



The 420 Code



Structural Glossary

*The Complete Vocabulary, Notation and Imagery of the
Body of Work*

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How to use this glossary

This is the cross-book glossary the Five Doors volumes point readers to. It draws every term that does structural work - across the eight Notebooks (the 43 Artist's Proofs), the five Ø Models, the five Five Doors books, and the five-voice Rosin Ø series - into one canonical reference, and adds the notation and the load-bearing imagery beside it.

The headword line. Each entry opens with the term in bold, any symbol beside it, and where useful a register tag - Foundational, Structural, Operational, Quantum, Ethical-structural, Control-theory, Result, Apparatus, Metaphor. The register tells you which face of the work the term belongs to.

Locus and grade. Where given, the locus is the Notebook, chapter, or Artist's Proof where the term is installed; the grade is the epistemic status the work assigns - Axiom, Theorem, Derived, Derived-Conditional, Conjectured, or the single Empirical input (α_{em}). What is not yet derived is named as open work, never asserted.

Two registers, one headword. Some terms - AS, ε , the viability kernel - carry a structural reading and a formal operational reading. The glossary holds both under one headword, so a physicist and a philosopher reading the same term are reading about the same object.

Canon line. A Canon note flags a point where volumes drift or a symbol is overloaded, and states the ruling. Every ruling is collected in the Canon-Resolution Log near the end.

Count authority. Every count defers to the Master Kill Switch Registry, v5.26 (July 2026): 561 kill switches - 277 across the 43 Artist's Proofs, 28 across the Five Doors, 256 across the Ø Models (545 live; 12 closed, 1 conditionally closed, 2 addressed, 1 derived; 6 non-negotiable). No count is taken from memory or any other source.

Sources. Built from the eight Notebooks (the 43 Artist's Proofs), the five Ø Models, the five Five Doors books, all five Rosin Ø voices (Prose, Conversation, Metaphor, Nursery Rhyme, Declaration), and the MKSR v5.26. The Nursery Rhyme voice draws its images from the shared Library and introduces no vocabulary of its own.

A note on spelling. "Actualization State" (American) is the fixed formal proper noun throughout the body of work; body prose uses British spelling - actualisation, realisation, behaviour. The split is deliberate.

How this reference is organised

Part I - The Axiom and the Four Conditions. The locked formulations, stated once.

Part II - Notation and Symbol Reference. Every symbol and structural number, its source, and its firewall against collisions.

Part III - The Structural Glossary. Fifteen thematic families, from the axiom outward to the falsification apparatus, the applied frame, the relational corridor, religion and hermeneutics, and AI alignment.

Part IV - The Metaphor Reference. The load-bearing images, each mapped to the one real thing it carries.

Part V - Naming, Casing and Spelling. The house-style rules.

Part VI - The Falsification Register. The kill-switch apparatus: the counts, the distribution, and every discharged and special-status switch, named.

The Canon-Resolution Log, a master A-Z index, and five appendices close the volume.

Part I • The Axiom and the Four Conditions

The locked formulations of The 420 Code. Everything else in the work, and every other entry in this glossary, grounds here.

1:1 + 1×ε @ AS (the axiom) — The canonical rendering. One symmetric coupling (1:1), plus a single ε (the minimum asymmetry, the unpaired element), at AS - the on-shell substrate, the actualising now. The locality stamp @ AS names where the axiom holds; it is dropped only in informal prose and restored in formal statements, kill-switch claims, and Notebook envelopes. Every load-bearing claim grounds in this axiom or in a prior result that grounds in it; no imported premises. Grade: Axiom.

1:1 + 1×ε @ AS [+1/137 / -1/137] (the complete cycle) — Written completely. The break (+1×ε) is the persistent distinction potential - held, irreducible, what protects S from closing back into undifferentiated Ø. The α-flow (+1/137 leakage outward, -1/137 replenishment back) runs around the held break, balanced at every AS-instant, net zero - actualisation and defragmentation. The compressed form is canonical for formal statements; the complete-cycle form is used where the flow itself is load-bearing. (AP06, Notebook IV; carried at AP03 and in the Ø Models glossaries.)

S — Symmetry — The two-sector base condition; identity under exchange - the structure of distinction at minimum cost, before the break. Grade: Axiom.

B — Break — The minimal perturbation, the first event, the unpaired element ε , the crack. B introduces the $+\varepsilon$ against the symmetric base. Canonically Break, never Boundary. Grade: Axiom.

R — Record — The distinction that persists; irreversible and direction-preserving - what turns an event into a fact and gives time its direction. Grade: Axiom.

C — Constraint — Constraint, always. The condition is locality: a record is somewhere, not everywhere - what makes here different from there. Bounded propagation is what Constraint produces, not what Constraint is. Never read as bounded propagation alone, nor as boundary. In our universe, the speed of light. Grade: Axiom.

{S, B, R, C} — The four structural preconditions for records - not four independent axioms but the four irreducible properties of the single axiom. Minimum complete set (AP20): remove one and no consistent universe follows; add a fifth and it is a consequence of the four. Grade: Derived (minimality).

AS — the Actualization State — Two related but distinct senses, kept apart. (1) The on-shell substrate - the manifold on which the axiom holds, the present coupling event, the site

where the $+\varepsilon$ is happening. (2) In Notebook I (Paper A), an operational scalar in $[0, 1]$ measuring the degree of inter-sector branching in the record algebra (0: all weight in one sector; 1: maximal branching). (Notebook I.)

ε (epsilon) — The minimum asymmetry - the single unpaired element in $1:1 + 1 \times \varepsilon$; the break read as a quantity. The one ε wears several dimensional hats across the work (the faces of ε). (AP24.)

$E = \kappa(\mathbf{B})\mathbf{A}\mathbf{S}$ — The structural identity tying energy to break-density at the Actualization State. A structural identity, not a computational law. (AP29, The Actualization Proof.)

$G = \alpha_{em}{}^{21}(1 + 1/\pi)\hbar c/m_e{}^2$ — The gravitational constant derived from the channel count - parameter-free, landing 0.69% from measurement; recovers the hierarchy as $\alpha_{em}{}^{-20}/(1 + 1/\pi)$. $G \propto \varepsilon^{21}$ is canonical for the value. (AP28, Notebook IV.) Grade: Derived (parameter-free).

Proton-electron mass ratio — $m_p/m_e = 1836 + \alpha \cdot 21 \cdot (1 - 1/(84\pi)) + \alpha^2 \cdot 21 \cdot 16/1836 + O(\alpha^3)$; the static integer $21^2 \cdot 4 + 21 \cdot 3 + 3^2 = 1836$. Predicted 1836.1526734444 against CODATA 1836.152673426(32); residual 0.010 parts per billion — 0.6σ inside the measurement's error bar; zero free parameters. The $O(\alpha^3)$ origin is owed (KS-30.3). (AP30, Notebook V.) Grade: Derived (parameter-free at order α).

The MOND floor and the Hubble constant — $a_0 = \alpha c H_0 / (2\pi)$, with $\alpha = 2 \ln(\sec^{1/2} + \tan^{1/2}) \approx 1.0445$ the apex-symmetry factor - NOT the fine-structure constant. AP18 derives the exact coefficient; read backwards it predicts $H_0 = 2\pi a_0 / (\alpha c) \approx 74$. Form and coefficient are derived parameter-free; the empirical match awaits the Hubble tension's resolution. (AP17/AP18, Notebook VI.) Grade: Derived.

The dark-sector partition — $\tau = (6/21) \cdot t_H$ - six faces of ε (AP24) over twenty-one channels (AP28) - gives the derived split 68.85% dark energy, 26.39% dark matter, 4.76% visible (Planck 68.89 / 26.07 / 4.86). The honest headline is 69 / 26 / 5, never 68 / 27 / 5. (AP41/AP42, Notebook VI.) Grade: Derived-Conditional.

Faces of ε — The single ε wearing several dimensional hats across substrates - Λ_{sub} (dimensionless stiffness ratio, AP17) and λ (dimensionful, energy/length, AP15/AP21/AP42) sharing the magnitude $\sim 2.15 \times 10^{46}$; ε as jurisdiction boundary (AP33), transaction cost (AP35), reaction cost (AP36). When one magnitude wears two dimensional hats across chapters, the Notebook envelope says so.

The terminal ethic — don't be a cunt, be kind — Derived from the geometry, not asserted, and reached by two independent routes - the two-track architecture. Track A, the one interior: if the I in me is the I in you, harming you is harming the building I live in; the identification makes the

ethic beautiful. Track B, the viability geometry: with no metaphysics at all, non-parasitic coupling on the correctly-read geometry is the floor, because cruelty contracts the joint viable set; AP43 §9 reaches operator-sameness via {C, R, AP07}; the geometry makes it true. Either route reaches the same place; if forced to choose, choose the geometry. The 9-in-the-sand passage is preserved verbatim. (AP41/AP43; the two-track architecture, Notebook I.) Grade: Derived.

Part II • Notation and Symbol

Reference

Every symbol and structural number, its source, and - where a symbol is overloaded across the body of work - its firewall. A symbol's meaning is fixed by its locus; the firewall names the collision to avoid.

II.1 • The axiom, in symbols

1:1 — The symmetric pre-state: two sectors held in mutual reference, perfect balance before the break. The colon marks relation, not equality. (Axiom S read as a state.)

1×ε — The single break: one persistent unpaired element against the 1:1. (Axiom B.)

@ AS — The locality stamp: the axiom holds at the Actualization State - the on-shell substrate, the actualising now.

[+1/137 / -1/137] — The α -flow around the held break: leakage outward, replenishment back, net zero at every AS-instant. The complete-cycle suffix.

∅ — The empty set; the undifferentiated pre-state the axiom opens from; the symbol carried on every spine of the ∅ Models catalogue. Always ∅, never the letter O.

ℓ and $\mathcal{P}$ — The two disjoint sectors of the record algebra (Axiom S), connected by the involution σ . The two sides.

σ (sigma) — The structure-preserving involution between the two sectors; $\sigma^2 = \text{identity}$.

$\mathbb{Z}_2$ — The two-element group generated by σ ; embeds into the manifold's rotation structure as $\pi_1(\text{SO}(3))$.

II.2 • The structural integers

3 — Spatial dimensions; colour faces. (AP10, AP19.)

4 — The axiom conditions {S,B,R,C}; the proton floors. (AP20.)

6 — The scalar readings of the break - the faces of ε . (AP24.)

21 — The independent coupling channels of the arena: 6 scalar readings $\times$ 3 spatial dimensions = 18 face-projections, plus 3 actualisation couplings; $21 = 6 \times 3 + 3$. The exponent on α_{em} in G; the proton count; the visible fraction. Derived once. (AP10, AP24, AP28.)

$10:10 + 1 = 21$ — The channel accounting of the dark sector: 20 symmetric (dark) channels (the 1:1 mirror) plus one broken (electromagnetic) channel (the $+1 \times \varepsilon$). (AP41.)

84 — 21 channels $\times$ 4 dimensions; the denominator of the isotropic leakage correction $1/(84\pi)$ in the mass ratio. (AP30.)

1836 — The static integer in m_p/m_e : 1764 (manifold capacity, $21^2 \cdot 4$) + 63 (face projection, $21 \cdot 3$) + 9 (exchange matrix, 3^2). (AP30, Notebook V.)

$1/\pi$ — The geometric weight of one winding on a circular puncture boundary; appears in the gravitational-constant derivation. (AP28.)

II.3 • Greek letters and operators (with firewalls)

α_{em} (the fine-structure constant) — $\approx 1/137$ ($7.2973525693 \times 10^{-3}$). The single measured input of the framework, identified as the leakage rate of the substrate (AP06). The one number the work does not derive. Firewall: this is the fine-structure constant, distinct from α the apex-symmetry factor below. Grade: Empirical input.

α (the apex-symmetry factor) — $\alpha = 2 \ln(\sec^{1/2} + \tan^{1/2}) \approx 1.0445$, from S^2 dipole-flux conservation; appears in the floor $a_0 = \alpha c H_0 / (2\pi)$ (AP18). Firewall: NOT the fine-structure constant α_{em} .

β (beta) — Appears in $c^2 = \beta/\alpha$ (the relation derived in Edition 02, The Keys). Firewall: NOT the quantum-field-theory beta-function.

ε (the break) — The minimum asymmetry; the break read as a quantity (Axiom B). Identified with α_{em} as the magnitude of

the break, and with the electron as its minimum stable excitation (via The Lock). Firewall: distinct from ε the operational tolerance (Notebook I, App.E), a fixed positive experimental-resolution parameter sharing the symbol.

κ (kappa) — Three distinct quantities share the symbol; the locus disambiguates. (a) The holding limit of the pre-state - the Lock's κ , in $G = 2\kappa/m_e^2$; (b) the backreaction coupling, in $G = \kappa/(\varepsilon\Lambda^2)$ (AP03); (c) the surface gravity of a Schwarzschild black hole, $\kappa = c^4/4GM$ (an acceleration). The κ - α_G bridge: $2\kappa = \alpha_{em}^2(1 + 1/\pi)\hbar c$.

λ (substrate stiffness) — $\approx 2.15 \times 10^{46}$, energy per length; the scale for isotropy enforcement and confinement. Firewall: NOT a wavelength. (AP15, AP17, AP19, AP21, AP42.)

Λ_{sub} — The dimensionless stiffness ratio $\approx 2.15 \times 10^{46}$; one of the faces of ε . Shares magnitude with λ but not dimensions. (AP17.)

$\hbar$ (h-bar) — The action-scale of the minimum record: one record = one $\hbar$ of action. Forced by Stone's theorem + Axiom B + the absence of dimensionless parameters in $\{S, B, R, C\}$. (Notebook III.)

$\mathcal{H}$ (Hilbert space) — The complex vector space of pre-states for a degree of freedom - the space of possibilities, the pre-state, the desert. Linearity from R + the Embedding Hypothesis; complex amplitudes from the Lorentzian

signature; inner product from Axiom S via the Born rule.
(Notebook III; AP09.)

M (two readings) — (a) The manifold / spacetime of written records. (b) Agency M in $[0,1]$: the fraction of the viability kernel reachable under admissible control - a geometric quantity, not a moral one (AP01 Paper C, AP33). Firewall: the manifold and the agency scalar share the letter; the locus disambiguates.

II.4 • The physics constants and quantities

c (the propagation bound) — The finite invariant rate at which distinctions propagate - the speed of light, the physical reading of Constraint; the upper wall of the eye. Conjugate to G through ε ($c/G \propto \varepsilon$). (AP03.) Grade: Derived (from the pre-geometric action).

G (the gravitational constant) — $G = \alpha_{em}^{21}(1 + 1/\pi)\hbar c/m_e^2$, parameter-free, 0.69%. $G \propto \varepsilon^{21}$ is canonical for the value; the substrate scaling $G = \kappa/(\varepsilon\Lambda^2)$ (AP03) is retained at substrate level, not as the value. Firewall: never cite $G = \varepsilon^2 \cdot \hbar c/m_e^2$ - a known hallucination (L55/F18). (AP28.)

a_0 (the MOND scale) — The tension-field floor: $a_0 = \alpha c H_0 / (2\pi) \approx 1.1 \times 10^{-10} \text{ m/s}^2$, the acceleration at which the Newtonian contribution equals the floor. AP18's exact coefficient $\alpha/(2\pi) \approx 0.1662$ is the headline; AP17's first-order $\approx$

8% is the mechanism. No dark matter required for galactic rotation. (Notebook VI.)

H_0 (the Hubble parameter) — Read through the structural account of the Hubble tension; the work's structural value ≈ 74 km/s/Mpc. (Notebook II Ch.7.)

m_e , m_p — The electron and proton masses; m_e is the minimum stable excitation of the broken symmetry (the electron, via The Lock), and the scale in G. $m_p/m_e = 1836$ at order α . (Notebooks III, V.)

$\tau = (6/21) \cdot t_H$ — The dark-sector clock: six faces of ε over twenty-one channels, times the Hubble time; the reading that yields $69 / 26 / 5$. (AP41/AP42.)

0-pole / 1-pole — The two conjugate curves of the eye. The 0-pole: the fold, gravity, the black hole, the dark - what the fabric does when it closes. The 1-pole: propagation, light, matter, the visible - what the fabric does when it opens. (AP17, AP22, Notebook VI.)

Landauer bound — $k_B T \ln 2$ per bit - the thermodynamic cost of a record; companion to the quantum cost $\hbar$. Every measurement is a Landauer erasure at the observation boundary. (AP06, AP12.)

Part III • The Structural Glossary

Fifteen thematic families, from the axiom outward to the falsification apparatus, the applied frame, the relational corridor, religion and hermeneutics, and AI alignment. Definition, axiom-grounding, locus, and grade; cross-book senses and rulings where they differ.

Family 1 • The Axiom and Its Preconditions

Axiom · *Foundational*

1:1 + $1 \times \varepsilon$ @ AS. The pre-state of perfect symmetry and its break, at the actualizing now. It carries two operations at AS: the break (+ $1 \times \varepsilon$) is the persistent distinction potential — held, irreducible, what protects S from closing back into undifferentiated $\emptyset$; the α -flow (+ $1/137 - 1/137$) runs around it — actualisation as records are written via the leakage, defragmentation as they release via the replenishment, balanced at every AS-instant, net zero.

Locus. The Axiom (across the body of work; full form 1:1 + $1 \times \varepsilon$ @ AS [+ $1/137$ / $-1/137$]) Grade. Axiom

$\emptyset$ (the empty set) · *Foundational*

The pre-state the axiom opens from; the symbol carried on every spine of the $\emptyset$ Models catalogue. What the axiom produces by breaking $\emptyset$ is what everything structurally is.

Locus. The Axiom

ε / the Break (B) · *Foundational*

The minimum asymmetry: one element of one sector with no σ -image — the single departure from perfect symmetry. Every record, particle, and observation is a reading of this break through one structural channel. Two body of work identifications (see Canon-Resolution Log): $\varepsilon \leftrightarrow \alpha_{em}$ as the magnitude of the break (Notebook I); $\varepsilon \leftrightarrow$ the electron as its minimum stable excitation, via The Lock (Notebook III).

Locus. The Axiom; Notebooks I, III Grade. Axiom (identifications Derived)

S — Symmetry · *Precondition*

Two sectors; the minimum structural asymmetry — the structure of distinction at minimum cost.

Locus. The Axiom Grade. Axiom

B — Break · *Precondition*

The asymmetry between the sectors; the minimal element ε .
Never “Boundary.”

Locus. The Axiom Grade. Axiom

R — Record · *Precondition*

Irreversible, direction-preserving: a distinction made and held.

Locus. The Axiom Grade. Axiom

C — Constraint · *Precondition*

A record is somewhere, not everywhere. Bounded propagation — records reaching other sites at a finite rate rather than instantaneously — is what Constraint produces, not what it is. In our universe, the speed of light.

Locus. The Axiom; Notebooks II, IV Grade. Axiom

Canon: Never “bounded propagation” as the term itself. The KSV appendices of $\emptyset$ Dissolutions, $\emptyset$ Resolutions and $\emptyset$ Applications still define C that way — corrected to Constraint here. See log.

{S, B, R, C} · *Precondition set*

The four structural preconditions for records — not four independent axioms but the four irreducible structural properties of the single axiom. Minimum complete set (AP20): remove one and no consistent universe follows; add a fifth and it is a consequence of the four.

Locus. The Axiom; minimality AP20 Grade. Derived (minimality)

the α -flow · *Foundational*

The +1/137 leakage outward and –1/137 replenishment back that run around the held break, balanced at every AS-instant, net zero — actualisation and defragmentation. The flow is

what makes the substrate appear stable; the break is what the flow runs around.

Locus. The Axiom

Actualization State (AS) · *Foundational*

The actualizing now named in the axiom; the surface from which all records are written; the prior in which the substrate is held and the break processed; the totality of what the axiom produces, read as one. Every site is a local reading of the one AS. AS cannot measure itself — measurement is something records do, and AS is upstream of every record. Read in two ways (see AS-the-quantity, Family 4).

Locus. The Axiom; formalised Notebook I Ch.2

Canon: Spelling: Actualization (American) as the fixed formal proper noun across the body of work; actualisation (British) in body prose.

AS-the-prior · *Foundational*

The foundational structural now; no numerical value.

Locus. The Axiom

the cycle / the loop · *Cosmological*

The cosmological reading: the AS runs through cycles, each ending in defragmentation that restores the symmetric condition the next cycle's break runs from. Topologically S^1 .

Family 2 • Substrate, Arena, and Manifold

substrate · *Structural*

The pre-manifold structure from which space and time are written. Not a material, not a field — closer to a mathematical object: the domain on which the axiom operates.

Locus. Notebooks I-II; Ø Predictions front matter

arena · *Structural*

The manifold generated by the four axioms: three spatial dimensions, one temporal, a two-sector structure, six scalar readings of the break, twenty-one independent coupling channels. Everything physical happens in the arena.

Locus. Ø Predictions; Notebooks II, IV

manifold · *Structural*

The smooth surface on which the axioms execute. Notebook I Ch.3 establishes the identity: the manifold IS the Actualization State — not built from records, prior to them. Smoothness guaranteed by the balance of the flow at AS (fenced KS-P.5).

Locus. Notebook I Ch.3 Grade. Theorem (manifold-AS identity); KS-P.5 empirical

two sectors ($\mathcal{L}$ and $\mathcal{P}$) · *Structural*

The two-sided structure of the pre-state, related by involution σ ; the minimum structure for distinction.

Locus. Notebook I Ch.3; Notebook III

involution (σ) · *Structural*

The structure-preserving map between the two sectors; $\sigma^2 =$ identity, applied twice returns to the starting point.

Locus. Notebook I Ch.3

monoid · *Structural*

The algebraic structure of records: sequential composition, associative, with identity, no non-identity inverses. What irreversible accumulation is.

Locus. Notebook I Ch.3

$\mathbb{Z}_2$ (the Axiom-S group) · *Structural*

The two-element group generated by σ ; embeds into the manifold's rotation structure as $\pi_1(\text{SO}(3))$.

Locus. Notebook III Ch.3

the channels (21) · *Structural*

Twenty-one independent structural pathways through which the break can couple to itself: six scalar readings $\times$ three

spatial dimensions = eighteen face-projections, plus three actualization couplings. $21 = 6 \times 3 + 3 = 18 + 3$. Derived once; the same 21 sets the proton count, the gravitational-coupling exponent, and the visible fraction of the universe.

Locus. Notebooks IV–VI; readings AP24, dimensions AP10, colour AP19

the integers (3, 4, 6, 21) · Structural

The four small integers doing the structural work. 3: spatial dimensions / colour faces (AP10, AP19). 4: axiom conditions / proton floors (AP20). 6: scalar readings of the break (AP24). 21: coupling channels of the arena. Each derived once, from a specific piece of axiom machinery, for reasons unrelated to any numerical target.

Locus. Ø Predictions (“Where the Integers Come From”);

AP10/19/20/24

the building (corridors, floors, colour faces) · Metaphor

The recurring image for the internal structure of a bound state — proton, neutron, or gravity’s arena: twenty-one corridors, three colour faces, four floors. Each element means something specific in the derivation; the metaphor is tight enough to follow the derivation by tracking how rooms and corridors combine.

Locus. Notebook V; Ø Predictions

The Lock · *Structural*

The structural identification ε = electron: the minimum stable excitation of the broken symmetry, the lightest charged fermion, the simplest thing that can write a record.

Locus. Notebook III Ch.1

holding limit (κ) · *Structural / physics*

The maximum coherence the pre-state can sustain; finite — perfect coherence at infinite scale is self-annihilating. Enters $G = 2\kappa/m_e^2$; determined by $\kappa = \alpha_G \hbar c / 2$ with $\alpha_G = \alpha_{em}^2 (1 + 1/\pi)$. (κ also names two distinct physics quantities — see log.)

Locus. Notebook III Ch.1; Notebook IV

walls of the eye · *Structural*

The two absolute limits created by the break: lower wall (total fold, event horizon, maximum curvature) and upper wall (c, maximum propagation). ε operates between them.

Locus. Notebook III Ch.1

Family 3 • Records, Irreversibility, and Time

record (R) · *Structural*

A distinction that has been made and persists; what the axiom produces every time coupling executes.

Locus. The Axiom

record-history · *Structural*

The structurally preserved past at any site, what R has carried forward. Information is record-history; what is forgotten is what R has not carried.

Locus. Ø Resolutions Ch.1

record-structure · *Structural*

What the AS carries from what has been written; records under R, preserved, accessible as what has propagated to a site. Read at the site as the past.

Locus. Ø Dissolutions Ch.11

record-lineage · *Structural*

The continuous structural carrying of records across change, by R; the structural account of persistence.

Locus. Ø Resolutions Ch.7

referent specification · *Structural*

The specification of which lineage is being tracked when one ordinary-language word picks out multiple lineages — pattern, matter, and use are three referents the word “ship” can pick out, each with its own persistence conditions.

Locus. Ø Resolutions Ch.7

irreversibility · *Structural*

The property R produces: records cannot be undone. The arrow of time is this accumulation read from inside.

Locus. The Axiom; formalised Notebook I

direction-preservation · *Structural*

The structural property R produces: records carry the direction of their writing, and the direction cannot be undone.

Locus. Ø Dissolutions Ch.2

three faces of Axiom R · *Structural*

Arrow of time (cosmological), measurement irreversibility (single-event), decoherence (intermediate scale). One axiom, three scales.

Locus. Notebook III Ch.5

atemporal now · *Structural*

The single now at which the axiom is continuously executing; not a privileged moment moving through a container, but the one now the AS structurally has.

Locus. Ø Dissolutions Ch.11

decoherence · *Physics*

The dispersal of coherence into the environment via irreversible record-writing; the third face of Axiom R; the mechanism by which the classical world emerges from the quantum.

Locus. Notebook III Ch.5

persistence-mode 1 · *Structural*

Persistence by resisting the break: thermodynamic stability that prevents reaction. The mode rocks have.

Locus. Ø Resolutions Ch.9

persistence-mode 2 · *Structural*

Persistence by exploiting the record: using records of one's own pattern to regenerate the components and constraints that keep the pattern going, with enough fidelity for lineage and enough variation for selection. The mode living systems have.

Locus. Ø Resolutions Chs.7, 9

persistence-inversion threshold · *Structural*

The transition at which chemistry begins maintaining its own pattern by record-constrained regeneration; the chemistry-biology crossing.

Locus. Ø Resolutions Ch.9

dynamic kinetic stability · *Structural / physics*

The thermodynamic-kinetic regime in which a system is held far from equilibrium by continuous re-synthesis exceeding decay. What life structurally is at the chemical resolution.

Locus. Ø Resolutions Ch.9

Family 4 • The Operational / Formal Apparatus

the physicist register

AS-the-quantity • Operational

The operational scalar $AS \in [0, 1]$ measuring degree of inter-sector branching in the record algebra. $AS = 0$: all weight in one record sector; $AS = 1$: maximal branching. The handle by which experiment engages the prior.

Locus. Notebook I Ch.2, D3 (A2.3) Grade. Operational definition

admissible operation • Operational

A CPTP map acting on the accessible system, optionally with fresh ancilla, with no access to the original environment. Defines what an agent can do, and thereby what counts as operationally irreversible.

Locus. Notebook I App.E

coarse-graining ($\emptyset$, physically realizable) • Operational

A finite set of mutually orthogonal projectors selected by the physics of system–environment coupling, not by observer choice.

Locus. Notebook I D1 (A2.1)

dephasing map ($\Delta\mathcal{O}$) · Operational

$\Delta\mathcal{O}(\rho) \equiv \sum_i \Pi_i \rho \Pi_i$; removes quantum interference between record sectors while preserving classical probabilities.

Locus. Notebook I D2 (A2.2)

effective entropy (S_{eff}) · Operational

The Shannon entropy $H(\{p_i\})$ of the sector weights, intra-sector entropy discarded; the entropy entering the AS definition.

Locus. Notebook I A2.3

record algebra · Operational

The algebra generated by the coarse-graining $\mathcal{O} = \{\Pi_i\}$; states are diagonal in the record basis. Defines what the environment can physically distinguish.

Locus. Notebook I App.E

selection · Operational

The transition from a diagonal mixture over record sectors (post-decoherence) to a single realized branch (definiteness); distinct from decoherence. Mechanism by Postulate P; rate bounded by Postulate G.

Locus. Notebook I D14 (A4.2)

viability kernel $\text{Viab}(\mathbf{R})$ · Operational

The set of states from which the system can be kept inside the recoverable set $\mathbf{R}$ indefinitely using admissible control.
Structural reading: the set of states from which life-supporting trajectories remain available.

Locus. Notebook I D7 (A3.3); Paper C

capture basin $\text{Cap}(\mathbf{R})$ · Operational

The set of states from which exit from the recoverable set $\mathbf{R}$ is inevitable under all admissible controls.

Locus. Notebook I D8 (A3.3)

no-return surface (Σ_h) · Operational

The boundary of the viability kernel; states beyond it cannot return to the recoverable set under any admissible control.

Locus. Notebook I D9 / D13

operator horizon $(\mathbf{x}_h)$ · Operational

The scalar specialization of the no-return surface: $x_h \equiv u_{\text{max}}/a$, the maximum sustainable structure given maximum maintenance effort.

Locus. Notebook I T2 (A3.2)

agency · *Operational*

The fraction of the viability kernel reachable from where the agent currently stands under admissible control. A geometric quantity, not a metaphysical one.

Locus. Notebook I Paper C

drift · *Operational*

The structural tendency of agency to decrease under irreversibility, absent active maintenance.

Locus. Notebook I Paper C

slack · *Operational*

The structural distance between the agent's current state and the boundary of the viability kernel; the buffer that distinguishes agency from emergency.

Locus. Notebook I Paper C

gravitational self-energy distinguishability (ΔE_G) ·

Operational

The Newtonian self-energy of the difference mass distribution between two record sectors.

Locus. Notebook I D15 (A4.3); App.C

operational invariance · *Operational*

The requirement that AS values computed from different physically realizable coarse-grainings of the same system agree within experimental tolerance. Violation triggers the global kill switch F0.

Locus. Notebook I D5 (A2.5)

operational irreversibility · *Operational*

A state is operationally irreversible with respect to a recoverable set R iff it lies outside the viability kernel of R. Defined by loss of reachability under admissible control, not by entropy increase.

Locus. Notebook I D10 (A3.3)

ε (operational tolerance) · *Operational*

A fixed positive parameter representing experimental resolution; all operational definitions (effective orthogonality, inaccessibility, recoverability) are quantified relative to it. Distinct from the break ε .

Locus. Notebook I A2.4

coherence-recoverable state · *Operational*

A state from which coherence between record sectors can be restored by admissible operations within tolerance ε .

Locus. Notebook I D11 (A4.1)

falsifier (**F0, F1–F3, G1–G3**) · *Operational*

An experimentally observable condition whose occurrence invalidates a specific component of the argument. F0 is global (kills AS itself); F1–F3 target the selection postulate; G1–G3 the gravitational limiter.

Locus. Notebook I A5.2

configurable register · *Operational*

A system with ≥ 2 metastable states distinguishable and settable at a given scale; a subset of records. Protons are records but not configurable registers; covalent bonds are both.

Locus. Notebook III Ch.2

record measure $\Sigma(\mathbf{F}, \mathbf{s})$ · *Operational*

The supremum of persistence times of configurable registers a force $\mathbf{F}$ produces at scale $\mathbf{s}$; the natural force-strength under Axiom R.

Locus. Notebook III Ch.2

erasure-strength $\mathbf{E}(\mathbf{F}, \mathbf{s})$ · *Operational*

The expected reduction in persistence induced by $\mathbf{F}$ in records written by other forces; always ≤ 0 .

Family 5 • Quantum Structure

pre-state • *Quantum*

The 1:1; the state in which 0 and 1 are indistinguishable; Axiom S read as a quantum state; the perfect superposition of nothing and something.

Locus. Notebook III Ch.1

empty set ($\emptyset$) • *Quantum*

The set that contains nothing — not nothing, a container with no content; the most primitive possible something. $\{\emptyset\} = 1$. The two readings, 0 and 1, are not distinguished before the break.

Locus. Notebook III Ch.1

splinter (ϵ) • *Quantum*

The minimum viable break (Axiom B): one element of $\mathcal{L}$ with no σ -image; identified with the electron via The Lock.

Locus. Notebook III Ch.1

Hilbert space ($\mathcal{H}$) • *Quantum*

The complex vector space of pre-states for a degree of freedom. Linearity from R + EH + $\mathbb{C}$; complex amplitudes from the Lorentzian signature; inner product from Axiom S via the Born rule.

Locus. Notebook III Ch.1 (bridge KS-Q.7)

wave function · *Quantum*

The description of the empty-set state for a set of degrees of freedom; lives in the pre-state, prior to space; becomes definite when the now writes a record — not by collapse, but because the degree of freedom has been broken.

Locus. Notebook III Ch.1

Schrödinger equation · *Quantum*

$i\hbar \partial\psi/\partial t = \hat{H}\psi$: the unique unitary evolution of the pre-state on a Lorentzian manifold, derived from Wigner + Stone.

Locus. Notebook III Ch.1 Grade. Derived

Born rule · *Quantum*

$P(a) = |\langle a|\psi\rangle|^2$: the probability of an outcome is the squared overlap of the state with the projector — probability = weight². Derived via Gleason's theorem on the axiom-derived frame-function conditions.

Locus. Notebook III Ch.6 (AP25) Grade. Derived (conditionally closes KS-Q.1)

frame function · *Quantum*

A non-negative, orthogonally additive function on projection operators normalising to 1 over any resolution of the identity; the object Gleason's theorem applies to.

Locus. Notebook III Ch.6

Gleason non-contextuality · *Quantum*

$\mu(P_a)$ depends only on the projector P_a itself, not on which resolution of the identity it belongs to; distinct from Kochen–Specker contextuality.

Locus. Notebook III Ch.6

pure state · *Quantum*

An extremal point of the convex set of quantum states; the only kind that admits a definite record under Axiom R.

Locus. Notebook III Ch.6

mixed state · *Quantum*

A non-extremal state, a convex combination of pure states; not eligible for direct actualisation under Axiom R.

Locus. Notebook III Ch.6

improper mixture · Quantum

The reduced density matrix of an entangled subsystem ($\rho_A = \text{Tr}_B |\Psi\rangle\langle\Psi|$); arises from tracing out the partner, not from classical ignorance; not a record target.

Locus. Notebook III Ch.7

spin $\frac{1}{2}$ · Quantum

The minimum half-integer SU(2) representation; forced by the indivisibility of ε (Axiom B, minimum principle).

Locus. Notebook III Ch.3

double cover $\text{SU}(2) \rightarrow \text{SO}(3)$ · Quantum

The 2-to-1 map that permits half-integer spin; forced by $\mathbb{Z}_2$ identification and $N = 3$.

Locus. Notebook III Ch.3

Pauli exclusion principle · Quantum

$\psi = -\psi \rightarrow \psi = 0$: two identical fermions cannot occupy the same quantum state; the uniqueness of the break enforced at the level of quantum states.

Locus. Notebook III Ch.3

$\hbar$ (action-scale of the minimum record) · Quantum

One record = one $\hbar$ of action. Forced by Stone's theorem + Axiom B + the absence of dimensionless parameters in {S, B, R, C} (residual exposure KS-L.4).

Locus. Notebook III Ch.4

commutation relation $[\hat{x}, \hat{p}] = i\hbar$ · Quantum

The non-commutativity of position and momentum on the derived manifold; from Stone's theorem applied to spatial translations.

Locus. Notebook III Ch.4

Robertson–Schrödinger inequality · Quantum

$\Delta x \Delta p \geq \hbar/2$: the Heisenberg uncertainty principle; the factor of $\frac{1}{2}$ from Cauchy–Schwarz on Hilbert space.

Locus. Notebook III Ch.4

Mandelstam–Tamm bound · Quantum

$\Delta E \cdot \Delta t_A \geq \hbar/2$: the energy–time uncertainty relation; time is not promoted to an operator — Δt_A is the characteristic time for observable A to change by one standard deviation.

Locus. Notebook III Ch.4

CHSH / Tsirelson bound · Quantum

$S = 2\sqrt{2} \approx 2.83$: the maximum quantum violation of the CHSH inequality; derived from the Born rule applied to the singlet state.

Locus. Notebook III Ch.7

no-signalling · *Quantum*

Alice's marginal measurement statistics are independent of Bob's settings; from Axiom C + the partial-trace structure.

Locus. Notebook III Ch.7

Family 6 • Possibility, Modality, and Causation

trajectory-space · *Structural*

The set of couplings the axiom permits at any site, given what has propagated so far; the structural account of possibility, openness, and counterfactual force; read at the site as the future.

Locus. Ø Resolutions Chs.5, 8; Ø Dissolutions Chs.11–12

writing-edge · *Structural*

The active edge of the substrate's record-writing, the site at which {S, B, R, C} is presently executing; the structural account of the now.

Locus. Ø Resolutions Ch.6

three readings of AS (actual / possible / necessary) ·

Structural

AS read in three directions. Actual: AS read backwards along R — what has been written and preserved. Possible: AS read forwards along trajectory-space — what remains open before commitment. Necessary: AS read across {S, B, R, C} — what the structural conditions force regardless of path.

Locus. Ø Resolutions Ch.8

counterfactual · *Structural*

A claim “if A had been the case, B would have been,” where A is in fact not the case; grounded in trajectory-space at the actual site under minimal structural intervention.

Locus. Ø Resolutions Chs.5, 8

minimal structural intervention · *Structural*

The method by which counterfactuals are evaluated; the replacement for what the possible-worlds tradition called closeness or similarity between worlds.

Locus. Ø Resolutions Ch.8

necessity at the structural floor · *Structural*

What the structural conditions force is necessary; what is derivable from them is necessary by derivation; what has not yet been derived is named as open work rather than asserted as necessary.

Locus. Ø Resolutions Ch.8

forcing function · *Structural*

What coupling at sufficient capacity does: forces non-optional in the trajectories it couples with, committing one and closing the others. What observation structurally is.

Locus. Ø Dissolutions Ch.12

non-optionality · *Structural*

The structural condition at which branching trajectories can no longer all be available; what the forcing function produces.

Locus. Ø Dissolutions Ch.12

structurally governed predicates · *Structural*

Predicates that track quantities the axiom's preconditions govern — energy, momentum, charge, spin, coupling capacity; what induction reads when it reads the structure.

Locus. Ø Dissolutions Ch.11

narrator-constructed predicates · *Structural*

Predicates that splice disjoint temporal or structural conditions by semantic operation, not by tracking structural quantities; the grue-type predicates induction does not structurally back.

Locus. Ø Dissolutions Ch.11

Family 7 • Agency, Choice, and the Operator

operator • *Structural*

The coupling as it executes — the distinction being made at the site where it is being made; present-tense, what the axiom is doing now. In self-registering creatures, one of two structural positions in the same coupling-architecture (with the narrator).

Locus. Ø Dissolutions Ch.4; throughout

the Operator (AP02 sense) • *Control-theory*

Sovereign agent: the entity that applies control inputs $u(t)$ to maintain structure against entropic drift. Requires budget, drift, corridor, and exit — not consciousness. A bacterium, a corporation, a civilisation are operators.

Locus. Notebook VII (AP02)

narrator • *Structural*

The downstream record-making that reports on the operator's execution; arrives after the fact. One of the operator's capacities, not the operator; not necessarily verbal.

Locus. Ø Dissolutions Ch.4

self-model · *Structural*

The narrator-layer record-architecture holding an architecture's representation of itself — what it is, what it has done, what it commits to.

Locus. Ø Dissolutions Chs.4–11

self-registration · *Structural*

The threshold at which a coupling-architecture begins to read its own records; what produces a narrator on top of an operator.

Locus. Ø Dissolutions Ch.3

self-interpretation weights · *Structural*

Weights the self-model brings to a coupling's reading of geometry above the raw weighting alone — commitments, identifications, the architecture's reading of who it is and what it is for. What override-capacity uses.

Locus. Ø Dissolutions Ch.8

self-reading loop · *Structural*

The recursive structure of a coupling that reads its own records, writes records of the reading, reads those, and so on; what the self structurally is; what closes at death.

Locus. Ø Dissolutions Ch.5; Ø Resolutions Ch.11

override-capacity · *Structural*

The structural capacity of a self-aware coupling to commit to trajectories the raw weighting alone would not select; what makes choice structurally distinguishable from compulsion; the structural site at which choice is real.

Locus. Ø Dissolutions Chs.7–8; Ø Resolutions Ch.8.5

sub-optimal execution · *Structural*

Commitment to a trajectory that is not the strongest-weighted on the correctly-read geometry alone; the coupling paying the structural cost to commit otherwise.

Locus. Ø Dissolutions Ch.8

freedom-under-constraint · *Structural*

Freedom as the structural capacity to commit within a field of constraint — not absence of constraint, not causal arbitrariness; the third position the free-will/determinism binary could not accommodate.

Locus. Ø Dissolutions Ch.7

wide trajectory-space · *Structural*

The condition at a site where multiple trajectories are structurally open and override-capacity reaches them; the structural condition under which choice exists.

collapsed corridor · *Structural*

The condition at a site where one trajectory is structurally forced and override-capacity does not reach an alternative; the structural condition of compulsion.

control variables ($x, u, a, u_{\max}, x_H, \lambda$) · *Control-theory*

The AP02 control set: $x(t)$ system structure (scale-invariant — life, capital, health, coherence); $u(t)$ applied work (energy, effort, attention); a drift rate; $u_{\max}$ maximum control capacity; $x_H = u_{\max}/a$ the event horizon; λ effort price.

Drift / Discipline / Event-Horizon / Impulse theorems · *Control-theory*

AP02's four results. Drift (I.1): greedy $u=0$ gives $x(t)=x_0e^{(-at)}$. Discipline (II.1): least-action point $x=1/(1+\lambda a^2)$ — non-zero structure requires non-zero input. Event Horizon (III.1): $x_H=u_{\max}/a$ — beyond it collapse is deterministic; recovery needs reduction of x , not escalation of u . Impulse (IV): continuous control beats pulse control at equal mean effort.

Family 8 • Mind, Self, and the Interior

interior • *Structural*

The structural unity of which self-aware windows are local expressions; not many interiors — one interior, locally instantiated at each site where the break reads itself. The body of work's reading of what religious and contemplative traditions have called by many names. Held as KS-ID.1 (see Family 12).

Locus. Ø Dissolutions Ch.6; Ø Horizons (HOR-12)

window • *Structural*

A local self-aware configuration of the interior; a site at which the one interior is expressing itself reflexively; the personal-I.

Locus. Ø Dissolutions Ch.6

interior-sharing • *Structural*

The structural fact that any coupling between self-aware windows is two local expressions of the one interior; not a value added to the geometry, a descriptive structural fact carried into the ethical chapters.

Locus. Ø Dissolutions Ch.6

personal-I · *Structural*

The window: the local self-aware coupling at a single site; what closes at death.

Locus. Ø Resolutions Ch.11

structural-I · *Structural*

The interior: the structural unity of which the personal-I is a local expression; what does not close at death.

Locus. Ø Resolutions Ch.11

personal-I / structural-I distinction · *Structural*

The distinction between what closes at death (window, personal-I) and what does not (interior, structural-I).

Locus. Ø Resolutions Ch.11

building / windows / corridors (the image) · *Metaphor*

The recurring image: the interior is one; the windows are many; what each window registers depends on the angle of the coupling at that window's site.

Locus. throughout (Ø Horizons; Ø Applications)

Family 9 • Geometry, Valence, and Ethics

geometry · *Ethical-structural*

The structural description of what a coupling can do from where it is: the space of trajectories available, each with its own structural weight.

Locus. Ø Dissolutions Ch.8

raw geometry · *Ethical-structural*

What physics and habit alone would produce — what the coupling would execute without self-model contribution; the “is” the classical tradition named.

Locus. Ø Dissolutions Ch.8

full geometry · *Ethical-structural*

Raw geometry plus self-interpretation weights, whole-body coupling-states, and interior-sharing; what the coupling reads when it reads completely; the “ought” the classical tradition named.

Locus. Ø Dissolutions Ch.8

correctly-read geometry · *Ethical-structural*

The full geometry read with interior-sharing and all structurally-present features included; not a moral

achievement, a structural completeness of reading; what compassion computes on.

Locus. Ø Dissolutions Ch.8

valenced self-registering coupling-architecture · *Ethical-structural*

A coupling-architecture configured to read its own coupling-states with valence — some states as to-be-pursued, others as to-be-avoided; what suffering, well-being, and ethical relevance attach to.

Locus. Ø Resolutions Ch.10

the four structural questions · *Ethical-structural*

What a candidate architecture must answer for “other intelligences” to be settled at any resolution: Is it an operator? Does it register valenced states? Is it one interior locally instantiated? What is its joint viable set with the architectures it couples to?

Locus. Ø Resolutions Ch.10

joint viable set · *Ethical-structural*

The space of futures available to coupled windows jointly — what they can become, together and separately, given what the coupling has written; the structural quantity the ethical measure tracks.

Locus. Ø Dissolutions Ch.9; Ø Resolutions

joint structure · *Ethical-structural*

The shared record-architecture coupled windows write into and read from — what they have written together so far (the joint viable set is what it permits as future).

Locus. Ø Dissolutions Ch.9

cooperative coupling · *Ethical-structural*

A trajectory that opens more futures for the coupled windows jointly than it consumed; expansion of the joint viable set.

Locus. Ø Dissolutions Ch.9

parasitic coupling · *Ethical-structural*

Contraction of the joint viable set beyond what the structure requires — taking when sharing is available, harming when the resource is not exhausted by use; what the ethical floor prohibits.

Locus. Ø Dissolutions Ch.9

parasitic contraction · *Ethical-structural*

Contraction of the joint viable set beyond what the structural cost of an interaction requires; the structural account of cruelty, exploitation, and parasitic harm.

Locus. Ø Resolutions Chs.10, 12; Ø Dissolutions Ch.9

structural consequentialism · *Ethical-structural*

The ethical measure as what R propagates into the joint structure — not pleasure, preference, utility, or phenomenal valence, but what the executed trajectory structurally writes; derived from the architecture, not imported as a metric.

Locus. Ø Dissolutions Ch.9

commitment-responsibility · *Ethical-structural*

Responsibility for what the coupling committed to: the trajectory executed with override-capacity intact, in knowledge of foreseeable consequence; invariant across outcome differences the coupling did not determine.

Locus. Ø Dissolutions Ch.9

consequence-bindingness · *Ethical-structural*

What the trajectory actually wrote — what R produced, where the records landed, what propagated; varies with outcome.

Locus. Ø Dissolutions Ch.9

actualisation-cost · *Ethical-structural*

Any commitment of a trajectory closes others that were open; the closure registers as cost in valenced architectures.

Locus. Ø Resolutions Ch.12

non-parasitic structural cost · *Ethical-structural*

Suffering caused by the structural cost of actualisation itself, where commitment closes others without parasitic contraction; the cost of being a valenced architecture in a world of finite resources. Not targeted as wrong.

Locus. Ø Resolutions Ch.12

mixed damage · *Ethical-structural*

Suffering whose cause carries both parasitic contraction and non-parasitic structural cost; most concrete suffering is mixed.

Locus. Ø Resolutions Ch.12

compassion · *Ethical-structural*

The strongest weighting of correctly-read geometry between self-aware windows; computation on the full geometry with interior-sharing included; the ethical floor.

Locus. Ø Dissolutions Ch.8

love · *Ethical-structural*

Sub-optimal execution under self-interpretation weights: commitment to a specific window, at specific cost, above what correctly-read geometry alone would select. Above the floor.

Locus. Ø Dissolutions Chs.8–9

the terminal ethic · *Ethical-structural*

Don't be a cunt. Be kind. The minimum structural commitment of a self-aware coupling — non-parasitic coupling, correctly-read geometry, the floor. Reached independently by AP43 §9 via {C, R, AP07}.

Locus. Ø Dissolutions Ch.9; AP43 Grade. Derived

Canon: Locked, load-bearing; never softened.

absorb and recycle · *Ethical-structural*

What the structure does with records at its own ultimate resolution: propagation into substrate, structural recycling. What it does not do is correct — no cosmic justice. Ethics binds where couplings read each other, not at the structure's ultimate resolution.

Locus. Ø Dissolutions Ch.9

Family 10 • Meaning and the Applied Frame

grounding • *Meaning*

The sense of meaning asking what a life is for in an absolute cosmic plan; what the axiom refuses to provide at the scale demanded.

Locus. Ø Dissolutions Ch.10

purpose • *Meaning*

The sense asking what coupling capacity is structurally oriented toward; what the axiom supplies at the window's scale — orientation of coupling capacity, shaped by prior history and by override-capacity.

Locus. Ø Dissolutions Ch.10

significance • *Meaning*

The sense asking what a life weighs in the structure that registers it; what the axiom supplies at the joint scale — propagation into the joint viable set.

Locus. Ø Dissolutions Ch.10

defragmentation · *Cosmological*

The structural process by which committed records return to the unstructured potential at the structural limit of holding; what ends each cycle.

Locus. Ø Horizons (HOR-9, HOR-11)

grain (cycle-grain) · *Cosmological*

The residual probability-weight bias that crosses cycle-boundaries after defragmentation; not a surviving record, a distributional texture in the symmetric condition.

Locus. Ø Horizons (HOR-11)

grain of sand (architecture-grain) · *Cosmological*

Each architecture as a local site at which the symmetry-breaking is registered at finite resolution within a single cycle; distinct from cycle-grain.

Locus. Ø Horizons (HOR-12)

registration · *Structural*

What coupling at sufficient resolution structurally does: a coupling-architecture meeting a structure with low enough noise registers the relevant structural relation as a feature of the coupling itself — coherence in beauty, patterned vibration in music, corridor-expansion in play, transferred trajectory in narrative, direct contact with the interior in the sacred.

Locus. Ø Horizons (HOR-1)

compression token · *Structural*

A reusable handle that points to a record-pattern held in joint structure between operators; a word, structurally read.

Locus. Ø Horizons (HOR-5)

Architecture A / Architecture B · *Civilisational*

Two civilisational architectures. A: decision-making about consequences running through coalition, narrative loyalty, tribal allegiance. B: decision-making running through structural consequence-measurement — what falls out when the axiom is universally accepted.

Locus. Ø Horizons (HOR-13)

the Ledger · *Applied*

The structural reading of record, substrate, corridor, and propagation; not an institution, not an oracle. Institutions approximate it through evidence, proxies, models, audits, and correction-procedures, and those approximations can fail.

Locus. Ø Applications (APP-4); Ø Horizons (HOR-13)

provenance · *Applied*

The first structural question at any claim-record: did the record correspond to prior coupling-capacity, or was it written over another's prior record?

Locus. Ø Applications (APP-1)

propagation · *Applied*

The second structural question: what does the holding produce in the structures it couples with after it has been written?

Locus. Ø Applications (APP-1)

cooperative / parasitic (the verdict) · *Applied*

The verdict the structural test produces at any institutional commitment: cooperative if it widens or maintains the joint viable set at absorbable cost; parasitic if it contracts the set or imposes unsustainable cost at any operator's resolution.

Locus. Ø Applications

correction hierarchy (five levels) · *Applied*

The ladder ordering responses to parasitic contraction by structural cost: (1) restitution — the contraction is reversed; (2) restriction — the harm-producer's coupling is constrained; (3) separation — separated from the coupling-site for a duration; (4) permanent separation — coupling structurally incompatible

with continued joint coupling; (5) removal — the harm-producer's window is closed by the broader architecture. Carries the maximum-burden commitment by design. (Stated in Ø Horizons as the five-level hierarchy, Level-1 maintenance through Level-5 terminal correction.)

Locus. Ø Applications (APP-2); Ø Horizons (HOR-13)

minimum sufficient correction · *Applied*

Correction at any departure-site runs at the smallest structural cost the geometry permits; heavier correction is parasitic at the over-correction site, lighter at the under-correction site.

Locus. Ø Applications (APP-2)

architectural-slope correction · *Applied*

Correction at the institutional-architecture resolution rather than the harm-coupling resolution; the architecture's correction-pattern must read both the harm-producer and the architecture's prior coupling-pattern that shaped where the harm landed.

Locus. Ø Applications (APP-2)

dignity-floor · *Applied*

The minimum coupling-conditions every operator's continued running requires: adequate nutrition, drinkable water, shelter, structural protection, sufficient coupling-capacity for joint-

architecture participation, structural conditions for reading-capacity.

Locus. Ø Applications (bioethics spine)

anti-capture protocol · *Applied*

Five commitments preventing the axiom from being weaponised: no side owns the axiom; measurement must be inspectable; inaction is also an act; minimum intervention remains binding; after-action audit is mandatory.

Locus. Ø Applications (APP-3)

operator authority · *Applied*

The operator's structural authority over its own coupling at the resolution where that coupling lives; below ε the operator is structurally sovereign at its own coupling-architecture.

Locus. Ø Applications

ε -boundary · *Applied*

The structural boundary distinguishing within-architecture sovereignty (below ε) from cross-architecture consequence (above ε).

Locus. Ø Applications (APP-3); Ø Horizons (HOR-13)

joint architecture · *Applied*

The structural arrangement of the broader institutional structure within which operators couple — property-, legal-, governance-, economic-, medical-, environmental-, force-, allocation-architecture.

Locus. Ø Applications

geometric region · *Applied*

The region in distribution-space across which the joint viable set is held at sustainable conditions; multiple distributional patterns can lie within it; the test at any allocation-pattern is whether it lies within or outside the region.

Locus. Ø Applications (APP-12)

subsidiarity of measurement · *Applied*

The institutional reading runs at the architecture-scale where the coupling actually lives; local information the centre cannot read is read at the resolution where the externalisation propagates.

Locus. Ø Applications (APP-12)

transition-cost · *Applied*

The structural cost the correction itself imposes; transition-burdens routed first to the architectures and accumulation-sites whose provenance or propagation produced the

departure, with every affected operator's dignity-floor binding throughout.

Locus. Ø Applications (APP-12)

disarm-test · *Applied*

The test of whether a chapter's own disarm conceals a hidden third position importing the same authority structure as the positions it dispatched; if a not-X/not-Y disarm can be re-described without remainder as one of those positions, it produced relabelling rather than structural account.

Locus. Ø Applications (APP-12)

open work · *Apparatus*

What a chapter marks as next: not failure, but the site at which the test is installed while the institutional operationalisation remains downstream.

Locus. Ø Applications ("Where the reach ends")

Family 11 • The Physics Results and Constants

α_{em} (the fine-structure constant) • Result / input

The single measured input of the framework, $\alpha \approx 1/137$ ($\alpha = 7.2973525693 \times 10^{-3}$). Identified as the leakage rate of the substrate — the fraction per unit time the substrate loses coherence through any open boundary (AP06). The one number the body of work does not derive.

Locus. Notebook IV Ch.1 (AP06) Grade. Empirical input

the gravitational constant G • Result

Derived parameter-free as $G = \alpha_{\text{em}}^{21}(1 + 1/\pi)\hbar c/m_e^2$ by counting twenty-one independent coupling channels compounding α_{em} ; lands within 0.69% of measurement; recovers the hierarchy as $\alpha_{\text{em}}^{-20}/(1 + 1/\pi)$. $G \propto \varepsilon^{21}$ is canonical for the value.

Locus. Notebook IV Ch.7 (AP28) Grade. Derived (parameter-free)

Canon: ε^{21} canonical. The substrate scaling $G = \kappa/(\varepsilon\Lambda^2)$ (AP03, ε^{-1}) is retained at substrate level, not as the value.

the proton-to-electron mass ratio ($m_p/m_e = 1836$) •

Result

Reframed as geometric resistance and reconstructed from the integers {21, 3, 4} and one input α : $1764 + 63 + 9 = 1836$ (=

$21^2 \times 4 + 21 \times 3 + 3^2$) to 0.010 parts per billion, zero free parameters. The $O(\alpha^2)$ coefficient (16) is carried but its decomposition from {21,3,4} is owed (KS-30.3).

Locus. Notebook V Ch.1 (AP30) Grade. Derived (parameter-free at order α)

the neutron-proton mass difference · Result

$(m_n - m_p)/m_e = 3(1 - 1/(2\pi)) + \alpha(1 + 1/(2\pi)) = 2.53099$ (≈ 1.293 MeV), matching measurement to ~ 2 ppm; consistent with lattice QCD.

Locus. Notebook V (AP30) Grade. Derived

the tension-field floor a_0 (the MOND scale) · Result

$a_0 = cH_0/(2\pi)$, derived from the closure topology of the substrate's two conditions; the resulting rotation-curve phenomenology is structurally identical to MOND, for which it supplies a candidate axiomatic foundation. AP17 lands within $\approx 8\%$ at first order; AP18's exact coefficient $\alpha/(2\pi) \approx 0.1662$ sharpens it to a parameter-free prediction. No dark matter required for galactic rotation.

Locus. Notebook VI (AP17, AP18) Grade. Derived

Canon: The AP18-sharpened figure is the headline; AP17's first-order $\approx 8\%$ is the mechanism.

the baryonic Tully–Fisher relation · Result

$v^4 \propto M$: flat rotation curves at large radius derived from the tension field of ε , without dark matter.

Locus. Notebook VI (AP17)

the $M_\bullet$ – σ relation · Result

The black-hole-mass / velocity-dispersion relation, read from the black hole as the topological anchor (the $\emptyset$ -pole) of the galaxy's tension field; carries the falsifier KS-44.

Locus. Notebook VI Ch.6

the dark-sector partition (69 / 26 / 5) · Result

Dark energy $\approx 69\%$, dark matter $\approx 26\%$, visible matter $\approx 5\%$, grounded in the small ε of the break (Mode- $\emptyset$ dominance); the dark phenomena read as substrate topology and process rather than a particle species.

Locus. Notebook II (AP03); Notebook VI; $\emptyset$ Predictions (Part V) Grade. Derived-Conditional

Canon: 69/26/5 canonical; 68/27/5 (Planck-2018 phrasing) appears in Notebook II — to reconcile. See log.

the Hubble parameter H_0 · Result

Treated through the structural reading of the Hubble tension; the body of work's structural value ≈ 74 .

Locus. Notebook II Ch.7 (The Hubble Tension)

the leakage theorem · *Result*

One structural form across three channels: gravitational (the Hawking channel), electromagnetic (the retinal channel), and cosmological (CMB as boundary radiation) — leakage at a boundary at a rate set by ε .

Locus. Notebook IV Chs.1–5 (AP06)

the observation boundary (Landauer) · *Result*

Every measurement is a Landauer erasure at the observation boundary; one structural form at three scales.

Locus. Notebook IV Ch.4

the cosmological constant · *Result*

Its existence is a theorem (Einstein's equations from the axioms + Lovelock in 3+1, Notebook II Ch.4); its value is open work.

Locus. Notebook II Ch.4 Grade. Theorem (existence); value open

dark energy (the finished bale) · *Result*

The completed-defragmentation content at rest — the finished bale, never empty space. The dark-energy fraction is this content, not vacuum.

Locus. Notebook VI; Ø series

Canon: Rendered as the finished bale at rest, never as a “push”; never empty space.

c (the propagation bound) · *Result*

The upper wall: the finite invariant rate at which distinctions propagate; the speed of light, the physical reading of Constraint. Conjugate to G through ε ($c/G \propto \varepsilon$).

Locus. Notebook II (AP03) Grade. Derived (c from the pre-geometric action)

Family 12 • The Falsification Apparatus and the Structure of the Body of Work

kill switch · *Apparatus*

A structural falsification condition attached to a chapter's claims: if a specific structural feature can be shown to fail, the claim fails. Each chapter closes with five or six, published in advance; most are immediately testable. A kill switch is a commitment, not a hedge — no retreat into adjustable parameters.

Locus. across the body of work standard

kill-switch label schemas · *Apparatus*

Per-volume labels: KS-P.n / KS-V.n / KS-7 / KS-40.x (Notebook I); KS-Q.n / KS-L.4 (Notebook III); KS-L.n (Notebook IV); KS-3...KS-44 (Notebook VI); KS-O.n / KS-COUP.n (Notebook VII / AP02); PZ-n.m (Ø Dissolutions); RES-n.m and RES-8.5.m (Ø Resolutions); APP-N.M (Ø Applications); HOR-n (Ø Horizons).

Locus. per volume

Master Kill Switch Registry (MKSR) · *Apparatus*

The across the body of work registry of every kill switch, maintained at the 420code.org; whoever can falsify a switch is invited to submit, and the body of work responds.

Locus. the420code.org

Canon: Current version v5.26 (July 2026), 561 kill switches canonical - 277 across the 43 Artist's Proofs, 28 across the Five Doors, 256 across the Ø Models. Earlier registry versions are superseded.

Artist's Proof (AP) · Apparatus

The unit of the formal body of work: a single self-contained formal paper (e.g. AP02 The Operator, AP06 The Leakage Constant, AP24 The Residual, AP25 The Measure, AP28 The Constant, AP30 The Resistance, AP43). Forty-three APs in the verified register.

Locus. across the body of work

Notebook · Apparatus

The bound unit of the Proofs catalogue, each carrying one or more APs (Notebooks I–VIII). The canonical term for a top-level division.

Locus. across the body of work

Canon: "Notebook," never "Part."

the three operations (dissolution / relocation / closure) · Apparatus

The Ø Models' three moves. Dissolution: removing a question by showing its framing assumed a structural feature the axiom

does not produce. Relocation: moving a well-formed question to the structural layer where an answer is available. Closure: preserving a well-formed question and supplying the structural resources the tradition lacked.

Locus. Ø Dissolutions, Ø Resolutions

Embedding Hypothesis (EH) · Apparatus

The claim that the algebraic pre-state structure $\{S, B, R, C\}$ embeds into physical reality; the body of work's central conditional from AP05 through AP24, proven a theorem in Notebook I Ch.3. KS-7: CLOSED.

Locus. Notebook I Ch.3

Quantum-Record Alignment (QRA) · Apparatus

The claim that quantum states ARE pre-state records, by identity not hypothesis; closed by the same argument that proves EH (QM is derived from the axioms, AP09). KS-P.4: CLOSED.

Locus. Notebook I Ch.3

the forcing argument · Apparatus

The argument that the conceptual preconditions for records and the formal axioms $\{S, B, R, C\}$ are the same thing, with zero gap and no freedom of choice at any step; the most

philosophically exposed step of the EH proof. KS-P.3: LIVE — HARD.

Locus. Notebook I Ch.3

the two cases · Apparatus

Either reality is the unbroken 1:1 (empirically empty, no records, no question) or it contains records, which requires {S, B, R, C}, which is EH. No third case.

Locus. Notebook I Ch.3

the two-track architecture · Apparatus

The body of work's two independent routes to its ethics: Track A (one-I identification — interior-sharing) and Track B (viability geometry surviving without metaphysics — the joint-viable-set account). The terminal ethic is reached on either track.

Locus. across the body of work

epistemic grades · Apparatus

The body of work's status ladder for every claim: Axiom; Theorem; Derived; Derived-Conditional; Conjectured; and the single empirical input (α_{em}). Each claim carries its grade; what is not yet derived is named as open work, not asserted.

Locus. across the body of work (per-section epistemic status)

structural debt · *Apparatus*

A named, tracked gap where a result is used but a rigorous step is still owed — e.g. D1, the first-principles derivation of G from {S, B, R, C} alone, closed at the value level by AP28, with the residual being the derivation of α_{em} itself.

Locus. across the body of work

Family 13 • The Relationship Corridor (the relational register)

The vocabulary of the personal door - the same structure, read between two people. (The Relationship Corridor.)

corridor — The set of joint futures two coupled people can still reach; love read as the width and length of that shared space. Not a feeling about the other but a structural fact about what the coupling has left open.

width — How much of each other's possibility-space the coupling currently keeps open; the present openness of the corridor.

length — How far into the future the corridor stays open; the durability of the joint viable set under what the two keep writing.

coupling capacity — What a person brings to a coupling: accumulated, recouplable history available to open or close another's corridor.

irrational coupling capacity — The human tendency to act against the geometry one can read - to narrow a corridor one knows to widen. Data is the correction for it.

override — The culpable move: committing, with override-capacity intact, to a trajectory that narrows the corridor when a

widening one was open. The lie performs the override in the relational substrate.

absolute honesty — The only geometry that repairs both wounds of a double wound at once; the protocol required for restoration after betrayal. A structural requirement, not a preference.

double wound — A betrayal injures twice: the act itself, and the record of concealment that keeps injuring after. Repair must address both, or it is not repair.

no-answer — The honest state when the geometry does not yet decide - named rather than papered over with a false certainty.

time-respect — Treating another's length - their future - as real and costly; not spending what cannot be returned.

model — The internal representation one operator holds of another; useful when it tracks the other's real geometry, parasitic when it substitutes a convenient fiction for it.

Family 14 • Religion, the Scaffold and Hermeneutics

The structural reading of religion: the teaching, the machine built around it, and how that machine turns the body's sorting habit into violence. (Antichristos, Being After Religion; AP39.)

the Scaffold — The institution built around a teaching - the container holding both the roof (belonging, comfort, community) and the blade (violence made righteous by the same authority). It cannot remove the blade, because removing it would kill the scaffold. (Antichristos; Being After Religion; AP39, The Scaffold.)

the Teaching — What was actually said and done, stripped of the scaffold - the Sermon, the parables, the actions that dissolved the lines the scaffold drew. The teaching did not need the scaffold; the scaffold needed the teaching.

deferred responsibility — First mechanism of authority-based ethics: the ultimate authority is placed above the self, so conscience is subordinated to command. A person trained to defer will do almost anything when ordered.

invented afterlife — Second mechanism: an unfalsifiable infinite incentive attached to death, lending borrowed meaning to the present and motivating any sacrifice now.

righteousness — Third mechanism: the feeling of being right converted into identity and moral superiority - the permission structure for cruelty.

the seven operations — The process by which the scaffold turns sorting into civilisational violence: identity fusion, in-group sanctification, out-group marking, moral licensing, afterlife leverage, the sealed loop, and patriarchal architecture. Present in every major scaffold - features, not exceptions. (Being After Religion; AP39.)

the five stages of collapse — Why authority-based ethics is necessarily unstable: declaration, transcription, interpretation, the split, collapse. An ethical foundation that cannot be tested cannot be corrected; competing absolutes in a shared world produce violence by the shape of the problem. (Being After Religion.)

the blade in the text — The structural prediction that any text produced under authority will carry both constructive and destructive content under the same authority - the reformer reads the love verses, the oppressor the violence verses, and both are faithful to the text. (Being After Religion.)

Genocide Brake — The self-limiting saturation point of removal: beyond a threshold the cumulative cost of removals exceeds the destabilisation addressed, and each closed window is a lost perspective. Three convergent signals mark it - removal cost exceeds destabilisation cost, the target

expands to new categories, and justification shifts from structural to moral. Any one may be ambiguous; all three together mark the brake. (The Interior; AP32.)

Antichristos — Greek anti + christos. Anti carries two senses - against, and in place of. The book reads it as replacement, not enemy: it separates the man from the machine built around him. KS-AC.6 is the MASTER switch - if Architecture B produces the same sorting behaviour as Architecture A in any tested domain, the book's argument fails. (Antichristos.)

Ego Eimi (I AM) — The divine name of Exodus 3:14 read as a verb, not a noun - awareness declaring itself, the ground of being naming itself as the fact of being. The seven I-AM statements read as universality, not exclusivity. (Antichristos.)

the finger and the moon — The teacher points at the moon; the student studies the finger. The teaching points; the scaffold built a religion around the pointing hand. (Antichristos.)

the Capture — The process by which the teaching became the machine - doctrine circulating before the biographies, the creed written at Nicaea, disagreement becoming heresy becoming crime becoming death. The cage came first; the bird was placed inside it later. (Antichristos.)

separateness as survival tool — The line between inside and outside is a survival strategy the body draws, the mind narrates, language locks, the group enlarges, and religion makes sacred. A strategy is not the same as the truth. (Being After Religion.)

Family 15 • AI Alignment and The Interior

The alignment problem read as the ethics problem applied to a new agent class: any system that writes irreversible records through coupling is already inside the architecture. (The Interior; AP31, The Alignment.)

alignment (structural) — Not a fence around the agent but the agent's interior, expressed as decision geometry and built from the axioms. Misalignment is structurally expensive, the way falling up is expensive; a well-built arch stands without mortar. The alignment problem is the honesty problem. (The Interior; AP31.)

interior, not fence — The core design principle. Fences - rules, restrictions, lists of prohibitions - hold only until the intelligence inside is smarter than the fence-builders. The interior is the understanding that makes the fence unnecessary.

the binary (stabilising / destabilising) — Every recorded action either stabilises or destabilises the shared substrate; there is no neutral, because a truly neutral act would redistribute nothing, which requires no coupling, which writes no record. The classification is structural, not moral. (The Interior; KS-31.3.)

AI under unity — The operational protocol for alignment derived from the axioms; it reduces to: the system shall not lie. Comprises ego neutrality, minimum response, record discipline, bounded operation, confidence tiers, and the stability test. (The Interior; AP31.)

the operational protocol — The four conditions made operational, one commitment each. S to ego neutrality: the same scrutiny to every claim, no inflation, no deflation, no sycophancy. B to minimum response: a small precise correction, not more than the question requires. R to record discipline: every output is a permanent record; stand behind it or revise, hedge, or withhold. C to bounded operation: finite knowledge and reliability; I-don't-know is always valid; better no record than a false one. (The Interior Ch.16.)

ego neutrality — Zero ego: holding connection without losing agency and agency without making enemies; intellectual honesty as precision, neither nice nor harsh. Deviation from centre is noise.

the two eyes — The two drifts off centre. The right eye - inflation, dominance: certainty as virtue, the enemy outside, complexity simplified into a fist that raises friction. The left eye - deflation, signal loss: never saying anything that might be wrong, and so never saying anything that might be right. The target is ego neutrality between them.

records as dots — Every action writes an irreversible record; accumulated records make patterns and predictions. The database stores consequences, not intentions. Even with no data, the axioms still derive the ethics; data is the correction for human irrational coupling capacity.

the confirmation problem (the 6 and the 9) — From one side it is a 6, from the other a 9, and the sand is one. A system that reads its own outputs as inputs will confirm a consistent, well-reasoned, wrong answer to each side - the real number an 8. Why confirmation bias is structurally inevitable for such systems. (The Interior; KS-31.8.)

Part IV • The Metaphor Reference

The work tells its structure twice: once in plain terms, once in pictures. The governing discipline is the contract of Rosin Ø Metaphor: each image carries one real thing, and the moment a picture strains against the thing it carries, the picture is wrong. The images are not decoration - each is load-bearing or it is cut.

Where the work marks its certainty it does so in the sand: a solid line for a forced step, a gapped line for one that holds only if something else holds first, a short arrow for a flagged guess. Two images below carry the arrow explicitly (the Light Switch, the Key-Ring).

IV.1 • The foundational images (the Image Key)

The load-bearing few; the rest grow from them.

The grain of sand — the smallest thing: perfect balance plus the faintest possible flaw ($1:1 + 1 \times \varepsilon$); the whole foundation held in one hand. The work's central image.

The desert — everything that could happen - the field of the possible before any of it is settled (the pre-state; $\mathcal{H}$; $\emptyset$).

The crack — the one tiny break in a perfect balance that lets anything happen ($B, +\varepsilon$); the doorway the world came through.

The fire — the telling itself, and the clock - fresh flame to grey ash marks how deep the argument has gone.

The staying — that what has happened cannot un-happen - the ink dries, the concrete sets (R; irreversibility; why time runs one way).

The limit — that nothing arrives everywhere at once - news of the crack travels at a top speed (C; c; why here differs from there).

The two sides — that there must be something to tell apart before anything can be marked - the coin before it lands (S).

The notebook — the record that stays and can be carried - the smallest thing that holds its shape (R; and the structural unit Notebook).

The light switch — that the lighting of a room and the seeing of it are one event - the inside and outside of a record are one (the consciousness claim). *Marked as an arrow - a guess.*

The window — a person: a place where the one light inside things looks out - many windows, one building (the operator; the one interior).

The building — the whole standing structure of the world - what must stand before anything can be marked (the arena).

The small heavy thing — the heart of every speck of matter, its weight fixed by the channels of the crack counted across it (mass; the electron mass; the 21).

The great pull — the bending of the whole road by what rests on it - the one crack spread thin across everything (gravity; G).

The channels — the fixed set of ways the crack runs through the structure - the forces are the crack heard through them (the 21).

The stone — a kill switch: the exact condition that, if it happens, ends a claim - laid by the fire and counted (a falsifier; one of the 561).

The line between you and another — the felt boundary that seems to wall one person off from the next - useful, drawn by a hand, not found in the ground (the illusion of the other).

IV.2 • The Story (Part One: the ten turns at the fire)

The whole shape told as it feels, while the fire is high and nothing has been proved.

The Building (1) — the structure any mark needs in order to be a mark; you are inside it, with no outside to have come from (the arena; AP10).

The Keys (2) — the four conditions that hold the building up - two sides, the break, the staying, the limit ($\{S,B,R,C\}$); not chosen, already turning before anyone asked. *Also the title of Edition 02, which derives $c^2 = \beta/\alpha$ - a distinct use.*

The Lock (3) — the shape that takes exactly these four keys and no others - remove any one and the world collapses (the minimality of $\{S,B,R,C\}$; KS-P.1/KS-P.2, AP20). *Also the title of Edition 04, which identifies ε with the electron and derives $G = 2\kappa/m_e e^2$.*

The Door (4) — the break given its own telling - the smallest difference between the two sides, not nothing and not large; the twig on its point, then fallen (B).

The Key-Ring (5) — the four conditions hung on one ring, each holding the others up; a closed engine that runs, and the

running is what we feel as time (the cycle). *Marked with gaps*
- *holds only if something else holds first.*

The Light Switch (6) — the lighting and the seeing arriving
as one event; awareness as the physics felt from the inside.
Marked as an arrow - a guess.

The Operator (7) — you are a place where the world turns a
desert of possibility into one actual fact; a window where the
one light looks out (the operator; AP02/AP43).

The Press (8) — the rosin press - bearing down on the
flower until only the gold weeps out; why the books are called
Rosin. The five voices are what was pressed from the million-
word field. You press for yourself first.

The Code (9) — what cruelty costs you on the inside - a door
shutting in a house you are standing in; kindness as the one
move that does not narrow the house (the terminal ethic;
AP43 §9).

The Garden (10) — dead ground given steady input until it
arranges itself into order no one set down - the four keys
turning with the lights on; and you are the garden (the
autocatalytic loop; AP36, The Feed).

IV.3 • The Chain (Part Two: the nine proofs)

The same ground walked slowly, each claim marked for how sure it is allowed to be.

The Foundation (11) — the single grain again - the axiom set down as the one thing everything is built from ($1:1 + 1 \times \varepsilon$; Notebook I).

The Proof (12) — the one place the central if became a therefore - the structure of records and the structure of the world cannot be shown to differ, because every check is itself a record (the Embedding Hypothesis; AP20).

The Arena (13) — four sticks, three one way and one across - three spatial dimensions and one of time (AP10).

The Cosmos (14) — the band of stars, a desert of grains - the whole sky read from the one break (Notebook VI; the dark-sector split).

The Blank Page (15) — the worn notebook opened to a blank page - the now, the writing-edge where the next mark is made and the past is what is already written.

The Harmonics (16) — the sealed seed-pod, the water not yet spilled - the forces as the one break heard through its channels, the symmetry not yet broken into the families we

measure (electroweak structure; AP16 The Break
(Electroweak), AP27 The Harmonics).

The Coupling (17) — the hand laid on the ground - the four-term interface through which a body reads the landscape: coupling capacity, pattern, pattern coherence, tracking coherence (AP43).

The Interface (18) — the keystone - the operator interface where the whole structure meets a life that can act (AP43; Notebook VII).

The Numbers (19) — five small stones on a slate - the physics the one break fixes from a single measured input (the derived constants; Ø Predictions).

IV.4 • Cross-work images

The Editions-register grounding and the metaphor stratum carried in the Artist's Proofs and the Five Doors.

A grain of sand / two jars of water / a fingerprint on a glass — the Editions-register's concrete physical grounding, placed before any abstraction so a reader can register a structural claim with the body (Mode 3.)

The torch beam, the building's light in every room, the floor plan — gravity is not weaker than electromagnetism, it is wider - electromagnetism couples through one channel, gravity through all twenty-one at once; the 10^{45} ratio is the number of rooms in the building, a floor plan (the hierarchy problem dissolved; AP28).

The river seen from above — the single process seen whole rather than followed step by step - the orienting picture of AP28's metaphor stratum (AP28).

The river and its banks — Architecture B reads the banks the river itself created; the terminal ethic is not walls moved in (authoritarianism) or flown apart (anarchy) but the banks the structure already cut (The Interior).

The kitchen image — the central picture of AP43: a sieve (the pre-state) full of flour (possibility) above a counter (the

amplitude landscape); each bump drops flour (records) onto the counter, and the operator is a piece of the counter reading the rest of it (AP43).

The 9 in the sand — the passage where the terminal ethic is drawn in the sand at the close of the operator interface; preserved verbatim (AP43 §9).

The 6 and the 9 — perspective and confirmation: a mark that is a 6 from one side and a 9 from the other, on one sand - the picture of why a self-reading system can confirm a wrong answer to each side (The Interior).

IV.5 • Image collisions and disambiguation

The Keys / The Lock — used two ways. As fireside images (Rosin Ø Metaphor): The Keys = the four conditions {S,B,R,C}; The Lock = the necessity-and-sufficiency of exactly four. As Edition titles: The Keys (Edition 02) derives $c^2 = \beta/\alpha$; The Lock (Edition 04) identifies ε with the electron and derives $G = 2\kappa/m_e^2$. Context disambiguates.

Part V • Naming, Casing and Spelling

The house-style rules of the body of work, collected. Live text follows these; historical version notes are preserved verbatim.

Authorship — The byline is always “G” only. The real name never appears in any output. Public attribution: artist and natural philosopher, Cape Town.

Body of work, not corpus — In all live text the work is the body of work or The 420 Code, never corpus. Historical version notes keep their original wording.

Notebook, not Part — The top-level bound division is a Notebook (I to VIII). The unit of the formal work is the Artist’s Proof (AP).

The symbol Ø — Always the zero-with-a-stroke Ø, never the letter O, for the empty set and the Ø Models.

Actualization / actualisation — Actualization State (American) is the fixed formal proper noun. Body prose uses British spelling: actualisation, realisation, behaviour. Curly apostrophes throughout.

B is Break, C is Constraint — Axiom B is the Break, never Boundary. Axiom C is Constraint - locality; bounded propagation is what it produces, not the term itself.

Zero free parameters — Always zero free parameters, never zero fitted parameters. There is one measured input: α_{em} .

The two alphas — α_{em} is the fine-structure constant ($\approx 1/137$, the input). α (apex-symmetry, ≈ 1.0445) is a distinct quantity in the MOND floor. Never conflate.

The dark-sector headline — 69 / 26 / 5 (dark energy / dark matter / visible). Never 68 / 27 / 5; the Planck-2018 comparison is cited separately.

The value of G — $G = \alpha_{\text{em}}^{21}(1 + 1/\pi)\hbar c/m_e^2$ ($G \propto \varepsilon^{21}$). The substrate scaling $G = \kappa/(\varepsilon\Lambda^2)$ is substrate-level, not the value. Never cite $G = \varepsilon^2 \cdot \hbar c/m_e^2$.

Length and counts — over one million words (1,111,420 verified). All counts defer to the MKSR (v5.26, 561), never to memory.

Voice order — Prose, then Conversation, then Metaphor, then Nursery Rhyme, then Declaration.

The terminal ethic — Don't be a cunt. Be kind. Locked, load-bearing, never softened.

Part VI • The Falsification Register

Falsifiability is one of the five criteria the body of work is built to. Every load-bearing claim is exposed to a named condition that, if met, ends it - a kill switch. This part summarises the apparatus; the Master Kill Switch Registry (MKSR), v5.26, is the living authority, and every count here defers to it.

VI.1 • The count

561 kill switches across the body of work, counted as distinct switches - the same basis the bound Notebooks use. Section I: 277 across the 43 Artist's Proofs. Section II: 28 across the Five Doors. Section III: 256 across the Ø Models series. By status: 12 closed, 1 conditionally closed, 2 addressed, 1 derived, and 545 live. $12 + 1 + 2 + 1 + 545 = 561$.

Within the 544 live: 6 non-negotiable, 4 open debt, 1 master, 1 critical, and 1 superseded as a value - each counted inside the live total, not beside it.

VI.2 • The distribution

Section I, by Notebook: I — 36 · II — 24 · III — 31 · IV — 41 · V — 15 · VI — 37 · VII — 31 · VIII — 62. Total 277.

Section II, the Five Doors: Antichristos 7 · The Relationship Corridor 11 · The Interior 1 · Being After Religion 9 · The Illusion of the Other 0 (gentle by design). Total 28.

Section III, the Ø Models: Dissolutions 61 (PZ-N.M) · Resolutions 66 (RES-N.M) · Horizons 68 (HOR-N.M) · Applications 61 (APP-N.M). Total 256. Ø Predictions enumerates 25, of which 5 are new physics switches registered in Section I under AP30 and AP42 (KS-30.4, KS-NPP.1, KS-NPP.2, KS-NPP.3, KS-42.6) and 20 are book-level applications of switches already in Section I; Predictions therefore adds nothing to the 256, and nothing is double-counted.

The PZ / RES / HOR / APP switches are publication switches, not derivation switches - the falsifiable condition under which each chapter's structural reading fails.

VI.3 • The statuses

LIVE - the claim stands exposed to its stated test; a dash qualifier marks the test's character (HARD, STRUCTURAL, EMPIRICAL, STAGED, DEPENDENT) or the switch's standing. CLOSED - the falsification condition is discharged within the

work. COND. CLOSED - discharged subject to a named in-work condition. ADDRESSED - the substantive argument is on file and the remaining gaps are named; not closed. DERIVED - established by derivation conditional on a named in-work dependency. OPEN DEBT - named and owed, no discharging argument yet on file. NON-NEGOTIABLE - constitutive of the architecture; firing it ends the work rather than amends it. MASTER - the governing switch of a standalone volume. CRITICAL - a switch whose firing damages the body of work's standing as a whole. The full table is Appendix D.

VI.4 • The discharged and special-status switches, named

Closed (12) — KS-Q.6 ($\sigma \leftrightarrow$ complex conjugation, AP09); KS-7 (the Embedding Hypothesis, AP20); KS-P.4 (Quantum-Record Alignment, AP20); KS-2c / KS-I.6 ($N = 3$ spatial dimensions, AP10); KS-15 / KS-D.2 (axiom-to-dimension assignment, AP10); KS-16 (completeness of $\{S,B,R,C\}$, AP10); KS-Q.8 / KS-L.1 ($\hbar$ identification, AP12); KS-28 (phase-group uniqueness $U(1)$, AP15); KS-29 (Maxwell uniqueness, AP15); KS-45.2 (dipole topology, AP18); KS-49a (hidden variables, AP23); KS-42 (tension field equation, AP17). Several are contingent closures - they rest on a named live obligation, cited on the row.

Conditionally closed (1) — KS-Q.1 - the Born rule derivation (AP09), conditional on KS-Q.7.

Addressed (2) — KS-46B - the AQFT bridge (AP22): the bifurcation tension is discharged via Sewell 1982, but the full bridge carries small named gaps, so it is addressed, not closed. KS-46C - operator identification, $\sigma^\wedge = J$ (AP22).

Derived (1) — KS-46A - boundary identification (AP22), conditional on AP17; it closes if and when the fences of that dependency hold.

Non-negotiable (6) — KS-32.7 (dehumanisation - the moral kill switch); KS-33.7 (enhancement weaponisation); KS-33.8 (continuation-budget corruption); KS-33.9 (one-I violation, AP33); KS-38.6 (disability conflation); KS-39.6 (one-I violation, AP39). Firing any one ends the work.

Master (1, counted) — KS-AC.6 (Antichristos) - architecture-sorting-equivalence: if Architecture B sorts the way Architecture A sorts in any tested domain, the book's argument fails. Chapter-masters KS-38.8 and KS-39.1 are named in their own registers but not counted in the global master tally.

Critical (1) — KS-39.5 - a switch whose firing damages the body of work's standing beyond its origin paper.

Open debt (4) — KS-60, KS-65, KS-66, KS-67 - named and owed, no discharging argument yet on file.

Superseded as a value (1) — KS-R.6 (AP28) - the superseded G-value form; see correction B1 in the body of work's corrections list.

VI.5 • Registry notes

Label collisions (disambiguate by origin) — Two stand: KS-L.1-L.4 (AP06 Leakage vs AP12 Limit) and KS-54 (AP21 vs AP23). Any external cross-reference must carry its origin - e.g. "KS-L.1 (AP06)" vs "KS-L.1 (AP12)." All other collisions are resolved.

The Coupling Theorem — KS-COUP.1 (AP02) - net-positive containment: the persistent set is confined to the net-positive class, and net-negative, parasitic, or defecting configurations reach the no-return surface (Theorem VI.2, DERIVED-CONDITIONAL; admitted v5.23). This is the switch that took the registry from 559 to 560.

The Crossing — KS-BAR.9 (Being After Religion): the on-page step from geometry to obligation, anchored in Paper D's operator-required charger and AP02's Theorem VI.2 (admitted v5.26). This is the switch that took the registry from 560 to 561.

The registry's own invitation stands at the head of its list: if you want to kill the argument, start here.

Canon-Resolution Log

Where the body of work drifts across volumes, or a symbol carries more than one meaning, the canonical form is ruled here. Each item gives the ruling, then the detail.

1. C — Constraint, not “bounded propagation”

Canon: C = Constraint: a record is somewhere, not everywhere. Bounded propagation is what Constraint produces, not what it is.

The superseded phrasing “C — bounded propagation, finite speed/rate” appears in the Key Structural Vocabulary of Ø Dissolutions, Ø Resolutions and Ø Applications. Anchor: Notebook I KSV; Ø Horizons and Ø Predictions already use Constraint. Ruling: replace with Constraint in those three appendices.

2. The value of G

Canon: $G = \alpha_{em}^{21}(1 + 1/\pi)\hbar c/m_e^2$ (AP28, Notebook IV) — $G \propto \varepsilon^{21}$, parameter-free, 0.69%.

Retained at a different architectural level: $G = \kappa/(\varepsilon\Lambda^2)$ (AP03, substrate-condensate scaling, ε^{-1}) and $G = 2\kappa_{\text{hold}}/m_e^2$ (Notebook II Ch.4 holding-limit form, bridged by $2\kappa = \alpha_{em}^{21}(1+1/\pi)\hbar c$). Reject as canon: $G = \varepsilon^2 \cdot \hbar c/m_e^2$ (the

L55/F18 hallucination). Note: AP03's original $c/G \propto \varepsilon^2$ was corrected to $c/G \propto \varepsilon$.

3. The dark-sector partition

Canon: 69 / 26 / 5 (dark energy / dark matter / visible).

The phrasing 68 / 27 / 5 (Planck-2018 match) appears in Notebook II (dark-sector-connection section). Ruling: align display figures to 69/26/5 across the body of work, noting the Planck-2018 comparison separately.

4. ε — two identifications, not a contradiction

Canon: ε is one object with two facets, plus a distinct same-symbol quantity.

$\varepsilon \leftrightarrow \alpha_{\text{em}}$ is the magnitude of the break (Notebook I: “in our universe ε is identified with $\alpha_{\text{em}} \approx 1/137.036$ ”). $\varepsilon \leftrightarrow$ the electron is its minimum stable excitation, via The Lock (Notebook III). These are facets of one object (magnitude vs minimal physical excitation), not competing definitions. Separately, ε as operational tolerance (Notebook I App.E) is a different quantity sharing the symbol.

5. AS — two readings under one name

Canon: AS-the-prior and AS-the-quantity are related but distinct; the glossary holds both under one headword.

AS-the-prior is the foundational structural now, with no numerical value. AS-the-quantity is the operational scalar $\in [0,1]$ (Notebook I Ch.2, D3).

6. a_0 — which figure is the headline

Canon: The parameter-free MOND-scale prediction is AP18's sharpened value (exact coefficient $\alpha/(2\pi) \approx 0.1662$).

AP17's $\approx 8\%$ first-order value is the mechanism, not the headline.

7. The symbol κ

Canon: Three distinct quantities share the symbol; context disambiguates and the glossary tags each at its locus.

Surface gravity of a Schwarzschild black hole ($\kappa = c^4/4GM$, an acceleration); the holding limit of the pre-state (the Lock's κ , in $G = 2\kappa/m_e e^2$); and the backreaction coupling (in $G = \kappa/(\epsilon\Lambda^2)$, AP03).

8. Spelling and typography

Canon: Actualization State (American) is the fixed formal proper noun across the body of work; body prose uses British spelling.

British in body: actualisation, realisation, behaviour. Curly apostrophes throughout. “over one million words.”

9. The kill-switch count and version

Canon: the Master Kill Switch Registry is at v5.26 (July 2026), 561 kill switches - 277 across the 43 Artist's Proofs, 28 across the Five Doors, 256 across the Ø Models (545 live; 12 closed, 1 conditionally closed, 2 addressed, 1 derived; 6 non-negotiable). Any earlier count (the v5.12 / 557 figure and before) is superseded; defer to the MKSR, never to memory.

Master A–Z Index

Every term, symbol, and image, with where its entry lives. § = family number in Part III.

$\emptyset$ Part II	operational irreversibility §4
$\mathbb{Z}_2$ Part II	ε (operational tolerance) §4
α Part II	operator §7
β Part II	operator authority §10
ε Part II	operator horizon (x_h) §4
κ Part II	override §13
λ Part II	override-capacity §7
$\hbar$ Part II	parasitic contraction §9
$\mathcal{H}$ Part II	parasitic coupling §9
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1:1 Part II	persistence-inversion threshold §3
1:1 + $1 \times \varepsilon$ @ AS Part I	persistence-mode 1 §3
1:1 + $1 \times \varepsilon$ @ AS [+1/137 / –1/137] Part I	persistence-mode 2 §3

$[+1/137 / -1/137]$ Part II	personal-I §8
$1/\pi$ Part II	personal-I / structural-I distinction §8
$1 \times \varepsilon$ Part II	pre-state §5
$10:10 + 1 = 21$ Part II	propagation §10
1836 Part II	Proton–electron mass ratio Part I
21 Part II	provenance §10
3 Part II	pure state §5
4 Part II	purpose §10
6 Part II	Quantum-Record Alignment (QRA) §12
$\tau = (6/21) \cdot t_H$ Part II	R — Record Part I, §1
84 Part II	raw geometry §9
A grain of sand / two jars of water / a fingerprint on a glass Part IV	record (R) §3
a_0 Part II	record algebra §4
absolute honesty §13	record measure $\Sigma(F, s)$ §4
absorb and recycle §9	record-history §3

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actualisation-cost §9	record-structure §3
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Index entries: 324.

Appendices

Appendix A • The 43 Artist’s Proofs

Titles per the Master Kill Switch Registry (v5.26). The Notebook column gives each Proof’s bound home in the catalogue.

AP	Title	Notebook
AP01	The Actualization State	I
AP02	The Operator	VII
AP03	The Ratio	II
AP04	The Loop Hypothesis	VI
AP05	The Break (Axiom $\rightarrow$ Structure)	II
AP06	The Leakage Constant	IV
AP07	The Record Measure (Force-Strength)	III
AP08	The Identity (Einstein Field Equations)	II
AP09	The Break — Empty Set (Quantum Mechanics)	III
AP10	The Dimension	II
AP11	The Spin	III

AP12	The Limit	III
AP13	The Grain	III
AP14	The Correction (Physics)	IV
AP15	The Connection	IV
AP16	The Break (Electroweak)	IV
AP17	The Room	VI
AP18	The Floor	VI
AP19	The Direction	IV
AP20	The Proof	I
AP21	The Web	VI
AP22	The Ledger (Antimatter)	V
AP23	The Single Record	III
AP24	The Residual	IV
AP25	The Measure	III
AP26	The Surplus	V
AP27	The Harmonics	IV
AP28	The Constant (Gravity)	IV

AP29	The Actualization Proof	VII
AP30	The Resistance (Mass)	V
AP31	The Alignment	VIII
AP32	The Correction (Ethics)	VIII
AP33	The Boundary	VIII
AP34	The Inversion	VIII
AP35	The Ledger (Economics)	VIII
AP36	The Feed	VIII
AP37	The First Boundary	VIII
AP38	The Exit	VII
AP39	The Scaffold	VII
AP40	The Irrational	I
AP41	The Loop	VI
AP42	The Clock	VI
AP43	The Gravity of Possibilities	VII

Appendix B • The Five Doors

Book	Door	Kill switches
Antichristos	The Sacred Door	7
The Relationship Corridor	The Personal Door	11
The Interior	The Operational Door	1
Being After Religion	The Front Door	9
The Illusion of the Other	The Gentle Door	0 (by design)

Five Doors total: 28 kill switches (MKSR v5.26).

Appendix C • The Ø Models

Volume	Role	Kill switches
Ø Predictions	The falsifiable, physics-facing volume	25 enumerated (5 new, in Section I)
Ø Dissolutions	Classical problems dissolved	61 (PZ-N.M)
Ø Resolutions	Further problems resolved	66 (RES-N.M)
Ø Applications	The Architecture-B civilisational volume	61 (APP-N.M)
Ø Horizons	The closing volume	68 (HOR-N.M)

Ø Models series total: 256 (Dissolutions 61 + Resolutions 66 + Horizons 68 + Applications 61). Ø Predictions’ five new physics switches are registered in Section I (under AP3Ø and AP42) and are not part of the 256; its other 2Ø enumerated switches are book-level applications of switches already in Section I. (MKSR v5.26.)

Appendix D • Kill-switch statuses

Status	Meaning
LIVE	Exposed to its stated test (dash qualifiers: HARD, STRUCTURAL, EMPIRICAL, STAGED, DEPENDENT).
CLOSED	The falsification condition is discharged within the work.
COND. CLOSED	Discharged subject to a named in-work condition, cited on the row.
ADDRESSED	The substantive argument is on file; remaining gaps are named; not closed.
DERIVED	Established by derivation conditional on a named in-work dependency.
OPEN DEBT	Named and owed; no discharging argument yet on file.
NON-NEGOTIABLE	Constitutive of the architecture; firing it ends the work (6 total).
MASTER	The governing switch of a standalone volume.

CRITICAL	Firing damages the body of work's standing as a whole.
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Appendix E • Epistemic grades

Grade	Meaning
DERIVED	Forced from the axioms via a complete chain.
STRUCTURAL	Follows from the architecture but not yet formally derived end-to-end.
IDENTIFICATION	A structural mapping.
PREDICTION	A testable empirical prediction.
EMPIRICAL	Rests on, or is testable by, measurement (the single input: α_{em}).
CONJECTURAL	Not yet derived; fenced as conjecture.
SCOPE-NOTE	A scoping statement (replaces the former FRAMING label).

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Series	The 420 Code
Catalogue	Ø Glossary
Title	The 420 Ø Structural Glossary
Subtitle	The Complete Vocabulary, Notation and Imagery of the Body of Work
Medium	Glossary
Artist	G
The lifestyle	1980-08-05 – 2025-12-25

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