these moving lines generate twelve new squares or faces which with the initial and final faces of the cube give twenty-four squares or faces. Then the faces of the moving cube generate 6 cubes, yielding 8 cubes in all. Finally the moving cube generates the tesseract, 4-suareq, hypercube, or cuboid, as it is variously called, the four dimensional counterpart of the cube. The result is—

1 tesseract,
8 bounding cubes,
24 faces,
32 edges,
16 corners.

The following table shows the whole process:

	Points	Lines	Squares	Cubes	Tesseracts
Point	1	0	0	0	0
Line	2	1	0	0	0
Square	4	4	1	0	0
Cube	8	12	6	1	0
Tesseract	16	32	24	8	1

For any number in the table, double the number above and add the number to its left. You will notice what has already been pointed out, that in the plane the lines meet two and two at the corners. In the cube the faces meet in pairs and the lines in threes. In the tesseract, the solids meet in pairs forming planes, the lines by fours at the corner, i.e. at each of the sixteen corners, there are four mutually perpendicular lines. In general we may say that points bound lines; lines, faces; faces, solids; and solids, hypersolids.

We may develop some properties of the hypertetrahedron in much the same way. In a plane we may have three points, each equally distant from each other, and if these are joined we hae the equilateral triangle composed of three points, three lines and one surface. In our 3-fold space we may have four points, each equidistant from all the rest. They lie at the vertices of the regular tetrahedron composed of four points, six lines and four equilateral triangles.

In four dimensional space we may have five points, each equidistant from all the rest, giving us the hypertetrahedron. This is generated from the tetrahedron by drawing lines from the new point to each of the four vertices of the tetrahedron,