



The Nature of Everything Hypothesis

The Unification of General Relativity, Quantum Mechanics and Consciousness

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10/9/2012

The NOE Hypothesis concepts are extracted from the combined work of Blavatsky, Bailey and Besant. The original paper, "A New Cosmological Model for Matter, Energy, Sound, the Origin of the Universe and Gravity" is intended as a bridging paper between esoteric philosophy fact and scientific hypothesis. The concepts have been translated into the language of physics and chemistry from the often abstruse language found in philosophy. This paper expands on the concepts and unifies General Relativity, Quantum Mechanics and Consciousness. String Theory is superseded by the Spirilla Hypothesis. Origins of the Universe, definitions for time and space, gravity and Quantum Entanglement are discussed relative to life.

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The Nature of Everything (NOE) Hypothesis and the Unification of General Relativity, Quantum Mechanics, and Consciousness

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(Dated: October 9, 2012)

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1. INTRODUCTION

A theory of everything (ToE) or final theory is a putative theory of theoretical physics that fully explains and links together all known physical phenomena, and predicts the outcome of any experiment that could be carried out in principle.

Many candidate theories of everything have been proposed by theoretical physicists during the twentieth century, but none have been confirmed experimentally. The primary problem in producing a ToE is that general relativity and quantum mechanics are hard to unify. This is one of the unsolved problems in physics.

Over time, the term stuck in popularizations of quantum physics to describe a theory that would unify or explain through a single model the theories of all fundamental interactions and of all particles of nature: general relativity for gravitation, and the standard model of elementary particle physics – which includes quantum mechanics – for electromagnetism, the two nuclear interactions, and the known elementary particles.

1.1 Conventional Sequence of Theories

A Theory of Everything would unify all the fundamental interactions of nature: gravitation, strong interaction, weak interaction, and electromagnetism. Because the weak interaction can transform elementary particles from one kind into another, the ToE should also yield a deep understanding of the various different kinds of possible particles. The usual assumed path of theories is given in the following graph, where each unification step leads one level up:

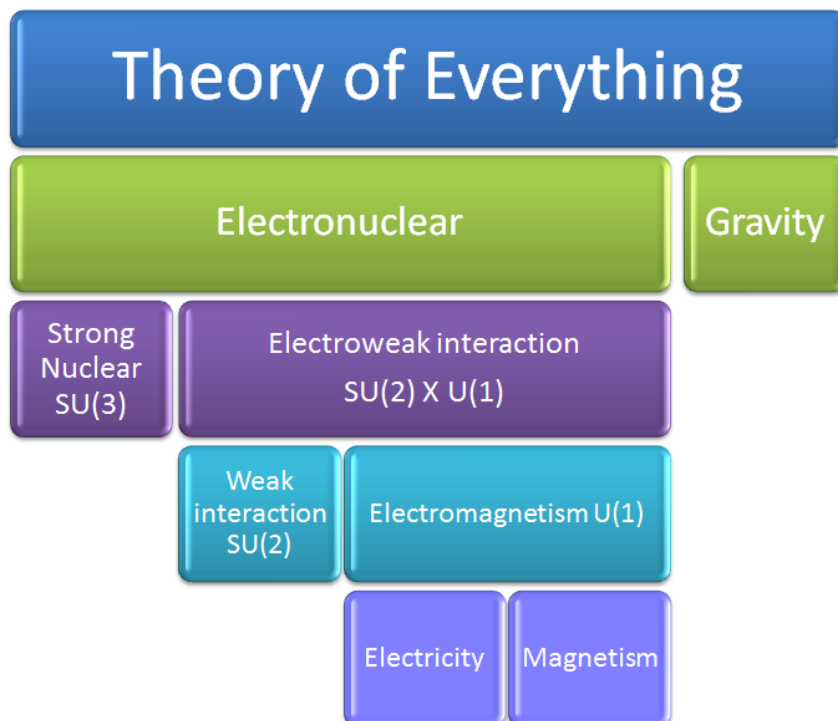


Figure 1 Components of a Theory of Everything

Several Grand Unified Theories (GUTs) have been proposed to unify electromagnetism and the weak and strong forces. Grand unification would imply the existence of an electronuclear force; it is expected to set in at energies of the order of 10^{16} GeV, far greater than could be reached by any possible Earth-based particle accelerator. Although the simplest GUTs have been experimentally ruled out, the general idea, especially when linked with supersymmetry, remains a favorite candidate in the theoretical physics community. Supersymmetric GUTs seem plausible not only for their theoretical "beauty", but because they naturally produce large quantities of dark matter, and because the inflationary force may be related to GUT physics (although it does not seem to form an inevitable part of the theory). Yet GUTs are clearly not the final answer; both the current standard model and all proposed GUTs are quantum field theories which require the problematic technique of renormalization to yield sensible answers. This is usually regarded as a sign that these are only effective field theories, omitting crucial phenomena relevant only at very high energies.

The final step in the graph requires resolving the separation between quantum mechanics and gravitation, often equated with general relativity. Numerous researchers concentrate their efforts on this specific step; nevertheless, no accepted theory of quantum gravity - and thus no accepted theory of everything - has emerged yet. It is usually assumed that the ToE will also solve the remaining problems of GUTs.

In addition to explaining the forces listed in the graph, a ToE may also explain the status of at least two candidate forces suggested by modern cosmology: an inflationary force and dark energy. Furthermore, cosmological experiments also suggest the existence of dark matter, supposedly composed of fundamental particles outside the scheme of the standard model. (Wikipedia, Theory of everything, 2012)

1.2 String theory and M-theory

String theory is an active research framework in particle physics that attempts to reconcile quantum mechanics and general relativity. It is a contender for a theory of everything (TOE). String theory posits that the elementary particles (ie. electrons and quarks) within an atom are not 0-dimensional objects, but rather 1-dimensional oscillating lines ("strings").

String theory can be formulated in terms of an action principle, either the Nambu-Goto action or the Polyakov action, which describe how strings propagate through space and time. In the absence of external interactions, string dynamics are governed by tension and kinetic energy, which combine to produce oscillations. The quantum mechanics of strings implies these oscillations exist in discrete vibrational modes, the spectrum of the theory.

On distance scales larger than the string radius, each oscillation mode behaves as a different species of particle, with its mass, spin and charge determined by the string's dynamics. Splitting and recombination of strings correspond to particle emission and absorption, giving rise to the interactions between particles. Fundamental strings exist in 9 dimensions and the strings can vibrate in any direction.

String theory includes both open strings, which have two distinct endpoints, and closed strings making a complete loop. The two types of string behave in slightly different ways, yielding two different spectra. For example, in most string theories one of the closed string modes is the graviton, and one of the open string modes is the photon. Because the two ends of an open string can always meet and connect, forming a closed string, there are no string theories without closed strings.

Since the 1990s, many physicists believe that 11-dimensional M-theory, which is described in many sectors by matrix string theory, in many other sectors by perturbative string theory, is the theory of everything. However, there is no widespread consensus on this issue, because M-theory and superstring theory is not a completed theory but rather an approach for producing one. All these theories attempt to deal with the renormalization problem by setting up some lower bound on the length scales possible.

String theories and supergravity (both believed to be limiting cases of the yet-to-be-defined M-theory) suppose that the universe actually has more dimensions than the easily observed three of space and one of time. The motivation behind this approach began with the Kaluza-Klein theory in which it was noted that applying general relativity to a five dimensional universe (with the usual four dimensions plus one small curled-up dimension) yields the equivalent of the usual general relativity in four dimensions together with Maxwell's equations (electromagnetism, also in four dimensions). This has led to efforts to work with theories with large number of dimensions in the hopes that this would produce equations that are similar to known laws of physics. The notion of extra dimensions also helps to resolve the hierarchy problem, which is the question of why gravity is so much weaker than any other force. The common answer involves gravity leaking into the extra dimensions in ways that the other forces do not.

In the late 1990s, it was noted that one problem with several of the candidates for theories of everything (but particularly string theory) was that they did not constrain the characteristics of the predicted universe. For example, many theories of quantum gravity can create universes with arbitrary numbers of dimensions or with arbitrary cosmological constants. Even the "standard" ten-dimensional string theory allows the "curled up" dimensions to be compactified in an enormous number of different ways each of which corresponds to a different collection of fundamental particles and low-energy forces. This array of theories is known as the string theory landscape.

A speculative solution is that many or all of these possibilities are realised in one or another of a huge number of universes, but that only a small number of them are habitable, and hence the fundamental constants of the universe are ultimately the result of the anthropic principle rather than a consequence of the theory of everything. This anthropic approach is often criticised in that, because the theory is flexible enough to encompass almost any observation, it cannot make useful (i.e., original, falsifiable, and verifiable) predictions. (Wikipedia, Theory of everything, 2012)

1.3 The NOE Hypothesis

Nature of Everything; A hypothesis based on Hylozoism: From Greek "ule," matter; "zoon," animal; and "ism." Ism is a suffix embodying the doctrine or abstract idea of the noun to which it is attached. Hylozoism is the doctrine that all matter is endowed with life. "When we have attained to this conception of hylozoism of a living material universe, the mystery of nature will be solved." Treatise on Cosmic Fire, page 693

The problem that science has encountered is due to the fact that life and consciousness have been excluded in an attempt to unify the various theories. Science studies the effect and is searching for the cause leaving out the most fundamental parameter - life. The assumption being that life does not affect the observed phenomenon. Yet, the questions, What is Life? or What is Energy? or What is the process of Becoming and the nature of Being? remain unanswered.

NOE postulates that the soul of matter, the anima mundi, is the sentient factor in substance itself. It is the responsiveness of matter throughout the universe and that innate faculty in all forms, from the atom of the physicist, to the solar system of the astronomer, which produces the undeniable intelligent activity which all demonstrate. It can be called attractive energy, coherency, sentiency, aliveness, awareness or consciousness, but perhaps the most illuminating term is that the soul is the quality which every form manifests. It is that subtle something which distinguishes one element from another, one mineral from another. It is the intangible essential nature of the form which in the vegetable kingdom determines whether a rose or a cauliflower, an elm or a watercress shall come into being; it is a type of energy which distinguishes the varying species of the animal kingdom and makes one man different from another in his appearance, nature and character. The scientist has tabulated, investigated and analysed the forms; names have been selected and given to the elements, and the minerals, the forms of vegetable life and the varying species of animals; the structure of the forms and the history of their evolutionary progress have been studied and deductions and conclusions have been reached, but the solution of the problem of life itself still eludes the wisest, and until the understanding of the "web of life" or of the body of vitality which underlies every form and links every part of a form with every other part is recognised and known to be a fact in nature, the problem will remain unsolved.

The modern fact of the scientist is his approximation of a part, and often an infinitesimal part, of some greater whole, and even then it concerns only the most objective part of manifestation, for that which is the essence is not regarded as a reality. That which we see and can touch is but an effect of inner underlying causes. The scientist, therefore, is not as yet occupying himself with causes. When the scientist enters the consideration of the etheric substratum which underlies the tangible, then and only then will science be entering the domain of causes, and even in this case, only those physical causes which underlie the grossly objective; science will not really have ascertained the vital impulses which produce Being. Yet a great step will have been made for, under the Law of Analogy, science will then be in a position to comprehend some of the major secrets of solar manifestation; for the planes of our solar system constitute, as this paper seeks to demonstrate, the seven subplanes of the cosmic physical plane.

It is the realisation of this which will eventually unite science and religion, for what the scientist calls energy, the religious man calls God, and yet the two are one, being but the manifested purpose, in physical matter, of a great extra-systemic Identity. Nature is the appearance of the physical body of the Logos, and the laws of nature are the laws governing the natural processes of that body. The Life of God, His energy, and vitality, are found in every manifested atom; His essence indwells all forms. This we call Spirit, yet He Himself is other than those forms, just as man knows himself to be other than his bodies. He knows himself to be a will, and a purpose, and as he progresses in evolution that purpose and will become to him ever more consciously defined.

1.3.1 Objectives

1. Provide a compact and skeleton outline of a scheme of cosmology as it relates to consciousness,
2. Show the coherent development of all that is found within a solar system; to demonstrate

that everything which exists evolves (from the lowest form of life at the densest point of concretion up to the highest and most tenuous manifestation) and that all forms are but the expression of a stupendous and divine Existence. This expression is caused by the blending of two divine aspects through the influence of a third, and produces the manifestation which we call a form, starting it upon its evolutionary cycle in time and space. Thus is form brought to the point where it is an adequate medium for the demonstration of the nature of that which we call God.

3. Define the etheric substratum which is the true substance underlying every tangible form.
4. Unify the various theories with life and consciousness as shown in Figure 2

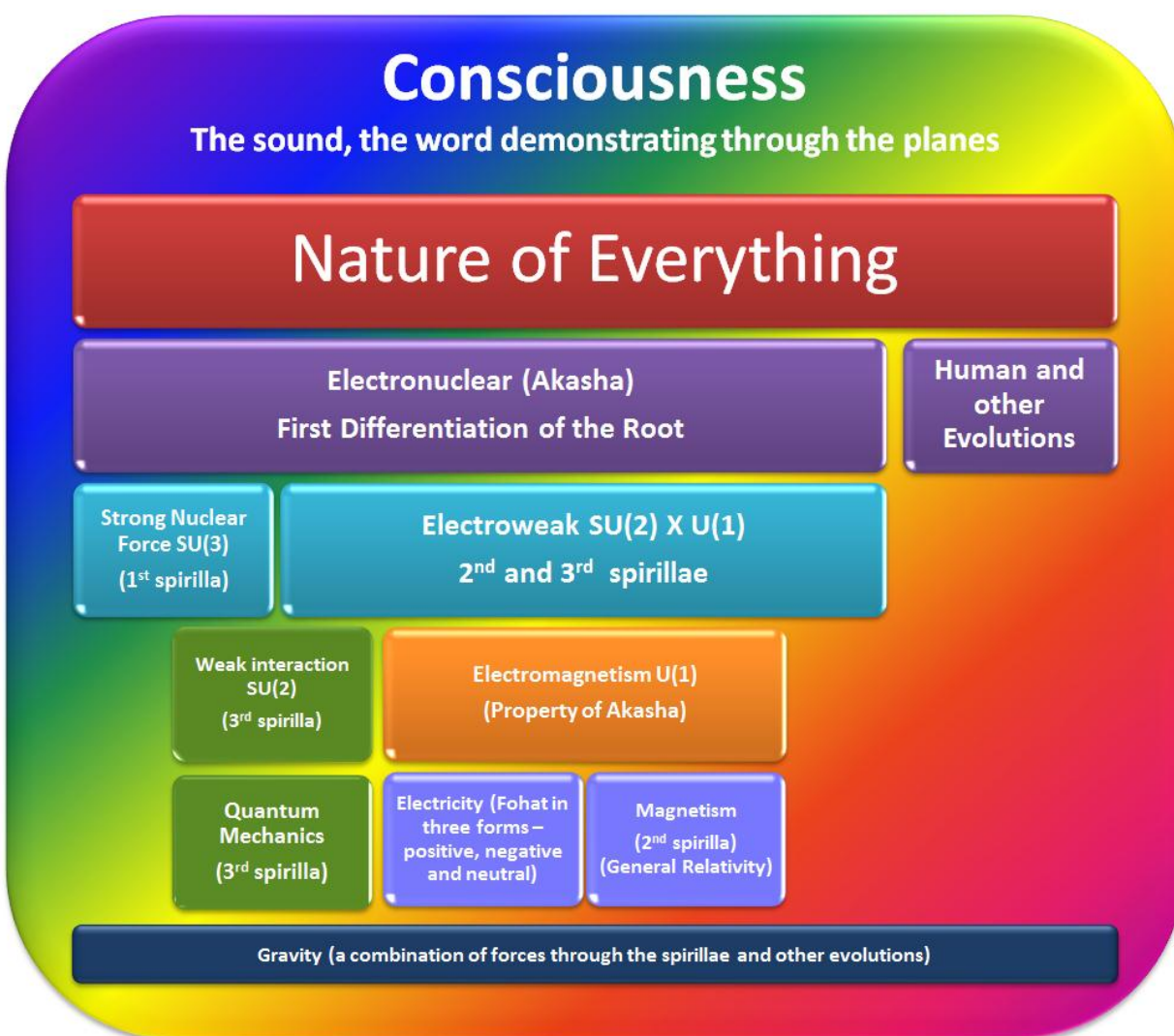


Figure 2 The NOE Hypothesis' unification of General Relativity and Quantum Mechanics. The blocks noted above will be discussed and unified excluding discussions on human and other evolutions accept tangentially. Note that the coloured light spectrum background signifies the planes and the Rays. A ray is but a name for a particular force or type of energy, with the emphasis upon the quality which that force exhibits and not upon the force aspect which it creates. The topic of the Rays is complex and is also excluded except tangentially. String theory is superseded by the Spirilla Hypothesis.

2. POSTULATES – ALL MUST BE INTERPRETED IN TERMS OF CONSCIOUSNESS¹

The NOE Hypothesis concepts are extracted from the combined work of Blavatsky, Bailey and Besant.ⁱⁱ The original paper avoided discussions on consciousness and life but moving forward it will not be possible for scientists to gain any significant advances until addressed. The following abridged postulates are assumptions that science needs to include in their theories (Bailey, A Treatise on Cosmic Fire, 1973, p. 4):

2.1 The Boundless Immutable Principle

1. There is one Boundless Immutable Principle; one Absolute Reality which antecedes all manifested conditioned Being. It is beyond the range and reach of any human thought or expression.
2. The manifested Universe is contained within this Absolute Reality and is a conditioned symbol of it.
3. From basic creative principles, in successive gradations there issue in ordered sequence the numberless Universes comprising countless Manifesting Stars and Solar Systems.
4. Each Solar System is the manifestation of the energy and life of a great Cosmic Existence, Whom we call, for lack of a better term, a Solar Logos.
5. This Solar Logos incarnates, or comes into manifestation, through the medium of a solar system.
6. This solar system is the body, or form, of this cosmic Life, and is itself triple - positive, neutral and negative.
7. These three aspects of the Whole are present in every form.
8. The three aspects of every form are inter-related and susceptible of intercourse, because energy is in motion and circulates; and all forms in the solar system form part of the Whole, and are not isolated units.
9. These three aspects of God, the solar Logos, and the Central Energy or Force (for the terms are occultly synonymous) demonstrate through seven centres of force,—three major centres and four minor. These seven centres of logioic Force are themselves so constituted that they form corporate Entities. They are known as
 - a. The seven planetary Logoi.
 - b. The seven Spirits before the Throne.
 - c. The seven Rays.
 - d. The seven Heavenly Men.
10. The Seven Logoi embody seven types of differentiated force,

Major Rays

Ray I	Ray of Will or Power	1st Aspect
Ray II	Ray of Love-Wisdom	2nd Aspect
Ray III	Ray of Active Intelligence	3rd Aspect

These are the Minor Rays.

Ray IV	Ray of Harmony, Beauty and Art.
Ray V	Ray of Concrete Knowledge or Science.
Ray VI	Ray of Devotion or of Abstract Idealism.
Ray VII	Ray of Ceremonial Magic or Order.

¹ The postulates have been abridged to target this paper to General Relativity, Quantum Mechanics and Consciousness.

2.2 The Law of Periodicity

1. This law governs all manifestation, whether it is the manifestation of a solar Logos through the medium of a solar system, or the manifestation of a human being through the medium of a form. This law controls likewise in all the kingdoms of nature.
2. There are certain other laws in the systems which are linked with this one. Some are noted in the Table I:

Various Laws of Manifestation		Unitary Group	Trinity
1. The Law of Synthesis - Positive			
Subsidiary Laws The Law of Attraction The Law of Economy	Basic law of the positive pole, the nucleus. Tendency to concentrate, hold together, merge. The Law of Synthesis is minimally understood as the strong nuclear force (SNF). It is much more. It is the 1 st Ray.	SU(3)	Father Sat Shiva
2. The Law of Attraction - Neutral			
Subsidiary Laws 1. Law of Chemical Affinity 2. Law of Magnetism 3. The Law of Magnetic Control 4. Law of Expansion 5. Law of Solar Evolution 6. Law of Relativity 7. Law of Radiation 8. Law of Gravitation 9. Law of Planetary Affinity 10. Law of Solar Union 11. Law of Cohesion 12. More.....	Conditions the aspect of neutral electrical phenomenon. The hydrogen bond is an example of neutral electricity. It is the 2 nd Ray. (The Law of Magnetic control is one of the most important of the systemic laws - it is the law of coalescence which allows for all atoms to coalesce from the root including the universe, galaxies, Suns, and planets.) Einstein's Theory of General Relativity is part of The Law of Attraction.	U(1)	Son Ananda Vishnu
3. The Law of Economy - Negative			
Subsidiary laws 1. The Law of Vibration 2. The Law of Adaption 3. The Law of Repulsion 4. The Law of Friction 5. More.....	It is the law governing the scattering of the atoms of matter and their dissociation from one another, wide distribution, vibratory rhythm, heterogeneity and quality and their inherent rotary action. It is the 3 rd Ray which blends Rays 4 to 7. The Law of Economy is partly developed by Quantum Mechanics (QM).	SU(2) X U(1)	Holy Ghost Chit Brahma

Table I An abridged tabulation of various laws which form a skeleton of cosmology and the matter aspect of manifestation.

3. Each law sweeps periodically into power and each plane has its period of manifestation and its period of obscurity.

4. Knowledge of the cycles involves knowledge of number, sound and colour.

2.3 All Souls are Identical with the Oversoul

The Logos of the solar system is the Macrocosm. Man is the Microcosm.

1. Soul is an aspect of every form of life from a Logos to an atom.
2. The Law of Correspondences will explain the details of this relationship. This Law of Correspondences or of Analogy is the interpretive law of the system.

3. DARK SOUND AND PLANES

Physicists have recently theorized Dark Matter and Dark Energy and have through observation substantiated their existence. Despite the efforts Dr Andrew Beckwith has stated in numerous papers the problems associated with the standard model: "If the relative entropy of 10^{89} is roughly equivalent to the sum total of one million or so black holes in the center of one million spiral galaxies, then it may remove the necessity of embedding the universe in a larger super structure. If on the other hand, there is a radical difference in the summed value, this difference may be a smoking gun indicating either the necessity of higher dimensions than four for our universe's space time, or that the metrics for curved space time used to compute event horizons are seriously flawed and need additional work." (Beckwith, Entropy, 2009) That is to say - something is just wrong - it doesn't add up and a radical change is needed; a change which must be supported by empirical data but not necessarily models.

The hypothesis presented in this paper suggests that there is more to sound than what is determined by the physiology of the human ear or what is detected by classical instrumentation. As stated above there is sound, matter and energy - both known and dark.

The entire universe is root matter with sound waves and energy rippling through it. As demonstrated in Figure 3, these waves are perceived in the four known dimensions as electromagnetic radiation occupying a spectrum that appears below. It is important to note that the NOE Hypothesis suggests that the EM spectrum is actually just various forms of a sound wave with the phenomena of light being a sound wave where the matter is *rotating in reverse direction to the plane*. As the sound wave increases in frequency scientific measurements clearly indicate that at the bottom end of the spectrum, or radio waves, behaves more like waves but as frequency increases particle properties become more pronounced.

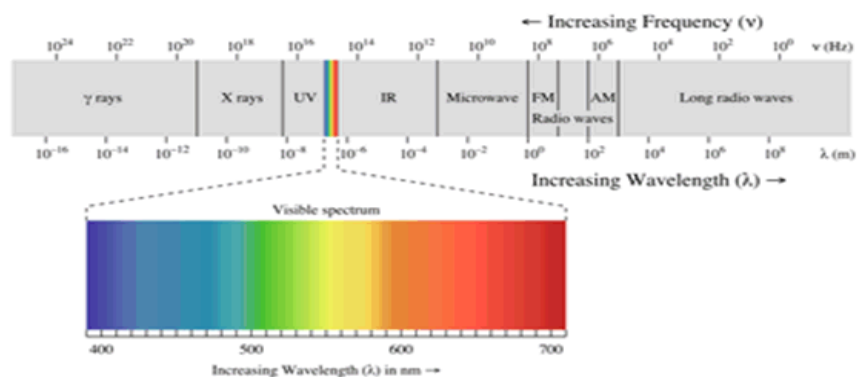


Figure 3 The Electromagnetic Spectrum.

There is another version that is theorized as residing on six more planes (v) or layers with each plane corresponding to a tone giving a total of 7 layers; A through G. An analogy is the 7 defined layers of the planet - solid, water, troposphere, stratosphere, mesosphere, thermosphere and exosphere.

The *observed* EM band is analogous to the physical or the solid layer of the planet. Therefore, *all of our observations are amongst the rocks*. For the lack of a better term the EM bands on other planes is referred to as Dark Sound. Dark Sound is carried in the 5th dimension and has similar properties to the known EM band. *As dark sound increases in frequency dark particle properties become more pronounced*. Further, there is a form of light which resides on other planes. As observed in the current Earth analogy, sound on other planes affects the lower planes. That is a sonic boom in air affects water and rocks. This paper refers to sound on all planes as just SOUND. The concept is demonstrated in Figure 4.

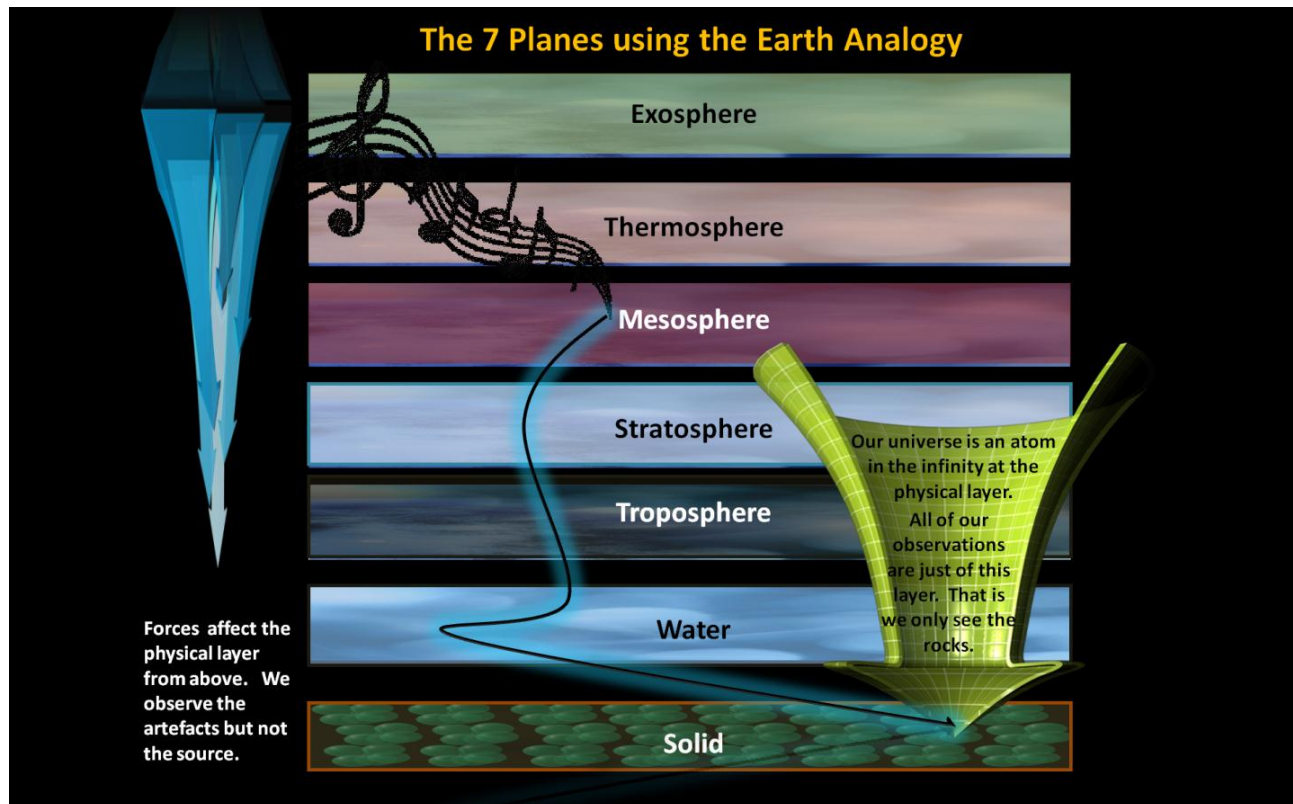


Figure 4 The 7 Planes Using the Earth Analogy showing the Cosmic Fugue

The earth analogy expands so that the hypothesis assumes that each plane has 7 sub planes. In a solar system analogy there are 49 planes from the Sun's core to the Earth's core. For example please see Figure 5.

In comprehending the planes it should be noted that just as it is impossible for an animal living in the Benthic plane of the Hadopelagic to understand the flight of an eagle in the Troposphere, so it is impossible for man to understand anything other than the Cosmic Physical Plane as shown by the Cosmic Dense analogy.

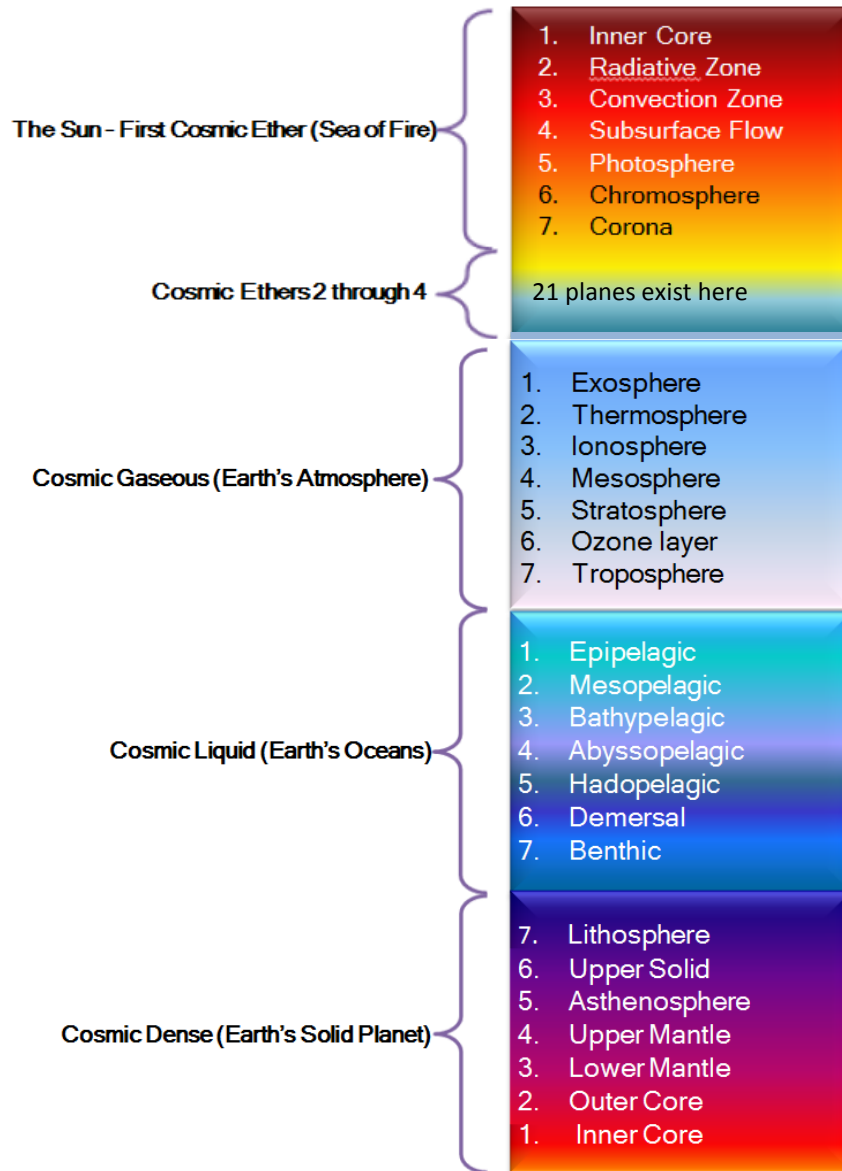
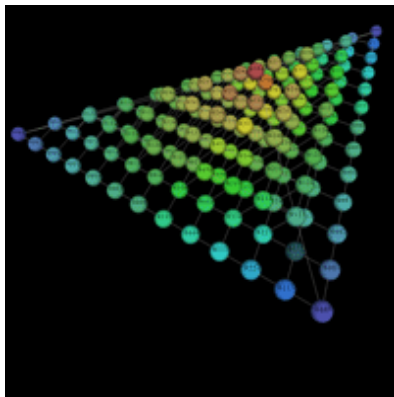


Figure 5 A Solar system analogy showing details for 4 planes. The number order is reversed for the bottom plane - Earth's Solid - to indicate that it is below the axis. There is a correspondence between the cores of the Sun and the Earth.

3.1 Cosmic Fugue

The notion that the universe can be modeled after tones or notes was delineated as early as Pythagoras. Pythagoras through observation concluded that "the heavenly bodies also appear to move in accordance with the mathematical ratios that govern the concordant musical intervals in order to produce music of the heavens..." The hypothesis states that Pythagoras was correct. Bach demonstrated through his fugues that without mathematics there is no music (Pedersen, 2009). Therefore the universe can only be properly modeled through numbers, sound and color where a tenet of the hypothesis is that these three are synonymous terms. Clifton Callender at Florida



State University, Ian Quinn at Yale University and Dmitri Tymoczko at Princeton University devised a method of analyzing complex mathematics into geometric forms as shown in Figure 6. This form of mathematics will eventually find the 'composition' of the cosmic fugue and the beginning of the universe to the current condition will be determined.

Figure 6 "The figure shows how geometrical music theory represents four-note chord-types – the collections of notes from a tetrahedron, with the colors indicating the spacing between the individual notes in a sequence. In the blue spheres, the notes are clustered, in the warmer colors, they are farther apart. The red ball at the top of the pyramid is the diminished seventh chord, a popular 19th-century chord. Near it are all the most familiar chords of Western music." (Callender, 2008)

4. THE ATOM AND THE SPIRILLA HYPOTHESIS

Understanding the atom and its triple nature (positive, neutral and negative) is paramount to unifying General Relativity, as part of the Law of Attraction, Quantum Mechanics and Consciousness. String Theory is superseded with the Spirilla Hypothesis. The following are the postulates:

- a. An atom consists of a spheroidal form containing within itself a nucleus of life and has 7 planes of being.
- b. An atom contains within itself differentiated molecules, which in their totality form the atom itself. For instance, we are told that the physical atom contains within its periphery fourteen thousand millions (1.4×10^{10}) of the archetypal atoms, yet these myriads demonstrate as one.
- c. An atom is distinguished by activity, and shows forth the qualities of:
 1. Rotary motion.
 2. Discriminative power.
 3. Ability to develop.
 4. An atom contains within itself three major spirillae and seven lesser².
 5. An atom is governed by the Law of Economy, is coming slowly under the Law of Attraction, and will eventually come under the Law of Synthesis.
 6. An atom finds its place within all forms; it is the aggregation of atoms that produces form.
 7. Its responsiveness to outer stimulation; electrical stimulation, affecting its objective form; magnetic stimulation, acting upon its subjective life; the united effect of the two stimulations, producing consequent internal growth and development.

By the Law of Correspondence or Analogy the above definition holds for all atoms from hydrogen, to solar systems to universe-atoms. The analogy must not be carried to details for example the solar Logos is governed by the Law of Synthesis. He holds all in synthetic unity or homogeneity. His subjective life is governed by the Law of Attraction; His material form is governed by the Law of Economy (Quantum Mechanics).

² Treatise on Cosmic Fire, p. 246, and p. 1181, Inner Life; Vol. II, 177-179, Occult Chemistry, p. 22. Occult Chemistry, Appendix II and III. Babbitt's "Light and Colour," pp. 97-101

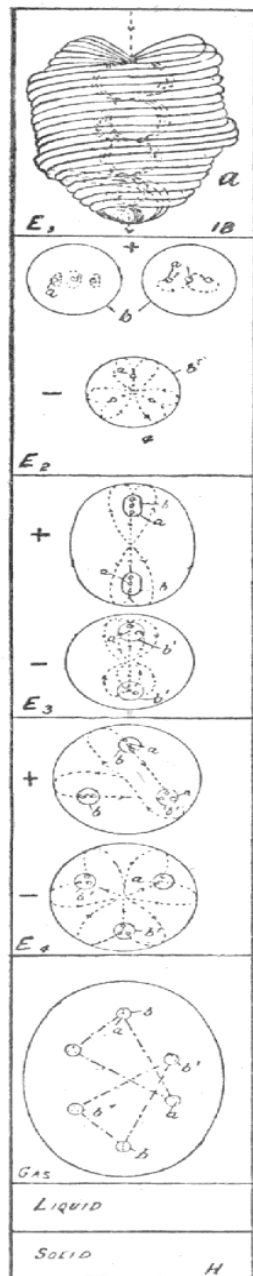
Figure 7. The Hydrogen Atom³

Figure 7 shows the formation of the hydrogen atom from the 1st sub plane (of the 7th sub plane of the 7th plane.ⁱⁱⁱ) to the gaseous phase counting down according to Besant. Her Ultimate Physical Atom (sub quark) (top drawing) cannot be divided further. The sub quark consists of 10 spirillae with each spirilla turning producing (archetypal atoms) bubbles similar to those found in sonoluminescence. The interior of the bubble is a vacuum with low density plane substance analogous to plasma⁴. The central core is experiencing a Birkeland-like current. Recurrence relation is demonstrated in Figure 8 and Figure 9. All flowing forces come from the 5th dimension; initial vibratory impulse comes from the 7th. E1 to E4 is where dark matter is found^{iv}. Further from Besant; "of the chemical atom, the force "clears itself a space, pressing back the undifferentiated matter of the plane, and making to itself a whirling wall of this matter." The wall belongs to space, not to the atom." (Bubble in a kailon.) The spirillae^v are organized under the Law of Synthesis (SNF), come under the Law of Attraction and sheathed by matter behaving by the Law of Economy (QM).

On the Gas plane contained within an egg-like form, the interlacing triangles represent the two nucleons - the second triad is the object (Ethereic double) and sits in the 4th dimension^{vi}. The circles at the 6 vertices represent the constituent triads, or quarks of flavor *c* (*charm*) and (\bar{c}) (*anticharm*). Inside each quark are the 3 'Ultimate Physical Atoms' or sub-quarks for a total of 18 sub-quarks.

Figure 8. "FIGURE 15.3.2. Simple model of a filamentary current structure in a low-density plasma. Currents flow parallel to the magnetic field. The lines in the figure represent both current paths and magnetic field lines. The magnetic field derives partly from an external axial field and partly from the toroidal field produced by the current itself (see Alfvén and Fälthammar, 1963). The current is strongest at the axis and becomes weaker further away from the axis as depicted by the decreasing thickness of the lines." (NASA)

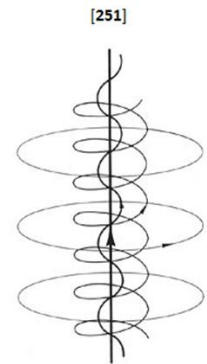
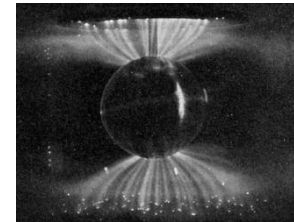


Figure 9. Aurora-like Birkeland currents created by scientist Kristian Birkeland in his terrella, featuring a magnetised anode globe in an evacuated chamber. (Wikipedia, Birkeland current, 2010)



³ Besant, A., & Leadbeater, W. (n.d.). *Occult Chemistry*. Retrieved 07 02, 2012, from Project Gutenberg: <http://www.gutenberg.org/ebooks/16058>. Page 11 (<http://www.gutenberg.org/files/16058/16058-h/16058-h.htm#chap1>)

⁴ Please see Suslick, K. S., & Flannigan, D. J. (2009, October). *Plasma conditions during single bubble sonoluminescence*. Retrieved August 26, 2010, from J. Acoust. Soc. Am.

4.1 Spirilla

Each of the ten spirilla of the ultimate physical atom (UPA - subquark) makes five revolutions around its axis as it coils 1680 times, that is, 168 times in each half revolution and 84 times in the outer or inner half of the subquark. Each spirilla is a closed curve – a helix with 1680 circular turns called '1st-order spirillae'. Each of these coils is not a continuous line but, another helix with seven smaller, circular ('2nd-order spirillae') equally spaced around the circumference of each 1st-order spirilla. These are themselves made up of seven smaller coils ('3rd-order spirillae'), and so on. There are seven orders of spirillae, a 7th-order spirilla comprising seven spherical bubbles spaced evenly along the circumference of the 6th-order spirilla. Please see Figure 10. This is calculated to comprise approximately 1.4×10^{10} bubbles.

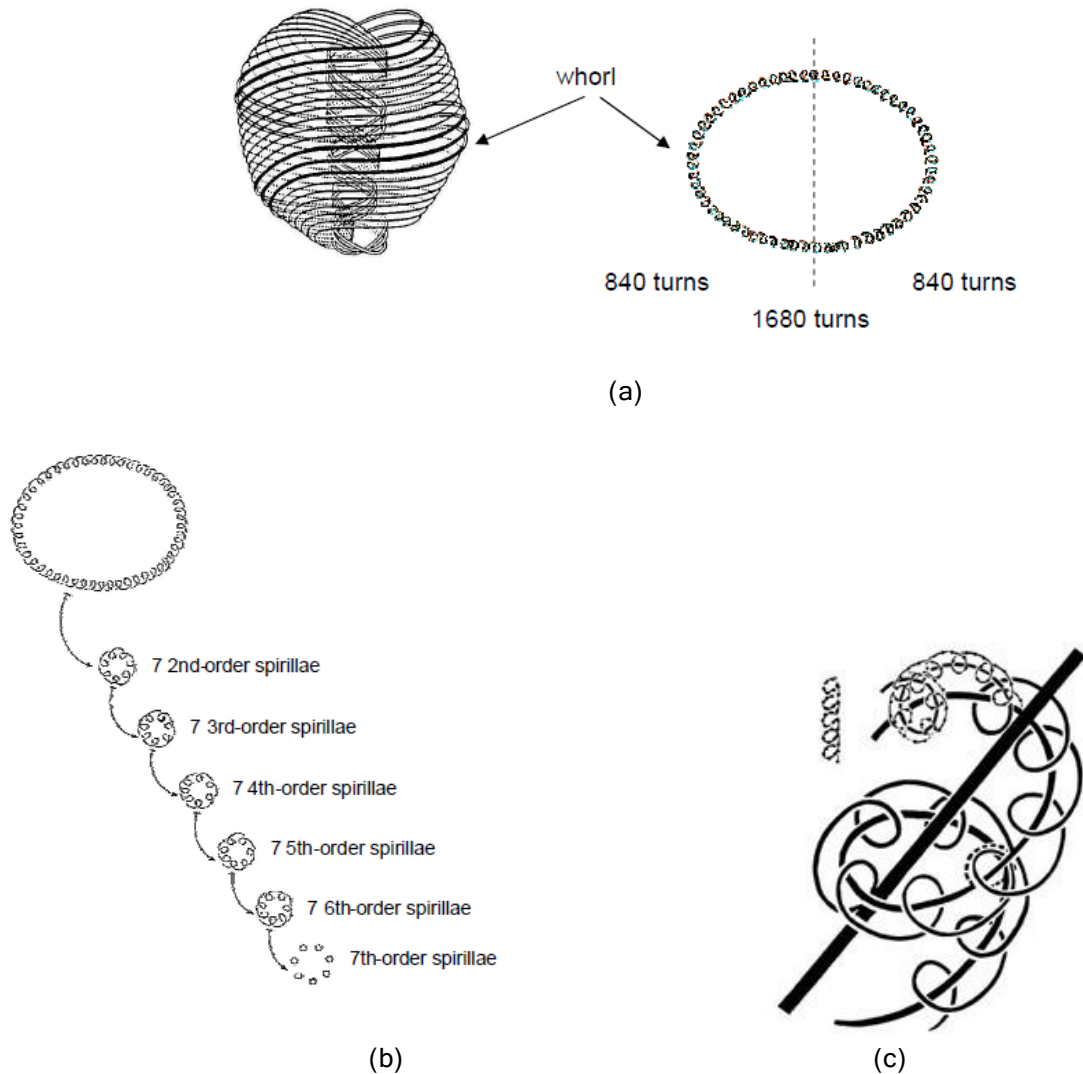
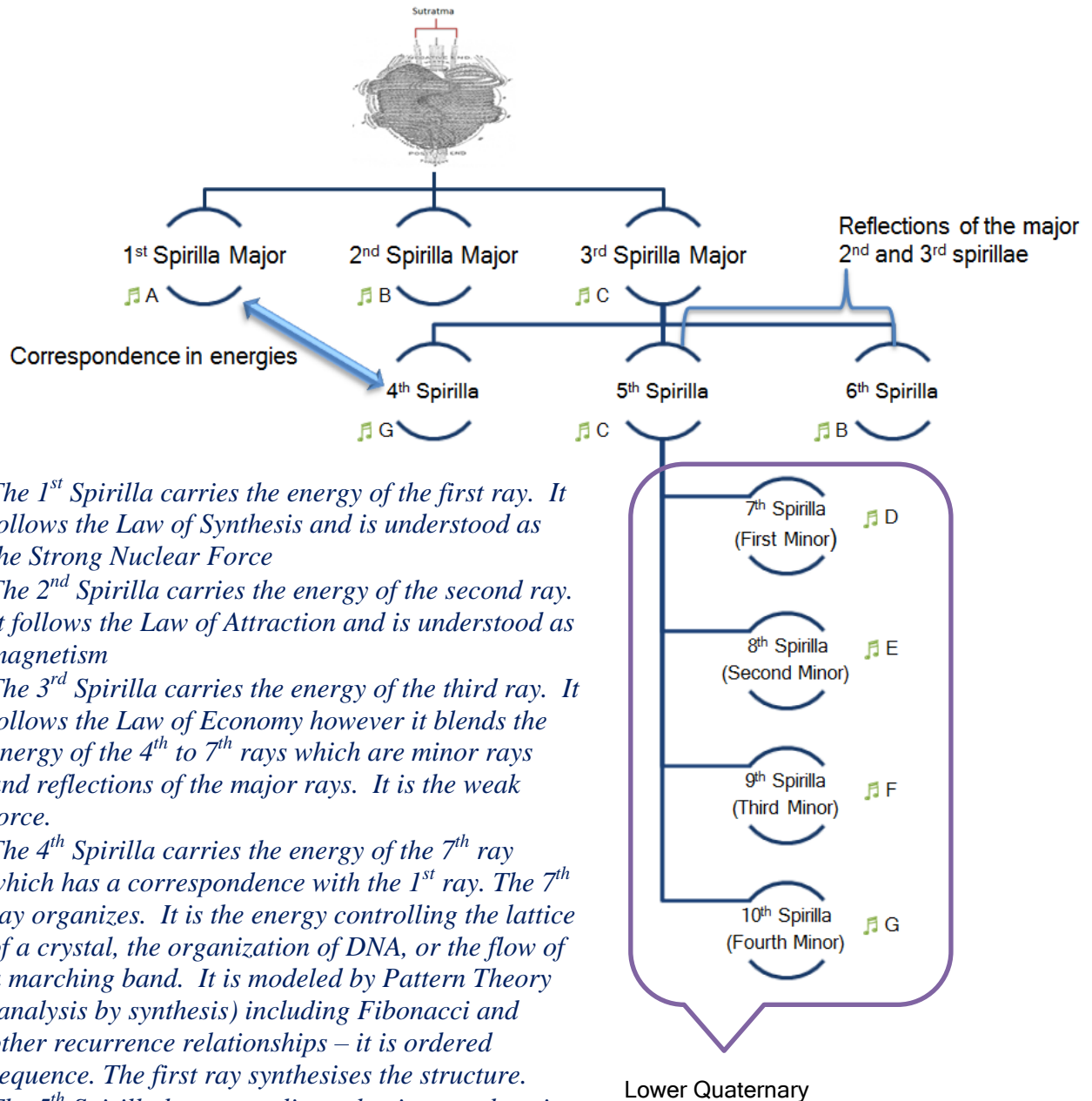


Figure 10 (a) the spirilla revolutions (b) the seven orders of spirillae note that the 7th order are bubbles referred to as 'bubbles in a koilon'; (c) the helical winding of the seven orders of spirillae (Phillips, 2010)

The spirillae have an associated hierarchy, energy and colour associated with each spirilla as noted in Figure 11, Table II and Figure 12.



- The 1st Spirilla carries the energy of the first ray. It follows the Law of Synthesis and is understood as the Strong Nuclear Force
- The 2nd Spirilla carries the energy of the second ray. It follows the Law of Attraction and is understood as magnetism
- The 3rd Spirilla carries the energy of the third ray. It follows the Law of Economy however it blends the energy of the 4th to 7th rays which are minor rays and reflections of the major rays. It is the weak force.
- The 4th Spirilla carries the energy of the 7th ray which has a correspondence with the 1st ray. The 7th ray organizes. It is the energy controlling the lattice of a crystal, the organization of DNA, or the flow of a marching band. It is modeled by Pattern Theory (analysis by synthesis) including Fibonacci and other recurrence relationships – it is ordered sequence. The first ray synthesises the structure.
- The 5th Spirilla has a peculiar value inasmuch as it synthesises the lower four. It is the third when counting the streams of spiral force from the standpoint of the atomic pole. It vibrates to five types of force.

Figure 11 The Spirillae Hierarchy

Spirilla	Unity Group	Note	Ray	Visible Colour	Colour in the 4 th Dimension
1	SU(3)	A	1	Orange	Red
2	U(1)	B	2	Indigo with a tinge of purple	Light Blue
3	SU(2)	C	3	Black	Green
4	SU(2)	G	7	White	Violet
5	SU(2)	C	3	Black	Green
6	U(1)	B	2	Indigo with a tinge of purple	Light Blue
7	SU(2) X U(1)	D	4	Cream	Yellow
8	SU(2)	E	5	Yellow	Indigo
9	SU(2) X U(1)	F	6	Red	Silvery Rose
10	SU(2)	G	7	White	Violet

Table II A tabulation of the spirillae

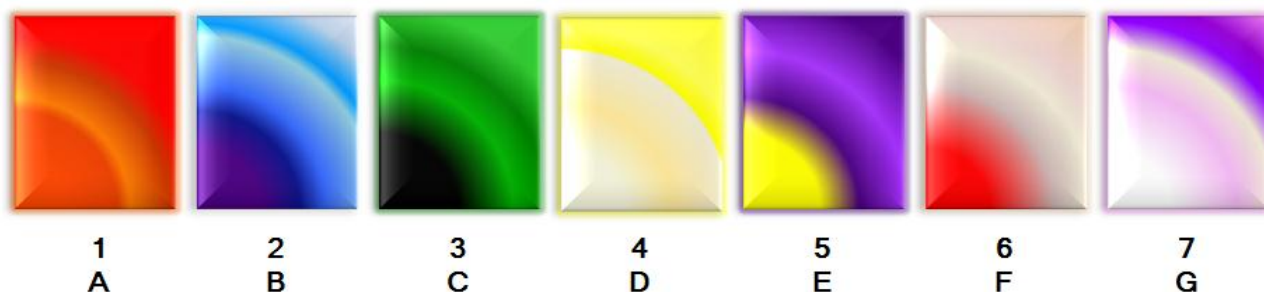


Figure 12 The Rays with colour and notes

4.2 Dinucleon of Hydrogen

There has been discussion concerning the apparent dinucleon of Hydrogen according to Besant however recent work at Michigan State University (March 2012) has confirmed the existence of dineutrons. Science has not fully accepted the results of Artemis Spyrou and colleagues at this time (Spyrou, et al., 2012). It should be noted that Besant's 2 dimensional drawing is of a 4 dimensional structure. Besant stated three dimensional but this has been corrected by Bailey. "The six little bodies (quarks) are arranged in two sets of three, forming two triangles that are not interchangeable, but are related to each other as object and image Further, the six bodies are not all alike; they each contain three smaller bodies – each of these being an ultimate physical atom (sub-quark)."^{vii}

4.3 Subquark Alignments

Besant outlined various alignments of the sub quarks some of which are shown in Figure 13.

Sub quarks are noted as the heart shaped icon. The alignments are determined by the musical fugue coming from the 5th dimension. String theory has open and closed formations however; strings and spirillae are not the same. The spirillae are streams of force which circulates geometrically within the circumscribing wall of substance as shown Figure 13. Spirillae are 4 dimensional; strings are 1 dimensional in the theory. The Spirilla Hypothesis resolves the mass paradox.



Figure 13 Besant's Hyper-Meta-Proto-Elemental Open and Closed Subquark Alignments.

4.4 Permanent Atoms

Sub quarks are permanent atoms. Permanent atoms are the point of contact for energy and force and are tiny vortices. They differ from atomic atoms in many aspects foremost being that they come under the Law of Attraction, while atomic atoms comes under the Law of Economy which is modeled by Quantum Mechanics. Permanent atoms vary on each plane and by the number of spirillae. The form that is built upon them depends upon the type of force which animates, upon the interplay of that force in substance, upon the dual, triple, or united aspect of force, and upon its septenary demonstration in form-building. Relative to a human, there are permanent atoms where all consciousness, all memory, all faculty is stored^{viii}.

4.4.1 The Work of Form-Building - The Coalescing of The Atom

Form-building proceeds under definite laws, which are the laws of substance itself; the effect is the same for human, planetary and solar vehicles. The different stages might be enumerated as follows:

1. **The Nebulous.** The stage wherein the matter of the coming sheath begins to separate itself gradually from the aggregate of plane substance, and to assume a nebulous or milky aspect. This corresponds to the "fire-mist" stage in the formation of a solar system and of a planet.
2. **The Inchoate.** Condensation has set in but all is as yet inchoate, and the condition is chaotic; there is no definite form. It is characterised by excessive energy, and violent

activity, for the greater the condensation prior to co-ordination the more terrific are the effects of activity. This is true of Gods, of men, and of atoms.

3. **The Fiery.** The internal energy of the rapidly congregating atoms and their effect upon each other produces an increase of heat, and a consequent demonstration of the spheroidal form, so that the vehicle of all entities is seen to be fundamentally a sphere, rolling upon itself and attracting and repulsing other spheres.
4. **The Watery.** The ball or sphere of gaseous fiery essence becomes still more condensed and liquefied; it begins to solidify on its outer surface and the ring-pass-not of each sheath is more clearly defined. The heat of the sphere becomes increased and is centralised at the core or heart of the sphere where it produces that pulsation at the centre which characterises the sun, the planet, and the various vehicles of all incarnating entities. It is an analogous stage to that of the awakening of life in the fetus during the prenatal stage, and this analogy can be seen working out in the form-building which proceeds on every plane.
5. **The Etheric.** The stage is not to be confined to the building of the physical body in its etheric division, for its counterpart is found on all the planes with which man is concerned in the three worlds. The condensation and the solidification of the material have proceeded. The rhythm set up has been established and synchronised. The law of Karma is demonstrating actively, for it should be remembered that it is the inherent karma, colouring, or vibratory response of the substance itself which is the selective reaction to the note. Only that substance which has (through past utilisation) been keyed to a certain note and vibration will respond to the mantram and to the subsequent vibrations issuing from the permanent atom. This stage is one of great importance, for it marks the vital circulation throughout the entire vehicle of a particular type of force. This can be clearly seen in relation to the etheric body which circulates the vital force or prana of the sun.
6. **The Solid.** This marks the final stage in actual form building, and signifies the moment wherein the work is done as regards the aggregating and shaping of substance. The word "solid" refers not solely to the lowest objective manifestation, for a solid form may be ethereal, and only the stage of evolution of the entity involved will reveal its relative significance.

4.5 Compositeness of Quarks and the Higgs

Recent discoveries by Tevatron^{ix} followed by CERN and the quest for the Higgs Boson discovered peaks in the region of $125 \text{ GeV}/c^2$ indicating the first possible sign of the compositeness of the quark. The NOE hypothesis stipulates that to find the sub quark the use of sound is required as noted by Bailey: "d. Mantrams that break the charm, if I may put it so, and place the elementals and devas again outside the magnetic radius of the caller."⁵ This statement translates as "there is a series of tones that break the charm quark and releases the subquarks." This break is actually the breaking of the strong nuclear force which will release power or positive energy. The releasing of the elementals and devas concerns other evolutions and is out of scope.

⁵ Bailey, Letters on Occult Meditation, p. 177 <http://www.lucitrust.org:8081/obooks/?q=node/234>

5. Cosmic Sonoluminescence – The Coalescence of the Universe-Atom and the Hydrogen Connection

Figure 14 is taken from A Treatise on Cosmic Fire (Bailey, A Treatise on Cosmic Fire, 1973), Page 56, which was a reprint from 'The Theosophist' in December 1899 that was taken originally from the Secret Doctrine of 1888. It clearly states 'digs holes in space' a reference to black holes that was not coined until 90 years later. The original paper, (Holloway, A New Cosmological Model for Matter, Energy, Sound, the Origin of the Universe and Gravity, 2010) interpreted the figure which defined a new fabric for space and hypothesizes that matter is formed from this fabric through the agency of Black Holes. Dark sound is theorized. As a consequence of the hypothesis a new model for the origin of the universe was given including new definitions for Black Holes, Dark Matter, and Dark Energy. Neutral electricity, cosmic planes and sub planes are defined. New processes for the coalescing of atoms, the rotation of planets and the observed phenomena of Cosmic Fire are given. Gravity is defined as the result of magnetism and chemical bonds between structures. The above concepts from the paper are replicated in this paper to present a coherent analysis.

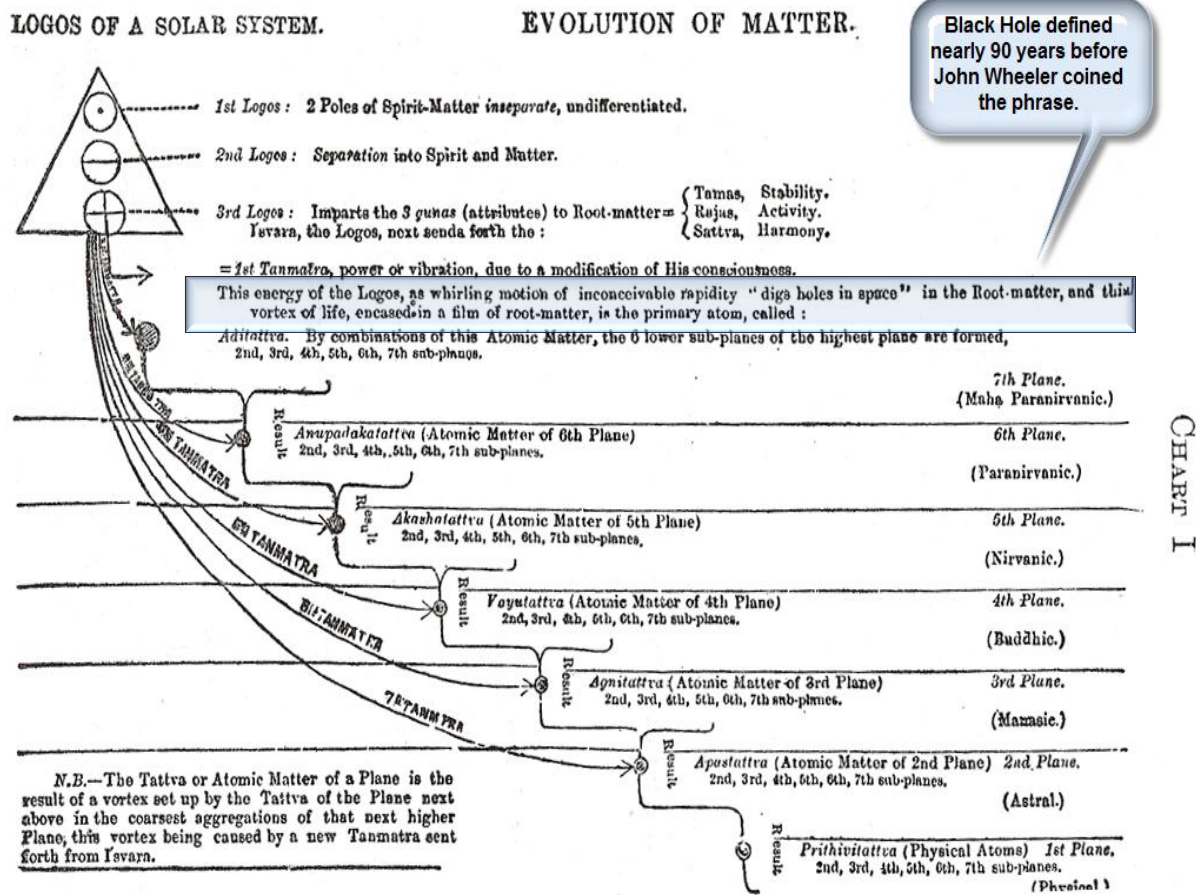


Figure 14 The evolution of matter as described by Blavatsky

The credibility of the original works of Bailey and Blavatsky is substantiated by the fact that the works defined Black Holes (years before the scientific community coined the phrase), Dark Matter and Dark Energy (called Fohat in the books) and are explained and referenced in the following pages.

The NOE Hypothesis summarizes the life cycle of the universe from the perspective of matter as follows^x:

5.1 The Nebulous

The root of matter was present with no form, light or energy. It is under extreme pressure and is at absolute zero. There is no substance like it on earth but the inner core of a Black Hole has relatively pristine, undifferentiated root matter.

The Cosmic Logos uttered the mantric words of creation in the 5th dimension. A chemical reaction with the root occurs. Under the Law of Synthesis he pulled together the analogous, cosmic spirillae of energy and force and synthesized them into the equivalent of a sub quark as shown in Figure 7 (top sketch). The four lower spirillae when manifesting on the physical plane will come under the Law of Economy, Quantum Mechanics, the 5th and 6th spirillae, from the perspective of the physical plane, will come under the Law of Attraction. However, the 5th spirilla synthesizes the lower four and is the 3rd of three major spirillae - Quantum Mechanics. The lesser spirillae are direct reflections as shown in Figure 11. An example of the Law of Economy (Quantum Mechanics) having a reflection of the Law of Attraction such as General Relativity is the red and blue shifting in the hydrogen bond. (Arunan, et al., 2011).⁶ In physics this is referred to as quantum gravity.

The 2nd major spirilla comes under the Law of Attraction. The 1st major spirilla synthesizes them all - strong nuclear force.

5.1.1 Defining the Black Hole

The Black Hole is where sound, matter and energy come together in a beautifully synchronous fashion and is illustrated in Figure 15. It should be noted that the root is not a principle and only responds to the other two. It is the cosmic gene pool from which form is made but only when energy and sound act upon it. It remains even when the other two have ceased. The root contains the code for differentiation and replication.

The actual black hole is a vortex of inconceivable rapidity of sound which carries the three forms of electricity as defined below:

1. Positive or synthesizing electricity which is understood as the core of the atom and demonstrated through a nuclear blast. It is characterized as a tendency to concentrate at a center or merge.
2. Equilibrating, balancing or neutral electricity which includes chemical affinity and gravity and holds together the form. It is characterized as a pull and is analogous to magnetism and forces associated with chemical bonding.
3. Negative electricity as understood by the electron and is characterized by an urge to:
 - a. Vibrate
 - b. Adapt or to rotary movement
 - c. Repulse or non-attach and also keeps the atom rotating at fixed points
 - d. Friction or the heat aspect.

As noted in Figure 15 the vortex is encased in a film or membrane which is not the event horizon - it is actual matter. The origin of the sound wave is the 7th plane counting up from the physical and in the 5th dimension. There is a massive black hole for the universe itself, and millions upon hundreds of millions of lesser black holes which are at the center of every atom, system, and galaxy. The

⁶ "One can give good reasons why reality cannot at all be represented by a continuous field. From the quantum phenomena it appears to follow with certainty that a finite system of finite energy can be completely described by a finite set of numbers (quantum numbers). This does not seem to be in accordance with a continuum theory, and must lead to an attempt to find a purely algebraic theory for the description of reality. But nobody knows how to obtain the basis of such a theory." (Einstein, 1921, p. 166). The Spirilla Hypothesis is such a theory.

location, quality, tone and other factors are controlled by the cosmic fugue as it plays out the rhythm.

Figure 15 also demonstrates the significance of the photoelectric effect where blue light creates a current but red light will not. The 7th plane has no particle properties and solidification of form increases as the physical layer is approached towards the color of violet. That is to say, the planes are replicated in the visible light spectrum. Further evidence of this is the observed phenomena of Dark Matter being of a finer grade substance on a higher plane within the cosmic physical plane as noted in Figure 23.

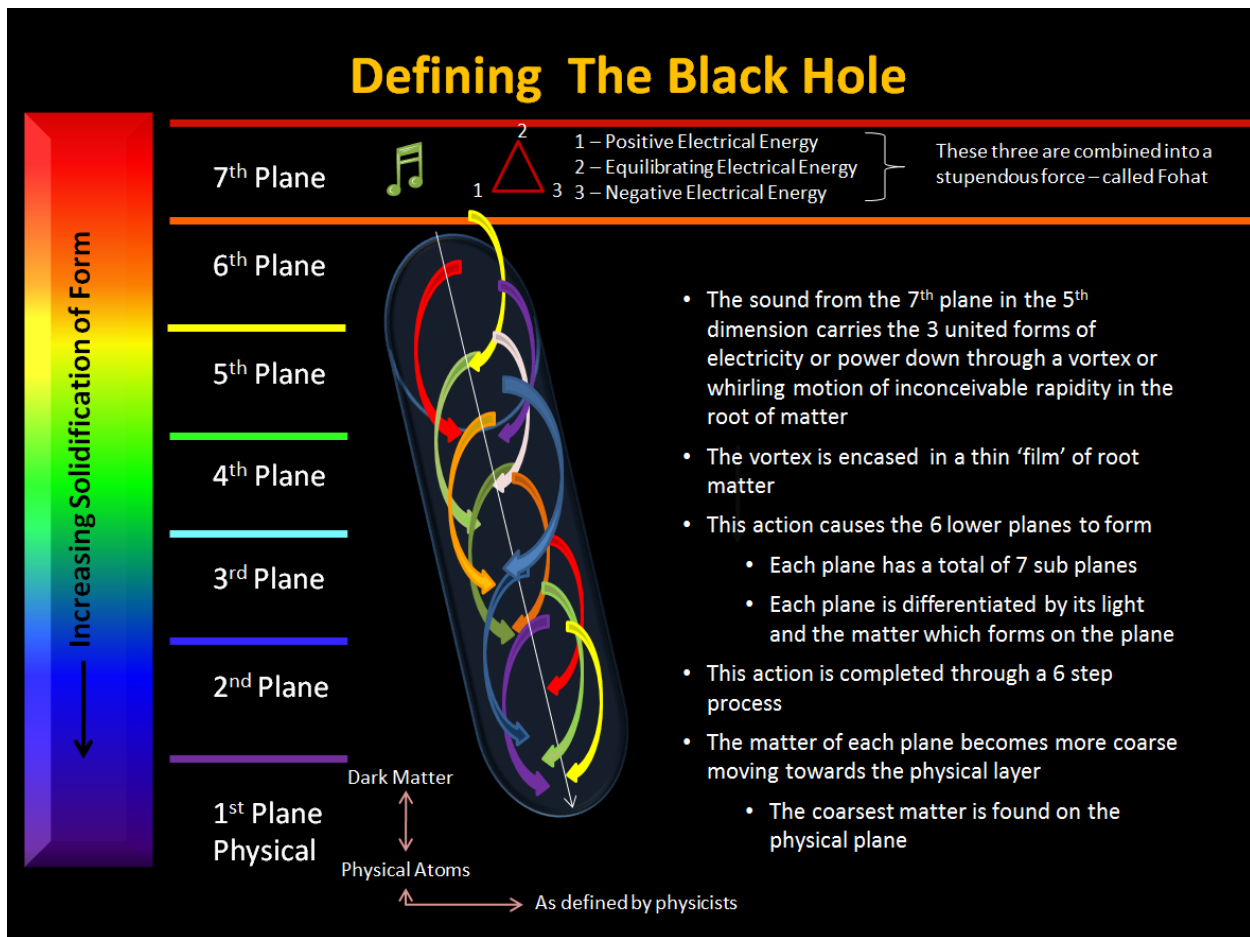


Figure 15 Defining the Black Hole. The multi colour cylindrical symbol represents matter coming from the root through a Black Hole with the Cosmic Spirillae shown in various colours. These spirillae are analogous to those in the sub quark.

5.2 The Inchoate

Simultaneously, as the frequency of the sound wave increased passing through microwave and infrared birth appeared when the wavelength reached that of light. The planes developed and light appeared on all planes within the cosmic bubble (referred to as a bubble in a koilon). The Cosmic Logos' analogous, permanent atom for each plane developed. The arrangement of the spirillae within the permanent atoms varies on each plane. For example the buddhic (5th plane counting up, 4th plane counting down) permanent atom has its spirillae arranged so as to form approximately a figure eight with a central stream bisecting the double spiral. (Figure 7, E3).

Condensation has set in but there is no form however there is excessive energy and violent activity.

5.3 The Fiery

As the frequency of the sound (words) increased it reached the hypergammic stage and the Cosmic Logos developed his physical permanent atom which resembles an egg-like form^{xi} with two nucleons as shown in Figure 7, Gas sketch. The energy centers appear (e.g. Betelgeuse) and form begins to develop as the image in the lower sub planes. The interior of the cosmic bubble is the vacuum of space with the central core experiencing a Birkeland-like current. From the perspective of the physical plane, it bonds with surrounding universe-atoms in a structure similar to a metallic deuterium/hydrogen lattice where our universe is a hydrogen atom in infinity. Recurrence relation is demonstrated in Figure 16 (Arata & Zhang, 2002).

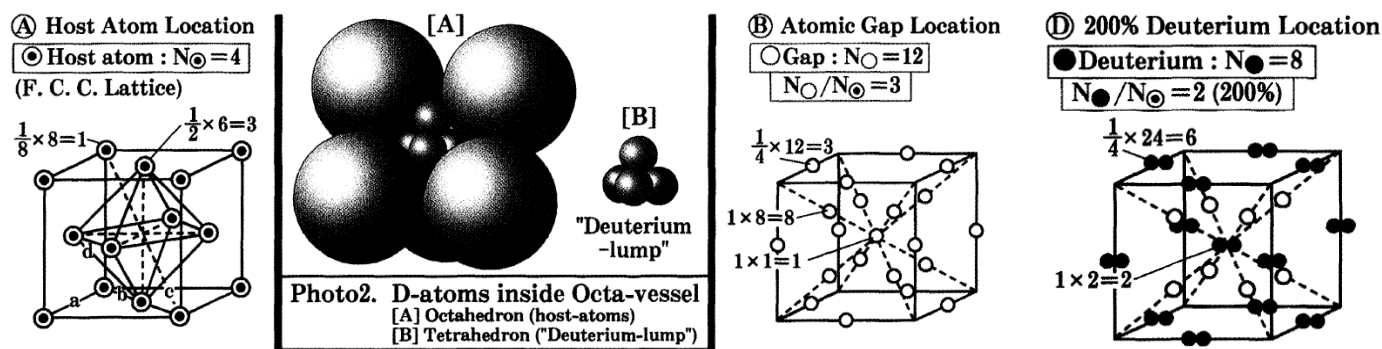


Figure 16. "Ultrahigh density metallic deuterium/hydrogen. The formation of condensed metallic deuterium lattice (hereafter, deuterium means deuterium/ hydrogen) (A) shows Pd fcc (face-centered cubic) lattice as a typical example of host metallic lattice. While (B) indicates the location of "atomic gap space" inside the host lattice. The location occupied with deuterium/hydrogen atoms corresponds to that of atomic gap space in (B) as seen (D)." "Photo2. Model of octahedral structure in unit cell of host lattice and the "deuterium lump" with ultrahigh density (simply "pynodeuterium-lump") which located with shape of tetrahedral structure inside the Octahedron of the host lattice. Here, this model is constructed using the ratio between actual Pd and deuterium in diameter."

As the periphery of our universe-atom came within the periphery of the surrounding deuterium universe-atoms, radiation was set up, a point of depression made its appearance, marking the inflow and outflow of force or heat which continues.^{xii} Further, there is a slight drift or transfer of deuterium atoms from these universe-atoms into our Space which has been detected.

Under the Law of Magnetic Control, hydrogen coalesces. It is the 'first born'^{xiii} and contains within its structure the reflection of the Cosmic Logos. Under the Law of Correspondence or Analogy to understand the 4 dimensional, 7 plane, dinucleon nature of hydrogen, and hydrogen bonding, is to understand our material universe^{xiv} and how it is held together with neutral electricity.⁷

5.3.1 The Continuation of the EM Band

When considering electromagnetic (EM) radiation through space two factors are noted: the speed of transmission of EM radiation through space (i.e. the speed of light, c) and the upper limit of the EM spectrum (i.e. the highest measured energy of isotropic gamma radiation at approximately 200

⁷ Please review IUPAC. Compendium of Chemical Terminology, 2nd ed. (the "Gold Book"). Compiled by A. D. McNaught and A. Wilkinson. Blackwell Scientific Publications, Oxford (1997). XML on-line corrected version: <http://goldbook.iupac.org> (2006-) created by M. Nic, J. Jirat, B. Kosata; updates compiled by A. Jenkins. ISBN 0-9678550-9-8. [doi:10.1351/goldbook](https://doi.org/10.1351/goldbook).

MeV (Thompson & Fichtel, 1982) or $4.8 \times 10^{22} \text{Hz}$). There have been momentary point flashes of gamma radiation detected above this level however they are not continuous and emanating from all directions.

These two properties suggest that a transport medium is present and that the medium not only determines the speed at which EM transfers through it but that something occurs once the frequency of the radiation reaches approx. $4.8 \times 10^{22} \text{Hz}$. This medium is Etheric matter and the transport plane is E2 as shown Figure 21. Further discussions follow in paragraphs: 5.4.2 Neutral Electricity, Gluons and Bosons, page 29 and 5.6.3 The Law of Relativity page 41.

Further, it is demonstrated that the rest mass of a proton (an H^1 atom) is known to be approx. 1.007276 atomic mass units (amu). Expressed in terms of mass this becomes approximately $1.67363 \times 10^{-27} \text{kg}$ (1 amu = $1.66054 \times 10^{-27} \text{kg}$). Einstein's equation that converts mass into energy is:

$$E = mc^2 \quad (1)$$

Using this equation one gets the approximate energy of a proton to be 1.50418×10^{-10} Joules. Planck's equation which converts quantum frequency into energy is:

$$E = h\nu \quad (2)$$

Substituting in the energy of a proton for E in this equation one gets the approximate frequency of a proton to be $2.27012 \times 10^{23} \text{Hz}$. The interesting coincidence is the fact that this frequency is only a factor of 4.7 times the upper limit of isotropic gamma radiation. In other words, the electromagnetic spectrum spans 22 orders of magnitude from DC up to its upper limit and then within less than half a magnitude above that the frequency equivalence of the first element appears. But in order to raise this interesting coincidence up to an intriguing coincidence, one only needs to convert the frequency into a wavelength:

$$\lambda = c/\nu \quad (3)$$

The wavelength of a proton turns out to be 1.32060 fm. But the equation that approximates the nuclear radius of an atom based on its mass number A is:

$$R = r_0 A^{1/3} \text{fm} \quad (4)$$

Where R is the nuclear radius and $r_0 = 1.2$. For a single proton this yields an approximate radius of 1.2fm, a difference of only 10%. In other words, there appears to be a correlation between the mass and radius of a proton and the upper limit of the electromagnetic spectrum.

Is it possible that the constitution of a proton is, in fact, simply electromagnetic radiation at energy levels above that of gamma radiation, in an upper band of (for lack of a better term) Hypergammic radiation? The hypothesis states - yes. The jump to Hypergammic radiation is analogous to sound breaking the sound barrier. A type of sonic boom also exists.

Through the described processes atoms coalesce from the root and represent the continuation of the EM band however the four dimensional nature of matter is not accounted for in the above equations nor the plane of manifestation. The first atom in the periodic table and hence the first in the continuation of the EM band is hydrogen.

5.3.2 The Periodic Table

The Periodic Table of the Elements replicates other formations for universe-atoms. The Mendeleev's Table of the Elements is valid for 3 dimensions in 3 planes however; the periodic table needs to be pivoted for the 7 subplanes of the 7th plane in 4 dimensions. The Periodic Law (after Crookes) noted by Annie Besant groups the elements by their four dimensional structure^{xv} as shown in Figure 17.

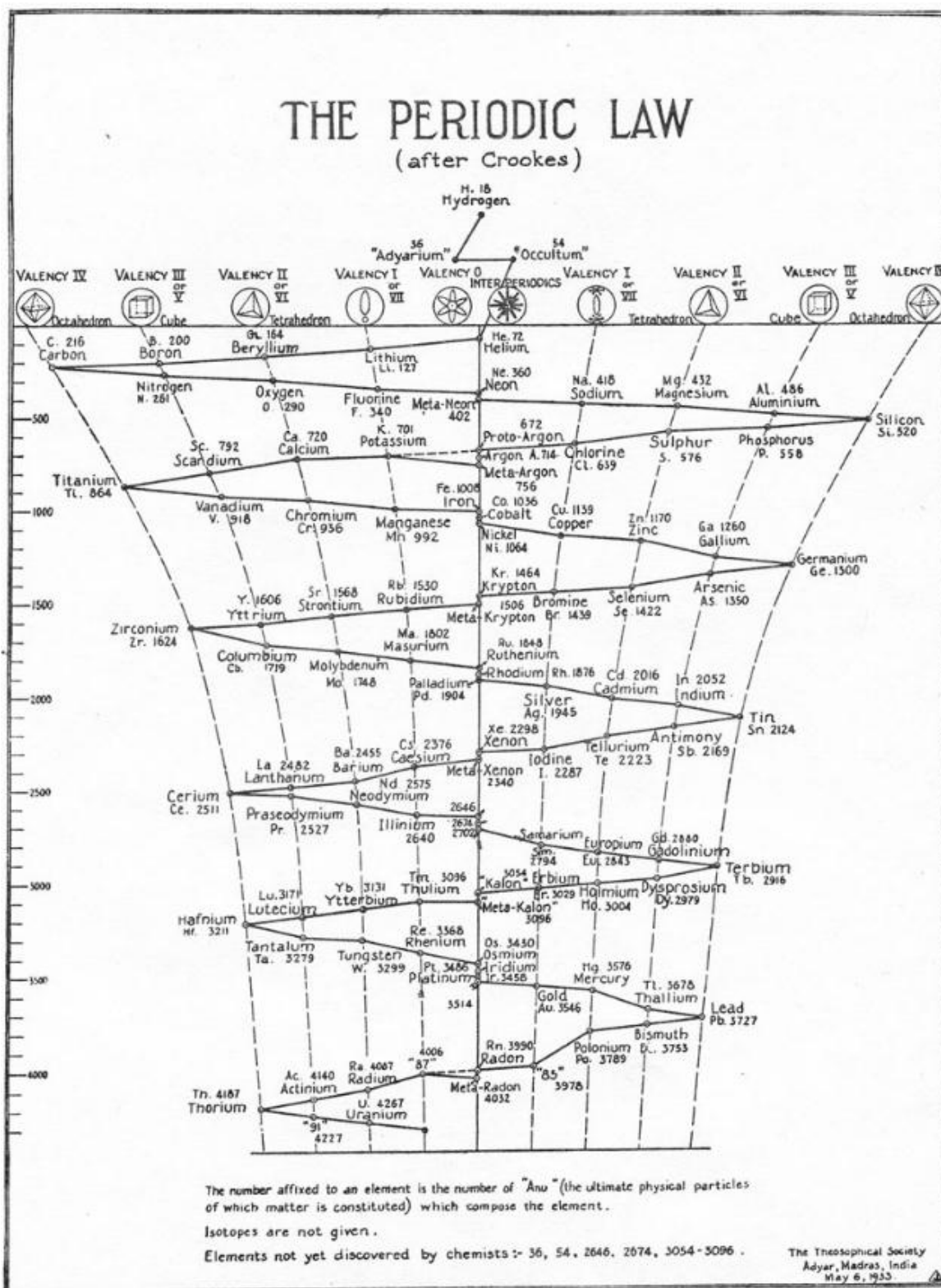
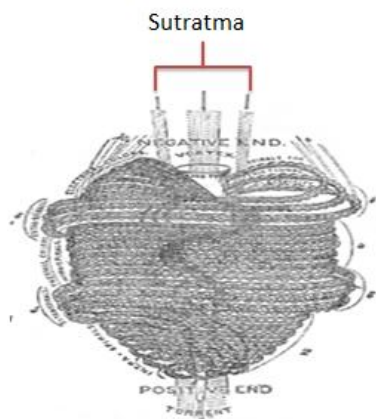


Figure 17 The Periodic Law (after Crookes) of the four dimensional structure of elements. The number affixed to an element is the number of subquarks which compose the element. Isotopes are not given. Not all elements were discovered by chemists at the time of publication of the drawing which is dated 1933. Besant stated three dimensions in her paper which was corrected to four dimensions by Bailey (Bailey, A Treatise on Cosmic Fire, 1973).

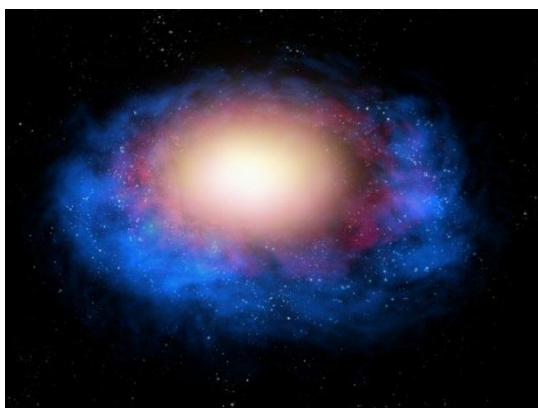
5.3.3 Anatomy of a Sun



In a statement from Besant "It is most curious that hydrogen, oxygen and nitrogen, the most widely spread gases, all differ fundamentally in form from the groups they reputedly head." As with hydrogen, oxygen^{xvi} and nitrogen differ due to their unique positions in the DNA strand; Nuclear Overhauser Effect and J coupling are involved which on the cosmic scale is referred to as The Law of Solar Union since all Suns align as shown Figure 13. Our Sun is in union with Sirius. The Sun is analogous to a sub quark with the inner core composed of 4th dimensional substance/fluid (akasha^{xvii} - there is no name in science for this substance however the closest hypothesized is strange matter) animated by latent heat which is channeled through the sutratma^{xviii}, surrounded by positive electrical fluid and coronal plasma as shown in Figure 18.^{xix}

Figure 18. The Sun shown as a partly corrected illustration from Babbitt's "Light and Colour"

5.4 The Watery



The ball or sphere of gaseous fiery essence becomes still more condensed and liquefied; it begins to solidify on its outer surface and the ring-pass-not of each sheath is more clearly defined. The heat of the sphere becomes increased and is centralised at the core or heart of the sphere where it produces that pulsation at the centre which characterises the sun, the planet, and the various vehicles of all incarnating entities

Electrical energy in its 3 forms is functioning perfectly. The young universe is held together through the spheroidal form controlled by the synthesizing electrical energy of the second aspect - i.e. neutral electricity and is magnetism.

Figure 19 An artist concept of the watery stage.

5.4.1 Electricity and Planes

Planes are noted in Figure 21. Our perception of reality only constitutes the bottom sub-plane. There is an interesting sequence or inversion involving the planes:

Electricity as vibratory impulse. First plane - this causes the aggregation of matter, and its activity within certain bounds, or its awakening to activity within the solar ring-pass-not. This is the first syllable of the Sacred Word that is the 1st spirilla, the first ray, and the strong nuclear force.

Electricity as Light, causing spheroidal objectivity. It covers the enunciation of the second syllable of the Sacred Word that is the 2nd spirilla, the second ray, the Law of Attraction, neutral electricity, magnetism, on the second plane,

Electricity as Sound. Here we have the completed threefold Sacred Word. The third plane, the 3rd spirilla, the Law of Economy (Quantum Mechanics).

On the fourth plane this electrical force shows itself as colour. In these four we have the fundamental concepts of all manifestation; all four have an electrical dynamic origin; all are

basically a differentiation or effect of impulse, emanating from the cosmic mental plane and taking form on the cosmic physical. It will be demonstrated that:

1. All physical phenomena as we understand the term have an electrical origin and an initial vibration on the first sub-plane of the physical plane. This is the location of the elemental sub-quark.
2. That Light, physical plane light, has a close connection with, and uses, as a medium, the second ether.
3. That sound functions through the third ether.
4. That colour in a peculiar sense is allied to the fourth ether.

The dimensions for electricity as vibratory impulse, light, sound and colour are 7th, 6th, 5th, and 4th respectively.

5.4.2 Neutral Electricity, Gluons and Bosons

Particle physicists have attempted to model neutral electricity with the theory of Gauge Bosons however, gluons, gravitons and bosons are imaginary particles; that is the binding force is not a particle. The photon is Ether with $m > 0$, charge = 0 (neutral electricity), and for the light photon a spin of -1. The light photon rotates in the opposite direction to the rotation of the plane. If a plane is rotating east to west, the light photon rotates west to east^{xx}. Physical plane light uses as a medium the second ether^{xxi} as noted in Figure 21. Further, what we see are only the reflections/images of the noted objects in our three dimensions. The corollary to this is that $E = mc^2$ is only valid for the reflection of light as it counter rotates to the E2 plane rotation in three dimensions^{xxii} (Figure 21).

The binding force is analogous to hydrogen bonding and van der Waals forces as shown in Figure 20.

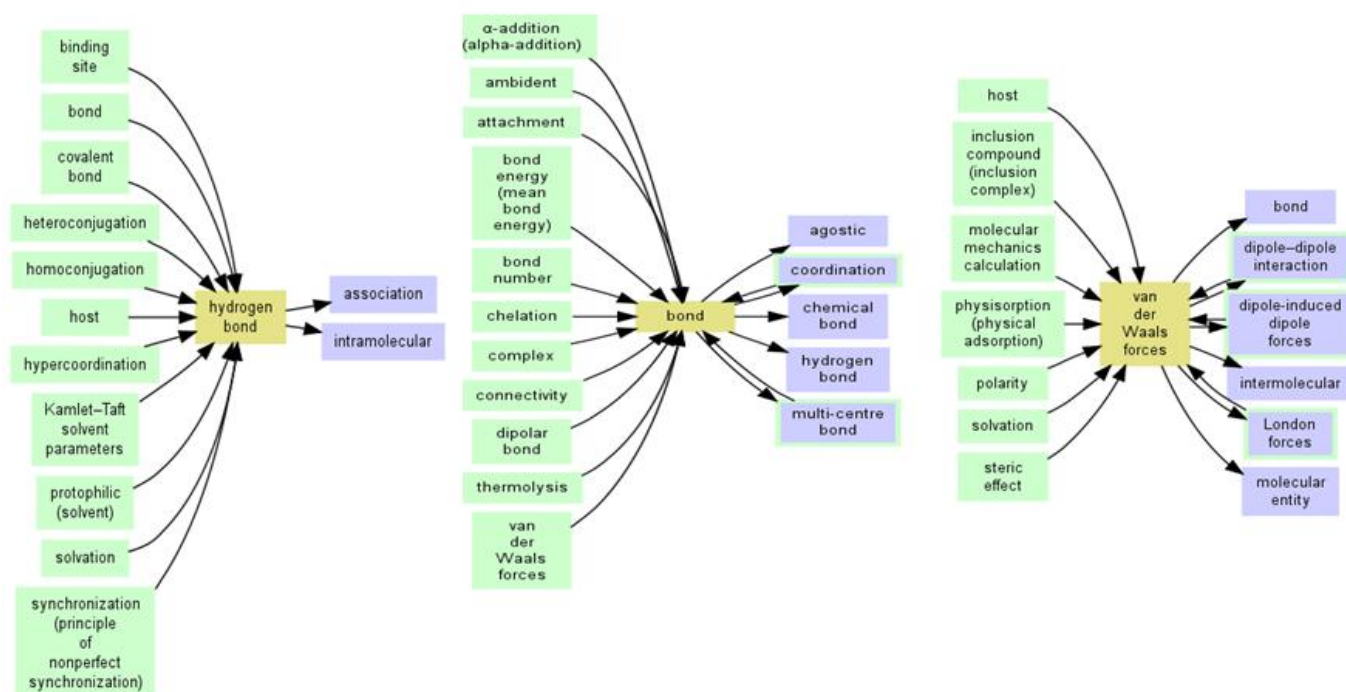


Figure 20 Various forces which are analogous in the binding of the universe. IUPAC (McNaught & Wilkinson, 1997)

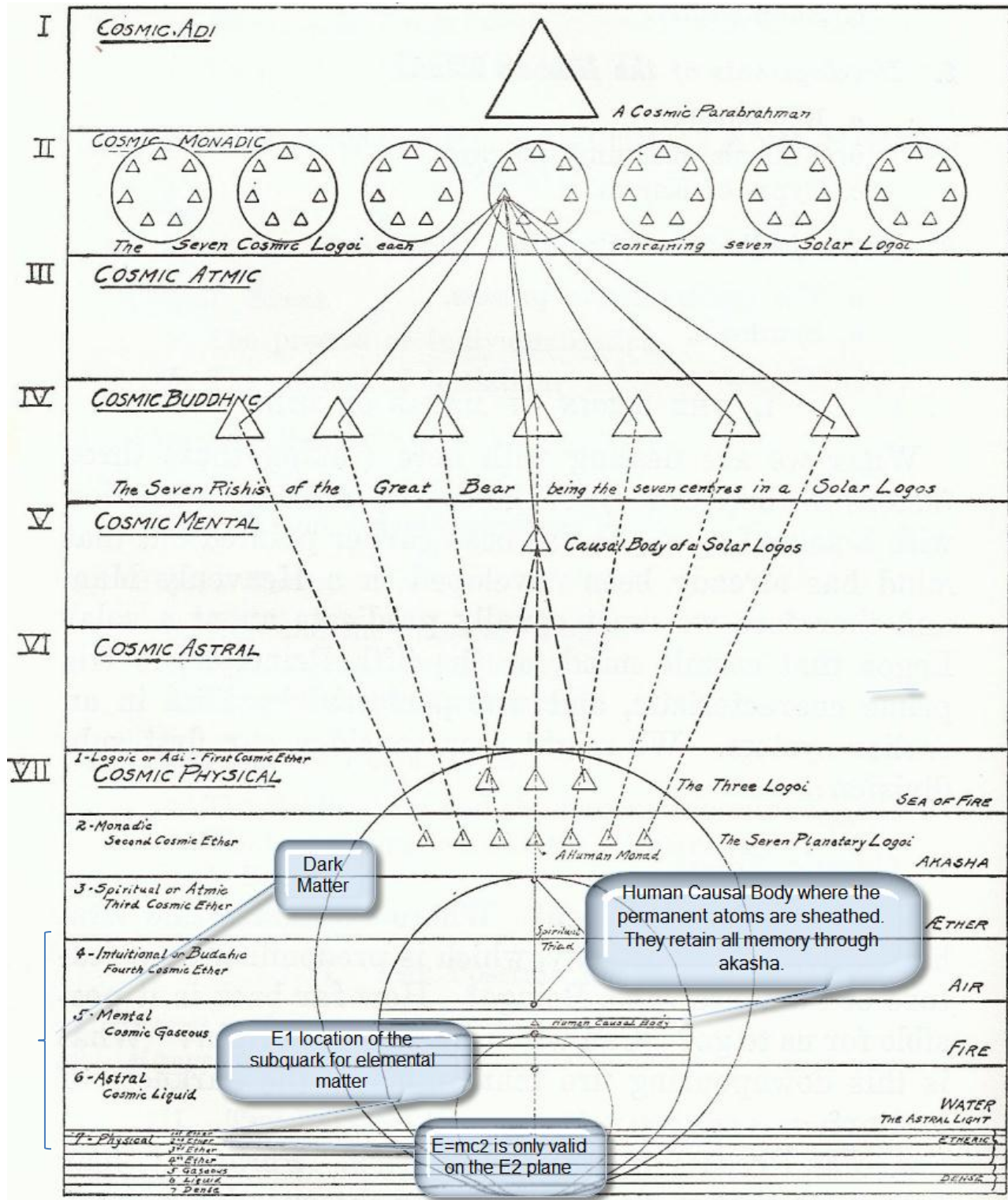


Figure 21 Evolution of a Solar Logos taken from A Treatise on Cosmic Fire, page 344. An in depth analysis of the chart is out of scope for this paper. The figure shows the lower ethers which constitutes our current understanding of reality if limited to three dimensions.

5.5 The Etheric

The atom proceeds to synthesize and the rhythm of the atom to the tone is established. The coloring and vibratory response of the atom can be seen. All parts of the atom are now moving to the chord of the tone in three parts:

- The nucleus responds to part 1 - positive charge.
- The spheroidal form responds to part 2 - synthesizing or equilibrating.
- The electrons respond to part 3 - negative charge.

This stage is very important as the synthesis and synchronization of the positive and negative charges and the equilibrating of the spheroidal form determines the quality, appearance, attributes, and properties of the atom.

Hydrogen converted to helium and the chemistry of space continued as more atoms coalesced out of the root. Coalescence comes under the Law of Magnetic Control which is shown below.

5.5.1 The Law of Magnetic Control

Figure 23 shows the solidification of planet Earth from the 4th Cosmic Etheric plane as it coalesces to the physical plane (Please see Figure 21 for the location of the planes). Planes 4, 5, 6 and 7 are the material planes where matter is the coarsest and hence detected. Ether and matter are synonymous terms but graduated according to solidification. Ether is undifferentiated root; matter is differentiated by electricity (fohat) carried by sound in the 5th dimension. Also indicated are the ascending arc and the transition of the planet as it returns to the higher planes. This phenomenon accounts for the missing mass and the increased radiation of Earth since it has started the transition upwards.

Partial interpretation of the figure relative to this paper follows:

- The triangle represents the 3 forms of electricity; 1 is positive, 2 is neutral, and 3 is negative. It is The Trinity. The note symbol represents sound in the 5th dimension. It is The WORD. The multi colour cylindrical symbol represents matter coming from the root through a Black Hole with the Cosmic Spirillae shown in various colours. These spirillae are analogous to those in the sub quark.
- The light wave represents 6th dimensional light as it is refracted into the Rays channeled through the sutratma. The brilliant white spot shown on each plane next to the light wave represents the point of energy coming from the 5th to the 4th dimension. The turning cylinders represent colour in the 4th dimension and the rotation of the planes. The reflection of the planes represents the image to the lower sub planes.
- The red globe is a Halbach Sphere that is a sphere which is magnetic and permits polarity reversal^{xxiii}.

In the case of a planet the magnetism comes from the 4th dimensional fluid (akasha). Axial flux density in the cavity is calculated as:

$$B = \frac{4}{3}B_r \ln\left(\frac{R_{out}}{R_{in}}\right) \quad (5)$$

where B is flux density, Br is residual magnetic induction of the magnetic material (akasha) and R_{out} and R_{in} are the outer and inner radii, respectively. Akasha supplies the magnetic dipole of Earth - not an inner core of iron.

Akasha is the first differentiation of the root of matter. It is vitalised matter, or substance animated by latent heat. It is burning etheric matter. Akasha in manifestation expresses itself as Fohat. Relative to Earth Akasic magnetism incessantly generates electric currents which tend to restore the disturbed equilibrium as noted in the phenomena of earth currents, terrestrial magnetism and atmospheric electricity.

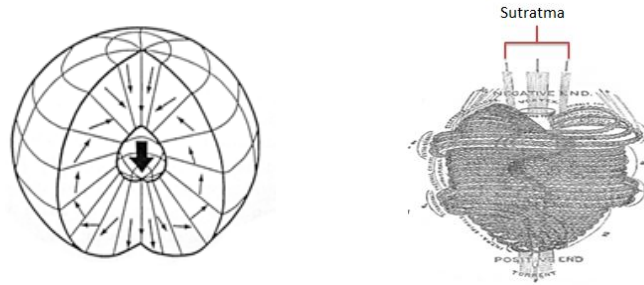
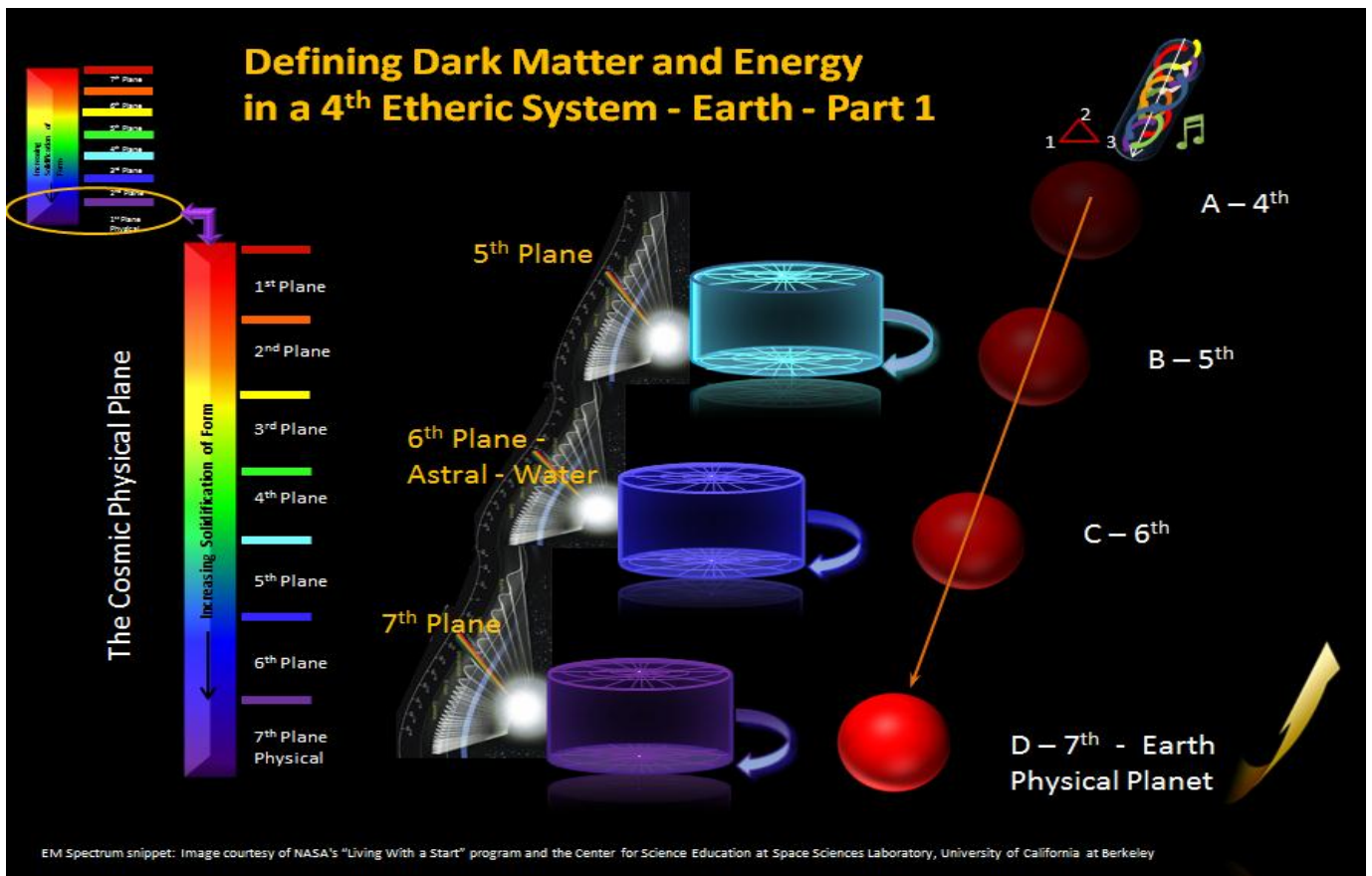


Figure 22 A Halbach Sphere (D. B. Kopeliovich). Further, as demonstrated in the planet Earth and illustrated with the graphic to the right, each atom or planet has a slight depression at the North Pole where the forces (energy/Rays) from without enters the sphere and counter rotates to the rotation of the sphere. From there the energy makes its way southward to a mid-way point where it increases the latent heat of akasha and produces added momentum.



EM Spectrum snippet: Image courtesy of NASA's "Living With a Star" program and the Center for Science Education at Space Sciences Laboratory, University of California at Berkeley

Figure 23. Defining Dark Matter and Energy in a 4th Etheric System - Earth - Part 1 (EM Spectrum snippet: Image courtesy of NASA's "Living With a Star" program (http://ds9.ssl.berkeley.edu/LWS_GEMS/index.htm) and the Center for Science Education at Space Sciences Laboratory, University of California at Berkeley).^{xxiv}

Deep in the heart or central core of a planet are caverns filled with crystals which are determined by the 1st spirilla, and incandescent burning. An electrical fluid, akasha, (2nd spirilla) is latent in the planet and is partly recognized as the aurora and lightening - it is the opposite pole to the solar electrical fluid. Planetary Prana comes from the 3rd spirilla. The same process applies for Suns, planets, atoms and the tiny life form referred to as an electron.

Professor Kei Hirose has recreated the conditions found at the Earth's core in his laboratory at the SPring-8 synchrotron near Osaka, Japan. The NOE Hypothesis confirms the crystals and caverns however it differs in that the material at the core is not iron-nickel but diamond for Earth^{xxv}.

5.5.2 Planetary Chain

Figure 23 shows part of the planetary chain of Earth and is a series of seven globes or worlds which form the field of evolution during the planetary cycle (or manvantara). The first three of these globes - generally known as A, B and C form the descending arc, the densest physical matter of the descent being reached in the fourth globe, D, of which Earth is an instance. The fifth globe, E, on the ascending arc (not shown) which corresponds to C on the descending arc usually belongs to the astral plane (6th) and the sixth and seventh globe - F and G correspond to B and A. ONLY globe D is visible, the other globes sit in dark matter.

Planet TrES-2b is noted by the Royal Astronomical Society as the darkest exoplanet spotted by astronomers. (Harvard-Smithsonian, 2011). The NOE Hypothesis states that this planet is coalescing out from the root of matter and is transitioning from globe C to D.

5.5.3 The Chemical Structure of Earth

All forms are composed on 7 planes through sound and all represent consciousness of some living entity.

The Earth from its perspective is the nucleus and carries with it the electrons and other particles as defined by chemistry for atoms. As Earth condenses from the root it develops its molecular structure as noted in Figure 24. Only Earth sits in the visible plane. (A greater analysis of the figure is required since some of the globes are actually chains but this is out of scope.) All other globes sit in dark matter. The atom is encased in an ovoid of neutral electricity. The chemical bonds are noted in bluish colors and the connection to the surrounding schemes of Venus, Mercury etc. are also shown. Earth is bonded to the Sun as an electron and is discussed later under gravity.

All physical plane planets are permanent atoms and have chemical structures sitting in Dark Matter. All planets are the physical bodies of Planetary Logoi - conscious entities. The corollary - where there is light there is life.

Two points to note from above:

1. In Figure 23 the planes are numbered from 1 to 7 in reverse order of the major planes since the direction is below the axis. The planes are shown rotating east to west and exist in matter differentiated into seven qualities, grades or vibration.
2. Fohat on these planes is referred to as Dark Energy.

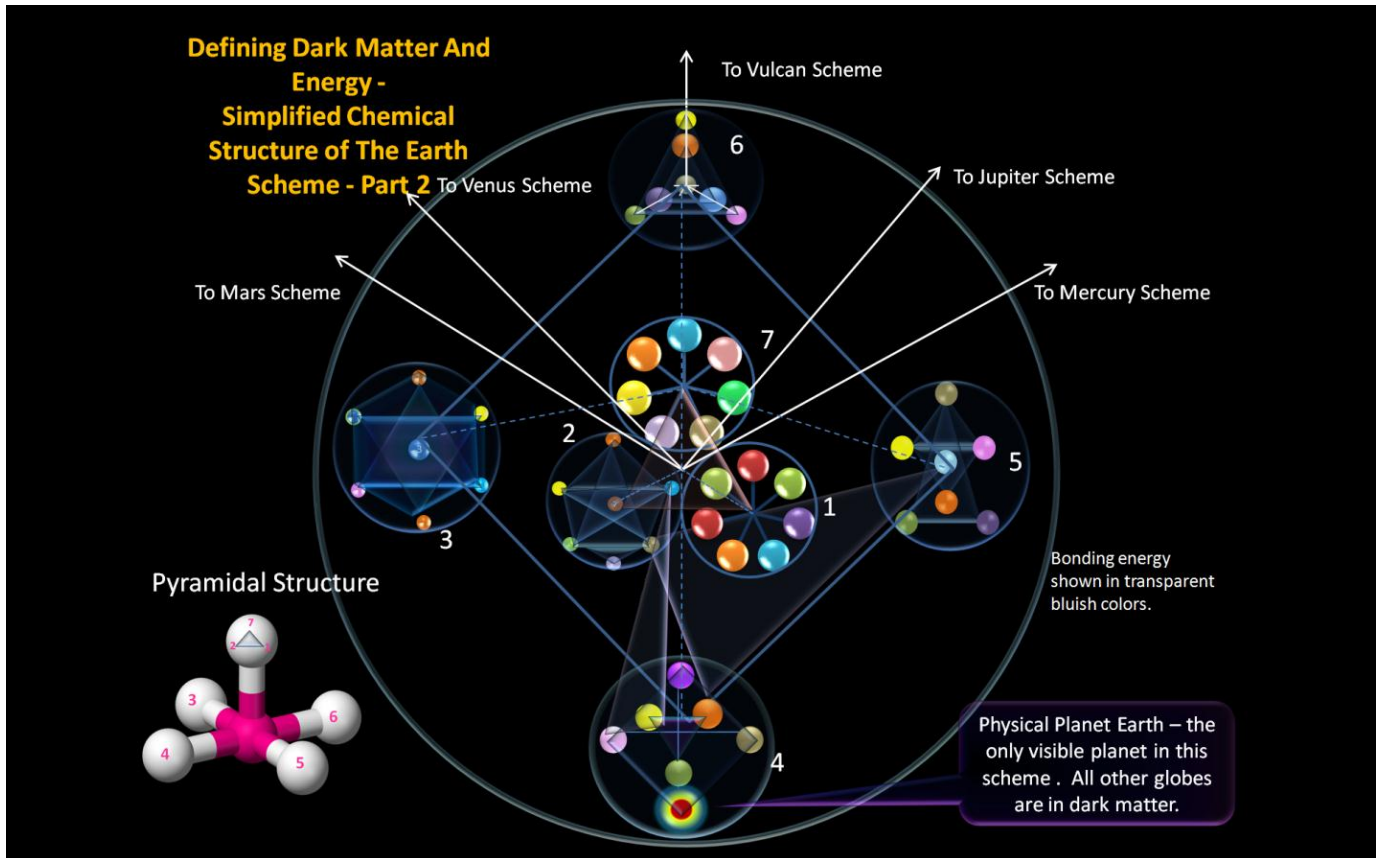


Figure 24 Defining Dark Matter and Energy - Chemical Structure of the Earth Scheme - Part 2.

5.6 The Solid

Following principles of recurrence relations and using the cosmic genetic code stored in the root, planets, suns, stars and galaxies develop and proceed through the lifecycle in three basic stages: inertia, mobility and rhythm.

1. **Inertia** - the initial stage as a result of inactivity and the relative quiescence of the root and akasha.

This characterises every atom at the dawn of manifestation, at the beginning of a solar cycle or mahamanvantara (or one hundred years of Brahma), at the commencement of a chain, of a globe, or of any spheroidal form whatsoever without exception. This statement, therefore, includes the totality of manifesting forms within the solar system.

Inertia is the result of lack of activity and the relative quiescence of the fires of matter. These fires, during obscuration or Pralaya, though latent, are free from the stimulation that comes from the aggregation of atoms into form, and the consequent interplay of the forms upon each other. Where form exists and the Laws of Repulsion and Attraction are coming into force, making radiation therefore possible, then comes stimulation, emanative effect (see Figure 31), and a gradual speeding up which eventually, from within the atom itself, by its own rotary movement produces the next quality.

2. **Mobility** - rotary movement begins as inertia is overcome by the incessant rotation of the black hole. The radiation of matter produces necessarily an effect upon other atoms in its environment, and this interaction and interplay causes repulsion and attraction according to

polarity eventually producing cohesion of form. The implication here is that our universe is within the sphere of other 'universe-atoms' and that contact with the periphery of these universe-atoms in our universe's environment allows for the ingress and egress of force and heat as discussed previously. Evidence of this phenomenon is noted by Andrew Beckwith in a series of papers outlining the problem with entropy in the cosmos. (Beckwith, Sept, 2009 (a)), (Beckwith, Sept, 2009 (b)), (Beckwith, Sept, 2009 (c))

Multiverse theory is also suggested by Dr Hiranya Peiris a cosmologist at University College London. (Feeney, Johnson, Mortlock, & Peiris, 2011).

3. Rhythm - this is the point of perfect balance.

The cosmic fugue becomes more complex, more black holes develop, differentiation begins and the volume increases. Expansion follows.

5.6.1 The Law of Expansion

Extrapolation of the expansion of the Universe backwards in time using general relativity yields an infinite density and temperature at a finite time in the past. This singularity signals the breakdown of general relativity in the Big Bang Theory. The NOE Hypothesis removes the singularity.

The Law of Expansion of the NOE Hypothesis is a law of a gradual evolutionary expansion of the consciousness indwelling every form and is the cause of the spheroidal form of every life in the entire solar system. It is a fact in nature that all that is in existence dwells within a sphere as noted above in the section [The Atom](#). The chemical atom is spheroidal; man dwells within a sphere, as does the [planetary Logos](#) and the solar Logos, this sphere being the form matter takes when its own internal activity and the activity of the form are working in unison. It requires the two types of force – rotary and spiral-cyclic – to produce this.

Cosmic sonoluminescence is analogous to the phenomenon of sonoluminescence in water as shown in Figure 25. As indicated in b. the bubble expands.

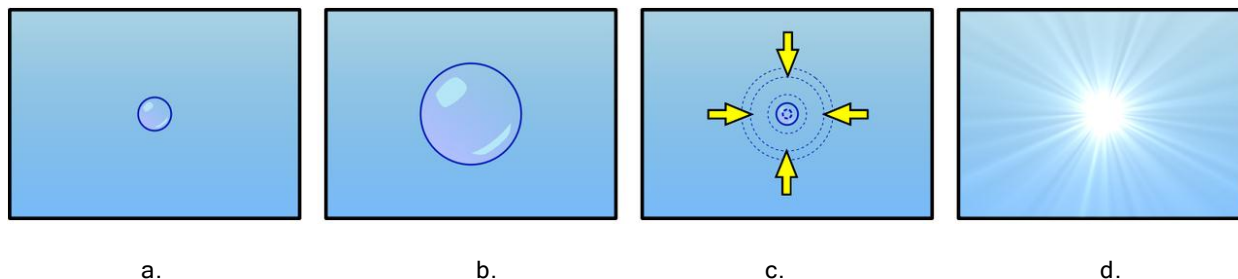


Figure 25 The phenomenon of sonoluminescence from left to right: a. appearance of a bubble, b. slow expansion, c. quick and sudden contraction, d. emission of light. (Wikipedia, Sonoluminescence, 2012)

5.6.1.1 Everything Rotates

Our universe is following the [6 step process](#) and eventually will develop full rotary action with a well-defined vortex at the center. Since this vortex has not been discovered it would suggest that the universe is somewhere around stage 3 - that is our universe is young. The WMAP Cold Spot (Rudnick, Brown, & Williams, 2007) MAY be the beginning of the well-defined vortex. It should be noted that the black hole comes first, followed by the rotary action.

Since the sound wave is dynamic and cyclic, the universe as we know it will continue to expand, and more rapidly as measurements indicate that the volume of the sound is increasing, but cessation will occur. It is important to note that everything rotates; light particles which rotate in reverse direction to the plane - west to east, planes which rotate east to west and energy which

rotates north to south through the planes. The coordinates are illustrative only. Please see Figure 26.

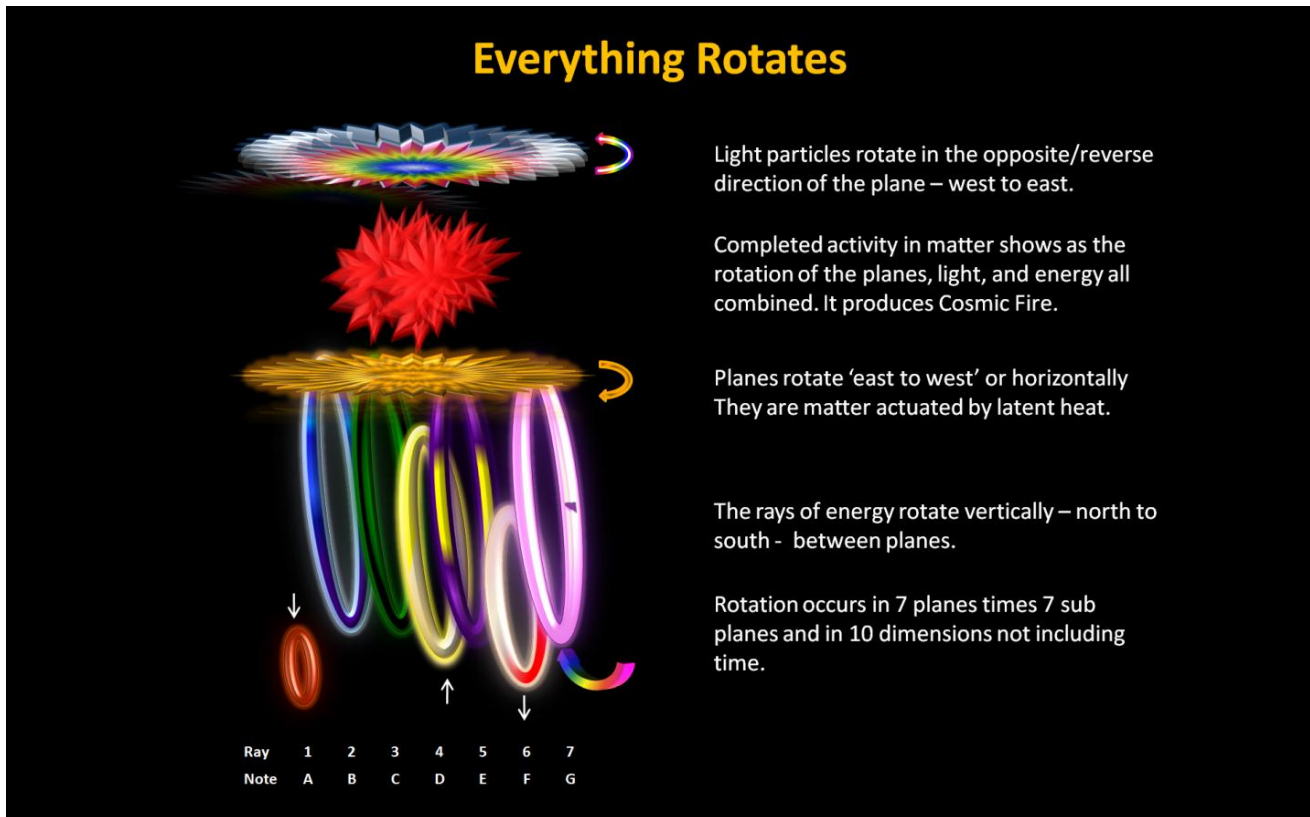


Figure 26 Everything Rotates.

The result of rotation produces:

1. Separation or the repulsive effect which allows for differentiation.
2. Momentum or the interior effect which keeps the planets at fixed points.
3. Friction or environal effect which keeps the atom vital and produces heat.
4. Absorption or the receptive or attractive effect which allows for the flow of force which animates the sphere.

Cosmic fire is produced when planes, light and energy come together in a synchronous, stable environment an example being Betelgeuse which is in reality the energy center for a greater structure. Only animated atoms rotate. Those atoms such as the Earth's moon which have no light of their own, do not rotate and hence do not create internal heat are dead. In the case of the moon it is a cosmic carcass and scientific measurement should indicate disintegration. The position of the rays (not discussed in this paper) shown in Figure 26 is relative to the planet Earth at this time.

5.6.1.2 Spiral-Cyclic

Spiral-cyclic relative to our solar system is shown in Figure 28. According to Dr. Steven Phillips' explanation of the Titius-Bode law, the imaginary primordial planetary nebula that coalesced into the planets of the Solar System has the geometry of a logarithmic spiral whose arms double in size

with every revolution. The spiral's asymptotic centre is to where the Titius-Bode numbers (shown in red in d.) refer, not the mean distance of the planet Mercury from the Sun, as astronomers have always interpreted them to mean. The scale of each planet's orbit was set by the distance of each spiral arm. As successive arms double in size, the numbers 3, 6, 12, etc. determines the mean distances of the orbits of the planets into which the material in each arm finally condensed. As a result, planetary distances from the asymptotic centre of the spiral nebula are perfect 4ths of undertones of the Pythagorean musical scale.

The NOE Hypothesis suggests that the centre of the spiral-cyclic rotation is actually a black hole.

The effect of the expanding consciousness is well documented and observed with cosmic microwave background and radiation; and Hubble's Law that observations of distant galaxies and quasars are red shifted as shown in Figure 27.

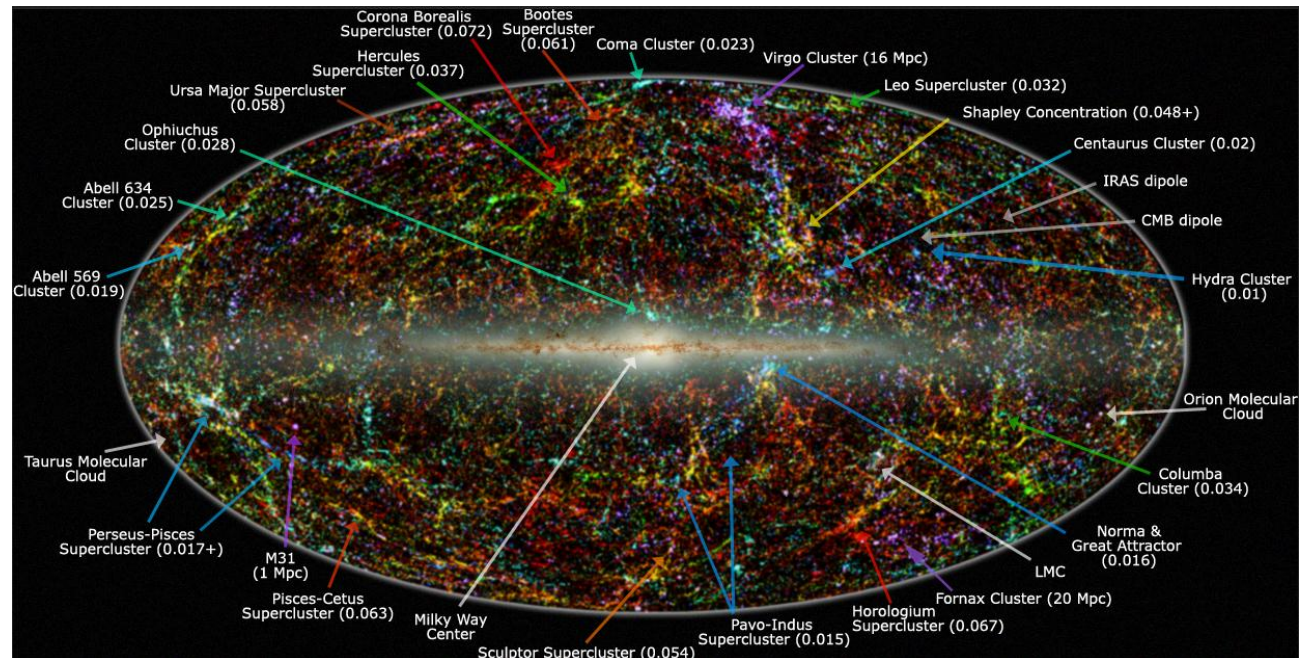
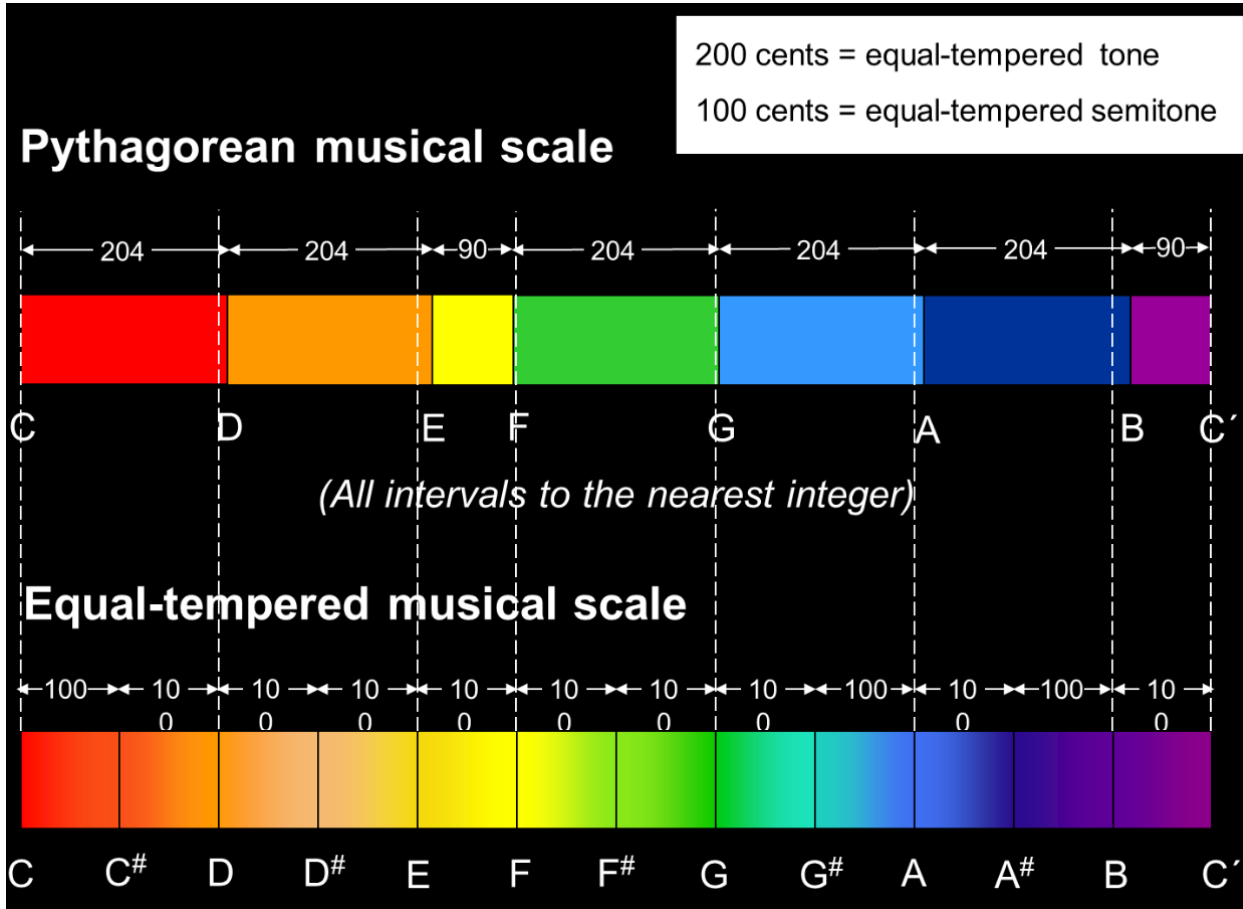


Figure 27 Panoramic view of the entire near-infrared sky reveals the distribution of galaxies beyond the Milky Way. The image is derived from the 2MASS Extended Source Catalog (XSC)—more than 1.5 million galaxies, and the Point Source Catalog (PSC)—nearly 0.5 billion Milky Way stars. The galaxies are color coded by 'redshift' obtained from the UGC, CfA, Tully NBGC, LCRS, 2dF, 6dFGS, and SDSS surveys (and from various observations compiled by the NASA Extragalactic Database), or photo-metrically deduced from the K band ($2.2 \mu\text{m}$). Blue/purple are the nearest sources ($z < 0.01$); green are at moderate distances ($0.01 < z < 0.04$) and red are the most distant sources that 2MASS resolves ($0.04 < z < 0.1$). The map is projected with an equal area Aitoff in the Galactic system (Milky Way at center). (NASA common)



(a)

F scale	1	9/8	81/64	729/512	3/2	27/16	243/128	2
E scale	1	256/243	32/27	4/3	3/2	128/81	16/9	2
D scale	1	9/8	32/27	4/3	3/2	27/16	16/9	2
C scale	1	9/8	81/64	4/3	3/2	27/16	243/128	2
B scale	1	256/243	32/27	4/3	1024/729	128/81	16/9	2
A scale	1	9/8	32/27	4/3	3/2	128/81	16/9	2
G scale	1	9/8	81/64	4/3	3/2	27/16	16/9	2

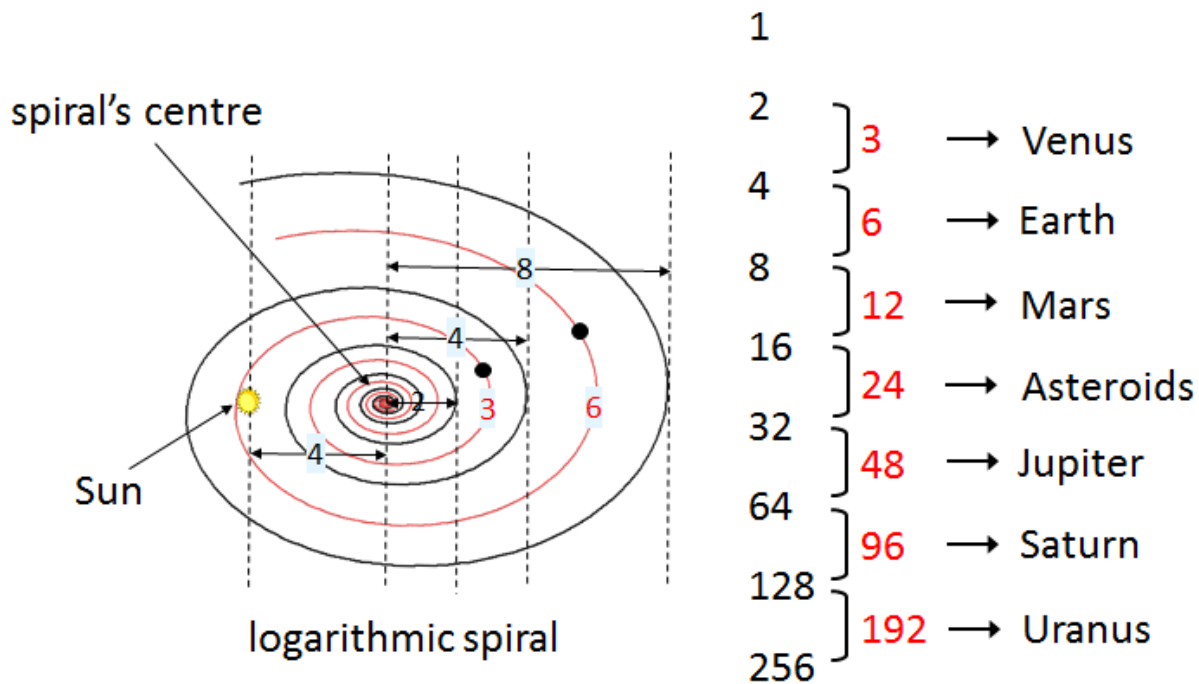
(white cells denote non-Pythagorean tone ratios)

(b)

wavelength →

C	D	E	F	G	A	B
1	8/9	64/81	3/4	2/3	16/27	128/243
2	16/9	128/81	3/2	4/3	32/27	256/243
4	32/9	256/81	3	8/3	64/27	512/243
8	64/9	512/81	6	16/3	128/27	1024/243
16	128/9	1024/81	12	32/3	256/27	2048/243
32	256/9	2048/81	24	64/3	512/27	4096/243
64	512/9	4096/81	48	128/3	1024/27	8192/243
128	1024/9	8192/81	96	256/3	2048/27	16384/243
256	2048/9	16384/81	192	512/3	4096/27	32768/243

(c)



(d)

Figure 28 Spiral-cyclic analysis of our solar system. (a) the Pythagorean musical scale broken out into equal-tempered tones and semi-tones. The chart also shows the translation of colour into the musical tones. (b) shows the tone ratios of the seven octave species. Coloured cells denote notes of the Pythagorean (C) scale (notice that all its cells are coloured) and white cells denote non-Pythagorean notes. (c) the wavelengths of the undertones of the Pythagorean musical scale (d) Planetary mean distances from the spiral's asymptotic centre are perfect fourths of musical undertones of the F scale. (Phillips, 2010)

5.6.2 The Law of Solar Evolution

The Law of Solar Evolution is the sum-total of all the lesser activities. We might consider this point in connection with the planetary atom, and the solar atom.

The planetary atom has, as all else in nature, three main activities:

First. It rotates upon its own axis, revolves cyclically within its own ring-pass-not, and thus displays its own inherent energy.

Second, the planetary atom also revolves orbitally around its solar centre. This is its expression of rotary-spiral-cyclic action, and its recognition of the divine central magnet. This brings it under the constant impression of other schemes, each of which produces effects upon the planet. It likewise brings it under the inflowing streams of energy from what are termed the zodiacal constellations which reach the planetary scheme via the great centre, the Sun.

The third activity of the planetary atom is that which carries it through space along with the entire solar system, and which embodies its "drift" or inclination towards the systemic orbit in the heavens.

The solar atom must be considered as pursuing analogous lines of activity and as paralleling on a vast scale the evolution of the planetary atom. The entire solar sphere, the logoic ring-pass-not, rotates upon its axis, and thus all that is included within the sphere is carried in a circular manner through the Heavens. The exact figures of the cycle which covers the vast rotation must remain as yet esoteric, but it may be stated that it approximates one hundred thousand years, being, as might be supposed, controlled by the energy of the first aspect, and therefore of the first Ray.

Like the planetary atom, the solar atom not only rotates on its axis but likewise spirals in a cyclic fashion through the Heavens as discussed above and shown in Figure 28. This is a different activity to the drift or progressive dynamic motion through the Heavens. It deals with the revolution of our Sun around a central point and with its relation to the three constellations which is discussed below in 5.6.4.2:

- The Great Bear.
- The Pleiades.
- The Sun Sirius.

These three groups of solar bodies are of paramount influence where the spiral cyclic activity of our system is concerned.

Further, it must be added that the third type of motion to which our system is subjected, that of progress onward, is the result of the united activity of the seven constellations (our solar system forming one of the seven) which form the [seven centres](#) of the cosmic Logos. This united activity produces a uniform and steady push toward a point in the heavens unknown as yet to even the planetary Logoi.

Evidence of this motion has been detected. Dr. Alexander Kashlinsky released a paper that found evidence of a "surprisingly coherent" 600-1000 km/s flow of clusters toward a 20-degree patch of sky between the constellations of Centaurus and Vela. (A. Kashlinsky, 2008). The dark flow is evidence of this motion gaining momentum.

The confines of the Heavens Themselves are illimitable and utterly unknown. Naught but the wildest speculation is possible to the tiny finite minds of men and it profits us not to consider the question. Go out on some clear starlit night and seek to realise that in the many thousands of suns and constellations visible to the unaided eye of man, and in the tens of millions which the modern telescope reveals there is seen the physical manifestation of as many millions of intelligent existences; this infers that what is visible is simply those existences who are in incarnation. But only one-seventh of the possible appearances are incarnating. Six-sevenths are out of incarnation, waiting their turn to manifest, and holding back from incarnation until, in the turning of the great wheel, suitable and better conditions may eventuate.

Realise further that the bodies of all these sentient intelligent cosmic, solar and planetary Logoi are constituted of living sentient beings, and the brain reels, and the mind draws back in dismay before such a staggering concept. Yet so it is, and so all moves forward to some unfathomable and magnificent consummation which will only in part begin to be visioned by us when our consciousness has expanded beyond the cosmic physical plane, and beyond the cosmic astral until it can "conceive and think" upon the cosmic mental plane.

5.6.3 The Law of Relativity

The Law of Relativity, or the relation between all atoms, which produces that which is called Light, and which, in its aggregated phenomena, forms that composite sphere, a solar system. This law is a subsidiary to the Law of Attraction and is partly developed by Einstein's Theory of Relativity which is actually the scientific explanation of God. There are two main issues:

$$E = mc^2 \quad (6)$$

1. The equation needs to be reworked to include the 4th dimension for the visible light photon as it counter rotates on the E2 plane (Figure 21) which is the transport medium having inertia keeping in mind that this form of light is only the reflection as noted in Figure 23. Further, photons (particles) are bonded with neutral electricity which gives the wave appearance of light i.e. the wave particle duality. Einstein's equation originally included the 4th dimension but he noted "The aid of a fourth space dimension has naturally no significance except that of a mathematical artifice." He therefore neglected the x_4 term as a dimension which is necessary in describing matter. There are however 10 dimensions but in reality time does not exist. A new definition of time is discussed later and is "Consciousness seeking its opposite" which is [Quantum Entanglement](#).
2. Material velocities exceeding c are possible in higher dimensions and planes through the ability to transcend time and control of the etheric levels as noted above⁸. This requires a new definition of time to the one noted by Einstein: "Time is then defined as the ensemble of the indications of similar clocks, at rest relatively to K, which register the same time simultaneously."

By setting the Lorentz transformation:

$$l = ct \quad (7)$$

to replace time the only outcome is the appearance of the radical in Einstein's equation (29):

$$\sqrt{1 - v^2} \quad (8)$$

which restricted the material velocities however this is only true for the E2 plane.

Further, the motion of the constellations external to the solar sphere is responsible for its form in conjunction with its own rotary motion in space. Not recognized at this time is that the wave lengths of the light from the constellations which are either attractive to, or repulsive to, the sun are antagonistic to the solar system, There are wave lengths which will not transmit through the solar periphery.^{xxvi}

5.6.4 Gravity and the Spirilla Hypothesis

First, let us repeat the truism that the worlds are the effect of sound. First life, then matter; later the attraction of the matter to the life for purposes of its manifestation and expression, and the orderly arrangement of that matter into the necessary forms. Sound formed the allying factor, the

⁸ Bailey, The Externalization of the Hierarchy, page 509

propelling impulse, and the attractive medium. Sound stands for that which we term "the relation between", and is the creating intermediary, the linking third factor in the process of manifestation. It is the akasha. On the higher planes it is the agent of the great Entity Who wields the cosmic law of gravitation in its relation to our solar system, whilst on the lower planes it demonstrates as the astral light, the great agent of reflection, that fixes and perpetuates on its vibratory bosom the past, the present and the future, or that which we call Time. In direct relation to the lower vehicle it manifests as electricity, prana and the magnetic fluid. A simplification of the idea is the recognition of sound as the agent of the Law of Attraction and Repulsion.

The Law of Gravitation. This law is the most puzzling and confusing of all the laws. It shows itself in one aspect as the power, and the stronger urge that a more vital life may have upon the lesser, such as the power of the spirit of the Earth (the planetary Entity, not the planetary Logos) to hold all physical forms to itself and prevent their "scattering." This is due to the heavier vibration, the greater accumulative force, and the aggregated tamasic lives of the body of the planetary Entity. This force works upon the negative, or lowest, aspect of all physical forms. The Law of Gravitation shows itself also in the response of the soul of all things to the greater Soul in which the lesser finds itself. This law, therefore, affects the two lowest forms of divine life, but not the highest. It emanates in the first instance from the physical sun and the heart of the Sun. The final synthesising forces which might be regarded as forms of spiritual gravitational activity are, nevertheless, not so, but are due to the working of another law, emanating from the central spiritual Sun. The one is purely systemic, the other a cosmic law.

The Law of Gravitation is a subsidiary law of the Law of Attraction (and repulsion). It therefore comes under the second major cosmic spirilla.

5.6.4.1 Calculating the Strength of Gravity or Bond in the 4th Dimension

In calculating gravity it is important to understand the alignment and ray structure of the bonding bodies regardless of whether it is a celestial body, a tree, man or a rock. The structure of the bodies determines the gravity strength. Current scientific calculations and observations determines the strenght as the net effect of the sum of the components.

All material forms are built on the subquark as permanent atoms. The subquark comes in two versions; male and female as shown in Figure 29.

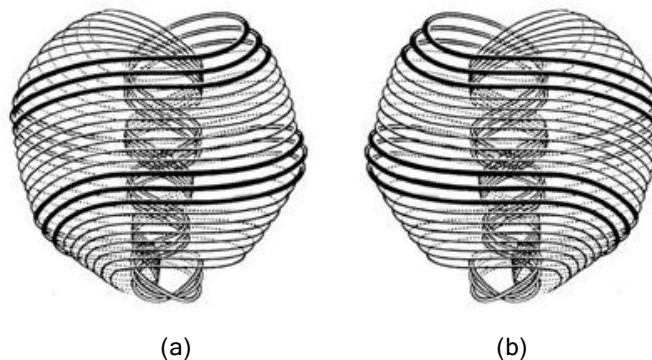


Figure 29 The Ultimate Physical Atom - Subquark comes in two versions: (a) Male and (b) Female "In this ultimate state of physical matter two types of atoms have been observed; they are alike in everything save the direction of their whorls (spirillae) and of the force which pours through them. In the one case force pours in from the "outside," from fifth-dimensional space, and passing through the atom, pours into the physical world. In the second, it pours in from the physical world, and out through the atom into the "outside" again, i.e., vanishes from the physical world. The one is like a spring, from which water bubbles out; the other is like a hole, into which water disappears. We call the atoms from which force comes out positive or male; those through which it disappears, negative or female." (Besant & Leadbeater)

As noted in “Figure 13 Besant's Hyper-Meta-Proto-Elemental Open and Closed Subquark Alignments.” the subquarks align based on the musical fugue coming from the 5th dimension. Besant stated “Here are some characteristic combinations of the Hyper state; the atom is conventional, with the depression emphasised; the lines, always entering at the depression and coming out at the apex, show the resultants of lines of force; where no line appears entering the depression, the force wells up from fifth-dimensional⁹ space; where no line appears leaving the apex, the force disappears into fifth-dimensional⁹ space; where the point of entry and departure is outside the atoms, it is indicated by a dot. It must be remembered that the diagrams represent four-dimensional⁹ objects, and the atoms are not all on a plane, necessarily.

For Figure 30 gravity would be the sum of all forces and is calculated as:

S_1 = the first spirilla and is the strong nuclear force - SU(1)

S_2 = the second spirilla and is attraction and repulsion as defined by magnetism - U(1) and is analogous to the hydrogen bond

S_3 = the third spirilla and is the weak force - SU(3) x U(1)

The third major spirilla is the sum of the 4th to 6th spirillae. The forces vary depending on the rays.

$$S_3 = \sum_{x=4}^6 S_x \quad (9)$$

The 5th spirilla is the sum of the minor spirillae 7 through 10. The forces vary depending on the rays.

$$S_5 = \sum_{x=7}^{10} S_x \quad (10)$$

The magnetic field is defined as:

$$H = H_0 + H_d \quad (11)$$

H = magnetic field

H_0 = applied magnetic field

H_d = demagnetizing field

m = male spin

f = female spin

y = number of subquarks

y_m = number of male spin subquarks

y_f = the number of female spin subquarks

v = van der Waals-like forces

⁹ Corrected by Bailey

n = number of van der Waals-like points

g_4 = gravity in 4 dimensions and is defined as:

$$g_4 = y_m(S_{m1} + S_{m2} + S_{m3}) - y_f(S_{f1} + S_{f2} + S_{f3}) + \sum^n \sqrt{1 - v^2} + H \quad (12)$$

Therefore for Figure 30 the gravity constants are:

$$y_m = 3 \quad (13)$$

$$y_f = 1 \quad (14)$$

$$n = 2 \quad (15)$$

To determine the bond between one object and the next the calculations would include the other object's subquark alignment.

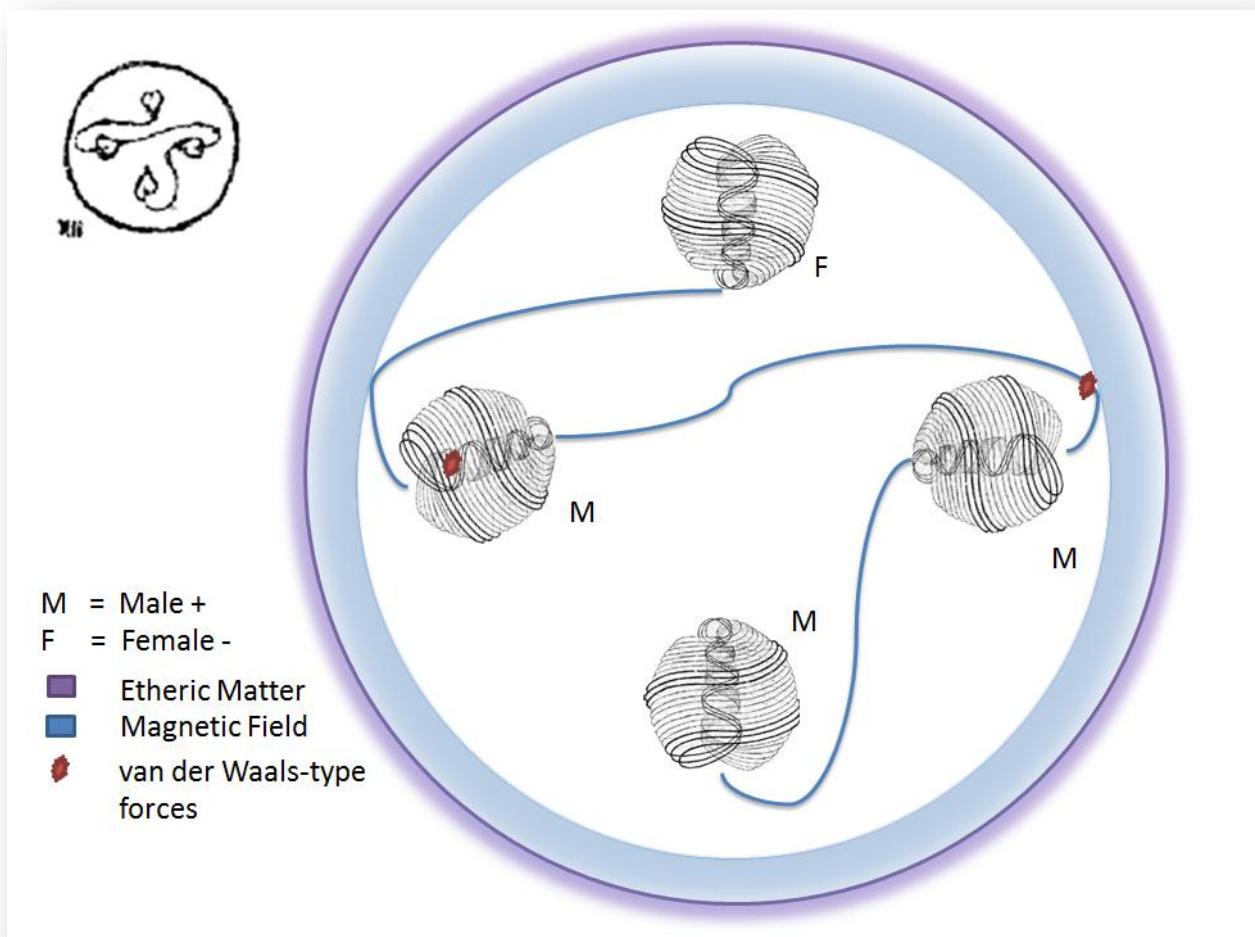


Figure 30 Besant's Alignment Number XII Enlarged showing a circular construction.

5.6.4.2 Gravity, Celestial Bodies and the Science of Triangles

This science is also known as the Science of Etheric Structure or Substance. In the study there is always one point of the triangle which is the emanating, dynamic, conditioning energy. During the cycle (great or small, major or minor) in which it controls, the other two points express receptivity and are regarded esoterically as embodying forces. Every triangle is, therefore, the expression of one fundamental energy and of two secondary forces. This is a basic statement of importance and the formulation of a law under which all the triplicities of energy function in time and space. You have consequently:

1. An emanating energy centre.
 - Dynamic expression of cyclic purpose.
 - Positive qualified out-going ray energy.
 - Planetary, systemic, zodiacal and cosmic energy.
 - The basis of hylozoistic (living) expression.
2. A receptive force centre.
 - An evocative expression of the initial impelling energy.
 - A synthesis of two forces, the emanating and the receptive.
 - A qualified, conditioning secondary energy.
 - Motivating, blended energy, neither positive nor negative.
3. A responsive point of negative energy.
 - A major centre, completing the grounding of the emanating energy.
 - Responsive mainly to the second point of the triangle.
 - Source of a violent interplay between the two points of the base line.

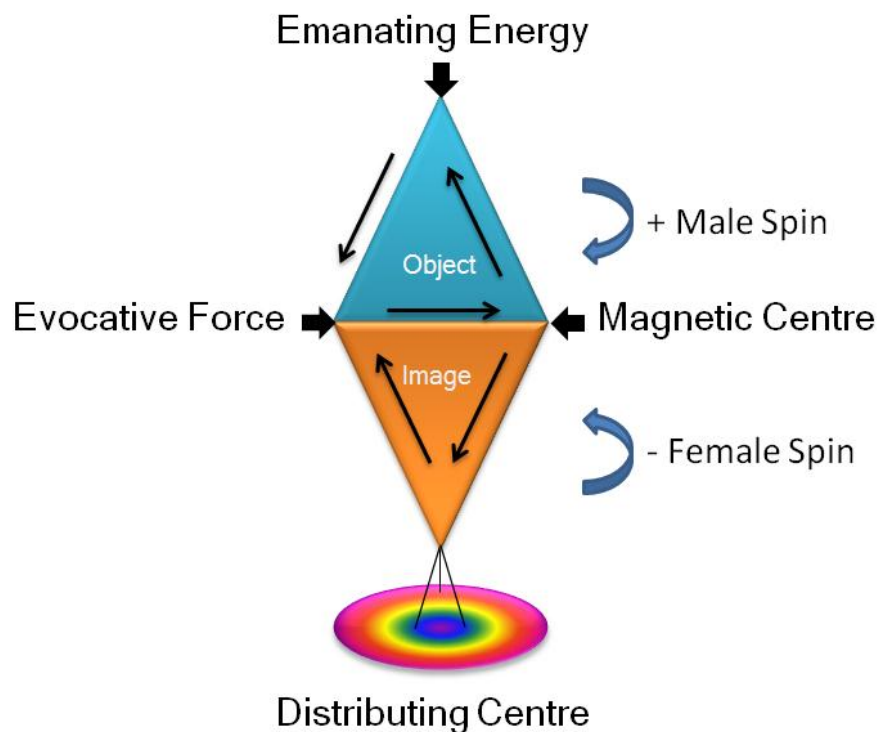


Figure 31 The Science of Triangles

This distributing centre can be a solar system, regarded as a cosmic centre, a planet, which is a systemic centre, one of the planetary centres, such as a nation or an individual or one of the centres in the human etheric body.

A close study of these energy streams will demonstrate two major movements:

1. A downflow of energy from an emanating centre. This leads to:
 - i. Its merging with the energy of a centre of reception and its consequent qualification.
 - ii. Its transmission to and its evocative effect upon a second point or focal point of reception.
Note: This leaves one side of the triangle as yet uncompleted.
 - iii. The three types of energy (or rather one energy and two forces) proceed then with the following activities:
 1. Evocative energising of a secondary triangle.
 2. Pouring down one side of this reflected triangle into the evoked expression on the physical plane.
 3. Producing manifestation, quality and activity.
 4. Forming a reservoir of descending and balancing energies.
2. A return flow of this qualified energy to its emanating source or the highest point of the major triangle. This produces:
 - i. The completion of the two triangles—the Real and the unreal - the object and the image
 - ii. The transmission of force from the reflected or secondary triangle in the three worlds of human endeavour
 - iii. There are consequently two points of major importance in the higher triangle:
 1. The emanating point of positive conditioning energy.
 2. The point which receives into itself both the higher energy and the lower forces. This point is called the soul aspect of the triangle and is always the registering agent of consciousness.
 - a. The overshadowing triangle is the factor which produces by its flow into and out of the secondary triangle the "moments in time and the events in space which lead to those episodes in the life of the soul wherein force becomes energy and energy becomes life."

To summarize:

1. Emanating, evocative and magnetic energies are the three types of energy, flowing from the "superior triangle" or object.
2. Receptive, distributing and critical forces are the three types of energy distributed by the "inferior or reflected triangle" or image
3. Two points of energy are shared by both triangles along the base line. When the work is completed, the base line is formed by two blended streams of energy, which embody the energies of both triangles.
4. One point of energy (the magnetic point) produces involution and outgoing during the process of forming the lower triangle. In a later stage it – as a blend of energies – induces return of all the energies to the emanating source.

In this fashion the sixfold triangle – objective and subjective – is completed.¹⁰

An example of the magnetic interface between the superior triangle and the reflection is seen in the phenomenon known as Elves with respect to the planet earth as shown in Figure 32.

¹⁰ Which is object and which is image is relative. From the three dimensional aspect of human consciousness what we perceive is the object – the etheric body being the image. In reality, the etheric body is the object – everything that we perceive is the image.

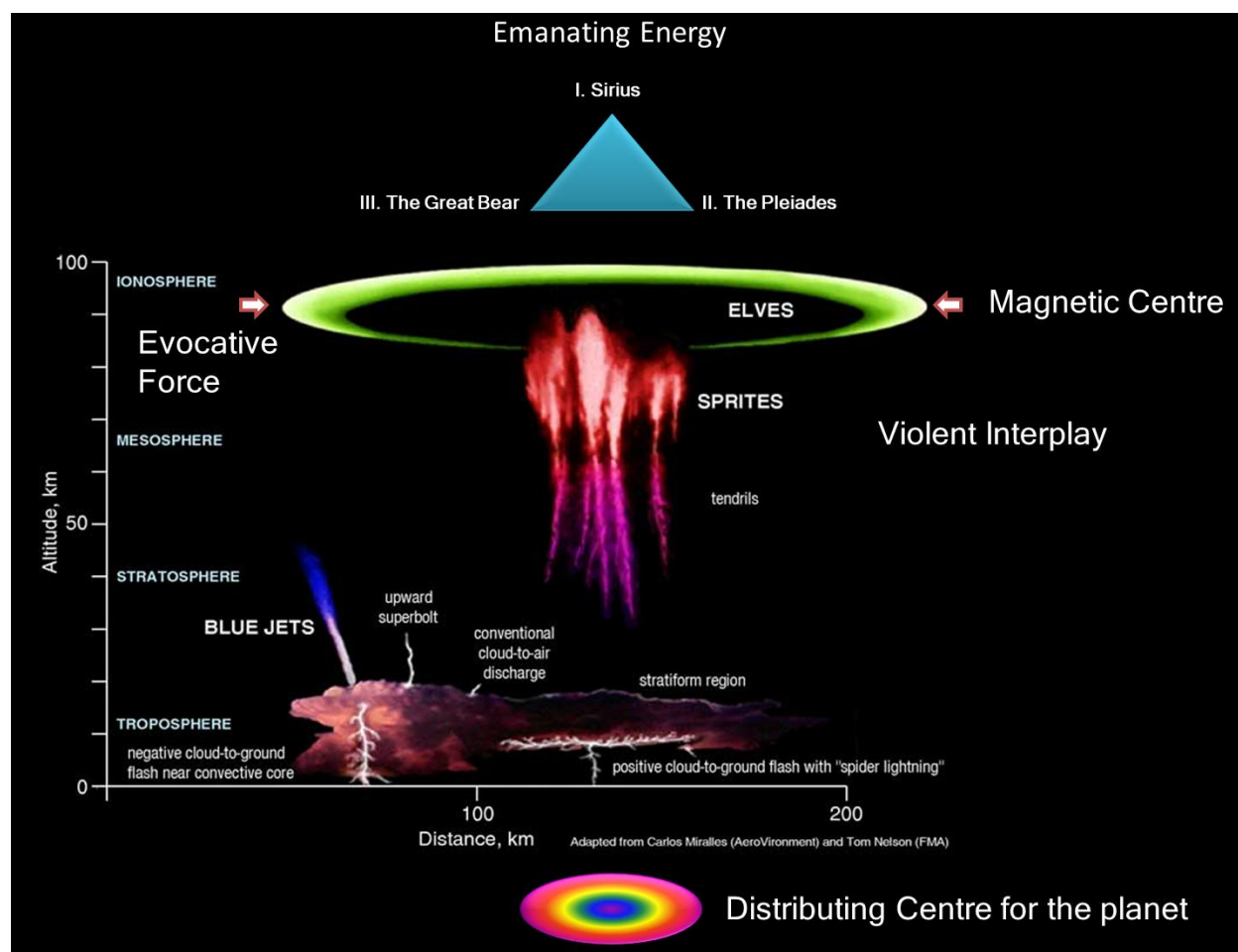


Figure 32 The violent interplay between the superior (object) triangle and the inferior (image) triangle as it demonstrates through Elves, Sprites, Blue Jets and lightning for Earth. (Image from National Severe Storms Laboratory, Transient Luminous Events http://www.nssl.noaa.gov/primer/lightning/lgt_tle.html)

As discussed in paragraph 5.5.1 [Akasic](#) magnetism incessantly generates electric currents which tend to restore the disturbed equilibrium of the atmospheric electricity shown above.

The major cosmic Triangle shown in Figure 32 works primarily through six constellations at this time and – again at this time – the cosmic constellation and the two zodiacal energies focus through a particular planet, using it as a transmitting agency to the Earth. Please see Figure 33.

These triangles must not be thought of as placed, static and eternally the same, or even as three dimensional. They must be regarded as in rapid movement, revolving eternally in space and ceaselessly moving onward and as of fourth and fifth dimensional extension. There is no way of depicting them or of bringing them visually to your attention. The major triangles are only partially as yet in expression as far as our solar system is concerned and only one point of the great triangle—as for instance one point of the Great Bear—constitutes with Aries a related line of force. Therefore the entire cosmic web and solar system is an intricate, constantly moving, interwoven series of triangles wherein each point of a triangle emanates three lines or streams of energy (nine in all); it is likewise responsive to and receptive of the energies—likewise triple in nature—which lie within its periphery or sphere of influence and vibratory activity.

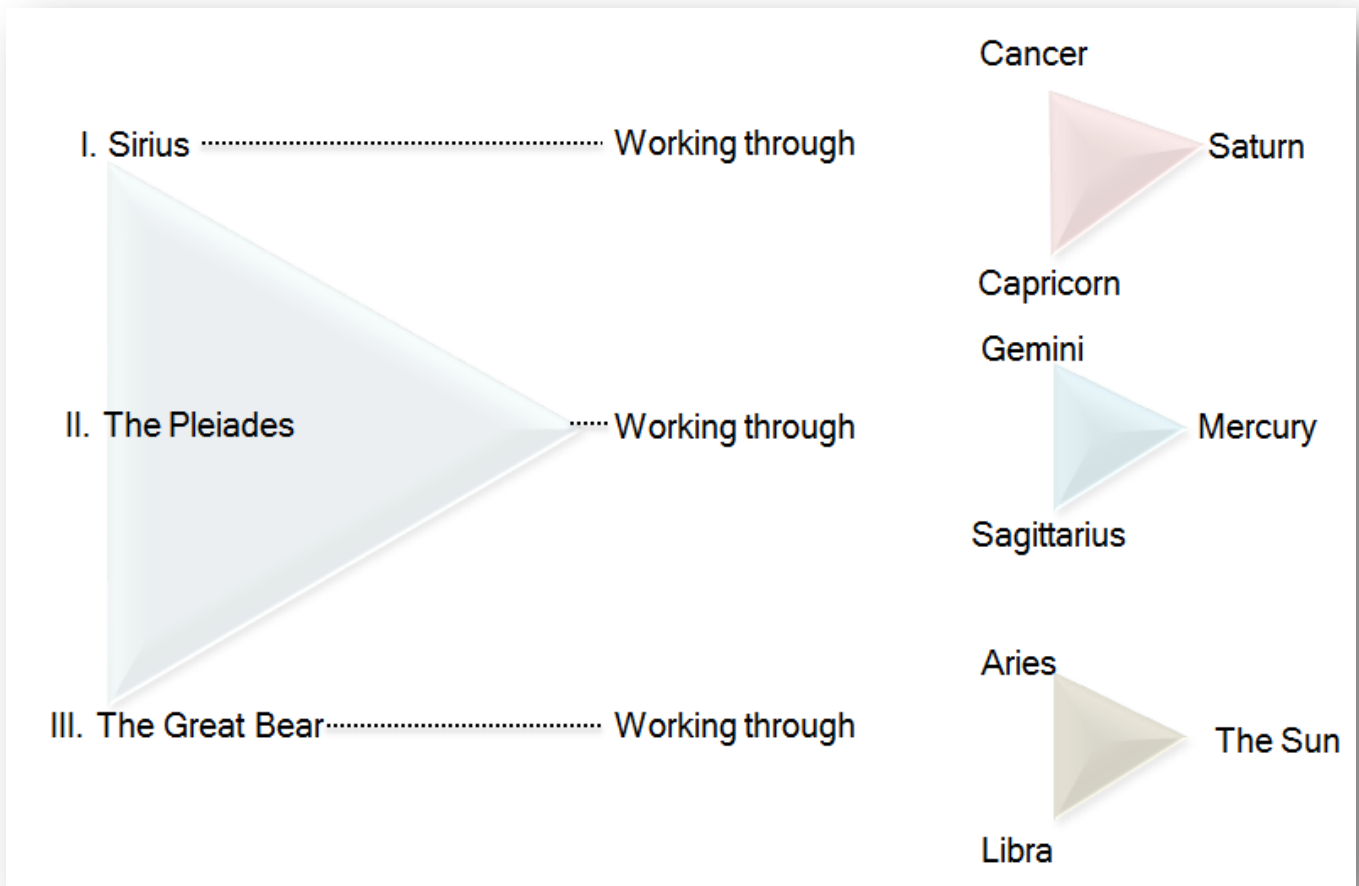


Figure 33 The major cosmic Triangle. This triangle is analogous to the proton of hydrogen shown in Figure 34.

With a basic understanding of triangles the analogy to the hydrogen atom (Figure 7) as the underlining structure of the universe can now be seen. Please see Figure 34.

Current theory states that protons are spin $-\frac{1}{2}$ fermions and are composed of three valence quarks, making them baryons (a sub-type of hadrons). The two up quarks and one down quark of the proton are held together by the strong force, mediated by gluons. A modern perspective has the proton composed of the valence quarks (up, up, down), the gluons, and transitory pairs of sea quarks. However this theory is based on the assumption that quarks are not divisible and that gluons exist. When the compositeness of quarks is taken into account the charm quark is seen to be the particle of the proton. Subquarks can only be discovered through the use of sound waves as discussed in [paragraph 4.5](#).

As stated earlier, quarks are composed of three subquarks with the composition being either Male (+) or Female (-) spin. The subquarks are composed of spirillae coming from or sending to forces in the 5th dimension and align according to the musical fugue in the 5th. They do not follow the same laws as their atomic counterparts since they come under the Law of Attraction (magnetism) while the atomic units come under the Law of Economy modeled by Quantum Mechanics.

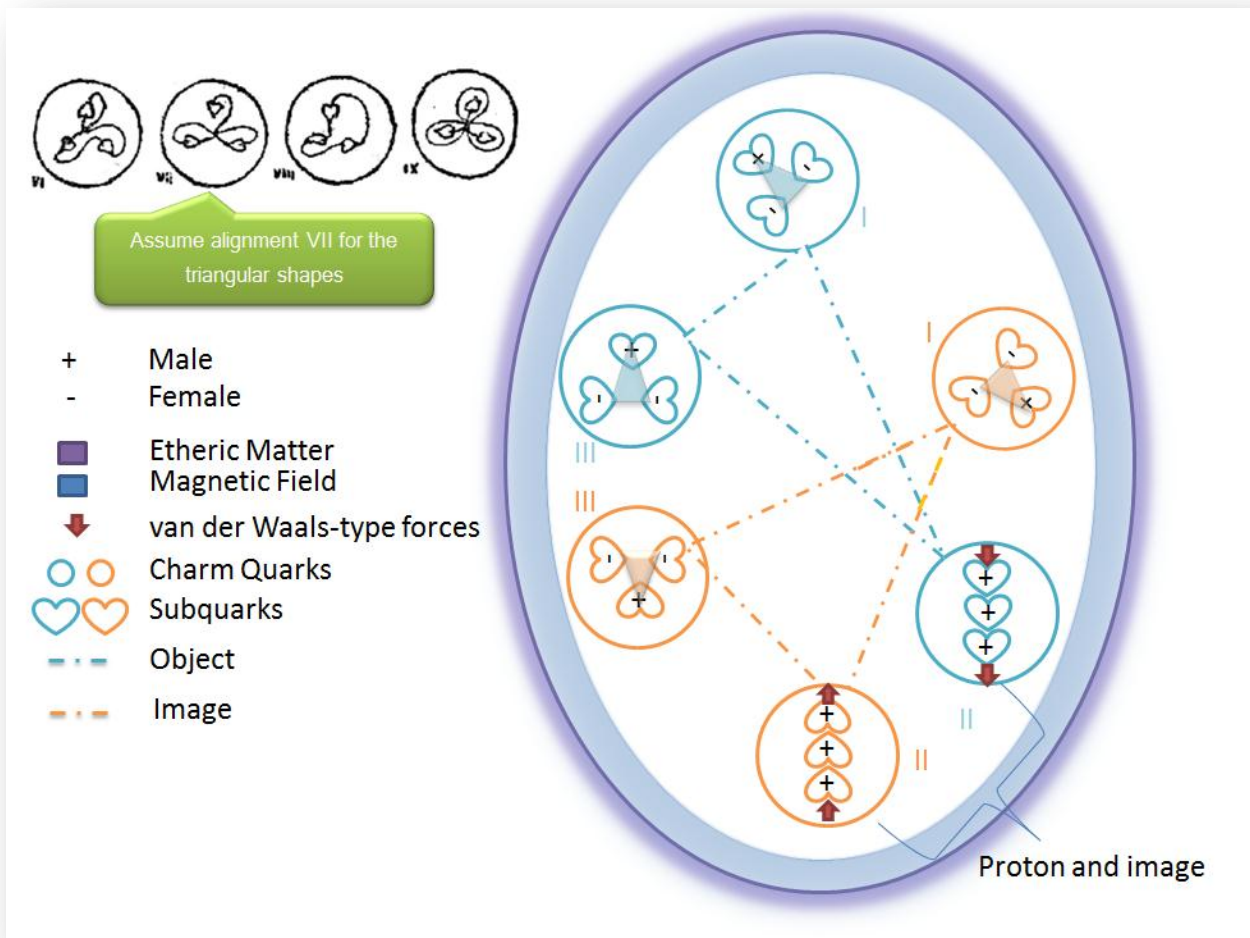


Figure 34 Besant's hydrogen model on the Gas Plane which is analogous to the underlining structure of the material universe

In analyzing Besant's Hydrogen atom, it is noted that the alignment of the subquarks inside the charm quark is not given and an assumption has been made using alignment type VII for the negative triangles¹¹. In type VII there is no flowing force coming from the apex of the male subquark. This indicates that there is a balancing flow of force to the 5th dimension. As in Figure 31 the hydrogen atom has a dinucleon however one of the triangles is the object sitting in Etheric

¹¹ The six little bodies are arranged in two sets of three, forming two triangles that are not interchangeable, but are related to each other as object and image. (The lines in the diagram of it on the gaseous sub-plane are not lines of force, but show the two triangles; on a plane surface the interpenetration of the triangles cannot be clearly indicated.) Further, the six bodies are not all alike; they each contain three smaller bodies—each of these being an ultimate physical atom—but in two of them the three atoms are arranged in a line, while in the remaining four they are arranged in a triangle.... those containing the atoms arranged lineally being positive, and those with the triangular arrangement being negative..... An electric current brought to bear upon the atoms checks their proper motions, i.e., renders them slower; the atoms exposed to it arrange themselves in parallel lines, and in each line the heart-shaped depression receives the flow, which passes out through the apex into the depression of the next, and so on. The atoms always set themselves to the current. The well-known division of diamagnetic and paramagnetic depends generally on this fact, or on an analogous action on molecules,..... (Besant & Leadbeater)

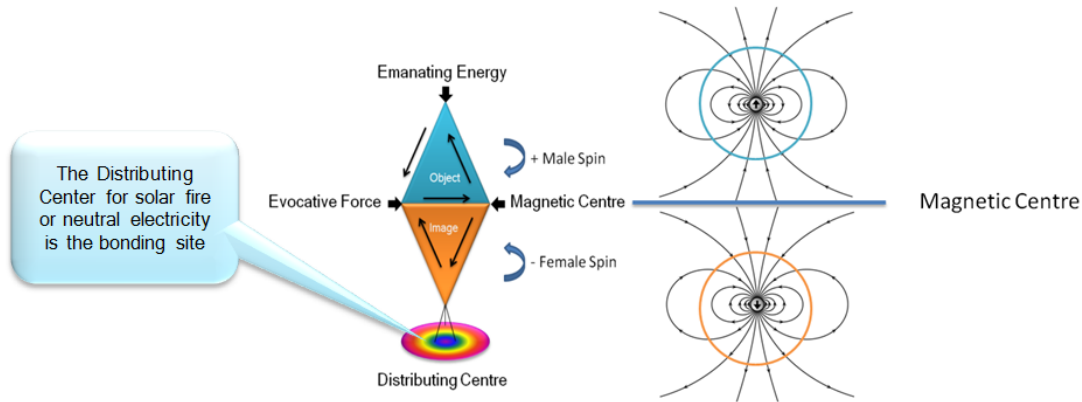
matter. The object is shown in blue coloring; the image is shown in orange. In counting the male and female subquarks it is shown that for the image there is a $(5-4=)$ +1 charge for the proton as expected. The object (Etheric double) is dark at this time however it is expected that science will 'discover' this nucleon as scientists penetrate the 4th dimension as shown by the work at Michigan State University (Spyrou, et al., 2012). As in all atoms, the nucleons are surrounded by a magnetic force coming from the 2nd ray which controls the spheroidal form and a wall of etheric matter.

Subquark	Male	Female
Charm I	1	2
Charm II	3	0
Charm III	1	2
Total	5	4

Table III Male and Female Subquark count for the Hydrogen Nucleon

SOLAR FIRE or NEUTRAL ELECTRICITY

Charm quark II is shown with van der Waals-type forces. This force is actually the second ray. It is referred to as Solar Fire and is neutral electricity pulsating through the subquarks. The solar fire continues past the boundary of the quark. It is the root of the hydrogen bond and sets the quarks of the image and object as an analogous magnetic dipole-dipole that is dipolar coupling (as shown in Figure 35) which is the basis of J-coupling and the Nuclear Overhauser Effect in the DNA strand. It is the basis of the Nuclear Magnetic Moment. It is magnetism (U1). It is the basis of the Law of Attraction and is the root cause of; red and blue shifting in the hydrogen bond and the universe; General Relativity; and gravity. Its colour is blue, blue-white. Its note is B.



Forces between the two magnetic dipoles

$$\mathbf{F}(\mathbf{r}, \mathbf{m}_1, \mathbf{m}_2) = \frac{3\mu_0}{4\pi r^5} \left[(\mathbf{m}_1 \cdot \mathbf{r})\mathbf{m}_2 + (\mathbf{m}_2 \cdot \mathbf{r})\mathbf{m}_1 + (\mathbf{m}_1 \cdot \mathbf{m}_2)\mathbf{r} - \frac{5(\mathbf{m}_1 \cdot \mathbf{r})(\mathbf{m}_2 \cdot \mathbf{r})}{r^2}\mathbf{r} \right]$$

where r is the distance-vector from dipole moment \mathbf{m}_1 to dipole moment \mathbf{m}_2 , with $r = \|\mathbf{r}\|$, and where \mathbf{F} is the force acting on \mathbf{m}_2 . The force acting on \mathbf{m}_1 is in opposite direction.

Torque

$$\tau = \|\boldsymbol{\tau}\| = \frac{\mu_0}{4\pi} \frac{m_1 m_2}{r^3} [3 \cos(\phi - \alpha) \sin(\phi - \beta) + \sin(\beta - \alpha)]$$

or

$$\tau = \frac{\mu_0}{4\pi} \frac{m_1 m_2}{r^3} [\sin \eta - 3 \cos \theta \sin(\eta - \theta)]$$

in local coordinates.

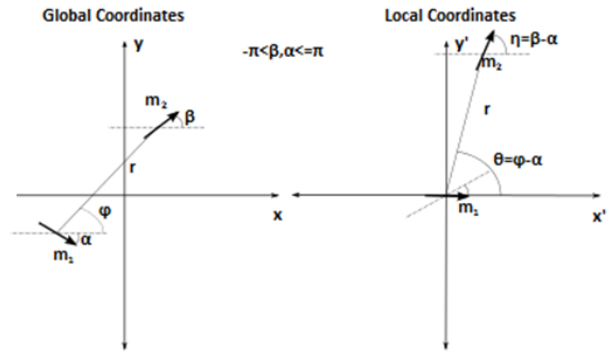


Figure 35 Magnetic Dipole Interaction between the object and image of the Charm II quarks in the hydrogen atom. The magnetic field is more complicated than what is shown. The subquarks have a complex field analogous to the combination of Birkeland-like, and Halbach-like fields BUT the current is not negative electricity. The electricity may be neutral however the charge of the male subquarks is positive. The Distributing Centre in the case of hydrogen is the bond with another atom. Please see Figure 20. The standard equations for determining forces between two magnetic dipoles and torque apply.

Each of the subquarks are composed of spirillae. As shown in Figure 11, the spirillae has a hierarchy. The 1st spirilla pulsates to the first ray and is known as the strong nuclear force. Generally speaking one of the subquarks in any atom will predominate with the strong colouring of the first ray and will synthesize the atom. The breaking of the strong nuclear force can be completed with mantric tones. Another subquark will pulsate to the third ray as it blends the 3rd to 7th rays (and the reflection of rays one and two).

On the cosmic scale, the spirillae for elemental hydrogen is only analogous to the cosmic spirillae as there are certain differences based on the various laws. The analogy must not be taken too far since the Cosmic Logos follows the Law of Synthesis while the elemental follows the Law of Economy. In Figure 33 The Pleiades carries Solar Fire or neutral electricity for our system and is analogous to Charm II. Charm I corresponds to Sirius and the 1st ray; Charm III corresponds to the Great Bear which is the transmitter of all seven of the rays. Figure 27 clearly indicates the ovoid shape of our universe.

5.6.4.3 Gravity Effects Relative to Earth

Science assumes that space is nothing since they observe the vacuum although as Aristotle proclaimed there is no void. The vacuum has been unsatisfactorily explained as the near absence of matter due to the gravitational pull of the various large bodies occupying the space. NOE stipulates that the vacuum is an effect of sonoluminescence. The hypothesis asserts that the observed gravity is a result of the attraction and repulsion of the nucleus and electrons of an atom/planet created by the rotary action and as mollified by a synthesizing electrical force maintaining equilibrium working through akasha; that is the second aspect of electricity (neutral) exerts forces on cosmic differentiated material both within the ovoid and externally. Therefore what the physicist calls gravity the chemist calls a bond. As stated previously to understand the hydrogen bond is to understand how our universe is held together through neutral electricity. To demonstrate, Figure 36 gives some of the gravity and bonding structures relative to the planet Earth. Triangles are noted. Another planet would have a different structure. As shown below The Pleiades is the source for the neutral bonding energy which is found on the 4th plane of the cosmic physical plane and in the 4th dimension for visible globes. As a general rule blue/blue-white planets coalesce from the root from the note of B and the energy of the second ray and typically carry the neutral form of electricity which binds.

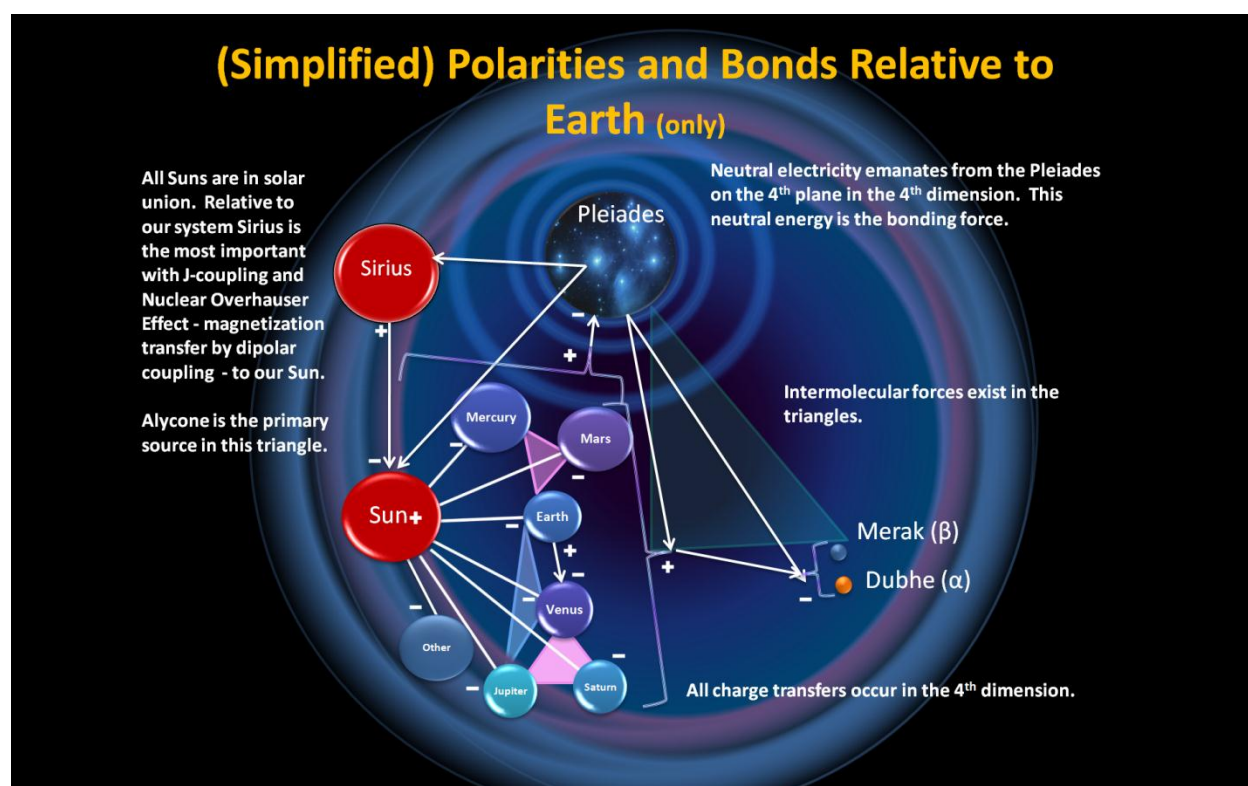


Figure 36 Simplified Polarities and Bonds Relative to the Planet Earth

Some of the gravity or bonds affecting Earth follow:

1. A triangle of energy between Sirius, Alycone which supplies the neutral bonding force, and the Sun. The bond between Sirius and our Sun is equivalent to J-coupling and the Nuclear Overhauser Effect - magnetization transfer by dipolar coupling - both of which are prominent in the formation of DNA. Further, there is a solar union between ALL Suns which is not accounted for in the figure.
2. Our solar system has a positive polarity to The Pleiades.

3. Our solar system has a positive polarity to the combined forces of Merak, and Dubhe. The neutral bonding force comes from The Pleiades.
4. There are intermolecular forces between:
 - a. Our solar system, The Pleiades, and Merak (which forms a great cosmic triangle)
 - b. Mercury, Earth and Mars
 - c. Venus, Jupiter and Earth
 - d. Venus, Jupiter and Saturn.
5. The Sun is a great magnet which is a property of akasha and has a positive polarity to all of the planets, planetoids and other minor objects in the solar system.
6. The Earth has a positive polarity to Venus.
7. Dark Matter bonds are shown in Figure 24 however the effect of dark matter on gravity is negligible,

5.6.4.4 The Mechanism of Gravity with respect to Human, Animals, Plants and the Mineral Kingdoms

To understand gravity as experienced on Earth it is necessary to understand the construction of the etheric body with energy centres as they coalesce from the physical permanent atom as shown in Figure 31 (note the position of the 'Distributing Centre'.) The details are out of scope for this paper. The following are the postulates:

1. Man has 7 energy centres
2. Animals have 5
3. Plants have 3
4. Minerals have 1
5. The energy centres form a bonding magnetic connection with the Planetary Entity of Earth similar to the helix of DNA and is illustrated in Figure 37. This study comes under 'Other' evolutions.

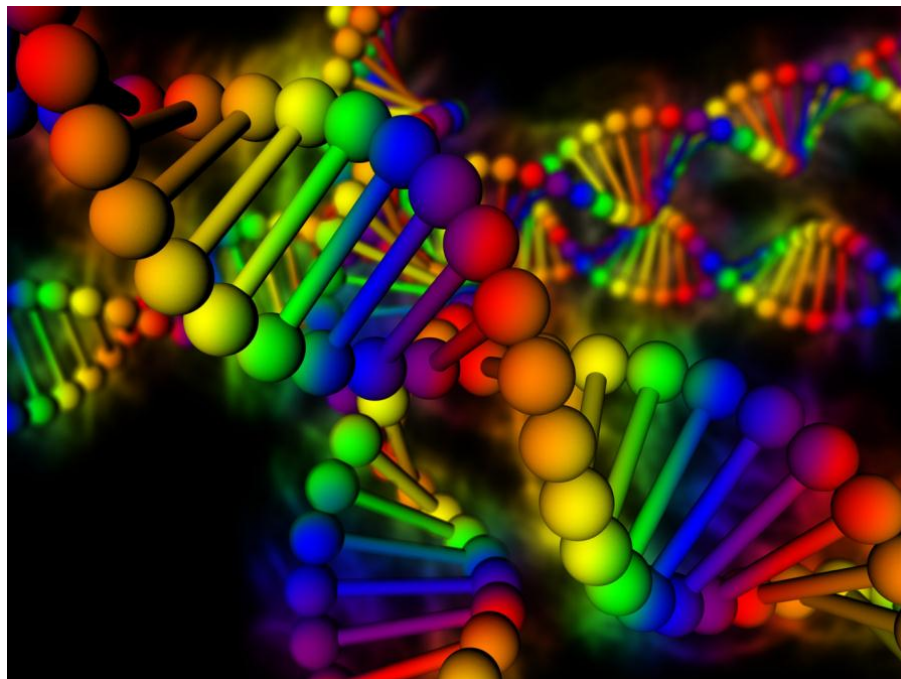


Figure 37 Artist concept of the twisting link between the energy centres of the various kingdoms and that of the Entity associated with Earth. The link occurs with the etheric double in the 4th dimension. The colouring of the illustration represents electricity demonstrating as sound, colour and Light (refracted into the rays). It is composed of bubbles with strands of energy – not particles – similar to Figure 10 '(c) the helical winding of the seven orders of spirillae'. One side of the helix is formed by the Entity, the other side with every human, animal, plant and mineral.

5.7 The End - Cremation

The end for the universe is marked by a note as sound also destroys as well as build. Obscuration is signaled by the Cosmic Logos and disintegration of the form, his physical body, proceeds. The ovoid encapsulating our universe breaks down. As differentiated matter is merged with the root of matter, the three forms of electricity, positive, negative and synthesizing will unite bringing about spontaneous combustion. Force, energy and the production of heat cease and the root returns to a quiescent state.

Figure 25 part c and d on the cosmic scale can be stated as:

Contraction

1. The disintegration of form,
2. The liberation of the essence which the form confines,
3. The separations of Spirit and matter,
4. The end of a cycle, whether planetary, human or solar,
5. The production of obscuration, and the end of objectivity or manifestation,
6. The reabsorption of the essence, and the merging again of differentiated matter with the root of matter,
7. The end of time and space as we understand it,

Light

8. The unification of the three Fires (positive, neutral and negative electricity) and the bringing about of spontaneous combustion,

We are told in the Secret Doctrine that "the seven solar Rays dilate to seven suns and set fire to the whole cosmos." This it is which produces that final burning which ushers in the great pralaya, and brings to an end the logocic incarnation. It is produced under the Law of Expansion, and causes that eventual merging and blending of the seven planetary schemes which marks the achievement of the goal, and their eventual perfection. The Earth scheme is shown in Figure 24 however Earth is not one of the seven major schemes - Earth will be absorbed prior to the end. The Cosmic Logos' expected life span is approximately 3×10^{14} years.^{xxvii} All of the stages are clearly visible in the universe are demonstrated in Figure 38.

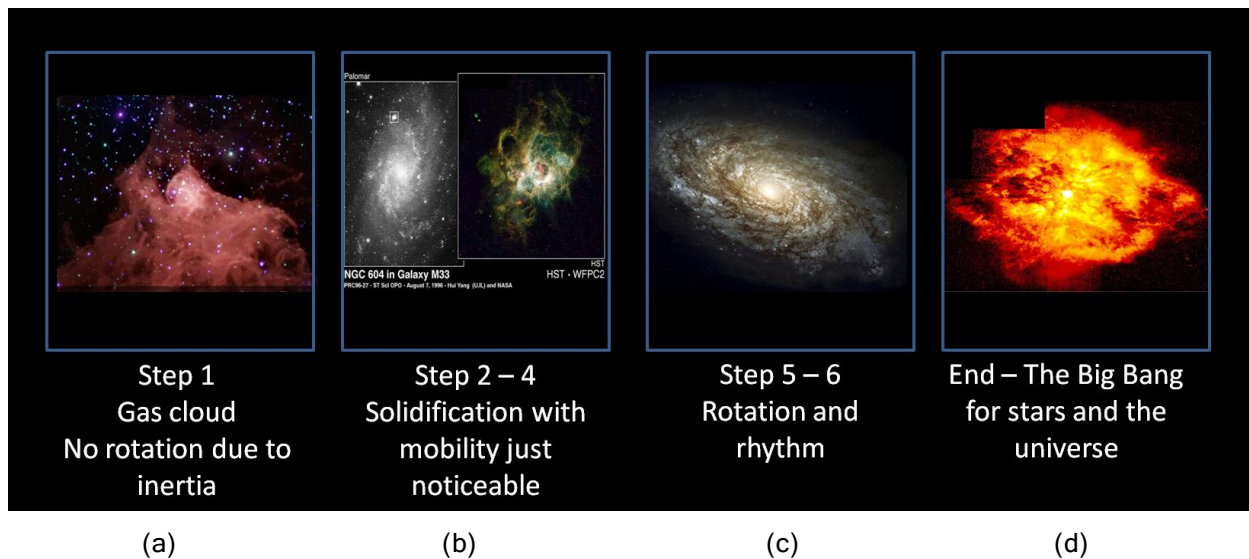


Figure 38 These figures demonstrate the process, (a) shows the composite image of Cepheus B combines data from the Chandra X-ray Observatory and the Spitzer Space Telescope and demonstrates step 1; (b) shows Steps 2 to 4 which is shown by the nebula cataloged as NGC 604 is a giant star forming region, 1500

light years across, in the nearby spiral galaxy, M33. Over 200 newly formed, hot, massive, stars are scattered within a cavern-like, gaseous, interstellar cloud (see http://antwrp.gsfc.nasa.gov/apod/image/ngc604_hst_big.jpg); (c) shows Steps 5 and 6 which demonstrates a spiral galaxy, about 60 million light years from Earth as imaged by the Hubble Space Telescope. It is a fully formed cosmic atom with the characteristic black hole or vortex; (d) shows the final stage.

6. QUANTUM ENTANGLEMENT AND THE SPIRILLA HYPOTHESIS

The subquarks come in two versions with opposite force flows - from the 5th to the 4th dimension as male or positive; from the 4th to the 5th dimension as female or negative. Figure 39 shows a binary closed loop entanglement where the arrows indicate the direction of the force flow in a horizontal plane; vertical entanglements between planes and entanglements over dimensions and planes also occurs however permanent atoms are only associated with the 7 planes of the Cosmic physical plane. There is a correspondence in the higher planes. The pair vibrates in unison and a rhythm occurs which is determined by the predominately entangled spirillae. Distance is a function of three dimensions only (not the 4th and 5th) therefore the distance between the pair can appear to be great. Science currently recognizes the binary pair however Figure 13 indicates other entanglements. The neutral entanglement is stable; positive or negative entanglements are seeking the opposite. Quantum entanglement of a human being also works through the permanent atoms, not the material sheath i.e. physical body, is calculated over time, space and dimension, and is known as Karma. Quantum Entanglement comes under the Law of Attraction.

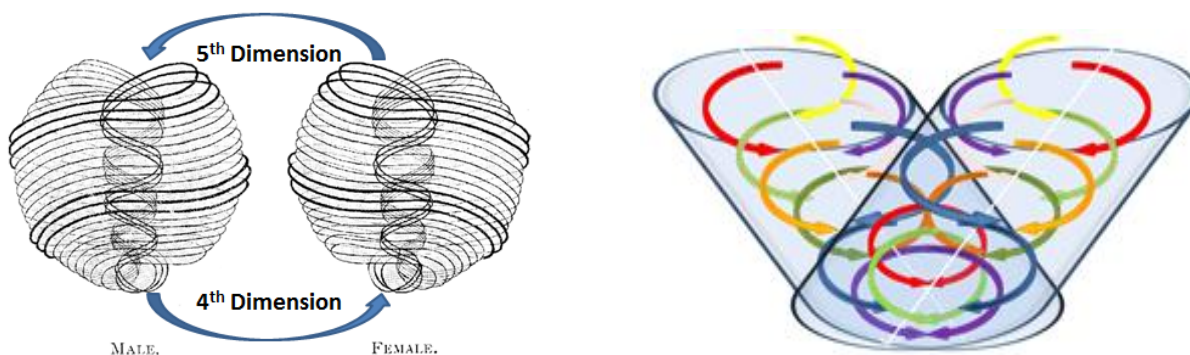


Figure 39. Binary Closed Loop Quantum Entanglement

7. GENERAL RELATIVITY & QUANTUM MECHANICS AND CONSCIOUSNESS

How do the definitions of Time and Space change when adding life and consciousness?

7.1 Current Space and Time Definitions

Continuous spacetime symmetries are symmetries involving transformations of space and time. These may be further classified as spatial symmetries, involving only the spatial geometry associated with a physical system; temporal symmetries, involving only changes in time; or spatio-temporal symmetries, involving changes in both space and time. However these symmetries are based on the assumptions of the definition of space and time as noted below:

“Space is defined as the boundless, three-dimensional extent in which objects and events occur and have relative position and direction. Physical space is often conceived in three linear dimensions, although modern physicists usually consider it, with time, to be part of a boundless four-dimensional continuum known as spacetime. The concept of space is considered to be of fundamental importance to an understanding of the physical universe.” (Wikipedia, Space, 2012).

The definition of time has contrasting view points from the perspective of physicists: one view is that time is part of the fundamental structure of the universe, a dimension in which events occur in sequence. The opposing view is that *time* does not refer to any kind of "container" that events and objects "move through", nor to any entity that "flows", but that it is instead part of a fundamental intellectual structure (together with space and number) within which humans sequence and compare events.

The above definitions of space and time do not account for consciousness.

7.2 Cycles and Repetition within the NOE Hypothesis^{xxviii}

7.2.1 The Idea of Repetition

Repetition involves the following factors:

- a. **Repetition in time:** The thought of cyclic activity necessitates periods of time of differing length—greater or lesser cycles—but (according to their length) of uniform degree. Further, the cycles wherein an atom of any plane revolves upon its axis are uniform on its own plane.
- b. **Repetition in fact:** This involves the idea of a key measure, or sound of any particular group of atoms that go to the composition of any particular form. This grouping of atoms will tend to the make-up of a particular series of circumstances and will repeat the measure or sound when an animating factor is brought to bear upon them.
- c. **Repetition in space:** This concept is involved deep in the greater concept of karma ([Quantum Entanglement](#)), which is really the law that governs the matter of the solar system, and which commenced in earlier solar systems.

Table II tabulates the various repetitions.

<i>Repetition</i>	<i>Example</i>
Space	The solar system repeating its activity.
Time	A planetary chain repeating its activity.
Plane	The constant consecutive reverberation of a plane note, of a subplane note, and of all that is called into objectivity by that note.
Form	The tendency of atoms (atoms, man, solar logos, universe-atoms) to perpetuate their activity, and thus produce similarity of circumstance, of environment and of vehicle.

Table IV A tabulation of various repetitions.

7.2.2 Repetition of Cyclic Action

The note of the Sun holds in just attraction the circling spheres, the planets. The notes synchronise and harmonise. Cyclic evolution proceeds. But—during the great cycle of evolution—the cyclic display of the interaction between Spirit and form is seen, and the result is the ordered cycles of the planets, of a human being, and of an atom.

7.2.3 Cycles

1. **Rotation on the axis:** This is to be seen whether we are dealing with a minute atom of substance, with a planet revolving on its axis, or with the rotation of a solar system. In relation to a solar Logos it might be considered as one complete revolution of the Sun in space, with all that is included within the ring-pass-not.
2. **Rotation around an orbit.** This is the revolution of a sphere of life, not only on its axis, but along a spheroidal path or orbit around a central point. In connection with the solar Logos it is the complete revolution of the solar system around its cosmic centre.

It is to be noted at this point that the ideas dealt with in connection with cyclic evolution cannot be posited apart from the concept of consciousness. The ideas of time, of space, and of activity, can only be conceived as relative to some conscious entity, to some Thinker.

7.2.4 Time

Time is that cycle, greater or lesser, in which some life runs some specific course, in which some particular period begins, continues, and ends, in connection with the awareness of some Entity, and is recognized only as time when the participating life has reached a considerable stage of awareness. Time has been defined as a succession of states of consciousness, and it therefore may be studied from the point of view of those tabulated in Table III.

<i>Consciousness</i>	<i>Description</i>
Logocic	The successive states of divine realization within the solar sphere.
Planetary	A Heavenly Man as He cycles successively through the scheme. ^{xxix}
Causal ¹²	Successive expanding of the intelligent awareness of a human being from life to life.
Human	The awareness of a man on the physical plane, and progressively on the emotional and the mental planes.
Animal, vegetable ¹³ and mineral	Consciousness which differs from the human consciousness in many particulars, and primarily in that it does not co-ordinate, or deduce and recognise separate identity. It resembles human consciousness in that it covers the response to successive contacts of the units involved during their small cycles. However, advanced animals on the cusp of individualization are approaching human consciousness in all particulars. ^{xxx}
Atomic	Demonstrates through successive states of repulsion and attraction.

Table V A tabulation of consciousness.

We might, therefore, consider time as that process of activity, or that progression in development, wherein the indwelling Consciousness is seeking its opposite ([Quantum Entanglement](#)). The duration of the interplay, the period of the search of Spirit for Spirit, and the vibratory process

¹² The Causal body is produced at individualization of an advanced animal into a human. The permanent atoms are enclosed within the periphery of the causal body which is the sheath of the Ego. It comes under the Law of Attraction. Three different types of electrical phenomena are functioning, which irradiates the causal body, and lights up the entire sutratma, when connecting the causal vehicle with the physical brain of a human during the beginning of the third trimester. The enclosed permanent atoms retain consciousness and memory. Please see Figure 21 for the location of the causal body.

¹³ The brain of a plant is found on the E4 plane. It is in process of concretising to the lower planes as an animal.

necessitated by the utilisation of the form, this we call Time, whether in connection with a man, a planetary Logos, or the Deity.

7.2.5 Space

Space, again, is included in the idea of consciousness, and its utilisation of matter. Space, for the Logos, is literally the form wherein His conscious activities and purposes are worked out—the solar ring-pass-not. The space wherein a planetary Logos works out His plans is similarly as much of solar space as His consciousness is developed enough to use. There are 10 dimensions.

Space for the atom will be the radius of the form in which is found the greater centre of consciousness of which it is a part and it will be both attracted and repulsed—attracted and built into the form of the greater Life, yet repulsed and thereby prevented from moving from a certain point within that form.

7.2.6 Conclusion

Therefore we have that which we call Time and Space, and this holds equally true in the life cycle of a Logos or an ant, or a crystal. There are cycles of activity in matter, due to some energising Will, and then Time and Space are known. There are cycles of non-being when Time and Space are not, and the energising Will is withdrawn. But we must not forget that this is purely relative, and only to be considered from the standpoint of the particular life or entity involved, and the special stage of awareness reached. All must be interpreted in terms of consciousness. Simply stated, time and space are not the same for all states of consciousness, planes or dimensions.^{xxxii}

In terms of Noether's theorem identity is preserved in cohesion.^{xxxii}

8. NEW ENERGY SOURCE

To replicate the Sun's power it is necessary to replicate the root and allow for the birth of the Sun's power source (akasha, 4th dimensional fluid; heat and magnetism) through the sutratma, bringing positive solar electricity (which needs to be channeled) and coronal plasma (light). See "Fluidized Catalytic Fohat, Searching for a New Form of Clean Energy through the Agency of Adapted Sonoluminescence" (Holloway, Technical, 2010).

9. SIMPLY STATED

The Christian Bible states (Genesis Ch. 1, verses 1 and 2,) "And the earth was without form, and void; and darkness was upon the face of the deep. And the spirit of God moved upon the face of the waters. And God said, let there be light; and there was light." According to Blavatsky, Bailey and Besant - the root of matter - was present with no form, light or energy. The Cosmic Logos uttered the mantric sounds i.e. sound waves which increased in frequency passing through microwave and infrared - birth appeared when the wavelength reached that of light and the planes developed. Please see Figure 23, top left light spectrum.

(Genesis Ch. 1, verses 6 and 7,) "And God said, "Let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament: and it was so." Please see Figure 23. In the light spectrum shown top left, the 7th plane - physical - lies below the 6th plane referred to as Astral - or Water. This is above the waters. The 7th plane is further divided into 7 sub planes. The firmament is under the 6th sub plane - Water. This is below the waters. The planet Earth is shown coalescing - created.

10. CONCLUSION

Cause and Effect - in unifying General Relativity, Quantum Mechanics and Consciousness the current impasse is a result of studying only the effects of unknown causes. This paper outlines the causes as described by Blavatsky, Bailey, and Besant which in reality is a single piece of work.

Moving forward it will not be possible for scientists to gain any significant advances until life and consciousness are addressed as follows:

1. That the entire solar system embodies the consciousness of an Entity, who originates on planes entirely without the solar ring-pass-not.
2. That the second aspect (Law of Attraction) involves neutral electricity.
3. That manifestation is periodical and that repetition (the Law of Rebirth) is the method that evolution takes in dealing with man, a planetary Logos, and a solar Logos. Hence, the emphasis laid in the Proem of the Secret Doctrine¹⁴ on the three fundamentals,
 - a. The Boundless Immutable Principle
 - b. The periodicity of the Universe, and
 - c. The identity of all souls with the Oversoul.

¹⁴ The Secret Doctrine comes in various editions. The preferred edition is the much maligned third edition which contains thousands of corrections by Annie Besant. Besant was an initiate of the Planetary Hierarchy. This edition is extremely hard to find. **Engineers and scientists are cautioned on the use of the first edition.** A Treatise on Cosmic Fire ONLY references the 3rd edition.

11. DEFINITIONS

Akasha - It is the first differentiation of the root of matter. It is vitalised matter, or substance animated by latent heat. It is burning etheric matter. Akasha in manifestation expresses itself as Fohat. Relative to Earth Akasic magnetism incessantly generates electric currents which tend to restore the disturbed equilibrium as noted in the phenomena of earth currents, terrestrial magnetism and atmospheric electricity. ^{xxxiii}

Black Hole - A vortex of inconceivable rapidity of sound which carries the three forms of electricity - Fohat.

Causal - It is produced at individualization of an advanced animal into a human. The permanent atoms are enclosed within the periphery of the causal body which is the sheath of the Ego. It comes under the Law of Attraction. Three different types of electrical phenomena are functioning, which irradiates the causal body, and lights up the entire sutratma, when connecting the causal vehicle with the physical brain of a human during the third trimester.

Fohat - The name given to cosmic electricity in its triple nature and affects matter in all forms on all planes. It vitalizes all atoms.

Halbach Sphere - A sphere which is magnetic and permits polarity reversal.

Heavenly Man - a conscious entity having for his physical body a planet. A detailed explanation follows:

- a. Each Heavenly Man is likewise to be seen as spheroidal in shape. He has His ring-pass-not as has the atom and the man. This ring-pass-not comprises the entire planetary scheme; the dense physical globe of any one chain being analogous in His case to the physical body of any man, and to the atom on the physical plane. Each scheme of seven chains is the expression of the life of an Entity, Who occupies it, as does a man his body, for purposes of manifestation and in order to gain experience.
- b. A Heavenly Man contains within Himself that which corresponds to the cells within the vehicles of expression of a human being. The atoms or cells in His body are made up of the aggregate of the deva and human units who vibrate to His key note, and who respond to the measure of His life. All are held together and animated by His will to be, and all vibrate according to the point achieved by Him in evolution. From the cosmic standpoint a Heavenly Man can be seen as a sphere of wondrous life, which includes within its radius of influence the vibratory capacity of an entire planetary scheme. He vibrates to a certain measure, which can be estimated by the activity of the life pulsating at the centre of the sphere; the entire planetary scheme is tintured by a certain color, is rotating to a fixed key which is the key of His life cycle within the still greater mahamanvantara or logic cycle.
- c. A Heavenly Man is distinguished by His activity on one or other of the planes which we call the Triadal, or Atma-Buddhi-Manas, in the same way as a man is distinguished by his activity on one of the planes in the three worlds, mental-astral-physical. Eventually a man is self-conscious on all three. Eventually a Heavenly Man is fully self-conscious on the higher three. Every forward movement or increased vitality in the aggregate of men in the three worlds, is paralleled by an analogous activity on the three higher planes. The action and the interaction between the life animating the groups or the Heavenly Men, and the life animating the atoms or men who form the units in groups is both mysterious and wonderful. A Heavenly Man on His own planes likewise shows forth the qualities of:
 - Rotary motion, or His particular cycling activity around His life wheel, a planetary scheme, and thus around His egoic pole.
 - Discriminating capacity, or the power to choose and thereby gain experience. They are the embodiments of manas or the intelligent faculty (hence Their title of Divine Manasaputras) which comprehends, chooses and discards, thus attaining

knowledge and self-consciousness. This manasic faculty They developed in earlier kalpas or solar systems. Their purpose is now to utilise that which is developed to bring about certain specific effects and to attain certain specific goals.

- Ability to evolve, to increase vibration, to gain knowledge, and to make contact. This increased vibration is of a gradual and evolutionary order and proceeds from centre to centre as it does in man, and as it does in the case of the atomic spirillae. Their aim is to achieve uniformity of contact with each other, and to merge eventually Their separated identities in the One Identity, retaining simultaneously full self-consciousness or individualised self-apprehension.
- d. A Heavenly Man contains within Himself three major principles—will, love-wisdom, intelligence, and their manifestation through the seven principles so often discussed in our occult literature. These make the ten of His ultimate perfection, for the seven are resolved into the three, and the three into the one.

Each Heavenly Man has, of course, His primary coloring or principle as has man and the atom. Man has for his primary coloring or principle that of the Heavenly Man in Whose body he is a unit. He has also the other two major principles (as has the Heavenly Man), and their differentiation into the seven as earlier said. The atom has for primary coloring or principle, that of the egoic ray of the human being for instance in whose body it finds place. This, of course, is in connection with the [Page 253] physical atom in a man's body. This coloring manifests as the vibration setting the measure of the major three spirillae and the minor seven.

Only four principles in the Heavenly Men are as yet manifesting to any extent, though One of Them is rather in advance of the others, and has the fifth principle vibrating adequately, while certain others are in process of perfecting the fourth. The Heavenly Man of our chain is vibrating somewhat to the fifth principle, or rather is in process of awakening it to life. His fourth vibration or principle in this fourth round or cycle, and on this fourth globe, is awakened, though not functioning as it will in the fifth round. Much of the trouble present in the planet at this time arises from the coming into activity of the higher or fifth vibration, which will be completed and transcended in the next or fifth cycle. The analogy, as in man and the atom, again holds good but not in exact detail.

- e. A Heavenly Man is governed by the Law of Attraction, has transcended the Law of Economy, and is rapidly coming under the Law of Synthesis. Note therefore the gradual stepping-up of the control and the fact that:
- First. The Law of Economy is the primary law of the atom. The Law of Attraction is coming into control of the atom. The Law of Synthesis is but slightly felt by the life of the atom. It is the law of life.
 - Second. The Law of Attraction is the primary law of man. The Law of Economy is a secondary law for man. It governs the matter of his vehicles. The Law of Synthesis is steadily beginning to be felt.
 - Third. The Law of Synthesis is the primary law of a Heavenly Man. The Law of Attraction has full sway. The Law of Economy is transcended.
 - The dense physical body is not a principle for a Heavenly Man, hence the Law of Economy is transcended. The Law of Attraction governs the material process of form building. The Law of Synthesis is the law of His Being.
- f. A Heavenly Man is finding His place within the logoc groups, and is seeking to realise His position among the seven and by realisation to approximate unity.
- g. His responsiveness to outer stimulation. This viewed from the limited human standpoint touches on realms unattainable by man's intellect as yet. It deals with:
- Electrical stimulation, and concerns the response to solar radiation, and to paralleling planetary radiation.

- Magnetic stimulation, acting upon His subjective life. This radiation emanates from sources outside the system altogether. We might note the following facts:
- Magnetic stimulation of the physical atom emanates from man on astral levels, and later from buddhic levels.
- Magnetic stimulation of man emanates from the Heavenly Men on buddhic, and later on monadic levels.
- Magnetic stimulation of a Heavenly Man emanates extra-systemically, from the cosmic astral, the united effect of these stimulations inducing steady internal development.

Permanent Atoms - A permanent atom is the positive nucleus or germ substance to the sheath (eg. hydrogen, the human body or a planet) wherein it is found. It is that which is the basis of form-building.

The permanent atoms on each plane serve a fourfold purpose as regards the central or egoic life:

- They are the distributors of a certain type of force.
- They are the conservers of faculty or ability to respond to a particular vibration.
- They are the assimilators of experience and the transmuters of that experience into quality.
- They hold hid the memory of the unit of consciousness which is a property of akasha.

Planetary Chain - Figure 23 shows part of the planetary chain of Earth and is a series of seven globes or worlds which form the field of evolution during the planetary cycle (or manvantara). The first three of these globes - generally known as A, B and C form the descending arc, the densest physical matter of the descent being reached in the fourth globe, D, of which Earth is an instance. The fifth globe, E, on the ascending arc (not shown) which corresponds to C on the descending arc usually belongs to the astral plane (6th) and the sixth and seventh globe - F and G correspond to B and A. ONLY globe D is visible, the other globes sit in dark matter. ^{xxxiv}

Planetary Logos - see Heavenly Man

Prana - vitality, life force, surface radiation or emanation

Planetary prana. This is the vital fluid emanated from any planet, which constitutes its basic coloring or quality, and is produced by a repetition within the planet of the same process which is undergone in connection with man and solar prana. The planet (the Earth, or any other planet) absorbs solar prana, assimilates what is required, and radiates off that which is not essential to its well-being in the form of planetary radiation. Planetary prana, therefore, is solar prana which has passed throughout the planet, has circulated through the planetary etheric body, has been transmitted to the dense physical planet, and has been cast off thence in the form of a radiation of the same essential character as solar prana, plus the individual and distinctive quality of the particular planet concerned. This again repeats the process undergone in the human body. The physical radiations of men differ according to the quality of their physical bodies. So it is with a planet.

Pralaya - obscuration, temporary death. The study of pralaya, or the withdrawal of the life from out of the etheric vehicle will be the same whether one studies the withdrawal of the human etheric double, the withdrawal of the planetary etheric double, or the withdrawal of the etheric double of the solar system. The effect is the same and the consequences similar.

Spirilla - The spirillae are streams of force, or second aspect vitality which circulates geometrically within the circumscribing wall of substance, composed of third aspect force or substance.

Sutratma - means the 'silver thread' and is a line of energy in a threefold channel. Upon it are the focal points of energy referred to as permanent atoms.

Tamasic - inertia, inert motion, heavy rhythm. The mineral kingdom has the quality of activity primarily emphasized, and its two extremes are the tamasic quality, or the static inert nature of the mineral world, and the quality of radio-activity, of radiation which is its beautiful and divinely perfected expression.

Ring-pass-not - a surrounding magnetic ring that cannot be passed. An example is shown in Figure 30.

Root Matter - A material essence that is the fabric of space. It is the cosmic gene pool which allows for differentiation and replication. The medium that causes matter to condense out into existence in the presence of hypergammic radiation or sound waves. It is the sum total of all substances both differentiated and undifferentiated.

Hypergammic radiation - Wave energy that is at frequencies of Hydrogen (i.e. 2.27012×10^{23} Hz) or higher **OR** as phased to the plane it is on.

12. ACRONYMS

DNA - Deoxyribonucleic acid

IUPAC - International Union of Pure and Applied Chemistry

NOE - Nature of Everything

QM - Quantum Mechanics

SNF - Strong Nuclear Force

The PG7 - The Pleiades Group of Seven which is an organization dedicated to finding a new energy source based on the method outlined in A Treatise on Cosmic Fire

EM - Electromagnetic

WMAP - Wilkinson Microwave Anisotropy Probe

13. NOMENCLATURE

B = flux density,

B_r = residual magnetic induction

C = charm quark

(\bar{c}) = anti charm quark

DC = Direct Current

E = energy in joules

E1 = Etheric plane 1

E2 = Etheric plane 2

E3 = Etheric plane 3

E4 = Etheric plane 4

F = is the force acting on m_2 .

f = female spin

fm = femtometres, 10^{-15} metres

g_4 = gravity in 4 dimensions

GeV- Giga electron volts

H = magnetic field

H_0 = applied magnetic field

H_d = demagnetizing field

γ = Lorentz transformation

m = mass in kilograms

m = male spin

m_x = dipole moment

n = number of van der Waals points

r = the distance-vector from dipole moment m_1 to dipole moment m_2

$r = ||r||$

R = radius of nucleus in femtometres

R_{out} = outer radii

R_{in} = inner radii

S_1 = the first spirilla and is the strong nuclear force - SU(1)

S_2 = the second spirilla and is attraction and repulsion as defined by magnetism - U(1) and is analogous to the hydrogen bond

S_3 = the third spirilla and is the weak force - SU(3)

SU(n) = The special unitary group of degree n, denoted SU(n), is the group of $n \times n$ unitary matrices with determinant 1. (In general, unitary matrices have complex determinants with modulus 1 but arbitrary phase.) The group operation is that of matrix multiplication. The special unitary group is a subgroup of the unitary group U(n), consisting of all $n \times n$ unitary matrices, which is itself a subgroup of the general linear group GL(n, C). The SU(n) groups find wide application in the Standard Model of particle physics, especially SU(2) in the electroweak interaction and SU(3) in QCD

t = time

v = velocity

ν = frequency in Hertz

v = van der Waals' forces

y = number of subquarks

y_m = number of male spin subquarks

y_f = the number of female spin subquarks

λ = wavelength in metres

13.1 Constants

A = Atomic mass number, $1.660\,538\,782(83) \times 10^{-27}$ kg

c = speed of light in metres per second ($\sim 299,792,458$)

h = Planck's constant $6.62606896(33) \times 10^{-34}$ Js

r^0 = conversion factor of 1.2

14. ACKNOWLEDGEMENT

Dedicated with great gratitude to the tireless work of Helena Petrovna Blavatsky, Alice A. Bailey, and Annie Besant.

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END NOTES

- ⁱ The paper is reproduced at <http://www.thepg7.com/origins.html>, <http://vixra.org/abs/0911.0036> and http://proceedings.aip.org/resource/2/apcpcs/1208/1/486_1?isAuthorized=no
- ⁱⁱ The Secret Doctrine (SD) comes in various editions. The preferred edition is the much maligned third edition which contains thousands of corrections by Annie Besant. Besant was an initiate of the Planetary Hierarchy. This edition is extremely hard to find. ***Engineers and scientists are cautioned on the use of the first edition.*** A Treatise on Cosmic Fire (ToCF) ONLY references the 3rd edition. Occult Chemistry is noted as OC below. Online text may be found which for SD (1st edition) and OC (2nd edition) are accurate (**note a correction is needed to Besant's work - generally all references to dimensions are out by 1**); however, ToCF has a location on lightweaver.com which has had subtle changes made to the text and drawings making it unacceptable for scientific use. The only online source which should be used for ToCF is found at <http://www.lucistrust.org:8081/obooks/?q=node/288> however it is missing the charts at this time. Charts may be found on the Makara website: http://www.makara.us/05ref/03charts/charts_toc.htm
- ⁱⁱⁱ ToCF page 117; note the placement of the First to Fourth Ether. See Makara; CHART III - THE Ether is another state of substance not recognized by science at this time. A light photon is E2 plane ether.
- ^v Please see OC for the stated types of open and closed subquark alignments (in 4 dimensions) referred to as Hyper-Meta-Proto-Elemental Matter. <http://www.gutenberg.org/files/16058/16058-h/16058-h.htm#Platelll>
- ^{vi} ToCF page 94 see the bottom plane. See http://www.makara.us/05ref/03charts/charts_toc.htm Makara - LOGOS OF A SOLAR SYSTEM
- ^{vii} <http://physics.aps.org/articles/v5/30>; OC, page 12 <http://www.gutenberg.org/files/16058/16058-h/16058-h.htm#Platelll>, ToCF page 160 <http://www.lucistrust.org:8081/obooks/?q=node/312> and SD (1st Edition), Vol 1, page 118 <http://www.theosociety.org/pasadena/sd/sd1-1-06.htm>
- ^{viii} ToCF, page 516 to 518, 693
- ^{ix} Tevatron http://www.fnal.gov/pub/today/archive_2011/today11-04-07_CDFpeakresult.html
- ^x ToCF, page 56 - This chart has been partly explained in this and the previous paper. <http://www.thepg7.com/origins.html> See Figure 1. Note the text "digs holes in space".
- ^{xi} SD (1st Edition), Vol 1, page 118 <http://www.theosociety.org/pasadena/sd/sd1-1-06.htm>
- ^{xii} ToCF pages 159 to 161. <http://www.lucistrust.org:8081/obooks/?q=node/312>
- ^{xiii} SD (1st Edition), page 626 <http://www.theosociety.org/pasadena/sd/sd1-3-15.htm>
- ^{xiv} The Universe also has its Etheric Double.
- ^{xv} <http://en.wikipedia.org/wiki/File:Periodic-Law-of-Occult-Chemistry.png>
- ^{xvi} Oxygen is also pregenetic and pre-geological. See SD (1st Edition), page 626
- ^{xvii} Akasha is the term used in ToCF page 59. <http://www.lucistrust.org:8081/obooks/?q=node/308>
- ^{xviii} The term sutratma means the 'silver thread' and is a line of energy in a threefold channel. Upon it are the focal points of energy referred to as permanent atoms. ToCF pages 58 and ToCF page 114, footnote 51
- ^{xix} ToCF, page 1181. The figure has been partly corrected for shape. Permanent atoms are spheroidal not heart shaped, are slightly flattened at the North Pole and should be positive - not negative as shown in the original drawing. Just as Besant corrected Blavatsky, Bailey has corrected Besant and Babbitt. Please see ToCF, p. 531, No. 5. <http://www.lucistrust.org:8081/obooks/?q=node/338>
- ^{xx} ToCF page 152. <http://www.lucistrust.org:8081/obooks/?q=node/312>.
- ^{xxi} <http://www.lucistrust.org:8081/obooks/?q=node/316>, (read carefully) pages 318-321.
- ^{xxii} ToCF page 152. <http://www.lucistrust.org:8081/obooks/?q=node/312>. And <http://www.lucistrust.org:8081/obooks/?q=node/316>, (read carefully) pages 318-321.
- ^{xxiii} Please see <http://www.magnetocaloric.com/Code/pub01.htm> and http://en.wikipedia.org/wiki/Halbach_array
- ^{xxiv} SD (1st Edition), Vol 1, page 153 (<http://www.theosociety.org/pasadena/sd/sd1-1-08.htm>)
- ^{xxv} <http://www.bbc.co.uk/news/uk-14678004>. Please see Bailey, A Treatise on the Seven Rays, Volume 1, Esoteric Psychology, pages 372- 373,

<http://www.lucistrust.org:8081/obooks/?q=node/408> combined with page 420 , Ray VII
Ceremonial Order or Magic <http://www.lucistrust.org:8081/obooks/?q=node/423>).

^{xxvi} ToCF pages 1040-1041

^{xxvii} SD (1st Edition), Vol 1, page 36 and ToCF, page 39-40, footnote 6

^{xxviii} Most of the statements in this section are copied directly come from a ToCF, pages 273 to 288.

^{xxix} A Heavenly Man is the name given to the entity, Planetary Logos, whose permanent atom appears to us as a planet. For example Pluto and Jupiter are Heavenly Men or Planetary Logoi. Pluto is a First Ray (not discussed in this paper) planet. The 1st Ray has a tendency to concentrate, merge or make small hence the tiny size of Pluto. Jupiter is a 2nd Ray planet. The 2nd Ray tends to expand hence its large size. Both are Planetary Logoi and both are planets - size does not matter. (Bailey, Esoteric Psychology - Volume 1, page 335

<http://www.lucistrust.org:8081/obooks/?q=node/405>) The classification of what constitutes a planet must be based on the consciousness of the indwelling entity.

^{xxx} ToCF, pages 287 -288 <http://www.lucistrust.org:8081/obooks/?q=node/315> and page 458, number 3. <http://www.lucistrust.org:8081/obooks/?q=node/324>

^{xxxi} SD (1st Edition), Vol 1, page 37 <http://www.theosociety.org/pasadena/sd/sd1-1-02.htm>

^{xxxii} ToCF page 279 <http://www.lucistrust.org:8081/obooks/?q=node/315>

^{xxxiii} ToCF page 310 -311, footnote 21

^{xxxiv} ToCF page 382, footnote 37