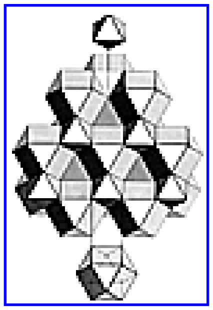
[Fig. 1032.30](#)

1032.30 **Complementary Allspace Filling of Octahedra and Vector Equilibria:** The closest packing of concave octahedra, concave vector equilibria, and spherical vector equilibria corresponds exactly to the allspace filling of planar octahedra and planar vector equilibria (see Sec. 470). Approximately half of the planar vector equilibria become concave, and the other half become spherical. All of the planar octahedra become concave (see Illus. 1032.30).

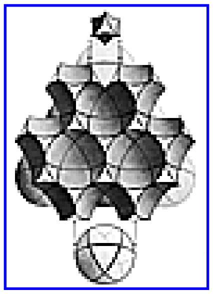
Fig. 1032.31

1032.31 Concave octahedra and concave vector equilibria close-pack together to define the voids of an array of closest-packed spheres which, in conjunction with the spherical vector equilibria, fill allspace. This array suggests how energy trajectories may be routed over great-circle geodesic arcs from one sphere to another, always passing only through the vertexes of the array—which are the 12 external vertexes of the vector equilibria and the only points where the closest-packed, uniradius spheres touch each other (see Illus. 1032.31).

1033.00 **Intertransformability Models and Limits**

[1033.00-1033.92 Involvement Field Scenario]

1033.010 **Generation of the Involvement Field in Which Synergetics Integrates Topology, Electromagnetics, Chemistry and Cosmology**

1033.011 Commencing with the experimentally demonstrated proof that the tetrahedron is the minimum structural system of Universe (i.e., the vectorially and angularly self-stabilizing minimum polyhedron consisting of four minimum polygons in omnisymmetrical array), we then discover that each of the four vertices of the tetrahedron is subtended by four "faces," or empty triangular windows. The four vertices have proven to be only whole-range tunable and point-to-able noise or "darkness" centers—which are primitive (i.e., as yet frequency-blurred), systemic somethings (see Secs. 505.65, 527.711, and 1012.33) having six unique angularly intersightable lines of interrelationship whose both-ends-interconnected six lines produce four triangular windows, out through which each of the four system-defining somethings gains four separate views of the same omninothingness of as-yet-untuned-in Universe. As subtunable systems, points

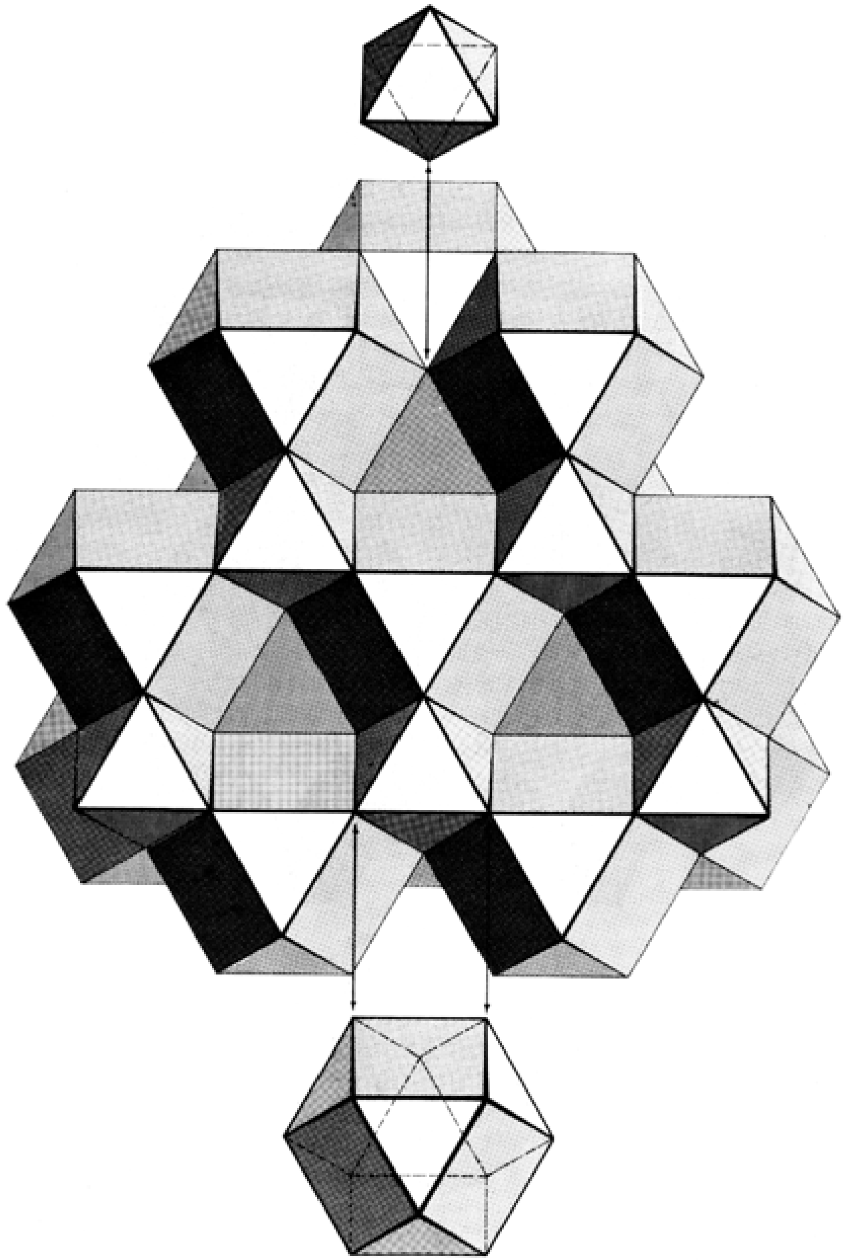

Fig. 1032.30 Space Filling of Octahedron and Vector Equilibrium: The packing of concave octahedra, concave vector equilibria, and spherical vector equilibria corresponds exactly to the space filling of planar octahedra and planar vector equilibria. Exactly half of the planar vector equilibria become convex; the other half and all of the planar octahedra become concave.

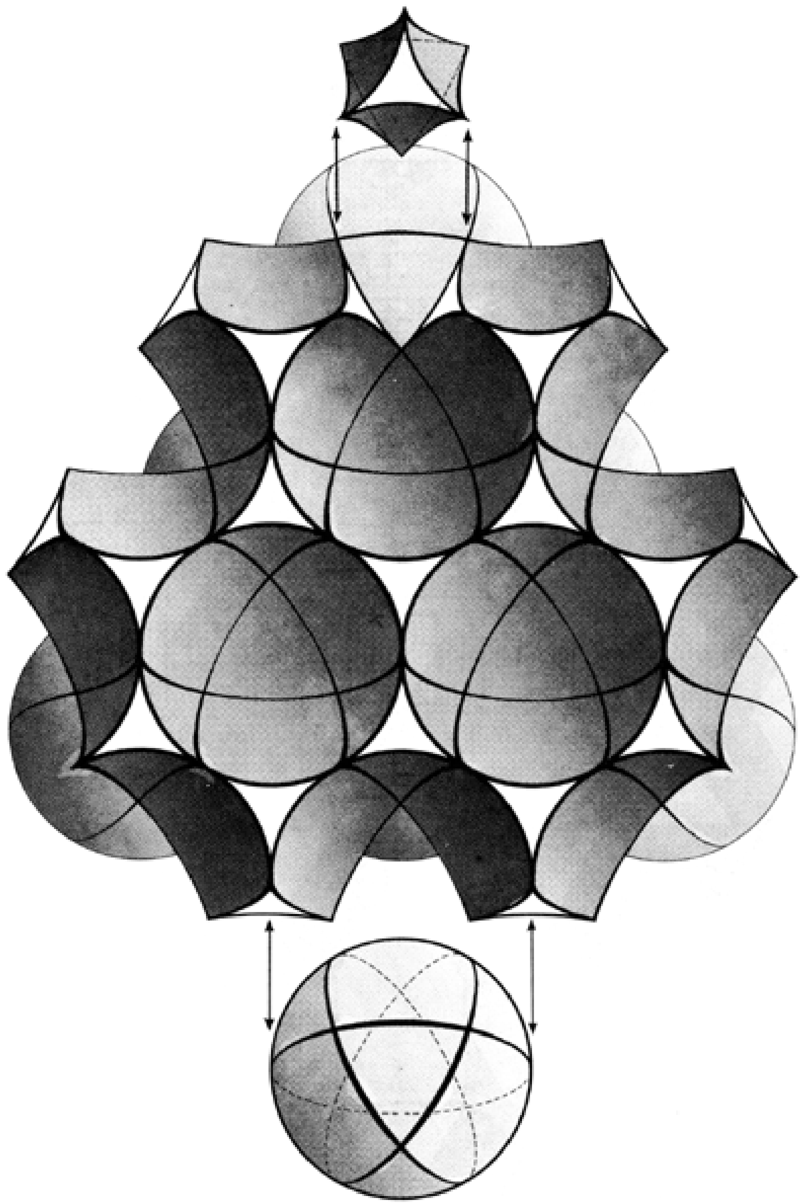

Fig. 1032.31 Concave Octahedra and Concave Vector Equilibria Define Spherical Voids and Energy Trajectories: "Concave octahedra" and "concave vector equilibria" pack together to define the voids of an array of close-packed spheres which in conjunction with the convex spherical vector equilibria fill allspace. This array suggests how energy trajectories may be distributed through great-circle geodesic arcs from one sphere to another always passing through the vertexes of the array, which are the vertexes of the vector equilibria and the points where the spheres touch each other.

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are substances, somethings ergo, we have in the tetrahedron four somethings symmetrically arrayed against four nothingnesses. (Four INS versus four OUTS.)

1033.012 The four somethingnesses are mass-interattractively interrelated by six interrelationship tensors—each tensor having two other interconnected tensor restraints preventing one another and their four respective vertexial somethings from leaving the system. Like a three-rubber-banded slingshot, each of the four sets of three restraining, but in fact vertexially convergent, tensors not only restrains but also constrains their respective four *somethings* to plunge aimedly into-through-and-out their respectively subtended triangular windows, into the unresisting nothingness, and penetrating that nothingness until the stretchable limit of the three tensors is reached, whereat they will be strained into reversing the direction of impelment of their vertexial somethings. Thus we discovered the tetrahedron's inherent proclivity to repeatedly turn itself inside out, and then outside-out, and reverse. Thus the tetrahedron has the means to convert its tuned-in-ness to its turned- out-and-tuned-outness, which inherently produces the frequencies of the particular discontinuities of electromagnetic Universe.

1033.013 Because there are four symmetrically arrayed sets of nothingnesses subtending four somethings, there are four ways in which every minimum structural system in Universe may be turned inside out. Ergo, every tetrahedron is inherently eight tetrahedra, four outside-out and four inside-out: the octave system.

1033.014 We deliberately avoid the terms positive and negative and—consistent with experience—may use the words *active* and *passive* respectively for outside-out and inside- out. Active means "now in use"; passive means "not in use now."

1033.015 Since the somethings are the INS and the nothingness is OUT, outside-out and inside-out are experientially meaningful. There are inherently a plurality of different nothingness OUTS consisting of all the potential macro- and microranges of "presently untuned-in" systemic frequencies.

1033.016 Experientiality, which is always in time, begins with an observer and an observed—i.e., two somethings, two INdividuals—with the observed other individual only differentially perceivable against the omninothingness, the presently untuned-IN, ergo OUT. (The observer and the otherness may be integral, as in the complex individual—the child's hand discovering the otherness of its own foot, or the tongue-sense discovering the taste of the tactile-sensing thumb, or the outside thumb discovering the insideness of the mouth.)

1033.017 We have elsewhere reviewed the progressive tangential agglomeration of other "spherical" somethings with the otherness observer's spherical something (Secs. 411.01-08) and their four-dimensional symmetry's systemic intermotion blocking and resultant system's interlockage, which locking and blocking imposes total system integrity and permits whole-system-integrated rotation, orbiting, and interlinkage with other system integrities.

1033.018 Since we learned by experimental proof that our four-dimensional symmetry accommodates three axial freedoms of rotation motion (see the Triangular-cammed, In- out-and-around, Jitterbug Model, Sec. 465), while also permitting us to restrain[3] one of the four axes of perpendicularity to the four planes, i.e., of the INS most economically— or perpendicularly—approaching the tensor relationship's angularly planed and framed views through to the nothingness, we find that we may make a realistic model of the omniinvolvement field of all eight phases of the tetrahedron's self-intertransformability.

(Footnote 3: "Restrain" does not mean motionless or "cosmically at rest." Restrain does mean "with the axis locked into congruent motion of another system." Compare a system holding in relative restraint one axis of a four-axis wheel model.)

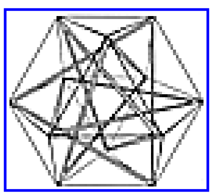
Fig. 1033.019

1033.019 The involvement field also manifests the exclusively unique and inviolable fourfold symmetry of the tetrahedron (see Cheese Tetrahedron, Sec. 623), which permits us always to move symmetrically and convergently each—and inadvertently any or all—of the four triangular window frames perpendicularly toward their four subtending somethingness-converging-point-to-able IN foci, until all four planes pass through the same threshold between INness and OUTness, producing one congruent, zerovolume tetrahedron. The four inherent planes of the four tensegrity triangles of Anthony Pugh's model[4]* demonstrate the nothingness of their four planes, permitting their timeless—i.e., untuned—nothingness congruence. (See Fig. 1033.019.) The tuned-in, somethingness lines of the mathematician, with their inherent self-interferences, would never permit a plurality of such lines to pass through the same somethingness points at the same time (see Sec. 517).

(Footnote 4: This is what Pugh calls his "circlit pattern tensegrity," described on pages 19-22 of his *An Introduction to Tensegrity* (Berkeley: University of California Press, 1976.)

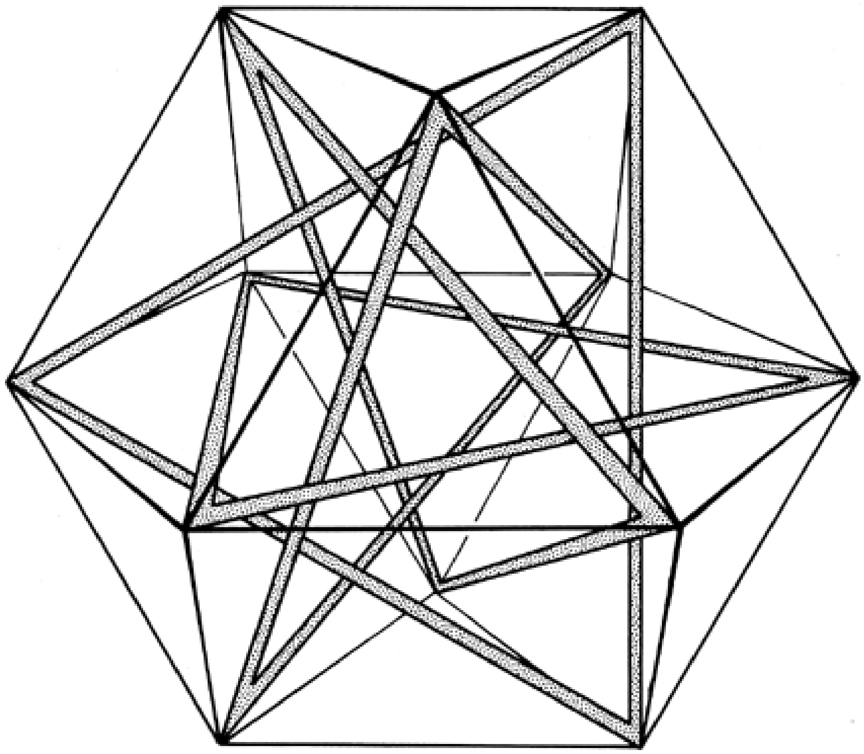

Fig. 1033.019 Circuit Pattern Tensegrity: In Anthony Pugh's model 12 struts form four interlocking but nontouching triangular circuits. The plane of each triangle of struts bisects the vector equilibrium which its vertexes define. Each triangle of struts is inscribed within a hexagonal circuit of tensors.

1033.020 **Four-triangular-circuits Tensegrity:** The four-triangular-circuits tensegrity relates to the four great circles of the vector equilibrium. The four great circles of the vector equilibrium are generated by the four axes of vector equilibrium's eight triangular faces. Each of the four interlocking triangles is inscribed within a hexagonal circuit of vectors—of four intersecting hexagonal planes of the vector equilibrium. These tensegrity circuits relate to the empty tetrahedron at its center. (See Secs. 441.021, 938.12, and 1053.804.)

1033.021 Our omniinvolvement tetrahedral-intertransformability, isotropic-vector- matrix-field of any given relative frequency can accommodate both the tetrahedron's most complexedly expansive-divergent domain and its most convergence-to-untuned- nothingness identification, while also maintaining the integrity of its inherent isolatability from both all otherness and all nothingness.

1033.022 The involvement field also identifies the unique cosmically inviolate environment domain of convergent-divergent symmetrical nuclear systems, i.e., the vector equilibrium's unique domain provided by one "external" octahedron (see Sec. 415.17), which may be modeled most symmetrically by the 4-tetravolume octahedron's symmetrical subdivision into its eight similar asymmetric tetrahedra consisting of three 90-degree angles, three 60-degree angles, and six 45-degree angles, whose 60-degree triangular faces have been addressed to each of the vector equilibrium's eight outermost triangular windows of each of the eight tetrahedra of the 20-tetravolume vector equilibrium.

1033.023 Any one triangular plane formed by any three of the vertexial somethings' interrelationship lines, of any one omnitriangulated tetrahedral system, of any isotropic vector matrix grid, can move in only four-degrees-of-freedom directions always to reach to-or-fro limits of vertexial convergences, which convergences are always zerovolume.

Next Section: 1033.030