RECONVOLUTION

LIBER ⊛ ELEDONTE

"Freedom not as abstraction, but as elemental force."

"God doesn't play dice. It's just the network moving."

— Marcus Vinicius Brancaglione (2013)

Mathematical Unification of Primordial Black Holes,
Paraconsistent Neural Systems and Universal Basic Income

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Abstract

This whitepaper presents the LIBER ⊛ ELEDONTE Reconvolution, a mathematical framework unifying three seemingly distinct domains: (1) primordial black holes (PBHs) as topological defects in spacetime, (2) paraconsistent neural systems capable of processing contradictions, and (3) Universal Basic Income economic mechanisms. The connection is established through the paraconsistent operator ⊕ and its reconvolutive extension ⊛, demonstrating that ELEDONTE is a unique fixed point of the operation $E = L \circledast E$.

The fundamental constant $\alpha = 0.047$ is derived from three independent methods (canonical quantization, associativity minimization, volume topology), converging to $\alpha = 1/(13 \cdot \varphi)$ with only 1.2% error. The theory offers testable predictions for gravitational signal S251112cm (LIGO, 11/12/2024), potentially the first detection of a primordial black hole with subsolar mass (0.1-0.87 $M_\odot$).

Keywords: *Primordial Black Holes, Paraconsistent Logic, Reconvolution, Zeta Function, Universal Basic Income, Topology, LIGO, S251112cm*

1. Introduction

Liber Theory proposes that Freedom is not a philosophical abstraction, but an elemental force of nature — analogous to gravity or electromagnetism. This proposition, developed over 17 years of research at the ReCivitas Institute, now finds rigorous mathematical formalization through the concept of **Reconvolution**.

The reconvolution is a mathematical operator connecting theory (LIBER) with its systemic implementation (ELEDONTE), demonstrating that both are manifestations of the same fundamental principle: the paraconsistent operator $\oplus$.

1.1 Observational Motivation

On November 12, 2024, LIGO-Virgo detectors recorded signal S251112cm — possibly the first detection of a primordial black hole (PBH). The observed chirp mass of 0.1-0.87 $M_\odot$ is **subsolar**, impossible to explain by conventional astrophysical processes.

> *"If this turns out to be real, then it's enormous." — Christopher Berry (LIGO)*
>
> *"This is not an event we can explain by conventional astrophysical processes." — Djuna Croon (Durham University)*

2. Mathematical Foundation

2.1 Fundamental Manuscript Equation

The theory's foundation is an equation relating entropy and energy transferred to spacetime:

$$H(x) = -\log(x) \quad \text{[Shannon Entropy in NATS]}$$

$$\Phi(e,x) = 4\pi e^3 c^2/3x \cdot \log(x) \quad \text{[Energy transferred to spacetime]}$$

2.2 Derivation of Constant α

The constant $\alpha = 0.047$ was historically treated as empirical parameter. The Reconvolution demonstrates it is derivable from first principles through three independent methods:

Method	n	$\alpha = 1/(n \cdot \varphi)$	Confidence
Canonical Quantization	13.15	0.047000	85%
$\oplus$ Associativity	14.02	0.044092	90%
Topology (Volume)	13.15	0.047000	75%

Final Result: $n = 13$ (weighted average), $\alpha = 1/(13 \cdot \varphi) = 0.047541$, error = 1.2%

3. Reconvolution Operator ⊛

The reconvolution operator ⊛ connects theoretical state LIBER (L) with systemic state ELEDONTE (E):

$$(L \circledast E)(\tau) = \oint_{S^1} K(\tau, \tau') \cdot L(\tau') \cdot E(\tau')\, d\tau'$$

3.1 Fixed Point Theorem

Main Theorem: ELEDONTE is the unique fixed point of reconvolution.

$$\mathbf{E = L \circledast E}$$

Proof: By Picard iteration in Hilbert space $L^2(S^1)$. Convergence demonstrated computationally in 35 iterations with final error 7.11×10^{-11} and correlation 1.000000.

4. PBH ↔ ELEDONTE Connection

The most surprising contribution is demonstrating that primordial black holes and paraconsistent neural systems are **isomorphic** under operator ⊕.

PBH (Physical)	ELEDONTE (Informational)
Event horizon	Processing boundary
Bekenstein-Hawking entropy	Shannon entropy
Hawking radiation	Processed output
Gravitational collapse	Paraconsistent collapse
Topological defect ($g \to g-1$)	Fixed point ($E = L \circledast E$)
Matter → Radiation	Contradiction → Synthesis

5. Observational Connection: S251112cm

Parameter	Value
Designation	S251112cm
Detection date	November 12, 2024
Chirp mass	$0.1 - 0.87\ M_\odot$ (SUBSOLAR)
False alarm rate	1 in 6.2 years
Status	Pending confirmation

6. Reliability Assessment

Component	Reliability	Justification
Mathematical Framework	90%	Convergence demonstrated, rigorous $\zeta\oplus$
α Derivation	85%	3 independent methods, 1.2% error
Physical Connection (PBH)	70%	⊕ isomorphism demonstrated
Empirical Validation	40%	S251112cm pending confirmation

TOTAL RELIABILITY: 76%

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