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# The Gestation-Cosmos Invariant

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Addendum entries applied to this copy:

- Addendum 1.2 (Apr 7, 2026) — Hubble Constant Supersession
- Addendum 3.2 (Oct 2, 2026) — Full-maturity 82.2 figure superseded

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# The Gestation-Cosmos Invariant: 1000-Harmonic Decimation and the 186-Rung Temporal Ladder

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## Abstract

This paper presents a scalar invariant linking the 9.3-month human gestation period to the 93-billion-light-year (BLY) diameter of the observable universe: the 9.3-month gestation period is the temporal equivalent of the 93 BLY spatial diameter, coupled via the 1000-harmonic. We introduce the **186-Rung Temporal Ladder**, in which each rung represents 100 million years of cosmic maturation. At 13.95 BY the universe occupies Rung 139.5, yielding a maturity ratio of 0.750 — identical to the universal $\frac{3}{4}$ allometric scaling exponent governing fractal network thermodynamics (West, Brown, and Enquist, 1997). A **Solar-Neural Synchronization Constant** of 1000:1 is identified in the ratio of the one-way solar light-travel time (500 seconds) to the mean human conscious veto window (0.5 seconds; Libet et al., 1983). The same 1000:1 ratio is confirmed by the cortical gamma oscillation: at ∼40 Hz, the brain produces 20 gamma cycles within the 500-ms Libet window and 20,000 gamma cycles within the 500-second solar pulse. A two-step **Hydrogen Atomic Clock** mechanism is proposed: the $\sim 10^{14}$ Hz proton relaxation frequency in DNA base-pair hydrogen bonds undergoes a 53-step 1.5-gear cascade to ∼46.5 kHz, followed by a 1000-harmonic decimation to ∼46.5 Hz — consistent with the observed human DNA replication rate of ∼50 nucleotides per second (Alberts et al., 2002). The 1000-harmonic ($10^3$) appears independently across all three correspondences, suggesting that the base-10 structure of human counting is not a cultural accident but a geometric consequence of the same cosmic architecture that set the duration of human gestation. Together, these correspondences

suggest that biological emergence is a structural resonance with a $\frac{3}{4}$-mature cosmos rather than an independent evolutionary optimisation.

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## 1. Introduction

The Findlay Framework (FF) identifies a universal materialization constant $r = 3/2$ — the *1.5 Gear* — governing the transition from Informational Potential (I) to Persistent Structure (S) across forty-two orders of magnitude, from the Bohr radius to the galactic coherence radius (Findlay, 2026a). This constant is not a free parameter. It is derived from a geometric self-consistency condition: 3/2 is the only ratio permitting stable three-dimensional persistent structure in a universe that must simultaneously satisfy informational completeness and spatial closure. Core terminology of the Findlay Framework, including the 1.5 Gear, the I→S transition, and the Connectivity Tax, is defined in the Framework's standing terminology record at `https://theoryofeverything.ca`.

Previous work established three biological anchors of the 1.5 Gear: the ATP energy charge cycle at a $P_3 \rightarrow P_2$ phosphorus ratio of 3:2, the human somatic cell diameter at Rung 35.6 of the spatial scalar ladder, and the Chromosome 2 fusion event placing the human karyotype at 46 — informational Rung 9.4 (Findlay, 2026b). The present paper introduces a fourth anchor at a higher order of organisation: the duration of gestation itself.

The numbers 18.6, 13.95, 9.3, and 4.65 are not empirical estimates subject to observational revision. They are the structural quarter-points of $c$ — the phase coordinates at which the 1.5 Gear's I→S transitions achieve stable resonance across biological and cosmic scales. They are derivations within the FF's geometric architecture, as established in Findlay (2026a), and are presented here as structural coordinates, not claims about observed consensus values.

The Hubble Tension — the persistent discrepancy between early-universe CMB measurements ($H_0 \approx 67.4\,\mathrm{km\,s^{-1}\,Mpc^{-1}}$; Planck Collaboration 2020) and local Cepheid-supernova measurements ($H_0 \approx 73$–$74\,\mathrm{km\,s^{-1}\,Mpc^{-1}}$; Riess et al. 2022) — is here modelled as a network growth phase transition. The FF identifies the discrepancy as a Connectivity Tax of $\sqrt{1.5} \approx 1.22$ (Scales, 2026): a structural surcharge applied to the expansion rate as the cosmic network matures from an informational to a structural phase. At asymptotic full maturity (18.6 BY), the tax produces a terminal expansion rate of approximately 82.3 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ (Scales, 2026). At the current 0.75 maturity state, the predicted cosmic mean rate is 78.5 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$, derived in Section 6.1.

**Add. 3.2 — Tax framing retired**

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**Add. 1.2 — 78.5 → 72.39**

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Local Cepheid measurements of $\sim$73–74 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ represent a void-suppressed value: the Milky Way resides within the KBC Void, a $\sim$300 Mpc under-density that locally suppresses the expansion rate below the cosmic mean (Keenan, Barger, and Cowie, 2013). The 78.5 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ prediction is the true cosmic mean; the Riess value of $\sim$73–74 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ is a stunted local measurement caused by the KBC

Void biasing the Cepheid distance ladder below the cosmic baseline. Section 6.1 provides the full derivation.

## 2. The 186-Rung Temporal Ladder

### 2.1 Derivation of the 18.6 BY Maturity Limit

The FF's 174-step spatial ladder bridges the Bohr radius to the galactic coherence radius via recursive multiplication by $r = 1.5$ (Findlay, 2026a). The 186-Rung Temporal Ladder is its temporal counterpart, constructed on the same geometric foundation.

- **Spatial foundation** ($N_s = 174$): The 174-step scalar ladder from atomic to galactic scale, representing the complete spatial materialisation sequence of the 1.5 Gear.
- **Rotational closure** ($N_r = 12$): Twelve additional steps representing the phase closure requirement of the temporal domain. The value $1.5^{12} \approx 129.7$ is the informational saturation factor — the multiplicative accumulation at which the gear completes a full relational circuit and returns to a resolvable ground state. Twelve is the minimum integer step count at which $1.5^n$ crosses the order of magnitude between $10^1$ and $10^3$ ($1.5^{12} \approx 129.7$, spanning two orders of magnitude), providing the temporal closure that the spatial ladder does not require.
- **Total ladder:** $174 + 12 = 186$ rungs.
- **Rung value:** Dividing 18.6 BY by 186 rungs: $18.6 \div 186 = 0.1$ BY per rung exactly.
- **Maturity limit:** $186 \times 0.1\,\text{BY} = 18.6\,\text{BY}$.

The Hubble time at $H_0 = 70\,\text{km}\,\text{s}^{-1}\,\text{Mpc}^{-1}$ is $c/H_0 \approx 14.0$ BY. The co-moving maturity horizon at 18.6 BY is larger by the factor $18.6/14.0 = 1.329$, consistent with the relationship between the light-travel-time horizon and the co-moving particle horizon in a $\Lambda$CDM universe.

**Open derivation note.** The precise derivation of 18.6 BY from FF first principles — whether it represents the point at which the 1.5-gear expansion decelerates to the half-gear value or the point of full network connectivity — is flagged as an open problem. The 186-rung structure is a working hypothesis with testable predictions, presented as such.

### 2.2 The 0.75 Maturity Ratio

At the ideal maturation age of 13.95 BY:

$$\text{Rung} = \frac{13.95\,\text{BY}}{0.1\,\text{BY/rung}} = 139.5 \tag{1}$$

$$M = \frac{13.95}{18.6} = 0.750 = \frac{1.5}{2} \tag{2}$$

West, Brown, and Enquist (1997) demonstrated that metabolic rate scales as body mass to the power $\frac{3}{4}$ across twenty-seven orders of magnitude of biological organisation, deriving this exponent from the geometry of fractal nutrient-distribution networks. The $\frac{3}{4}$ threshold marks the transition from growth-dominated to maintenance-dominated network efficiency — the point at which a mature network achieves maximum distribution capacity.

The convergence of the cosmological maturity ratio with the biological metabolic scaling exponent at precisely 0.750 is the paper's primary finding. It suggests that the same geometric constant governing biological allometry also governs the temporal architecture of cosmic expansion.

### 2.3 The Local Hubble Flow Deficit

Current observational consensus places the universe's age at $13.787 \pm 0.020$ BY (Planck Collaboration, 2020), with recent JWST and Euclid refinements in the range 13.77–13.81 BY. The ideal Rung 139.5 requires 13.95 BY — a difference of 0.15–0.16 BY.

This *Local Hubble Flow Deficit* is mechanically accounted for by the KBC Void. The Milky Way resides within a ∼300 Mpc under-density that locally suppresses the measured expansion rate and the inferred age below the cosmic mean (Keenan, Barger, and Cowie, 2013). The explicit prediction: as surveys extend beyond the KBC Void boundary, the inferred age will converge upward toward 13.95 BY.

## 3. Solar-Neural Synchronization and the 1000-Harmonic

### 3.1 The 500-Second Solar Pulse

The one-way light-travel time from the Sun to Earth at mean orbital distance ($1\,\text{AU} = 1.496 \times 10^8\,\text{km}$):

$$T_{\text{pulse}} = \frac{1.496 \times 10^8\,\text{km}}{2.998 \times 10^5\,\text{km}\,\text{s}^{-1}} = 499\,\text{s} \approx 500\,\text{s} \tag{3}$$

Earth's elliptical orbit produces an annual variation of ±3.3 seconds around

this mean. This variation is the temporal expression of Earth's orbital eccentricity, itself a geometric residue of the 333,054:1 Sun-Earth mass ratio derived from atomic constants in Findlay (2026a). The 500-second pulse is the fundamental information interval of the local gravitational well.

### 3.2 The Libet Veto and the 1000:1 Decimation

Libet et al. (1983) established that the onset of the neural readiness potential precedes conscious awareness of intention by approximately 350–550 milliseconds. The conscious veto window has a population mean of 0.5 seconds (500 ms).

$$\frac{T_{\text{pulse}}}{T_{\text{veto}}} = \frac{500\,\text{s}}{0.5\,\text{s}} = 1000{:}1 \tag{4}$$

This is the *Solar-Neural Synchronization Constant.* The 1000-harmonic is confirmed by a second independent measurement. The human brain's cortical gamma oscillation operates at approximately 40 Hz. Within the 500-ms Libet veto window: $40\,\text{Hz} \times 0.5\,\text{s} = 20$ gamma cycles. Within the 500-second solar pulse: $40\,\text{Hz} \times 500\,\text{s} = 20{,}000$ gamma cycles.

$$\frac{20{,}000 \text{ gamma cycles}}{20 \text{ gamma cycles}} = 1000{:}1 \tag{5}$$

The solar-to-neural decimation holds whether measured in seconds or in the brain's own synchronisation units. The 1000-harmonic — $10^3$ — is the same decimation constant appearing in the gestation-cosmos dimensional bridge (Section 4.2) and the hydrogen atomic clock mechanism (Section 4.3).

## 4. The Gestation-Cosmos Invariant

### 4.1 The Inverse Homeomorphism of Energy

The 93 BLY cosmic diameter and the 9.3-month gestation period are proposed as reciprocal projections of the same energy structure across fractal dimensional boundaries. In the FF, the I→S transition maps informational potential into persistent structure at the fixed ratio $r = 3/2$. At fractal boundaries, the spatial extent of the container and the temporal duration of node instantiation are related by the *inverse homeomorphism*: the topology of the generative mapping is preserved while the dimensional units transform.

When the universe's spatial diameter and the gestation period are each expressed in light-seconds — the natural unit of relativistic causality in a $c$-based universe —

their ratio reduces, via the 12-step rotational closure factor, to:

$$10^{10} = \left(10^3\right)^3 \times 10 \tag{6}$$

Three iterations of the 1000-harmonic and one decimal echo.

### 4.2 Formal Dimensional Bridge: 93 BLY to 9.3 Months

Both quantities expressed in light-seconds:
**Observable universe diameter:**

$$93 \times 10^9\,\mathrm{ly} \times 3.156 \times 10^7\,\mathrm{s\,yr^{-1}} = 2.935 \times 10^{18}\,\mathrm{s} \tag{7}$$

**Human gestation period:**

$$280\,\mathrm{days} \times 86{,}400\,\mathrm{s\,day^{-1}} = 2.419 \times 10^7\,\mathrm{s} \tag{8}$$

(Range by definition: 266–294 days; cross-population mean: 280 days; Jukic et al. 2013.)
**Ratio:**

$$\frac{2.935 \times 10^{18}\,\mathrm{s}}{2.419 \times 10^7\,\mathrm{s}} = 1.213 \times 10^{11} \tag{9}$$

**Applying the 12-step rotational closure factor:**

$$\frac{1.213 \times 10^{11}}{12} = 1.011 \times 10^{10} \approx 10^{10} = \left(10^3\right)^3 \times 10 \tag{10}$$

Three cascading iterations of the 1000-harmonic — spatial, temporal, and biological domain — and one terminal decimal echo: the 93:9.3 numerical correspondence preserved across dimensional projection. The residual factor of 1.011 (1.1% deviation from unity) falls within the natural variation of the gestation period across human populations (±5%; Jukic et al. 2013).

### 4.3 The Hydrogen Atomic Clock: Two-Step Decimation

DNA replication in human cells proceeds at approximately 50 nucleotides per second (Alberts et al., 2002). This rate is governed by the sequential breaking and reformation of hydrogen bonds between complementary base pairs as the double helix unzips. Schrödinger (1944) identified the chromosome as an "aperiodic solid" whose stability depended on quantum-mechanical bonding — specifically hydrogen bonds — as the physical substrate of life's instruction set.

Femtosecond infrared spectroscopy of DNA base-pair hydrogen bonds places the proton relaxation frequency at approximately $10^{13}$–$10^{14}$ Hz (Nibbering and Elsaesser,

2004). We use $10^{14}$ Hz as the relevant upper bound.

**Step 1 — The 53-step 1.5-gear cascade:**

$$1.5^{53} = e^{53\times 0.40546} = e^{21.489} = 2.15 \times 10^9 \tag{11}$$

$$\frac{10^{14}\,\mathrm{Hz}}{2.15 \times 10^9} = 4.65 \times 10^4\,\mathrm{Hz} = 46.5\,\mathrm{kHz} \tag{12}$$

**Step 2 — The 1000-harmonic decimation:**

$$\frac{46.5\,\mathrm{kHz}}{10^3} = 46.5\,\mathrm{Hz} \approx 50\,\mathrm{nucleotides\,s^{-1}} \tag{13}$$

The 7% residual between 46.5 Hz and the canonical 50 nucleotides per second falls within observed biological variation across human cell types (±10%; Alberts et al. 2002).

**Qualification.** The proton relaxation frequency (Hz) and the DNA replication rate (nucleotides per second) are dimensionally similar ($s^{-1}$) but physically distinct. One is a quantum electromagnetic oscillation; the other is an enzyme-kinetics rate governed by polymerase processivity, ATP availability, and temperature. This paper does not claim they are the same physical quantity. The claim is that the 1.5-gear cascade connects their *magnitudes* — that the replication rate is constrained from below by the hydrogen bond relaxation floor, and that floor is set by the same geometry governing the 186-rung ladder. This is a hypothesis requiring experimental test, specified in Section 6.3.

## 5. Discussion

### 5.1 The Triple Convergence

Three independent scalar correspondences converge on the 1.5 Gear across this paper:

**Correspondence 1:** *Temporal ladder*: 13.95 BY ÷ 18.6 BY = 0.750 = 1.5 ÷ 2. Convergent with the West-Brown-Enquist metabolic scaling exponent independently derived from fractal network geometry. Unit-free ratio, exact to three significant figures.

**Correspondence 2:** *Solar-neural decimation*: 500 s÷0.5 s = 1000:1. Unit-consistent, empirically anchored in Libet et al. (1983), independent of FF theoretical apparatus. Confirmed by the cortical gamma oscillation (Section 3.2).

**Correspondence 3:** *Gestation-cosmos*: $2.935 \times 10^{18}\,\mathrm{s} \div 2.419 \times 10^{7}\,\mathrm{s} \div 12 \approx 10^{10} = (10^3)^3 \times 10$. Dependent on the 12-step closure derivation; strongest when the 18.6 BY limit is independently established.

The convergence of three independently derived quantities on a single structural constant constitutes what Whewell (1840) described as a "consilience of inductions" — the point at which evidence of a theory becomes "of a much higher and more forcible character" because "the coincidence of results from classes of facts altogether different" cannot be accidental. The FF predicts this convergence from first principles.

### 5.2 Galactic Center Triple Signals as Gear Exhaust

The simultaneous detection of three signals at the Galactic Center — the 511-keV positron annihilation line, a broad 2 MeV gamma-ray continuum, and elevated ionisation in the Central Molecular Zone (Balaji et al., 2026) — is interpreted within the FF as Third-Order Emergence: the simultaneous visibility of the 1.5-gear operation across three energy domains from a single source.

The 511-keV line is the ground-state annihilation signature of the $e^+e^-$ $P_3 \rightarrow P_2$ transition. The 2 MeV continuum falls within the second octave of the base-state annihilation: $511\,\mathrm{keV} \times 2^2 = 2044\,\mathrm{keV} \approx 2\,\mathrm{MeV}$. The CMZ ionisation represents the Connectivity Tax manifesting as excess energy in the transition zone — the friction residue of the I→S boundary operating at galactic scale.

### 5.3 The Informational Seed Point: Life at Rung 103

The earliest evidence for life on Earth — stromatolites dated to approximately 3.5 billion years ago — places the emergence of biology when the universe was approximately 10.3 BY old: Rung 103, maturity ratio 0.554. This appears to precede the 0.75 threshold claimed to be necessary for biological observers.

The apparent tension resolves within the FF's phase structure. Rung 103 is the 1.5-gear precursor to Rung 139.5. Simple prokaryotic life at Rung 103 is the *Informational Seed* — the I-phase seeding that must precede the S-phase crystallisation at Rung 139.5. Conscious observers require the 0.75 threshold; simple life does not. The 0.75 epoch marks the transition from *life possible* to *observers necessary* — the point at which the cosmic web achieves sufficient network connectivity to support the 1000-harmonic synchronisation chain.

The 36.5-rung gap between Rung 103 and Rung 139.5 represents approximately 3.65 billion years — the interval between the first prokaryotic life and the emergence of complex nervous systems capable of the Libet veto. This phased emergence mirrors the developmental logic Waddington (1957) identified in epigenetic landscapes: the developing organism has the capacity to respond to environmental impacts in ways

that lead it toward a limited number of end states. In the FF's framing, Rung 103 is the canalisation event — the point at which the informational landscape tips toward the observer attractor at Rung 139.5.

### 5.4 The Decimal Basis of Scientific Measurement

The 1000-harmonic ($10^3$) appears three independent times in this paper — solar-neural decimation, gestation-cosmos dimensional bridge, and hydrogen clock terminal step — with a fourth echo in the gamma-cycle ratio of Section 5.1. This repetition carries an implication that extends beyond the paper's primary claims: the base-10 structure of human scientific measurement may not be a cultural convention but a geometric consequence.

Ifrah (2000) observed that while base-10 is universal among developed mathematical cultures, other bases (base-5, base-20, base-60) have been used successfully by advanced civilisations, and "the choice of base is not determined by the structure of the hand alone but by a deeper intuition about what counts as a natural unit of grouping." The FF proposes that the deeper intuition Ifrah identifies is geometric: the 1.5-gear universe produces organisms at the scale where the cosmic diameter maps to gestational duration by a factor of 10, and those organisms discover by counting their world that 10 is the unit at which the ratios close.

We count in tens because we are built at the scale where the cosmic diameter maps to gestational duration by a factor of 10, and the 1000-harmonic governing that mapping cascades through neural architecture, gamma synchronisation, solar pulse, and hydrogen bond dynamics to produce biology that processes information in decimal units. As Poincaré (1908) wrote of the beauty of natural order: the decimal elegance of the natural world is not imposed on it by human convention but read from it by organisms whose counting system was set by the same gear that set their gestation. If the Gestation-Cosmos Invariant is real, base-10 arithmetic is not an accident. It is the arithmetic of the 1.5-gear universe counting itself.

### 5.5 The 0.75 Epoch and Biological Emergence

The West-Brown-Enquist metabolic scaling exponent carries a structural implication: complex biological observers capable of 1000-harmonic synchronisation are only possible once the cosmic network achieves $\frac{3}{4}$ efficiency. The life-emergence timeline of Section 5.3 supports this: simple life seeds at Rung 103 (the 1.5-precursor); conscious observers emerge near Rung 139.5 (the 0.75 threshold). The structure is not anthropocentric — it is geometric. Any biosphere anywhere in the observable universe faces the same phase constraint.

Kauffman (1993) identified that maximum computational capacity in complex adaptive systems occurs at a specific phase boundary between order and disorder. The FF's 0.75 maturity threshold is a cosmological instance of Kauffman's phase boundary: the point at which the cosmic network is neither too young to support sufficient connectivity nor too old for informational flexibility to sustain observer emergence. Tegmark (2014) argued that our universe "is mathematics." The FF makes a more constrained and more testable version of this claim: our universe is the mathematics of $r = 3/2$ specifically, and the biological observer is the point at which that mathematics becomes aware of itself.

## 6. Falsifiable Predictions

Add. 1.2 — 78.5 → 72.39

### 6.1 Prediction I: The 78.5 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ Cosmic Mean Expansion Rate

The current locally measured Hubble constant reflects the 0.75 maturity state of the cosmic network:

$$H_{\text{predicted}} = H_{\text{base}} \times \left(1 + f \cdot k_s\right) \tag{14}$$

where $H_{\text{base}} = 67.4\,\mathrm{km\,s^{-1}\,Mpc^{-1}}$ (Planck Collaboration, 2020), $f = 0.75$ (current maturity fraction), $k_s = 0.22$ (Connectivity Tax; Scales 2026):

Add. 1.2 — 78.5 → 72.39

$$H_{\text{predicted}} = 67.4 \times (1 + 0.75 \times 0.22) = 67.4 \times 1.165 = 78.5\,\mathrm{km\,s^{-1}\,Mpc^{-1}} \tag{15}$$

Add. 3.2 — figure superseded

At full maturity ($f = 1.0$): $67.4 \times 1.22 = 82.2 \approx 82.3\,\mathrm{km\,s^{-1}\,Mpc^{-1}}$ (Scales, 2026).

The $78.5\,\mathrm{km\,s^{-1}\,Mpc^{-1}}$ prediction is the true cosmic mean. The Riess value of $\sim$73–74 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ is a stunted local measurement caused by the KBC Void biasing the Cepheid distance ladder below the cosmic baseline (Keenan, Barger, and Cowie, 2013). The prediction is not in tension with Riess et al. (2022); it predicts that Riess is measuring the void, not the cosmos.

*Falsification criterion*: If DESI DR2 and GAIA DR4 (December 2026) confirm the expansion rate at 73–74 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ in measurements extending beyond the KBC Void boundary, this prediction fails and the maturity fraction formula requires fundamental revision.

### 6.2 Prediction II: Solar-Decimated Neural Veto Invariance

If the 500-ms Libet window is a structural constant of the solar-neural synchronisation rather than an evolutionary optimisation, two cross-population predictions follow.

First, the population mean will prove invariant across human populations and neurotypical individuals regardless of environment, diet, or cultural context, because it is anchored to a solar constant rather than a local fitness gradient.

Second, species with neural architectures processing at $\sim 10^1$ Hz and inhabiting the same gravitational well should exhibit conscious veto windows within one order of magnitude of 0.5 seconds, regardless of evolutionary lineage. This prediction is testable with existing comparative neuroscience methodology.

Additionally, if the solar-neural synchronisation is real, populations measured at different orbital phases (seasons) should exhibit Libet window means shifted by up to $\pm 1$ ms in correlation with the $\pm 3.3$-second annual variation in the solar pulse.

### 6.3 Prediction III: Gestation Scaling with the Observable Universe

The 9.3-month mean human gestation is not an adjustable evolutionary parameter but a geometric constant set by the 93 BLY cosmic diameter. Cross-population gestational variation will not exceed $\pm 5\%$ under continued study, and will not yield to environmental pressure in the way that other reproductive parameters demonstrably do. Cross-population data currently support this bound (mean 280 days $\pm$ 14 days; Jukic et al. 2013).

The structural law implied: if an intelligent biological observer were to emerge in a universe with a co-moving diameter of 186 BLY rather than 93 BLY, the Gestation-Cosmos Invariant predicts:

$$G_{\text{predicted}} = 9.3\,\text{months} \times \frac{186\,\text{BLY}}{93\,\text{BLY}} = 18.6\,\text{months} \tag{16}$$

This transforms the invariant from a numerical observation into a structural law with cross-universal implications.

## 7. Conclusion

This paper identifies three scalar correspondences connecting human biology to cosmic architecture via the materialisation constant $r = 3/2$.

The 0.750 cosmic maturity ratio converges with the West-Brown-Enquist metabolic scaling exponent independently derived from fractal network geometry. The arithmetic is exact, the external citation is verified, and no adjustment produces the result. This is the paper's strongest finding.

The 1000:1 solar-neural synchronisation constant is unit-consistent and empirically anchored in Libet et al. (1983), with a fourth harmonic appearance in the cortical gamma-oscillation ratio of Section 5.1. It is the most formally rigorous correspondence in the paper.

The Gestation-Cosmos Invariant — the 10:1 numerical correspondence between the 93 BLY observable universe and the 9.3-month gestation period, unified through the two-step Hydrogen Atomic Clock — is the most original finding and the most

dependent on future derivation work, specifically the full first-principles derivation of the 18.6 BY maturity limit.

Together, these three correspondences share a single structural constant: $10^3$. The 1000-harmonic appears independently in the solar-neural ratio, the gestation-cosmos dimensional bridge, the hydrogen clock terminal decimation step, and the gamma-cycle synchronisation of conscious neural processing.

The central claim is precise: human gestation duration is a structural coordinate of the 1.5-gear universe. The 9.3-month womb is the 93 BLY universe poured at 1000-harmonic decimation. DNA unzips in the womb on the hydrogen atomic clock — the same hydrogen geometry governing the Bohr radius, the scalar ladder, and the galactic coherence radius — and that clock runs at the rate the cosmos requires for a biological observer to be assembled at the $\frac{3}{4}$ maturity threshold.

**Add. 1.2 — 78.5 → 72.39**

The 78.5 $\mathrm{km\,s^{-1}\,Mpc^{-1}}$ Hubble prediction, the solar-decimated veto invariance, and the gestation scaling law are hard falsifiable claims made prior to the data. GAIA DR4 (December 2026) provides the primary cosmological test. The authors invite critical engagement from developmental biologists, cosmologists, and neuroscientists. Correspondence may be directed via https://theoryofeverything.ca.

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# Annotations — Addenda (as-built revision record)

*The text of this paper is unchanged as published. Each entry below corresponds to a highlighted passage in the text; the tag beside each highlight names the Addendum item and states the change. The corrections are recorded in The Findlay Framework Addenda.*

Add. 3.2 — (p. 5) “Connectivity Tax of” — Connectivity Tax framing superseded per Addendum 3.2. Superseded; the framework currently publishes H0 = 72.39 km/s/Mpc via the 2/27 phase-residue relation. The Scales 1.22/Connectivity-Tax framing is retired. (Addendum 3.2, October 2, 2026.)

Add. 3.2 — (p. 5) “terminal” — figure superseded per Addendum 3.2. Superseded; the framework currently predicts no full-maturity expansion rate. (Addendum 3.2, October 2, 2026.)

Add. 3.2 — (p. 5) “expansion rate of approximately 82.3” — figure superseded per Addendum 3.2. Superseded; the framework currently predicts no full-maturity expansion rate. (Addendum 3.2, October 2, 2026.)

Add. 1.2 — (p. 5) “At the current” — 78.5 changed to 72.39 ($H_0$, km/s/Mpc). Superseded — H0 = 72.39 km/s/Mpc via the 2/27 derivation (Record 007). (Addendum 1.2, April 7, 2026.)

Add. 3.2 — (p. 5) “0.75 maturity state, the predicted cosmic mean rate is 78.5” — figure superseded per Addendum 3.2. Superseded; the framework currently predicts no full-maturity expansion rate. (Addendum 3.2, October 2, 2026.)

Add. 1.2 — (p. 13) “Prediction I: The 78.5” — 78.5 changed to 72.39 ($H_0$, km/s/Mpc). Superseded — H0 = 72.39 km/s/Mpc via the 2/27 derivation (Record 007). (Addendum 1.2, April 7, 2026.)

Add. 1.2 — (p. 13) “0.75 × 0.22” — 78.5 changed to 72.39 ($H_0$, km/s/Mpc). Superseded — H0 = 72.39 km/s/Mpc via the 2/27 derivation (Record 007). (Addendum 1.2, April 7, 2026.)

Add. 3.2 — (p. 13) “At full maturity (f = 1.0)” — full-maturity 82.2 km/s/Mpc figure superseded per Addendum 3.2. Full-maturity 82.2 km/s/Mpc figure superseded with the k_s = 0.22 apparatus. (Addendum 3.2, October 2, 2026.)

Add. 1.2 — (p. 15) “The 78.5” — 78.5 changed to 72.39 ($H_0$, km/s/Mpc). Superseded — H0 = 72.39 km/s/Mpc via the 2/27 derivation (Record 007). (Addendum 1.2, April 7, 2026.)