Article

The Biophysics of Values & Social Harmony:
The Complementarities of Energy~Mind~Spirit a Triune Approach

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Abstract

As humanity enters a new cycle of actualizing its potentials for goodness, wellbeing, freedom, justice, the pursuit of happiness and even the attainment of holiness, sainthood or God's Consciousness, wise humans, philosophers, scientists and artists, amongst others, are called to responsibly and openly articulate the complementarities of the triunity of energy~mind~spirit and how the existence of such a dynamic systemic triunity is active in the creative process and the manifestation of constructive and intelligent actions towards a benevolent and harmonious social dynamics. Since the complexities involved in this undertaking are enormous and since we need to improve our mental and mathematical models of reality and ideally, through inspiration and insight, create new models derived from new understandings of reality in a broader sense (energy~mind~spirit), for this work, we will introduce the reader to the biophysics of values, consciousness and its social implications, as well as new paradigms to address this challenge.

Keywords: Consciousness, order, chaos, criticality, metastability, quantum physics, non-linear systems, brain dynamics, sovereignty, law, individual peace, social harmony.

I. Introduction

Since this work is extensive in scope and complex in articulations, we will start by enumerating a set of subjects we intend to explore and interconnect:

1. Complex systems, chaos, order, criticality.
2. The physics and brain dynamics of the micro, macro and the mesoscopic imperative link or bridge.
3. Integrative paradigms and theories.
    a. The Emergent Paradigm of Metaphysical Ideal~materialism - A Synergy between Uncle Albert~and~Uncle Paul.
    b. Essence and Evolution from the Perspective of a Shoemaker, an emergent paradigm of Consciousness.
    c. The Connective Paradigm of Melchizedek.
4. Discussions on many related topics concerning ancient wisdom and governance:

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a. The different monkeys of China, India and Ancient Israel, towards a unified body of ancient wisdom.
b. Our social options for social Hoarder, Horder or Order: a) an empire with Jesus at the top again?, b) a republic with as many Jesus males and Jesus females as possible, c) a new form of metastable self-organized, self-government, or d) a combination of a sort, maybe!

The proper understanding and experience of all of these areas associated with human consciousness together with the proper learning environments, we conjecture, will facilitate the emergence or manifestation of New Revelation, Law, Policy Planning and the chaotic attractors of social peace and harmony.

We would like to remind the reader of the wise injunction of old: "Enter through the narrow gate. For wide is the gate and broad is the road that leads to destruction, and many enter through it." - Matthew 7:13, (Biblica, 2015).

We are called to explore the narrow gate of peaceful coexistence as an initial platform towards a harmonious, spiritually developed, self-governed humanity where ancient wisdom, philosophy and science together with personal spiritual revelation, will certainly play a part in the manifestation of the attractors for a robust metastable harmonious social arrangement.

If humanity is going to attain a harmonious social arrangement, we could imagine that such a situation could happen in several ways:

1. By spontaneous evolutionary mutation where our consciousness expands and attains levels of awareness still unknown to us and allowing us to override the many survival brain signals, together with, the expression of gene pools geared towards peace, altruism and cooperation, very subtlety and complementarily balanced with the necessary survival structures with a certain bias towards harmony and peace instead of fear and reactive behavior.
2. By willful meditation and spiritual development to attain such a cognitive map, which will involve learning, studying and training for the manifestation and maintenance of that outcome.
3. By the Grace of The Creator, leading step by step to such an attainment, which could also include way (or option) number two (2).

These different ways of attaining individual and social harmony, in turn, could be manifested by: 1) personal volition or will, 2) law enforcement and 3) a combination biased towards personal volition or towards law enforcement.

We must note that the first three (3) ways could, in principal, be the object~subject of scientific research, philosophy, ancient wisdom and personal revelation with a systemic and integrative approach. System Dynamics models based on the various mental models available from humanity could be tested to explore the different scenarios. This undertaking would certainly test a purely materialistic view, a view based on metaphysical idealism, a view based on the Paradigm of Melchizedek, other views and their combination. This undertaking is very feasible

with the proper support and transdisciplinary team and the results would give us a great objective~subjective glimpse into possible futures in terms of metastability and different Chaos~Order arrangements and attractors with a good taste for General Systems Theory, Cybernetics and the benefits of computer simulation.

The next set of parameters concerning personal volition, law enforcement and its combinations, pertains more to the world of law and personal sovereignty, education, policy planning and decision making and its relationship with decision science, decision theory, dynamic programming, optimization, learning and Neural Networks à la Paul Werbos (Werbos, 1994).

If this exercise is done without corruption, ideally, through schools and other educational venues, avenues and mediums, the learning process is more likely to take place towards a leap with the support of our learning structures, both based on the physicality of the evolutionary process in place, as well as the spiritual ones. Without a doubt, with the proper commitment and engagement, humanity would draw the attention of both fathers and mothers on earth, who are equipped with the understanding and wisdom, as well as the inspiration of a Universal Father-Mother, whoever or whatever He-She-It may be to each person. This seems like a potentially inspiring and rational avenue to be explored.

There is an aspect of consciousness and human potential that we could and should tap into that poses a major challenge to accommodate the diversity of experiences, mental models and belief already available in the pool of humanity and that is the challenge concerning the conceptualization, representation, scientific investigation and modeling of the triunity mentioned above, energy~mind~spirit. An initial question arises as to which degree do we model this triunity and to what level: a) Ultra micro (spiritual), b) micro (quantum), c) electromagnetic fields, wave~particles and the matter field, the macro level (classical), d) the modeling of the interactions between the micro~meso~macro (still to be developed by modern physics and mathematics), and even more challenging e) the conceptualization and modeling of the interactions between the ultra micro~micro~meso~macro.

To what extent do we need to develop such a deep understanding of reality to achieve individual and social peace and harmony certainly remains another decision analysis exercise. However, it seems appropriate to conceive the idea that we should grow in understanding and wisdom first, to the level where we will attain social harmony and peace and that being achieved, we should focus on the adventure of discovering and modeling the interactions between the ultra micro~micro~meso~macro.

However, at a personal level it seems appropriate and perhaps an imperative, that we would engage in the discovery and first-hand experience of the deeper mysteries of life, the universe, the existence and experience of spiritual and aesthetic values, and for whoever wishes so, a personal relationship with The Creator. Most importantly we must aim at reconciling the nature of reality with the spirit of reality.

II. Complex systems, chaos, order, criticality

In order for us to immerse ourselves in the concepts of complex systems, chaos, order, metastability and their social implications, we first have to understand the difference between material-energetic systems, the human body as part of these systems and the mind-spirit 'circuits' which propel such humans endowed with such a spirit, to intentional action and value based decision making.

We must make the distinction between good, evil and holy from physical interactions bordering or existing in a fine line between chaos and order, metastability. For example, a holy person may start a conversation that inspires another human being to inquire about inner realities. Suddenly a realization hits the mind of that person leading him or her to a monastic life, something that for a while creates a destabilization of his family and business relationships, a movement from order to chaos, integration to disintegration and so on. However, this person spends some years living a monastic or secluded life, which leads to a spiritual and very personal transformation. Years later, this same person returns to his village or city and becomes a leader which inspires a social change from a state of urban chaos to a greater benevolent order. We must note that in this hypothetical situation, chaos and order can be both driven by good and evil, however in our make-up story, chaos and order are driven by holy inspirations. We also must note that a benevolent social order would be very different than an authoritarian and evil social one (another order). It would also be easy to explain how in some situations we could witness to a benevolent social chaos that leads to a greater harmony and vice versa.

Before we continue, let's accept the fact that for the majority of the people of this world the presence of The Creator is a self-evident reality requiring no scientific or philosophical proof, as for example it is portrayed in the Declaration of Independence of the United States of America that states: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." This injunction may derive partly from the fact that no human mind has attained, either through science or philosophy, a satisfactory comprehension of the evolving soul of the human personality. Therefore, it is accepted by the vast majority of people from all times that the soul can only be known through cosmic insight and spiritual discovery.

We must also consider that the founding pillars of the universe are material and can be explored and understood, with some limitations, through science. However, the essence of life and mind are closer in concept to a Spirit which can only be known by personal experience and revelation. From this we can derive the notion of apparent opposites better understood as complementary pairs, in our case the subjective~objective pair (Kelso & Engstrøm, 2006).

One of the difficulties that human consciousness faces in understanding another complementary pair, as it is the infinite~finite pair, is in how for example, The Creator moves from simplicity to complexity, personal to impersonal relationships from human identity to communal diversity, from being a spirit to becoming a human as in the case of the many avatars and saviors described in the many stories in different cultures and records of ancient wisdom. When we take a look at the book of the Tao Te Ching we can find this idea of the movement from simplicity to complexity in the following paragraph: "The Tao begot one, One begot two, Two begot three and three begot the ten thousand things. The ten thousand things carry yin and embrace yang. They achieve harmony by combining these forces." (Laotzu, 2009)

So suddenly we are faced with a movement from unity to duality and then to triunity and from there, The Creator or Tao in this case, changes from absolute and changeless to a multiplicity of manifestations which implies a first triunity Yin~Tao~Yang (different than a trinity as personalities) that sets in motion a universe of harmony.

The reader is encouraged to seek for the definition of the concept of 'triunity' in The Urantia Book, which also states that:

> *God is the being of absolute self-determination; there are no limits to his universe reactions save those which are self-imposed, and his freewill acts are conditioned only by those divine qualities and perfect attributes which inherently characterize his eternal nature. Therefore is God related to the universe as the being of final goodness plus a free will of creative infinity.* (Urantia, 2001, p. 50)

We understand the concept of 'triunity' as a functional interaction between different pairs, as for example, Tao~Yin, Tao~Yang and Yin~Yang, simply described as Yang~Tao~Yin. This description implies a circularity and synergies that emerge from the interaction between the constituent parts allowing transformations and the harmonization of a system, which for us marks the beginning of the concept of metastability or put in the form of 'triunities' as follows: a) stability~metastability~instability and b) order~criticality~chaos. These are some of the conceptual hallmarks of a dynamical complex system.

Our times demand that we would harmonize (perhaps via a concept like the living Tao) a philosophy about the universe with our scientific and technological achievements. Systems science may allow for the study of causal relationships in order to ideally advance a synthesis between science, philosophy and the existence of spiritual values. This in turn may support the human species in harmonizing the triunity of matter~mind~spirit, furthermore, enabling us to evolve our holistic comprehension of the mathematics that links matter and energy transactions together with mental and spiritual experiences. This harmonization may steer the human species on the path of improving on energy management, spiritual values based decision making and social harmony. It is important to note that the concept of Tao comes with both unity about universe reality, as well as a diversity of human finite experiences which requires, at least in principle, a minimum of coordination between the many absolutes (each human existence) in personal and impersonal relations to one another and the universe at large.

The questions that arise are: a) what are the biophysical, mental and spiritual properties of such a universe, and b) which parts of such a conscious living organism like this kind of universe can be explored through mathematics and physics at the micro, meso and macro levels of physical reality? The following sections may shed some light on these questions.

Sometimes it seems that the mathematical challenges to deal with the complexities involved in reconciling, for example, Gravity with Quantum Field Theory, are beyond the capacity of most talented physicists and mathematicians. However, at times, many scientists also get some glimpses of how it could be done. As Einstein suggested in two of his famous quotes:

> *(1) When I examine myself and my methods of thought I come to the conclusion that the gift of fantasy has meant more to me than my talent for absorbing positive knowledge.* (Plesch, 1947)
>
> *(2)* ***I believe in intuition and inspiration…At times I feel certain I am right while not knowing the reason****. When the eclipse of 1919 confirmed my intuition, I was not in the least surprised. In fact I would have been astonished had it turned out otherwise.* ***Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to*** *evolution. It is, strictly speaking, a real factor in scientific research.* (Einstein, 1931) *and also in* (Holtzman, 1950).

As with Einstein, the new generation of scientists and philosophers will also need more fantasy and imagination to keep the fire of mathematics and physics research burning. However, fantasy, as well as String Theory, may eventually have to be put to the test of experimental evidence if it is to serve the ultimate purpose of science.

Before we immerse ourselves in physics, it is important to mention some other aspects about complex systems. Life as we know it in general, in any mathematical universe on any platform, is 'at the edge of chaos.' It emerges in systems which are 'Intermediate' between fire and ice, between the 'heat death' of gas-like systems and the freezing of systems with fixed point or very simple attractors. Walter Freeman (Freeman, 1975) (Freeman, 2000) used the term 'mesoscopic' instead of 'intermediate', in this work we treat these terms as interchangeable for now. These also can be described by means of some kind of relationship between local and global effects, related to some form of interconnectedness between 'order' and 'chaos', with the path of life unfolding between the two and away from the two extremes in a form of metastability (Kelso & Tognoli, 2007).

We could use the terms micro, meso and macroscopic to describe different levels of living systems, however, we should take great care about scales since these concepts could be used both in absolute or relative terms. We surely could describe transitions between a minimum and a maximum as the intermediate or mesoscopic area and further explore the idea that these concepts lead us to a good representation for the brain. Freeman and Kozma developed a thermodynamic description of the brain (Freeman, Kozma, & Vitello, 2012) and Vitiello (Vitiello, 2001) came up with his double unveiled, which Freeman contributed to till the end of his life on earth. All of these ideas may suggest that biological evolution is just a simple approximation to the more general case of non-equilibrium thermodynamics in open systems.

So, in order to model consciousness we may be better equipped if we make use of the knowledge developed in systems neuroscience together with the concepts developed in physics so far. In fact the greatest connection between the neural network world and fundamental physics, to our knowledge, is a connection to Einstein materialism itself (Werbos, 2017, pp. 87-92). The way in which insights from functional (instead of positivist Hebbian or spiking) neural network research sheds most light in the field of physics, is by helping us in deepening our understanding of the power inherent in Lagrange-Euler equations and its emergent implications.

However, how would we ever learn anything about that larger universe if so, and why would the understanding of such a universe possibly matter to us when, generally speaking, most of the things which really matter to humans are a matter of emergent phenomena in life? Our thoughts, the ups and downs of human feelings, our civilizations, our economies, and our very bodies are all emergent phenomena on a smaller scale than the macrocosm.

That is why it is so important to understand the axiomatic underlying principles, paying attention to emergent phenomena only as needed to develop an axiomatic kind of understanding. In physics, we could endeavor to find "the law of everything", the Lagrangian energy expression from which everything we ever experience comes out as the emergent consequence of the operation of the Lagrange-Euler equations, including the possibility of an ether or spiritual value field, perhaps existing as subatomic fluctuations or forms of micro turbulence. This certainly can be conceptualized and modeled in different ways as, for example in, (Verlinde, 2011) (Stetz, 2007) (Werbos, 2002) (LaViolette, 2012). In 'cybernetics', in the study of intelligent systems, we could also endeavor to find the ultimate learning rules and structures which would explain all the levels of basic intelligence we see in the brain, and also to see further into what types of ultimate learning rules and structures would allow even higher levels of intelligence. However, in our day and age, this will require in effect, focusing more on really mapping the emergent phenomena more systematically and scientifically.

All of this comes back to the issue which many have asked about: 'When does the operation of a deterministic process described by chaotic systems or Ordinary Differential Equations (ODEs) and Partial Differential Equations (PDEs) lead to an emergent process which looks like a stochastic process?' This is far from a new question and we will find many people fascinated by chaos who have discussed this subject extensively, and run simulations to explore these emergent processes, for example, in financial systems (Trippi, 1995) (Peters, 1996) (Peters, 1994). Perhaps, we should look deeper into the past to research if people like Einstein thrust upon the world questions of this kind, leading to a lot of inspired efforts undertaken by people like, for example, Wiener and Von Neumann. This type of historical understanding may give us some inspirations in creating the bridges between systems theory, mathematics, biophysics and cognitive neuroscience towards a transdisciplinary science to study human consciousness, intentional action and value based decision making.

III. The physics and brain dynamics of the micro, macro and the mesoscopic imperative link or bridge

When we look at the different areas that we need to study in order to describe and understand consciousness, it seems that we face three (3) parallels that require new mathematical structures to causally link the micro~meso and macroscopic levels of reality at different scales and in different contexts, as follows:

1. In Brain Dynamics: micro (neuron), meso (neuropil, pulse~wave conversion) and macro (large scale integration and the creation of meaning and knowledge).
2. In Physics: micro (subatomic), meso (fields, metastability, breaking symmetry) and macro (gravity, matter field, motion, visible universe).
3. In Consciousness: super micro (spiritual values field), micro (subatomic), meso (morphic fields and electromagnetic fields), macro (creativity and decision making, social harmony, new technologies and human potential; telepathy for example).

In order to introduce the reader to the biophysics associated with consciousness, it would be convenient for the reader to get familiarized with the different models available in quantum mechanics and quantum field theory, which generally speaking, is known as the 'Standard Model' of physics. Also convenient, would be to have a good grasp of Einstein materialism and his description of the universe and four (4) dimensional time-space (Minkowski Space).

The question of how to incorporate the standard model to the study of consciousness, perception of reality and intentional action is far from trivial and it requires great care in remembering the following questions as our north in the kind of exploration we are engaged in:

1. How can we better use the concept of phase transitions and related concepts to try to achieve a deeper and clearer understanding of the emergent phenomena level of brains and human cultures at all three (3) obvious distance scales (brain recording, individual inner states of consciousness, culture and social networks)?
2. Can we come back to use those concepts better in our new physics and technological paths?
3. As both paths show opportunities for healthy progress, could we advance a synergy between the two (2) paths?

These are huge questions, and even one part of any one of them could be a subject for a new set of papers.

Finally, we pose the question of, 'what is mind?' and we suggest that mind as we know it most clearly in our cognitive and direct mundane experience, is the 'prime mover' of brain dynamics concerning intentional action and value based decision making. Mind as we know it can be conceptualized as structured around utility functions geared for value based decision making under uncertainty. That may defy a bit of conventional wisdom, even though it is something that has been explained in previous work (Werbos, 2009) (Werbos, 2012) (Abbas & Howard, 2016) (Raiffa, 1970) on how intelligent organisms change behavior based on consequences or expected consequences, and how that intrinsically requires a metric of how good the consequences are.

IIIa.- Micro (Quantum)

Despite the many theories and models that have successfully predicted some of the behaviors of the subatomic world particles and their fundamental interactions, there still remains unexplained phenomenon and more importantly the links and casual relationships between the micro and the macro levels of reality. It is unclear if in explaining such relationships we will need a link between them, a kind of mesoscopic level, or if by some kind of field theory, perhaps like

Morphic Resonance Theory (Sheldrake, 1988), we will be able to represent how patterns emerge from the building blocks of reality as structured and ordered systems in time and space, where such patterns are the plans or the ideal unfoldment for emergent phenomenon. So far there is still a great deal of work to be done to better the physics of the subatomic world and without a doubt that will come with new mathematical models (Werbos, 2015) (Werbos, 2017).

IIIb.- Macro (Classical)

From the macroscopic perspective it will suffice for this paper to introduce the reader to the notion that Einstein materialism is enough to describe the evolution of the universe in time and space, however, it is important to keep in mind that Einstein materialism is so narrow and specific that we could conjecture that even he would want to broaden it some if he were still alive or would be able to communicate with us again. The basic idea is that the 'law of everything' consists of a set of fields defined over the same curved Minkowski space that general relativity described and a Lagrangian function, which yields both a Hamiltonian and Lagrange-Euler equation that are the 'ultimate laws of physics.' Everything else is an emergent phenomenon where there is no place for even a stochastic element (no 'dice'). The Lagrangian is central here and it is plausible to view it as something like, "the utility function of the cosmos or at least part of it." In many ways, Lagrange was probably the first to seriously propose modeling the cosmos as a 'Great Mind', or universal consciousness (Werbos, 2015) (Werbos, 2017).

At this stage it is important to remember that mathematically, there are deterministic equations and perhaps some families of partial differential equations that could beget some form of chaotic behavior (near to stochastic behavior), which could serve as models to expand on Einsteinian materialism without 'dice', however, this is a very complex issue which still remains unresolved.

In summary, there are four (4) 'Normal Type' classes of model that we would like to bring to the reader's attention:

1. Einsteinian materialism.
2. Extended Einstein materialism, still based on Lagrangian and PDEs, yet in N-dimensions, finite and possibly different than in Minkowski space.
3. Differential geometry type, in the line of what Einstein himself was seeking in his last years and what various researchers are looking for today.
4. Stochastic realism, which may be on lattice or continuous metric spaces or random graphs, using Markov Random Fields (MRF) principles for the 'dynamics.'

Certainly to prove interesting and important results, we always need to be ready to use lattice-limit ideas to move from the lattice case to the PDEs case, or vice-versa, while always remembering that sometimes we lack a real equivalence between a lattice limit and a continuous system. It seems that, this could be similar to Zenkin's work (Chiu & Zenkin, 1999).

IIIc.- Mesoscopic (an imperative bridge)

We could imagine that building the mesoscopic bridge will require somehow a combination of Quantum Field Theory (QFT), Partial Differential Equations (PDEs) and Graph and Network Fields Theory. In Vigier's paper (1988) he presents arguments about why Einstein was right in the Bohr-Einstein controversy (Vigier, 1988) (Petroni & Vigier, 1983) (Vigier, 1982). Even though Vigier presents a strong set of 'accepts' and 'rejects' in relation to the differences between Bohr-Heisenberg vs. Einstein-d'Broglie views of reality we also need to acknowledge that strictly speaking, Einstein predicted an outcome of the EPR experiment as precise as the Bell experiment was (Holland & Vigier, 1988) (Einstein, Podolsky, & Rosen, 1935). However there is still much work to be done in the local non-local issue concerning the Bell inequalities as proposed by Werbos (Werbos, 1989) (Werbos, 2014). It is interesting to note that on one hand Einstein explained to us that 'time' is just another dimension and that he described 'common sense' as "a collection of prejudices acquired before the age of...(reason)..." and then on the other hand he himself disregards these admonitions by making the assumption as a kind of 'common sense' version of causality and of stochastic processes, when he proposed his experiments to test non-locality verses locality.

However it is important to remember that Einstein, as well as, for example, Ayn Rand and V.I. Lenin, also wrote passionately in support of the general idea of objective reality which the new mystic circle of Germans in the 1930s thoroughly rejected.

The reader could wonder about which are the preferred models of the authors, and the answer is that there are no clear cuts here since as much as we would like to be inclined towards the view of Einstein and Bohm and PDEs as descriptors of the universe, we still wonder, how could this view account for non-locality or at least traveling at speeds faster than light. However, we can comfortably affirm that PDEs are central to Einstein's position. Many, like J.S. Bell would also interpret the Bell experiments as proving non-locality, unless one rejects the 'real' world altogether.

Based on the above explorations, all of these ideas taken together could solve having to live with the obscure and abstract Quantum Mechanical mathematical structure (a black box type) that only matches experimental data without explaining anything causal at a microscopic level and much less, the mesoscopic link between the micro and macroscopic levels. The mesoscopic level must be explained if we ever aim at building a causal bridge with the macroscopic level and again this certainly could be the subject of many papers, experiments and new books.

We also suggest that the microscopic level, below three (3) femtometers, is far too important to be left hanging only on black box models since that's where the very existence of 'particles' comes from.

We wonder whether anyone, present or future, will ever rise to that mathematical challenge, so fundamental in knowing what elementary particles really are, where they come from and where they go.

At this point, having made some remarks about many people linking quantum mechanics with some form of mysticism and more recently also with string theory, we owe the reader a more complete statement on why we are unable, up to the present day, to expect much of an

explanation of reality from superstring theory. Aside from the lack of evidence it is like a castle in the air, simply made up because people think it is a beautiful theory, however, without the proper experimental test it remains more in the category of a fantasy, at best, inspiring future explorations about the reality of the universe and consciousness, and at worst an untestable theory. The main motivation of this theory was to find a way to reconcile gravity with quantum field theory, more precisely, the usual standard model of physics, electroweak theory plus quantum chromodynamics. This, in our view, is so hard to do, that people would postulate additional dimensions of space-time just for that. However, it appears to us that we could explore a simpler way and do justice to the principle of Occam's Razor. Once we accept the need to explain why particles exist in the first place, as well as time-symmetry, it then becomes easier in principle just to use 'classical' Lagrange-Euler equations to take over the deep role of the standard model of physics, and then it could follow to seek inspiration in the work that got John Wheeler going in reviving General Relativity and coming up with wormholes and quantum foam (Wheeler & Ford, 1998) (Misner, 2010), which may lead to a tight integration without any need for extra dimensions or any extra untestable theoretical concepts.

To summarize, the path that would really take us up to the 'summit' requires of us patience enough to do the real homework, which also includes patience to pay deep attention to empirical reality. However, to get to the 'summit' of unifying gravity and the other forces we need to get back to the Lagrangian candidates, which already give a unification, at least in simple ordinary Minkowski space.

IV. Integrative paradigms and theories

So much has been written in poetry and philosophy about the deep silence. So great and deep the experience of this silence is that everything seems to become so well-known and understood, the meaning of Life is at hand in a moment of Absolute Unity. For some human beings with mathematical or musical minds, processes or complex melodies, rhythms and harmonies are easily available, sometimes, even with the written equation or scores. However, this form of revelatory processes or insight appears to be so perfectly articulated, without words (perhaps pre or meta-mathematical and musical) where the words, the archetypes and the symbols are there, interacting with each other, without having visual or auditory content.

These kinds of experiences make some scientists, systems thinkers, philosophers, wise men and women from different times and cultures wonder, if a human being is ever acquainted with these kinds of experiences should he or she ever attempt to articulate what he or she saw and cognized. Then the question is raised as to whether with the passing of time this experience remains available as a living experience or a set of memories that can be articulated again?

These kinds of revelatory and super creative experiences could well be a candidate to be modeled as a form of 'phase transition' or nonlinearity in brain dynamics. Certainly, a kind of singularity where meaning and knowledge appears to be created by the brain~mind transactions in this kind of singularity that arises from background activity usually associated with ordinary survival behavior. At this stage we could invoke Kelso's complementarity of nature (Kelso & Engstrøm, 2006) where several kinds of opposites and complementary pairs could be studied,

like for example, usual~novel, noise~structure and background activity~singularity, which so well illustrate the difference and complementary nature between chaos and order in biophysical systems, as well as the very distinct categories of the sublime compared to the mundane. Similarly, we can infer the different spiritual status of what is holy compared to what is evil[1], where complementarities simply will never apply. These categories belong to the spiritual realm, which informs and influences the biophysical systems. In a sense, we all know to an extent these kinds of distinctions from our life experiences, where for example, a loving grandmother brings peace and wisdom to a conflict between some of her grandchildren who are angry and upset and capable of harming each other at that moment. We could say that she has become an agent of peace and wisdom (or the holy) to find a remedy to the situations where some of her grandchildren have unconsciously become agents of war (or evil).

Both holy and evil may influence the biophysical systems, which in their self-organizing properties, through chaos and order, will produce different trajectories and attractors. This in turn should show us the chaos and order complementarity (chaos~order) as a pair of opposites that can express life in different ways, modulated by either holy or evil, and certainly, for humans, chaos and order will be experienced in different states of consciousness, harmony and well-being. The reader must note that in a mathematical sense, chaos and order are both representations of different dynamics of a healthy system and that there are people who are healthy physically speaking, however they can express evil thoughts in harmful actions. The same could happen for a holy person who expresses the values of Love and Compassion, begetting for example, a kind of brain dynamics which integrates chaos and order mathematically speaking.

Coming back to the deep silence, when experienced, it reveals to us the mathematics of the non-symbolic world, the world of Keter (The Crown) and Chochmah (Wisdom), concepts known by ancient Israelite wise men and women in their oral and written conceptions and articulations of the Tree of Life (Yochai, 2003) (Kaplan, 1997). This conceptual framework is associated to a graph and somehow mathematical arrangement, pointing us in the direction of the non-symbolic realm. This target or destination realm is beyond time and space, as well as, energy-matter transactions associated to biophysical systems. It exists perhaps tangential to the physical universe and the laws of conservation of energy and its manifestation in consciousness and Being Identity, the I AM Identity.

> The "wisdom" of Chokhmah, amongst other things, implies the ability to look deeply at some aspect of reality and abstract its conceptual essence till one succeeds in uncovering its underlying axiomatic truth. These seeds of truth can then be conveyed to the companion power of Binah for the sake of intellectual analysis and development. (Wikipedia, 2017)

This would mean, perhaps, that these spiritual dimensions are only embodied by humans in the interface or membrane between the spiritual realm and the physical universe as we perceive it or as we get to know it through our senses and subjective or inner being capacities. Therefore, we could conceive that this kind of non-symbolic and pre-symbolic mathematics will inform the

[1] For a thorough description of 'holy' and 'evil' see Paper 54 of The Urantia Book.

symbolic one of the human mind. However, the mathematics we write here, in the physical universe, differs greatly and qualitatively from the non- and pre-symbolic one. Perhaps the best approximation in articulating the mathematics of the spiritual realm is through presence and actions, which are so well apprehended through inspirational music, chanting and dance, actions of kindness, as well as inspiring story telling.

The gap still existing in describing and modeling the dynamics between the spiritual and physical realms is, more likely, even bigger than the one that exists in modeling the gap between the microscopic (quantum) and macroscopic (classical) bio-physical systems. We still lack many bridges that we certainly need to build very carefully. Perhaps, symmetric physics and backwards and forward time mathematics invoking PDEs may indeed still hold the keys between eternity and time-space boundary conditions. However, one more time, this is the subject of another set of papers, books, and decades even centuries or millennia of research. This is about 'The Great Unknown', paradoxically known or at least described in poetry, philosophy and spiritual treatise by many sages of different cultures, and particularly by Chinese sages, as the **Tao**.

So far it seems that one of the big questions here would be, 'should we develop or create the mathematics that link micro with macro, and even more challenging, spiritual with physical, which is indeed an equally fundamental and necessary undertaking at this stage, together with the study and advancement of biophysical models of consciousness?' This is a process that somehow happens in parallel, both formally and informally, where all individuals, organizations and societies as wholes have to set priorities and resources aside to accomplish this task.

Perhaps another alternative which is equally valid to consider for our species in the eyes of many, would lead us to accept that we will never develop such bridges symbolically and we must access that kind of meta-mathematical comprehension via spiritual resonance and then embody that in presence, actions, words and the transmission of 'signals' or 'entanglements' associated with that kind of non-symbolic wisdom.

In any case it seems that we must prioritize our spiritual exploration, self-actualization and self-mastery to expand our consciousness, awareness and creativity in order to improve our survival skills so as to pursue justice, freedom, happiness and holiness. This presents us with a kind of circularity where our survival skills influence our capacity for spiritual growth and spiritual growth in turn influences the betterment of our survival skills. As folk Jewish wisdom would state: "There is no Torah without food and there is no food without Torah."

Returning to our choices and priorities, in terms of mathematical research, another big question that arises is if we should conform and comfort ourselves with Gödel's theorem of incompleteness or should we attempt a proof that the mathematics to bridge the gap must exist somewhere in the synergy between the spiritual and the physical, even though we have no bridge available yet that would strengthen the case for continuing in the efforts to derive the equations and models. Perhaps, this is what both Kabbalists and String Theorists have been able to provide for us so far on theoretical grounds and empirically untested and reproduced in different labs, apart from the laboratory of life with its countless accounts based on anecdotal evidence.

Based on this narrative, the need of new paradigms to address these complexities arises since either The Creator, evolution or both have allowed our brains~minds to produce the many isms, like materialism and metaphysical idealism amongst others. We should consider then, from at least an evolutionary perspective, that all these beliefs and isms are fundamental to our survival and certainly incomplete, they are unfinished business: rationally, biologically and spiritually. It is also important to remind ourselves that according to many of the findings of different systems neuroscientists, like Karl Pribram and particularly Walter Freeman and collaborators, the brain is geared to the creation of knowledge and meaning for intentionality and decision making, for survival, enjoyment and appreciation of the good, beautiful and truth alike.

Both, 'The Paradigm of Melchizedek' and the work of Paul Werbos (Werbos, 2015) on sanity and integrity invite us to continue in this quest and yet, even though intellectually sometimes we may be left, after deep thinking, research, analysis, introspection and spiritual experiences, with the question of:

'*Would it have been better to leave it in the silence or to write this narrative?' since this can be read as a meaningless document or a vastly complex meaningful story which just gives us at best, an insight of how difficult this topic is to communicate and to be comprehended by the average human mind in sequential time-space symbolic writing.*

IVa.- The Emergent Paradigm of Metaphysical Ideal~materialism - A Synergy between Uncle Albert~and~Uncle Paul.

We could imagine human existence and consciousness as a learning process which integrates the laws of physics, together with the concept of the noosphere with some extensions to the original views of Pierre Teilhard de Chardin (Teilhard de Chardin, 1959) (Teilhard de Chardin, 1964) and the responsibility left to humanity to fine tune his or her soul and mind to the movements of such an intelligent cosmos, where sanity and social order emerge when the proper decisions and optimization strategies are in place. Surely, humans will be aided both by the language of mathematics and the language of the soul.

It is possible and valid to conceive a situation where a person lives in an emergent paradigm, where a synthesis could be reached while this person is still 50-50 about whether a concept like: a) 'Einstein materialism' should be considered the ultimate truth about the underlying laws of everything, on which a lot of emergent phenomena are built, or b) the existence of something else and if something else, what would that be? Shelli Joye's thesis (Joye, 2016) attempts to spell out one possible answer to the 'if not Einstein, then what?' question, however it falls short to give a clear answer which may be too much to expect. Her description of consciousness and the cosmos lacks a proper mathematical structure like, for example, a Lagrangian or an alternative mathematical space. However, she manages to connect: a) the holonomic mind and brain theories of Karl Pribram; b) some of the fundamental interpretations of quantum field theory as described by David Bohm; and c) the spiritual views of consciousness and the sphere of mind as conceived by Teilhard de Chardin. It seems interesting and serendipitous the fact that she takes Pribram, Bohm and Teilhard to be the starting points of her analysis, since apart from Von Neumann, these three (3) people are the starting points of many of the ideas and foundations

supporting the narrative exposed in this section and particularly inspired by Paul Werbos (Werbos, 2015) (Werbos, 2017).

However, what she is really missing, despite her mentioning of Hilbert space is a concise mathematical framework to test the hypothesis analyzed. As a matter of fact, one of the authors of the present work is very acquainted with the work of Karl Pribram and Walter Freeman who was mentored by Pribram (Nualláin, 2016) and who was another giant in systems neuroscience and the studies of consciousness, from whom some of the authors collaborated with and learned together about these complex matters.

The proper scientific method does call for us to avoid overcommitting to just one theory and calls for us to actively support at some level the efforts to cultivate and develop the most plausible possible alternatives. However, to make it mathematically real we must put the effort in empirical research also, yet mind as we know resists the test. We can conceive the possibility that human mind is associated with some form of utility functions and models that transcend objective reality and incorporate further forms of subjective, inner experiences that are integral to mind, as we know it. Mind in the dimensions we lack experimental knowledge of tends to be very fuzzy to grasp and requires more definition to be more than empty words.

In order to incorporate into our exploration formal metaphysical idealism, at this stage, seems like a very difficult task, yet its narratives are still very important and real and require more thought by all of us. One can wonder if idealism will end up being like the many-worlds theory (Vilenkin, 2007), a failure as the ultimate foundation for reality (at least as modern physics goes) yet a great success in pointing towards important emergent phenomena we need to understand better.

If we are to consider a proper synthesis between 'Einstein materialism' and 'metaphysical idealism', we need sharp and clear models, even if we as humans end up acknowledging that we have no evidence for what is true, at least from a scientific and philosophical perspective. A clear statement about our ignorance is much more powerful, useful and honest than a lot of the fuzzy material we read about elsewhere.

Now, what do we mean by 'Einstein materialism'? That's a phrase that Paul Werbos, coined recently to refer to the theory that the entire cosmos is governed at bottom by Lagrange-Euler equations of a Lagrangian defined over a slightly bent Minkowski space only by presence of the usual type of metric tensor, like the Minkowski space of general relativity (Werbos, 2017).

At this stage we must say that the normal, mundane life of humans is now lived almost entirely in a sheltered valley, a valley bordered on one side by the length scale of three (3) femtometers, and on the other by three (3) light-years. Mundane life in that valley is governed almost entirely by the 'Schrödinger equation.' Beyond the valley, there is astronomy peering out (with huge unknowns) in one direction, and deep physics on the other with even more unknowns on the other side, as well as, the role of dark matter and energy and spirit beyond the mundane, operating on all these scales of length.

When considering the existence of spiritual realities we refer to metaphysical idealism in order to mean ideas pointing as to the true cosmos as more or different than just a great machine and more like a Great Mind or Living Soul or Spirit. These ideas and thoughts are actually more fundamental than any kind of physical field in the ultimate makeup of the universe.

However, at this point, it is important to stress that as human beings, decisions concerning survival, inner peace, mathematical achievement and the appreciation of beauty towards a most harmonious social order, are based on Bayesian sanity as described by Werbos (Werbos, 2015). This is more fundamental for the individual, we propose, than either of these theories about the cosmos as a whole. This is why at this stage, for some scientists with an aversion to risk taking, it is appropriate and conservative to simply attribute a subjective probability of about 50% to Einstein materialism, 25% to metaphysical idealism, and 25% to the possibility of something quite weird which would in a way be half-way between the two, without any claim that such subjective estimates are hard and robust; they are only expressions of individual uncertainties, and certainly any other probability assignments would be appropriate as a measure of imperfect information.

At this stage we must ask if 'metaphysical idealism' will succeed as an inspiration and lead us to consider important examples and technologies that we might have missed otherwise and therefore, end up being more important than we now expect as part of the emergent phenomena of our own minds, both at the mundane level and beyond. But how do we make that inspiration stronger and more vivid? How do we carry metaphysical idealism beyond the realm of words?

If a true intelligent system as we know it, like the brain, approximately maximizes the expected sum of utility over future time, if it is designed around Adaptive Dynamic Programming (ADP) as a central principle, learning more and more how to get closer to the optimal strategy or policy of action, what could we say about the cosmos; which exactly maximizes it? Does exact perfect knowledge and computation make it more or less intelligent? How do we think about that kind of cosmos? In what way is the cosmos already a great mind, a perfect mind, according to extended Einstein materialism?

More formally, there may be basic mathematics saying how a MinMax cosmos (extended Einstein materialism with a MinMax type of Lagrangian) may yield stochastic mixed strategies leading to substantially stochastic-appearing emergent behavior. This may well be a serious possibility for how to view our cosmos when we familiarize ourselves with Von Neumann's Theory of Games and Economic Behavior.

In this way we can conceive the Cosmos as a Great Mind (with MinMax capabilities) based on our local Lagrangian formulas. However, why should we care about how the whole cosmos works? Well, if the cosmos itself is intent on something and the cosmos is all-powerful in its way, our ability to live our lives and serve the values we care about, due to utility functions inborn in our brains and souls, depends on our learning how to work with such a cosmos and its values. Understanding how it works, as well as its values, would give us a better knowledge of self. After all, we are products of what the cosmos does.

We have found in these views proposed by Werbos (Werbos, 2017), together with our own explorations, that there appears to be no problem with 'Einstein materialism' expecting the evolution of life and intelligence to exist both in the dark matter as well as in ordinary matter, and in our case in the spiritual realm. The concept of symbiosis between one level of life and another is powerful enough to encompass all the many forms of spiritual or metaphysical interaction that people have credibly observed influencing reality similar to how the 'noosphere' (Teilhard de Chardin, 1959) (Teilhard de Chardin, 1964) and some form of 'mental morphic fields' (Sheldrake, 1988) (Goswami, 2003) would modulate physical reality, doing justice to the fact that these kinds of experiences have been reported in time and space by living humans who are part of The Cosmos and its laws.

In summary, 'idealism' can actually emerge, even in this class of universe, just as the appearance of many worlds can emerge. The concept of many worlds is more valid than many people have thought because of this emergence aspect. Could it be that 'metaphysical idealism' is similar? Could it be that that class of model of the cosmos is worth thinking about because 1) it may lead to the knowledge of the ultimate truth, and 2) because it might still be useful in describing emergent realities, even if it fails to describe the ultimate one?

In this sense we can imagine more vividly a cosmos like a Great Ocean, the kind of mind proposed by many serious and experienced Hindu mystics (Aurobindo, 2010). This kind of mind fits well with the model of back-propagation within a noosphere (Werbos, 2015) (Werbos, 2017) (Werbos, 2009) (Werbos & Davis, 2016). Could a collection of noospheres be considered a network within a universe that works like a kind of thalamo-cortical prediction system, pre-affect?

At this point we must remember the phrase "People Are Real, the World is Not", since regardless of the kind of universe we live in, it is us together, caring to know how to communicate who improve the quality of our lives in order to express the goodness in us, when for example, we make an effort to improve science for the betterment of humanity. Let's remember that the world is a mental construct projected in matter, like buildings and cars, while the planet and life itself is a living organism and perhaps a living being with soul and mind and as such it can only be known through our limited senses (perceptions) and our mental or spiritual insights.

So far we can say that we feel comfortable at this point to express in terms of 'Einstein's materialism' the possibility of: a) an underlying Lagrangian to describe a cosmos that includes human decision making integrated to some kind of 'metaphysical idealism' and b) that there is no reason to constrain the mathematical tools to describe such a universe to PDEs, and therefore, other approaches might contribute to this aim, like network and graph theory. That could be described as a kind of envelope expressing certain causality principles that could be discovered when looking 'under' such an envelope. We could expect the PDEs envelopes to work in most cases, however, we also foresee the potential role that graphs and networks play going beyond differential equations. This would allow us to see the world perhaps more generally.

Hopefully this paradigm will be at least complementary to the views of sages, philosophers, scientists, artists and more importantly, the common men and women who ideally will derive

insight that will serve their own spiritual growth, evolution, consciousness and the understanding of the universe.

We should never sub-estimate the power of imagination that is present, in for example, a young man or woman who is a clerk at a watch shop or in a patent office.

IVb.- Essence and Evolution from the Perspective of a Shoemaker, an emergent paradigm of Consciousness.

Bob Walling (Babu), one of the authors, has put forward a narrative of the formation and evolution of the Universe (Walling, 2017) (The Science of Peace, 2017). Following we present an introduction to such a narrative which includes: 1) Essence and Evolution - The Context; 2) Evolution and Culture - The Challenge and 3) Culture and Transcendence of Culture - The Adventure and Two Solutions:

1) Essence and Evolution - The Context.

Our universe is an open system (Meadows, 2008) (Roberts, 1983) (von Bertalanffy, 1968). It's only input and output is pulsing "Enformal"[2], dimensionless, infinite Space that we have called Essentia. Everything and every event in our universe owes its existence to the flow of Essentia. The qualities of Essentia define goodness, beauty and all virtues as well as create, form, direct and nourish all of the physical entities, attributes and events of our physical universe. In that sense, events are caused by values (The Publishers, 1951) (Laozi, 2006) (Stern, 1998) (Buddha, n.d.) (Prabhupāda, 1972) (Urantia, 2001) (Hurtak, 1977).

The primacy and postulate of Essentia:

The flowing input and output of Essentia unilaterally creates, nourishes and challenges all entities and events and shapes the evolution of all natural systems in our universe, non-linearly, turbulently, synergistically and stochastically in appearance. What Essentia inputs into our physical universe is creative and transmutative and what Essentia outputs from the universe is selective.

The universe is entirely shaped by two distinct, semi-connected evolutionary processes: the birth and evolution of open systems comprised solely of Essentia and, within these Essentia systems, the birth and evolution of open systems comprised of Space-Time-Energy-Matter (STEM).

Essentia systems create and drive all STEM systems in one-way causality. STEM systems are entirely affected by, yet never affect Essentia systems. Every STEM system is embedded in and is an open evolving subsystem of one or more Essentia supersystems.

The evolution of both Essentia systems and STEM systems happens through processes of highly

[2] The term "Enformal" is coined to imply an essential or spiritual kind of space different than the notion of space in physics or something similar to the aether or quintessence of space.

non-linear and apparently stochastic change (transmutations) and selection.

A model of intelligence and consciousness:

Intelligence is a feature of all open systems. Intelligence has three (3) functions in such open systems: Selecting input, directing conversion of throughput and selecting output. Intelligence, as a selective capacity, is the core organizing feature of all sustained open systems (Raković & Koruga, 1996) (Davis, 2009) (Davis, 2015) (Davis, Gillett, & Kozma, 2015).

Intelligence is also the core capacity that creates and maintains all the relationships among purely Essentia systems and of Essentia super-systems with their respective STEM subsystems.

Consciousness coexists with Essentia intelligence. It is a second-layer- or meta-intelligence, it is The Intelligence of intelligence. Consciousness selects a filtered and refined portion of those inputs, throughputs and outputs that have already been selected by intelligence. Consciousness exists (He, She or It is) while intelligence acts (He, She or It does). Consciousness is always personal, while intelligence acts personally or impersonally.

The functioning of consciousness in Essentia systems is markedly different from the functioning of consciousness in STEM systems. Essentia systems share some of their consciousness with STEM systems by "spotlighting" particular flows of intelligence. Inputs to STEM systems are outputs from their Essentia super-systems.

2) Evolution and Culture - The Challenge.

Following we present a narrative of the formation and evolution of culture in the context of an evolving Universe that is created and shaped by the flow of Essentia.

Cultures are a special class of short-lived natural systems invented by some species of STEM entities. Cultures are adaptive technological and social experiments in which members of such cultures instrumentalize parts of nature, including other members of their culture. In other words, instrumentalization is the conversion and use of some components of non-cultural natural systems (minerals, plants, animals and humans for example) to serve as tools for their members. Tools or media are invented as extensions of bodily and mental functions designed to enhance the efficiency and power of those functions.

Cultures are experiments centered on some form of technology, the development and use of tools and the social engineering needed to optimize the use of such tools by their members. Particularly, in larger and more complex societies, as we have known them, the kit of tools almost always includes members (colonizer) and non-members (colonized) of the culture.

The reduction of humans to tools requires both the user and the used to make fairly radical cognitive and emotional revisions of the social programming humans are born with. In that sense a culture is a limiting structure that can and often does degenerate into a self-serving system, becoming an end in itself, to the detriment of the capacity of its members to appreciate, embody and express Essentia values. This poses two different problems: 1) how to prevent this

degenerative process of culture and 2) how to correct it, if it happens (Ackoff, 1974) (Radzicki & Trees, 2015) (Bosse & Gerritsen, 2010) (López, 2015) (McMillan, Simon, & Morenoff, 2014).

Cultural evolution proceeds through the myriad inventions of tools and of social practices (mutation) and their adoption and discard (selection). Cultural systems evolve much faster than the natural systems in which they are embedded. Cultural systems may or may never prove to be long-term adaptive experiments that can be sustainably integrated with the other, slower evolving natural systems in our physical universe.

3) Culture and Transcendence of Culture - The Adventure and Two Solutions.

Following we present a narrative of the transcendence of culture and the emergence of the wisdom needed to integrate our cultural systems with the evolution of the other STEM and Essentia systems in the Universe.

People's use of tools, together with the social engineering needed to use humans as tools, presents the risk of overwriting and dulling (yet probably never obliterating) our genetic programming. Our wild and original genetic programming has evolved to enable us to appreciate and express Essentia Values. Instead of being integrated into the life of a mature adult, this wild or raw programming that infants are born with, is often marginalized by immersion in culture.

Transcending culture is an ongoing practice by means of which acculturated individuals sooner or later become aware of and take responsibility for continuously restoring themselves to a full functionality, consonant with the wild and raw programming they were born with, seamlessly integrating it with their cultural programming. To transcend culture is the first step in becoming, at once, the wildest possible cultured individual and the most cultured possible wild Individual, who is willfully and consciously expressing Essentia Values.

Transcending culture as a daily practice begins a process that eventually enlivens awareness of the primacy and everyday function of Essentia as the creator and driver of all the natural systems in the Universe. As this enlivened awareness develops, it especially enables a person to appreciate fully the particular ways in which Essentia operates in the wild, un-acculturated environment, within individuals and within cultures.

People transcend culture through alternating and integrating a course of self-transcending processes we refer to as education and synergetic trans-education. These involve resources for individual transition and transformation that cultures provide to help their members first to become acculturated (education) and then to become wild again yet conscious of Essentia (synergetic trans-education) in a transcendental oscillatory complementarity of the expression of cultural, wild and Essentia Values.

It is only when members of a culture first learn to transcend their own and the dominance of all other forms of culture in their lives, that a species can begin to integrate successfully the evolution of their cultures and their biological evolution, together with the evolution of other natural systems in our universe and most especially with the evolution of Essentia systems.

If human experiments with culture are to become sustainable, we will first undertake to lift the pall of preoccupations, assumptions and beliefs that culture itself casts over our minds and lives. Release from the dark and heavy burden of an acculturated mind and heart will require more cultural wisdom instead of less education and culture. It will require that cultures place the highest value on wisdom itself and so foster self-transcending cultural practices and culture-transcending natural practices.

Transcending culture would be the first and most essential step by which, sound and successful cultures would eventually help their members, to become devoted in making wise use of their technology on which their cultures are operating based on Essentia Values. The first priority of these cultures will always remain the fostering of daily practices that promote transcendence by the members of the culture itself (Coleman & Deutsch, 2012) (Tart, 2015) (Davis, 2015) (Meadows, Meadows, & Randers, 1992) (HeartMath Institute, 2015) (Lewis, Amini, & Lannon, 2000).

The paradigms already introduced present many similarities and some of the integrative challenges between subjective and objective reality that may lead to a synthesis between the spiritual and the physical complementary pair to better understand culture and behavior towards individual inner peace and social harmony. Our success as a species towards such a regime or scenario, will depend on improving the quality of our instrumentalization process by incorporating the means to transcend culture and the instrumentalization process itself in a continuous set of transmutations which allow for our 'wild' genetic code to resonate more efficiently in Essentia transactions being to being, and in so doing minimizing the risk of instrumentalizing the human species for selfish and destructive purposes.

IVc.- The Connective Paradigm of Melchizedek

If we aim at deeply understanding reality and consider a spiritual field that permeates the physical universe, then we are in need of a new paradigm for research. "The Connective Paradigm of Melchizedek" is such a paradigm that accepts as tautological and as self-evident the existence of The Creator as the source of a spiritual field of Universal Values (something like Essentia as described in the previous section), different in quality from, and even more beautiful and dynamic and all-inclusive than the quantum field and the ideas of platonic values. This paradigm also accepts and embraces The Creator as the Source of this field.

Plato's great insight that goodness and truth are one, certainly supports the development of brains and hearts capable of inquiring about reality and of doing science as part of an integral, loving and caring way of life engaged in the betterment of our knowledge, perception and experience of reality, that more likely increases the quality of our experience in all aspects and dimensions of human existence.

The Connective Paradigm of Melchizedek is an alternative to The Promissory Materialistic paradigm which has failed, so far, in explaining consciousness and has assumed that consciousness is an emergent property of matter, promoting a kind of research based on

foundations that also assume what should be in question, 'Can consciousness emerge from matter alone?'

However, when we consider reality with an open and inquiring mind together with the spiritual foundation grounded in love and grace (Davis, 2009a), then we may be attuned to reality, through revelation, insight, observation or measurement, and all of that puts us in touch with something greater than our own neural processors, and with new insight, knowledge and wisdom, we become equipped to address the creation of possible futures and reality, by choosing carefully our thoughts and via better thought patterns achieve a higher or better way of thinking.

Through this systemic line of thinking we move away from a closed materialistic perspective of the kind of research conducted by V.S. Ramachandran (Ramachandran & Blakeslee, 1998) to explore ways of thinking such as that of Francisco Varela (Varela, Lachaux, Rodriguez, & Martinerie, 2001) (Thompson & Varela, 2001), Humberto Maturana (Maturana & Varela, 1987), Stuart Hameroff (Hameroff, 2006) and Fritjof Capra (Capra, 1996) for whom consciousness is regarded as the process of life, an autopoietic system or self-organizing and self-making system and where life and cognition exist at all levels of reality and that consciousness somehow shapes and breathes life into the whole of the universe. However, we certainly include in this paradigm, spiritual values and their source which completes, in our view, a sound systems conceptualization and modeling of the universe as experienced and reported by most people. This is an all-inclusive paradigm, focused on consciousness and the possibility of a personal dialogue, in a personal relationship with the process of Life and The Creator, that deals with the dichotomy of personal/impersonal, where these apparent opposites are a complementary pair, à la Kelso (Kelso & Engstrøm, 2006).

Up to this point we can affirm that 'The Connective Paradigm of Melchizedek' allows us to understand the work of scientists who are building the bridge between these two (2) domains of reality, the spiritual and physical in a spiritual-scientific synthesis.

Consciousness is life and it is a system. Neurons interact within us while we act and affect others, and all these systemic interactions shape our conscious experience that in turn affects our neural dynamics.

This paradigm differs from a) the Promissory Materialistic one, and b) also from a purely energetic, holistic and systemic one. The first turns our view towards the machinery, and the second to why that machinery exists and how it works. One defines the universe as an impersonal machinery, the other as an impersonal living organism.

'The Connective Paradigm of Melchizedek' considers the universe as existing by and through the presence of a fully conscious, cognizing, loving and Living Being and a network of personal beings that can be described as a set of holons. It tells us why the machine or the living organism exist in time and space in both personal and impersonal relationships, and what the purpose of these holons is in the larger system.

In this paradigm, self is actually molded by something, which is greater than just our bodies and where we move from a sense of identity based on what we do or information like 'I am a musician', to a different one like, 'I Am the Music.'

Such an expansion and shift in identity allows one to state, I am the Love of God showing compassion to a person who just fell on the street, therefore becoming cognizant of an identity that comfortably and genuinely can be expressed as "I am an embodiment and expression of Universal Values, perhaps, my real and only Identity, the I Am Identity."

In the context of this paradigm we use the words Tzadik or Tzadikah derived from Hebrew (meaning righteous) to refer to human beings who have achieved this state of consciousness and exist in their I Am Identity. These kinds of people live with an altruistic orientation, moved by spiritual service to others and the manifestation of actions of kindness to all creation.

It is important to note that Spiritual Values are invisible and apprehensible presences, essences and forces and they may become accessible to us at will, aiding in the discovery of our own sense of identity if that is to be our I Am Identity.

Once these Values are accessible to us at will, we are given Presence and power of action, and our jurisdiction or sovereignty in personal relationships is prescribed for us to fit with our destiny as co-creators, and planters of the seeds of wisdom and goodness. This also means that The I Am Identity prescribes our jurisdiction or sovereignty in interpersonal relationships by oral decree and sets the foundation for Law and Justice.

Human conflict is usually rooted in different beliefs and behaviors that limit inclusiveness. These destructive behaviors are partially the consequence of conditioning associated with behavioral values that are relative in meaning, power, goodness and beauty, to our biological, physical, objective reality and its priorities, however they can be transformed by the effect and agency of Spiritual Values.

Spiritual Values help us to overcome our fears, which are fueled by survival needs and lead to destructive behavior. Behavioral Values arise because we are human. Paradoxically and complementary, in order to express Universal Values we need a body and a means of communicating and for that we need a brain, a central nervous system and our bodies in large, at least on planet earth's evolution so far.

Spiritual Values allow us to move from a reactive, behavioral and informational sense of self, à la Metzinger (Metzinger, 2000) (Metzinger, 2003) and Ramachandran (Ramachandran & Blakeslee, 1998), to a proactive sense of Spiritual Self.

So, what can we learn from the Tzadikim and Tzadikot apart from the words of wisdom they share with us. Could we possibly learn about their brain and heart dynamics with their associated electromagnetic fields and have a gaze, through systems and brain-field neuroscience, at the kinds of states they exist in. How much of the standard model associated to Quantum Field Theory can provide for such a framework of research?

Could scientists study consciousness like that, hand in hand with philosophers and wise spiritual people? Well, it seems that the time to find out is at hand if we are genuinely interested in the business of Peace. To do that, we must find Tzadikim and Tzadikot and engage together with them in the study of consciousness from a scientific-spiritual perspective.

What is "The Brain of Melchizedek" then?

"The Brain of Melchizedek", is a brain geared to the embodiment of Spiritual Values in a way that is meta-stable; regarding metastability see (Kelso & Tognoli, 2007) (Freeman & Holmes, 2005). As the brain goes from human consciousness to God's Consciousness, a person's perception of reality changes from a survival map, based on reactions towards threats, fearful situations and so on, into a map of reality capable of existing in the presence of 'a Peace that surpasses all understanding.'

"The Brain of Melchizedek" is a whole, and that whole is capable of large-scale integration between neural assemblies through oscillatory synchronizations and de-synchronizations as described by Kozma (Kozma, 2008) (Kozma, 2007a) and Walter Freeman in his K Models, in the analysis of ECoG Signals (Kozma, Aghazarian, Huntsberger, Tunstel, & Freeman, 2007) (Kozma & Freeman, 2008) (Kozma & Freeman, 2016), and the non-linear brain dynamics of Freeman and Vitiello (Freeman & Vitiello, 2006). Understanding and modeling brain transformation and transmutations is just part of the journey in learning to overcome Behavioral Values through the agency of Spiritual Values.

These same principles also apply to other oscillatory systems and their synchronization and de-synchronization. The brain, the heart, the respiratory system, digestive and autonomic nervous system, and at a macro level, the synchronization between human beings, which can perhaps be modeled by expanding on the work of Kozma and Freeman where the K5 and the K6 Models could be developed to support the understanding of intentionality in 'God Conscious Communities' for example, together with their inter subjective and collective expression of Spiritual Values. It is important to note that, although from a scientific perspective, Walter Freeman was inspired by Aquinas in many ways and particularly on his views on intentionality (Freemam, 2008) (Davis, Gillett, & Kozma, 2015).

Could it be that such highly aligned groups of people or communities sharing a vision and values to which they are fully committed would also share a form of collective synchronization. If that actually happens, if synchronicity is real in the way described by Rupert Sheldrake (Sheldrake, 1981) (Sheldrake, 1988) (Sheldrake, 1994) (Sheldrake, 2003), Carl Jung (Jung, 1973), and Jibu and Yasue (Jibu & Yasue, 1995), it would suggest that in fact, we are holons as part of some larger whole and order, perhaps God's Order.

'The Paradigm of Melchizedek' is inclusive of people who lack the experience of knowing The Creator personally, or have yet to conceive the possibility of such a relationship as valid for them. Still they can come to the crossroads of the embodiment and the knowledge of Spiritual Values, like Love and Truth, in an impersonal manner, meaning that they lack a personal relationship with The Creator. However, these same people can know Love in themselves or in personal relationships and they can be Peace, as in the case of an altruistic, loving person who is

an agnostic, a materialistic scientist or an atheist musician. Personal and impersonal ways of relating to the Creator~Cosmos and embodying Universal Spiritual Values have been considered by (Maslow, 1964) who wrote about Being Values (or B Values) and the crossroads between a personal relationship with the Source of Values (Union with God) or the impersonal embodiment of B Values.

Finally, we need to mention that both present and future research under The Paradigm of Melchizedek is and will be concerned with the understanding and modeling of the Propagation of Peace both in communities and nations, as well as trans-generationally. This we call Melchidynamics and it comes with the possibility to re-engineer or redesign consciously our evolutionary-spiritual path towards a peaceful humanity through the study of the Peace Propagation Process. For a deeper understanding of how to model such a process, we point to the works of Perlovsky (Perlovsky, 2007), Robert Kozma (Kozma, 2007a) (Kozma et al, 2007) (Kozma & Freeman, 2008) and 'The Brain of Melchizedek' (in particular Appendix C) (Davis, 2009) (Gillett & Davis, 2015) (Davis, 2016) to support this undertaking.

IVd.- Another perspective on Decision Analysis

According to R. Howard (Howard & Matheson, 1984), Decision Making is the process by which a set of alternatives is evaluated and a choice or selection is made as the best-perceived action to be taken. This process is inherent in any living organism whether its consciousness is still focused on survival mode, or at a very high level, where the decision making process is immersed in the context of manifesting some ideal or noble goal in an altruistic way, for the benefit of a larger whole (organization, country, humanity or the whole universe).

There are different elements involved in the process of decision making whether it is collective or individual. Some of them are the values, beliefs and goals of the decision maker as well as the psychological attitudes towards risk. The process can be very rational and logical or mainly intuitive. A combination of thoughts and feelings are always present and the harmonization of them at a collective level requires an understanding of personal values, different points of view and the perception of the bigger picture by the people involved in the process.

Information gathering and synthesis, as well as communication, plays a major role in the process of evaluation of different alternatives. Usually a clear description of the situation and the relationships of the different elements involved, as well as a way of measuring the benefit or utility of different alternatives, facilitate the process of finding consensus.

One of the main things to be understood is the difference between decisions and outcomes. It is likely that people would feel more at ease when they know that no matter what the outcome of certain actions or choices were, they made the best decision.

The quality of a decision can only be evaluated by being consistent with the choices, information and preferences of the decision maker, never on the outcome, which usually is uncertain.

It is wise to do whatever can be done in order to use all the elements that are under our control to make the best possible decision that increases the chances of a desired outcome and at the same time it is important to make a distinction between the quality of the decision and the quality of the outcome.

It is important at this stage to mention that many decision makers (the large majority of humans alive) rely on some form of faith to assign subjective probabilities to different events or outcomes, and also that many of them claim a form of certainty for success in following some form of inner guidance in the process of decision making, whether it be purely intuitive, purely rational or a combination. According to George F.R. Ellis (Russell, Murphy, & Peacocke, 1995, p. 386), we can consider the possibility of God's intervention in our physical reality and our world through God-centered minds:

> This is to consider the possibility that within the laws governing the behavior of matter, there is hidden another domain of response of matter to life than usually encountered: matter might respond directly to God-centered minds through laws of causal behavior, or there may be domains of response of matter encompassed in physical laws, but they are seldom tested because such God-centered minds are so seldom encountered. Then the distinction between ordinary and extraordinary action becomes a question of whether or not we have entered this domain. What has been classified as "extraordinary" action above would be "ordinary" action but in a different set of circumstances leading to a different kind of response and behavior where God-centered thought dominates and matter responds. Thus, we have the possibility of the existence of a new order, new regime of behavior of matter, where apparently different rules apply, when the right "spiritual" conditions are fulfilled.

Such a possibility, opens up room for an improvement in human decision making, perhaps we shall call it, 'super conscious decision making.' Such possibility we should avoid ruling out regardless of its verifiability, since the cost associated to shutting down that door would be too large.

v. Discussions

Some important points need to be summarized to close this challenging and vast exploration, however, before we do that we would like to introduce the reader to some aspects of the large body of ancient wisdom.

We foresee that the different stories about the archetypal figure of the monkeys of China, India and Ancient Israel could shed some light about ancient wisdom concerning the spiritual transformation of human beings from a purely survival and reactive modality of existence to one based on the embodiment of Spiritual Values and lasting inner peace.

Following, we introduce the reader to these vast and fascinating bodies of wisdom, stories and religious and spiritual themes. By no means does this brief introduction pretend to be a treatise on the spirituality of the East, yet it serves the purpose to direct our attention to some important

cognitive and spiritual individual transformations that are necessary to attain peace and we point out that they are related to the essence of these monkey stories of India, China and Israel.

The monkey is a peculiar animal that has been adopted by Hindu and Buddhist lore in India and by many of the teachings associated with the Chinese zodiac as well as Taoist wisdom (The Publishers, 1951). The monkey for the Chinese seems to embody many opposing or conflicting behaviors where sometimes it is described as impatient while at other times it is described as clever and cautious at assessing difficult situations.

In Japan, Shinto and Buddhism also share the monkey as an ally in spiritual story telling. The monkey is seen as a messenger of divine beings and sometimes, as a kind of avatar or a physical manifestation of a demi-god or angel. It is important to remember that the three (3) monkeys usually carved in stone are calling us to "Speak No Evil, Hear No Evil, See No Evil."

Somehow the monkey is on one hand represented as foolish, mischievous and full of vanity while on the other hand he or she learns and changes to a new way of being and eventually attains enlightenment and salvation. In that sense monkeys become responsible, devoted to spiritual life, they seek for repentance, and because of all of that, they become role models with the promise of salvation to everyone who seeks and commits sincerely to the path of transformation.

In Buddhist practices and stories (Buddha, n.d.) monks and disciples are instructed to conquer and tame the "monkey mind" and are told that this needs to happen before the continuous practice of meditation can bare fruits. This means that monks are to overcome the restless monkey mindset and stop jumping from thought to thought represented as the branches for the monkey. Interestingly, we observe that the words monkey and monk share a semantic commonality with a difference that for us is informally, metaphorically and casually associated with a spiritual transformation. It is also important to note that this is just a play on words where, more likely, these words have no association to each other in meaning.

In Sanskrit the word for monkey is 'Vanara' and one of the famous vanara figures to appear in India was Hanuman, the monkey warrior, who is a character of one of the important stories of India (Sattar, 2010) (Dharma, 1999), the Ramayana story that dates to the period between the 5th to 4th century BCE. Hanuman appears as an avatar of Siva whom with Parvati, "the daughter of the mountain", became monkeys and lived a playful life that led to the birth of Hanuman. As one of the many stories go, Hanuman's parents, realizing he was a monkey, had to devise a way to properly raise him, however with the potential to grow spiritually and attain a new status, consciousness or cognitive map as we would say it in modern cognitive neuroscience lingo.

In Buddhist tales, monkeys are depicted as practitioners of virtues like good will, strength, equanimity, and patience and eventually they achieve Buddhahood. However, initially, they start as creatures driven by survival and bounded by desire with a strong attraction, through the senses, to physical things bordering on possessive behavior and territoriality. These analogies are supposed to represent human cravings for possessions. Later on the monkeys transform and we find them in stories like the one of Buddha's Awakening where a monkey brings him a bowl of wild honey showing generosity.

We come to the final part of our exposition of the stories associated with monkeys in different cultures and particularly now, we introduce the stories about the monkey as depicted by ancient Israelite wisdom that derives from the twelve (12) tribes of Israel and her wise men and women.

The word for the Hebrew letter Kuf (ק), means monkey in this language. Usually the monkey is represented as an imitator that, like a parrot, repeats and copies what he or she sees. In The Zohar (Yochai, 2003, pp. 21, Vol. 1, Prologue) the letter Kuf (ק) together with Reish (ר) are depicted as impure, unholy and evil, without any association to life until they are brought together with Shin (ש) and form the word sheker (שקר) which means lie and needs to be transformed by the agency of shin (ש) and other Godly attributes. This transformation leads to the word keresh (קרש), a board made of acacia wood and signifying the purification of a human being leading to the transformation of the lies associated with a purely material life to one of righteousness, sanctity, integrity and loyalty to the Spirit of Love, Light and Truth. We are reminded that in The Zohar the letter Shin (ש) is described as the letter of Truth.

Therefore, the monkey is associated with a process of inner transformation from unholy to holy, and impure to pure. We also see in this body of ancient wisdom, that the monkey is associated with irrational thinking when in primitive states of consciousness, however, after purification, it attains higher rational and cognitive abilities in order to improve his or her thinking that lead to wisdom and skillful action.

In the ancient text "Sefer Yetzirah", the book of formation (Kaplan, 1997, p. 197), Kuf (ק) is presented as one of the letters that integrates the alphabet of creation. This letter is also part of a subgroup called the twelve elementals which according to the book, are connected with the twelve (12) tribes of Israel, the twelve (12) signs of the zodiac, the twelve (12) months of the year as well as twelve (12) attributes, namely: speech, thought, motion, sight, hearing, action, coition, smell, sleep, anger, taste, laughter. The letter Kuf (ק) is associated with laughter, another characteristic attributed to monkeys. Laughter is so important that when associated with healthy humor, it is seen as medicine for the soul, the mind and the body.

Similarly to Buddhism, Chinese Taoism, Japanese Shinto and Hindu ancient stories and wisdom, the letter Kuf (ק), the monkey, may represent death and negative thought, speech and action or it may carry the seed of the transformation of the soul.

We should now be in a position to understand why spiritual values and the possible existence of their source, The Creator, should never be ruled out face value or ignored when we aim at the proper systemic understanding of the realities associated with human consciousness, intentional action and value based decision making. In a similar manner, issues like the Bohr-Einstein controversy should never be approached from a defensive position of one of the sides and sacrifice the benefits and merits of either of them for the sake of a spatio-temporal, economic and cultural convenience.

More wisely, these complementary views leading to difficult questions about reality should be approached in the spirit of exploration and adventure and we should leave them open for further soul search and scientific research. We should be assured that even in the face of having to

accept the fact of a very slow process of discoveries, this journey of exploration itself would be extremely valuable, opening new lateral doors and windows for a better understanding of life, human consciousness and the cosmos at large and more importantly, it would better the way we study complex systems and deal with complementary opposites and their harmonization.

The advancement of science with such a systemic view would also, we conjecture, bring benefits in the way management science is applied in our daily lives in order to optimize utility functions associated with individual wellbeing, health, happiness and social harmony under both convex and non-convex restriction spaces, something which still needs careful study.

This improvement goes hand in hand with the improvement of the systems of law fostering the tendency of self-governance and peaceful living.

In our modern societies, we are witnessing to the polarization of great numbers of people towards different theories and political, economic and religious ideologies that on their own have proved incomplete at best, if perhaps a failure, to support us with the ideals of social peace and justice. When reflecting on the facts of modern stress related to social disharmony, we find that we can derive goodness and wisdom, as well as, severe limitations from all these theories and ideologies. From physics we have learned that matter and light can show particle and wave like behavior. Similarly, socially we could extrapolate that order and social peace could take place both when the needs and personal dreams of individuals are secured, as well as, the common wealth of the community. This may more likely require a certain alignment to a shared vision and values and particularly, those values that serve as a unifying field, should be less behavioral and cultural based and more universal and common to all cultures.

What kind of social order could possibly emerge depending on the advancement of humanity towards a more peaceful, spiritual and scientifically sound society?

Let's first explore some of the different scenarios that could emerge in the light of relatively recent events:

1. Tyrannical or benevolent dictators.
2. Tyrannical or benevolent kingdoms.
3. Corrupted or healthy democracies.
4. Corrupted or healthy republics.
5. Tyrannical or benevolent tribal council of elders or wise men and women.

Every one of these forms of governments could face periods of social abundance, harmony and order as well as scenarios showing more and more tendencies of violent behavior where the majorities are getting poorer and more frustrated.

In any case, a society that comes out of slavery and uses the grace period of freedom to improve and develop spiritually towards a more refined appreciation and embodiment of the noble and sublime values associated with being (holiness), will more likely achieve a tendency towards and the strength to preserve, health instead of corruption and wise and benevolent systems of law and governance instead of tyranny, regardless of the form of government. Let's remember that both

the Common Wealth kingdoms and the United States of America republic have achieved relative peace within its realms. We must also remember, even if it is true that many kings and queens have shown tyrannical behavior, also it is true that many of them have shown wisdom and more importantly love for the people, which the people have reciprocated.

More evolved forms of government would certainly require individuals more spiritually advanced, where at a certain point in evolution, as humans learn the art and science of self-governance, we would need less rules, police force and military power. In ancient wisdom this scenario is described prophetically by the advent of planetary peace.

So that takes us to an interesting question, what is the form of government we want or aspire to and what kind of metastability chaos~order will arise?

Would it be: a) 'chaos and horde of hoarders' and 'holy and freak' or b) Chaos and Order and Holy and Free?

Our social options from the past which have shown extremely painful processes should be avoided where, for example:

1. The 'holy' empires of whose emperors and close friends and relatives become powerful and wealthy (horde of hoarders) governing over the slave and poor who become the social order~chaos in the manner of an empire with a Jesus figure at the top and the emperor ('holy' and freak) ruling in the name of such a figure.
2. A republic where everyone (male and female) are called to be like a Jesus figure, however, never able to achieve this ideal of goodness and therefore decay into a corrupted republic, another version of the 'chaos and hoarder' and 'holy and freak' scenario, however more pluralistic.
3. A new form of metastable self-organized, self-government, following the narrow path of metastability and complementarity, on the edge of chaos and order and sustained by the agency of trust (faith, pistis, emunah), coexistence (love, agape, ahava) and silent organizing and creative mind (wisdom, sofia, chochmah). A scenario where we witness to chaos and order, harmonization leading to a holy and free society where the members of such a society, voluntarily and through wisdom and understanding, choose a path of spiritual growth.

So, how do we get there from where we are? This should be the question that we need to focus on and ideally fully or at least partially answer as our legacy to the next generations.

VI. Conclusions and future perspective

In the Judeo-Christian English speaking nations we are left with the work of the harmonization of the Kingdom of Israel (never to be confused with the modern 'Jewish' state of Israel) and The Kingdoms of the Common Wealth realms, as well as the harmonization between these two (2) and the Republic of the United States and its annexed territories (like Hawaii, Puerto Rico, Samoa, amongst others). It seems to me there are some very valuable lessons to learn from this

genealogy about government, both human and heavenly, and the very delicate mixture of values and circumstances that could lead to Social Peace.

All of them, Queens and Kings from ancient Judah and Israel, as well as, the Queens and Kings of Wales and England, together with their rebellious children who created the United States of America, with the direct or indirect support and warnings of the Prophets and Prophetesses of ancient Israel, who also advised them about loving relationships with their neighbors and how to achieve social harmony and peace, has left a legacy for us.

We must learn from this legacy what never again to repeat and what certainly to focus on in order to achieve a voluntary spiritual advancement of humanity, where most people learn to manifest the love, light and truth of, for example, queen Esther, Jesus, Buddha, Sri Aurobindo and The Mother in India.

This is a formula that when applied to completion, it comes with the promise to lead us to a long period of social harmony. The formula could be modeled as a semi-Markovian dynamical process (Melchidynamics) that describes the transition between different states, for example: from Slavery (State 1) to Freedom (State 2) and from Freedom to Holiness (State 3, God Consciousness or if the reader prefers enlightenment). So far, we as a species have only managed to partially get to 'freedom' and we have failed as a collective to attain holiness. This translates in the lack of wisdom and spiritual values to secure Freedom and build a spiritually advanced social arrangement. We wonder when humanity will write her-his-its anthem and include something like:

> *"We are the planet of the free and holy under heavens spiritual government, peaceful, loving, indivisible for ever more."*

This is certainly different than:

1. An economic and political process of globalization for humanity and,
2. A supra-national or world government that only focuses on political and economic stability.

It is a social arrangement that ought to emerge as the fruit of our work (spiritual, mental and physical) aided by the Grace of The Creator and the consent of humanity and that one day will surprise us, as all singularities do.

This will more likely come with the actualization of Energy~Mind~Spirit potentials with the power for goodness towards the metastability of human consciousness, health and integrity, where our emotional oscillations should display short cycles with small amplitudes in regions (chaotic attractors) of inner peace and harmony instead of the long cycles with large amplitudes between extreme stress and some form of pain relief which so well characterizes modern day people.

The mathematics and super-mathematics of mind, spiritual values and consciousness should be our symbolic destination. One of the most important tasks together with modeling should be to

ask ourselves questions about what constitutes reality and particularly what part or kind of reality we are referring to or desire to create and experience. What model or models are appropriate to aid this creative and emerging learning process?

This is the new frontier where the complementarity of knowledge and being leads us towards a harmonious, truthful, peaceful and beautiful social order~chaos. The proper understanding and experience of all of these areas associated with human consciousness together with the proper learning environments, we conjecture, will facilitate the emergence or manifestation of New Revelation, Law, Policy Planning and the chaotic attractors of social peace and harmony.

Since the monkey made it to *homo sapiens* we may hope or even consciously participate to the manifestation of the next singularity, *homo pacem*.

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