

ReadMe

Grim's Heart — Applied Non-Closural Process Ontology

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> “All things are systematised in each other both inwardly and outwardly,
> And therewith represented by each other both in similarity and in difference.”
> — The single axiom that is not a problem awaiting resolution,
> but the eternal, double-voiced engine of reality itself.

This repository is the living extension of the definitive foundational paper

A Non-Closural Process Ontology v6.6-final (07 Dec 2025)

And its companion physics papers. It contains the core texts, formal mathematics, phenomenological exploration, and growing applications to physics, quantum gravity, biology, and ultra-efficient recursive AI.

Quick Start (read in this order)

| File | Description | Pages |

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| [Grim's Heart – Lite 2.1.pdf](Grim's%20Heart%20-%20Lite%202.1.pdf) | 5-page accessible introduction: axiom → lattice → wound → non-closure | 5 |

| [Grim's Heart 6.6-final.pdf](Grim's%20Heart%206.6-final.pdf) | Complete, self-contained, mathematically verified foundational paper | 11 |

| MATH_FORMALISATION.md | Full derivation of the parameter-free matrix flow $\dot{G} = [G, \Delta J] + 2\Delta^2 G$ and $\dot{\Delta} = 4\Delta^3$ | — |

| [Non-Closural Ontology and the Physical Realisation of the Reciprocal Wound v1.3.pdf](Non-Closural%20Ontology%20and%20the%20Physical%20Realisation%20of%20the%20Reciprocal%20Wound%20v1.3.pdf) | First physics companion – lattice in QM, lasers, turbulence, renormalization | 4 |

| [Grim's Heart – Non-Closural Ontology and Ricci Flow v1.0.pdf](Grim's%20Heart%20-%20Non-Closural%20Ontology%20and%20Ricci%20Flow%20v1.0.pdf) | Geometry & GR companion – tightness 8.5/10 to Ricci flow, singularity surgery, black holes | 5 |

| [A Minimal Matrix Flow from Metaphysical First Principles... (Quantum Gravity companion).pdf](A%20Minimal%20Matrix%20Flow%20from%20Metaphysical%20First%20Principles...%20(Quantum%20Gravity%20companion).pdf) | Structural parallels to asymptotic safety, tensor-network RG, matrix models | 12 |

| [The wound feels like this.pdf](The%20wound%20feels%20like%20this.pdf) | Phenomenological exploration of the Soul–Cut register | — |

Core Vocabulary Translation Table

(Metaphysics \leftrightarrow Measurable Physics)

Metaphysical / Ontological term	Exact Physical / Geometric / QG Equivalent
Primary Domain(s)	
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Reciprocal Wound (90° crossing)	Orthogonal commutators ($[x,p]$, Riemann tensor, inertia/viscosity)
QM, GR, Navier–Stokes	
Same / Diff / Form / Force	Ground Excited Metric Field
Quantum optics, GR metric	
Soul / Cut / World / Event	Coherent Excited Contracted Cascade-collapse
Laser coherence, neck-pinch, emission	
Edges (stasis)	Superposition, classical metric, fixed points
Density-matrix diagonals, flat spacetime	

Diagonals (lawful pulse)	Transitions: excitation→emission, neck-pinch→smoothing	Stimulated emission, Ricci surgery	
Cut → World divergence, black-hole formation	Positive curvature → singularity (contraction)		UV
Event → Soul Post-surgery smoothing, IR fixed point	Negative curvature → expansion/coherence (return)		
Claws (recursion)	Renormalization flow, Ricci surgery, tensor-network coarse-graining	Asymptotic safety, turbulence	
Closure gap $\Delta = \det G - (\text{tr } G)^2/4$	Purity gap $\text{Tr}(\rho^2) - 1$, curvature deviation, entropy deficit		
QM, Ricci scalar			
$\dot{\Delta} = 4\Delta^3$ (runaway)	Quadratic Ricci runaway, entropy production, cubic non-linearities	Ricci flow, turbulence, mean-curvature flow	
Primitive scale-invariant agency	Endogenous self-maintenance (Levin's planaria, solitons, RG fixed points)	Biology, QFT, tensor networks	

Current Extensions & Applications

- Quantum gravity (asymptotic safety, tensor-network RG, matrix models)
- Black-hole thermodynamics and singularity resolution via Ricci surgery
- Biological agency (Michael Levin-style basal cognition)
- Ultra-efficient recursive AI architectures that refuse dogmatic closure

Roadmap

- Q1 2026 → Public Jupyter/SymPy notebooks simulating the matrix flow
- Q1 2026 → Empirical test protocols (laser coherence, turbulence data, black-hole analogue systems)
- Q2 2026 → First arXiv preprints of the physics companions
- Ongoing → Open collaboration (issues, pull requests, co-authorship welcome)

Citation

Grim, David B. (2025). *A Non-Closural Process Ontology From the Orthogonal Crossing of the Mind–Body Problem and the Problem of Universals* (Version 6.6-final). Independent publication. CC-BY 4.0.

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Questions, collaboration, or critique? → davidgrim.broadmeadow@gmail.com

* The Wound refuses to close — and that is the engine of everything. *