1033.63 **Prefrequency and Initial Frequency Vector Equilibrium**

1033.631 The primitive tetrahedron has four planes of symmetry—i.e., is inherently four-dimensional. The cosmic hierarchy of relative tetravolumes (Sec. 982.62) is primitive, four-dimensional, and unfrequenced.

1033.632 The primitive micro vector equilibrium is inherently prefrequency and is a priori tetravolume 0. The primitive macro vector equilibrium is inherently prefrequency and is a priori tetravolume 20. We also have the primitive, prefrequency, nuclear vector equilibrium of 2 1/2 active and 2 1/2 passive phases, and the primitive, nucleated, closest- packed-about vector equilibrium of 20. The nucleated vector equilibrium of frequency^2 has a tetravolume of 160, arrived at as follows:

> 2-frequency volume inherently 8 × primitive inherent 2 l/2-ness of nuclear VE = 8 × 2 l/2 = 20
>
> 2-frequency volume inherently 8 x primitive inherent 20-ness of nucleated VE 2^3 = 8, 8 × 20 = 160
>
> $2^5 \times 5$, where the fifth dimension introduces time and size.

1033.633 Compare Section 1053.84 and Table 1053.849.

1033.64 **Eightness Dominance**

1033.641 The quanta involvement sum of the polar pairings of octahedra would be dominant because it consists of 12 Quarter-Octahedra (i.e., 12 - 8 = 4) = involvement dominance of four, whereas eight is the equilibrious totality vector of the 4|><|4: since the eightness is the interbalancing of four, the 12 - 8's excess four is an unbalanced four, which alone must be either the outside-out or the inside-out four; ergo, one that produces the maximum primitive imbalance whose asymmetric proclivity invites a transformation to rectify its asymmetry. (Compare Sec. 1006.40.)

1033.642 Thus the off-balance four invites the one quantum of six vectors released by the precessed octahedron's one-quantum "annihilation"—whose entropy cannot escape the Universe.

1033.643 The vector-equilibrious maximum nothingness becomes the spontaneous syntropic recipient of the energy quantum released from the annihilation phase of the transformation.

1033.65 **Convergent-divergent Limits**

1033.651 Vector equilibrium is never a shape. It is either a tetravolume 0 nothingness or a tetravolume 20 nothingness. The only difference between space nothingness and matter somethingness is vector equilibrium.

1033.652 Primitive, unfrequenced vector equilibrium is both the rationally interstaged, expansive-contractive, *minimum* 0, 1, 2, 3, 4, 5, 6 -> to 20 to *maximum* 0, as well as the cosmic-resonance occupant of the minimum and maximum event void existing between the primitive, systematic somethingnesses.

1033.653 The vector equilibrium has four inside-out and four outside-out self-intercancelation, *eight*-congruent, zerovolume tetrahedra, as well as *eight* centrally single- bonded tetrahedra of maximum zerovolume expansion: both invoke the cosmically intolerable vacuum voids of macro-micro-nothingness essential to the spontaneous capture of one quantum's six vectors, which—in the VE's maxi-state—structurally contracts the VE's 20-ness of spatial Universe nothingness into the 20-ness of icosahedral somethingness, just as the octa-annihilated quantum provides the always-eight-in-one, outside-out tetrahedron to fill the inside-out "black hole" tetravoid.

1033.654

	Symmetrical Tetra:		*Asymmetrical Tetra:*
VE:	8	(+12=)	20
Icosa:	|><|		20

1033.655 In the octahedron as the maximum conservation and quantum-annihilability model of substance (Sec. 935) the precessing vector edge of the entropic octahedron drops out 1 tetra; 1 tetra = 6 vectors = 1 quantum of energy which—as the entropically random element of radiation's nonformedness—may be effortlessly reformed by reentering the vector equilibrium to produce the icosahedron and thus to form new substance or matter.

1033.656 The vector equilibrium has 24 external vector edges: inserting the quantum set of six more makes 30 external edges whose omniintertriangulation resolves as the 30- edged icosahedron. The six added edges are inserted as contractive diagonals of the six square faces of the vector equilibrium . The contracted 30 edges = 5 energy quanta. Icosahedron = tetravolume-5 . Icosahedron is the least dense of all matter.

1033.657 As we approach absolute zero, taking all the energy out of the system,[5] the chemical elements of which the apparatus parts consist each have unique atomic-frequency temperatures that are inherently different. This is evident to anyone who, within the same room temperature, has in swift succession touched glass, plastic, leather, or whatever it might be. Therefore, as in cryogenics we approach absolute zero (for the whole system's average temperature), the temperature of some of the elemental components of the experiment go through to the other side of zero, while others stay on this side—with the whole aggregate averaging just short of right on absolute zero. As a consequence of some components going through to the other side of zero, some of the most extraordinary things happen, such as liquids flowing in antigravity directions. This is the inside-out Universe.

(Footnote 5: See Secs. 205.02, 251.02, 427.01, and 443.02.)

1033.658 When the "black hole" phenomenon is coupled with the absolute-zero phenomenon, they represent the special-case manifests of synergetics' macro-micro- generalization extremes—i.e., both mini-maxi, zero-nothingness phases, respectively.

1033.659 Here are both the macro- and micro-divergence-convergence-limits in which the four-dimensional transformative and conversion behaviors are quite different from the non-scientifically-demonstrable concept of arbitrary cutoffs of exclusively one-dimensional infinity unlimits of linear phenomena. The speed of four-dimensional light in vacuo terminates at the divergent limit. The gravitational integrity of inside-out Reverse Universe becomes convergently operative at the macrodivergence limits.

1033.66 **Terminal Reversings of Evolution and Involution**

1033.661 In selecting synergetics' communication tools we avoid such an unresolvable parallel-linear word as *equals.* Because there are neither positive nor negative values that add or detract from Universe, synergetics' communication also avoids the words *plus* and *minus.* We refer to *active and passive* phases. Parallel equivalence has no role in an alternatively convergent-divergent Universe. *Inflection* is also a meaningless two- dimensional linear word representing only a shadow profile of a tetrahelical wave.

1033.662 In four-dimensional conversion from convergence to divergence—and vice versa—the terminal changing reverses evolution into involution—and vice versa. Involution occurs at the system limits of expansive intertransformability. Evolution occurs at the convergent limits of system contraction.

1033.663 The macro-micro-nothingness conversion phases embrace both the maximum-system-complexity arrangements and the minimum-system-simplicity arrangements of the constant set of primitive characteristics of any and all primitive systems. A single special case system embraces both the internal and external affairs of the single atom. A plurality of special case systems and a plurality of special case atoms may associate or disassociate following the generalized interrelationship laws of chemical bonding as well as of both electromagnetics and mass-interattractiveness.

1033.664 Primitive is what you conceptualize sizelessly without words. Primitive has nothing to do with Russian or English or any special case language. My original 4-D convergent-divergent vector equilibrium conceptualizing of 1927-28[6] was primitive |><| Bow Tie: the symbol of intertransformative equivalence as well as of complementarity:

convergence |><| divergence
|><| Also the symbol of syntropy-entropy,
and of wave and octave,
-4, -3, -2, -1,
+1, +2, +3, +4

1033.665 Minimum frequency = two cycles = 2 × 360°.

Two cycles = 720° = 1 tetra = 1 quantum of energy.
Tetrahedron is the minimum unity-two experience.

1033.666 The center or nuclear sphere always has two polar axes of spin independent of surface forming or intertransforming. This is the "plus two" of the spheric shell growth around the nucleus. $NF^2 + 2$, wherefore in four primitive cosmic structural systems:

Tetra =	$2F^2 + 2$		1
Octa =	$4F^2 + 2$		2
		$2 + 2$	F^2
Duo-tet Cube =	$6F^2 + 2$		3
Icosa =	$10F^2 + 2$		5

1033.70 **Geometrical 20-ness and 24-ness of Vector Equilibrium**

1033.701 The maximum somethingness of the VE's 20-ness does not fill allspace, but the 24-tetravolume Duo-tet Cube (short name for the double-tetrahedron cube) does fill allspace; while the tetravolume-4-ness of the exterior octahedron (with its always-potential one-quantum annihilability) accommodates and completes the finite energy-packing inventory of discontinuous episodic Physical Scenario Universe.

1033.702 The three interior octahedra are also annihilable, since they vanish as the VE's 20-ness contracts symmetrically to the quadrivalent octahedron jitterbug stage of tetravolume 4: an additive 4-tetravolume octahedron has vanished as four of the VE's eight tetrahedra (four inside-out, four outside-out) also vanish, thereby demonstrating a quanta-annihilation accomplished without impairment of either the independent motion of the system's axial twoness or its convergent-divergent, omniconcentric symmetry.

1033.703 The four of the 24-ness of the Duo-tet Cube (which is an f^2 cube: the double tetrahedron) accounts for the systemic four-dimensional planes of four-dimensional symmetry as well as for the ever-regenerative particle fourness of the quark phenomena characterizing all high-energy-system-bombardment fractionability.

1033.704 $24 \times 4 = 96$. But the number of the self-regenerative chemical elements is 92. What is missing between the VE 92 and the f^2 Duo-tet Cube's 96 is the fourness of the octahedron's function in the annihilation of energy: $92 + 4 = 24 \times 4 = 96$. The four is the disappearing octa set. The 24 is the second-power 24 unique indig turnabout increment. (See Fig. 1223.12.)

1033.71 We have three expendable interior octa and one expendable exterior octa. This fact accommodates and accounts both the internal and external somethingness-to- nothingness annihilations terminally occurring between the $1 \rightarrow 20 \rightarrow 1 \rightarrow 20$ at the macroinvolution and microevolution initiating nothingness phases, between which the total outside-out $1 \rightarrow 20$ quanta and the total inside-out $20 \rightarrow 1$ quanta intertransformabilities occur.

1033.72 The final jitterbug convergence to quadrivalent tetravolume-1 outside-out and tetravolume-1 inside-out is separated by the minimum-nothingness phases. This final conversion is accomplished only by torquing the system axis to contract it to the nothingness phase between the three-petal, triangular, inside-out and outside-out phases. (See Secs. 462.02, 464.01 and 464.02.)

1033.73 **The Quantum Leap:** Between the maximum nothingness and the minimum nothingness we witness altogether five stages of the 4-tetravolume octa vanishment in the convergent phase and five such 4-tetravolume octa growth leaps in the divergent phase. These five—together with the interior and exterior octa constitute seven octa leaps of four quanta each. The f^2 of the inherent multiplicative two of all systems provides the *eighth fourness: the* quantum leap. (Compare Sec. 1013.60.)

1033.74 It requires 24-ness for the consideration of the total atomic behavior because the vector equilibrium is not allspace-fillingly complete in itself. It requires the exterior, inside-out, invisible-phase, eightway-fractionated, transformable octahedron superimposed on the VE's eight equiangular, triangular faces to complete the allspace-filling, two- frequency Duo-tet Cube's eight symmetrically arrayed and most-economically interconnected corners' domain involvement of 24 tetravolumes.

1033.741 The VE's involvement domain of 24 symmetrical, allspace-filling tetravolumes represents only one of the two alternate intertransformation domains of closest-packed, unit-radius spheres transforming into spaces and spaces intertransforming into spheres: ergo, it requires 48-tetravolumes to accommodate this phenomenon. To allow for each of these 48-tetravolume domains to accommodate their respective active and passive phases, it requires 96-tetravolumes. F^2 tetravoluming, which is as yet primitive, introduces an allspace-filling, symmetrical cube of 192-tetravolumes as an essential theater of omniatomic primitive interarrayings.

1033.75 The total primitively nucleated Duo-tet Cube's double-tetra unique increment of allspace filling is that which uniquely embraces the whole family of local Universe's. nuclearly primitive intertransformabilities ranging through the 24 → 1 and the 1 → 24 cosmic hierarchy of rational and symmetrical "click-stop" holding patterns or minimum-effort self-stabilization states.

1033.76 The Duo-tet Cube (the maxicube) occurring between micronothingness and macronothingness shows how Universe intertransformably accommodates its entropic- syntropic energy-quanta exportings and importings within the two-frequency, allspace- filling minireality of special-case Universe. Thus the entropic-syntropic, special-case Physical Universe proves to be demonstrable within even the most allspace-crowding condition of the VE's maximum-something 20-ness and its exterior octahedron's even- more-than-maximum-something 4-tetravolume nothingness.

1033.77 This 24-ness is also a requisite of three number behavior requirements as disclosed in the min-max variabilities of octave harmonics in tetrahedral and VE cumulative closest-packing agglomerations at holistic shell levels as well as in all second- powering "surface" shell growths, as shown in three different columns in Fig. 1223.12.

1033.80 **Possible Atomic Functions in Vector Equilibrium Jitterbug**

1033.81 There can be nothing more primitively minivolumetric and omnisymmetrically nucleatable than 12 unit-radius spheres closest packed around one such sphere, altogether conformed as the vector equilibrium as produced in multiplication only by division. We can multiply our consideration by endlessly dividing larger into smaller and smaller, ever more highly frequenced, closest-packed spheres. Conversely, the icosahedron is the configuration of nonnucleated, omnisymmetric, unit-radius spheres closest packed circumferentially around a central space inadequate to accommodate one such unit-radius sphere. The icosahedron may be identified as the miniconfiguration of the electron function as well as the second most volumetric, initial, convergent-divergent transformation, with only the vector equilibrium being greater.

1033.82 The 20 triangular faces of the icosahedron may be considered as 10 pairs of regular tetrahedra interpenetrating as internal vertexes. The energetic functions of these 10 pairs (as described in Secs. 464 and 465) are a four-dimensional evolution like the triangles rotating in the cube, generating the double tetrahedra in the process. But according to synergetics' topological accounting it is necessary to extract one pair of double tetrahedra for the axis of spin: this leaves eight pairs of double tetra. 10—2=8 is the same fundamental octave eightness as the eight Eighth-Octahedra that convert the eight triangular corners of the VE to the involvement domain of the nucleated cube.

1033.83 At the outset of the VE jitterbug evolution there are two polar vertical-axis triangles—if the top one points away from you, the bottom one on the table points toward you. Without itself rotating, this active-passive, triangularly poled, vertical axis permits the jitterbug evolution to rotate its equatorial components either clockwise or counterclockwise, providing for the production of two different icosahedra—an active pair and a passive pair. But since there are four VE axes that can be jitterbugged in the same manner, then there are potentially eight different icosahedra to be generated from any one vector equilibrium.

1033.84 It could be that the eight paired tetrahedra are the positrons while the eight icosahedra are the electrons. Comprehension involves all four axes available.

1033.90 **Spheres and Spaces**

1033.91 How can an object move through water, which is a noncompressible substance? It does so by the intertransformability of spheres becoming spaces and spaces becoming spheres. (See Sec. 1032.) This is one of the ways in which the octahedron annihilation works in allspace-filling accommodation of local transformative events. The vector equilibrium and the eight Eighth-Octahedra on the triangular facets combine to produce the primitively nucleated cube.

1033.92 The octahedron annihilation model is uniformly fractionated and redeployed eight ways to function structurally as eight asymmetric tetrahedra at the eight corners of the vector equilibrium in an intertransformable manner analogous to the one-quantum- annihilating octahedron which—in Eighth-Octahedra increments—complements the 0 → 24-tetravolume vector equilibrium furnished with eight corners.

1040.00 **Seven Axes of Symmetry**

1041.00 **Superficial Poles of Internal Axes**

1041.01 There are only three topological axes of crystallography. They are:

Spin of diametrically opposite vertexes

Spin of diametrically opposite mid-edges = Three topological types of axes

Spin of diametrically opposite centers of face ares

1041.10 **Seven Axes of Truncated Tetrahedron**

1041.11 The prime generation of the seven axes of symmetry are the seven unique perpendiculars to the faces of the seven possible truncations of the tetrahedron:

4 original faces

4 triangular truncated vertexes

6 quadrilateral truncated edges

---

14 faces of the truncated tetrahedron, which produce seven unique pairs of parallel faces whose axes, perpendicular to their respective centers of area, generate the seven axes of symmetry. (See Secs. 100.103-.05 and Fig. 1041.11.)

1041.12 The seven unique axes of the three unique sets (4 + 4 + 6) producing the 14 planes of the truncated tetrahedron are also identifiable with:

— the 14 planes that bound and enclosingly separate all biological cells;

— the 14 facets interbonding all bubbles in the bubble complexes; and

— the 25 and 31 unique planes generated by the seven sets of foldable great circles, which are the only such foldably unbroken sets (i.e., the 3, 4, 6, and 12 sets of the vector equilibrium and the 6, 10, and 15 sets of the icosahedron).

1041.13 Various high frequencies of modular subdividings of the tetrahedron produce a variety of asymmetrical truncatabilities of the tetrahedron. The dynamics of symmetry may employ any seven sets of the 56 foldable-greatcircle variations of planar orientation. Thus it follows that both the biological cell arrays and the bubble arrays display vast varieties of asymmetries in their 14 enclosing planes, so much so that this set of interidentifiability with the 14 topological characteristics of the tetrahedron, the prime structural system of Universe, has gone unnoticed until now. (See Sec. 1025.14)

1042.00 **Seven Axes of Symmetry**

1042.01 Whatever subdivisions we may make of the tetrahedra, octahedra, and icosahedra, as long as there is cutting on the axes of symmetry, the components always come apart in whole rational numbers, for this is the way in which nature chops herself up.

1042.02 The four sets of unique axes of symmetry of the vector equilibrium, that is, the 12 vertexes with six axes; the 24 mid-edges with 12 axes; and the two different centers of area (a) the eight centers of the eight triangular areas with four axes, and (b) the six centers of the six square areas with three axes—25 axes in all—generate the 25 great circles of the vector equilibrium. These are the first four of the only seven cosmically unique axes of symmetry. All the great circles of rotation of all four of these seven different cosmic axes of symmetry which occur in the vector equilibrium go through all the same 12 vertexes of the vector equilibrium (see Sec. 450).

1042.03 The set of 15 great circles of rotation of the 30 mid-edge-polared axes of the icosahedron, and the set of 10 great circles of rotation of the icosahedron's mid-faces, total 25, which 25 altogether constitute two of the three other cosmic axes of symmetry of the seven-in-all axes of symmetry that go through the 12 vertexes of the icosahedron, which 12 represent the askewedly unique icosahedral rearrangement of the 12 spheres of the vector equilibrium. Only the set of the seventh axis of symmetry, i.e., the 12-vertex- polared set of the icosahedron, go through neither the 12 vertexes of the icosahedron's 12 corner sphere arrangement nor the 12 of the vector equilibrium phase 12-ball arrangement. The set of three axes (that is 12 vertexes, 30 mid-edges, and 20 centers of area) of the icosahedron produce three sets of the total of seven axes of symmetry. They generate the 25 twelve-icosa-vertex-transiting great circles and the six nontransiting great circles for a total of the 31 great circles of the icosahedron. These are the last three of the seven axes of symmetry.

1042.04 We note that the set of four unique axes of symmetry of the vector equilibrium and the fifth and sixth sets of axes of the icosahedron all go through the 12 vertexes representing the 12 spheres either (a) closest-packed around a nuclear sphere in the vector equilibrium, or (b) in their rearrangement without a nuclear sphere in the icosahedron. The six sets of unique cosmic symmetry transit these 12 spherical center corner vertexes of the vector equilibrium and icosahedron; four when the tangential switches of the energy railway tracks of Universe are closed to accommodate that Universe traveling; and two sets of symmetry when the switches are open and the traveling must be confined to cycling the same local icosahedron sphere. This leaves only the seventh symmetry as the one never going through any of those 12 possible sphere-to- sphere tangency railway bridges and can only accommodate local recycling or orbiting of the icosahedron sphere.

1042.05 The seven unique cosmic axes of symmetry describe all of crystallography. They describe the all and only great circles foldable into bow ties, which may be reassembled to produce the seven, great-circle, spherical sets (see Secs. 455 and 457).

Vector Equilibrium	*Axes of Symmetry*	
(squares) 3	#1	
(triangles) 4	#2	
(vertexes) 6	#3	
(midedges) 12	#4	

25*		all go through the same 12 vertexes of vector equilibrium and icosahedron
Icosahedron		
(faces) 10	#5	
25*		
(midedges) 15	#6	
(vertexes) 6	#7	

31		

25
31

56

1043.00 **Transformative Spherical Triangle Grid System**

1043.01 All the great circles of all the seven axes of symmetry together with all great- circle-trajectory interactions can be reflectively confined and trigonometrically equated with only one of the icosahedral system's 120 similar right-spherical triangles (of 90, 60, and 36 degrees, in contradistinction to the right-planar triangle of 90-, 60-, and 30-degree corners). (See Sec. 905.60.) The rational spherical excess of six degrees (of the icosahedron's 120—60 plus and 60 minus—similar tetrahedral components) is symmetrically distributed to each of the three central and three surface angles of each of the 120 tetrahedral components of the spherical icosahedron.

1043.02 This sixness phenomenon tantalizingly suggests its being the same transformative sixness as that which is manifest in the cosmically constant sixfoldedness of vectors of all the topological accountings (see Secs. 621.10 and 721); and in the sixness of equieconomical alternative degrees of freedom inherent in every event (see Sec. 537.10); as well as in the minimum of six unique interrelationships always extant between the minimum of four "star events" requisite to the definitive differentiation of a conceptual and thinkable system from out of the nonunitarily conceptual but inherently finite Universe, because of the latter's being the aggregate of locally finite, conceptually differentiable, minimum-system events (see Secs. 510 and 1051.20).

1044.00 **Minimum Topological Aspects**

[1044.00-1044.13 Minimum Topology Scenario]

1044.01 **Euler + Synergetics:** The first three topological aspects of all minimum systems—vertexes, faces, and edges—were employed by Euler in his formula V + F = E + 2. (See Table 223.64 and Sec. 505.10.) Since synergetics' geometry embraces nuclear and angular topology, it adds four more minimum aspects to Euler's inventory of three:

vertexes	
faces	EULER
edges	
angles	
insideness & outsideness	SYNERGETICS
convexity & concavity	
axis of spin	

1044.02 Euler discovered and developed the principle of modern engineering's structural analysis. He recognized that whereas all statically considered objects have a center of gravity, all dynamically considered structural components of buildings and machinery—no matter how symmetrically or asymmetrically conformed— always have a uniquely identifiable *neutral axis of gyration.* Euler did not think of his topology as either static or dynamic but as a mathematically permitted abstraction that allowed him to consider only the constant relative abundance of vertexes, faces, and edges isolated within a local area of a nonsystem. (The local consideration of the constant relative abundance of vertexes, faces, and edges applies to polyhedra as well as to cored- through polyhedra.)

1044.03 Euler's analysis failed to achieve the generalization of angles (whose convergence identified his corners), the complementary insideness and outsideness, and the convexity-concavity of all conceptual experience. Being content to play his mathematical game on an unidentified surface, he failed to conceive of systems as the initial, all-Universe separators into the tunably relevant, topologically considered set. Euler's less-than-system abstraction also occasioned his failure to identify the spin axis of any and all systems with his axis of gyration of physical objects; thus he also failed to realize that the subtraction of two vertexes from all systems for assignment as polar vertexes of the spin axis was a failure that would necessitate the "plus two" of his formula V + F = E + 2.

1044.04 Any and all conceptuality and any and all think-about-ability is inherently systemic (see Secs. 905.01-02). Systemic conceptuality and think-about-ability are always consequent only to consideration. Consideration means bringing stars together so that each star may be then considered integrally as unity or as an infrasystem complex of smaller systems.

1044.05 A system consists at minimum of four star events (vertexes) with four nothingness window facets and six lines of unique four-star interrelationships. As in synergetics' 14 truncation faces, Euler's three aspects result in 14 cases:

4 vertexes + 4 faces + 6 edges = 14 cases.

1044.06 Synergetics further augments Euler's inventory of three topological aspects (14 cases) with six additional and primitively constant topological aspects:

- *4th aspect* (12 cases): the 12 unique, trigonometrically integral, intercovariant vertex angles of the minimum system.

- *5th aspect* (two cases): ultravisible macrocosmic rest-of-Universe outsideness and infravisible rest-of-Universe insideness separated by the considered system; the insideness is all the integral otherness, and the outsideness is the as-yet-unconsidered irrelevance otherness.

- *6th aspect* (two cases): the multiplicative twoness of the divergent convexity and convergent concavity; there are two manifestations of *multiplicative twoness*, (a) and (b) (see Secs. 223.05-09), both of which make unity plural and at minimum two: (a) the always and only inseparable and co-occurring concavity and convexity of all systems, and (b) the always and only inseparable convergence to and divergence from system center.

— *7th aspect* (two cases): the additive twoness of the two vertexes always extracted from the system's total inventory of vertexes to serve as the poles of the system's neutral axis of spin.

— *8th aspect:* the sum of the angles externally surrounding the vertexes of any system will always equal 720 degrees less than the number of external vertexes of the system multiplied by 360 degrees.

— *9th aspect:* the sum of the angles around all the external vertexes of any system will always be evenly divided by 720 degrees, which is the angular description of one tetrahedron.

1044.07 The total of nine minimum topological aspects consists of three from Euler (14 cases) plus synergetics' inventory of six additional aspects, with 12 angular cases and six nuclear cases for a total of 18 synergetics cases. The 14 Euler cases and the 18 synergetics cases provide a total of 32 minimum topological cases.

1044.08 Topological analysis permits the generalization of all structuring in Universe as systemic.

1044.09 What we speak of as substance—a planet, water, steam, a cloud, a speck, or a pile of dust—always has both insideness and outsideness. A substance is a single system or a complex of neighboring interbonded or critical-proximity systems. Substances have inherent insideness "volumes."

1044.10 An Earthian observer can point in a describable compass direction and a describable angle of elevation toward the location in the sky where the contrails of two differently directioned jet air transports traveling at different altitudes appear to him to cross one another. Because they are flown at different altitudes, the "to-him" crossing does not mean that they touch one another; it is simply a moment when their two separate trajectories are nearest to one another. What the observer points to is a "nearest-to-one- another" moment. The observer points to an interrelationship event, which is not part of either contrail considered only by itself. This directionally identifiable interrelationship event is known as a "fix." (See Sec. 532.02.)

1044.11 The four corner fixes of an environmental tetrahedron may be pointed toward with adequate communicability to visually inform others of a specific tetrahedral presence. This is accomplished as follows: Two sky fixes must have a most economical linear interrelatedness but no insideness. Three sky fixes define a triangle between whose three edge-defining, interrelationship lines is described a plane that has no altitude—ergo, no insideness. Then the triangle described by the three sky fixes plus the position of the observer on the ground altogether describe the four corners of a tetrahedron that has six lines of observably inductable interrelatedness defining four triangular planes that observably divide all Universe into the included insideness and the excluded outsideness.

1044.12 One fix does not have insideness. Two fixes define a no-insideness linear relationship. Three fixes define a no-insideness plane. Four fixes define an insideness- including and outsideness-excluding tetrahedron, which is the minimum cosmic system and which cannot have less than 32 unique and differentially describably generalized cases of the nine irreducible-in-number unique topological aspects of the minimum system, but which in special frequenced cases may have more.

1044.13 Although not enumerated topologically (because unconsidered and because nonsimultaneously considerable) there are—in addition to the nine aspects and 32 cases— two additional ultimate conceptual aspects of the complementary macro- and microremainder of the physical Universe: all the as-yet-undiscovered—ergo, unconsidered—special cases as an epistemographic complementary to all the as-yet- undiscovered—ergo, unconsidered—generalized principles.

Next Section: 1050.00
