

971.20 **Pulsation Between Icosahedron and Vector Equilibrium:** There is manifest in the icosahedral fiveness, in contradistinction to the vector equilibrium's sixness, the seemingly ever annihilatable and ever-re-creatable integer, eternally propagating the complex of unique frequencies of the 92 inherently regenerative chemical elements as well as all the other unique resonances and frequencies of the electromagnetic, protoplasmic, pneumatic-hydraulic, and crystallographic spectrums, whose omnidirectional yes-no pulsativeness occasions the omniexperienceable, exclusively wavelinear, optically or instrumentally tunable, allness of time-accommodated human experience.

972.00 **Universal Integrity Model**

972.01 **Gravitational-Radiational:** In its introvert mode, the rhombic dodecahedron interconnects six 1/6th spheres and manifests gravity. In its extrovert mode, the rhombic dodecahedron comprises one whole sphere at its center with no other spheres implied; these are the spheres that together fill allspace. The extrovert mode of the rhombic dodecahedron manifests radiation.

972.02 The rhombic dodecahedron is the integrated sphere (syntropic) OR the disintegrated sphere (entropic).

973.00 **Basic Tetrahedra as Volumetric Modules**

973.01 **Basic Tetrahedron:** Each Basic Tetrahedron (Syte)⁶ is semisymmetric, four of its six edges consisting always of two pairs of equal-length edges and only two being of odd lengths. The Syte itself consists of six entirely asymmetric Modules, four of which are dissimilar to the other two:

- 2 A (+) positive Modules
- 2 A (-) negative Modules
- 1 B (+) positive Module
- 1 B (-) negative Module

(Footnote 6: See Sec. [953.40](#).)

973.10 **Regular Tetrahedron:** The Plato-identified "regular" (i.e., omnisymmetric) tetrahedron is comprised entirely of A Modules: 12 positive A s and 12 negative A s, but the symmetric, "regular, " Platonic, equiangular, equi-edged tetrahedron cannot by itself fill allspace as could the cube, the rhombic dodecahedron, and the tetrakaidecahedron—none of which allspace-filling forms have self-stabilizing structural-conformation integrity, not being comprised of triangles, which alone can stabilize pattern.

973.11 The "regular" Platonic tetrahedron may be combined with the octahedron to fill allspace.

973.12 The volumes of all the symmetrical Platonic polyhedra, except the icosahedron and its pentagonal dodecahedron, are whole, low-order-number multiples of the "regular" Platonic tetrahedron, consisting itself of 24 modules, making that tetrahedron seemingly the "basic unit of measure" of all polyhedra. The inability of that "regular" tetrahedron to fill all cosmic space turns our comprehensive, cosmic-coordinate- system exploration to the consideration of the least common divisor aggregates of the A and B Modules.

973.20 **Functions of A and B Quanta Modules and Sytes:** The A and B Quanta Modules are omnitriangulated and individually asymmetric but not maximally asymmetric. The A Quanta Module has three of its 12 total angles at 90 degrees, and the B Quanta Module has two 90-degree angles. The A Quanta Module has a 30-degree and a 60- degree angle. The B Quanta Module has two 45-degree angles.

973.21 These angles all represent low-order whole fractions of unity: $1/4$, $1/6$, $1/8$, $1/12$, and $1/16$ of unity in a planar circle; all the other angles of the A and B Quanta Modules are unit and symmetric central angles of the tetrahedron and octahedron.

973.22 The variety of their mixability produces what need be only momentary bewilderment and only an illusion of "disorder" occasioned initially by the subtlety and muchness of the unfamiliar.

973.23 This brings us to consider the only superficially irregular, only semiasymmetric Syte as possibly being the most separately universal structural-system entity.

973.24 The Syte, consisting of only six modules and filling allspace in a threefold intertransformable manner, is found to be far more universal and "primitive" than the regular tetrahedron. The Mite is the single most universal and versatile structural component—save for its own subcomponents, the A and B Quanta Modules, which of unit volume and non-mirror-imaged complementation do indeed initially provide, singly or in complementation, the beginnings of all cosmic structuring.

973.25 The Syte's six Modules are always subdivided into two sets of three Modules each—two As, one B—of which two sets of the three Modules each are identically dimensioned both angularly and linearly, but one is inside out of the other. Therefore, *one set* of three Modules—two As, one B—is positively *outside-outed*, and the other is negatively *inside-outed*.

973.30 **Particle and Wave Involvement:** Particle Quanta Equation: (Prime numbers 2 and 5)

$$10F^2 + 2$$

973.31 Wave Quanta Equation: (Prime numbers 2, 5, and 3)

$$\frac{F^2 - F}{10(2 + 12 \text{ -----})}$$

$$2$$

973.32 One is particle involvement; the other is total involvement. Inadvertently, they correlate the sphere and all the other polyhedra rationally.

973.33 The difference is the difference between using the tetrahedron as volumetric unity, while the physicist has always been using the cubic centimeter of water—and then only lifting it in one direction, against gravity, against the imagined plane of the world. But, synergetics moves omnidirectionally, inwardly, outwardly, and aroundly. (See Secs. [505.40](#), [1009.36](#) and [1012.37](#).)

974.00 **Initial Frequency**

974.01 The initially potential-only frequency (F = + 1, -1) vector equilibrium has a volume of 20 regular tetrahedra, each of which consists of 24 A modules. 20 × 24 = 480 modules = initial vector equilibrium.

974.02 The initial-frequency vector equilibrium has alternatively either a *radiant* rhombic dodecahedron core or a *gravitational* rhombic dodecahedron core, either of these alternates being of identical overall size and shape. Both consist of 144 modules. From the 480 modules of the vector equilibrium, we subtract the 144 modules of the rhombic dodecahedron, which leaves 366 modules surrounding either the *radiant* or *gravitational* rhombic dodecahedron nuclear-sphere-enveloping core. Each module = 1/144th of our spherical domain. 366/144 = 2 1/3 ; and 480/144 = 3 1/3; therefore, one nuclear-sphere domain surrounded by the parts of exactly 2 1/3 additional spherical-domain-producing modules, distributed symmetrically around the nucleus in exactly 12 groups of 28 modules each. 2 1/3 spheres divided by 12 = 7/36ths of one spherical domain. 2 = 7/3 = 84/36 spheres = 7/36ths of a nuclear sphere. We do not produce any complete regular

polyhedron by adding 28 modules to each of the 12 rhombic dodecahedron faces. While 28 modules, i.e., $7/36$ ths of one spherical domain, may be added to each corner vertex of the vector equilibrium, they do not produce any complete regular polyhedron at *initial frequency* where $F = \text{both } + 1 \text{ and } - 1$. Each nucleated vector equilibrium = 3 spheres exactly, and not 13 whole spheres as do 12 closest packed around one. They have the centers of 12 fractional spheres ($7/36$ each) close packed around one whole sphere.

974.03 Each cube = 3 tetrahedra \times 24 modules = 72 modules. 144 modules = 1 sphere. Each initial-frequency cube = $1/2$ a spherical domain. Eight cubes in a F^2 cube = four spherical domains. Eight cubes have one whole central nuclear sphere and eight $1/8$ th spheres on the eight outer comers. The eight $F = 1$ cubes combined to = $1F = 2$ cubes have $8 \times 72 = 576$ modules.

974.04 One octahedron has $4 \times 24 = 96$ modules = $96/144 = 2/3$ spherical domain. One vector equilibrium = $3 \frac{1}{3}$ spheres. Therefore, one vector equilibrium plus one octahedron = four spheres = one tetrahedron of four closest-packed spheres. One Eighth- Octahedron = $96/8 = 12$ modules. If we add eight Eighth-Octahedra to each of the vector equilibrium's eight triangular faces, we produce a cube of $480 + 96$ modules = 576 modules, which is the same as the eight-cube $F = 2$ cube.

980.00 **Pi and Synergetics Constant**

980.01 **Relative Superficial and Volumetric Magnitudes**

980.02 **Starting With Just Twoness:** Granted a beyond-touch-reach apartness between two initially inter-self-identifying cosmic events of the basic otherness generating the awareness called "life," the approximate distance between the volumetric centers of the respective event complexes can only be guessed at as observingly informed by a sequence of angular-differentiating of any two fixed-distance-apart, "range-finder" optics, integral to the observer in respect to which some feature of the remote pattern characteristics of the otherness correspond with some self-sensible features integral to the observing selfness.

980.03 Self has no clue to what the overall size of the away-from-self otherness may be until the otherness is in tactile contact with integral self, whereby component parts of both self and otherness are contactingly compared, e.g., "palm-to-palm." Lacking such tactile comparing, self has no clue to the distance the other may be away from self. The principle is manifest by the Moon, whose diameter is approximately one-million times the height of the average human. The Moon often appears to humans as a disc no bigger than their fingernails.

980.04 Without direct contact knowledge, curiosity-provoked assumptions regarding the approximate distance T can be only schematically guessed at relativistically from a series of observationally measured angular relationship changes in the appearance of the observed otherness's features in respect to experienced time-measured intervals of evolutionary transformation stages of self; such as, for instance, self-contained rhythmic frequencies or self-conceptualizability of angular-integrity relationships independent of size. Relative macro-micro system differentiating of direct-experience-stimulated cosmic conceptuality initiates progressive self-informing effectiveness relative to covarying values integral to any and all self-evolutionarily developing observational history.

980.05 For instance, it is discoverable that with linear size increase of the tetrahedral structural systems (see Sec. [623.10](#)), the tetrahedral surface enclosure increases as the second power of the linear growth rate, while the volumetric content coincreases at a third-power rate of the linear rate of size increase. Ergo, with a given tensile strength of cross section of material (itself consisting of nebular aggregates of critically proximate, mass-interattracted, behavioral-event integrities), which material is completely invested in the tetrahedral envelope stretched around four events, with one of the events not being in the plane of the other three. The envelope of a given amount of material must be stretched thinner and thinner as the tetrahedron's four vertexes recede from one another linearly, the rate of the skin material thinning being a second power of the rate of linear retreat from one another of the four vertexial events. All the while the interior volume of the tetrahedron is increasing at a third-power rate and is being fed through one of its vertexes with an aggregate of fluid matter whose atomic population is also increasing at a third- power volumetric rate in respect to the rate of linear gain by symmetrical recession from one another of the four vertexial points.

980.06 A child of eight years jumping barefootedly from rock to rock feels no pain, whereas a grownup experiences not only pain but often punctures the skin of the bottom of the feet because the weight per square inch of skin has been increased three- or fourfold. If humans have not learned by experience that the surface-to-volume relationships are not constant, they may conclude erroneously that they have just grown softer and weaker than they were in childhood, or that they have lost some mystical faculty of childhood. Realizing intuitively or subconsciously with self-evolution-gained information and without direct knowledge regarding the internal kinetics of atoms and molecules in the combined fluid-gaseous aggregate of organisms, we can intuit cogently that naturally interrepellent action-reaction forces are causing the interior gaseous molecules to accelerate only outwardly from one another because the closest-packed limits will not accommodate inwardly, while expansion is ever less opposed and approaches entirely unlimited, entirely unpacked condition. Sensing such relationships without knowing the names of the principles involved, humans can comprehend in principle that being confined only by the ever-thinning films of matter stretched about them on, for instance, a tetrahedron's surface, the third-power rate of increase of the bursting force of the contained volume of gases against the second-power growth rate of the ever more thinly stretched film, in respect to the first-power growth rate of the system, swiftly approaches parting of the enclosing film without knowing that the subvisible energy events have receded beyond the critical proximity limits of their mutual mass-interattractiveness and its inter-fall-in-ness proclivities, instead of which they interprocess to operate as individually remote cosmic orbitings. All of these principles are comprehensible in effective degree by individuals informed only by repeated self-observation of human saliva's surface tension behaviors of their lung-expelled, tongue-formed, mouth-blowable air bubbles as they swiftly approach the critical proximity surface-tension conditions and burst.

980.07 Such information explains to self that the critical dimensional interrelationships are to be expected regarding which their own and others' experimental measurements may lead them to comprehend in useful degree the complex subvisible organisms existing between the energy states of electromagnetics, crystals, hydraulics, pneumatics, and plasmics. Thus they might learn that the smaller the system, the higher the surface-tension effectiveness in respect to total volumetric-force enclosure and interimpact effects of locally separate system events; if so, they will understand why a grasshopper can spring outward against a system's gravity to distances many times the greatest height of the grasshopper standing on the system and do so without damaging either its mechanical or structural members; on the other hand, humans are unable to jump or spring outwardly from Earth's surface more than one module of their own height, and if they were dropped toward the system from many times that height, it would result in the volumetric-content- mass-concentration acceleration bursting their mass intertensioning's critical limits.

980.08 Thus locally informed of relative magnitude-event behaviors, the individual could make working assumptions regarding the approximate distances as though, informed of the observed presence of enough event details of the otherness corresponding with those of the within-self-complex, as provided by the relative electromagnetic- frequency color effects that identify substances and their arrangement in the otherness corresponding to the observer's integral-event complex, the individual has never heard of or thought of the fact that he is not "seeing things" but is tuning in electromagnetic wave programs. The foregoing embraces all the parameters of the generalized principles governing always and only self-inaugurated education and its only secondary augmentability by others.

980.09 Flying-boat aviators landing in barren-rock- and ice-rimmed waters within whose horizons no living organism may be observed are completely unable to judge the heights of cliffs or valleys and must come in for a landing at a highly controllable glide angle and speed suitable for safe touch-in landing.

980.10 Once there has been contact of the observer with the otherness, then the approximate T distance estimation can be improved by modular approximations, the modules being predicated on heartbeat intervals, linear pacings, or whatever. These do, however, require time intervals. No otherness: No time: No distance. The specific within- self rhythm criterion spontaneously employed for time-distance-interval measurements is inconsequential. Any cycle tunable with the specific-event frequencies will do.

981.00 **Self and Otherness Sequence**

981.01 Coincidentally synchronized with the discovery of self through the discovery of otherness and otherness's and self's mutual inter-rolling-around (see Sec. [411](#)), we have self-discovery of the outside me and the inside me, and the self-discovery of the insideness and outsideness of the otherness. The inside me in my tummy is directionally approachable when I stick my finger in my mouth.

981.02 Now we have the complete coordinate system of self-polarizing in-out-and-aroundness apprehending and comprehending of self experience, which initiates life awareness and regeneratively processes the evolving agglomeration of individual experiences. Individual experiences are always and only special-case physical manifestations of utterly abstract, cosmically eternal, generalized principles observable at remotely large and small as well as at everyday local middling time ranges, all of which accumulate progressively to provide potential convertibility of the experience inventory from energetic apprehensions into synergetically discovered comprehensions of a slowly increasing inventory of recognized, inherently and eternally a priori generalized principles from which gradually derive the inventory of human advantages gainable through the useful employment of the generalized principles in special-case artifacts and inventions, which are realized and accumulate only through mutually acknowledged self-and-other individual's omnidirectional observations of the multioverlapped relay of only discontinuously living consciousness's apprehension-comprehension-awareness evolution of the totally communicated and ever-increasing special-case information and synergetically generalized knowledge environment, all of which integrally evolving overlapped and nonsimultaneously interspliced finite experience awareness aggregate is experientially identified as nonunitarily conceptual, but finitely equatable, Universe.

981.03 Going beyond the original formulation of the four-sphere-vertexed minimum structural system (Sec. [411](#)), we observe that the addition of a fifth spherical otherness to the four-ball structural system's symmetry brings about a polarized-system condition. The fifth ball cannot repeat the total mutually intertouching experienced by each of the first four as they joined successively together. The fifth sphere is an oddball, triangularly nested diametrically opposite one of the other four and forming the apex of a second structural- system tetrahedron commonly based by the same three equatorially triangulated spheres. This brings about a condition of two polar-apex spheres and an equatorial set of three. Each of the three at the middle touches not only each other but each of the two poles. While each of the equatorial three touches four others of the fivefold system, each of the two polar spheres touches only three others. Due to this inherent individual differentiability, the fivefoldedness constitutes a self-exciting, pulsation-propagating system. (Compare the atomic time clock, which is just such a fivefolded, atomic- structured, mutually based tetrahedral configuration.)

981.04 This is a second-degree polarization. The first polarization was subsystem when the selfness discovered the otherness and the interrelatedness became an axis of cospinnability, only unobservably accomplished and only intuitively theorized during the initial consciousness of inter-rolling-around anywhere upon one another of the mutually interattracted tangency of self and first otherness, which simultaneous and only theoretically conceivable axial-rotation potential of the *self* and *one other* tangential pairing could only be witnessingly apprehended by a secondly-to-be-discovered otherness, as it is mass-attractively drawn toward the first two from the unthinkable nowhere into the somewhere.

981.05 The whole associated self-and-otherness discloses both *in-outing* (A) and *rounding* (B), which are of two subclasses, respectively: (1) the individually coordinate, and (2) the mutually coordinate.

1. is individually considered, radial or diametric, inward and outward exploration of self by self;
2. is comprehensive expansion or contraction only mutually and systematically accomplishable;
 1. is individual spinnability;
 2. is orbiting of one by another, which is only mutually accomplishable.

981.06 The couple may rotate axially, but it has no surrounding environment otherness in respect to which it can observe that it is rotating axially (or be mistaken and egotistically persuaded that the entire Universe is revolving axially around "self").

981.07 Not until a sixth otherness appears remotely, approaches, and associates with the fivefold system can the latter learn from the newcomer of its remote witnessing that the fivefold system had indeed been rotating axially. Before that sixth otherness appears, the two polar balls of the fivefold polarized system symmetry attract each other through the hole in their common base—the triangular three-ball equator—and their approach-accelerated, second-power rate of interattraction increases momentum, which wedge-spreads open the equatorial triangle with the three equatorial spheres centrifugally separated by the axial spin, precessionally arranged by dynamic symmetry into a three-ball equatorial array, with the three spheres spaced 120 degrees apart and forming the outer apexes of three mutually edged triangles with the two axially tangent polar spheres constituting the common edge of the three longitudinally arrayed triangles.

981.08 Then along comes a sixth ball, and once more momentum-produced dynamic symmetry rearranges all six with three uniradius spheres in the northern hemisphere and three in the southern hemisphere: i.e., they form the octahedron, spinning on an axis between the face centers of two of its eight triangular faces, with the other six triangles symmetrically arrayed around its equator. Dynamic symmetry nests the next ball to arrive at the axial and volumetric center occurring between the north and south polar triangular groups, making two tetrahedra joined together with their respective apexes congruent in the center ball and their respective triangular base centers congruent with the north and south poles. Now the mass-interattracted, dynamically symmetried group of seven spheres is centered by their common mid-tetra apex; since the sevenness is greater than the combined mass of the next six arriving spheres, the latter are dynamically arranged around the system equator and thus complete the vector equilibrium's 12-around-one, isotropic, closest-packed, omniconfigurable-embracing, nuclear containment.

981.09 As awareness begins only with awareness of otherness, the mass-interattracted accelerating acceleration—at a second-power rate of gain as proximity is progressively halved by the self and otherness interapproach—both generates and locally impounds the peak energy combining at tangency, now articulated only as round-and- about one another's surfaces rolling.

981.10 Self has been attracted by the other as much as the other has been attracted by self. This initial manifest of interacceleration force must be continually satisfied. This accumulative force is implicit and is continually accountable either as motion or as structural-system coherence. Four balls manifest structural interstabilization, which combinably multiplied energy is locked up as potential energy, cohering and stabilizing the structural system, as is manifest in the explosive release of the enormous potential energy locked into the structural binding together of atoms.

981.11 With all the 12 spherical othernesses around the initial self-oneness sphericity apparently uniformly diametered with self, the positive-negative vectorial *relativity* of nuclear equilibrium is operationally established. The pattern of this nuclear equilibrium discloses four hexagonal planes symmetrically interacting and symmetrically arrayed (see Sec. [415](#)) around the nuclear center.

981.12 Awareness of otherness involves mutually intertuned event frequencies. The 12 othernesses around the initially conceiving self-oneness establish both an inward and an outward synchroresonance. Circuit frequency involves a minimum twoness. This initial frequency's inherent twoness is totally invested as *one inward* plus *one outward* wave—two waves appearing superficially as one, or none.

981.13 The self extension of the central sphere reproduces itself outwardly around itself until it is completely embraced by self-reproduced otherness, of which there are exactly 12, exact-replica, exactly spherical domains symmetrically filling all the encompassing space outside of the initial sphere's unique closest-packed cosmic domain, which includes each sphere's exact portion of space occurring outside and around their 12 points of intertangency. The portion of the intervening space belonging to each closest-packed sphere is that portion of the space nearest to each of the spheres as defined by planes halfway between any two most closely adjacent spheres. There are 12 of these tangent planes symmetrically surrounding each sphere whose 12 similar planes are the 12 diamond-shaped facets of the rhombic dodecahedron. The rhombic dodecahedra are allspace filling. Their allspace-filling centers are exactly congruent with the vertexes of the isotropic vector matrix—ergo, with the centers of all closest-packed unit radius sphere complexes.

981.14 This is the self-defining evolution of the sphere and spherical domain as omnisymmetrically surrounded by identical othernesses, with the self-regenerative surroundment radially continuous.

981.15 We now reencounter the self-frequency-multipliable vector equilibrium regeneratively defined by the volumetric centers of the 12 closest-packed rhombic dodecahedral spheric domains exactly and completely surrounding one such initial and nuclear spheric domain.

981.16 What seemed to humans to constitute initiation and evolution of dimensional connection seemed to start with his scratching a line on a plane of a flat Earth, in which two sets of parallel lines crossed each other perpendicularly to produce squares on the seemingly flat Earth, from the corners of which, four perpendiculars arose to intersect with a plane parallel to the base plane on flat Earth occurring at a perpendicular distance above Earth equal to the perpendicular distance between the original parallel lines intersecting to form the base square. This defined the cube, which seemed to satisfy humanity's common conception of dimensional coordination defined by width, breadth, and height. Not knowing that we are on a sphere—the sphere, even a round pebble, seems too foreign to the obvious planar simplicity seemingly accommodated by the environment to deserve consideration. But we have learned that Universe consists primarily of spherically generated events. Universe is a priori spherically islanded. The star-energy aggregates are all spherical.

981.17 If we insist (as humans have) on initiating mensuration of reality with a cube, yet recognize that we are not living on an infinite plane, and that reality requires recognition of the a priori sphericity of our planet, we must commence mensuration with consideration of Earth as a spherical cube. We observe that where three great-circle lines come together at each of the eight corners of the spherical cube, the angles so produced are all 120 degrees—and not 90 degrees. If we make concentric squares within squares on each of the six spherical-surface squares symmetrically subdividing our planet, we find by spherical trigonometry that the four corner angles of each of the successively smaller squares are progressively diminishing. When we finally come to the little local square on Earth within which you stand, we find the corner angles reduced from 120 degrees almost to 90 degrees, but never quite reaching true 90-degree corners.

981.18 Because man is so tiny, he has for all of history deceived himself into popular thinking that all square corners of any size are exactly 90 degrees.

981.19 Instead of initiating universal mensuration with assumedly straight-lined, square-based cubes firmly packed together on a world plane, we should initiate with operationally verified reality; for instance, the first geometrical forms known to humans, the hemispherical breasts of mother against which the small human spheroidal observatory is nestled. The synergetic initiation of mensuration must start with a sphere directly representing the inherent omnidirectionality of observed experiences. Thus we also start synergetically with wholes instead of parts. Remembering that we have verified the Greek definition of a sphere as experimentally invalidated, we start with a spheric array of events. And the "sphere" has definable insideness and seemingly undefinable outsideness volume. But going on operationally, we find that the sphere becomes operationally omni-intercontiguously embraced by other spheres of the same diameter, and that ever more sphere layers may symmetrically surround each layer by everywhere closest packings of spheres, which altogether always and only produces the isotropic vector matrix. This demonstrates not only the uniformly diametered domains of closest-packed spheres, but also that the domains' vertexially identified points of the system are the centers of closest-packed spheres, and that the universal symmetric domain of each of the points and spheres of all uniformly frequenced systems is always and only the rhombic dodecahedron. (See Sec. [1022.11](#).)

981.20 All the well-known Platonic polyhedra, as well as all the symmetrically referenced crystallographic aberrations, are symmetrically generated in respect to the centers of the spheric domains of the isotropic vector matrix and its inherently nucleating radiational and gravitational behavior accommodating by concentrically regenerative, omnirational, frequency and quanta coordination of vector equilibria, which may operate propagatively and coheringly in respect to any special-case event fix in energetically identifiable Universe.

981.21 The vector equilibrium always and only represents the first omnisymmetric embracement and nucleation of the first-self-discovered-by-otherness sphere by the completely self-embracing, twelvefold, isotropic, continuous otherness.

981.22 Sphere is prime awareness.

981.23 Spheric domain is prime volume.

981.24 Only self-discoverable spheric-system awareness generates all inwardness, outwardness, and aroundness dimensionality.

982.00 **Cubes, Tetrahedra, and Sphere Centers**

982.01 **Spheric Domain:** As the domain hierarchy chart shows (see "Concentric Domain Growth Rates," Sec. [955.40](#)), the inherent volume of one prime spheric domain, in relation to the other rational low order number geometric volumes, is exactly sixfold the smallest omnisymmetrical structural system polyhedron: the tetrahedron.

982.02 The spheric domain consists of 144 modules, while the tetrahedron consists of 24 modules. $24/144 = 1/6$.

982.03 The vector equilibrium consists of 480 modules. $24/480 = 1/20$.

982.04 Within the geometries thus defined, the volume of the cube = 3. The cube consists of 72 modules. $72/24 = 3/1$. The initial cube could not contain one sphere because the minimum spheric domain has a volume of six.

982.05 The initial generated minimum cube is defined by four 1/8th spheres occurring close-packingly and symmetrically only at four of the cube's eight corners; these four corners are congruent with the four corners of the prime tetrahedron, which is also the prime structural system of Universe.

982.06 We thus discover that the tetrahedron's six edges are congruent with the six lines connecting the four fractional spheres occurring at four of the eight alternate corners of the cube.

982.10 **Noncongruence of Cube and Sphere Centers:** The centers of cubes are not congruent with the sphere centers of the isotropic vector matrix. All the vectors of the isotropic vector matrix define all the centers of the omni-interconnections of self and otherness of omnicontinguously embracing othernesses around the concentrically regenerating, observing self sphere.

982.11 The vector equilibrium represents self's initial realization of self both outwardly and inwardly from the beginning of being between-ness.

982.12 The cube does occur regularly in the isotropic vector matrix, but none of the cubes has more than four of their eight corners occurring in the centers of spheres. The other four corners always occur at the volumetric centers of octahedra, while only the octahedra's and tetrahedra's vertexes always occur at the volumetric centers of spheres, which centers are all congruent with all the vertexes of the isotropic vector matrix. None of the always co-occurring cube's edges is congruent with the vectorial lines (edges) of the isotropic vector matrix. Thus we witness that while the cubes always and only co- occur in the eternal cosmic vector field and are symmetrically oriented within the field, none of the cubes' edge lines is ever congruent or rationally equatable with the most economical energetic vector formulating, which is always rational of low number or simplicity as manifest in chemistry. Wherefore humanity's adoption of the cube's edges as its dimensional coordinate frame of scientific-event reference gave it need to employ a family of irrational constants with which to translate its findings into its unrecognized isotropic-vector-matrix relationships, where all nature's events are most economically and rationally intercoordinated with omnixty-degree, one-, two-, three-, four-, and five- dimensional omnirational frequency modulatability.

982.13 The most economical force lines (geodesics) in Universe are those connecting the centers of closest-packed unit radius spheres. These geodesics interconnecting the closest-packed unit radius sphere centers constitute the vectors of the isotropic (everywhere the same) vector matrix. The instant cosmic Universe insinuatability of the isotropic vector matrix, with all its lines and angles identical, all and everywhere equiangularly triangulated—ergo, with omnistructural integrity but always everywhere structurally double- or hinge-bonded, ergo, everywhere nonredundant and force-fluid—is obviously the idealized eternal coordinate economy of nature that operates with such a human-mind-transcending elegance and bounty of omnirational, eternal, optional, freedom-producing resources as to accomplish the eternal regenerative integrity of comprehensively synergetic, nonsimultaneous Universe.

982.14 The edges of the tetrahedra and octahedra of the isotropic vector matrix are always congruent with one another and with all the vectors of the system's network of closest-packed unit radius spheres.

982.15 The whole hierarchy of rationally relative omnisymmetrical geometries' interdimensional definability is topologically oriented exactly in conformance with the ever cosmically idealizable isotropic vector matrix.

982.16 Though symmetrically coordinate with the isotropic vector matrix, none of the co-occurring cube's edges is congruent with the most economical energy-event lines of the isotropic vector matrix; that is, the cube is constantly askew to the most economic energy-control lines of the cosmic-event matrix.

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