ARTICLE 6

Ten-whorl Structure of the Superstring Encoded in the 41-Tree

by

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ABSTRACT

The author's previous work proved that the basic particles of matter observed a century ago by Annie Besant and C.W. Leadbeater using a yogic siddhi are superstring constituents of the up and down quarks making up protons and neutrons in atomic nuclei. This article demonstrates a remarkable analogy between the paranormally described ten-fold structure of the superstring and the lowest 41 trees in the Cosmic Tree of Life (CTOL) — the map of all possible levels of evolved consciousness shown in earlier articles to be encoded in the geometry of the Tree of Life blueprint. The Godnames of the ten Sephiroth are shown to prescribe both this section of CTOL and a division of it corresponding vis-à-vis this analogy to the 3:7 differentiation that Besant and Leadbeater noticed in the strings comprising the superstring. The dimension 496 of the superstring gauge symmetry groups $E_8{\times}E_8$ and $SO(32)$ is found to quantify the geometrical composition of these 41 trees, in confirmation of their unique status as the superphysical analogue of the superstring – the manifestation of the Tree of Life in the subatomic world. The inner form of the Tree of Life encodes this section of CTOL as well as CTOL itself, the encoding being prescribed by the ten Hebrew Godnames. An extraordinary, four-fold parallelism emerges between the paranormally described string structure of the superstring and its encodings in both the 41 trees and the outer and inner forms of the Tree of Life.

Introduction

Previous articles discussed how all levels of reality are mapped by the Cosmic Tree of Life (CTOL). It consists of 91 overlapping Trees of Life with 550 'Sephirothic levels' (SLs). This geometrical representation was shown to confirm the Theosophical teaching about the seven planes of consciousness and their seven-fold division. The lowest **49** trees map the **49** subplanes of the cosmic physical plane and the remaining 42 trees map the 42 subplanes of the six cosmic superphysical planes. Article 5 revealed the remarkable analogy between the $E_8{\times}E_8$ heterotic superstring constituent of up and down quarks described by the Theosophists Annie Besant & C.W. Leadbeater and the geometrical structure of CTOL — in particular, its embodiment of the structural parameter 251 and the way in which this number defines the cosmic physical plane, of which the superstring is the most physical basic unit. In this article, a certain section of CTOL, namely, the 41-tree, will be shown to incorporate this number as well as other information about the structure and dynamics of the superstring. The analysis will demonstrate that the gematria number values of the Hebrew names of the Sephiroth, their Godnames, Archangels, Orders of Angels and Mundane Chakras characterise the mathematical description of the 41-tree too often to be plausible attributed to chance. This means that, as with any mathematical object possessing *true* sacred geometry, the presence of these numbers as descriptors of its properties elevates the status of the 41-tree to that of a holistic structure, that is, one that embodies the divine archetypes. For reference, the table below lists these numbers. They are written throughout the text in **boldface** type.

NUMBER VALUES OF THE SEPHIROTH
(Cited numbers are in coloured boxes)

Sephirah	Title	Godname	Archangel	Order of Angel	Mundane Chakra
Kether	620	21	314	833	636
Chokmah	73	15, 26	248	187	140
Binah	67	50	311	282	317
Chesed	72	31	62	428	194
Geburah	216	36	131	630	95
Tiphareth	1081	76	101	140	640
Netzach	148	129	97	1260	64
Hod	15	153	311	112	48
Yesod	80	49	246	272	87
Malkuth	496	65, 155	280	351	168

1. The ten-fold superstring

Analysis (1) of the clairvoyant observations (2) by the Theosophists Annie Besant (1847-1933) and C.W. Leadbeater (1847-1934) (Fig. 1) of the basic units of matter they called 'ultimate physical atoms' (UPAs) proved that these particles are the superstring constituents of the up and down quarks making up
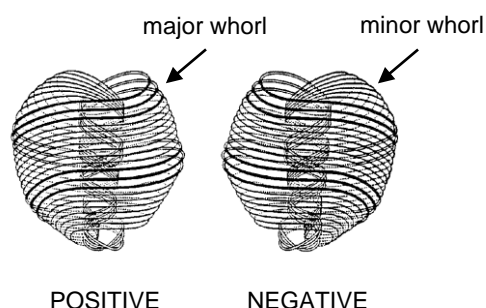

Annie Besant   C.W. Leadbeater

Figure 1

major whorl   minor whorl

POSITIVE   NEGATIVE

Figure 2. The UPA.

atomic nuclei. They noticed two varieties of these spinning particles — so-called 'positive' and 'negative' UPAs (Fig. 2), one the mirror image of the other. Both consist of ten closed curves, or 'whorls,' each of which spirals five times around the axis of spin, making 2½ revolutions as it spirals down from the broad

top of the particle to its pointed end and then 2½ revolutions in a narrower helix as it returns to its top. According to Leadbeater, a whorl is a helical coil with 1680 turns. It was interpreted in Reference 1 as a closed, string-like curve embedded in **26**-dimensional space-time. It was proposed (3) in Articles 2 & 5 that the superstring is formed by the wrapping of an 11-brane around ten compactified dimensions of this space-time *beyond* the ten-dimensional space-time required by superstring theory. This creates ten closed curves, each characterised by 25 spatial co-ordinate variables, so that the total number of space-time co-ordinate variables for the ten whorls making up a superstring is 10×25 + 1 = 251.

The top of the 41-tree in CTOL is the 251st SL. The top of the **49**-tree is the 299th SL. The 251st SL is therefore the **49**th from the top of the **49**th tree. Since the **49**th tree from the top of CTOL is the 43rd from its bottom, the bottom of the **49**th tree from the top of CTOL is also the bottom of the 43rd from the nadir of CTOL, i.e., the top of the 41st tree. The 251st SL is therefore both the **49**th from the top of the **49**th tree and the bottom of the **49**th tree from the top of CTOL. This shows how the Godname EL ChAI of Yesod with number value **49** prescribes the 41-tree. There are 251 SLs beyond the 7-tree in **49** overlapping trees, just as there are 251 SLs in CTOL beyond the **49**-tree. The section of the **49**-tree above the 7-tree is to the latter what the section of CTOL representing cosmic superphysical planes is to the cosmic physical plane. Just as the number 251 is the number of emanations of the six Sephiroth of Construction above Malkuth before the cosmic physical plane is reached, as well as the number of their emanations above the physical plane, so, too, this number is the number of degrees of freedom expressing the geometry of the subquark state of the superstring. Section 2 will discuss its encoding in the inner form of the Tree of Life. Its remarkable encoding in the lowest tree of CTOL representing Malkuth will be discussed in Section 3.

With all its triangles turned into tetractyses, the number of yods in the n-tree is given by Y(n) = **50**n + 30.

$$Y(n+5) - Y(n) = 5 \times 50 = 250,$$

i.e., five successive trees contain 250 yods. As the number of SLs in the n-tree is

$$S(n) = 6n + 5,$$

there are S(n+5) – S(n) = 6×5 = 30 SLs in every five trees, i.e., counting from the top of the (n+5)th tree to the top of the nth tree, there are **31** SLs and 251 yods in every five trees (Fig. 3). This shows how the Godname EL of Chesed with number value **31** prescribes the number 251.
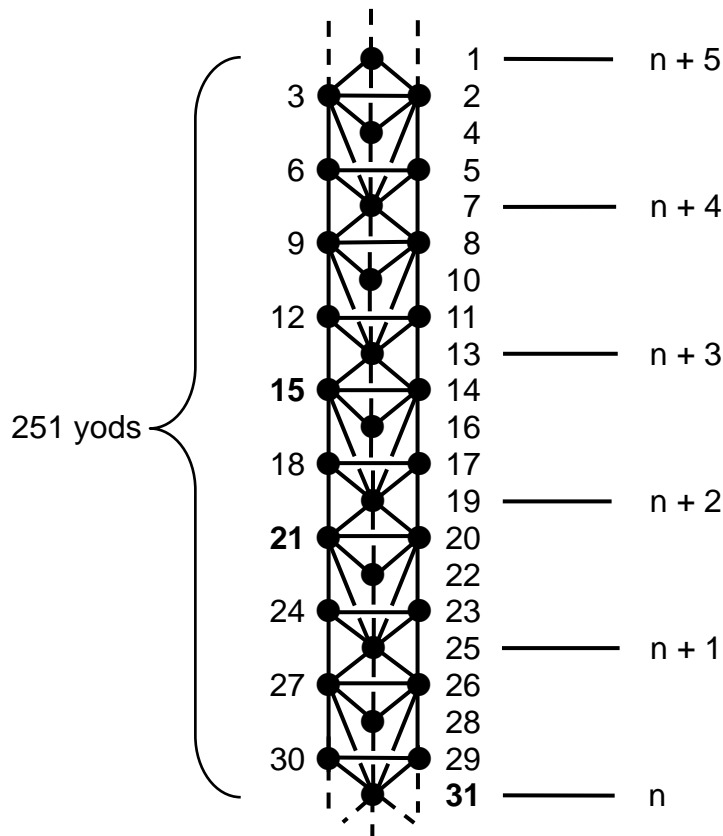

Figure 3. Every five Trees of Life contain 251 yods in their 60 tetractyses.

The Godname EHYEH of Kether prescribes the numbers 41 and 251 because 41 is the **21**st odd integer and 251 is the 126th odd integer, where 126 is the sum of the number values of all *different* combinations of the letters of EHYEH:

```
AHIH                    (A = 1, H = 5, I = 10)
A+H+I              =   16
AH + AI + HI + HH  =   42
AHI + AHH + HIH    =   47
AHIH               =   21
                        ─────
                 Total = 126
```

The 251st SL is the 127th tree level (4), where 127 is the **31**st prime number. This shows how EL prescribes the 41-tree. As CTOL has 276 tree levels (5), the 251st SL is the 150th tree level from the top of CTOL, where 150 = **15**×10. This shows how the number value **15** of YAH determines the 41-tree. Also, 41 = **26** + **15**, where **26** is the number of YAHWEH, the full Godname of Chokmah. There are 167 stages of vertical descent of the Lightning Flash from Kether of the 41st tree (6), that is, **168** stages of descent of the Lightning Flash from Geburah of the 42nd tree generate the 251 SLs in the 41-tree. As shown in Article 5, this is an example of the close association between the number 251 and the number **168** of the Mundane Chakra of Malkuth — a structural parameter of the superstring (see previous articles).

The 41st tree in CTOL is the 51st from its top. 51 is the **26**th odd integer, showing how YAHWEH prescribes the 41-tree. **50** trees extend above it, indicating how ELOHIM, the Godname of Binah with number value **50,** prescribes this section of CTOL. ELOHIM prescribes the number 251 because below the highest Binah of **50** overlapping trees are 2510 (=251×10) yods (7).

The 251 SLs of the 41-tree comprise the 11 SLs of the 1-tree and 240 SLs in the 40 trees above the latter. As Kether of the 41st tree is the 85th SL on the Pillar of Equilibrium and as Kether of the first tree is the fifth SL on this pillar, the 240 SLs comprise **80** SLs on the central pillar and 160 SLs on the two side pillars, where **80** is the number value of Yesod ("Foundation"). This 160:**80** differentiation of the number 240 has its analogy in the UPA/superstring. There are 160 (10×16) co-ordinate variables of the ten whorls of the superstring in the 16-dimensional space beyond superstring space-time and **80** (10×8) transverse co-ordinate variables in relation to the latter, each whorl having eight transverse dimensions in the ten-dimensional space-time in which they exist as such. The 11 SLs belonging to the 1-tree correspond to the ten longitudinal co-ordinate variables of the ten whorls (their *extension* in ordinary space), whilst the 240 SLs in the 41-tree above the 1-tree correspond to the 240 transverse co-ordinate variables of the ten whorls, each one having 24 transverse co-ordinate variables. This means that the three thicker, so-called 'major' whorls in the particle described by Besant and Leadbeater are curves with **72** such variables and that the remaining seven, so-called 'minor' whorls (see Fig. 2) are strings with **168** co-ordinate variables.

The 29-tree has S(29) = 179 SLs. The top of the 29th tree is the 91st tree level (8), i.e, the 84th above the 1-tree, which has seven tree levels. According to Article 2 (9), the **26**th tree level (**50**th SL) is the dimension of time. The 179th SL is both the **129**th SL and the **65**th tree level above the **50**th SL. It is also the **168**th SL above the 1-tree. There are **72** SLs in the 41-tree above the 29-tree: 251 – 179 = **72**. The division:

$$240 = 72 + 168$$

is therefore prescribed by ELOHIM and ADONAI, Godname of Malkuth. The division:

$$127 = 26 + 101$$

between the **26** tree levels defining **26**-dimensional space-time and the **101** higher tree levels up to the top of the 41st tree is defined by YAHWEH because **101** is the **26**th prime number.

The top of the 16-tree is the **101**st SL and the 52nd tree level (10), where 52 is the **26**th even integer. This is the **76**th tree level from the top of the 41-tree and the 90th SL from the top of the 1-tree. This shows how YAHWEH ELOHIM with number value **76** defines the division:

$$168 = 78 + 90$$

that mirrors how the number value **168** of *Cholem Yesodoth*, the Mundane Chakra of Malkuth, divides into 78 and 90, the component values of, respectively, the two words *Cholem* and *Yesodoth*:

4← יסודות   חלם   = 168
    T U D U S Y   M L Ch
    400 6 4 6 60 10 40 30 8
        ⎣___90___⎦   ⎣_78_⎦

Forty-one overlapping trees have **496** triangles (11). Remarkably**,** the number of Malkuth and the dimension of the superstring symmetry groups is embodied in 41 trees as the number of *simplest* shapes creating their 3-dimensional structure, these shapes being marked out by the 250 corners of their triangles**.** This should be compared with the fact that an heterotic superstring with 250 spatial co-ordinate variables possessed by its ten whorls is the source of **496** gauge bosons transmitting the unified, $E_8{\times}E_8$- or O(32)-symmetric, superstring force. That such a number central to superstring physics should occur in a section of CTOL *whose structure has already been shown to be analogous to the ten-fold superstring* is no accident. Instead, it is an example of the way in which 'analogous sections of CTOL encode the same parameters characterising holistic systems, such as 251 and **496** (see Article 5 for more examples).

The 12 trees extending beyond the 29-tree to the 41st tree have **72** SLs and the 28 trees extending beyond the 1-tree to the 29th tree have **168** SLs. This **72**:**168** differentiation corresponds in the superstring described by Besant and Leadbeater to the **72** E_8 gauge charges carried by the superstring in its three major whorls, 24 spread out over each whorl, and to the **168** gauge charges similarly carried by the superstring in its seven minor whorls. E_8 has the exceptional subgroup E_6, studied as physicists as a possible symmetry group that accommodates the Standard Model of particle physics. It has **72** roots and six simple roots, whilst E_8 has 240 roots and eight simple roots, that is, **168** more roots than E_6. Symmetry breaking of E_8 into E_6 may account for the difference between the major and minor whorls if each whorl does, indeed, carry 24 of the 240 E_8 gauge charges, **72** of which are gauge charges of E_6.

The 22-tree has 137 SLs, of which 126 are above the 1-tree. They include the **72** SLs of the 13-tree above the 1-tree. **72** is the number of roots of E_6, which is a subgroup of E_7, an exceptional subgroup of E_8 with 126 roots. The top of the 22-tree is the 70th tree level and the 91st stage of descent of the Lightning Flash. The differentiation:

$$240:126:\mathbf{72}$$

between the roots of E_8, E_7 and E_6 corresponds to the number of SLs in, respectively, the 41-tree, the 22-tree and the 13-tree that are *above* the 1-tree.

Chesed of the 23rd tree is the 139th SL and the 128th SL above the 1-tree, above which are **112** SLs to the top of the 41-tree. The next higher SL (Daath of the 23rd tree) is the **140**th SL and the **48**th SL on the central pillar. The **112**th SL from the top of the 41-tree is therefore both the **140**th SL and the **48**th SL on the central pillar. This 128:**112** division of SLs corresponds to the 128:**112** differentiation of the 240 roots of E_8 that is known to mathematicians. It is therefore prescribed by the number value **140** of *Malachim*, the Angelic Order assigned to Tiphareth, the number value **48** of *Kokab*, the Mundane Chakra of Hod and the number value **112** of *Beni Elohim*, the Order of Angels assigned to Hod. In fact, this differentiation is found to be defined by the number values of *all* the Godnames, Archangelic Names, Angelic Names and Mundane Chakras because it is a property of *any* Tree of Life pattern. Indeed, the sum of the first four Godnames EHYEH, YAHWEH, ELOHIM & EL is 128 and the sum of the next two Godnames ELOHA and YAHWEH ELOHIM is **112**.

The 251 SLs of the 41-tree comprise 91 SLs up to Chesed of the **15**th tree and 160 SLs beyond it. The former consists of 60 SLs on the side pillars and **31** SLs on the central pillar. The divisions:

$$251 = 91 + 160$$

and

$$91 = \mathbf{31} + 60$$

correspond in the superstring to the **31** space-time co-ordinate variables of its ten whorls in 4-dimensional space-time, to their 60 co-ordinate variables defined in the 6-dimensional compactified space of superstring space-time and to their 160 co-ordinate variables defined in the higher, 16-dimensional space outside superstring space-time. This is how the Godname YAH with number value **15** and the Godname EL with number value **31** prescribe vis-à-vis, respectively, 10- and 4-dimensional space-time the number of space-time co-ordinates of its ten whorls.

YAH and YAHWEH prescribe the division of the 251 co-ordinate variables into ($10{\times}10 + 1 = \mathbf{101}$) space-time co-ordinate variables defined vis-à-vis 11-dimensional, supergravity space-time and 150 ($=\mathbf{15}{\times}10$) variables defined in the higher, **15**-dimensional space because **15** is the number value of YAH and **101** is the **26**th prime number, where **26** is the number value of YAHWEH. The division is prescribed also by ELOHIM because there are **50** SLs on the central pillar in the 41-tree above the **101**st SL, whilst **101** is the **50**th odd integer after 1. YAHWEH ELOHIM with number value **76** prescribes this division because the **101**st SL is the 151st SL from the top of the 41-tree, where 151 is the **76**th odd integer. The **101**st SL is also the **76**th tree level from the top of the 41-tree.

ELOHA prescribes the division of the 240 SLs in the 41-tree above the 1-tree into the **168** SLs of the
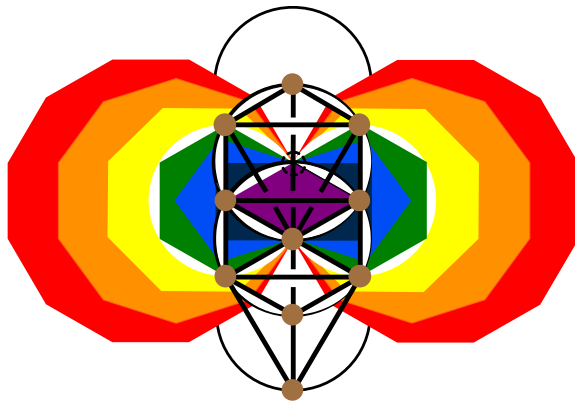
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Figure 4. The outer and inner forms of the Tree of Life.

29-tree above the 1-tree and the **72** SLs above the 29-tree because its number value **36** is the number of tree levels in the 41-tree above the 29-tree: 127 – 91 = **36**.

Counting from the highest (adi) plane, the 41st tree represents the second subplane of the second plane — the Theosophists' anupadaka plane. Its Kether — the 251st SL — is the Malkuth of the 43rd tree representing the lowest subplane of the adi plane. The 251st SL therefore denotes the lowest (Malkuth) level of the lowest subplane of this plane. As the *lowest* point of the highest **49** trees in CTOL, this SL represents the *completion* of a cycle of 7-fold differentiation in the emanation of each of the seven Sephiroth of Construction. Although the **49**-tree is itself such a cycle, only trees 43–**49** belong to both cycles, whilst the 251st SL is the last SL of the uppermost **49** trees to be part of the emanation of *both* cycles. It is this property that makes the 41-tree and its highest point unique.

2.The inner form of the Tree of Life

The Tree of Life has an inner as well as an outer form (Fig. 4). The former consists of two identical sets of seven regular polygons that enfold in one another and share their root edge (Fig. 5). As was pointed out in previous articles, the seven polygons encode the **49**-tree representing the cosmic physical plane and the five polygons in the other set with most corners encode the 42 trees of CTOL representing the six superphysical planes. It is remarkable that their composition is such that the five polygons with the *least* number of corners (the first five separate polygons containing **26** corners) encode the lowest **26** trees of CTOL that bear a formal correspondence to the lowest **26** tree levels denoting the **26** dimensions of space-time, whilst the five separate polygons in the set of seven with the *largest* number of corners (the last five) have 41 corners and 251 yods (Fig. 6), that is, they encode the 41-tree with 251 SLs — the very number of space-time co-ordinates of ten whorls in **26**-dimensional space-time! The reason why the five largest
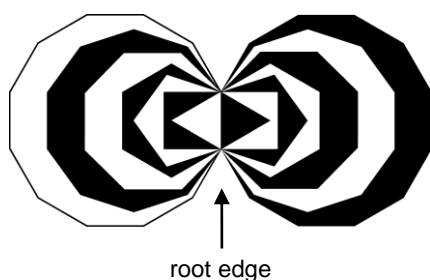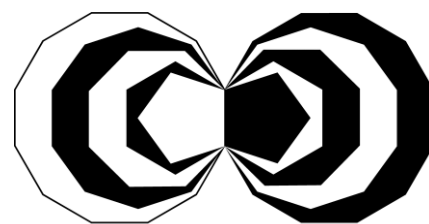

Figure 5. The inner Tree of Life.

Figure 6. The last (5+5) polygons.

polygons encode this structural parameter of strings is that they constitute a *new* Tree of Life pattern prescribed by the ten Godnames, as now shown. Their properties are set out below:

	pentagon	hexagon	octagon	decagon	dodecagon
Number of corners =	5	6	8	10	12
Number of yods =	**31**	37	**49**	61	**73**

5 separate polygons

1. Number of corners of 5 polygons = 41 = **21**st odd integer;

2. Number of corners of 41 tetractyses in 5 polygons = 41 + 5 = 46 (= **48**, including the separate root

6

edge);

3.   Number of sides of 5 polygon = 41;

4.   Number of edges of 41 tetractyses = 2×41 = 82;

5.   Number of corners + edges of tetractyses = 46 + 82 = 128 (= **131**, including the separate root edge);

6.   Number of corners + edges + triangles = 128 + 41 = 169;

7.   Number of yods = 251;

8.   Number of yods other than corners = 251 – 41 = 210 = **21**×10;

9.   Number of yods along boundaries of polygons = 3×41 = 123 (127, including the separate root edge; 127 = **31**st prime number). Number of boundary yods in (5+5) polygons = 2×123 = **246**;

10. Number of yods along edges of tetractyses = 5×41 + 5 = 210 = **21**×10;

11. When the five separate polygons become enfolded, four of their edges coincide with the fifth, so that (4×2=8) corners, four edges and (4×4=16) yods (including (4×2=8) hexagonal yods) disappear, whilst a corner of the pentagon coincides with the centre of the decagon.

5 enfolded polygons
1.   Number of corners = 41 – 8 = 33 (**31** outside root edge);

2.   Number of corners of 41 tetractyses = 33 + 4 = 37 (35 outside root edge);

3.   Number of sides of 5 polygons = 41 – 4 = 37 (**36** outside root edge);

4.   Number of corners + sides of polygons = 33 + 37 = 70 (**67** outside root edge);

5.   Number of edges of tetractyses = 82 – 4 = 78 (77 outside root edge);

6.   Number of corners + edges of tetractyses = 37 + 78 = 115 (**112** outside root edge);

7.   Number of corners, edges + triangles = 115 + 41 = 156 (**153** outside root edge, where **153** = **76**th odd integer after 1);

8.   Number of yods = 251 – 16 – 1 = 234 (230 outside root edge);

9.   Number of yods other than corners = 234 – 33 = 201 (199 outside root edge). 201 = **101**st odd integer, where **101** = **26**th prime number;

10. Number of yods along boundaries of 5 polygons = 37×2 + 33 = 107 (103 outside root edge, of which (103 – **31** = **72**) are not corners);

11. Number of yods along boundaries of tetractyses = 3×33 + 2×37 + 4 = 177 (173 outside root edge; 173 = **87**th odd integer).

(5+5) polygons have (2×**31** + 2 = **64**) corners (**62** outside the root edge), (2×**35** + 2 = **72**) corners of 82 tetractyses (**36** per set of 5 polygons), (2×**36** + 1 = **73**) sides of polygons (73 = **21**st prime number), (2×77 + 1 = **155**) edges of tetractyses, (2×**112** + 3 = 227) corners + edges (227 = **49**th prime number), (2×**153** + 3 = 309) corners, edges + triangles (309 = **155**th odd integer), (2×230 + 4 = 464) yods and (2×199 + 2 = 400) yods other than corners. They also have (2×103 + 4 = 210 = **21**×10) yods along their **73** sides.

Below is shown how the number values of the ten Godnames quantify these properties:

HOW GODNAMES PRESCRIBE THE 5 POLYGONS
Kether: **21**   Number of corners of 5 polygons = 41 = **21**st odd integer;
              Number of yods other than corners = 251 – 41 = 210 = **21**×10;
              Number of yods along edges of tetractyses = 5×41 + 5 = 210 = **21**×10;
              21st prime number = **73** = number of sides of (5+5) enfolded polygons;

Chokmah: **26**   Number of yods other than corners = 234 – 33 = 201 (199 outside root edge). 201 = **101**st odd integer, where **101** = **26**th prime number;

Binah: **50**   **50** yods in root edge and at corners and centres of 5 separate polygons;

Chesed: **31**   **31**st prime number = 127 = number of yods along boundaries of 5 separate polygons and root edge; **31** corners outside root edge of 5 enfolded polygons;

Geburah: **36**   **36** sides of 5 enfolded polygons outside root edge; **72** corners of (5+5) polygons (**72** = **36**th even integer);

Tiphareth: **76**   **76**th odd integer after 1 = **153** = number of corners, edges & triangular sectors of 5 enfolded polygons outside their root edge;

Netzach: **129**   130 corners and edges of tetractyses in 5 separate polygons, including the root edge and its corner associated with this set. 130 = **129**th integer after 1 ;

Hod: **153**   **153** triangles, corners & edges of tetractyses outside root edge of 5 enfolded polygons;

Yesod: **49**   **49**th prime number = 227 = number of corners and edges of (5+5) enfolded polygons;

Malkuth: **155**   **155** edges of tetractyses of (5+5) enfolded polygons. **155** geometrical elements are intrinsic to the 5 enfolded polygons, the topmost corner of the hexagon being shared with the hexagon enfolded in the next higher Tree of Life.

The last example of Godnames prescribing the properties of this Tree of Life pattern of (5+5) enfolded polygons is particularly remarkable because it convincingly demonstrates how the character of each prescription is consistent with the metaphysical nature of the Sephirah. In this case, the Godname ADONAI MELEKH of Malkuth, signifying the *outer form* of the Tree of Life, determines the *shapes* of the two sets of five regular polygons in terms of either their **155** edges or the **155** intrinsic geometrical elements per set.

3. Encoding of the 41-tree in the 1-tree

As the lowest tree in CTOL, the 1-tree has a formal correspondence to the last Sephirah, Malkuth. Figure 7 shows that, when each of its 19 triangles is divided into their three sectors which are then turned into tetractyses, the resulting 57 tetractyses contain 251 yods. They comprise the 11 yods at the corners of the triangles, i.e., SLs, and 240 yods created by the construction of each triangle from three tetractyses. They are the counterpart of the 11 SLs of the 1-tree and the **140** higher SLs in the 41-tree. As shown in Article 4, the Godnames of the ten Sephiroth prescribe not only the seven regular polygons enfolded in the Tree of Life but also a new pattern comprising the first six polygons of this set. Associated with each overlapping
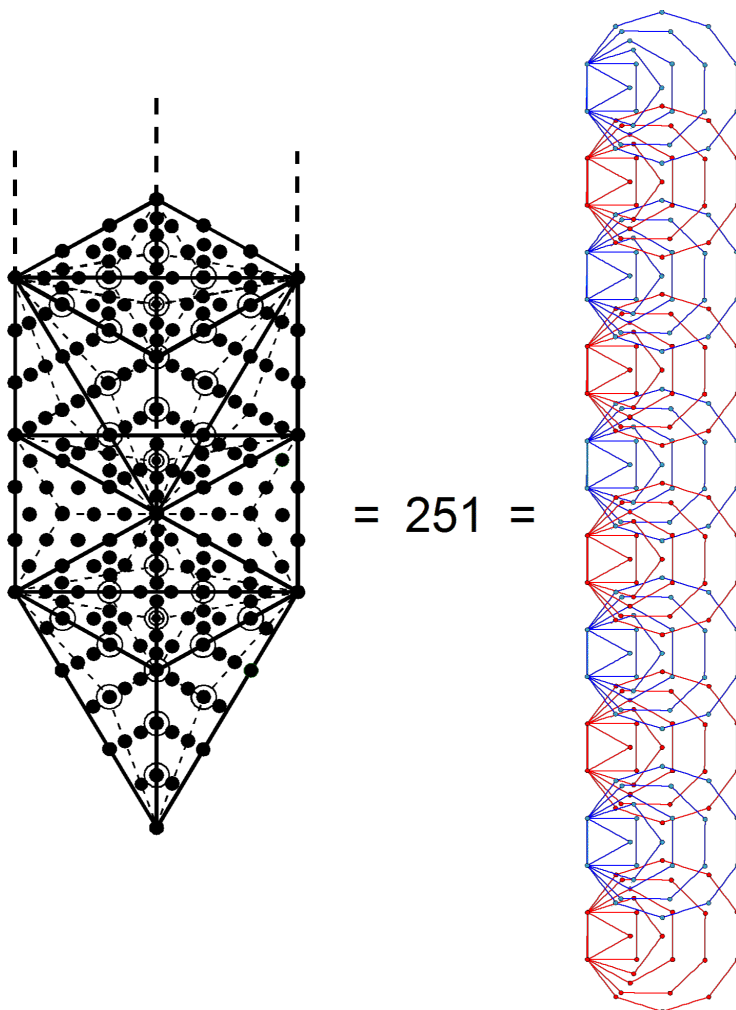

= 251 =

Figure 7. The lowest tree in CTOL has as many yods (251) as the first six types of regular polygons enfolded in the lowest ten trees have corners. These 251 degrees of freedom denote the (25×10 + 1 = 251) space-time co-ordinate variables of the ten **26**-dimensional whorls constituting a superstring — the microphysical manifestation of the Tree of Life blueprint.

tree in CTOL are seven enfolded, regular polygons, the first six of which have **26** corners prescribed by YAHWEH (see Article 4 for how all the Godnames prescribe the first six polygons). Of these, the uppermost and lowermost corners of the hexagon are joined to their counterparts in adjacent hexagons, which means that there are 25 independent corners of the first six polygons per set. Enfolded in the lowest ten trees, which are prescribed by ADONAI because its number value **65** is the number of their SLs, are 60 polygons of the first six types with 10×25 + 1 = 251 corners. These corners denote the space-time co-ordinate variables of the ten whorls of the UPA/superstring, there being 25 spatial ones per whorl.

Properties of the 1-tree, 41-tree and the 60 polygons enfolded in the 10-tree are compared below:

PARALLELS BETWEEN 1-TREE, 41-TREE & 60 POLYGONS ENFOLDED IN 10-TREE

1-tree	41-tree	60 polygons
1. 251 yods in 19 triangles whose sectors are tetractyses;	251 SLs;	251 corners of first 6polygons enfolded in 10-tree;
2. 251 yods comprise 11 corners of 19 triangles and 240 others.	251 SLs comprise 11 SLs of 1-tree and 240 SLs above it.	251 corners comprise 11 corners of 10 hexagons and 240 corners of 60 polygons.

The fact that the 251 corners of the 60 polygons enfolded on one side of the 10-tree comprise the 11 highest and lowest corners of the ten hexagons and 240 other, unshared corners, 24 per set of polygons, suggests that, since the SLs of the 41-tree are analogous to these corners, the 40 trees of the 41-tree above the 1-tree should be regarded as divided into ten groups of four trees, each having 24 SLs because

| Tree number	Number of SLs	Number of tree levels
41	251	127
	24	
37	227	115
	24	72
33	203	103
	24	
29	179	91
	24	
25	**155**	79
	24	
21	131	**67**
	24	
17	107	55
	24	168
13	83	43
	24	
9	59	**31**
	24	
5	35	19
	24	
1	11	7

Figure 8

successive trees have six SLs. Figure 8 shows that the 12 uppermost trees in the 41-tree have **72** SLs corresponding to the **72** transverse co-ordinate variables of the three major whorls of the basic unit of matter described by Besant and Leadbeater and that the lowest 29 trees have **168** SLs corresponding to the **168** transverse co-ordinate variables of the seven strings that are the minor whorls. The latter SLs span 84 tree levels, where

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

This illustrates the powerful Tetrad Principle, formulated in Article 1 (12). The 11 SLs of the 1-tree correspond to the 11 uppermost and lowermost corners of the ten hexagons enfolded in the 10-tree. The lowest corner of the one enfolded in the 1-tree is distinct from the rest in that it does not share its position with corners of other hexagons. This corner denotes the time co-ordinate of the superstring, whilst the uppermost corner of each hexagon denotes the longitudinal space co-ordinate of a whorl represented by the corresponding tree. This difference between the ten space co-ordinate variables and the time co-ordinate corresponds in the 1-tree to the ten SLs and Daath, which, being Yesod of the second tree, is

an SL only of *that* tree, not the first tree. Such an exact, four-way correspondence:
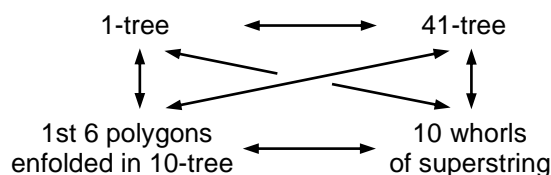
cannot be reasonably dismissed as due to coincidence. Instead, it reflects the profound connection between the properties of the Tree of Life as the cosmic blueprint and features of the superstring constituents of quarks— the truly elementary particles yet to be discovered by particle physics but described over a century ago with the aid of one of the siddhis, or paranormal mental faculties, known to yogis.

4. Conclusion

The interpretation of the fundamental unit of matter observed clairvoyantly by Annie Besant and C.W. Leadbeater as the superstring constituent of up and down quarks implies that the superstring is a more complicated object than the simple picture of a closed string considered by physicists before so-called 'n-branes' and 'M-theory' ushered in the second revolution in string theory. Although consistent with the superstring prediction of a compactified, 6-dimensional space because the six higher-order spirillae of each whorl wind around these dimensions, the stringy, ten-fold whorls of the particle require it to be a higher-dimensional membrane as well. If this exists in the **26**-dimensional space-time predicted by quantum mechanics for spinless strings, 251 space-time co-ordinate variables are needed to describe the ten closed curves which, as proposed by the author in Articles 2 and 5, are formed by the curling up of the 11-brane proposed around ten higher, compactified dimensions. Just as Article 5 showed that this number quantifies cycles of emanation of Sephiroth leading to what Theosophists call the cosmic and solar physical planes, so it expresses the geometrical degrees of freedom of the superstring as a higher-dimensional object. Encoded in the Tree of Life is the map of all seven cosmic planes of consciousness (the 'Cosmic Tree of Life,' or CTOL). A section of this prescribed by the ten Godnames bears a remarkable analogy to the structure of the superstring predicted by the author and confirmed by century-old, paranormal descriptions of the basic units of matter. That this is no coincidence is further shown by the characterisation of the geometry of this section of CTOL by the number **496**, which is both at the heart of superstring theory and the gematria number value of Malkuth, the physical universe, as well as by the encoding of the number 251 in the outer and inner forms of the Tree of Life. The precise parallelism between these encodings reflects the profound design of the Tree of Life as the cosmic blueprint not only for realms of higher consciousness traditionally associated by religions with the after-life but also for the basic units of matter making up the physical universe. Matter as well as man is made in the 'Image of God.'

References

1. *Extra-sensory Perception of Quarks*, Stephen M. Phillips (Theosophical Publishing House, Wheaton, U.S.A., 1980); *ESP of Quarks and Superstrings*, Stephen M. Phillips (New Age International, New Delhi, India, 1999).
2. *Occult Chemistry,* Annie Besant and C.W. Leadbeater, 3rd ed. (Theosophical Publishing House, Adyar, Chennai, India, 1951).
3. http://smphillips.mysite.com/html/articles.html.
4. For the definition of tree levels, see p. 15 in Article 5 at the author's website. The number of tree levels in the n-tree $\equiv T(n) = 3n + 4$. The 41-tree has $T(41) = 127$ tree levels.
5. The number of tree levels in n overlapping trees $\equiv \check{T}(n) = 3n + 3$. Therefore, $\check{T}(91) = 276$.
6. For the definition of the Lightning Flash, see p. 15 in Article 5. The number of stages of descent of the Lightning Flash from the top of the n-tree $= 4n + 3$. For the 41-tree, this is 167.
7. Proof: The number of yods in n overlapping Tree of Life $= $ **50**$n + 20$. **50** overlapping trees have 2520 yods. Of these, ten yods are above Binah of the **50**th tree, leaving 2510 yods below this point.
8. Proof: using the formula given in (4), $T(29) = 91$.
9. Phillips, Stephen M. Article 2: "The physical plane and its relation to the UPA/superstring and space-time," http://smphillips.mysite.com/article02.pdf.
10. Proof: using the formula given in (4), $T(16) = 52$.
11. Proof: the number of triangles in n overlapping trees $\equiv t(n) = 12n + 4$. Therefore, $t(41) = $ **496**.
12. Phillips, Stephen M. Article 1: "The Pythagorean nature of superstring and bosonic string theories," http://smphillips.mysite.com/article01.pdf, p. 4.