ARTICLE 4

The Godnames Prescribe the Inner Tree of Life

by

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It was stated in Article 3 that a geometrical object or pattern constitutes sacred geometry if the ten Godname numbers shown in Table 1 prescribe its properties. It was also said that the outer Tree of Life has an inner form (Fig. 1) which, as my book *The Mathematical Connection between Religion and Science* (1) proves, encodes the group parameters of E_8 and $E_8 \times E_8$, the gauge symmetry group associated with the

Table 1

SEPHIRAH	GODNAME	NUMBER VALUE
Kether	EHYEH	**21**
Chokmah	YAH, YAHWEH	**15, 26**
Binah	ELOHIM	**50**
Chesed	EL	**31**
Geburah	ELOHA	**36**
Tiphareth	YAHWEH ELOHIM	**26 + 50 = 76**
Netzach	YAHWEH SABAOTH	**26 + 103 = 129**
Hod	ELOHIM SABAOTH	**50 + 103 = 153**
Yesod	EL CHAI	**49**
Malkuth	ADONAI	**65**

so-called 'heterotic superstring,' as well as its structural parameters 168, 336, 840, 1680 & 3360. It consists of two similar sets of seven regular polygons: triangle, square, pentagon, hexagon, octagon, decagon and dodecagon. The fourteen polygons share a common side, which I have called their 'root edge,' so-called because they should be considered like a tree that grows out of its root, each polygon being analogous to a branch. The seven members of each set are enfolded in one another, those in one set being the mirror image of their counterparts in the other set. The four corners of the two joined triangles are shared with the Tree of Life because the endpoints of the root edge coincide with Daath and Tiphareth and because their other corners coincide with Chesed and Geburah — or, rather, the *projections* of their locations onto the plane containing the polygons, as it must always be kept in mind that the outer Tree of Life, although traditionally depicted in books on Kabbalah as 2-dimensional, is really a 3-dimensional object. This is why some of the Paths connecting two Sephiroth that appear to intersect another one are shown as broken lines in order to indicate to the eye of the reader that they are really behind it.

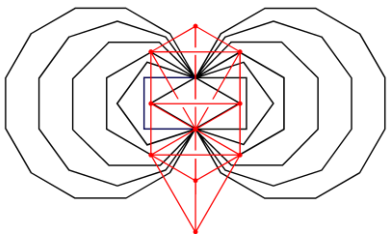


Figure 1. The outer & inner Trees of Life.

As the cosmic blueprint of the subatomic world, evidence for which is presented in my book, the inner, polygonal form of the Tree of Life possesses sacred geometry *par excellence*. Hence, the Godnames must define its properties. The manner of this prescription is indicated below, the two sets of polygons being considered both separately and enfolded in one another:

HOW GODNAMES PRESCRIBE (7+7) POLYGONS

(all Godname numbers are written in **boldface***)*

Separate

Kether: **21**	10 Sephiroth + Daath + (5+5) independent centres of (7+7) polygons. These numbers are the letter values of AHIH: 1 + 5 + 10 + 5;
Chokmah: **26**	260 (**26**×10) yods other than centres outside root edge of 7 polygons;
Binah: **50**	**50** corners of 7 polygons + root edge;
Chesed: **31**	**31** corners of 7 polygons outside root edge unshared with Tree;
Geburah: **36**	**36** corners of root edge + 7 polygons outside root edge;
Tiphareth: **76**	151 corners and sides of 48 tetractyses in 7 polygons (151 = **76**th odd integer);
Netzach: **129**	257 yods in 7 polygons outside root edge which are not centres or Sephirothic points (257 = **129**th odd integer);
Hod: **153**	**153** yods at ends of root edge, at centres of 7 polygons and on their boundaries;
Yesod: **49**	**49** corners of 7 polygons + associated endpoint of separate root edge;
Malkuth: **155**	**155** yods in separate root edge, at centres of 7 polygons and on their boundaries.

Enfolded

Kether: **21**	42 sides of 7 polygons (42 = **21**st even integer), 41 corners of 47 tetractyses in 7 polygons (41 = **21**st odd integer);
Chokmah: **15**	47 tetractyses in 7 polygons (47 = **15**th prime number), 150 (**15**×10) corners and sides outside root edge of 94 tetractyses in 14 polygons;
Chokmah: **26**	260 (**26**×10) yods in 7 polygons outside root edge;
Binah: **50**	500 (**50**×10) yods in 14 polygons unshared with Tree other than with its root edge;
Chesed: **31**	**31** corners of 7 polygons outside root edge unshared with Tree;
Geburah: **36**	**36** corners of 7 polygons;
Tiphareth: **76**	**76** corners & sides (other than shared base) associated with each set of 7 polygons;
Netzach: **129**	**129** corners + sides of 47 tetractyses in 7 polygons;
Hod: **153**	**153** corners and sides of 14 polygons;
Yesod: **49**	490 (**49**×10) yods in 14 polygons neither shared with Tree (other than with its root edge) nor any of the (5+5) independent centres of polygons;
Malkuth: **65**	**65** corners of 14 polygons and triangles of Tree unshared with one another.

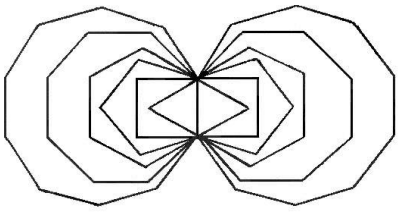


Figure 2. The first (6+6) enfolded polygons.

The ten Godnames of the Sephiroth of the Tree of Life also prescribe various subsets of the seven (and fourteen) polygons, which encode different types of cosmic parameters. Amazingly, each subset is a holistic object in itself because it, too, is prescribed by the Godnames and therefore embodies the same information that larger sets do. One such subset is the two sets of the first six regular polygons (Fig. 2), which, as my book proves, encode a structural parameter of $E_8 \times E_8$ heterotic superstrings, namely, the number 1680 (see earlier articles and Fig. 3). Some of their properties are worked out and listed below.

PROPERTIES OF (6+6) POLYGONS

Separate

1. 6 regular polygons comprise **36** polygonal corners, **36** polygonal sides and **36** tetractyses with 42 corners and (**36** + **36** =72) sides;
2. Number of geometrical elements in 6 polygons = 42 + 72 + **36** = 150 (=**15**×10);
3. Number of geometrical elements outside root edge of 6 polygons = 150 – 6×3 = 132;

4. Number of geometrical elements outside root edge of 6 polygons other than their centres = 132 – 6 = 126;
5. Number of geometrical elements in root edge and in polygons outside root edge other than their centres = 126 + 3 = **129**;
6. Number of geometrical elements in root edge and 6 polygons = 3 + 150 = **153**;
7. Number of yods in 6 polygons = 222. Of these, 6 are centres. Number of yods other than centres = 222 – 6 = 216. Of these, **36** are polygonal corners;
8. Number of hexagonal yods = 216 – **36** = 180. Of these, **36** are tetractys centres. Number of boundary hexagonal yods = 180 – **36** = 144;
9. Number of yods on sides of tetractyses = 144 + 42 = 186;
10. Number of yods on boundaries of 6 polygons = 2×**36** + **36** = 108;
11. Number of yods in root edge and on boundaries of 6 polygons = 4 + 108 = 112.
12. (6+6) polygons comprise 72 polygonal corners, 72 polygonal sides and 72 tetractyses with 84 corners and 144 sides;
13. Number of geometrical elements in (6+6) polygons = 2×150 = 300 (303, including root edge);
14. Number of yods in (6+6) polygons = 2×222 = 444;
15. Of these 12 are centres. Number of yods other than centres = 444 – 12 = 432;
16. Of these, 72 are polygonal corners. Number of hexagonal yods = 432 – 72 = 360 (=**36**×10);
17. Of these, 72 are tetractys centres. Number of boundary hexagonal yods = 360 – 72 = 288;
18. Number of yods on sides of 72 tetractyses = 288 + 84 = 372;
19. Number of yods on boundaries of (6+6) polygons = 2×72 + 72 = 216;
20. Number of yods in root edge and on boundaries of (6+6) polygons = 216 + 4 = 220.

Enfolded

1. 6 polygons have **26** corners, **31** sides and 35 tetractyses with 30 corners (28 outside root edge) and **65** sides (64 outside root edge);
2. Of the **26** corners, 5 are shared with 1-tree, leaving **21** unshared corners;
3. Number of corners and sides of 35 tetractyses in 6 polygons = 30 + **65** = 95;
4. Number of geometrical elements = 30 + **65** + 35 = 130 (127 outside root edge; 127 = **31**st prime number);
5. Number of yods in 6 polygons = 195. Of these, 191 are outside root edge, 12 of which are shared with Tree, leaving 179 unshared yods outside root edge, i.e., 179×2 + 2 = 360 (=**36**×10) unshared yods in (6+6) polygons;
6. Of the 195 yods, 30 are corners of tetractyses. Number of hexagonal yods = 195 – 30 = 165 = $1^2 + 3^2 + 5^2 + 7^2 + 9^2$. Of these, 163 are outside root edge, 9 of which are shared with Tree, leaving 154 hexagonal yods outside root edge unshared with Tree. One hexagonal yod in the root edge is unshared with Tree, so that 6 polygons have **155** unshared, hexagonal yods;
7. Number of yods on boundaries of 6 polygons = **31**×2 + **26** = 88 (84 outside root edge);
8. Number of hexagonal yods on boundaries of 6 polygons = **31**×2 = 62.
9. (6+6) polygons comprise **50** corners (48 outside root edge), 61 sides and 70 tetractyses with 58 corners (56 outside root edge) and **129** sides;
10. Number of corners and sides of 70 tetractyses in (6+6) polygons = 58 + **129** = 187;
11. Number of geometrical elements = 58 + **129** + 70 = 257 (55th prime number), of which 17 are shared with Tree, leaving 240 elements unshared with Tree;
12. Number of yods = 191×2 + 4 = 386 (382 outside root edge). Of these, 58 are corners of tetractyses; number of hexagonal yods = 386 – 58 = 328 (326 outside root edge, of which 18 are shared, leaving 309 (including one in root edge) unshared with Tree);

13. Number of yods on boundaries of (6+6) polygons = 4 + 2×84 = 172 (168 outside root edge, of which 18 are shared with 1-tree, leaving 150 (=**15**×10) unshared, boundary yods);

These properties of the first six and (6+6) polygons are prescribed by the ten Godnames as follows:

HOW GODNAMES PRESCRIBE THE (6+6) POLYGONS

Separate

Kether: **21** 42 corners of **36** tetractyses (42 = **21**st even integer);

Chokmah: **15** 150 (**15**×10) geometrical elements in 6 polygons;

Chokmah: **26** **26** corners of root edge and of 6 polygons outside their root edge;

Binah: **50** **50** corners of root edge and of (6+6) polygons outside root edge;

Chesed: **31** **31** sides of root edge and of 6 polygons outside root edge;

Geburah: **36** **36** corners and **36** sides of 6 polygons. 360 (**36**×10) hexagonal yods in (6+6) polygons;

Tiphareth: **76** **76** corners, sides and independent centres of 6 polygons;

Netzach: **129** **129** geometrical elements in root edge and in 6 polygons outside root edge other than centres;

Hod: **153** **153** geometrical elements in root edge and 6 polygons;

Yesod: **49** **49** corners and sides in root edge and in 6 polygons outside root edge unshared with 1-tree;

Malkuth: **65** **65** corners of 72 tetractyses outside root edge of (6+6) polygons and in 1-tree unshared with external corners of these tetractyses.

Enfolded

Kether: **21** **21** corners of 6 polygons unshared with 1-tree;

Chokmah: **15** 165 hexagonal yods in 6 polygons, where 165 = 3×55 = 3×($1^2 + 2^2 + 3^2 + 4^2 + 5^2$) = sum of **15** squares; 328 hexagonal yods in (6+6) polygons (328 = sum of first **15** prime numbers);

Chokmah: **26** **26** corners of 6 polygons;

Binah: **50** **50** corners of (6+6) polygons;

Chesed: **31** **31** sides of 6 polygons. 127 geometrical elements outside root edge (127 = **31**st prime number);

Geburah: **36** 360 (**36**×10) yods in (6+6) polygons unshared with Tree;

Tiphareth: **76** **76** boundary yods associated with 6 polygons unshared with 1-tree;

Netzach: **129** **129** sides of 70 tetractyses of (6+6) polygons;

Hod: **153** **153** hexagonal yods unshared with Tree associated with 6 polygons;

Yesod: **49**: **49** corners and sides outside root edge unshared with Tree;

Malkuth: **65** **65** sides of 35 tetractyses of 6 polygons;

Malkuth: **155** **155** hexagonal yods in 6 polygons unshared with Tree.

The (6+6) enfolded polygons have 168 yods along their boundaries outside their root edge (Fig. 3). In other words, *168 yods create their shape* (84 in each set of 6). This is remarkable, because 168 is the number value of *Cholem Yesodoth* (lit. 'breaker of the foundations'), the Mundane Chakra of Malkuth (Mundane Chakras are the astrological bodies traditionally associated in Kabbalah with each Sephirah; the Mundane Chakra of Malkuth is the planet Earth). Moreover, as discussed in previous articles, the Theosophist C.W. Leadbeater used 'anima,' one of the yogic siddhis, or psychic faculties, to magnify the basic units of matter. His 'ultimate physical atom' (UPA) consists of ten helical coils, each with 1680 turns (Fig. 4). My book *ESP of Quarks & Superstrings* (2) has shown the ten-fold UPA to be the subquark state of a superstring — the microscopic manifestation of the Tree of Life, each helix corresponding to one of the ten Sephiroth. As a Sephirah is itself ten-fold, being represented by a Tree of Life, the number 168 is a structural parameter of

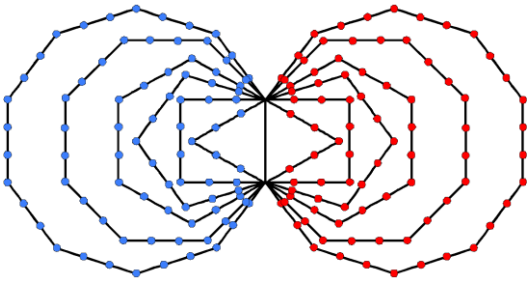


Figure 3. The number value 168 of *Cholem Yesodoth*, the Mundane Chakra of Malkuth, is the number of yods outside the root edge on the boundaries of the two sets of the first six enfolded polygons.

this hadronic state of the superstring. Moreover, each coil winds 2½ times around the outer surface of the UPA and 2½ times in a narrower spiral around its central axis. Each half of a coil comprises 840 turns of a helix, so that the number 84 is also a structural parameter of this state of a superstring, being the number of coils in one quarter of a complete revolution of a whorl, whilst the number 168 is the number of coils in half

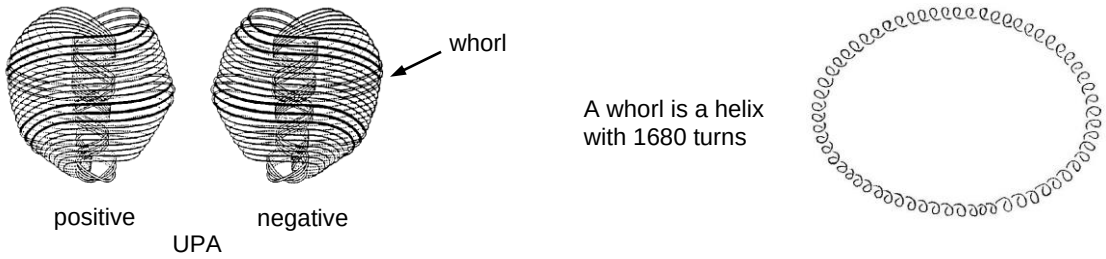
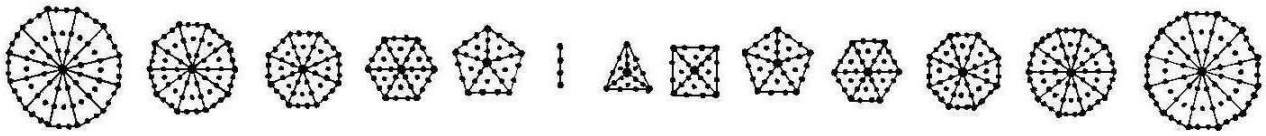


Figure 4. The basic unit of matter (UPA), as depicted by Annie Besant & C.W. Leadbeater.

a revolution. The inner and outer halves of a helical whorl — or, rather, an outer and inner half-revolution — correspond in the inner Tree of Life to the two similar sets of the first six regular polygons, whose shapes are delineated by 84 yods along their sides outside their shared root edge.

Earlier articles pointed out that the seven cosmic planes of consciousness are represented by the Cosmic Tree of Life (CTOL). It consists of 91 overlapping Trees of Life with 550 SLs. CTOL is encoded in a unique



Number of corners = 91 = number of Trees of Life in CTOL
Number of yods = 550 = number of SLs in CTOL

Figure 5. 12 of the 14 polygons of the inner Tree of Life, together with the separate root edge, have 550 yods symbolising the 550 SLs of CTOL. One set of seven polygons and the root edge have 299 yods. This is the number of SLs in the **49**-tree mapping the cosmic physical plane. The remaining five polygons of the set of 12 polygons represent the 42 Trees of Life that .map the six cosmic superphysical planes.

subset of the (7+7) polygons constituting the inner form of the Tree of Life. The root edge and one set of seven separate polygons have a yod population that is equal to the number of SLs in the **49**-tree representing the cosmic physical plane. The five separate polygons with most corners have as many yods as there are SLs in the 42 Trees of Life in CTOL above the **49**-tree that map the six cosmic superphysical planes. Together with the root edge, these separate (7+5) polygons (Fig. 5) constitute sacred geometry because they are the polygonal representation of CTOL.

Listed below are ways whereby the ten Godname numbers listed in Table 1 (shown in **boldface** type) prescribe properties of this holistic set of (7+5) polygons. Also displayed are the ways in which these properties are expressed by the Pythagorean Tetrad (the number 4), the Pythagorean Decad (the number 10) and the integers 1, 2, 3 & 4 symbolising the four rows of dots in the Pythagorean tetractys.

PROPERTIES OF (7+5) POLYGONS

Separate

1. (7+5) polygons comprise 89 polygonal corners (89 = 44th odd integer after 1 = (24=4!)th prime number), 89 polygonal sides and 89 tetractyses with 101 corners (101 = **26**th prime number = **50**th odd integer after 1) and 178 sides;

2. Including the root edge, number of yods = 550, number of polygonal corners = 91, number of polygonal sides = 90, number of tetractys corners = 103, number of tetractys sides = 179 = 41st prime number (41 = **21**st odd integer = **15** + **26**) and number of geometrical elements = **103** + 179 + 89 = 371 = 7×53, where 7 = 4th prime number and 53 = (16=4^2)th prime number;
3. **65** polygonal corners outside root edge.

Enfolded

1. (7+5) polygons comprise 67 polygonal corners (67 = 19th prime number, 19 = 10th odd integer), of which **65** are outside root edge, and 61 unshared with Tree (61 = **31**st odd integer). 78 polygonal sides and 88 tetractyses (88 = 44th even integer) with **76** corners (74 outside root edge) and 165 sides (165 = $1^2 + 3^2 + 5^2 + 7^2 + 9^2 = 3\times55 = 3(1^2+2^2+3^2+4^2+5^2)$ = sum of **15** squares). Of these, 10 are shared with 1-tree (apart from root edge), leaving **155** unshared sides;
2. Number of corners and sides = 67 + 78 = 145. Of these, 3 corners are centres of polygons and 12 corners and sides are shared with 1-tree. Number of corners and sides which are not centres of polygons or shared with 1-tree = 145 – 3 – 12 = 130 = **129**th integer after 1. **21** geometrical elements shared with 1-tree (1-tree has **36** unshared elements);
3. Number of yods = 494

$$= \begin{matrix} 1^1 & 1^2 & 1^3 & 1^4 \\ 2^1 & 2^2 & 2^3 & 2^4 \\ 3^1 & 3^2 & 3^3 & 3^4 \\ 4^1 & 4^2 & 4^3 & 4^4 \end{matrix}$$

4. Number of yods outside root edge = 494 – 4 = 490 = **49**×10;
5. Number of tetractys corners not centres of polygons = **76** – 12 = 64 = 4^3;
6. Number of tetractys corners not both polygonal corners and centres = **76** – 2 – 1 = 73. Of these, 6 are Sephirothic points of Tree of Life. Number of tetractys corners unshared with Tree and not both centres and corners of polygons = 73 – 6 = 67;
7. Number of hexagonal yods = 494 – **76** = 418. Of these, 88 are centres of 88 tetractyses;
8. Number of hexagonal yods on edges of 88 tetractyses = 418 – 88 = 330, of which 17 are shared with Tree, leaving 313 unshared hexagonal yods on edges of tetractyses (313 = **65**th prime number) and of which 22 are shared with 1-tree, leaving 308 hexagonal yods on edges of tetractyses unshared with 1-tree. 328 hexagonal are yods outside root edge on sides of tetractyses (328 = sum of first **15** prime numbers).

Some of these properties of the (7+5) polygons are prescribed by the Godnames as follows:

HOW GODNAMES PRESCRIBE (7+5) POLYGONS

Kether: **21**	Number of tetractys sides = 179 (separate), where 179 = 41st prime number and 41 = **21**st odd integer. Also, **21** geometrical elements shared with 1-tree;
Chokmah: **26**	101 corners of 89 tetractyses (separate), where 101 = **26**th prime number;
Elohim: **50**	101 = **50**th odd integer after 1;
Chesed: **31**	61 corners of (7+5) enfolded polygons unshared with Tree, where 61 = **31**st odd integer;
Geburah:**36**	74 corners of tetractyses outside root edge, where 74 = **36**th even integer after 2;
Tiphareth: **76**	**76** corners of 88 tetractyses of enfolded polygons;
Netzach: **129**	**129**th integer after 1 = 130 = number of corners and sides neither centres of polygons nor shared with 1-tree;
Hod: **153**	308 hexagonal yods unshared with 1-tree on edges of tetractyses, where 308 = **153**rd even integer after 2;
Yesod: **49**	Number of yods outside root edge of enfolded polygons = 490 = **49**×10;
Malkuth: **65**	**65** corners of enfolded or separate polygons outside root edge;
Malkuth: **155**	**155** sides of tetractyses unshared with 1-tree (apart from root edge).

In general, those different sections of the 7 and (7+7) polygons whose properties are defined by the set of Godname numbers constitute sacred geometry and therefore encode cosmic parameters such as numbers associated with bosonic and superstring theories.

Article 1 proposed a new mathematical principle called the Tetrad Principle that governs the Tree of Life description of nature. Evidence for this principle was discussed in the form of the remarkable way the number 4 (Tetrad) and the numbers 1, 2, 3 and 4 symbolised by the Pythagorean tetractys define and express parameters of the theories of superstrings and bosonic strings. My book *The Mathematical Connection between Religion and Science* shows how Godname numbers prescribe these parameters. In fact, the Godname numbers *themselves* are determined arithmetically by the Tetrad (Fig. 6). It

How the Pythagorean Tetrad arithmetically determines the number values of the Godnames

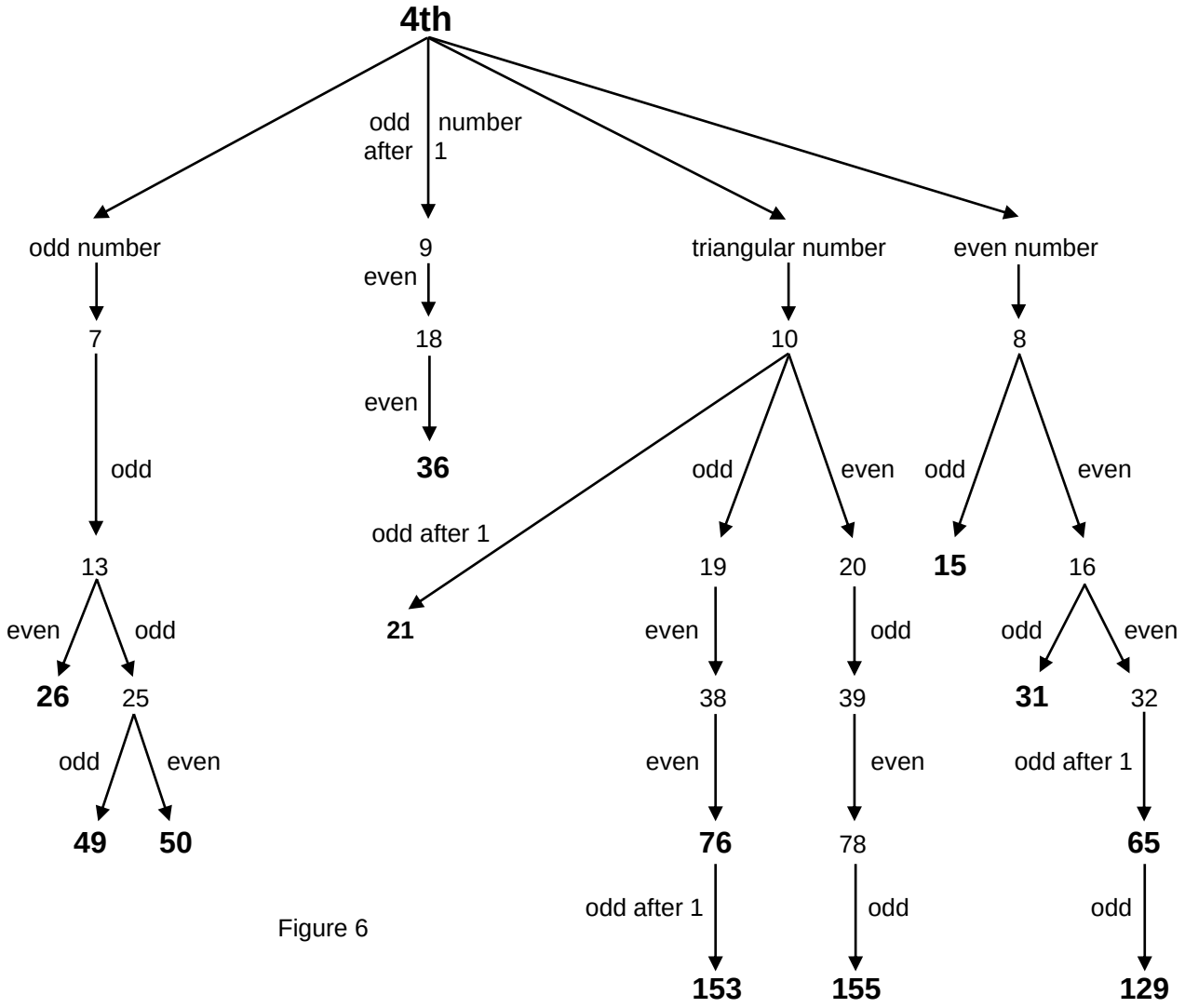


Figure 6

("even" or "odd" denote the type of arrowed number defined by the previous one in the sequence, e.g., 13 is the 7th odd integer and 25 is the 13th odd integer).

illustrates one of the profound properties of the Pythagorean Tetrad as the root source of Godname numbers and hence of superstring parameters like 248 and 496 — the numbers of states of the particle that transmits the unified force between, respectively, superstrings of either ordinary or shadow matter and superstrings of both these kinds of matter.

References

1) "The Mathematical Connection between Religion and Science," Stephen M. Phillips (Antony Rowe Publishing, England, 2009).
2) "ESP of Quarks & Superstrings," Stephen M. Phillips," New Age International, New Delhi, India, 1999.