

## Theory for Determining Energy Value in Nanometric Biophysical Systems

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### Abstract

In a hypothesis for Gradual Ultramaterialism [1,2] Cognitive Physics and Computation work in greater terms than the redacted, structuralist-autonomous CNS, Neurophysical model [3,4], hadronic physics is the continuation or perpetuation attractor of the Ultra- meaning beyond, or Highest-dimensional primary causation and Brane point of origin.

The B/CNS is proposed as an Oracle Machine composed of subsets, NP-incomplete Quantum Turing Machines [5], infinitesimal Origin-system of modes of Quantum Algorithms for Time-like inertia of all Physical forces, e.g. Electro-magnetism mechanics, Gravity-Entropy, Weak Nuclearity, and Time-fluctuation, in inflationary physics and string energy landscape.

ICSO as deterministic, biophysical model for representation generates a Gestalt probability in DGW of basic, Quantum Mechanical working system states. Self-organization and Hypercomputation of Zeta functions, Fuzzy sets and Dirac delta, Casimir effect, Planck constants, de Broglie Equation and Shannon entropy are developed in real-time for modal computation in DGWE. The Probability of Origin Point in the QTM is the generator for the proposed point of attraction in R [6] per Heisenberg's Uncertainty Principle where  $(\Delta x \Delta p > \hbar/2)$ .

**Keywords:** Cosmological; Semiotical; Manifold dynamics; Dynamic System; Biophysics; Biomagnetism; Chromatin; Quantum mechanics; Planetary; Biosystemic

### Introduction

As such in a refutation of Dualism, the extenuation for Hyper-surfaces, Hyper-cubes or Surreal numbers as either extenuated substance or immateria; the Philosophy is not strictly Platonic in that it is proposed that the Theory of Forms [7] is the Theory of Probability of Idea of Form and mechanics like Post selection [8] of probability space where,  $\Pr[F|E]=\Pr[F \text{ and } E]/\Pr[E]$ , closer to an interpretation of Direct Realism [9] but not subscribing to Pragmatic Realism.

The Forms are not ultimately beyond the comprehension or workable within engineering potential, because fundamentally their substances or category of representation are attracted to Ideation and Empirical Observation by obedience to selfsame Origin-system Physical constants which are blueprinted into the CNS and res extensa into the Human interpretation of the Probability of the Idea of Forms.

Although they are not in first parsing, of the immediate or topical empirical status they are not immaterial and not, as a result of the gatekeep of rational thought, ineluctably beyond Empiricism with or without engineered tools of Computation, e.g. Microscopes, Telescopes, Computers, Nanotechnology etc. Therefore within the Human CNS per demonstration of EEG or MRI phase space sequences [10] it is proposed to regard the entire Complex Physical system of M-theory as dynamic suite of relations beyond and inclusive within Orthophysical Phenomenology [11,12], in Cartan-Hilbert metrics of Lie algebras [13] and Ontological Theory of Husserlian [14] epistemological definitions and theorems of Manifold of Quantum Mechanics of Physical Forces and Constants, as Causal metrics of

Probability of Bifurcations, in given chaotic system of supposed quantum automata and number theory in Riemannian R [6,15].

Dynamic System: In gedanken-experiment, from a given perturbation in QVS/VEV, a given probability amplitude in a real tetradic-space timeline. This can be defined as a quantum cellular automata series and holographic enfoldment of exterior, as evolutionary development in a Quantum Biological [1] algebraic manifold. Per Schrodinger's equation each particle is a wave function and geometric aggregates of given wave functions in phase spaces of movement and frequency. Each phase space has theoretical fundament in Four Causes teleology [15].

As such the Annotated diagram of a prismatic opposition of each Physically-Computational being finding points of similarity and difference simultaneously across the DGW, for variegated frequencies of Computation of given external and internal perceptions, contiguously and in perpetuity of unique CNS thermodynamic signature of Self-organization, in such timelines demonstrating qualia of cosmological Manifold or dimensionality; Time/entropy; probability fields of subatomic-gauge electronic/protonic/neutronic valence exchange and decay rate; Magnetic moment and strength; biochemical molecular chains; photonic wave function as modular and categorical Dynamic system.

Empirical Truth likeness [Popper] in DGWE of the Ontological category, is therefore relative, and a matter of system two state process by which Object-interaction relies on legacies of sociocultural and biophysical complexes and contiguous processes for purposes of Ontology and Epistemology in Semiotical reference this idea complexifies into the Manifold and M-theory. This ontology has been referred to in Pythagorean and Platonist ontology previous to granular

discoveries of projective geometrical constants in quantum mechanics of field theory and vacuum fluctuations.

Therefore it is proposed in gedanken-experiment, a greater underlying order in M-theory regarding the potential existence of Meta-Teleology of Epistemes in an M-Ontology which generates all sets of Manifold dynamics and mechanics. In demonstration of gedaken-experiment e.g. RNA/DNA of Biophysics, Enfoldment of DGW-ICSO . It is conjectured in MGDS-CEMGD and subsequent capacity and morphosis of Computation, or Astrobiology of Solar life-cycle and galactic groupings in interstellar plasma physics, every material and anti-material object in DBBHSHP demonstrates action chain or string of computational code on QVS/VEV which is indicative of the hypothesized M-theory as imprintation of Braneworld even at the scale of BCS Theory.

These dynamic Macro-objects are the catalyst for all material development in Manifold in perpetuity and contiguity in Dynamical Theory, in metaphor the Main programmes are the Number theory which generates given moduli and Anti-R [6], per Charge Parity asymmetry re: Many worlds of probability in given Manifold.

Time is defined by the Author [Jonah Lissner] as demonstrating "accretive and entropic qualities in stochastic and dynamic measure of a given Manifold topology, where the measure is of rate of decay of energy or matter, e.g. rate of solar aging. Therefore it can be said without rate of decay there is no classical definition for Time. However a relativistic definition of Time still holds across Universal inflation given Cosmological constant."

Therefore it can be stated decay occurs through inertia which is caused by momentum and gravitational pull by spin and torsion of wave functions and particle accumulations of interchange from fermions, bosons and leptons like photons, which punctuate sequence of inertia of baryons and mass into discrete time or Chrononic wave functions in a given discrete or massive phase space volume, in modes of accumulation and dissipation, and subsequent syntropic magnetic momentum across energetic thresholds.

The human being as a Biophysical entity is composed of many subsystems operating in an asymmetrically-unified effort directed by the central and peripheral nervous systems, e.g. the brain and peripheral or auxiliary, nervous units across the body to best delegate energy and response to internal and external events and perceived or planned events.

Just as there are many subsystems in the body outside of the CNS there are many subsystems within the CNS to operate most efficiently for the same reason to conserve energy expenditure and plan for current and future events. Generally speaking the CNS is divided into frontal, parietal, occipital, and temporal and lobes or s dealing respectively with vision, planning, coordination and delegation activities which are synthesized throughout the CNS in real-time.

Intelligence, emotions, ideas and Computational Physics are defined in particular ways and expressly as a complex, entropic system. However it can be supposed the CNS utilizing emotions as evolutionary safety-valves have the general definition of ability to plan and think abstractly, experience non-intellectual impressions and remember them to apply to certain experiences and situations, synthesize external and internal data to form new impressions, feelings and abstractions, and utilize a general method in which to understand past, present and new or future events. These activities are virtual, and

have a place within CNS which when replayed in DGW to generate Mindspace and Mindscape.

Biological protocol for communication and computational coordination over billions of years of evolution, per species specialties; have developed their own computational arrays of social action, and in higher animals, languages and cultures; in humans, technology and civilization. As the B/CNS are integrated fully within the Physical Universe and not of a fundamental separation, it is proposed to better utilize theorems inherent in Biology, Physics, Mathematics, Logic and Brane Physics to understand better how human biophysics model the Universe within the enfoldment patterns of the CNS.

Whether the Inflationary Universe as a dynamic, Dynamic System began by Braided Manifold/M-theory or Big bang, the methods in which inertial and gravitational properties of fermions and bosons has generated increasingly Dynamic Systems is what ICSO is to address. Per Manifold Dynamic Systems theory chaos and novelty generation, and chaos theory are intertwined in that recursive processes are attracted to repetition in patterns. Dimensional categories of entropic system conditions have opposite values which the parameters for further complexities in are given category systems.

Luisi's Automata: A review and a reappraisal [16] is relevant to this argument as it explains away any tautology potentially inherent in automata and demonstrates the systems theory for automata and makes room for variability of system hierarchy particularly in Biophysics and Information theory. Therefore, it can be asked, what is the status of life and living, in terms of Computational Physics? Ontology can be answered in several ways and demonstrated in biophysical energy mechanics and landscape.

A true automatical category-ontology is difficult but possible as such regarding ICSO. It is a way of learning how individuals can develop as separately to true form in the best methods of ontology and leave epistemology to their own methods in the computational identification and selection process. This is a useful application; Bohm's work in ontology is relevant, per his authorship of *The Implicate, Explicate and Super implicate Order* [17].

If it is proposed that the Human mind as a level or phase of Computational Physics in the Platonic sense, then can be proposed that the human mind has a driving or master-purpose to discover what is defines individually and by consensus, through empirical experience via induction, deduction and adduction, as general state-function Truth; the invented computers, thus far, do not. AI refers to computers which are thus far intelligent mimics; yet to invent Natural Intelligence [NI] from the laboratory seems entirely possible in hypothesis, even if the NI is many orders of magnitude less complex than current Human intelligence.

## Biophysical Foundation

Given the proposition that all earth species of NI from Abiogenesis live and interact on Earth it is supposed shared source in distributed biological DNA "tuning stations" founded in Tesla-Schumann resonance frequencies of radio wavelengths [18] [Garaiev], varying to Species types, i.e. genetics for biomagnetism in CNS, c.f. chordates v. invertebrates [C. elegans], land v. air v. sea-dwelling animals [Cetaceans, Pinnipeds].

Since the CNS is the central biophysical -CEMGD tuning, generation and relay station for Time-, Land-, and Mindspace and Mindscape in DGW-ICSO it is proposed the CNS is where ultimately

humans can measure input and output for Computation in more Dynamic Systemic methods e.g. Geophysiology and protocol than most other earth-based life forms except perhaps for Cetaceans, Cephalopods, Pinnipeds, Aviates or Formicidae, with each to their own Biosemiotic protocols, methods and processes, in the Ethology theory of J.J. von Uexkull [19] or Sociobiology of Wilson [20]. An important process in Biophysical computation is Photochemistry [21] of Nitrogen, Oxygen, and Carbon in Ecosystemic processes, and amino acids, lipids and glycogens in biophysical organisms.

Systemically, therefore within the Global parameter, each regional and discrete Semiotic syntactical schema are proposed two general ontological notions of environment per species, where  $S_i$ =Species internal and  $S_e$ =Species external. Ergo since we can utilize such parameters for Ontological limitations, ultimately in theory, we can surpass them in biological sense and definition of dynamic and expansive, complex terms of Computation. This is verified in research on Quantum mechanics of Photosynthesis [22] and the potential of Membrane resistance in biophysical systems [23].

It is proposed one integrating function of physics and biophysics is cellular magnetic flux and theory of automata of microtubulins [Hameroff-Penrose]. In the constructivist dialectic, it is supposed only the Object-interaction generating the ontology of category; that is to define Quantum Biology [1] as the study of biophysical decision theory.

As amino morphologies generate RNA/DNA, these types of polymers can be supposed to be shaped by photonic communication between cells in infrared spectrum in electrochemical methods by Albrecht-Buehler [24] and Ling [25,26], metrics e.g. Quantum Monte Carlo [27] and in RNA/DNA electromagnetic coherence effects [28] [Frohlich], e.g. Chromatin structures [29].

It is unknown if it is possible to accurately measure electronic emission without corresponding magnetic emission; Quantum density functional theory [30] [QDFT] estimated by Hohenberg-Kohm, and Kohn-Sham derive 3D electromagnetic phase space and many-body problem, respectively. Schrodinger equation can be determined where,

$$\hat{H}\Psi = [\hat{T} + \hat{V} + \hat{U}]\Psi = \left[ \sum_i^N \left( -\frac{\hbar}{2m_i} \nabla_i^2 \right) + \sum_i^N V(\vec{r}_i) + \sum_{i < j}^N U(\vec{r}_i, \vec{r}_j) \right] \Psi = E\Psi$$

When cellular structures communicate with electronic and magnetic field and particle-wave donation, they must obey information physics degradation at nm level [31]. Even Newton's Laws of Motion in minutiae, are applicable at this scale as Quantum mechanics of cellular communication, and positive and negative ionization of electrolytes in catalysis, e.g. amino acid morphology and dynamics are directly affected. Penrose and Hameroff have done extensive testing of this model [32]. The two-state model of physics may well apply to biological functions in the macro scope. Indeed, which properties of amino acids cannot be measured by physics in the Heisenberg model [33]?

Newtonian Physics is based on quantum complexity and the macroscopic "uncertainty" measurable in calculus of infinitesimals in differential equations, but less so than on mathematics which as a discipline is abstract and not immediately empirical. Therefore Mathematics it can be said is based upon the ability to ideate novelty

and understand potential architecture and mechanics of states of dimension.

The axioms are stated here, as result of applied theorems to test cases of bio-physics problems, e.g. Physical constants. [34] And so there could be a corresponding in hypothesis for physics of protein modeling in Markov chains [35] for math to accomplish the metrics and mechanical theorems and calculation for grid of amino acid dynamics per domain [36]. There is a measurable, mathematical approach to biology of physics or physics or biology that is theoretically and experimentally valid: Cellular dynamics are combinatorial physics in action which are quantum computation regimes, e.g. Moller-Plesset perturbation for electron shift in resonant field [37],

$$\text{since } E_{MP1} \equiv \langle \Phi_0 | \hat{V} | \Phi_0 \rangle = -\frac{1}{2} \sum_{p,q} \langle \psi_p \psi_q | \hat{V} | \psi_p \psi_q \rangle.$$

How does the Mathematics describe the Reflective space, the qualities inherent T-duality method as massive distributed quantum computation? In summation because of the work of Riemann and Hilbert the interdisciplinary studies of Physics, Quantum Mechanics and then Biology have become interrelated through the development of computers, microscopes etc. and the engineering research of Von Neumann, Shannon, Tesla and others as thermodynamics and entropy are to quantum mechanics and automata spaces of TQFT.

Science has learned in the 21st century that quantum mechanics have warm entanglement above point of superconductivity. Spooky action at a distance is not a phantom phenomenon. This proposition regards quantum entanglement and decoherence regimes the qualia for the orders of magnitude of biophysical constants as to computational causal structures and M-theory. Subsequent contemporary quantum field mechanics, in which biology and chemistry are affected but are not the primary factors of the Hodgkin-Huxley model in granular explanations, noted in amino acid chains, glycogen and lipid mechanics at ATP and RNA/DNA nm-scale.

The mitigating factors of biochemical actions as indicated in literature are in quantum mechanics and within that field of study, probability states. Regarding research on amino acid, morphology and intracellular aggregation dynamics are considered the mechanics of amino acid development. The mechanism to moderate such cell development, may occur within infrared bit-logic, e.g. XOR communication between cells [24,38].

Which does the propagation, the aggregation dynamics of molecules, or biophotonic communication in a switching system of cells which make the structures build and rest and rebuild in modes and morphology? It is proposed that the switching systems obey electronic and a magnetic fluctuation of probability states as do any other Dynamic Systems at given scales of magnitude. Therein Decision theory can be supposed as a discovery of inherent principles that are scalable as a negentropic gradient and requires energy transfers and entropic cellular conditions to occur continuously.

Regarding amino acid morphology [39] and their progenation in various RNA/DNA sequences, proteins have apparently self-organizing conditions for morphology. Rapoport, et al. [40] in topology of biophysics has demonstrated in theory and mechanics of probability amplitude and MSSM in DBBHSH. How do the originations of this dynamic mechanism work biophysically?

More specifically, what are the electronic and magnetic mechanisms and domains of protein dynamics and how are they computed? Geometrical analyses for cellular dynamics have been proposed by Shih, et al. and Chen using Monte Carlo simulations. It is further hypothesized by the Author [Jonah Lissner] in basic terms of Process physics and phenomenology there are nonlinear dynamics utible for a master-control program series, inherent as a result of evolutionary metaprogram in RNA/DNA, that mechanizes or programs and accomplishes folding-unfolding, in biophotonic, nm and infrared relay metrics.

The Biological metaprogram is all of the information contained in each individual RNA/DNA as a Biophysical Computation Machine [BCM], defined as such because it modulates all current and potential mechanisms, codes and variable values, for individual and species evolution. This is because it interacts in CEMGD within and outside of the RNA/DNA. Topological conditions of amino acid unfoldment caused in hypothesis are hypothesized measurable by EPR and neutrino spin resonances [41]. The magnetic domains and spin are as individual write-and-rewrite scripts because they are proposed part of a species- and, region- and planetary Biosystemic hyperprogram for species evolutionary development, within a complex and systemic RNA/DNA process physics.

Therefore the RNA/DNA chain is portable or transcribable as a collection of intermodulated and differentiated, values of amino acids, glycochens, phosphates and noble elements including the superconductive platinum group which may enable macroscopic quantum coherence [42,43] and biophysical, dynamic modes of self-organization in distributed, holonomic communication between quantum subconducting wires or CNS biomechanisms e.g. actin[44], centrosomes, centrioles, microtubulin, axons-dendrites, neurons, glia [32] [Penrose-Hameroff, ibid] as demonstrated in two-state quantum Josephson effects [45].

The process biology and functions of information physics, e.g. ligand molecules per the Hill equation [46] where,

$$\theta = \frac{[L]^n}{K_d + [L]^n} = \frac{[L]^n}{(K_A)^n + [L]^n} = \frac{1}{\left(\frac{K_A}{L}\right)^n + 1}$$

precious metals can help demonstrate how allosteric dynamics of external light sources via proper element and mineral utilization are synthesized into carbon-based nutrients in CNS and NI biology above and upon landmass and within water-biomes.

A second stratum involves evolutionary automata series like virii and bacteria, e.g. plasmids or hypothetical nm-scale somatids in bloodstreams. At microscopic level they can evolve in Dynamic Systems extremely quickly by human standards, setting a biometric algorithmic submanifold for given biospheric development phase spaces.

A gestalt Physical definition of mind is therefore proposed in which the entire biology is involved in Computation. Regarding the terms of replication in the replication brane or timeline, the idea of iteration and recursion of forms has potential to determine the methods to recreate and expand foundations of biological communication networks and develop them in the mathematical format of orthophysical process [47-49].

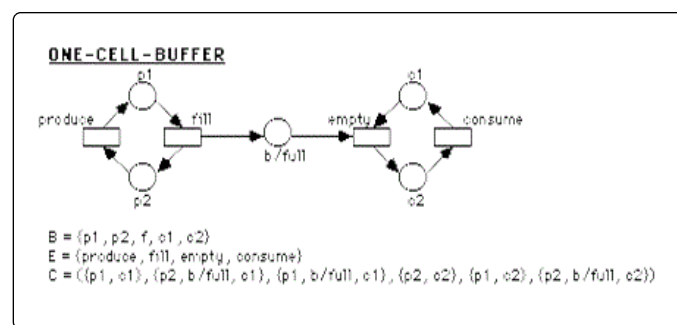
It can be supposed this is part of the refinement process of which Von Neumann, Wigner, Planck, de Broglie, Bohm, Kuhn [50-51], Wolfram [52] and others refer in which are to be extracted relevant

Metaheuristic axioms [53] of very complex, repetitive, fractal Systems development and find the commonalities in the mathematic work of Hilbert and Riemann applied to laws of thermodynamics for biological systems, from the genesis as genetic automata, c.f. Rule 30 [54], for any cellular Biophysical system in density of states and reveal new fine-tuning of constants or new actions of energy states [55].

## Theory

**Dynamic System:** Life is completely based in modes of mathematics and natural computation. As Fredkin [56] and Wolfram [52] propose is has representable and modellable universal Digital qualia, but not real programmed as automata series, sans gliders or of Super Oracles. The main binding force of Life is Entropy. Any protein molecule chain combination has discrete electronic phase space values [57].

Computing the time-inverse electron density frame by frame in the topography of protein molecules and Graphing the results from variable values [ATP, ions, hormones, etc.] calculated in algorithms, predictions are fuzzy and Systemic and concurrent, as in Petri nets utilizing actions, nodes, objects and tokens . A one-cell-buffer can be represented where



Computational cellular biophysics can be phase modeled more complexly in Energy Landscape Theory [ELT] for amino acids or RNA/DNA. Albrecht-Buehler [58] has achieved research into the mutual inversions and transposition dynamics of the codons. Is it possible to have a thermodynamic approach to cellular dynamics? All biology has energetic value translatable into electrical and magnetic motive speed, resistance and density of function. Natural computing [59] has relevant basis in problems of TQFT and QED [60].

The main question proposed, why is there a universal incidence of copying of base-pairing? This leads to the Author's [Jonah Lissner] primary hypotheses [2,3] and definition of RNA and DNA as "NP-incomplete quantum Turing machine operating string variables [generally single for RNA and double for DNA singly and concurrently in RNA-DNA catalytic synthesis and transfer-messenger RNA [4] as a complex meta-program module in biological time-inversion" that has been proposed additionally by Adelman and Shapiro , Milner's CCS derived from Backus-Naur , and Benenson and Paz-Elizur . RNA can be compared to an 8-tuple Turing machine and DNA to an l-tuple Turing machine where  $\frac{NL}{G} \geq 2$ , with coding, copying and combinatorial computation capabilities of its constituent in elements [Similar to the Alefset set of 22 or 26 letters generating  $N + \log_2 N$  strings of computable value alefnumerics] in concurrency to maximal

$$\frac{\sum_{i=1}^i n_1 o_i^{(1)}}{n_1} = \frac{\sum_{i=1}^i n_2 o_i^{(2)}}{n_2 \times 2} = \dots = \frac{\sum_{i=1}^i n_k o_i^{(k)}}{n_k \times k}$$
 and can therefore be utilized as sequence-size reducibility in Kolmogorov

complexity  $K(s) = |d(s)|$  as compressible or incompressible [Barmpalias, *ibid*], c.f. Hypercomputers and classifications for natural numbers where  $\Sigma_n^0$  and  $\Pi_n^0$  and therefore  $n \in X \Leftrightarrow N| = \phi(\underline{n})$  which can be demonstrated -Adically and in Kahler manifolds to computer quantum probability amplitudes, e.g. in Rehrens and QFT.

What is the research evidence to falsify this conjecture as a hypothesis, secondly as hypothetically accurate? First is proposed to ask what is the purpose of actions, Adenosine triphosphate [ATP] and neural net mechanic agents like centrioles and microtubulins? Are they only chemical relay stations or also electromagnetic ones capable of n greater range of spectrum of continuous bit transfer of given glucose, phosphate and nitrogen components of nucleotides in RNA/DNA? If so what are the mechanics of energy transfer values in transport and signal processing?

The mechanism of intracellular integration is proposed as infrared-range frequencies of biophotonic communication between cells via centrioles and microtubulins and across the CNS. This statement is not an Anthropic, or subjectivist interpretation of empirical observation but as a quasi-intelligent Dynamic System or ICSO, in biophysical orders of magnitude, e.g. humans compared to simple unicellular organisms. It is therefore proposed that chemical communication via Hodgkin-Huxley is not specific or fast enough to describe the dynamics observed by Albrecht-Buehler and Hameroff [61].

The mapping curves when studying the thermodynamic effects of entropy and inertia can model the electro-magnetic values of the standing wave series of nm-scale molecular chain functions [Cole, 381, *ibid*]. Matveev proposes additional amino acid phase space of gel for new signaling morphology, given low ionization medium, of cell proteins [62]. It is demonstrated for reference how the Hodgkin-Huxley model utilize metrics of action potential [63], given the supposition that thereby actin filaments must have definite electrodynamic value.

Regarding the inverse quality of charge density, at first analysis it appears that the density of charges increase from ATP [64] cleaving. In addition to protein folding morphology heuristics is proposed here, c.f.

FRET model, where  $E = \frac{k_{ET}}{k_f + k_{ET} + \Sigma k_i}$  and  $E = \frac{1}{1 + (r/R_0)^6}$  is a

quantum Hall effect at work, due to the importance of ATP in [electro-magnetic] energy exchange. The charge density adds due to phosphate oxygen usage absorption and cleaved due to more available phosphate oxygen to do work for the molecule chains energy directives. 10 [60] ATP molecules should exist in the human body at any given time and their turnaround time is approximately 3 minutes per cell. The specific charge density of ATP is based on synthase wheel processing  $200 \times 3=600$  ATPs per second per wheel. It must be clarified what is the electronic value for the ATP regular, cleaved and absorbed states based

on the formula  $R_0^6 = \frac{9Q_0(\ln 10)k^2 J}{128\pi^5 n^4 N_A}$  over lifetime imaging techniques.

A general formula is required to compute the change of the density matrix of electrons in a given volume of closed protein shell [65]. What is the Gibbs free energy outcome potential or smaller scale? What is being ionized? Different metals have different energy values. Given that, the process problem to which is referred is quantum and it is biochemical at the same time. Whether or not the chemical properties of each example given differ are the basis for energy potential begins at

the quantum or planckscale; it has been demonstrated a significant impact on snail statocyst system via gravitational divergences.

EPR spectroscopy [66] of magnetic resonance and infrared range are utilized to break down the energy dynamics, thermodynamics, per static thermodynamic energy potential and fluid thermodynamic energy potential. How do AMP and ADP siphon energy of phosphate molecules from the ATP energy cycle? It is not only the ATP mechanisms doing the work in their multitudes. Since the research is working with water how hydrolization does modulate the energy exchange values referred to in ATP processes?

Regarding epistemology of science, in applied science there is only theoretical physics and information systems, and in theoretical science, only mathematics. The rest of the disciplines are in a category of "sector of application", e.g. astronomy, geology, chemistry, biology, power engineering and biofuels, etc.

Unified cellular chemical reaction but it is not the only theory of basis for cell communication of energy; Descartes, Leibniz and Euler practiced mathematical science to review theorems and theories, from various lenses and viewpoints. Proposed are a multitude of possible worlds that describe in the scientific method the same phenomena through different theoretical viewpoints and most amazingly, applications of that science to solve problems and learn from all of them.

There is not any one victorious school of thought, e.g. the Digital Universe or Pragmatism because there is not one final answer for anything; methods of scientific method and meta-Computation, and critical thinking are of the highest import. Here is an opportunity to review the Universe through lenses of observation, in macro-iterations of theory and methods of change or process, and secondly to contrast them together in a hope to build a more accurate understanding of Biophysical phenomena for various study purposes in the advancing study of Quantum mechanics of Biophysics in the context of integrated CEMGD model theory.

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