

Essay Abstract

The following speculative essay is based on, but differs substantially from, an imaginary “theory of reality” that was briefly considered in my 2000 science fiction novel, *The OverFile*. The overall view of the essay regards relativistic spacetime reality as being subsistent within a dynamic, *supersensible digital matrix* that is thought to naturally appear within an otherwise static, *analog void reality*. The term *digital matrix*, as used in the essay, is generally understood to be a ubiquitous geometrical vibrational system within which, as which, and through the action of which, spatiotemporal reality originates, takes form, further develops, and is therein sustained while it persists via regeneratively interactional pre-quantal and quantal vibrational processes. The essay suggests that the appearance of either analog or digital results to specific experiments occurs because this deeper causal nature of the underlying void reality prompts these confusing results.

Again, the essay speculates that spacetime reality is being everywhere effected into a sustained, regenerative quantum pattern system of subsistence within an intrinsically vibrant, geometric matrix format that is innate within the ultimate nature of the infinite, eternal *void*. And that, accordingly, our observing minds within this fundamental, regeneratively interactional quantum reality are equivalently, subsistently sustained as virtual radial fields of awareness via further regenerative procedural systems within our respective bodies and brains. Thus, the essay will also provide a brief theoretical account of the operative nature of the brain as a digital submatrix to our virtual mindfields to account for observers within the context of the *void* digital matrix system.

This speculative account of an analog void reality and its digital matrices does not appear to conflict with any known experimental observations. Thus, however outwardly alien in perspective, the views given are ostensibly consistent with current experimental findings.

Essay

Is observable reality ultimately analog or digital, continuous or discontinuous? Or is it possibly *both at once*? The answer might depend not only upon how we define digital energy values within spacetime reality, but as well how we might define digital values within the context of the underlying, seemingly analog, *void* from which spacetime apparently violently emerged. Since a singularity, or other *source* of our origin occurred *within* the *void*, and spacetime is now obviously expanding *into* the *void*, it seems reasonable that either digital and/or analog values would have been *preexistent* in the *void*. Quantum theory theorizes that quantal patterns move through spacetime not as the *selfsame* energy, but as vibrational waveforms passing through a ubiquitous quantal field. This apparently implies that the quanta are elemental, *regeneratively subsistent patterns*, rather

than phenomena that are independent of the mediating field through which they travel as interactive wave vibrations. This then raises the question of the ultimate nature of the field or fields through which quanta travel. Did such a field or fields come into existence *after* the origin of spacetime, or were they already omnipresent in the *void* as a *supersensible matrix* to quantal events, and our exploding *source* only an incidental effect within this *void matrix*? Since we are alluding here to transempirical concepts, any further account of quanta will depend on how we choose to imaginatively define the *void itself*.

From antiquity, it has been suggested that the *void* is permeated by a *primordial vibration*, and that all else that exists, exists only as it *subsists* within this *primordial vibration*. If we transform this ancient idea, we can imagine that a *primordial vibration* persists in the geometric format of a *ubiquitous standing wave pattern* within the *void*. Our next question would then be whether or not this hypothetical *omnipresent wave pattern* might somehow be linked to the aforementioned preexisting field system? And, if so, could it serve also be the aforementioned *matrix* within which, as which, and through the action of which, spatiotemporal reality originates, takes form, further develops, and is therein sustained? And, if so, what *primordial energy source* might be within the reductional nature of the *void* that would produce such a vibrational geometric system within itself?

If we imagine that the *void* is without dimension, formless, empty of all possibility of intrinsic space, time or motion, then there is no point to continued speculation. Alternately, we can imagine that the *void* does have innate, *self-effected minimal dimensional qualities of space, time and motion*, i.e. *intrinsic, finite point events*. Such point events might then lead to further quantitative effects that eventually result in the appearance of the quantum value. Such point events would seemingly require either a finite internal radius of curvature, or finite rectilinear vertices, or possibly *both*. In order to further imagine such point events, we might first have to imagine the converse scenario. What might a *conceptually equasive* view of the *overall void* be, and how might this lead to a primordial standing vibrational wave pattern?

It seems essential that if the *void* is imagined to have any sense of *distance* and *duration* within it, that there should then be some imagining of an *intrinsic cyclic rate* of change. In Newton's view, the *void*, as *Absolute Space and Time*, was taken as infinite (∞), eternal (E), and had a virtually *instantaneous* (I) movement within its nature. But if we then postulate that $\infty = EI$, *whatever are we suggesting?* Imagine a *void state* of infinite, eternal being that is paradoxically both moving *and* stilled within itself. It has an instantaneous intrinsic motion, which by being everywhere at once makes it also stilled. An alternate view would be that the *void* is everywhere vibrating within itself in the context of finite unit points, which would then generate an overall vibrational pattern. Thus, if a unit radius of curvature, or other finite unit of dimensionality, is presumed to be everywhere forming as point event phenomena, then all else that *dimension*

means, might derive from these digitized point event units as the minimal basis for a conception of *void dimensionality*. All else in the superstructural spacetime world would then be eventually effected in terms of this constant finite unit's cyclic rate of change within itself. But what might cause such *quantal vibrational points*, or *qvp*, to appear within the void?

Perhaps the qvp would naturally occur in the void as the boundary markers between whatever the *void* determines is a *natural suspension* region between an *infinite volume* and an *infinitesimal volume*? And perhaps this transformation of the *void* into a natural vibrational process would occur due to a perpetual conflict between the *void's* possible geometric formats? Assuming that the *void essence* cannot *simultaneously* occupy the opposing curvilinear or rectilinear geometric formats that are actually available to it, then it seems reasonable to imagine that this *mathematical unevenness* effects an *ongoing, chaotic elastic shifting* of its essence between the two primary opposing geometric formats, i.e., between the rectilinear and the curvilinear. In this view, the *primordial vibration* would be the perpetual formation of a standing wave pattern of qvp in the regions of natural suspension.

Assuming for the moment that this is the case, the next assumption is that the perpetual standing wave pattern cannot *ever* be entirely stable in any infinite, eternal sense, and thus is locally required to exchange *ancillary vibrations* between the elemental qvp events to carry excessively chaotic energy away from local regions of the *void* in order to stabilize, or *clear* itself of local disruption. We could then further suppose that these ancillary qvp waves are the forerunners to measurable quantal vibrations. In that scenario, incomprehensibly vast spatial regions of the *void matrix*, acting across inconceivably long periods of time, might attain vast stable regions, but, probabilistically, might also be generating chaotic conditions in other regions wherein ancillary qvp waveforms would collide and interact with other qvp waveforms arriving from other vast regions being cleared. The results might lead to a different type of chaotic situation wherein these ancillary, *pre-quantal* waveforms would further interact and begin to form innumerable regenerative patterns amongst themselves. This might further lead to a focalization of such pattern complexes until a maximal chaotic condition is reached, and the *actual* quantal waveforms, now active as complex regenerative patterns, rebound and evolve into widely separated, expanding universes. In such a scenario, at some places in cosmic evolution, the quantal waveforms will be bound up in a localized region, and at other places they will be expanding outward toward infinity; and that the total number of qvp ancillary waveforms being mathematically permitted within the *void*, that is, the total ancillary pre-quantal vibrational stabilization energy quantity of the matrix would remain invariant. Thus, whether such ancillary pre-quantal waveforms were spread evenly through portions of qvp matrix space, or concentrated temporarily in a neutron star or black hole, or even brought together to begin or end a cosmon's lifespan, there would never be more or less qvp ancillary *energy* in the *void*. In this scenario, the pre-quantal and quantal fields have *always* been induced into

subsistent existence by the way in which the vibrational matrix persists within the *void*.

As regards the constant travel rate of the proposed pre-quantal qvp ancillary waveforms, as the assumed basis for any further possible regenerative structuring within the *void*, it seems that it would be true that *whatever* this rate is, it is *the* rate through which all other rates will be derivative. And for us, as observers ultimately fabricated from this constant rate of motion transfer through the proposed matrix, it would be *the* constant structural rate itself. Whereas the rate of electromagnetic, or *em* energy, might seem the likely candidate for this fixed constant rate, it might be otherwise, and only produce the *em* rate, or *c* as a fixed constant for other reasons. If that were in fact the case, that the constant rate of the ancillary, pre-quantal vibrations *were structurally traveling* at *c*, then relativity within spacetime might become sensible: Any regenerative informational patterns formed from such *c*-rated quantal waves would not only then be subject to *c* as an upper limit, but *c* would as well be the constant rate at which spatiotemporal regenerative pattern formation would be occurring. Thus, in accord with relativity, such patterns could never wholly regenerate while attempting to travel through the matrix at *c* since all of the quantal components of the pattern would *already* be traveling at *c* within their respective informational patterns. If such a probability-driven pattern's structural velocity is always internally at *c*, then this would constrain the possible regeneratively structural patterns, sustain their structural nature while they are, and as well, permit them to have interpenetrational transformations with other regenerative complexes; and, finally, would ultimately limit the pattern's possible velocity through the matrix. At the *c* limit of forward velocity, all of the pattern's interior regenerative forms will have attained a zero ability to reform the regenerative pattern, and so would reach a zero length.

If we can agree that a *c* structural rate would be an *appropriate* structural rate, the question remains as to what the *actual* constant rate might be. For the sake of the developing scenario, let us suppose for a moment that the constant rate is actually c^2 , and that *c* is a rate that occurs as a constant limit due to the type of geometric regenerative formats that naturally occur in the *void matrix*. And further, let us suppose for a moment that the actual unit radius of curvature through which these c^2 rated vibrations will pass is many orders of magnitude below the Plank length, and being required to obey what might be called the *pi limit* within the *void matrix*. The *pi limit* requires that *pi* as 3.1416..... must have an actual finite enumeration of unit points at which a circle becomes perfectly round. If this number is presumed to appear as a fixed feature within the *void matrix*, then it seems probable that the hypothetical, pre-quantal tachyonic c^2 vibrations which would fill the *void matrix* would be only traveling through perfect arcs, and that while their rectilinear rate might remain at c^2 , their curvilinear rate might travel at a constant *c* rate. In this scenario, the *void matrix* would have *two* constant rates, and an understanding of a higher radius qvp, that might be interactive as a structural basis for quantal spacetime events. Having a c^2 rate

would possibly also assist in eventually explaining the deeper meaning of quantum entanglement and other similarly strange phenomena. In this view, rectilinear vibrations would remain at the pre-quantal c^2 rate, and the curvilinear value within the pi limits would structurally regenerate the quantum value at the c rate. Continuous interactional vibrational waveform collisions between a ubiquitous c^2 rectilinear field and the c rated curvilinear quantal field might then induce regenerative patterns to occur. The reductional level of dimensionality we are considering is unknown, but, however initially absurd sounding, speculations set forth in the Technical Endnotes suggest that the pre-quantal qvp events reside at 10^{-46} cm, with the ancillary waveforms traveling at c^2 while structuring the quantum value at 10^{-9} cm at a c velocity. Presumably, the persistence of a c^2 field would not alter the basic tenets of relativity. The c^2 field, being uniform, would act as a constantly impinging, equipotential field force manipulating the regenerative c patterns as an essential *inertial field*, as explained below.

Our imaginary understanding thus far is that the quantum value and all other natural constant values, and essential force considerations, such as charge and polarity, and relativistic mass-energy values, and so on—that all of these must derive from the interacting rectilinear and curvilinear qvp vibrational waves acting to induce the regenerative subsistence of microcosmic pattern frames moving through the proposed point event matrix. The two elementary qvp waveform fields, taken in total, would then be *the* basic fields causal to the observable universe, that is, as overall collisionally interactive fields whose further force levels arise as a process inherent to the *void's* regenerative mechanics system. The concept of *force* would then take on a new meaning at this point. Rather than being an attractive force, or a process due to the curvature of spacetime, as we currently interpret force, the qvp c^2 waveforms of the dual field system would be a collisional *repulsive* force, operatively acting both to generate, constrain, and control the motion of all c rated regenerative patterns by causing them to only form out at specific radii, and further compulsorily causing them to be regeneratively active *toward* one another when they have insufficient qvp c^2 field energy between them, and, conversely, compulsorily causing them to be regeneratively active *away* from each other when widely separated.

This primary rectilinear c^2 rated field would then define all further force levels in terms of itself as the source of inertia. Force levels would then be defined as being the result of regenerative pattern inertial frame positioning relative to the total frame of this reductional inertial field. In other words, the local spacetime effect of observed increases in force levels would then be determined in terms of the ways in which each respective regenerative pattern subsists within other regenerative pattern complexes. To further explain this speculation, this process will be imagined as "*shadowing*." Shadowing suggests that the presence of one regenerative pattern affects the presence of another in terms of the degree to which each pattern shadows, or interferes with, another within the universal, c^2 rated qvp field surrounding all such data patterns within the qvp matrix. A pattern standing apart from others would be less shadowed than one which is within a cluster of patterns. The greater the proximity of one regenerative pattern to

another, the more each experiences progressive levels of force increment and involvement. The force exchange particles would initiate at the regenerative quantum-gravitic level, because this would be the universal field rating, and then mathematically escalate in strict terms of regenerative configurational involvements. All spatiotemporal events would then be shadowed by the c^2 force potential passing through omnidirectionally, and endure force effects on all levels in terms of the c rated regenerative processes occurring at these lower frame levels. In this scenario, all seeming mathematical curvatures in spacetime would occur due to the interaction of the rectilinear and the curvilinear collisional aspects within the overall qvp matrix. As such, spacetime would not actually warp, twist, or be otherwise affected by the presence of energy/mass regenerative patterns, i.e. the mathematical curvatures would only appear to be present due to the ways in which the aforementioned interactions occur via the shadowing process.

The context of force, charge, and all such phenomenological properties of subsistent reality, to include psychoinertial phenomena, would then be a direct effect of the complex statistical, probabilistic functions of the intracyclic and intercylic spatiotemporal geometries of the microcosmic world. These would then be induced into their various regenerative behavioral norms by absolute constants, which we observe as the structural empirical constants. It would not then be the mass of the universe which effectually produces the universal quantum-gravitational field, but the reverse: The field would always be a uniform effect at every point in spacetime. The universal field would then impart an energy stature or mass rating to a specific pattern, and patterns around it, in accord with the manner of their respective internal shadowing patterns. Thus, wherever mass patterns might evolve in regenerative subsistent stability, i.e., probabilistically develop and endure as sustained wave-particles, for whatever temporal period, a shadowing process would exist between it and all other surrounding patterns. Levels of interplaying force factors would then be conditional upon the regenerative patterns themselves relative to their absolute distance and time from each other in the field matrix. In this complex scenario, it would then be the overall regenerative vectoring of the vibrational wave patterns which is altered by their mutual presence as sustained entities. The further their respective distance from one another, the less the possible degree of shading of the equipotential of the universal field in that vector radius from pattern center. Conversely, the closer the two patterns are, the more the outer field would re-vector their constituent qvp events toward their respective centers of mass, making inertial re-vectoring and gravitic mass the same understanding, until the patterns are sufficiently close that their own intercylic penetration brings the other force levels into play during the time of pattern interposing.

In terms of the universal c^2 rated gravitic field as a constant primordial field, it is thought that the outer field wave components and the regenerating wave complex component waves must continuously impact in order to interact to sustain the regenerative pattern during its apparent life span. This collisional

process is thought to occur in several simultaneous and complementary manners. First, the outer field equipotential must reactionally induce the apparent contraction of the spatiotemporal regenerative into itself; and, second, the same process must apply to all of the observed regenerative's component patterns, each and all in terms of their respective intracyclic interactions, or that which is the same, their probabilistic, intervibrational modalities, as interwoven wavestates at their immediate force level displays of quantum vibrational interaction. In order to interpret the strong and weak interactionary force manifestations, consider that all spatiotemporal phenomena are given to be sustained in terms of any arbitrary basal qvp event as an imaginary center to an infinite radial reach, so that the degree of influence from a point decreases inversely with the square of the distance from such a center.

As the qvp waveform vibrations regenerate into temporary, time-stable data patterns, the surrounding medium of the c^2 rated quantal field, filled with innumerable transferring streams of c^2 rated qvp waveform energies, tend to collide with and transform random the c rated quantal patterns into durable, probabilistically regenerative contexts forming self-sustaining wave particles, as regenerative structures among similarly sustained structures. Or, the surrounding field will cause the qvp waveform energies to disperse, and so transform (decay) into other informational pattern formats within the matrix. Thus even as the rectilinear c^2 rated field surrounds remain supersensible, the overall effect of the constant field interaction with the curvilinear c rated regenerative pattern formats is to produce a relativistic spacetime quantal reality whose constant rate limit of c is inviolable. The only instances wherein the c^2 rated field might be presumed to be observably noticed would then be in terms of quantum entanglement phenomena, and in the causal nature of the expansion of the universe as more of the field potential comes into play between the widely separated galaxies. To summarize, the overall view of the *void* thus far is that it is an eternally infinite state of continuously chaotic being that is ever becoming in a ground state vibrational format of interacting, quantally unitized, elastic distortions, which effect a chaotic standing wave pattern wherein ancillary quantal waveforms appear in rectilinear c^2 rated and curvilinear c rated forms, which continuously, collisionally, omnidirectionally interact to produce innumerable complex regenerative quantum vibrational waveform patterns and their intrinsic force values, which thus incidentally effects a perpetual plethora of subsistent relativistic spacetime realities within the *void*. The issues of whether or not there is a finite pi limit, what that value might be, and how it might affect dimensionality, both within the *void* and within spacetime reality, are considered in the Technical Endnotes.

In summary, from the preceding imaginings, the speculative positions of the essay on the question of analog vs. digital are as follows: The underlying continuum of the *void* perpetually structures a pre-quantal backdrop within which quantal spacetime originates and operates, and the emergence of continuous symmetries is consistent with the ways in which these structuring processes

occur within the *void*; the nature of *void space* is to be perpetually discretely pre-quantal and quantal, and causal to the separation of widely spread galaxies via the speculated, previously described pre-quantal shadowing process; the implications of a minimal point event unit, as an integrated unit of diametric distance, cyclic time, and pre-quantum unit valued energy, offers a fundamental discreteness that defines dimensionality in an otherwise dimensionless void; an infinite analog *void* is then not incompatible with a digital description that persists ubiquitously; a digital description is consistent with a temporal flow when its digital nature is reductionally a cyclic, intrinsically vibrational point event; the World could be modeled as a digital computation when the regeneratively interactive nature of all subsistent quantal patterns is taken into account as component phases in a self-determining software program; simple discrete models like cellular automata are effective approaches to understanding the physics of regenerative pattern processes, which the essay implies is the basis for all possible physics and all life; there is a deep foundational reason why reality must be essentially analog and yet processed into a perpetual digital format. The position of the essay is that the deep foundational reason is that the *void* exists purely as an analog continuum unto itself, but in the ways aforementioned, is causal to a continuously digital format wherein a spacetime reality is an incidental, temporary, subsistent effect. Whether or not the speculative musings of the essay are actually *meaningful* re the deep or “ultimate” nature of “reality,” is ever open to question, as is the following digital account of *the observer* within the context of the *reality* presented thus far.

Our observing minds within *reality*, are presumed to be equivalently, subsistently sustained as *virtual radial line fields of imaging feelings* within our respective brains acting cooperatively with our respective sensory bodies. The initial premise used to reach this conclusion is that the speculated, intrinsic qvp events are reductionally equivalent in their effected ancillary vibrational modes to *lines of feeling*, being definable in terms of their specific regenerative pattern parameters, their vector orientations in their contextual frames, and their ratings in terms of the frequency and wavelength of each involved line within such localized formats. Thus, where motion is initially chaotic and amorphous in the presumed ultimate nature of the *void*, *feeling* is chaotic and amorphous and devoid of any capability of *localized radial imagery*. And where quantal vibrations are organized, as within a living regenerative pattern complex, imagery may be temporarily and sequentially structured in terms of an *implicit field in principle*. For example, within a brain or similar neurological system, the occurrence of such a *radial field in principle* is then not due to any actual projectional emanation of quantal energy lines, but occurs instead in terms of the *intended radial vectors* that would in principle occur if the impulse in the localized firing neuron sources *were* actually projected. In this scenario, a neurological system generates an apparent spherical imagery field composed of innumerable variously rated radial vector lines of quantum feeling. This *localized apparent mind field*, is then a digitized product of a brain’s *reactional* vector firing computations to sensory input and reactive output. In this way, the combined action of all currently firing, vector-

orientated neurons, produces a blended sequencing of innumerable implicit radial lines and collective imagery pattern states of sensory, emotional and intellectual and feeling energy values within the spectral range of neuronic firing.

A living brain then *knows* this localized field in principle in terms of its collectively, immediately firing neuronic lines of feeling. The *knowing* is then the summation of the current radially generated imagery, or *graphical nowflow* of the overall field, and all such knowledge, whether of World or self, then occurs in the radialized graphical terms of the immediate neuronic firing state of the system. As such, what we *know*, we *know* because we *are* the firing neurons generating the nowflow of the mind field. In the reductional picture of the preceding, the *void*, as Newton suggested, is the final *Sensorium* within which this *knowing radialized imagery* locally appears. Sensory and then *self* awareness will then always be based on the individual radial line energy source factors, that is, frequency, wavelength, and vector orientation of the radial line amongst other lines in the immediate plurality of radial filed patterns within the seemingly singular, localized field. The ever-changing plethora of radial patterns, being induced in part by the organism's sensory energy input data, and in part by the neural system reactions to the input, as well as to complex intrasystem reactional computational output, acts to interpret the world external to its source frame. The complex imagery immediately presented in terms of a plurality of radial field patterns, respectively presenting the imagery of vision, sound, smell, taste and all sensory feelings, and all the transparent emotional states fluxing within the field as radial field patterns, and all of the abstract issues of inquiry, interpretation, and all else that the neural network presents via its radial field pattern output, all of this is collectively knowable in terms of the immediate energy parameters as perceived *reality values*, i.e. radial pattern classes, densities, intensities, and so forth.

There are thought to be multiple neurological sources in a human brain for the aforementioned implicit projectional means that effects an overall field in principle. The three primary sources effect a frontal, a central, and a rear radial field. The frontal field initiates intellectual thought and imagination stereo-visually from the two hemispheres and frontal regions. The central field radially projects the stereo field pattern imagery for the majority of sensory and emotional experience, and emanates from the centralized thalamic and reticular region, which are the focal centers of neural informational interchange between all points of the body and the higher brain processing centers. When you are only viewing within this field, no flat plane image bisecting its central region can be seen on edge. The rear field source is within the rear brain and cerebellum. To image from the rear field, place one or more of your hands behind your neck, and close your eyes. You are viewing from the rear field when you begin to image your hand(s) and the rear of your head. With practice you can spread consciousness to all three fields at once, to easily move between the three imaging vantage points. The rear field does not operate in the same fixed manner that the frontal and central field does. The frontal and central fields are preset to function with head movement; but the rear field is preset to only view forward, irrespective of

normal head movements, i.e. head turning or up/down movements. The rear field appears to be a function of the reptilian brain and responds to gravity by reversing its imagery when the body bends over at the waist, and so continues to view in a forward imaging manner. Also, whereas the central field operates from a fixed perceptual viewpoint, the frontal and the rear fields utilize an *altered parallax* system of viewing, in that all displayed imagery is done so that the source appears to be several inches to the rear of the actual brain source. With practice neurological consciousness can be spread to all fields at once, or easily move between the imaging vantage points.

The mind, as seen from the preceding alien perspective, is also then *both* continuous and digital in its inner environment as a submatrix within the overall *void* matrix system.

Reference Page

The OverFile (The Story of the Spherit), a science fiction novel, published in 2000 by Writers Club Press, iUniverse.com, 37 West 19th Street, 6th Floor, New York, NY 10011-4200. Also see www.theoverfile.com.

Technical Endnotes

Since no stipulation was made in the essay contest rules as to the character count of the two allowed appended Technical Endnotes pages, the font herein has been reduced to accommodate an account of the technical aspects of the theory proposed in the essay.

If we assume for the moment that the finite value of π is $3.1416... \times 10^{37}$, and that the proposed qvp oscillate between rectilinear and curvilinear formats, then ancillary quantal wave vibrations should be traveling through the qvp matrix in *both* formats, and curvilinear effects should be occurring in terms of this pi constant limit in circles, spheres, sine, and *spiral swirl* (corkscrew) waveforms within *and between* the intrinsic lattice structural nature of the qvp matrix. In any lattice structure within the matrix wherein the qvp are regarded as being both spherical and tangential, all such arranged qvp may be regarded as having a set of concentric spherical envelopes, *g* and *h* wherein the inner *g* unit radius of 1 appears from natural suspension, and wherein an outer *h* radius of 1.16... extends into the region *between* the tangentially stacked qvp. The spherical envelope volume of the inner unit *g* equals 4.18 at radius 1 as a mathematical, or *dimensionless* constant, and the spherical volume of its *h* envelope equals 6.62 at radius 1.16... All other dimensionless constants are then equally interrelated. The dimensionless perimeter (p) of *g*, as $p = 6.28$, and the perimeter (P) of *h*, as $P = 7.32$, and the ratio of the volumes to the perimeters are respectively, $g/p = (.667)$, and $h/P = (.9)$. If these dimensionless constants are related to the radial separation factor of 10^{37} between a lower and higher radial limit within the overall matrix lattice system, and a median lattice radius is generated between these, then some interpretation of objective energy and action relations should result and be of the order: $\frac{6.62 \times 10^{-27} \text{ erg/sec}}{9 \times 10^{20} \text{ cm}^2/\text{sec}} = \frac{7.36 \times 10^{-46} \text{ gm}}{9 \times 10^{20} \text{ cm}^2/\text{sec}}$

If this is the case, then some interpretation of the energy formulas must be shown to be based on 10^{37} factors of radial displacement. Or again, is there a way in which we might relate energy (e) to mass (m) and the em rate (c), and then to the quantum value (h), and wave frequency (f), respectively as $e = mc^2$ and as $e = hf$, so that $mc^2 = hf$, and $h/c^2 = m/f$ in the cgs system, but with the condition that 10^{37} factors of radial separation be involved as a critical factor to explain why their measured values are what they are? If the physical definition of the empirical value of h, the quantum value, at 6.62×10^{-27} erg/sec, indicates the presence of a spherical vibrational volume that vibrates between a unit 1 and unit 1.16, and that its mass value is a function of its spherical perimeters, and whose propagation velocity of c, is innate, then the radius of such a 10^{-27} cm³ volume must be on the order of 10^{-9} cm, the approx. diameter of an atom. If the quantum value is a structured constant generated from a consideration of further constraining factors, and from which it is both dimensionally precessional and processional, then two distinct 10^{37} radial separation factors must also be involved in the generation of the quantum value. In effect, this means that there should be one radial separation factor of 10^{37} beneath the dimensional level of 10^{-9} , and one 10^{37} radial separation factor beyond the qvp's assumed intrinsic objective radial value at 10^{-9} cm. This would then provide a lower order understanding to which the median qvp owes its subsistent form, and as well a higher order understanding within which it is also itself a structurally constant limiting factor, i.e., within the qvp radius of curvature of the observable spherical universe itself. In terms of this median suspensional diameter of 10^{-9} cm then, we will first interject a radial separation factor of 10^{37} between the suspensional diameter of 10^{-9} cm transferring at c (3×10^{10} cm/sec) and the lower qvp radial limit of 10^{-46} cm transferring at c^2 for a minimal interval in spacetime of $10^{-46} \times 10^{20}$, or 10^{-26} sec. We will then insert a radial separation factor of 10^{37} between the diameter of 10^{-9} cm and the bounding curve through which its regenerative waveform of action might travel as a curvilinear or *spiral swirl* wave propagation at 10^{-9} cm wavelength traveling at c, as 10^{-9} cm $\times 10^{37} = 10^{28}$ cm, and 10^{-9} cm $\times 10^{-37} = 10^{-46}$ cm. It is then assumed that the bounding radius of curvature for the observable spherical universe is to be seen directly (from the assumed dimensions of the quantum constant itself) as 10^{28} cm, and that the 10^{-9} cm qvp waveforms are the *carrier waveforms* wherein are phased *all* of the observable energies of the universe, that is the waveforms which effect measurable mass and energy, and, as well, the electromagnetic waveform frequencies traversing the geodesics of 10^{28} cm. If this is a correct assumption, then the minimal constant quantum value, graviton value and photon value all coincide at the qvp level of interpretation as 10^{-46} cm waveforms traveling through 10^{-9} cm arcs into 10^{28} cm arcs. The lower limit for permissible distance, rate, and time is then at the qvp level of approximately 10^{-46} cm at 9×10^{20} cm/sec during a time of 10^{-26} sec. And the *effective rate* of such a regenerative waveform is limited to 3×10^{10} cm/sec around the 10^{-9} arc when entering into a 10^{28} geodesic. Relative to this structured constant for the qvp at 10^{-9} cm then, as a relationship between its abstracted 10^{-27} cm³ volume, 10^{-9} cm rated perimeter, and 10^{10} transfer rate through its tangential bounding surface perimeters, as

$$\frac{6.62 \times 10^{-27} \text{ erg/sec}}{7.36 \times 10^{-9} \text{ cm}} = (.9) \times 10^{-18}$$

the latter term is realized to be 10^{37} factors away from its required value of 9×10^{20} , and the value

7.36×10^{-9} as well 10^{37} factors away from its required value of 7.32×10^{-46} as the approx. mass value of a single quantum photon. 10^{-46} is thus required to be interpreted as both a gram measurement *and* a circular length measurement, but now in terms of the *mass perimeter* of the qvp at 10^{-9} cm.

In the theory of discontinuous groups, it is mathematically predicted that there be but 230 ways of distributing identical objects of arbitrary shape regularly in space. It is assumed then that the distribution of identical 10^{-9} cm carrier waveforms must adhere to this ruling. Going a step further, a 10^{-9} cm carrier waveform is 230×10^{37} factors or 2.3×10^{39} factors displaced from the basal qvp at 10^{-46} . Empirically, electromagnetic, or e-m force strength is 2.3×10^{39} times greater than the universal gravitational force strength. If the apparent relationship between gravitic and em forces is one of a duality of functions whose display value is wholly dependent upon the conditional dimensionality of the patterns under consideration, or again, if gravity in one context is an em force in another context, then the way in which the regenerative pattern shadows the one force determines the level of force displayed. In the empirical formula for gravitation G, force F is given as G times the product of two masses M_1M_2 divided by distance squared as $F = G M_1M_2 / d^2$, so that in the cgs system, $G = 6.67 \times 10^{-8}$ dyne/cm/gm. At the lower qvp level of conditional dimensionality of 10^{-46} cm, G has no immediate meaning prior to a development of regenerative mechanics. As earlier implied, gravitation occurs through the process of shadowing *after* the actual regenerative patterns have developed and are to some measure *time stable*. Thus the consideration of a .667 dimensionless volume rated in terms of a 10^{-46} cm radius has only an abstractional force meaning until it is carried regeneratively through the vectors of the 10^{-9} cm carrier wave function format, so that via its differential displacement of 10^{37} factors, it becomes $.667 \times 10^{-46} \times 10^{37}$, or 6.67×10^{-8} in its potential force nature. In terms of the pre-quantal rectilinear field as a constant primordial field, it is believed that this field and the regenerating wave complex must interact to sustain the regenerative pattern during its apparent flow through the matrix. This must occur in several simultaneous and complementary manners.

First, the outer field equipotential must reactionally via constant collisional impingement, induce the apparent contraction of the spatiotemporal regenerative into itself; and, second, the same process must apply to all of the observed regenerative's component patterns, each and all in terms of their respective vibrational modalities, as wave states at their immediate force level displays of quantum vibrational interaction, while simultaneously providing the holistic pattern its inertial nature. In order to interpret the strong and weak interactionary force manifestations, consider that all spatiotemporal phenomena are given to be sustained in terms of any arbitrary basal qvp point as an imaginary center to an infinite radial reach, so that the degree of influence from a point decreases inversely with the square of the distance from such a center. Said another way, the basal qvp point at 10^{-46} cm, is itself a focal force center which is the square of an average constant of pattern interaction during 10^{-23} sec at that reductional level of microcosmic reality, wherein mass, energy, spatial volume, radial length, wave transit velocity and time itself all merge into one definition in the *void continuum*. Thus as force (F) equals mass (m) times acceleration (a), or $F = ma$, Force is that which is the apparent cause to the appearance of displacement, and thus all apparent displacements in observable reality must initiate in terms of these dimensionless constants. As the 10^{-46} cm radius waveform transfers through its c rate of involvement with the observer at 10^9 transferring into 10^{28} , Force appears as an effect of such gradient transfers in terms of the average time of interaction of 10^{-23} sec. Consider then the following table:

Natural Force Name	Interplay Seconds	Natural Force Relative Force Levels
Nuclear	$10^{-23} / 10^{-23}$ sec	10^0
E-M	$10^{-21} / 10^{-23}$ sec	10^{-2}
Weak	$10^{-9} / 10^{-23}$ sec	10^{-14}

In the context of the table, utilizing 10^{-23} sec as the average constant minimal time of interaction at the c rate, and so multiplying the observed time of interaction of the natural force levels by a constant 10^{-23} , the effective force strength during a nuclear interaction is 10^0 , or 1 at a pattern interplay distance of less than 10^{-13} cm, and is thus the limiting regenerative vectoring force toward a binding center within the regenerative as empirically observed to occur within 10^{-23} sec. Again, this duration multiplied by the dimensional time constant average of 10^{-23} sec gives an effective force value of 10^0 , or 1. During an em interaction occurring in 10^{-21} sec at c, the effective interplay force value is 10^{-2} , or 100 factors less in effected force strength. During a weak interaction during 10^{-9} sec, the effective force value is 10^{-14} units relative to the strong interaction. A purely gravitational interaction, empirically observed to occur at 230×10^{37} factors less than electromagnetic force levels, also then occurs during the effective time interval during which any two intersecting wave carriers incur interactional, i.e., regenerative, vector-altering processes, even as all of the table-given time units reflect the intervals during which further force interactions may occur as regenerative vectoring processes between their localized mass frequency density and the outer field circumstances. In this imaginary scenario, the proportionality between the physical constants is thus set in terms of the backdrop field circumstances within which they interact between themselves as conditionally dimensional, regenerative structuring processes.