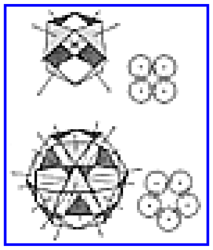
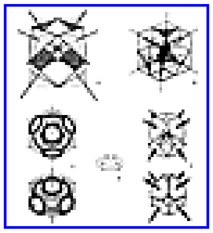
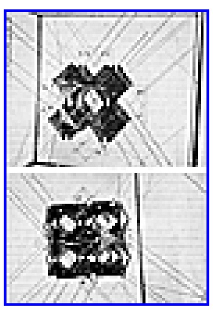

[Fig. 465.00](#)

465.00 **Rotation of Four Axes of Vector Equilibrium: Triangles, Wheels, and Cams**


[Fig. 465.01](#)

465.01 We can have a vector equilibrium model made out of a tubular steel frame with each of the eight triangular faces connected by four axes with a journal to slide on the shafts and with each of the rods being perpendicular to two of the eight triangular faces. This is a four-dimensional, four-axis system. Just as a regular tetrahedron has four unique faces, so there are four unique perpendiculars to them, making a four-dimensional system.

465.02 We can put a little rivet through the centers of area of the eight triangles, and we can let the brass rod run through the journals and slide on a wire. We can tie the corners of the triangles together with nylon threads. If we spin the model rapidly on one of the axes, all the triangles slide outwardly to form the vector equilibrium. If next we touch a finger or a pencil to any midface of one triangle in the spinning system, the whole system will contract symmelrically until it becomes an octahedron. But when we take the finger or pencil off again, centrifugal force will automatically open up the system to the vector- equilibrium condition again. The oscillating motion makes this an expanding and contracting system.


[Fig. 465.03](#)

465.03 We see that every one of the triangles in the vector equilibrium can shuttle back and forth, so that all the edges of the cube would be arced outwardly with pairs of arcing triangle corners shuttling in opposite directions by each other. With a swiftly oscillating system and a pulsating spherical expansion-contraction going on everywhere locally, the whole system becomes an optically pulsating sphere. We find that each one of the little triangles rotates as if it were swelling locally. Each one of their vertexes brings about a further spherical condition, so that in the whole system, all the wires locally bend outwardly temporarily to accommodate the whole motion. We may now put together a large omnidirectional complex of the sets of four-axis and eight vertex-interconnected transparent plastic triangles with alternate sets of red transparent and uncolored transparent plastic triangles. We can interconnect the triangles from set to set. We then find experimentally that if one force, such as a pencil, is applied to one triangle of one open vector equilibrium, that vector equilibrium closes to become

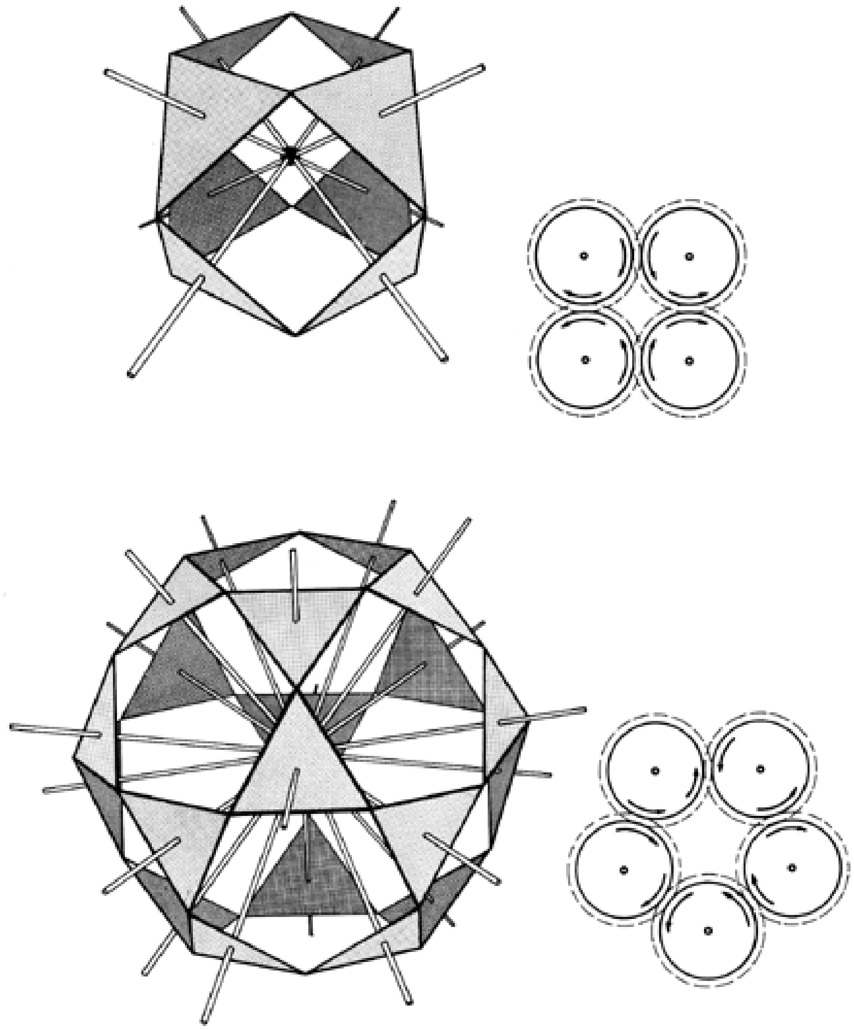


Fig. 465.00 Note that the eight triangular faces of the vector equilibrium are disposed about four-sided openings, i.e. square faces. It is possible to arrange 20 triangles in similar fashion around five-sided openings, i.e. pentagons. The shape is the icosadodecahedron. When a model is constructed with 20 spokes, i.e. ten axes, meeting at its center, which pass through the centers of each triangle, an unexpected behavior results. In the vector equilibrium model the triangles will rotate and contract towards tits center, however, with the icosadodecahedron the entire structure remains fixed. It is not capable of contraction due to the fact that there is an odd number of triangles surrounding each opening. The diagrams show clearly why this is so. Any odd-numbered array of interlocked gears will not be free to rotate.

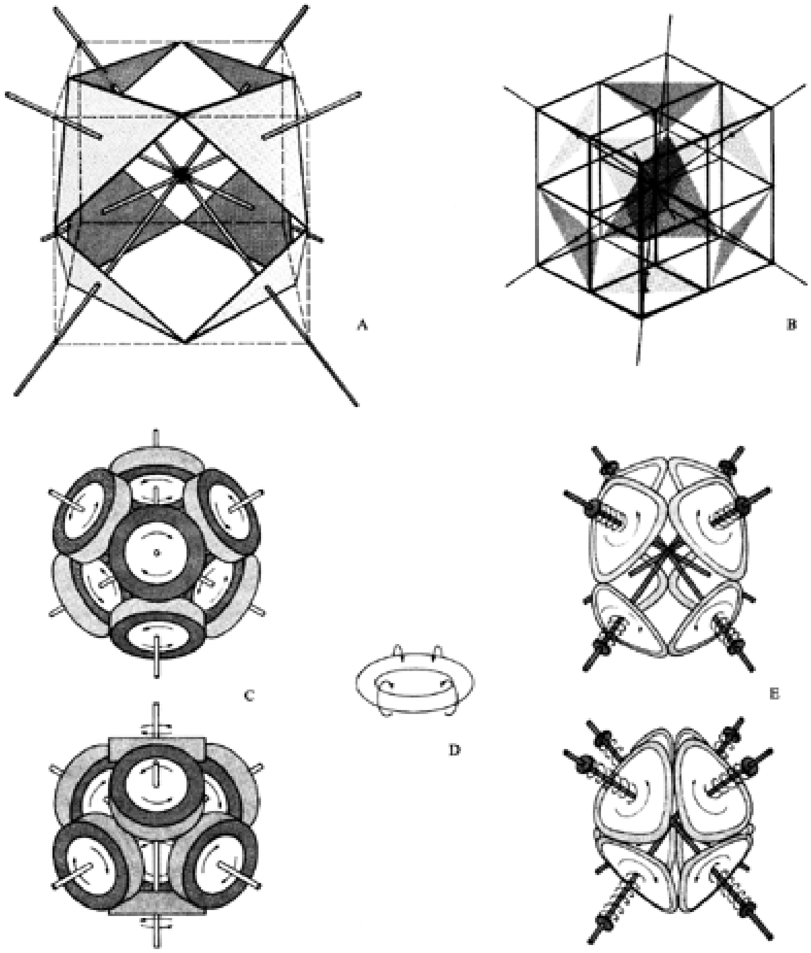


Fig. 465.01 Four Axes of Vector Equilibrium with Rotating Wheels or Triangular Cams:

A. The four axes of the vector equilibrium suggesting a four-dimensional system. In the contraction of the "jitterbug" from vector equilibrium to the octahedron, the triangles rotate about these axes.
B. Each triangle rotates in its own cube.
C. The four axes of the vector equilibrium shown with wheels replacing the triangular faces. The wheels are tangent to one another at the vertexes of the triangles, and when one wheel is turned, the others also rotate. If one wheel is immobilized and the system is rotated on the axes of this wheel, the opposite wheel remains stationary, demonstrating the polarity of the system.
D. Each wheel can be visualized as rotating inwardly on itself thereby causing all other wheels to rotate in a similar fashion.
E. If each wheel is conceived as a triangular cam shape, when they are rotated a continuous "pumping" or reciprocating action is introduced.

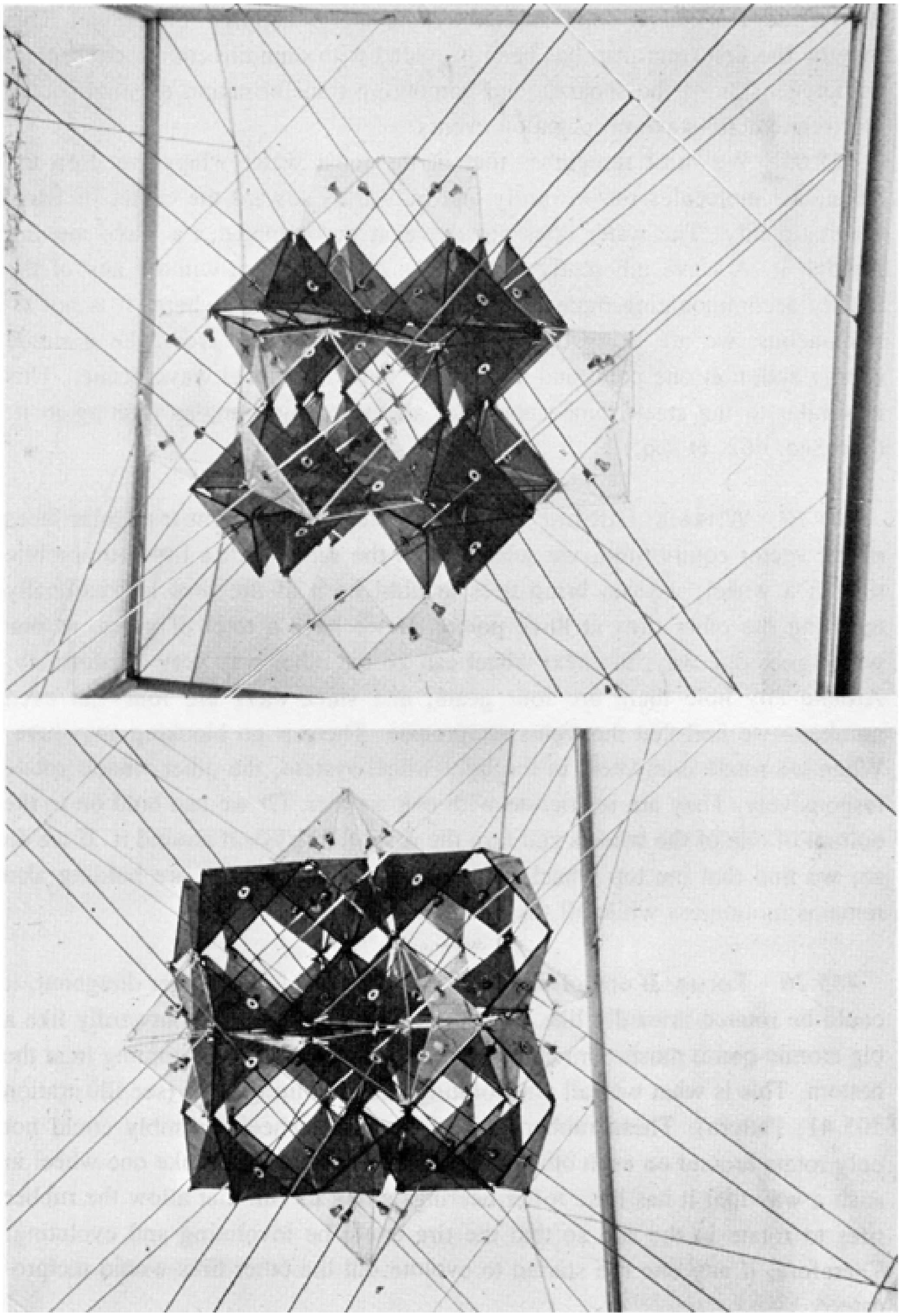


Fig. 465.03 Rotation of Four Axes of Vector Equilibrium: Articulation of Eight Triangular Faces.

an octahedron, and vice versa, throughout the whole system. Every vector equilibrium will become an octahedron and every octahedron will become a vector equilibrium. (Which is to say that every space becomes a sphere and every sphere becomes a space.)

465.04 Since there is a force distribution lag in the system, it is exactly like dropping a stone into water and getting a planar pattern for a wave, but in this one, we get an omnidirectional wave. We can see the electromagnetic wave pattern as clearly demonstrated by one energy action in the system. This may be the first time man has been provided with omnidirectional conceptual comprehension of the separate and combining transformation events of local electromagnetic-wave-propagation events.

465.05 We must remember that in the local water where we drop the stone, the molecules run inwardly and outwardly toward the center of Earth gravitationally. The water does not move; it accommodates a wave moving through it. A wave inherently goes outward in a pattern without any of the locally accommodating molecules or atoms migrating elsewhere. It is not simultaneous; we are using our memory and afterimage. We make a single energy action at one point and a complete omnidirectional wave occurs. This is similar to the steel-frame cube with all the many triangles rotating in it. (See Sec. 462 et seq.)


Fig. 465.10

465.10 **Wheels: Rubber Tires:** If, instead of the eight triangular faces of the vector equilibrium, we substitute on the same shaft a little automobile tire on a wheel, we can bring tires in until each of the tires is frictionally touching the other tires at three points. If we have a train of gears, as one wheel goes one way, the next wheel can go the other way very comfortably. Around any hole there are four gears, and since there are four—an even number—we find that the trains reciprocate. There is no blocking anywhere. When we rotate one wheel in the light-wheel system, the other wheels rotate responsively. They are in friction with one another. Or we can hold on to the bottom of one of the wheels and turn the rest of the system around it. If we do so, we find that the top wheel polarly opposite the one we are holding also remains motionless while all the other six rotate.

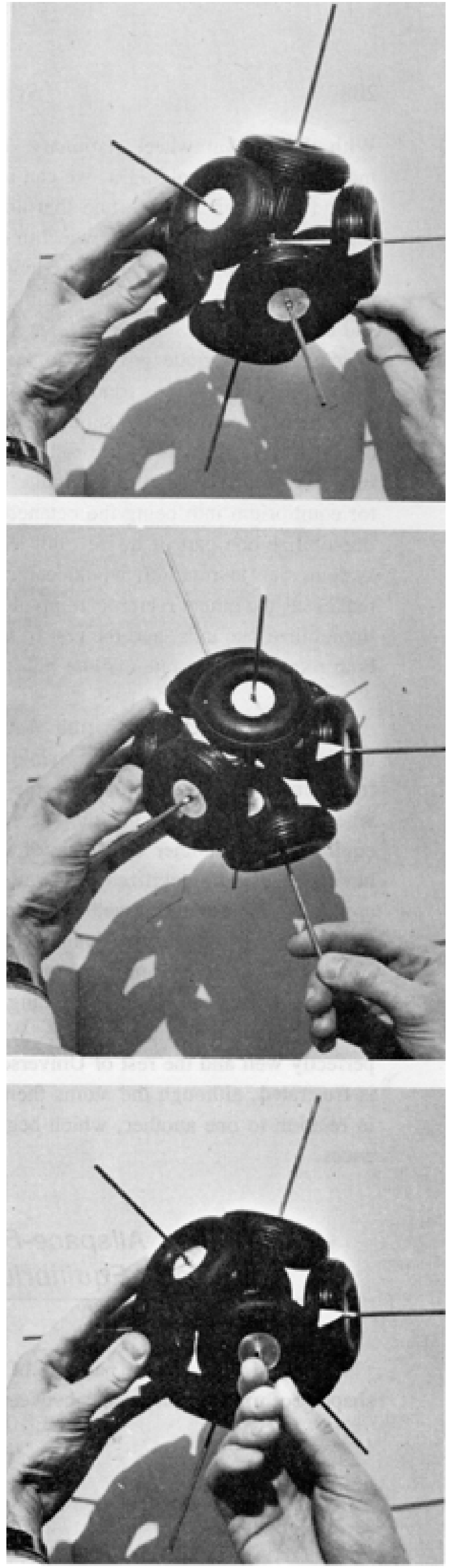


Fig. 465.10 The vector equilibrium with wheels showing that when one wheel is immobilized (the lower wheel in photos) and the system is rotated about the axis shared by the fixed wheel and its opposite wheel, the opposite wheel remains stationary but the other six wheels rotate in concert. The polarity of the system is thus demonstrated.

465.20 **Torus:** If one of the mounted tires were just a rubber doughnut, it could be rotated inwardly like a torus; or it could be rotated outwardly like a big atomic-bomb mushroom cloud, opening in the center and coming in at the bottom. This is what we call an evoluting and involuting torus (see illustration 505.41, Pattern). These rubber tires of the eight-wheel assembly could not only rotate around on each other, but it is quite possible to make one wheel in such a way that it has little roller bearings along its rim that allow the rubber tires to rotate in the rim so that the tire could be involuting and evoluting. Therefore, if any one tire started to evolute, all the other tires would reciprocate.

465.21 If we hold only an axis in our hand, we can rotate the system around it. But as we rotate it around, all the wheels are rolling. As we saw in the pumping vector equilibrium, the opposite triangles never torque in relation to each other. The opposite wheel of the one we are holding does the same. With the bottom wheel stationary on the ground and another wheel immobilized by one holding it, we can rotate the system so that one wheel rolls around the other. But we find that no matter how much we move it equatorially, if we immobilize one wheel in our fingers, the one opposite it becomes immobilized, too. If we not only hold a wheel immobilized while another is turning, but also squeeze and evolute it, all of the wheels will also involute and evolute.

465.22 It is quite possible to make an automobile tire and mount it in such a way that it looks triangular; that is, it will have a very small radius in its corners. I can take the same rubber and stretch it onto a triangular frame and also have the same little roller bearings so that it can involute and evolute. We will have a set of triangular tires that will pump from being the vector equilibrium into being the octahedron and back again. If we were then to immobilize one part of it, i.e., not let it involute and evolute, the rest of the system, due to rotation, would contract to become an octahedron so that it makes all the others reciprocate involuting and evoluting. We are able then to immobilize one axis, and the rest of the system except our opposite pole will both rotate and involute-evolute pulsatively.

465.30 **Four-Dimensional Mobility:** We are now discovering that in omnimotional Universe, it is possible to make two moving systems that move four-dimensionally, comfortably, the way we see four sets of wheels (eight wheels altogether) moving quite comfortably. But if we fasten one vector equilibrium to another by a pair of wheels— immobilizing one of them and having an axis immobilized—the rest of the system can keep right on rolling around it. By fastening together two parts of the Universe, we do not stop the rest of the four-dimensional motion of Universe. In all other non-four-dimensional mechanical systems we run into a "three-dimensional" blockage: if anything is blocked, then everything is blocked. But in a four-dimensional system, this is not at all the case. We can have two atoms join one another perfectly well and the rest of Universe can go right on in its motion. Nothing is frustrated, although the atoms themselves may do certain polarized things in relation to one another, which begins to explain a lot of the basic experiences.

465.40 **Triangular-cammed, In-out-and-around Jitterbug Model (Short Title)**

465.41 The four axes of the vector equilibrium provide the four-dimensionally articulatable model of motion freedoms unimpeded by other motions of either contiguous or remote systems of Universe while copermitting the concurrently articulating both omnidirectional wave propagation and gravitationally convergent embracement. We can also call it by the short title: triangular-cammed, in-out-and-around jitterbug model. (See Fig. 465.01.)

465.42 The "opposite" of the engineers' equal-and-opposite action and reaction is a strictly 180-degree linear conceptioning, conceived on a planar drawing. Macro is not opposite to micro: these are opposed, inward-andoutward, explosive-contractive, intertransformative accommodations such as those displayed by the eight-triangular- cammed, perimeter-tangent, contactdriven, involuting-evoluting, rubber doughnut jitterbug. In such a model macro and micro are not planarly opposed: they are the poles of inwardoutward, omnidirectional, locally vertexing considerations of experience. (See Fig. 465.10.)

Next Section: 466.00