Figure A

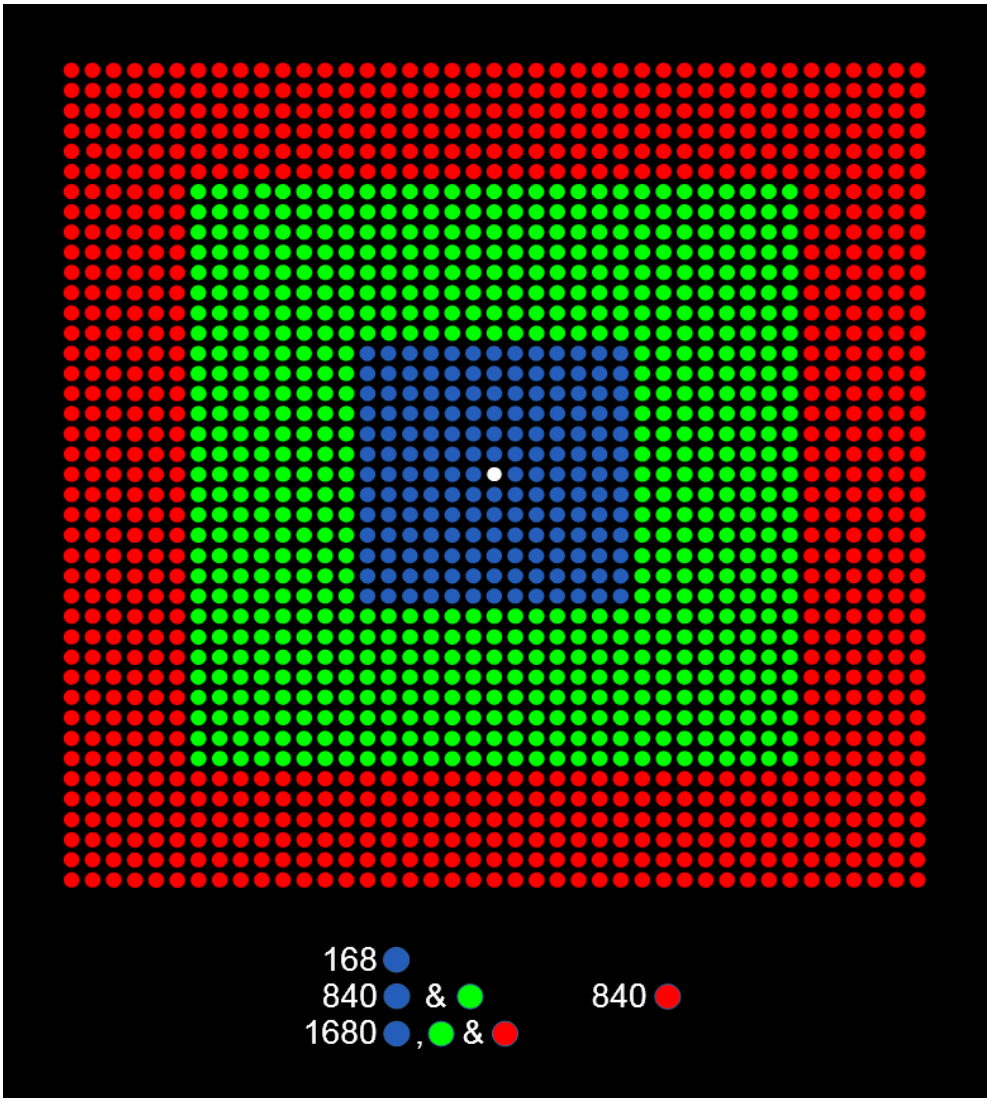
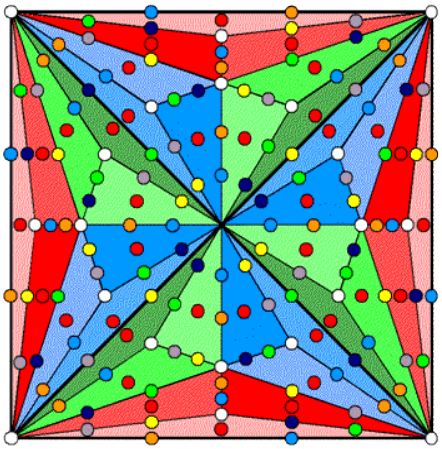


Figure C



168 yods surround the centre of the Type C square.

Figure D

3 5 7 9

25 11

23 13

21 19 17 15

The sum of the 12 odd integers after 1 that line the sides of a square is 168.

The Tetrad (4) and its symbol the square express the superstring structural parameters 168, 336, 840 & 1680

The n×n square array of n^2 yods* has (n^2-1) yods surrounding its centre when n is an odd integer (when n is even, there is no yod at the centre of the array, so discussion will focus on odd values of n). For n = 13, ($13^2-1=168$) yods (coloured blue in Fig. A) surround the centre. This is the gematria number value of *Cholem Yesodoth*, the Mundane Chakra of Malkuth, which is the last of the 10 Sephiroth of the Tree of Life. The UPA (Fig. B) described by Annie Besant & C.W. Leadbeater comprises 10 helical whorls, each with 1680 circular turns that winds five times around its axis of spin, its outer spiral with 840 turns winding 2½ times and its inner spiral with 840 turns winding 2½ times. Each revolution comprises 336 turns and each half-revolution consists of 168 turns. A blue yod denotes one turn as a circularly polarized oscillation created by the superposition of two orthogonal plane waves that are 90° out of phase.

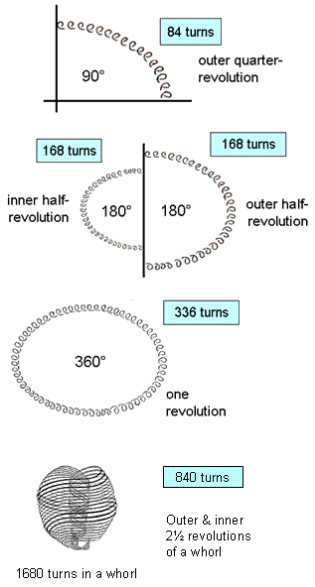


Figure B

For n = 29, the centre of the 29×29 square array of yods is surrounded by ($29^2-1=840$) yods. (840−168=672) green yods lie outside the square array of 168 blue yods surrounding its centre. The 840 green & blue yods denote either an outer or an inner half of a whorl.

For n = 41, ($41^2-1=1680$) yods surround the centre of the 41×41 square array. The 840 red yods outside the 29×29 array denote the 840 turns making up either an outer or an inner half of a whorl, the 840 green & blue yods denoting the 840 turns in, respectively, either its inner or outer half.

The number 29 is the 10th prime number and the 15th odd integer, where 15 is the number value of YAH (יה), the Godname assigned to Chokmah, which is the second member of the Supernal Triad of the Tree of Life. The number 41 is the 21st odd integer, where 21 is the number of EHYEH (אהיה), the Godname that is assigned to Kether, the first member of the Supernal Triad. This is the arithmetic way in which EHYEH prescribes each of the 10 whorls of the UPA as the microphysical manifestation of the Tree of Life blueprint, each whorl corresponding to one of its 10 Sephiroth.

The Type A n-gon has n sectors that are tetractyses; it has (6n+1) yods. The Type B n-gon has its sectors made up of three tetractyses, that is, they are Type A triangles; it has (15n+1) yods. The Type C n-gon has Type B triangles as its sectors; it has (42n+1) yods. For the square (n=4), 168 yods surround its centre (Fig. C).

As

$$n^2 - 1 = 3 + 5 + 7 + \ldots (2n-1),$$

$$13^2 - 1 = 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19 + 21 + 23 + 25 = 168.$$

The number 168 is the sum of the first 12 odd integers after 1. When the square is constructed from tetractyses, Type A triangles, Type B triangles, etc., there are always four yods spaced evenly along each of its four sides (this is true, of course, for *any* polygon). This means that 12 yods line its sides, creating its shape. The square is an ancient symbol of the four Elements Fire, Air, Water & Earth that the ancient Greeks believed were the ingredients of matter. They are associated with Malkuth, the Sephirah that denotes the material form of anything designed according to this blueprint. It is therefore appropriate that the gematria number value of this Sephirah is the sum of the first 12 odd integers that can form the boundary of the geometric symbol of the four Elements. The sum of the first six odd integers (coloured blue in Fig. D) that are four units apart is 78, the sum of the remaining six red integers being 90. These numbers are the number values of the Hebrew words *Cholem* and *Yesodoth* making up the Kabbalistic name of the Mundane Chakra of Malkuth:

יסודות חלם = 168

T U D U S Y M L Ch

4← 400 6 4 6 60 10 40 30 8

90 78

As

$$84 = 4^1 + 4^2 + 4^3$$

and

$$336 = 4\times84 = 4^2 + 4^3 + 4^4,$$

the Tetrad expresses the number of turns in every revolution of each helical whorl of the UPA. Alternatively, as

* The tenth letter of the Hebrew alphabet is yod (י). Shaped somewhat like a dot, the author uses this word to denote each point or dot in the Pythagorean tetractys symbolising the number 10, the fourth triangular number, as well as in any array of points.

$$84 = 1^2 + 3^2 + 5^2 + 7^2,$$

336 is the sum of the squares of the first *four* even integers that are spaced *four* units apart:

$$336 = 4\times84 = 2^2\times(1^2+3^2+5^2+7^2) = 2^2 + 6^2 + 10^2 + 14^2.$$

This illustrates the author's Tetrad Principle, discussed in his Article 1.