Exploration

The Noetic Origin of Sexual Preference: An Integrative Cartesian, Jungian & Unified Field Mechanical Parameter Approach (Part III)

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Abstract

The climate surrounding sexual preference is politically charged, and before the introduction of Noetic Field Theory; contemporary science has been unable to describe the complex framework for the origin of sexual preference, because science has not had either a comprehensive model of living systems or *consciousness* able to delineate the correspondence between biophysics and the noetic effect of the 3rd regime of unified field mechanics (UFM). This work begins reviewing aspects of psychology, biology and cognitive science, then develops an anthropic telergic teleology of mind-body interaction (physically real Cartesian interactive dualism) as the context for developing a pragmatic scientific model for the fundamental origin of sexual preference. The model utilizes archetypes originating in Jung's concept of a collective unconscious which are also presumed to be physically real elements of *mind*. This so-called Noetic Theory (relying on spirit (*chi, prana*) as an inherent self-organized aspect of a *vital field*, as a physically real action principle, predicts a prenatal stressor acting during a key stage of embryonic development typically under a panoply of one or both parents exhibiting a threshold (gradient of severity) personality disorder(s). The resultant action of this *noetic effect* orients the anima and animus archetypes as they are coupled into the biophysical substrate of the psyche (soul) and reverses, for the case of sexual preference, the normal orientation hierarchy of the noetic field within the individuals *psychosphere*. Initially, because of conceptual similarity, the periodic reversal of the Earth's geomagnetic field by the force of solar wind on the dynamo at the Earth's core is utilized as a metaphor to axiomatically illustrate the prenatal inversion of the Jungian anima and animus. This scenario is followed by a more technical and experimentally testable scientific description utilizing pertinent new principles related to the UFM domain discovery of physics of awareness.

Part III of this four-part article includes: 16. Mind-Body: Casimir-Like Role for the Noetic Formalism; 17. Yang-Mills Kaluza-Klein Equivalence: Path to Integrative Noetic Science; 18. Toward Experimental Design and Empirical Tests; 19. Programming the Dirac Vacuum: Accessing the Noetic Field; and 20. Epigenetics and the Noetic Effect.

Keywords: Archetypes, awareness, biophysics, Cartesian dualism, collective unconsciousness, epigenesis, noetic field, sexual preference, unified field Mechanics.

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16. Mind-Body: Casimir-Like Role for the Noetic Formalism

Science, physics especially, accepts nothing immeasurable as real. In this section, the Psychon is integrated with Pribram's neural wave equation (similar to the Schrödinger equation for a particle moving on a manifold with the addition of a term like the de Broglie/Bohm quantum potential for the neural potential[90] and the fundamental noetic equation[91-93] to provide a Cartesian interactionist solution to the mind-body problem. Because mind is defined as a physical entity in the noetic formalism the putative interaction is open to empirical tests[94,95,114-116]. Usage of the term Psychon as the unit of mental experience must be expanded because Eccles left the term mostly undefined as an empty philosophical construct. The phenomenological part of the Psychon unit postulated as quantities of Bose-noeons gives physicality and work functions to thought processes and the Noetic Effect. The physical unit called the Einstein (one Mole or Avogadro's number - 6.02×10^{23} of photons as used in photometry measures photosynthesis) is adapted for use in a new unit of measure of awareness called the Psychon in honor of Nobelist Sir JC Eccles, signifying a mole of Bose-noeons mediating the unified field which are possibly spin-4[96]. We define the Noetic Effect as the cosmological complex self-organized mind-body interaction process. This Noetic Effect will soon have profound influence on medicine and psychology[97]. The mathematical method used here to integrate the Eccles Psychon with brain dendrons and the existing holonomic theory of Pribram is a variation of the Lagrange operator of least action utilizing not only the *static* Casimir effect[99], but a duality between its *dynamical* counterpart first described by Schwinger[98]. Thus, the noetic effect governs energized boundary conditions as described by the UFM Noetic Field Equation $F_N = \aleph / \rho$ [91-93] taking the same form as the string tension formalism and can be said to be an alternative derivation of it[92]. F_N is the noetic force, $\aleph$ the nonlocal Casimir energy in UFM noeons and ρ the coherence length of associated domains.

The thrust of the Psychon Unit is to account for action of mental/life energy entry into SOLS, in this case UFM noeons, passing through a zero-point energy fluctuation gating mechanism within the polarized Dirac vacuum, and from the zero-point *vacuum* potential as Psychons. These noeons, rather non-radiative topologically switched ontological information potentials, are dualistic: confined like quarks in the spacetime metric which is embedded in the HD brane topology and constrained in a Gabor-like manner. The Casimir effect was initially used to account for the resonant force between separated parallel uncharged capacitance plates due to an all pervasive em-field in the interstice. This Casimir-Polder force is one example of a very general phenomenon in which objects impose boundary conditions on a quantized field; but as an extended Bohmian quantum potential (a super quantum potential [100,101] which as the noeon of the unified field applies to both quantized noncommutative and unquantized commutative energy. We are most interested in the generalization to parallel interfaces between dielectric media as occurring in the holoscape dendrons and topology of LSXD space. More recently Schwinger[100-103] proposed a mechanism for a dynamical counterpart of the static Casimir effect based on precise measurements of coherent sonoluminescence, where dielectric media are accelerated to emit light. In these experiments, a bubble in water, a hole in a dielectric medium, undergoes contraction and expansion in response to a strong acoustic field. Schwinger's Casimir function formalism utilizes a phase space similar to that of the Gabor function[104] to trap (in our terms) a psychon-noeon bundle and channel it into the previously described quasi-states in the quantum holoscape where Bose

condensates integrate in the Heisenberg matrix[3-8]. Thus, we see a framework where constructive and destructive interference of noeon flux by the forces related to the noetic effect stressor can lead to a sufficient phase change able to reverse the polarity of the Jungian anima-animus archetypes.

Sandwiched dipole polarizations account for pulsatile interactions of neurons. The network is composed of overlapping Gabor elementary functions generating a pixel-like-lattice of spacetime storing and processing information. The notion of perpendicularly arranged dipoles of polarization generated within dendrons[105] is intriguing. By modifying the dynamics of static-dynamic Casimir effect[99] interactions we see parallels between the Eccles' Psychon and Gabor relation. Casimir outlined the influence of retardation on London-van der Waals forces between neutral atoms. Instantaneous dipoles account for interactions between electric double layers separated by large distances. The interaction energy of a neutral atom by analogy, here the Psychon noeon sheaf with a perfectly conducting wall and, the holoscape manifold is given by the atomic dipole with its image. Retardation effects are expected when the distance from the wall becomes large, according to Cavity-Quantum Electro-dynamics (C-QED). The asymptotic expression of ρ contains Planck's constant and the static polarizability of the atom as the only quantities. Casimir confined the neutral atom within a perfectly conducting plane wherein the eigenstates of the em-field are described by Maxwell's equations and treated as if the atom were a quantum C-QED particle in a box. The box in our case, a dynamic-static complementarity, is a system or domain of fundamental least cosmological units (a form of sphere packing tiling the spacetime backcloth) that are the continuously changing boundary conditions of the systems dynamics in quasiparticle translation. Total energy interaction between the wall and the atom is[99]

$$\Delta_t E = \Delta_d E + \Delta_e E \,. \tag{3}$$

Second order interactions of the atom with a radiation field give vector potentials which can be manipulated with the Heisenberg method where the electromagnetic field is treated as a matrix[99]. Perturbation of the radiation field by a charge assigns vector potentials as elements of the matrix, and uses a simplified wave equation for the oscillating dipoles. This method has been used to account for atomic spectra of helium Rydberg atoms, macroscopic conductors, long range atom surface interactions, dielectrics and liquid thin films. To understand the origin of the Casimir effect requires QED. It is well known that em-radiation is quantized photons, and that these emitted photons can interact with atoms. Radiation in free space can be thought of as a superposition of many modes of oscillation within a box of arbitrary size. The energy of each mode is like a harmonic oscillator and restricted with a set of discrete energy values. The level of spacing between energy states corresponds to one photon so that the emission of a photon is simply a process in which the energy field frequency is increased by one unit. We have experimental work in mind looking at the Aharonov-Bohm effect[106] and quantum Hall effect[107].

A quantum mechanical oscillator has energy gaps given by Planck’s constant times the oscillator frequency with a minimum, called zero-point energy. These fluctuations are apparent in the Lamb shift due to changes in atomic energy levels attributable to proximity to atomic nuclei. The force arising from vacuum fluctuations[108], is modified by proximity to a conducting plate with no electric field applied. Near a conducting plate the number of modes of the radiation field are reduced by the boundary condition such that the electric field at the surface must be zero, so the

atomic energy decreases close to the conducting surface leading to an attractive force. The van der Waal potential between two atoms, which begins as r^6 becomes a potential that varies as r^7 when the atoms are separated by distances greater than several Bohr radii.

A related prediction is that the interaction between a neutral atom and a conducting wall changes from an initial r^3 to an r^4 potential when an atom is far enough from the wall. This interaction can even attract neutral atoms to each other due to quantum fluctuations. Classically, the electric dipole moment of a neutral spinless atom is exactly zero, but in quantum mechanics only the *expectation value* is zero. Probability allows momentary nonzero dipoles. If a photon can propagate fast enough between two atoms their instantaneous dipole can be correlated and the result is an attraction or ordering between the two atoms. For distant atoms photon exchange time cannot be ignored. Sufficiently long intervals destroy the dipole correlation.

The limit, as always is set by the uncertainty principle which relates the lifetime of the excited state of the nonzero dipole energy to its energy. Beyond which neutral atoms can still interact via instantaneous polarization of the quantum vacuum. The vacuum fluctuations can be thought of as oscillators with wavelengths long enough to communicate with both atoms. It is no longer wavelengths that mediate the interaction as the distance increases. This separation introduces a $1/r$ multiplier to the potential r. The retarded force can also be considered a variance in the zero-point energy, a phenomenon evident in the Lamb effect. More importantly, although QED fluctuations for Maxwell's equations within a box can account for the Casimir force, one can handle these Casimir-Polder interactions with standard methods of quantum mechanical perturbation theory without resorting to zero-point energy. In this case, the long-range Casimir forces depend on the exchange of two photons leading to a format to integrate the Psychon with dendron QBD.

Quantization of the radiation field by means of traveling waves with a period L can be written for the vector potential[99]

$$A = \sum_{k,\lambda} c\, C_k\, e(K, \lambda) \times \left[A K, \lambda\, e^{-i(\omega t - k r)} + e^{i(\omega t - k r)} \right] \tag{4}$$

to which the values of the components of the wave vector k are restricted. Elementary charge e is the perturbation parameter arising from an interaction of G of the charged particle with the radiation field. Electrons in stationery states do not radiate. The matrix elements, with G as a perturbation operator, are written for the zero-state radiation field and an atom as[99]

$$\Psi'(0;0...) = \Psi(0;0...) + \sum_{n,k,\lambda} \frac{eC_k(e(k,\lambda)p_n;0)}{k_n + k} \Psi(n;0...1_{k\lambda}...). \tag{5}$$

In Anthropic Multiverse cosmology[109,110] there is an inherent continuous-state acceleration (an alternative interpretation of the Big Bang expansion/inflation scenario) occurring as part of the compactification process of our virtual reality[63].

The electrostatic interaction between neutral atoms A and B is shown in eq. (5)

$$Q = \frac{qAqB}{R^3} - \frac{3\left(qA^R\right)\left(qB^R\right)}{R^5} \tag{6}$$

The second order perturbation energy can readily be shown as[99]

$$\Delta_q E = -\frac{1}{R^6}\sum_{1,m} \frac{(q1^x qm^x)^2 + ((q1^y)^2 + 4(q1^z qm^z)^2)}{hc(k1 + km)} \tag{7}$$

As noted, the thrust of this treatment is to account for spontaneous particle production, in this case photons, from the zero-point energy fluctuations of the quantized vacuum. Schwinger[98,102,103] proposed a mechanism for a *dynamical counterpart of the static Casimir effect* where dielectric media are accelerated and emit light. The commonality for static and dynamic Casimir effects are probability amplitudes for preserving the photon vacuum state as illustrated in eq. (8)[98].

$$\left\langle 0t_1 \middle| 0t_2 \right\rangle = \exp[iW_0] \tag{8}$$

Light emission occurs by the reversible collapse of a cavity in a dielectric medium into a vacuum. Schwinger's starting point is the action W a resultant of scalar electric e and magnetic m-fields where X is the spacetime dielectric constant in eq. 9 below[98]

$$W = \int (dX)\left[\frac{1}{2}\varepsilon(X)(\partial_0 A)^2 - \frac{1}{2}\left(\bar{\nabla}A\right)^2 + AJ\right]_e + \int (dX)\left[\frac{1}{2}\left(\partial_0 A\right)^2 - \frac{1}{2}\frac{1}{\varepsilon(X)}\left(\bar{\nabla}A\right)^2 + AJ\right]_m \tag{9}$$

A and J are related by a Green's function which eventually leads to the volume nature of this effect. Conditions under which volume effects dominate surface effects during photon pair production can be formulated by the differential equation[102]

$$\delta W_0 = -T\delta E = \frac{1}{2}Tr\left[\delta_0 \delta\varepsilon\partial_0 G\right], \quad G = \left[\partial_0 \varepsilon\partial_0 - \nabla^2 - i0\right]^{-1}, \tag{10}$$

in which *0* is the toward zero approach from positive values.

The dialectric energy relative to vacuum zero point is derived as[102]

$$E = -V\int \frac{(d\bar{r})(d\bar{k})}{(2\pi)^3}\frac{1}{2}k\left(1 - \frac{1}{(\varepsilon(\bar{r}))^{1/2}}\right) \tag{11}$$

where the Casimir energy is negative for a uniform dialectric medium. The energy relation of the two dielectric regions is proportional to the volumes where $1/e^{1/2}$ demarks the $e > 1$ area from the vacuum.

We propose that The Noetic Effect, through mediation of the UFM noeon *Force of Coherence* related to topological charge in brane dynamics, couples active psychon flux to holoscape dendrons, the dielectric medium of the brain. This will release a Casimir energy potential for binding the psychon to a donor acceptor cavity of mixed states akin to that found in spin glasses. The release of the Casimir energy potential parallels the electromagnetic emission of photons or the scattering of photon energy into the oscillating dipole medium during cavity translation. According to Schwinger[102] the average number of photons released for cavity radius *R* is revealed in the equation

$$N = \frac{4\pi}{3} R^3 \int \frac{\left(d\bar{k}\right)}{(2\pi)^3} \frac{1}{2}\left(e^{1/2} - 1\right) = \frac{1}{9\pi}(RK)^3\left(e^{1/2}\right). \tag{12}$$

A key consideration about this relation is the experimental fact that the force is measurable. It is not merely speculation about quantization of zero-point energies. Also, finding a likeness between parallel plates and microtubules or synapses is not much of a stretch. Arthur Young's suggestion that the photon as the *principle of action* is synonymous with purposive behavior and is relevant to our discussion. This teleological aspect of light (noeon) derives from the idea of least action, which in turn comes from *wholes* and first causes. Action is the whole, of which the three parameters mass, length and time are parts. First promulgated in 1976, we see Young's idea as prescient. Young develops a hierarchy where the uncertainty of the photons, or quantum of action, is its capacity to cause something new, i.e., within light is the essence of causality[111,112].

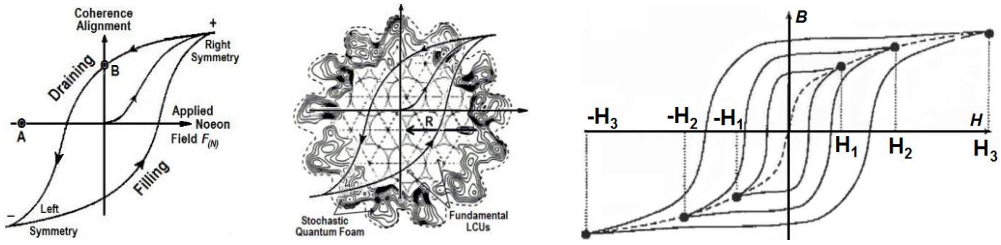

Figure 14. Relation of static-dynamic Casimir-Polder spacetime boundaries. a) General 2-space concept of noeon charge oscillation. b) To illustrate noeon-Psychon gating of life energy from the nonlocal UFM arena into local brain dendron. c) An oscillation of static-dynamic brane boundaries is now measurable as is thresholds for Jungian archetype field reversal in SOSP.

In Fig. 14. We see how oscillation of noetic forces as static-dynamic noeon hysteresis loops can be shown to measure and demonstrate the noetic model of SOSP experimentally.

17. Yang-Mills Kaluza-Klein Equivalence: Path to Integrative Noetic Science

In recent work, we have shown that Yang-Mills Kaluza-Klein equivalence[113] provides an empirical path extending standard 4D model of particle physics to include a 3rd Unified Field Mechanical (UFM) regime for a noetic science of mind-body[114-116]. We begin with Einstein's 1905 realization that Maxwell's equations obey the special relativity principle - The laws of

physics are the same for all observers in *uniform relative motion*, with coordinate metric

$$x^{\mu} = \left(x^0, x^1, x^2, x^3\right) = \left(t, x, y, z\right); \tag{13}$$

Which he continued in 1916, with the principle of general relativity where the laws of physics are the same for *all* observers, described by a *gravitational field* with two indices, $g_{\mu\nu}(x)$, where the infinitesimal line element *ds* between two 4D points is,

$$ds^2 = g_{\mu\nu}(x)dx^{\mu}dx^{\nu}. \tag{14}$$

In 1919, Kaluza made his attempt to combine electromagnetism and general relativity by postulating a 5th dimension with the new coordinate, θ denoted collectively as

$$x^M = \left(x^0, x^1, x^2, x^3, x^4\right) = \left(t, x, y, z, \theta\right). \tag{15}$$

Kaluza's 5D Riemann metric tensor line element, $d\hat{s}$ was

$$d\hat{s}^2 = \hat{g}_{MN}(x)dx^M dx^N \tag{16}$$

where he then made a 4D + 1D split

$$\hat{g}_{MN} = \begin{pmatrix} g_{\mu\nu} + \Phi A_{\mu}A_{\nu} & \Phi A_{\mu} \\ \Phi A_{\nu} & \Phi \end{pmatrix} \tag{17}$$

identifying $g_{\mu\nu}(x)$ with Einstein's G-field and $A_{\mu}(x)$ with Maxwell's em-field; at the time Maxwell's em-theory was seen to be a consequence of general relativity in 5D[117].

The problems associated with Kaluza's work were solved in 1926 by Klein[118,119] by assuming the 5th dimension had circular topology so that Kaluza'a coordinate, θ is periodic, $0 \le \theta \le 2\pi$. It is this *circular* topology that is embraced and extended in a version of M-Theory compatible with a unique anthropic 12D unified field mechanics[40,71,72]. The periodicity in θ means that the fields $\hat{g}_{MN}(x,\theta)$ may be expanded[117], which we do with additional coordinates, some of which are infinite size (LSXD)[70,71]. The UFM M-Theoretic requirements for a unified field theory are:

- Mirror/Supersymmetry, perhaps as Calabi-Yau mirror symmetric 3-tori, Topological brane dynamics mediated ontologically by noeon flux inherent in the Unified Field
- A Manifold of Uncertainty (MOU) of finite radius supervened experimentally
- Additional dimensions with continuous-state cyclic compactification
- Extended material objects as a dual structure of local and nonlocal parameters and
- A UFM force of coherence mediated by topological charge.

18. Toward Experimental Design and Empirical Tests

A photon, 2-component, 2D traveling plane *wave* projecting at right angles to the direction of propagation has a *particulate radius* not able to pass a slit $> \lambda$. We propose that behind the inherent backcloth of cyclic bumps and holes in the polarized Dirac vacuum, the uncertainty principle is hiding the XD topology of the MOU, which is not singular as in the SM because cyclic boost-compactification occurs continuously from asymptotic virtual h (shadow of uncertainty, to the Larmor radius of the hydrogen atom, making correspondence to dynamical Type-II M-theoretic Calabi-Yau florets (multiply-connected Kahler manifold) undergoing translation, rotation, reflection as part of the process. Spectral lines characterize atoms by, $E = \mathrm{h}\nu = \mathrm{h}c/\lambda$ or wave number, $\sigma \equiv 1/\lambda = E/\mathrm{h}c$ by discrete wavelengths confirmed by monochromatic *x*-ray bombardment. Excited states, E_2 decay to lower states, E_1 by emission of photon energy, E_2 - E_1 of frequency, *v*, wavelength, λ and wave number,

$$E_2 - E_1 = \mathrm{h}\nu = \mathrm{h}c/\lambda = \mathrm{h}c\sigma \,. \tag{18}$$

By conditions hinted at by Kaluza-Klein cyclicality in hyperspherical dimensions we propose additional spectral lines *below* the lowest (ground state) Bohr orbit. Kowalski's interpretation from laser experiments[120] shows that emission and absorption between Bohr states takes place within a time interval equal to one period of the emitted-absorbed photon wave, the corresponding transition time is the time needed for the orbiting electron to travel one full orbit around the nucleus. We note that the same Lorentz conditions denoted in our tachyon measurement experiment apply directly to the TBS experiment with slight phase control alterations in the Cramer-like standing-wave oscillation of the HD Calabi-Yau mirror symmetries[121]. Standard Hypervolume values for increasing *n*-dimensionality and radius, *r* of a unit sphere or *n*-ball equal to 1 can be used to initially predict two TBS spectral lines hidden within the 6D Calabi-Yau dual 3-torus, the putative wavelengths of which can be calculated from the general hyperspherical *n*-volume equation, of $\left(1/2\pi^2\right)$, 4.9346 units for 4D, and $\left(8/15\pi^2\right)$, 5.2638 units for 5D. If the Randall-Sundrum[122] LSXD model is correct, the 6D cavity will be degenerate, and the signal will escape to infinity. We postulate a Manifold of Uncertainty (MOU) with a finite dimensional radius corresponding to what string theory calls T-Duality. For preliminarily predictions we could calculate hyperspherical volume or surface area of 2D-5D MOU. For hydrogen, the 1st Bohr orbit is at .5Å and the 2nd at 2Å, providing plenty of room for new lines. The general *n*-volume equation is

$$V(n,r) = \pi^{\frac{n}{2}} r^n / \Gamma\left(\tfrac{n}{2}+1\right), \tag{19}$$

where $V_{n,r}$ is volume per number of dimensions, *n* of radius *r* and Γ a factorial constant. These *n*-volume equations relate to volumetric properties of the MOU for calculating an HD C-QED hierarchy for predicting new Tight-Bound State (TBS) spectral lines in hydrogen[4]. If LSXD exist, degeneracy would occur at the limit of *r* discovered in the same manner the outermost energy level of an atom is detected when an outer electron acquires sufficient energy to escape to infinity.

19. Programming the Dirac Polarized Vacuum: Accessing the Noetic Field

In a homogeneous magnetic field, forces exerted on opposite ends of a dipole cancel each other out and the trajectory of the particle is unaffected. if the particles are classical *spinning* particles then the distribution of their spin angular momentum vectors is taken to be truly random and each particle would be deflected up or down by a different amount producing an even distribution on the screen of a detector. Instead, quantum mechanically, the particles passing through the device are deflected either up or down by a specific amount. this means that spin angular momentum is quantized (also called space quantization), i.e. it can only take on discrete values. There is no continuous distribution of possible angular momenta. This is the usual fundamental basis of the standard quantum theory and where we must introduce a new experimental protocol for surmounting it. This is the crux of our new methodology: If application of a homogeneous magnetic field produces quantum uncertainty upon measurement, then *do something else*!

Of the three types of spin-spin coupling, this quantum protocol relies on the hyperfine interaction for electron-nucleon coupling, specifically the interaction of the nuclear electric quadrupole moment induced by an applied oscillating rf-electric field to act on the nuclear magnetic dipole moment, μ. When the electron and nuclear spins align strongly along their *z*-components the Hamiltonian is $-m \cdot B$, and if *B* is in the *z* direction

$$H = -\gamma_N I \cdot B = -\gamma_N B I_x \tag{20}$$

with $m = \gamma_N I$, γ_N the magnetogyric ratio $\gamma_N = e\mathrm{h}/2m_p$ and m_p the mass of the proton.

Radio frequency excitation of the nuclear magnetic moment, μ to resonance occurs for a nucleus collectively which rotates μ to some angle with respect to the applied field, B_0. This produces a *torque* $\mu_i \times B_0$ causing the angular momentum, μ itself to precess around B_0 at the Larmor frequency $\omega_L = \gamma_N B_0$. This coherent precessing of μ can also induce a *voltage* in surrounding media, an energy component of the Hamiltonian utilized to create interference in the structure of spacetime[63]. In our model a dual manifold LCU tessellating space-spacetime cyclicality.

Metaphorically this is like dropping stones in a pool of water: One stone creates concentric ripples; two stones create domains of constructive and destructive interference. Such an event is not considered possible in the standard models of particle physics, quantum theory and cosmology. However, Noetic science uses extended versions of these theories wherein a new teleological action principle is utilized to develop what might be called a *transistor of the vacuum*. Just as standard transistors and copper wires provide the basis for almost all modern electronic devices; This Laser Oscillated Vacuum Energy Resonator using the information content of spacetime geodesics (null lines) will become the basis of many forms of Noetic Technologies, especially QC.

Simplistically in this context, utilizing an array of modulated tunable lasers, atomic electrons are rf-pulsed with a resonant frequency coupling them to the magnetic moment of nucleons such that a cumulative interaction is created to dramatically enhance the Haisch-Rueda inertial

back-reaction[63]. The laser beams are counter-propagating producing a Sagnac Effect Interferometry to maximize the violation of Special Relativity. This is the 1st stage of a multi-tier experimental platform designed (according to Noetic Field Theory) to *open a hole* by incursion into the fabric of spacetime in order to isolate and utilize the force $\hat{F}_U$ of the Unified Field[4].

The interferometer utilized as the basis for our vacuum engineering QC platform is a multi-tiered device[82]. The top tier is comprised of counter-propagating Sagnac effect ring lasers that can be built into an IC or Q-dot array of 1,000+ ring lasers. If each microlaser in the array is designed to be counterpropagating, an interference phenomena called the Sagnac Effect occurs that violates special relativity in the small scale[63]. This array of rf-modulated Sagnac-Effect ring lasers provides the top tier of the multi-tier QC unit. Inside the ring of each laser is a cavity where quantum effects called Cavity Quantum Electrodynamics (C-QED) may occur. A specific molecule is placed inside each cavity (we are prototyping with a class II mesoionic xanthine)[82]. If the ring laser array is modulated with resonant frequency modes chosen to achieve spin-spin coupling with the molecules electrons and neutrons, by a process of Coherent Control[63] of Cumulative Interaction an inertial back-reaction is produced whereby the electrons also resonate with the spacetime backcloth in order to 'open an oscillating (periodic) hole' in it entering HD.

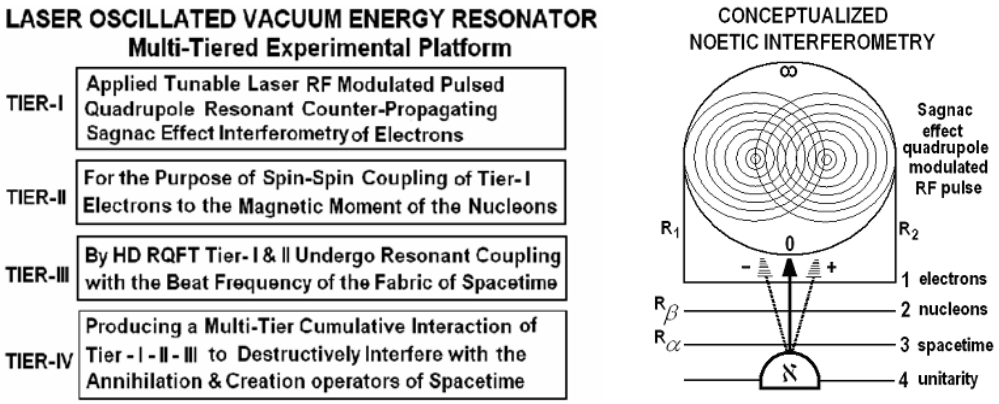

Figure 15. a) Design elements of the incursive Noetic Interferometer postulated to constructively-destructively interfere with the topology of the spacetime manifold to manipulate the U_F. The first three tiers set the stage for the critically important 4th tier which by way of an incursive oscillator punches a hole in the fabric of spacetime creating a holophote or lighthouse effect of the U_F into the experimental apparatus momentarily missing its usual coupling node into a biological system (or atom). b) Conceptualized Witten vertex Riemann sphere cavity-QED multi-level Sagnac effect interferometer designed to *penetrate* space-time to emit the *eternity wave*, ℵ of the U_F. Experimental access to vacuum structure or for surmounting the uncertainty principle can be done by two similar methods. One is to utilize an atomic resonance hierarchy and the other a spacetime resonance hierarchy. The spheroid is a 2D representation of a HD complex Riemann sphere able to spin-flip from zero to infinity continuously as a U_F gate.

The first step in the interference hierarchy (Fig. 15) is to establish an inertial back-reaction between the modulated electrons and their coupled resonance modes with the nucleons. Following the Sakarov and Puthoff conjecture[63] the initial resistance to motion, are actions of the vacuum zero-point field. Therefore the parameter *m* in Newton's second law, *f* = *ma* is a function of the

zero-point field[63]. Newton's third law states that *every force has an equal and opposite reaction*. Haisch & Rueda[63] claim vacuum resistance arises from this reaction force, f = - f. This inertial back-reaction is like an electromotive force (Electromotive force, E: The internal resistance, r generated when a load is put upon an electric current, I between a potential difference V, i.e. $r = (E - V)/I$) of a de Broglie matter-wave field in the spin exchange annihilation creation process inherent in a hysteresis of relativistic spacetime fabric. We further suggest that the energy responsible for Newton's third law is a result of the continuous-state flux of the ubiquitous noetic U_F[63]. For vacuum experimental implementation we assume the Haisch-Rueda postulate is correct

$$f = \frac{d\rho}{dt} - \lim_{\Delta t \to 0} \frac{\Delta\rho}{\Delta t} \equiv \frac{d\rho_*}{dt_*} - \lim_{\Delta t_* \to 0} \frac{\Delta\rho_*}{\Delta t_*} = f_* \tag{21}$$

where $\Delta\rho$ is the impulse given by the accelerating agent and thus $\Delta\rho_*^{zp} = -\Delta\rho_*$[63].

The cyclotron resonance hierarchy must also utilize the proper beat frequency of the continuous-state dimensional reduction spin-exchange compactification process inherent in the cyclic symmetry of noetic spacetime *tuned* so the speed of light $c \equiv c$. With this apparatus noetic theory suggests that destructive-constructive C-QED interference of spacetime occurs such that the noeon eternity wave, $\aleph$ of the U_F is harmonically (holophote) released into the detector cavity array. Parameters of the Dubois incursive oscillator[95] are also required for aligning the interferometer hierarchy with the beat frequency of spacetime.

As illustrated in Fig. 15 the coherent control of the multi-level tier of cumulative interactions relies on full utilization of the continuous-state cycling inherent in parameters of Multiverse cosmology[63]. What putatively will allow noetic interferometry to operate is the harmonic coupling to periodic modes of Dirac spherical rotation in the symmetry of the HD geometry. The universe is no more classical than quantum as currently believed; reality rather is a continuous state cycling of nodes of classical to quantum to unified, $C \to Q \to U$. Space does not permit detailed delineation of the parameters of Multiverse cosmology here; see[63]. The salient point is that cosmology, the topology of spacetime itself, has the same type of spinorial rotation and wave-particle duality Dirac postulated for the electron. Recall that the electron requires a 4D topology and 720° for one rotation instead of the usual 360° to complete a rotation in 3D. The hierarchy of noetic cosmology is cast in 12D such that the pertinent form of relativistic quantum field theory has significantly more degrees of freedom whereby the modes of resonant coupling may act on the structural-phenomenology of Dirac 'sea' itself rather than just the superficial zero-point field surface approaches to vacuum engineering common until now. 12D is the minimum to surmount uncertainty because the *mirror image of the mirror image* in HD space is causally free of the 3D quantum particle!

The parameters of the noetic oscillator (Fig. 15) may best be implemented using a form of de Broglie fusion. According to de Broglie a spin 1 photon can be considered a fusion of a pair of spin 1/2 corpuscles linked by an electrostatic force. Initially de Broglie thought this might be an electron-positron pair and later a neutrino and antineutrino. "*A more complete theory of quanta of light must introduce polarization in such a way that to each atom of light should be linked an*

internal state of right and left polarization represented by an axial vector with the same direction as the propagation velocity"[123]. These prospects suggest a deeper relationship in the structure of spacetime of the Cramer transaction type[63,121]. The epistemological implications of 12D must be delineated. The empirical domain of the standard model relates to the 4D phenomenology of elementary particles. It is the intricate notion of what constitutes a particle that concerns us – objects emerging from the quantized fields defined on Minkowski spacetime. This domain is insufficient for our purposes.

For a basic description, following de Broglie's fusion concept, assume two sets of coordinates x_1, y_1, z_1 and x_2, y_2, z_2 which become

$$X = \frac{x_1 + x_2}{2}, \quad Y = \frac{y_1 + y_2}{2}, \quad Z = \frac{z_1 + z_2}{2}. \tag{22}$$

Then for identical particles of mass *m* without distinguishing coordinates, the Schrödinger equation (for the center of mass) is

$$-i\mathrm{h}\frac{\partial \psi}{\partial t} = \frac{1}{2M}\Delta\psi, \quad M = 2m \tag{23}$$

Equation (23) corresponds to the present and Eq. (24a) corresponds to the advanced wave and (24b) to the retarded wave[121].

$$-i\mathrm{h}\frac{\partial \phi}{\partial t} = \frac{1}{2M}\Delta\phi, \qquad -i\mathrm{h}\frac{\partial \varphi}{\partial t} = \frac{1}{2M}\Delta\varphi. \tag{24}$$

Extending Rauscher's concept for a complex 8-space differential line element $dS^2 = \eta_{\mu\upsilon} dZ^{\mu} dZ^{*\nu}$, where the indices run 1 to 4, $\eta_{\mu\nu}$ is the complex 8-space metric, Z^{μ} the complex 8-space variable and where $Z^{\mu} = X^{\mu}_{\mathrm{Re}} + iX^{\mu}_{\mathrm{Im}}$ and $Z^{*\nu}$ is the complex conjugate[63], to 12D continuous-state spacetime; we write just the dimensions for simplicity and space constraints

$$x_{\mathrm{Re}}, y_{\mathrm{Re}}, z_{\mathrm{Re}}, t_{\mathrm{Re}}, \pm x_{\mathrm{Im}}, \pm y_{\mathrm{Im}}, \pm z_{\mathrm{Im}}, \pm t_{\mathrm{Im}} \tag{25}$$

where $\pm$ signifies Wheeler-Feynman/Cramer type future-past/retarded-advanced dimensions. This dimensionality provides an elementary framework for applying the hierarchical harmonic oscillator parameters suggested in Fig. 15 to operate a QC without decoherence or uncertainty[82].

20. Epigenetics and the Noetic Effect

Epigenetic mechanisms are affected by several factors and processes including development in utero and in childhood, environmental chemicals, radiation, drugs and pharmaceuticals, aging, and

diet. DNA methylation is what occurs when methyl groups, an epigenetic factor found in some dietary sources, can tag DNA and activate or repress genes. Histones are proteins around which DNA can wind for compaction and gene regulation.

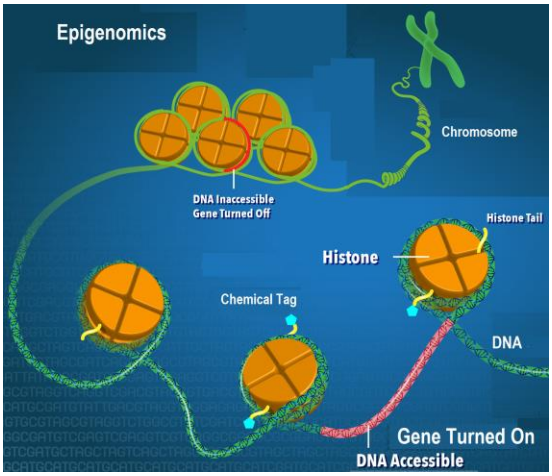

Figure 16. Histone modification occurs when epigenetic factors bind to histone tails altering the extent to which DNA is wrapped around histones. NIH Public Domain figure[124].

Histone modification occurs when the binding of epigenetic factors to histone "tails" alters the extent to which DNA is wrapped around histones and the availability of genes in the DNA to be activated. All of these factors and processes can have an effect on health and influence health possibly resulting in steps leading to cancer, autoimmune disease, mental disorders, or diabetes among a plethora of other illnesses.

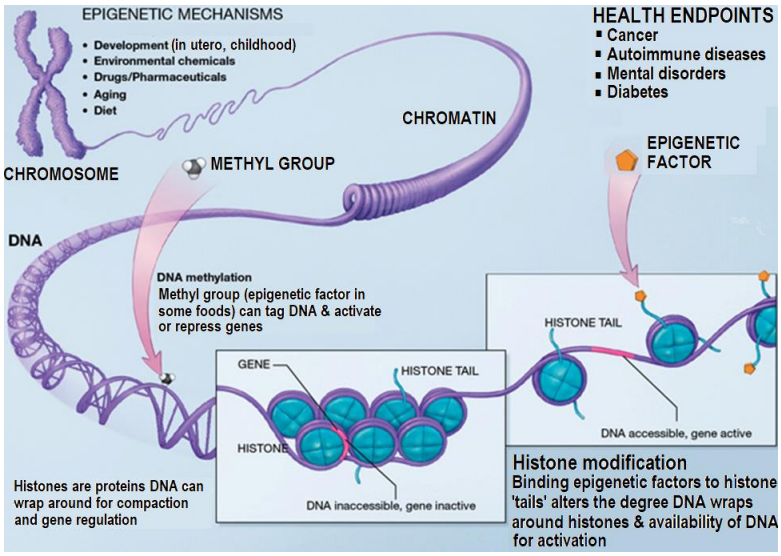

Figure 17. Epigenetic mechanisms occurring when epigenetic factors bind to histone tails altering the extent to which DNA is wrapped around histones. NIH PD figure[124].

Transgenerational epigenetic inheritance is the transmittance of information from one generation of an organism to the next (e.g., parent-child transmittance) that affects the traits of offspring without alteration of the primary structure of DNA (i.e., the sequence of nucleotides)[125-127] in other words, epigenetically. The less precise term *epigenetic inheritance* may be used to describe both cell-cell and organism-organism information transfer.

Four general categories of epigenetic modification are known[125]:

1. Self-sustaining metabolic loops, in which an mRNA or protein product of a gene stimulates transcription of the gene;

2. Structural templating in which structures are replicated using a template or scaffold structure on the parent; e.g. the orientation and architecture of cytoskeletal structures, cilia and flagella, proteins that replicate by changing the structure of normal proteins to match their own;

3. Chromatin marks, in which methyl or acetyl groups bind to DNA nucleotides or histones, thereby altering gene expression patterns;

4. RNA silencing, in which small RNA strands interfere (RNAi) with the transcription of DNA or translation of mRNA; known only from a few studies.

(*Continued on Part IV*)