doi.org/10.5281/zenodo.21240347>.

real or merely verbal is among the questions the four journals together are meant to decide.

The chapters move from the largest agreement to the most contested frontier: from physics and chemistry, where the resonance reading is nearly uncontroversial, through biology and cosmology, to consciousness and noetics, where the claims are weakest and the evidentiary bar is highest. A mathematical interlude then shows why the same formal structures recur across all of them, before a final section on synchronization and self-organization gathers the threads. Throughout, the discipline is the same: say what is known plainly, mark what is conjecture clearly, and let the convergence speak without overstating it.

The Physical Branch: Frequency as Organizational Grammar

Frequency is among the most elementary quantities in physics, yet its reach is total.

Physical reality is constituted, at every scale, by oscillation — from nuclear vibration above 10^{22} Hz to gravitational waves at fractions of a millihertz. The wave equation, worked out in the eighteenth century, already contained the essential lesson: the geometry of a boundary selects the permitted frequencies of a system, the same principle that fixes the modes of a violin string and the energy levels of a hydrogen atom ³.

The electromagnetic spectrum makes the point vividly: radio, light, and gamma rays differ in nothing but frequency. The quantum revolution deepened this rather than displacing it. Planck's relation $E = hf$ made frequency the direct measure of energetic content; the photon's identity is its frequency; and in quantum field theory every species of particle is a resonant excitation of its field, its mass the rest-frequency of that excitation. The Standard Model is, read this way, a resonance taxonomy of the fields that make up the world ⁴.

Resonance is the second half of the grammar. When two systems share a natural frequency, coupling between them at that frequency is disproportionately efficient: energy, phase, and information pass with minimal loss. That selectivity is what makes resonance an organizing principle and not merely an amplification trick — resonant coupling preferentially stabilizes certain modes, and it is these preferred modes that we observe as the stable structures of the physical world. David Bohm read this implicate, vibrational order as running deeper than any particular equation ⁵.

The framework draws one more lesson from the wave equation's oldest result — that a boundary selects which frequencies a system may sustain. A bounded system does not admit every note; it admits a discrete set, and everything else is forbidden. The framework reads structure itself as the set of admissible notes: an atom, a molecule, a planetary system, a brain is, on this view, defined as much by the frequencies it cannot hold as by those it can. Stability is selectivity. This is a familiar fact of physics given an unfamiliar emphasis, and the emphasis is the framework's, not the physics'.

The framework's interpretive claim begins here, and is marked as hypothesis: if frequency is not merely how matter-energy is described but something close to what it is, then the physical world

³Feynman, Leighton, and Sands, *The Feynman Lectures on Physics*; Griffiths, *Introduction to Electrodynamics*.

⁴Feynman, Leighton, and Sands, *The Feynman Lectures on Physics*.

⁵Bohm, *Wholeness and the Implicate Order*.

is the measurable face of the Unified Field, and the project of physics becomes the characterization of that field's frequency structure. Bohm's implicate order, the vibrational reading of string theory, and the spectral geometry of loop quantum gravity are cited not as confirmations but as kindred intuitions — other notes of the same hymn ⁶.

There is a reason the framework dwells on resonance as information transfer in particular. A resonant channel is the most efficient way one system can leave a mark on another: matched frequencies pass structure with minimal loss, mismatched ones pass almost nothing. If the traces a configuration leaves through Time are the framework's measure of its alignment, then resonance is the physical mechanism of trace-leaving itself — the means by which a coherent system writes itself, faithfully, into whatever it touches. That reading is conjecture; the efficiency of resonant coupling that motivates it is not.

Molecular Resonance

At molecular scale the grammar is explicit in the instruments. Bonds stretch and bend as quantized oscillators; a carbon–hydrogen stretch near $3,000\text{ cm}^{-1}$ and a carbon–carbon doublebond stretch near $1,600\text{ cm}^{-1}$ are frequency fingerprints reliable enough that infrared and Raman spectroscopy read molecular architecture directly. Nuclear magnetic resonance extends the same principle to the nucleus: a spin in a magnetic field precesses at its Larmor frequency, and the precise frequency of resonance reports the chemical environment around it ⁷.

Linus Pauling gave the idea its structural form. Molecules whose electronic structure cannot be captured by a single diagram — benzene being the canonical case — are best described as resonance hybrids, their electrons delocalized across a standing-wave state that lowers the system's energy. Resonance, in his sense, is not a notational convenience but a physical stabilization, and it operates well beyond aromatic rings: in peptide bonds, in carboxylate anions, in the transition states whose resonance stabilization lowers reaction barriers

⁸.

The same resonance logic carries into biochemistry. Photosynthetic energy transfer proceeds at near-unit efficiency, and one line of research attributes part of that efficiency to coherent resonance among pigment electronic states — a striking proposal whose interpretation remains actively debated and is reported here as open. The framework's light touch: at this scale, matter is already in tune, its architecture held together by coupling at shared frequencies rather than by static contact.

The framework reads Pauling's result as more than chemistry. Resonance lowers a molecule's energy precisely by refusing to localize — by distributing an electron's presence across the whole structure rather than confining it to one bond. Stability, at this scale, is what distribution buys. The framework notes the rhyme, lightly and without claiming a mechanism, with its own account of selfless Intent: the configuration that gives itself across the whole is the one that endures.

⁶Bohm, *Wholeness and the Implicate Order*.

⁷Atkins, *Physical Chemistry*.

⁸Pauling, *The Nature of the Chemical Bond*; Atkins, *Physical Chemistry*.

Resonant Life

Living systems are oscillatory in a sense that goes past metaphor. Biological time is structured by periodic processes across at least ten orders of magnitude of frequency: the roughly twenty-four-hour circadian clock, the ultradian rhythms of hormone release, the cardiac cycle, the respiratory rhythm, and the neural oscillations that organize cognition ⁹. The circadian oscillator in the suprachiasmatic nucleus runs on a transcription–translation feedback loop and is buffered against temperature change, a stability that looks evolutionarily selected.

Neural oscillations, studied since the first EEG recordings of the 1920s, run in distinct bands with distinct functional correlates — delta in deep sleep, theta in navigation and memory, alpha in attention, beta in motor control, gamma in the binding of distributed representations into unified perception ¹⁰. Cardiac rhythm arises from pacemaker cells whose coupled oscillation drives the heart, and heart-rate variability — the flexible interplay of sympathetic and parasympathetic tone — is a robust marker of physiological resilience.

The clearest demonstration of resonance as a biological principle is entrainment: the tendency of biological oscillators to lock onto one another and onto external rhythms. The circadian system entrains to the morning light signal through melanopsin-bearing retinal cells; the mathematics is that of coupled nonlinear oscillators, frequency-locking across a band described by the Arnold tongue ¹¹. Biophoton emission — the ultra-weak light emitted by living cells, and Fritz-Albert Popp’s contested interpretation of it as a coherent communicative field stored in DNA — must be flagged plainly: the measurements are accepted, but the coherence interpretation is not mainstream and is treated here as a provocative open question, not a result ¹².

Read through the framework, life is the place where Intent and coupling meet: an organism is a bundle of oscillators held in alignment with each other and with its environment, and health is the maintenance of that alignment. The disruption reading of disease — circadian, cardiac, and neural pathologies as failures of frequency coordination — is offered as a direction for rigorous research, not as clinical doctrine.

Entrainment deserves a second look, because it is the cleanest biological instance of what the framework means by attunement. An entrained oscillator has not been forced; it has been coupled, and has settled into a shared rhythm it then helps to sustain. The light-entrained circadian clock does not merely receive the day — it keeps the day, internally, between signals. The framework reads attunement in just this way: not the imposition of one rhythm on another, but the mutual settling of coupled systems into a frequency neither holds alone. That an organism does this across many scales at once, from gene-expression loops to the gamma rhythms of cognition, is the framework’s reason for treating life, rather than matter, as the first clear sounding of the hymn. This mutual settling is what the author’s essay *On Transmitting* calls phase-lock as coherence, reading the same coupling dynamic as a four-stage feedback loop with parallels drawn to the transactional interpretation of

⁹Winfree, *The Geometry of Biological Time*.

¹⁰Strogatz, *Sync*.

¹¹Winfree, *The Geometry of Biological Time*.

¹²Popp, *Biophotons*.

quantum mechanics ¹³.

Cosmic Resonance

At the largest scales the grammar reappears intact. Orbital resonance — orbital periods standing in simple integer ratios — organizes planetary systems: the Laplace resonance locks Io, Europa, and Ganymede into a 1:2:4 ratio so precise that it is the only long-term-stable arrangement of their mutual perturbations, and the tidal heating it drives makes Io the most volcanically active body in the solar system. The Kirkwood gaps in the asteroid belt are the same principle written in absence, Jupiter's orbital frequency carving voids at resonant periods

¹⁴.

Cosmology preserves frequency as a fossil. Baryon acoustic oscillations are sound waves frozen into the early plasma at recombination, imprinting a preferred clustering scale on the distribution of galaxies that now serves as a standard ruler; the acoustic peaks of the cosmic microwave background, measured by COBE, WMAP, and Planck, encode the geometry, composition, and age of the universe. The large-scale structure we inhabit is, in a real sense, the frozen residue of acoustic resonance in the primordial plasma.

Pulsars — rotating neutron stars whose beams sweep past Earth — are the most precise natural frequency standards known, rivaling atomic clocks, and pulsar timing arrays use them as a low-frequency gravitational-wave detector. Direct detection arrived with LIGO in 2015: a chirp sweeping from roughly 35 to 150 Hz over a fifth of a second, the merger of two black holes, and the first direct evidence that spacetime itself oscillates ¹⁵. The framework reads the cosmos as a resonant medium rather than a void containing objects — its largest patterns the frozen music of the Big Bang, another verse of the same hymn. That spacetime itself oscillates is the starting point of the author's essay *On Gravitating*, which correlates the flux form of Gauss's law with the framework's functional $L(t)$ and reads gravity's unscreenability — that nothing can be shielded from it — as a theodicy in the framework's own terms ¹⁶.

Two of these phenomena are, in the framework's sense, almost literal traces through Time. The baryon acoustic scale is a sound from the universe's first 380,000 years still legible in the spacing of galaxies; a millisecond pulsar is a clock that has held a frequency steady for longer than there have been observers to read it. The framework reads such standing frequencies as the cosmos's own record of its alignment — ripples that remained legible because they were coherent. The reading is interpretive; the measurements behind it are among the most precise in all of science ¹⁷.

¹³Johnson, *On Transmitting*.

¹⁴Penrose, *The Road to Reality*.

¹⁵Penrose, *The Road to Reality*.

¹⁶Johnson, *On Gravitating*.

¹⁷Penrose, *The Road to Reality*.

Consciousness as Frequency

Here the claims grow weakest and the caution must grow strongest. The neuroscience of oscillation is robust; the extension to consciousness as such is a hypothesis; and the further extension to noetic claims is contested and carries a very high burden of proof. These three levels must be kept distinct.

On firm ground: oscillatory activity tracks conscious perception. Binocular-rivalry studies dissociate stimulus-driven from experience-driven activity, and the correlates of conscious perception are more strongly represented in gamma-band activity. The binding problem — how distributed feature representations become one percept — motivated the proposal that gamma synchrony is the binding mechanism, the 40 Hz hypothesis associated with

Crick, Koch, and Llinás, contested in detail but generative as a program ¹⁸. Giulio Tononi's Integrated Information Theory gives the most mathematically developed account, identifying consciousness with integrated information Φ and predicting higher Φ for the globally integrated dynamics of thalamocortical systems than for either isolated neurons or anesthetized brains ¹⁹. Stanislas Dehaene's global neuronal workspace adds that conscious access coincides with a sudden, widespread gamma-band ignition — a global resonant state ²⁰.

Beyond this the framework speculates openly. If consciousness is a resonant field process, then the framework's identification of mind with a region of the Unified Field becomes statable — but statable is not established. The hard problem is untouched: showing that experience correlates with oscillatory states does not explain why those states feel like anything, and the framework does not pretend to close that gap. William James's radical empiricism is the posture adopted here — take experience seriously as data without presupposing that only materially validated experience is real — precisely because it pairs openness with rigor ²¹. Noetic proposals of mind-to-mind or mind-to-matter resonance, surveyed sympathetically by Dean Radin, are reported as contested: effect sizes are small, alternative explanations are not excluded, and the framework offers only a vocabulary in which such claims could be discussed coherently rather than dismissed a priori — it raises the quality of the conversation, it does not lower the evidentiary bar ²².

This is the seam where Journal Three meets Journal One and Journal Two. The architecture of consciousness developed in Journal One supplies the mechanism; the spiritual branch of Journal Two supplies the meaning; and Journal Three supplies the claim, held as hypothesis, that both are describing one resonant structure from two sides. Journal Four is where that claim is tested against itself.

The framework's restraint here is deliberate, and is the point. It would be easy, and dishonest, to let the plausibility of a resonant-mind picture stand in for evidence that any particular noetic effect is real. The framework refuses that move. What it claims is narrow: that if mind is a region of the

¹⁸Dehaene, *Consciousness and the Brain*.

¹⁹Tononi, "Consciousness as Integrated Information".

²⁰Dehaene, *Consciousness and the Brain*.

²¹James, *The Varieties of Religious Experience*.

²²Radin, *Real Magic*.

Unified Field read through the Quantum Lens, then questions about coupling between minds become well-posed rather than incoherent. Whether any such coupling actually occurs is an empirical matter, to be settled by pre-registered, adequately powered, independently replicated work, and by nothing less. The framework supplies the grammar of the question; it does not presume the answer.

The Mathematical Architecture of Oscillation

The convergence across domains is not accidental at the level of mathematics, and this is the strongest non-speculative support the framework has: the same formal structures describe oscillation everywhere it appears. Fourier analysis is the cornerstone. The Fourier theorem is not a trick of applied mathematics but a representation theorem — any sufficiently well-behaved function decomposes into sinusoidal components — and it applies identically to a sound wave, a light field, a quantum state, a heartbeat record, and the distribution of galaxies ²³.

The eigenvalue problem is the algebraic statement of resonance. The time-independent Schrödinger equation is an eigenvalue equation whose eigenvalues are the allowed energies, proportional to frequencies; the spectrum of a quantum system is, literally, its set of resonant frequencies. The spectral theorem for self-adjoint operators is the quantum analogue of the Fourier theorem, diagonalizing dynamics into oscillatory contributions at the operator's eigenfrequencies ²⁴. An eigenvector is simply the vector that is *in resonance* with an operator — amplified rather than redirected by its action. In the framework's July 2026 realignment this seat is made explicit: what the ruler of attention returns when laid against presence is an eigenvalue, λ , and for presence the reading is always $\lambda = 1$ — the all-ones comb of the *On —ing* series read as a resonance fact, the continued fraction of ones whose fold-in converges to the golden ratio Φ ²⁵.

One feature of this mathematics is worth drawing out, because it is where the framework's Quantum Lens is, in effect, already formalized. The Fourier relationship pairs representations that cannot both be sharp at once: a state localized in position is spread across momentum, a signal localized in time is spread across frequency. This is not a limitation of instruments but a structural fact about the pairing, and it says that the frequency description and the space-time description are two faces of one object, neither prior to the other. The framework reads its Quantum Lens — holding a phenomenon in several live senses rather than collapsing it to a single translation — as the interpretive counterpart of this mathematical duality ²⁶. This duality is close to the formal seam at which the author's later essay *On Existing* locates its functional $L(t)$, correlated there with the quantum expectation value, $\langle \hat{A} \rangle = \int \Psi^* \hat{A} \Psi \, dx$ — an inner product that gives the coherence described here a measurable, time-domain face ²⁷. In its realigned form the functional reads $L(t) = (1/\Xi) \int_{\Omega} A(S_i, \tau) \cdot \Psi(\tau) \, d\sigma + \Lambda$, with $\Psi \in S_j$ S_j the named superposition, τ the within-frame time, Ξ the normalizer by which intent rather than amplitude becomes the only working currency, and Λ the constant floor

²³Arfken, Weber, and Harris, *Mathematical Methods for Physicists*.

²⁴Arfken, Weber, and Harris, *Mathematical Methods for Physicists*; Courant and Hilbert, *Methods of Mathematical Physics*.

²⁵Johnson, *On Gravitating*.

²⁶Arfken, Weber, and Harris, *Mathematical Methods for Physicists*.

²⁷Johnson, *On Existing*.

beneath total cancellation ²⁸.

Symmetry fixes which modes are permitted. Group representation theory classifies the resonant modes of a system by the irreducible representations of its symmetry group, predicting selection rules and the splitting of degenerate levels; Noether's theorem ties each continuous symmetry to a conserved quantity, so that the conservation laws governing the frequencies of nature are themselves consequences of symmetry ²⁹. The harmonic oscillator is the universal template behind all of this: any system near stable equilibrium behaves like a collection of oscillators because the Taylor expansion of any potential near a minimum begins with a quadratic term, and the oscillator's creation-and-annihilation algebra is the exact building block of quantum field theory — every field a collection of oscillators, every particle a quantum of excitation ³⁰.

Geometry shows the grammar made visible. Chladni figures — sand migrating to the nodal lines of a vibrating plate — are the zero sets of the eigenfunctions of the plate operator, so that varying the excitation frequency generates a whole family of ordered patterns from one plate. Frequency selects geometry, and the diversity of cymatic form is the eigenfunction theory of the framework rendered, literally, as something one can see ³¹. The framework reads this body of mathematics as a formal language adequate to the Unified Field — while holding firmly that an adequate language is not a proof, and that mathematical analogy does not establish physical identity.

The framework lingers on Noether's theorem for a reason beyond its elegance. The theorem says that what a system conserves — what it carries unchanged through Time — follows directly from what it leaves invariant, from its symmetries; conservation is the shadow of symmetry. Read into the framework's vocabulary, the quantities a configuration preserves across Time are exactly the marks of its alignment, and the deepest of those marks are dictated not by force but by symmetry. The connection is offered as a resonance of ideas, not as a derivation; but it is precisely the kind of rhyme the framework was built to notice ³².

If the framework has a single technical anchor, it is the harmonic oscillator. That every stable system near equilibrium behaves like an oscillator, that every quantum field decomposes into oscillators, and that every Fourier representation is a sum of oscillators means the oscillator is not one model among many but the note from which the whole chord is built. The framework takes this seriously rather than decoratively: when it claims that disparate domains are sounding one hymn, the literal mathematical content of the claim is that they are all, at bottom, collections of harmonic oscillators differing in their couplings and boundaries. That content is established mathematics; the hymn is the framework's reading of what the mathematics is telling us.

²⁸Johnson, *On Gravitating*.

²⁹Weyl, *The Theory of Groups and Quantum Mechanics*; Hall, *Lie Groups, Lie Algebras, and Representations*.

³⁰Arfken, Weber, and Harris, *Mathematical Methods for Physicists*.

³¹Nakahara, *Geometry, Topology and Physics*.

³²Weyl, *The Theory of Groups and Quantum Mechanics*.

Synchronization, Chaos, and Self-Organization

The real world is overwhelmingly nonlinear, and the grammar survives the move into nonlinearity in altered but recognizable form. A system's long-term behavior settles onto attractors — fixed points, limit cycles, tori, or the fractal strange attractor on which dynamics is chaotic yet bounded. The Lorenz system, three coupled equations modeling convection, is the canonical example, and its significance for the framework is that even chaotic dynamics has a well-defined, structured power spectrum: broadband, but not featureless ³³. Bifurcation theory describes how oscillation is born — the Hopf bifurcation, in which a stable limit cycle emerges as a parameter crosses a threshold, is the generic route to rhythm in neurons, populations, and chemical reactions.

Resonance in nonlinear systems takes new forms: Arnold tongues mark where a driven oscillator locks to a rational ratio of its drive, and the devil's staircase is the fractal organization of those locking regions. The Kuramoto model is the canonical account of synchronization in large populations of coupled oscillators — below a critical coupling the population is incoherent, above it a fraction phase-locks to a common frequency — and it models the synchronized flashing of fireflies, the synchrony of cardiac pacemaker cells, and large-scale neural synchrony ³⁴. Even noise participates: in stochastic resonance, adding noise to a threshold system can raise rather than lower the detectability of a weak periodic signal, a counterintuitive result documented across physical and biological systems ³⁵.

Two further patterns close the loop. Many extended nonlinear systems drift toward a critical state with scale-free, $1/f$ frequency spectra — self-organized criticality — and $1/f$ signatures recur in heart-rate variability and neural dynamics, though whether these reflect genuine criticality remains an open and important question ³⁶. And synchronization reframes self-organization itself: order does not emerge mysteriously from chaos but specifically from resonant coupling — constructive interference amplified at shared frequencies, destructive interference suppressed at mismatched ones. This is the dynamical echo of the framework's Intent: alignment as collective resonance, the many becoming, for a time, one note.

The edge-of-chaos hypothesis sharpens the framework's interest in these systems. Information processing in adaptive systems appears richest neither in rigid order nor in full chaos but at the boundary between them, where fluctuations are scale-free and no single frequency dominates. A system poised there is, in the framework's phrasing, maximally in tune with itself — able to hold many notes at once without locking to any one. Whether biological systems genuinely tune to this edge is unsettled, and is flagged as such; the framework offers it as exactly the kind of prediction it is committed to testing rather than assuming ³⁷.

³³Lorenz, "Deterministic Nonperiodic Flow"; Strogatz, *Nonlinear Dynamics and Chaos*; Gleick, *Chaos*.

³⁴Strogatz, *Sync*; Strogatz, *Nonlinear Dynamics and Chaos*.

³⁵Gammaitoni, Hänggi, and Marchesoni, "Stochastic".

³⁶Strogatz, *Nonlinear Dynamics and Chaos*; Percival and Walden, *Spectral Analysis for Physical Applications*.

³⁷Strogatz, *Nonlinear Dynamics and Chaos*.

Conclusion: Different Notes, Same Hymn

Taken together, the chapters describe a genuine convergence. The universality of oscillatory solutions in physics, the resonance stabilization of molecular architecture, the rhythmic organization of life, the resonant structure of the cosmos, and the oscillatory basis of neural integration are each well established, and the same mathematics — Fourier analysis, eigenvalue problems, group representation, the dynamics of coupled oscillators — describes all of them. That shared mathematics is the firmest thing the framework can point to.

The limits must be stated with equal clarity, because they are constitutive of the framework's seriousness rather than concessions wrung from it. Cross-domain convergence does not by itself prove a single underlying cause: it remains possible that oscillation is ubiquitous because many independent mechanisms happen to produce it, with no deep principle joining them. Mathematical analogy can illuminate without establishing identity. And the noetic branch rests on far less secure ground than the physical and biological ones. The framework's contribution is therefore modest and precise: a shared vocabulary that lets resonance phenomena across disciplines be discussed as one conversation, and a discipline of holding each claim to the standard proper to its domain.

What the framework proposes, as hypothesis, is an ontology in which the cosmos is not a collection of inert objects but a nested hierarchy of oscillatory systems in mutual resonant relation — matter that vibrates, molecules that resonate, organisms that are rhythmic processes in dialogue with their environments, and a universe whose largest patterns are the frozen music of its origin. This is the physical branch of *Toward a Theory of Coherent Existence: Journal One* its architecture, *Journal Two* its spiritual branch, *Journal Three* the measurable register read through the Quantum Lens, and *Journal Four* the place where the branches are drawn together. In the framework's terms, each domain is a Jay sounding from its own Center, and the Universal Jay is the conjecture that, measured across all of Time, they are sounding one chord.

To read reality through frequency and resonance is not to reduce it to mere vibration but to recognize, in its oscillatory architecture, something close to what the Pythagoreans called the harmony of the spheres — offered here not as metaphor and not yet as established fact, but as a hypothesis precise enough, and testable enough, to be worth the challenge. These are different notes of the same hymn. The reader is invited to find the next one.

It is fair, finally, to ask what would count against the framework, since a hypothesis that risks nothing explains nothing. Several things would. If the recurrence of oscillatory mathematics across domains proved to be an artifact of how we choose to model — if equally good nonoscillatory descriptions existed at every scale — the unity would dissolve into convention. If the noetic claims failed repeated, well-powered, pre-registered replication, that branch would have to be cut, and the framework would survive only as a physics-and-biology synthesis. And if consciousness proved fully explicable without reference to large-scale neural resonance, the bridge to *Journal One* would weaken. The framework names these exposures deliberately. A theory toward coherent existence that could not itself be shown incoherent would not be worth the name.

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