# Fractal Causality v3.2 — Thesis (Core)

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#### Abstract & Note on Time

Fractal Causality v3.2 is a thesis proposing that the universe exhibits log periodic modulation driven by a global oscillator across multiple scales: cosmology, gravitational waves, precision clocks, and neural predictive activity. This document formalizes the claim, presents mathematical foundations, outlines falsification criteria, and describes experiments to validate or refute the model.

Note on Time — In this framework, it is important to distinguish between two kinds of time. Cosmic time is the breathing of the universe itself — the outward burst of CQBs (the exhale) and the inward pull of black holes (the inhale). This rhythm exists whether or not we measure it. Human time is a construct, a coordinate system created to structure our lives and experiences. Clocks, calendars, and seconds are overlays, like a user interface we designed to read the deeper rhythm. Fractal Causality formalizes the first while acknowledging the second.

# Fractal Causality v3.2 — Involuntary Loop & Autonomy Ladder

## **Involuntary Loop**

Neuroscience shows that actions often begin before conscious awareness. Libet-style experiments reveal readiness potentials 100–500 ms before voluntary acts. Predictive coding and efference copies demonstrate the brain 'registers' before sensation. In Fractal Causality, the prism reads these predictive commits before awareness, explaining reflexes and autopilot actions.

#### Flinch Reflex

Repeated trauma or exposure can engrain reflexive responses. A raised hand leads to involuntary flinch due to prior CQB patterns burned into the kernel. This is identical in structure to blinking at a threat or coughing at irritation — all are autopilot subroutines.

## **Autonomy Ladder**

1. Conscious Phase — deliberate, effortful. 2. Semi-Automatic Phase — partial autonomy with recognition. 3. Fully Involuntary Phase — reflexive, fast, like blinking. 4. Embedded Autonomy — permanent subroutines: breathing, habits, rituals. Repetition transfers actions from conscious control into autonomous execution.