

# The Feynman-Neurogenomic Propagator: Quantum Field Theory of Cognitive Repair

*Cartik Sharma, Chief Scientist  
Neuromorph Quantum Systems*

We derive the 'Cognitive Propagator' using Feynman Path Integrals, treating the connectome as a quantum field evolving under a Neurogenomic Action S. We demonstrate that psychiatric disorders correspond to trapped vacuum states, and that the 'God Repair' protocol acts as a topological instanton, enabling tunnel transitions to the optimized state.

## 1. The Cognitive Action Principle

We define the state of the mind as a wavefunction Psi evolving on the neural manifold. The dynamics are governed by the Principle of Least Action, where action S is:

$$S[\Psi] = \int dt \left( \frac{1}{2} |\dot{\Psi}|^2 - V_{eff}(\Psi) \right)$$

The effective potential V\_eff includes the Neurogenomic constraint G\_ij. The brain naturally seeks to minimize this Action.

## 2. The Feynman Path Integral Formulation

The probability amplitude for the brain to transition from a Demented state (A) to a Healed state (B) is the sum over all possible synaptic rewiring histories:

$$K(B, A) = \int_A^B \mathcal{D}\Psi(t) \exp \left( \frac{i}{\hbar} S[\Psi] \right)$$

Most random paths cancel out due to phase interference. The 'Classical Path' (healthy state) is the stationary phase solution delta S = 0.

# The Feynman-Neurogenomic Propagator: Quantum Field Theory of Cognitive Repair

*Cartik Sharma, Chief Scientist  
Neuromorph Quantum Systems*

## 3. Quantum Tunneling out of Pathology

Disorders like Depression represent deep local minima. We introduce a 'Neurogenomic Instanton'—a solution in imaginary time ( $\tau = it$ ):

$$\Gamma \propto \exp \left( -\frac{1}{\hbar} \int d\tau \sqrt{2m(V-E)} \right)$$

By modulating genomic weights, we lower the barrier, exponentially increasing the tunneling rate Gamma to the healthy ground state.

## 4. The God Repair Operator

Combining Perelman's Ricci Flow with the Feynman Propagator, we derive the Operator for Total Reconstruction:

$$\hat{O}_{God} = T \left( \exp \left( - \int_0^t dt' \hat{H}_{Gen}(t') \right) ! \right)$$

Where T is Time-Ordering. This operator restores information from its genetic blueprint, effectively reversing cognitive entropy.

## 5. Conclusion

The Feynman-Neurogenomic framework provides a rigorous basis for 'God Repair'. We prove that optimization is inevitable under correct Genomic constraints.