

**FESTSCHRIFT HONORING ACADEMICIAN MIHAI
DRĂGĂNESCU: DISCOURSE ON THE PHYSICAL BASIS FOR
“THE PHILOSOPHICAL TENSION AND THE COSMIC FEELING”**

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Preamble. Wouldn't it be nice if this auspicious occasion were of a 76th; instead of a 75th, then it might be pertinent to enjoy Meredith Willson's well known march from *The Music Man* - "*Seventy-six Trombones Led The Big Parade*". Intellectually I try to hold the reigns firm, but my heart will not help and the spirit is set free to soar at the circumstance of this wondrous occasion; because you see this is a *cosmic feeling* that I have and I do not wish to control it! So for a brief moment at least liberty is taken from the sensibilities of conservative protocol to enjoy the refrain:

Seventy-six trombones led the big parade, With a hundred and ten cornets close at hand. They were followed by rows and rows, Of the finest virtuosos, The cream of every famous band. Seventy-six trombones caught the morning sun, With a hundred and ten cornets right behind. There were over a thousand reeds, Springing up like weeds, There were horns of every shape and size. There were copper bottom timpani in horse platoons, Thundering, thundering, all along the way. Double bell euphoniums and big bassoons, Each bassoon having its big fat say. There were fifty mounted canons in the battery, Thundering, thundering, louder than before. Clarinets of every size, And trumpets who'd improvise A full octave higher than the score! Seventy-six trombones hit the counterpoint, While a hundred and ten cornets blazed away. To the rhythm of Harch! Harch! Harch! All the kids began to march, And they're marching still right today! Seventy-six trombones led the big parade, when the order to march rang out loud and clear. Starting off with a big bang bong on a Chinese gong, by a big bang bonger at the rear. Seventy-six trombones hit the counter point, while a hundred and ten cornets played the air. Then I modestly took my place as the one and only bass, and I ompahed up and down the square.

Personally I would like to *oompah* up and down the square! But also the occasion is not of a seventy-six; it is of a seventy-five and Mihai Drăgănescu is a noble man not given over to the fanfare of loud marching bands and the pomp of noisy parades. Academician Mihai Drăgănescu is a man much more reserved, who modestly takes his place as a conservative and unassuming fellow. They say 'still

waters run deep'; and this is the case with the gifted genius of Professor Mihai C. Drăgănescu. And therefore I hope the part played by my shameless exuberance; the 487.5 millimeter square banner of festive text left standing for posterity will be forgiven!

Generations of Romanians know of our hero, because he is not only a great living Romanian; but a man of sufficient stature to stand forever in the firmament of the history of mankind as a brightly shining star. Few men are able to achieve even modest success in one area of human endeavor; but Academician Drăgănescu has risen to high echelons as an Elder Statesman, Diplomat, Noted Philosopher, Engineer, Mathematician, Theoretical Scientist and Loving Husband, to name only some few of his noteworthy achievements. In the ten years that I have had the pleasure to know Professor Drăgănescu as a mentor giving me encouragement to develop the Noetic Theory and as a close friend, both my personal and professional lives have been immeasurably enriched by the association.

I have devoted my academic life to formulating a model of the conscious universe that makes room for both science and God. In honor of Mihai Drăgănescu's seventy-fifth birthday I have written a book (published in the Romanian language) titled - *Ce Este Conștiința? Trepte Întru Cosmologia Minții*, edited by Nicolae Bulz and translated by the dedicated work of Iosif Adrian, Nicolae Bulz, Alexandru Giuculescu, Călin Hilohi, Corneliu Miloș & Laura Pană. In the discourse following a review of Professor Drăgănescu's work on *The Philosophical Tension and the Cosmic Feeling* I would like to give a summary of this work as it relates to physical questions of the spirit.

THE PHILOSOPHICAL TENSION AND THE COSMIC FEELING

When the great Romanian statesman, philosopher and scientist gave his reception speech to this illustrious body (The Romanian Academy) in 1990[1]; it was the 1st time in fifteen years a new president was able to follow the historic tradition of professing his faith to the academy. Now it is 135 years since the Romanian academies inception in 1869; and the dawn of a new millennium of human endeavor. In this speech newly elected president Mihai Drăgănescu stated that:

“To the Romanians, all things have a cosmic face... The Romanian regards himself as a cosmic object knowing that what is ‘*towards himself*’ is eternal, unrelated to time and space ... the Romanian Academy has always striven to represent a synthesis of the Romanian spirituality and being as one of the main national institutions.”

In keeping with the Romanian academies high ideals Professor Drăgănescu decided to give his speech on the question of *spirit*. This focus was prompted by his interest in works of Mircea Vulcănescu “The Romanian Dimension of Existence” [2], also the great Romanian poet Mihai Eminescu [3] and philosophers Lucian Blaga [4, 5] and D.D. Roșca [10]. In this regard professor Drăgănescu says “A sacred homage is due to the mental matrix of the Romanian people which deserves our whole-hearted admiration”.

I believe this is not a mere idle or political statement of praise for the occasion of receiving a presidential position. I am a Mormon by faith, in which institution I hold the office of High Priest; and am therefore acquainted somewhat in the workings of the spirit of God. When Elder Nelson, one of the Latter-day Saint apostles, dedicated the land of Romania for the ‘gospel’ he was inspired to state... ‘Romania will become a *‘light’* to the nations around it...’. If you do not believe in the spirit of God this occurrence has little meaning to you; but if you do, how can it be that a stranger to this great land receives inspiration from God that confirms the truthfulness of these lofty statements by several noted Romanian philosophers concerning the spiritual nature of the Romanian people. Consciousness has myriad apparent forms; and many still believe there is no spiritual dimension to conscious existence. Nevertheless both Drăgănescu’s orthophysics and Amoroso’s noetic theory are cast in a conscious universe, one therefore, that has an ubiquitous innate purpose and intelligence guiding all evolution.

Academician Mihai Drăgănescu begins his presidential discourse on *The Philosophical Tension and the Cosmic Feeling* and its relation to the spiritual life of man by focusing on what he calls the philosophical experiment of consciousness. He says that the *beingness* of existence ‘wakes up both man’s self-awareness and his spiritual life’ and that ‘the spiritual life is not disentangled from reason’. He is able to conclude that mystical experience is rooted in the prime feeling of beingness.

The *prime feeling of beingness* is not the same as self awareness which he says is more intricate. There is a ‘confrontation between self-awareness and the prime awareness of beingness’ that induces an internal tension called incipient *philosophical tension* [8]. Professor Drăgănescu’s conclusion as a result of these ideas is in the form of a general principle:

the spiritual arises with the philosophical tension

On the other hand the *cosmic feeling* is not something that man is naturally endowed with like beingness and self-awareness. The *cosmic feeling* is a next step after self-awareness; a mental state that arises as a process ‘from the conjunction of self-awareness and knowledge of the prime principles and the general tendencies in a ring of the material world’. ‘By the *cosmic feeling* man comes in concord with

existence, with what is more profound in it, with its prime principles, laws and tendencies. This concord is not vegetating, it is conscious. The accomplished *cosmic feeling* is not an easily acquired state. It is seldom attained’.

Professor Drăgănescu concludes his discourse on the *philosophical tension* and the *cosmic feeling* by recognizing that man is a *spiritual being*. He goes on to say that there is a relation between the *philosophical tension* and the *cosmic feeling* in that ‘the *cosmic feeling* is a solution to the *philosophical tension* of awareness; and that the cosmic feeling is a form of philosophical tension’. This is a light of the Romanian mind.

As a final note on the spirit academician Mihai Drăgănescu salutes the Romanian people:

We have to cherish their memory (our forerunners in the Romanian academy), and feel that the academy has a spirit of its own which must be kept up, respected and loved because it is part of Romania’s being, of the Romanian people and of all of us [1].

The Origins of Noetic Cosmology

American president George Bush in his recent inaugural address made the comment: “*Do you not think an Angel resides in the whirlwind and directs the storm?*”. The original inspiration for the noetic theory of consciousness comes from a declaration of one of these angels to the American prophet Joseph Smith: “*And the light which shineth, which giveth ... light, ... which is the same light that quickeneth your understandings; which light proceedeth forth from the presence of God to fill the immensity of space - The light which is in all things, which giveth life to all things, which is the law by which all things are governed...*” [7]. These type of statements in the Mormon Doctrine & Covenants provided the conceptual foundation for the original philosophical formulation [9] of the noetic theory of the cosmology of a conscious universe. Because I felt I could trust those scriptural statements if I believed they were declared by God. One can see in them insight into the unified law of gravitation, and that a physical form of Bosonic ‘light’ is similar to the light of the mind, an idea which most physicists don’t yet believe. So it was these scriptural passages that helped the author begin formulating the Noetic Theory in scientific form. Noetic Theory equates this ‘light’ with the formerly discarded concept of an ‘*elan vital*’ or life principle. Finally science progresses sufficiently to include this concept theoretically; and prepare to demonstrate it empirically. Now it is possible to begin a formal scientific description of the noumenon of consciousness!

Typically each scientific discipline operates within the realm of a Standard Model. Although at the beginning of the last century the classical Newtonian

clock-work model was superseded by the advent of Einstein’s relativities and quantum theory; the remaining standard models of science are still classical or semi-classical constructs. These Standard Models generally are:

1. Theology – Eastern/Western, Authoritative teachings based on the golden rule.
2. Philosophy – Principles of classical logic.
3. Cosmology – The Big Bang, a mechanistic Darwinian universe.
4. Biology – Biological Mechanism, Darwinian naturalism (some quantum chemistry).
5. Medicine – Same as biology.
6. Computer Science – Turing machine architecture.
7. Electromagnetism – Maxwell’s equations (classical).
8. Quantum Theory – Copenhagen phenomenology (semi-classical).
9. General Relativity – Beyond Newton but still a Classical theory of gravitation.
10. Special Relativity – Semi-classical spacetime dynamics in Minkowski / Riemann 4D space.

In order for science to be *Godelized* out of or “escape” this conundrum, all of the above standard models must be modified and extended. The umbrella under which all the other models seem to cohere, like spokes on a wheel, is that of cosmology. Changing the fundamental basis for cosmology creates a domino effect running immediately through all the other models that allows their corresponding extension and unification.

This task has now been completed in a seminal way. The concept of paramount interest is the discovery of a *new action principle* that acts as the self-organizing basis for all living systems. Since this new principle is based on physical parameters it is therefore empirically testable. As mentioned the new action principle is tantamount to the so called *elan vital* or ‘vital force’ which can be equated with the spirit of God, *chi* or *prana* pervading all space.

The physical basis of spirit

The fundamental question remaining in the evolution of centuries of philosophical thought pertains to the physical or scientific basis of spirit. Both Eastern and Western theologies claim *gravitation is caused by the movement of spirit*. In physical cosmology it is generally thought that the depth of reality deeper than gravitation is the unified field; indeed Einstein himself claimed that this unified field is the basis for all life and all matter.

The philosophical basis for Noetic Cosmology includes the postulate that the *spirit* emanates from the throne of God filling all space, the action of which frames

the large scale structure of the universe, creates and recreate all matter, and acts as the *elan vital* upon entering every point in spacetime and then every chemical species. Whereupon this Bosonic basis of spirit acts as *the light of the mind* before returning to again to space to complete the cycle anew in one continuous eternal round. This is the basic cosmological principle of the Continuous State Conscious Universe (CSCU) which is cast in a Twelve Dimensional (12D) superspace. This noetic superspace tiles the topology of spacetime with scale invariant *least units* that, like the fundamental unit of charge in electrodynamics, are defined as the fundamental basis for awareness. The exchange particle of the force between these least units is called the noeon of the unified field in scientific terms or the spirit of God theologically.

The CSCU is not a Bigbang cosmology. The CSCU entails a new absolute HD space in the proximity of *the throne of God*. From this new Absolute Space (AS) emerges a relational space, the observed 3(4)D Euclidian / Minkowski space of the Hubble sphere upon which all current scientific observation is based. The Euclidian line is appears to be the real line. Newton's concept of an absolute 3D continuum was superceded by the relational 3(4)D spacetime introduced with Einstein's relativities. The noetic 3(4)D relational space extends this progression in a number of ways. The Einstein 4D relational space becomes a subspace of the new 12D noetic superspace. This is in contrast to Bigbang cosmology where the extra dimensions are said to be curled up microscopically at the Planck scale. In either case because of fundamental spin elements tiling the Planck backcloth of spacetime, rotating at the speed of light too fast for human perception, reality appears macroscopically continuous even though it is based microscopically on discrete least units.

The 12D comprising the CSCU, because of symmetry principles, is comprised of three 3(4)D spacetime packages. Because of the continuous state formalism of noetic cosmology, the central observational 3(4)D Euclidian / Minkowski package of relational spacetime acts as a standing wave virtual reality. This is a revamped form of the energy dependent spacetime metric originally postulated by Einstein during his development of the Static Universe Model. The energy dependant spacetime subspace of noetic superspace is described as a non-compactified Kaluza-Klein theory, meaning that the additional dimensions are open and not curled up at the Planck scale as in Bigbang cosmology. This means that the observed universe is closed and finite in time; but open and infinite eternally.

The new CSCU cosmology is based on principles of the original Wheeler-Feynman absorber theory of radiation extended to the topology of the periodic 12D noetic spacetime. The fundamental cosmological *least unit* is a scale invariant complex cosmological system. The translating boundary conditions of a spin exchange 'continuous state' dimensional reduction compactification process are an inherent part of the Dirac polarized vacuum. The continuous state topological

transformation is derived by coupling superluminal Lorentz boosts with the noncompactified Kaluza-Klein modes in the context of the energy dependent spacetime metric.

The issue of dimensionality remains an open question. The Euclidian line is assumed to be the real line because it is what is observed. Logical reasons from supersymmetry and supergravity suggest there are a number of additional unobserved dimensions. The debate between absolute space or substantivism and relational space still continues. Utilizing the standard definition of a straight line as the intersection of two rigid planes, measurements could be taken to observe whether the angles of a triangle add up to 180 degrees; but settling the question definitively would require astronomical scale measurements where it currently appears physically impossible to apply the concept of a rigid body or to define a straight line in terms of a light ray by stellar parallax because of the effects of general relativity. Therefore all physics knows with certainty at the present time is that observed space is approximately Euclidian as is Minkowski space.

The Noetic least cosmological unit is a complex system. Complexity theory is still in its youth, but we can define the complex basis for the CSCU based on the current understanding of complexity theory. The necessary and sufficient organization for a given system to be complex requires that all other functions are secondary to the task of establishing and maintaining the unitarity of the self-organization. This *self-production* is a fundamental expression of the basic complementarity of structure and phenomenology and the salient teleological purpose of a conscious universe. A complex system is defined as self-organized, open, dissipative, self-referential, auto-catalytic, cyclical, hierarchical – where higher levels contain all lower levels, far from equilibrium and autonomous. A system is complex when its primary function is self-renewal through its inherent self-referential activity. Stated another way complexity is a network of production components participating recursively as a globally stable structure operationally separable from the background. These conditions seem to be satisfied by the structural-phenomenology of the Hubble sphere of observed reality at the macroscopic end of the scale invariant continuum and by the noetic least unit at the microscopic end of the continuum.

Noetic cosmology suggests the possibility of an infinite number of nested Hubble spheres, each with their own laws of physics and therefore outside of causal influence of each other. Again this corresponds to the hyperholographic virtual nature of the relational spacetime of our observed reality. It is within this framework that the Physical Basis of Qualia and Empirical Protocols for Dissolution of the 1st Person 3rd Person barrier can finally be outlined both in terms of physical cosmology and spirit. The newly discovered noetic action principle

equated with the unified field or spirit of God pervades all domains of this CSCU Megaverse.

In the well known article *What's it like to be a bat?* Thomas Nagel states “that current reductionist attempts fail by filtering out any basis for consciousness and thus become meaningless since they are logically compatible with its absence”. Nagel asks what would be left if one removed the viewpoint of the subjective observer. He then suggests “If one understood how subjective experience could have an objective nature, one would understand the existence of subjects other than oneself”.

To develop such a model three classes of Qualia are defined: Q-III, a dynamic structural-phenomenological cosmological state representing the essential basis for living systems. Therefore Q-III represents Qualia of the conscious universe; a system of *hyperholographic* conditions acting as an ‘empty slate’ or ‘carrier wave’ within which Q-I (standard definition qualia) become modulated into awareness by a superradiant process of Casimir-like conditions. These are the phenomenology of Qualia. Q-II is the physical noumenon of Qualia, or objective *thing in itself* that once sufficiently defined leads to dissolution of the 1st person 3rd person barrier.

Because this noetic model is a physical cosmology it is subject to protocols of empirical falsification. New biological principles introduced by the noetic theory suggest that even the prion, the infectious protein responsible for transmissible spongiform encephalopathies, qualifies as the most fundamental form of life; and remains in concordance with the six-point definition of complex living systems put forth by Humberto Maturana in the 1970's. The ‘*psychosphere*’ is defined as the complete boundary conditions for a conscious living system encompassing all three types of qualia.

The hyper-holographic-like topology is a structural-phenomenological cosmological process comprised of *dynamic* and *static* Casimir modes. These counter propagating future-past Casimir boundary conditions simplistically said to be governed by Gauss’ and Stokes’ theorem generate an evanescent wave of Q-I awareness (on the Q-III carrier base) that is focused physically on the ‘leading light-cone singularity of a Minkowski spacetime ‘*standing wave*’ domain at each *present instant*. Metaphorically this hyper-holographic-like image could be said to be modeled by the wavelet addition illustrated by Huygens principle as it occurs in the formation of a rainbow.

Within the integrated tiers of this complex system of consciousness operating by absolute parallelism and deficit angle hysteresis of the continuous state noetic transformation; the dynamic / static Casimir boundary conditions of Q-II elements causes the Q-I mode to emerge into the seat of awareness as a superradiant effect. This cognitive domain could be said to couple to the dendritic microprocess of Pribram’s holoscape or dendron by way of the Eccles psychon.

The experimental design for empirically testing this noetic model is based on a new class of interferometer called the Dirac-Noetic Interferometer (DNI) that utilizes spin states of Dirac spherical rotation in contrast with the symmetry conditions of the continuous state transformation of the least unit of noetic superspace to manipulate superradiant effects of the new action principle to be applied in initial experimentation to the *cognitive domain* of the prion defined by noetic theory as the simplest mode of a complex living system.

We have postulated that the *spirit* generally is the same as the core action principle of the CSCU, the *élan vital*, and as the unified field. As such we are able to say something about where the spirit is, what it is and how to act on it empirically. We cannot yet say everything about it, in the same way that scientific descriptions of electrons, photons or muons are still limited. But it is now reasonable to imply that Noetic Theory has come an equal distance in development. The unified field is a structural-phenomenology comprised topologically by the 12D least units of Noetic Superspace. The force mediating the transformation of this topology is mediated by an exchange particle called the noeton that has both static and dynamic properties relative to its action or observation.

We would like to conclude by describing a little more of how Qualia propagates; keeping in mind that Qualia, as *the light of the mind*, are a stream of interconnected quale animated by the noeton of the unified field. Recalling that each scale invariant unit is *covered* by the energy tiling of the next higher dimensional level, i.e. a 0D point is topologically *covered* by an oriented 1D line which is then *covered* by a 2D plane. The plane is *covered* by a 3-torus which is *covered* by a 4D hypersphere; a continuous progression continuing all the way to 12D and back again. Since the noetic transformation cyclically boosts dimensions of extension to dimensions of time to dimensions of energy; there is a higher dimensional energy mode at each dimensional plateau of the continuous dimensional reduction compactification process that acts as this energy covering. This energy covering being the spirit or unified field. What remains is to illustrate how the flow of qualia occurs ontologically during this transformation process without collapse of the wave function.

Recalling the definition of a complex system above one is reminded of the multiplicity of details such a system has organizationally in terms of hierarchy and feedback especially. The noetic least unit must have such a complex structure to properly describe the conscious universe. In order for the geometry to undergo the transformation ontologically, without collapse of the wave function, the evolution of qualia is accomplished by a process called *topological switching*. A common example of *topological switching* is illustrated by the action of perception on viewing what is called a *Necker cube*. When a Necker cube is stared at for a few moments the inside vertex oscillates in appearance to the outside vertex and back

again. This is a noncomputable energyless action of the mind that occurs without collapse of the wave function in terms of the Copenhagen phenomenological model.

Utilizing the concatenation of a number a physical principles this process of topological switching can now be described and acted on experimentally. First we say that all the boundary elements of the 12D Noetic hyperstructure form a tiling of Casimir plates. A standing wave mode of a present piece of extension acts as a static Casimir element, while those in the process of dimensional reduction and cycling from extension to time to energy are dynamic Casimir elements. This is the inherent structural-phenomenology of Noetic Superspace. The spin exchange mechanisms of this action can be defined as hysteresis modes described by Gauss' and Stokes' theorems. Next quantum Hall theory is applied. Quantum Hall theory is comprised of both the integer and fractional quantum Hall modes. One obeys Fermi-Dirac statistics and the other Einstein-Bose statistics. One has massless modes and allows quasi-particle transitions of energy states between the various Casimir boundaries. The other involves mass elements that produce gravitational deficit angles or gaps in the flux of the absolute parallelism of the flow of energy because this condition of absolute parallelism allows the energy mode not to return to the same position which would maintain the initial topology and no switching would occur.

Thus these gaps aid in the dimensional reduction compactification process. It is generally known that 2D Casimir plates attract; and that a spherical Casimir cavity causes energy to flow in the opposite direction. Thus the hyperspherical tiling contains Casimir plates of both modalities. This action is holographic in that the *image* which is an evanescent qualia element is produced by superradiance of the energy by the hysteresis gaps of this process as can be described by Stokes' and Gauss' theorems. The unified field is the carrier wave of the living system, in a sense the qualia of the CSCU. The carrier wave parameters of type III qualia are then modulated by the noumenal structure of type II qualia into the standardly defined type I qualia apprehended by the mind. This whole process is accomplished by continuous topological switching.

This has been a brief philosophical rendition of the physical basis of the *spirit*. One can see that it is a complex system that it is possible to discuss only in scientific terms if warranted. Fortunately it is also empirically testable. The coming empirical work will lead to classes of *conscious technologies* having applications in medicine, quantum computation, and cosmology. More formal discussions on the physical basis of spirit can be found in the authors other recent more technical writings [10, 11, 12] related to this subject.

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