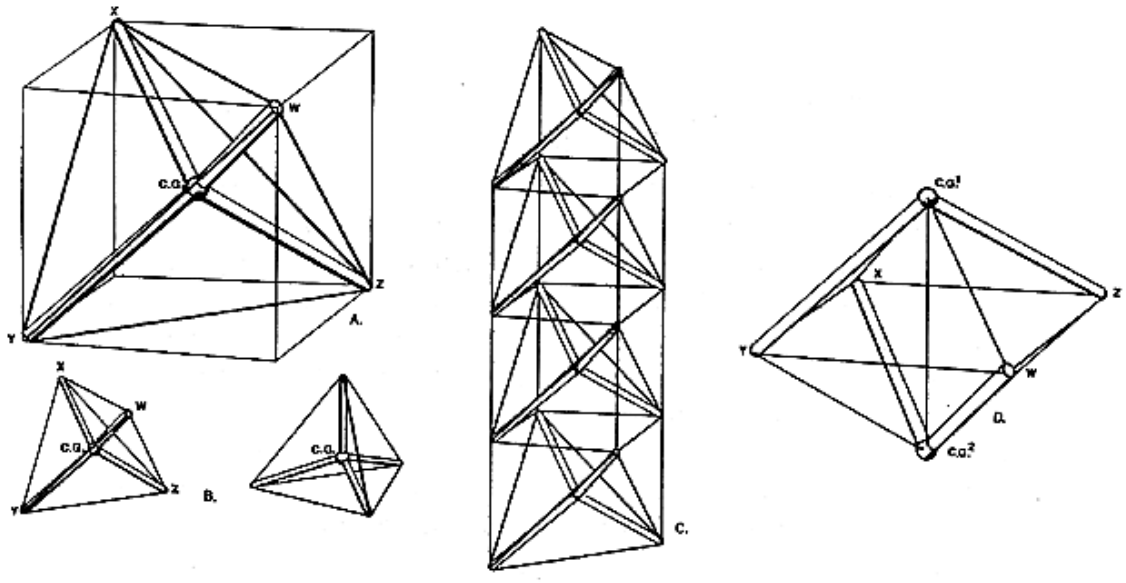

Fig. 730.12 Stabilization of Tension in Tensegrity Column: We put a steel sphere at the center of gravity of a cube which is also the center of gravity of tetrahedron and then run steel tubes from the center of gravity to four corners, W,X,Y, and Z, of negative tetrahedron (A). Every tetrahedron's center of gravity has four radials from the center of gravity to the four vertexes of the tetrahedron (B). In the juncture between the two tetrahedra (D), ball joints at the center of gravity are pulled toward one another by a vertical tension stay, thus thrusting universally jointed legs outwardly, and their outward thrust is stably restrained by finite sling closure WXYZ. This system is nonredundant: a basic discontinuous-compression continuous-tension or "tensegrity" structure. It is possible to have a stack (column) of center-of-gravity radial tube tetrahedra struts (C) with horizontal (approximate) tension slings and vertical tension guys and diagonal tension edges of the four superimposed tetrahedra, which, because of the (approximate) horizontal slings, cannot come any closer to one another, and, because of their vertical guys, cannot get any further away from one another, and therefore compose a stable relationship: a structure.
