

Portland State University

PDXScholar

---

Student Research Symposium

Student Research Symposium 2024

---

May 8th, 11:00 AM - 1:00 PM

# Describing Shen & Shen Ming Via a Hybrid Quantum Computational Model

Alex M. Cullen

*National University of Natural Medicine*

Johnny Lemau

*NUNM*

Follow this and additional works at: <https://pdxscholar.library.pdx.edu/studentsymposium>



Part of the [Alternative and Complementary Medicine Commons](#), and the [Biology Commons](#)

**Let us know how access to this document benefits you.**

---

Cullen, Alex M. and Lemau, Johnny, "Describing Shen & Shen Ming Via a Hybrid Quantum Computational Model" (2024). *Student Research Symposium*. 10.

<https://pdxscholar.library.pdx.edu/studentsymposium/2024/posters/10>

This Poster is brought to you for free and open access. It has been accepted for inclusion in Student Research Symposium by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: [pdxscholar@pdx.edu](mailto:pdxscholar@pdx.edu).

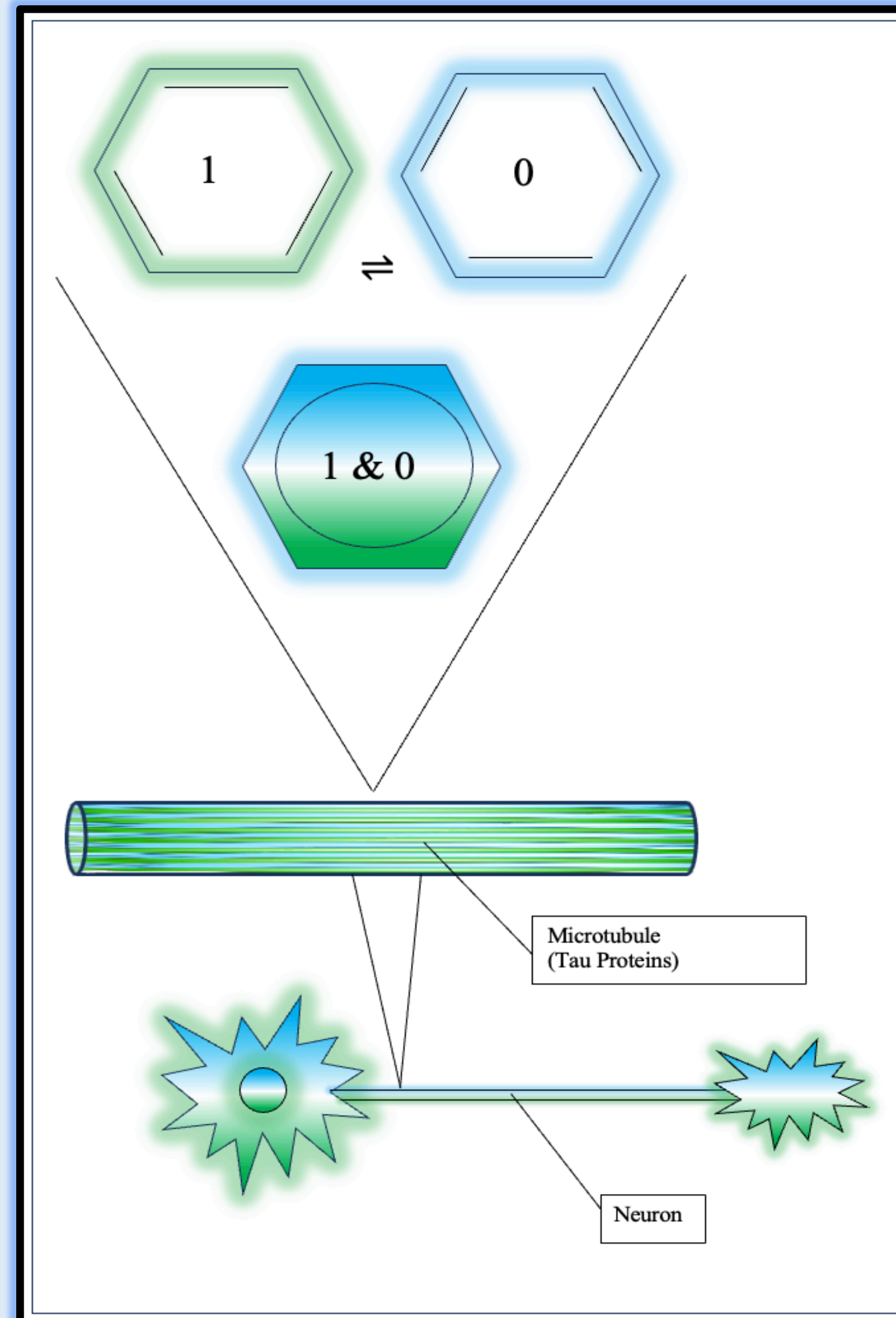


# Describing Shen & Shen Ming via a Hybrid Quantum Computational Model

A Cullen, J Lemau, J Phipps, H Zwickey

Helfgott Research Institute, National University of Natural Medicine, Portland, OR

## Quantum Computation

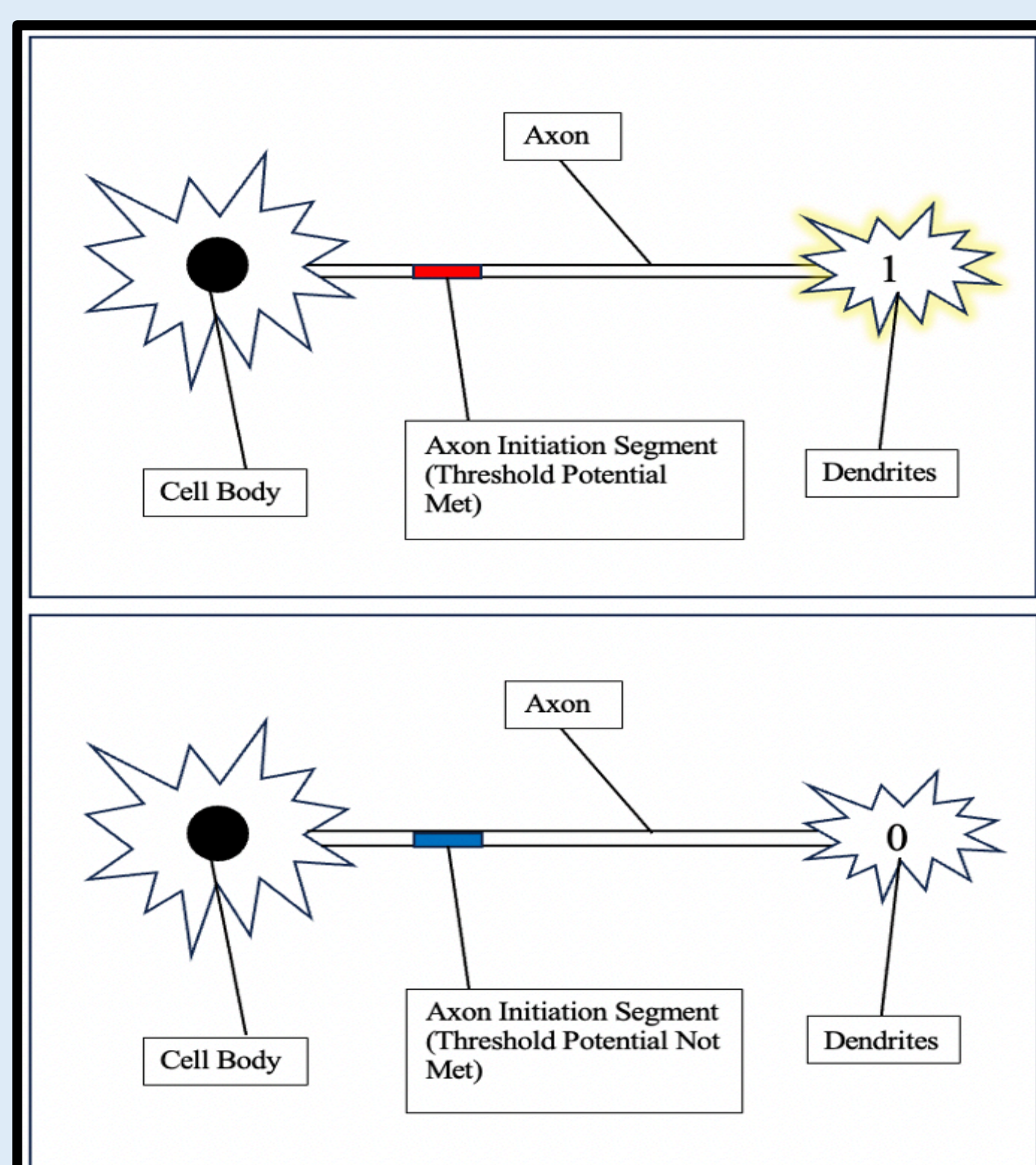


### Orchestrated Objective Reduction:

- OR: Proto-consciousness via reduction of a wave function; represented by  $\hbar$  (Planck-Dirac constant) & EG (gravitational self-energy of the superposition) at time  $t$ .<sup>1</sup>
- OR at  $t = \hbar/EG$
- Orch-OR: A spectrum of conscious moments by  $t = \hbar/EG$  may exist at several stratal levels (cortical pyramidal neurons, microtubule networks, single microtubules, rows of tubulins dipoles, tubulin, & pi bond resonance dipoles).<sup>2</sup>
- Quantum bits may arise from superpositions of electrons in neurons, who's wave function reductions produce proto-consciousness.<sup>1</sup>

Qubit = (1, 0, or 1 & 0)  
3 Bits of Information

## Classical Computation



- Medicine & Neurology currently describes consciousness with classical computation in neurons.
- Neurons act as classical bits of information via neuronal threshold potentials at a given axon initiation segment (AIS).<sup>1</sup>
- When threshold is met, a discrete "all-or-none" or "0 or 1" action potential is triggered as an output, conveyed along the axon to the next synapse.

Classical Bit = (1 or 0)  
2 Bits of Information

## Introduction

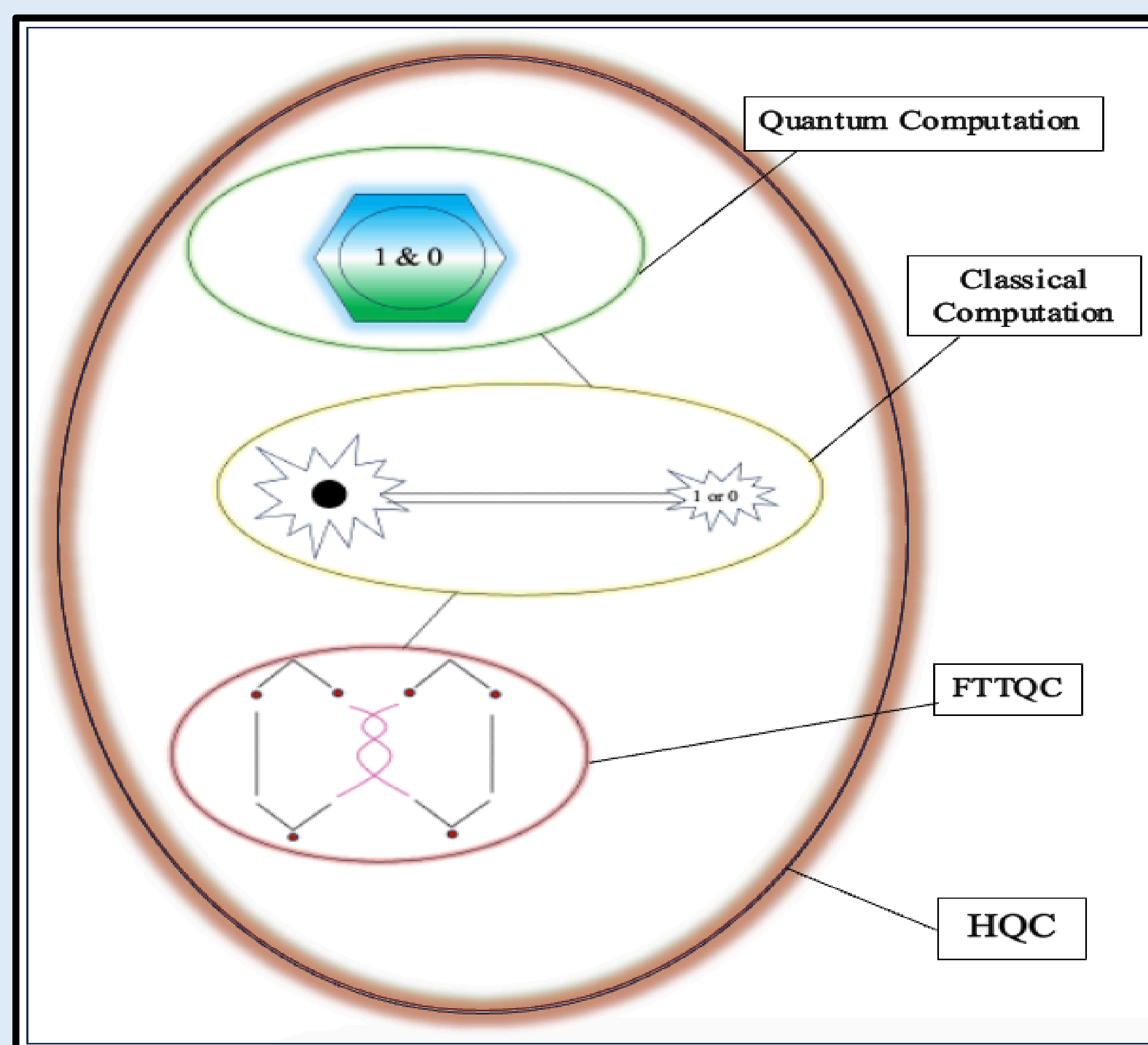
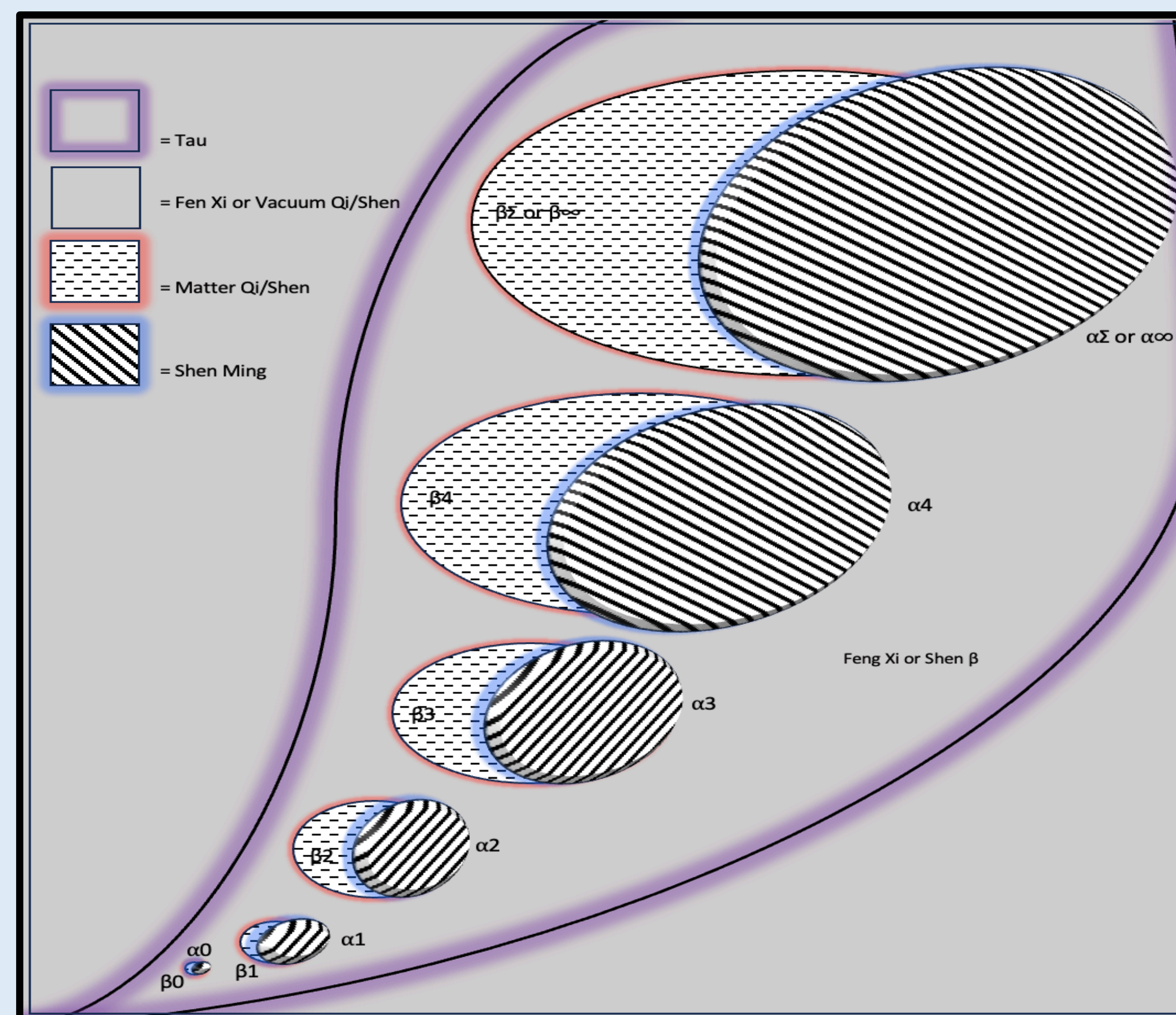
### Theory:

Tao = Qi + Shen/Shen Ming.  
Shen  $\beta 0$  = (phenomenological proto-consciousness)  
Shen  $\beta$  = (phenomenological consciousness)  
Shen Ming  $\alpha 0$  = (meta-proto-conscious threshold)  
Shen Ming  $\alpha$  (Y,  $\Sigma, \infty$ ) =  $\alpha 0$  + (meta-conscious thresholds)  
Qi = Energy/Matter  
Feng Xi ( $\Delta F$ ) = Entropy (information degeneracy)

$$Tao^* = Qi \Sigma + \alpha^*$$

### Simplified Equation:

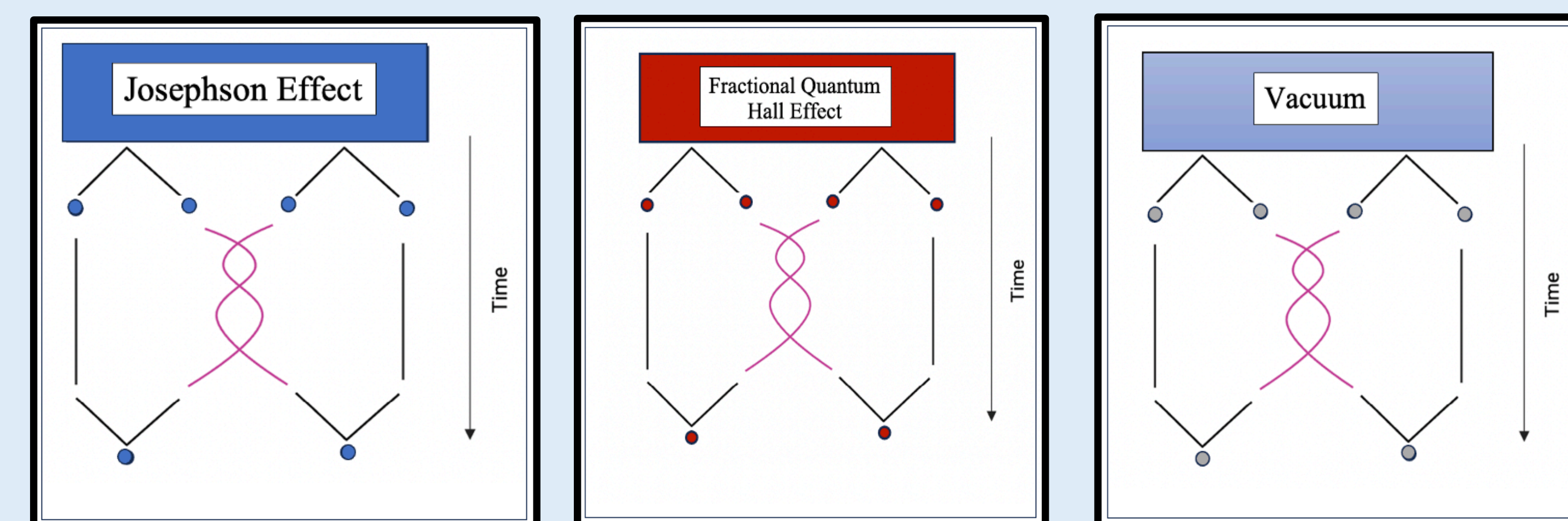
$$\alpha^* = (\beta 0 \times Qi) + \{(\beta \times (Qi) + \alpha) - (\Delta F)\}$$



## Description

- Definitions for **Traditional Chinese Medicine (TCM)** terminology using **Quantum Biology** have recently been proposed.<sup>3,4</sup> We propose our own definitions via a **Scoping Review**.
- We also hypothesize an explanation for **Spirit (Shen) & Bright Spirit (Shen Ming)** in TCM.
- Shen**: Represents physical, phenomenological proto-consciousness/consciousness in various forms of computation.
- Shen Ming**: Represents emergent, quasi-physical meta-proto-consciousness/meta consciousness; formed by orchestrations of various units/forms of computation.
- We posit multiple computational strategies are likely utilized, which we operationally define as **Hybrid Quantum Computation (HQC)**.
- We also hypothesize that aspects of Shen & Shen Ming may be partially characterized by **Fault Tolerant Topological Quantum Computation (FTTQC)**.

## Fault Tolerant Topological Quantum Computation



- Potential importance of anyon activity as relating to Orch-OR has been highlighted due to their intrinsic resistance to decoherence.<sup>5</sup>
- FTTQC uses particle worldline trajectories & braiding patterns as qubits for computation.
- Non-abelian anyons are quasiparticles defined by non-commutative mathematics ( $A * B \neq B * A$ ), giving them unique topological properties.
- Separate particles from fermions (spin  $1/2$ ) & bosons (spin 1), displaying qualities intermediate of both with a spin value ranging from 0-1.<sup>6</sup>
- Non-abelian anyons in quantum biology may occur via several effects, including Fractional Quantum Hall effect, Josephson effect, & Bose-Einstein condensates.<sup>3,7,8</sup>

## Conclusions:

- Quantum biology & specifically, hybrid quantum computation may give powerful operational definitions for various terms within TCM nomenclature.
- Our study along with future research will provide additional scientific denotation for terms like Shen & Shen Ming; which serves to elevate & justify TCM nomenclature.
- Future quantum biology research may also be used to expand operational definitions of other natural medicine nomenclatures; including ayurvedic, homeopathic & chiropractic medicine among others.

### References:

1. Hameroff, Stuart R., and Roger Penrose. "CONSCIOUSNESS IN THE UNIVERSE AN UPDATED REVIEW OF THE 'ORCH OR' THEORY." In Biophysics of Consciousness, by Roman R. Poznanski, Jack A. Tuszynski, and Todd E. Feinberg, 517-99. WORLD SCIENTIFIC, 2016. [https://doi.org/10.1142/9789814642465\\_0014](https://doi.org/10.1142/9789814642465_0014).
2. Hameroff, Stuart. "Orch OR" Is the Most Complete, and Most Easily Falsifiable Theory of Consciousness." Cognitive Neuroscience 12, no. 2 (April 3, 2021): 74-76. <https://doi.org/10.1080/17589018.2020.1839037>.
3. Fromkrecht, Rainer, Mario Goncalves, Henry Johannes Greter, and Jorge Machado. "Are Conduits Superconductor-Like and Supported by Tetrahedral Structure of Hyaluronan Matrix in Living Systems? New Perspectives." Journal of Complementary and Integrative Medicine 10 (July 3, 2013). <https://doi.org/10.1515/jcim-2012-0047>.
4. Brecht, Larissa, Enrico Chiappini, Patricia Stefanini, and Giuseppe Vitello. "Modeling Meridians Within the Quantum Field Theory." Journal of Acupuncture and Meridian Studies 12, no. 1 (February 1, 2019): 29-36. <http://doi.org/10.1016/j.jams.2018.06.009>.
5. Penrose, Roger, and Stuart Hameroff. "Consciousness in the Universe: Neuroscience, Quantum Space-Time Geometry and Orch OR Theory." n.d. [http://www.neurohumanities.com/archives/penrose\\_consciousness.pdf](http://www.neurohumanities.com/archives/penrose_consciousness.pdf).
6. Williams, Brian. "Anyons: Field Theory and Applications." n.d. [https://www.phys.ufl.edu/REU/2010/reports/Williams\\_Brian.pdf](https://www.phys.ufl.edu/REU/2010/reports/Williams_Brian.pdf).
7. Liu, Jinghui, Jan F. Torz, Poosen W. Miller, Alexander D. Heston, Yu-Chen Chao, Jörn Dunkel, and Nikita Falkov. "Topological Braiding and Virtual Particles on the Cell Membrane." Proceedings of the National Academy of Sciences 118, no. 34 (August 24, 2021): e2104191118. <https://doi.org/10.1073/pnas.2104191118>.
8. Field, B., and Simula, T. (2018). Introduction to topological quantum computation with non-Abelian anyons. Quantum Science and Technology, 3(4), 045004. doi:10.1088/2058-9565/aaac42