



- Read Right to Left.

בראשית ברא אל-הים את השמים ואת הארץ

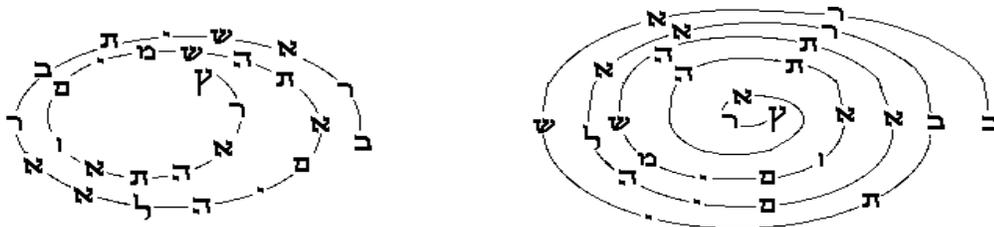
The Earth And Essence (of) The Heavens Essence (of) "G-d" (He) Creates In The Beginning

WOVEN PATTERN OF SYMMETRICAL LETTER PAIRS IN THE FIRST VERSE OF GENESIS



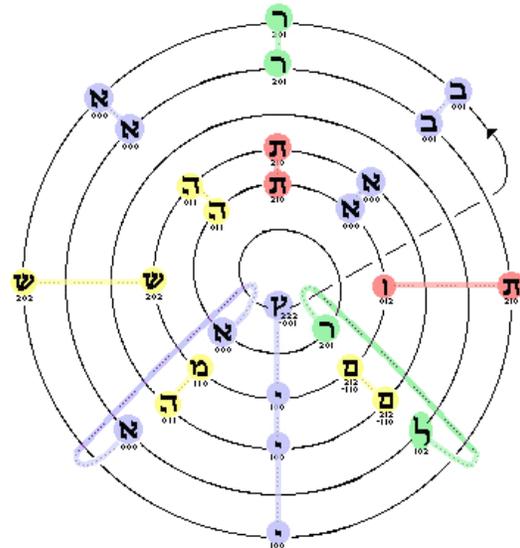
All letter pairs are introduced in the same AABA pattern (shown near the right, above.) The י-ב pair is reversed because it is woven between the initial Bet ב and the Final Zadi ׀ which forms the large framing Aleph א that encompasses the whole verse. The numbers near the letter pairs on the right represent each letter's position in the alphabet counted in Base-3 or Trinary . (Trinary counting, is similar to computer Binary except trinary uses 3-symbols, 0,1,2, instead of binary's 2-symbols, 0,1. Aleph א is count 000.)

THE LETTERS OF GENESIS 1:1, IN ORDER, ON A "BEAD CHAIN."



All the letters are paired **only** when the *bead chain* has 7-turns (6-turns around plus 1-turn back through the center.) The tightest (most elegant) spiral that allows all the letters to be paired has 8-positions per turn, as shown below:

As the *bead chain* is curled up, the letters are arrayed so as to align pairs of the same letter (ב-ב, ה-ה, ש - ש, ׀ - ׀, etc.) or pairs of letters in symmetrical positions in the alphabet. Thus the "odd" Lamed ל, at position (102) in the alphabet, which has no twin, is paired with the "extra" Resh ר, at position (201) in the alphabet. The *trinary* numbers (102) and (201) are symmetrical *mirror images* of each other. The same is true for the He ה (011) & the Mems מ (110), the Vav ו (012) & the Tavs ׀ (210), and the Bet ב (001) & the Yods י(100).



These patterns are so strong that if any letter had been miscopied, added or omitted, it could be uniquely replaced by reference to the patterns of the other letters *alone*.

In the *woven* pattern at the top of the page, the initial Bet ב (001) also pairs, in a different way, with the final Zadi ׀ (222) because (222) in reverse count is (-001). The final Zadi ׀ and the initial Bet ב connect together to form a large, seventh, Aleph א, which encompasses the whole verse. The large Aleph א is the *head* and the *tail* of the *oroboros*, "the snake that eats its tail". This pattern accounts for all of the letters in the first verse of Genesis.



What makes this so important is that:

“These patterns are so strong that if any letter had been miscopied, added or omitted, it could be uniquely replaced by reference to the patterns of the other letters *alone*.”

The 7-turn spiral pattern and the “AABA” pattern of the letters whose Base-3 positions are *mirror images*, when combined, enable us to “*repair*” any lost or miscopied letter.

For example, if one of the Tavs T ך were missing, we would notice that Tav T ך - Vov F ן pairings were defective when compared to the regular “AABA” pattern of all of the other pairs of letters with *mirror image* Base-3 counts. There are 3-Hehs (011) E ף and 1-Mem (110) M ם. The same is true for the 3-Reshes (201) and the 1-Lamed (102), etc. If we believe that the pattern is not likely to be broken, then the “AABA” pattern of the other Base-3 pairs tells us to expect to find the same pattern for the Tavs (210) T ך.

If this is true, then if we find that there are 2-Tavs T ך, we know that there *must* actually be a total of 3-Tavs T ך in the first verse of Genesis. If we do not find three then there *must* be one missing. Further we know that, if the pattern of the other pairing letter pairs holds, there *must* be one pairing of Tav (210) T ך with another Tav AND there *must* be one pairing of a Tav (210) T ך with the one Vov (012) F ן which also *must* be in the first verse. If instead of a questionable Tav T ך, we have the expected (from the pattern of the other letters) 3-Tavs and we do not see a Vov, then we know that a Vov *must* be missing. The symmetry of the spiral pattern even suggests where we should replace the (hypothetically) missing Vov to return the first verse to its intended reading.

If any letter had been miscopied, it could be detected because it would not have a Base-3 twin and it would not be one of the letters whose Base-3 counts are symmetrical. (A symmetrical letter can only be paired with a twin of itself.) Likewise, there would likely be other letters that almost formed the regular “AABA” pattern but with a letter seemingly missing. The *odd* letter, the *missing* letter, the “AABA” pattern and the *spiral* pattern all combine to enable us to “*repair*” the text if it has been damaged

and needs its letters “*re-paired*” with each other. (Pun intended.)

There are some situations where the patterns that we have found in the letter sequence of first verse of Genesis will not enable us to unambiguously correct errors. Usually only one letter can be corrected, because if there are two or more errors the first verse is not long enough to express a pattern strong enough to be trusted and explicit. When more of the text can be examined and these patterns can be refined from a much longer sequence of letters it should be possible to correct more potential errors. On average we estimate that each verse allows for the correction of one letter. Thus the greater the number of verses, the more potential errors can be corrected. This assumes that the patterns continue in a coherent fashion. There is independent evidence from researchers at UCLA and Hebrew University that there are letter level patterns throughout the Hebrew Bible. Meru’s findings suggest how and why these patterns arise and what they may mean.

The presence of *error-correcting* patterns is by itself significant. There is no meaning to correcting a meaningless pattern.

These patterns strongly imply that the Hebrew Bible has *significant* meaning *encoded* in the sequence of letters that make up the texts. Kabbalists have always claimed that this was so, but it has been hard to prove. Even statistical evidence of letter patterns does not really help because statistics do NOT provide meaning.

The patterns we have found are likely statistically verifiable, but that is not the most significant finding. Statistical patterns can be due to meaningful or meaningless causes. The patterns Meru Foundation has found are meaningful in themselves regardless of statistical tests. The patterns in Genesis generate an elegant model of *Continuous Creation* that helps to explain and explicate many Kabbalistic teachings that have eluded understanding and it *generates the letters of the Hebrew alphabet* in a way that confirms the traditional claim that they are *natural, universal, and applicable* as a bridge between physics and consciousness.





Genesis and the *Sepher Yetzirah*

This is the first verse of the Hebrew text of Genesis:

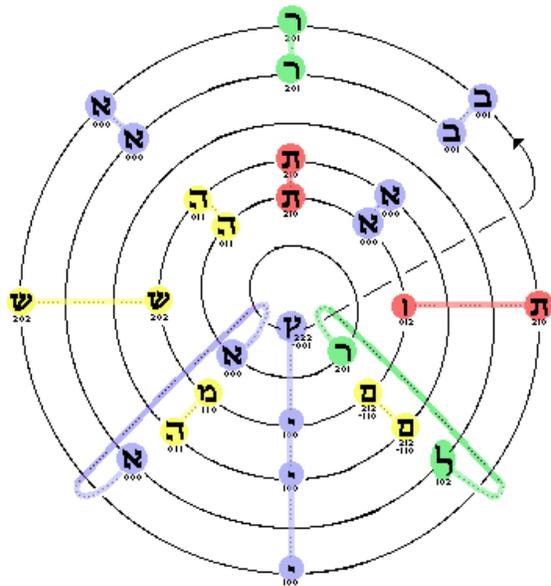
בראשית	ברא	אל-הים	את	השמים	ואת	הארץ
T I S A R B	A R B	W I E- L A	T A	W I M S E	T A F	Y R A E
In The Beginning	Creates	"G-d"	Essence (of)	The Heavens	And Essence (of)	The Earth

Read Right to Left.

English letters shown are operational equivalents, NOT phonetic equivalents, of the Hebrew letters.

Below is the spiral pattern that allows all of the letters of the first verse of Genesis to be paired.

Notice that there are two different sets of letters (I, II, below) which are paired on this spiral form of the first verse of Genesis:



I. There are 4-pairs of letters in the first set:

- Resh (201) ר is paired with Lamed (102) ל,
- Tav (210) ת is paired with Vov (012) ו,
- Heh (011) ה is paired with Mem (110) מ,
- & Yod (100) י is paired with Bet (001) ב.

These letters come in sets of 3-of-one and 1-of-the-other and they are arranged in pairs determined by their Base-3 positions in the alphabet.

These letters are also all arranged in the same "AABA" pattern (presented previously.)

Notice that the Base-3 or *Trinary* count of each of these letter's positions in the alphabet is a *mirror image* of the letter it is paired with. Thus Resh (201) ר is paired with Lamed (102) ל. (201) is a mirror image of (102).

The eight letters in this group are:

ר ו ת ב ל י מ ה

- NOTE: The reason for this unusual order of the paired letters will become clear in the discussion below.

II. There are three letters, Aleph (000) א, (Final) Mem (212) ם, and Shin (202) ש which occur an even number of times in the first verse of Genesis. Thus they are paired only with themselves. Each of the six Alephs א pairs only with another א, the two Final-Mems ם are paired with each other, and the two Shins ש are also paired with each other.

The three letters in this group are: א, ם, ש. (Aleph, Final-Mem, Shin.)

- NOTE: There is also a third type of pairing which is not related to the above. The Final Zadi ז pairs with the initial Bet ב to frame and encompass the whole first verse. (See illustration, below) This produces a "large", seventh, *Shabbos* Aleph א. (*Shabbos* being the seventh *day* of creation, different from the other 6-days because it is a day of rest rather than of active creation.) This pairing will be considered separately elsewhere.



The seventh "Shabbos" א Aleph connects the ends of the verse.

There are also two other features (III, IV, below) of note:

III. The most compact and elegant spiral pattern that allows all of the letters of the first verse of Genesis to be paired has 7-turns (6-turns around plus 1-turn through the middle that connects back to the start), with 8-letter positions possible for each turn.

IV. There are a total of 28-Hebrew letters used in the first verse of Genesis. Because of duplications (which allow the letters to be paired), there are only 12-different letters used.



Genesis and the *Sepher Yetzirah*

The *Sepher Yetzirah* - the Book of Formation (or Creation) - is one of the most important Kabbalistic references. It discusses the creation of the letters of the alphabet. There are no translations of this work that can be read in a way that actually accomplishes this task. As with many non-scriptural texts that have

come down to us in manuscript form, it is not always possible to know, unambiguously, where the word divisions are. Thus there are many different readings possible from essentially the same text. This is true of many words and phrases in *Sepher Yetzirah*.

The second verse of the first chapter of *Sepher Yetzirah* is given by R. Aryeh Kaplan in his translation of this work (*Sefer Yetzirah, The Book of Creation, In Theory and Practice*, Sam Weiser, York Beach, Me, 1990) on page 22:

- a Ten Sefirot of Nothingness
- b And 22 Foundation Letters:
- c Three Mothers
- d Seven Doubles
- e And Twelve Elementals.

עֶשֶׂר סְפִירוֹת בְּלִי מָה a
 וְעֶשְׂרִים וּשְׁתַּיִם אוֹתֵיּוֹת יְסוּד b
 שְׁלֹשׁ אִמוֹת c
 וּשְׁבַע כְּפוּלוֹת d
 וּשְׁתַּיִם עֲשָׂרָה פְּשוּטוֹת: e

Note: Line numbers, a,b,c,d,e, have been added.

We will examine each line of this verse separately.

Line a reads:

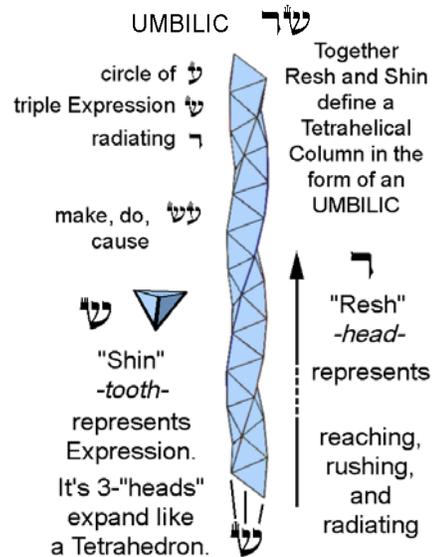
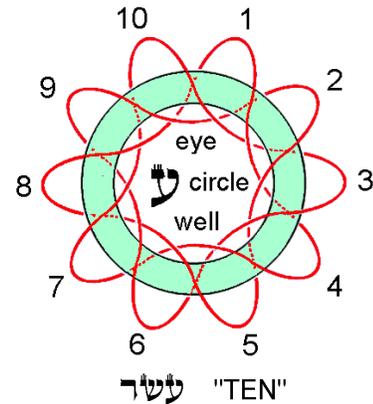
עֶשֶׂר סְפִירוֹת בְּלִי מָה
Ten Sefirot of Nothingness.

Because the word divisions are not known unambiguously, we can run the letters together and then divide them differently: עֶשֶׂר סְפִי רוֹתבְּלִימָה. When we examine this sequence we notice something unexpected:

The last 8-letters - רוֹתבְּלִימָה - are exactly the same letters that form the "ABA" pattern in the first verse of Genesis. They form the first class (the 4-pairs of set I, above) of letters on our spiral diagram of Genesis 1:1. This identification is entirely unexpected; it is unknown in any prior reference that has come down to us.

We can also understand the other two words that remain. A-SaR עֶשֶׂר, "Ten," can be identified with the 3,10 Torus Knot. The 3,10 Knot has 10-points. It consists of a *circle* or *ring* woven like an umbilicus (modeled as a tetrahelical column.)

The Resh R ר denotes *reaching* and extension; the Shin (or Sin) S ש denotes a *Tetrahedron* (the 3-heads of the Shin correspond to the 3-sides of the tetrahedron); the Ayin O ע denotes a *circle* or *ring*. (Ayin literally means eye or well; its old form is a *circle*.) S-R עֶשֶׂר can denote an umbilicus in Hebrew. Our geometric letter analysis is shown at right:



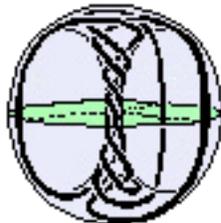
A-SaR עֶשֶׂר "TEN" Designates A Circular Umbilicus



The next word SuFI ספי refers to the 3,10 Torus Knot in its *spherical* form.

The Samek-Pe ספ ("wool") root has been identified with a spherical form in some references and our geometric analysis suggests that it refers directly to the *Ain Sof* אֵין סוף in Kabbalah, to the *SuFI* ספי dancer in the poet Rumi's description of the *Mevlevi Sufi Round Dance*, to the *SoFla* - the wisdom aspect of G-d in Christian teachings, and to the *storm cloud* or whirlwind called *SuFah* (which appears in Exodus.)

The Meru Foundation model of *Continuous Creation* (see *Torus, The Journal of the Meru Foundation*, Vol.2, No.2 and 3.) is a spherical form of the 3,10 Torus Knot.



ספי - "SuFI"

Ain Sof	(Hebrew - G-d in Kabbalah)
SuFah	(Hebrew - Storm or Whirlwind)
SoFla	(Christian - Wisdom of G-d)
SuFI	(Moslem - Rumi's Round Dance)

The SuFI ספי model of *Continuous Creation* above divides the sphere into six model human *hands*. These *hands* cast shadows which are all of the *Rashi*-style Assyrian *Merubah* Hebrew letters. (see *Torus*, Vol.2, No. 3, 4.) Thus, if this interpretation is correct, *Sepher Yetzirah* really does describe the *formation* of the Hebrew letters.

Here is SuFI ספי letter by letter: SaMeK ס designates a *SMoKe ring*; Peh פ is a mouth or *speech*; Yod י is a *hand*. The letters come from a *hand* taken from a Torus knot - a *smoke ring*. They are intended for *speech*.

Continuous Creation is a modern *model* of physical creation derived from the geometry of the first verse of Genesis, the *path* (or *way*) to meditational Unity, and the archetypal *Hero's Journey* in the world.

Taken together עשר ספי "Ten Spheres" designates the spherical form of the 3,10 Torus knot representing *Continuous Creation*. The next 8-letters that follow are, in fact, the letters in the first verse of Genesis that actually produce the spherical form of the 3,10 Torus Knot when they are paired. (The 3,10 Torus Knot is directly related to the 7-turn spiral pattern of Genesis 1:1.)

Line *b* says:

ועשרים ושתים אותיות יסוד
"And 22 Foundation Letters"

There are 22-triangular faces - one for each of the Hebrew letters - on each of the 3-ribbons of a unit turn *tetrahelical* column. (see drawing on previous page) The unit tetrahelical column contains 33-tetrahedra. This enables the unit tetrahelical column to model the 33-vertebra of the human spinal column - the "Foundation" of the human body. In Hebrew, *foundation* is יסוד Yi-SOOD, while the material of the spinal column, CaCO₃ - literally "limestone" is סיד SeeD.

The next line, *c*, mentions the three *mother* letters which are later identified in *Sepher Yetzirah* as Aleph א, Mem מ, and Shin ש.

שלוש אמות
"Three Mothers"

In the first verse of Genesis there are 3-letters that form the second set of pairs. They are Aleph א, *FINAL* Mem מ, and Shin ש. We do not have a ready explanation for the use of the *FINAL* form of Mem מ instead of the more commonly used *medial* form of Mem מ, but otherwise these three letters are the same as the *Three Mothers* שלוש אמות mentioned in this verse.

Line *d* refers to:

ושבע כפולות
"And Seven Doubles"

If, however, we examine the word K'Phulot כפולות we find that it does not exactly mean "doubles." K'Phulot can also refer to multiplication (which is an *unfolding* process).

In Hebrew, root words that are spelled with the same letters often have closely related meanings even when the order of the letters in the root is different. The root L-P ל-פ can refer to a LooP, a LaP, or other circular form. (LaPhooph לפוף means "wrapped or coiled around") In English the P-L root can also refer to a *PoLe* - the end of an axis of rotation.

The first verse of Genesis fits most elegantly on a spiral form consisting of 7-loops or laps (6-around plus 1-loop back through the center.)

The "Seven Doubles" thus refer to the 7-loops of the spiral pattern discussed in feature III, above.



The final part of the verse, line e, says:

ושתיים עשרה פשוטות

“And Twelve Elementals.”

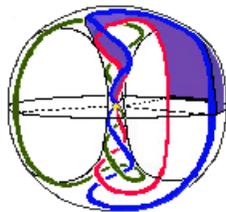
These are the 12-different *single* (P’shotot פשוטות means “*simples*” or “*elementals*”) letters used in the first verse.

12-spheres packed around a center sphere form a *cube-octahedron*. This form defines the geometric shape of the model of *Continuous Creation*.

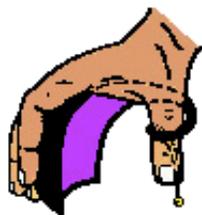
The upper half of the model of *Continuous Creation* consists of three model *Hands*. There are three *thumbs* in the center and a total of 12-*fingers* on the equator of the sphere of *Continuous Creation*.

These twelve spheres or *fingers* can be identified with:

- the 12-*Tribes* in Judaism,
- the 12-*Apostles* in Christianity,
- the 12-*Imams* in Islam,
- the 12-*Knights* around the Round Table,
- the 12-*Months* of the solar year,
- the 12-*Houses* of the astrological Zodiac,
- and the circle of
- 12-*Dancers* of Rumi’s *Round Dance*
- among many other examples.



3,10 Torus Knot Model of *Continuous Creation* showing one **HAND**



Right **HAND** showing 4-*Fingers* on Equator

Conclusions

If we compare the second verse of the first chapter of *Sepher Yetzira*, understood as above, with the letter sequence of the first verse of the Hebrew text of *Genesis*, we find that the verse from **Sepher Yetzira is describing the essential features of the letter text of Genesis.**

- What is most important is that we have identified the sets of letters that we found are paired in *Genesis* with a poorly understood letter sequence - בלי מה (רויה) - in the *Sepher Yetzira*.

- B’Li-Mah בלי מה does not mean “*without what,*” as it is translated by some, nor does it mean “*Nothing,*” as translated by Rabbi Kaplan and others. (-see Quotation below) It might even indicate the *space* in which creation takes place, because the root letters, B(v)-L-I-M-E are very close to the root letters of the English word “*VoLuME.*”

However, if this analysis is correct, the letters simply list the “AABA” Base-3 letter pairs in the first verse of Genesis.

- This *explicitly* confirms that the patterns *Meru Foundation* has found in the Hebrew letter text of *Genesis* were known to the author(s) of the *Sepher Yetzirah*.

- The word or words (sources differ as to whether these letters are one word or two) B’Li Mah בלי מה are now seen to be part of a sequence beginning with the last three letters of the previous word - ריה - . The rest of the second verse of *Sepher Yetzira* can also be seen to be describing essential features of the first verse of *Genesis*.

- It also provides direct understanding - perhaps for the first time in our age - of what the *Sepher Yetzira* is really about - the *formation* of the Hebrew alphabet AND the *Continuous Creation* of our consciousness and of the cosmos as outlined by the letter sequences in the Hebrew Bible.



Here is what Rabbi Aryeh Kaplan says about בְּלִימָה *Beli-mah*, (page 25, *Sefer Yetzirah*, Sam Weiser,1990):

“Of Nothingness

“The Hebrew word here is *Beli-mah* (בְּלִימָה). This word can also be translated as meaning closed, abstract, absolute or ineffable.

“This word occurs only once in scripture, in the verse, ‘He stretches the north on Chaos, He hangs the earth on Nothingness (*Beli-mah*)’ (Job 26:7). According to many commentaries, the word *Beli-mah* is derived from the two words, *Beli*, meaning ‘without,’ and *Mah*, meaning ‘what’ or ‘anything.’ The word *Beli-mah* would then mean ‘without anything,’ or ‘nothingness.’

“According to this interpretation, the designation ‘Sefirot of Nothingness’ is used to indicate that the Sefirot are purely ideal concepts, without any substance whatever. Unlike letters which have form and sound, the Sefirot have no intrinsic physical properties. As such, they are purely conceptual.

“Other sources state that *Belimah* comes from the root *Balam* (בָּלַם), meaning ‘to bridle.’ This is found in the verse, ‘Do not be like a horse or a mule, who do not understand, whose mouth must be bridled (*balam*) with bit and rein’ (Psalms 32:9).

“This second interpretation seems to be indicated by the *Sefer Yetzirah* itself, since it later says, ‘Bridle (*balom*) your mouth from speaking of them’ (1:8). According to this, *Belimah* would be translated as ‘ineffable.’ The text is speaking of ‘Ten Ineffable Sefirot,’ indicating that they cannot be described in any manner whatever.”

We can see from Rabbi Kaplan’s discussion that the meaning of *Belimah* is not clear. It is not even clear if *Belimah* is one word or two words. Our observation that the last three letters of the previous word, plus the letters that spell what *appears to be word* (or two words) *Belimah*, provides an explanation for the meaning of this “word.” It is not really a word at all. It is merely a string of letters that determine the weave of the first verse of the Hebrew text of Genesis.

Appendix to *Genesis and Sefer Yetzirah: T’li-GalGal-Lav*

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The pairing pattern of letters at the beginning of B’reshit (Genesis) leads to the **Continuous Creation** model (see the Continuous Creation poster at <www.meru.org/contin.html>), which consists of exactly six hands.

The Continuous Creation model can be described with unusual and extraordinary elegance and precision by examining its 1-, 2-, and 3-dimensional symmetries. There is no more mathematically elegant and compact way to describe a fundamental form than to take but 3 “snapshots” of it, one in each of the three spatial dimensions. This is perhaps one of the most elegant mathematical descriptions possible, and to mathematicians it’s immediately striking.

The model hand, **FIRST HAND_m**,  is defined by the number and shape of the lines, the surfaces, and the volume of the form of **Continuous Creation**.

Its *1-dimensional* quality is that the 3,10 Torus knot of **Continuous Creation** consists of 3-loops: 

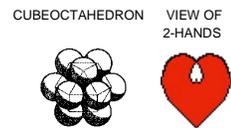
Its *2-dimensional* quality is that the 3 loops form the edge of seven surface-areas - which make up the 7-color map that defines the torus: 

Its *3-dimensional* quality is that the shape of its 3-D volume is defined by the 12-around-1 cubeoctahedral sphere-pack.

Thus, in *1-D*, it’s *3-fold* - and looks like a snake (T’li).

In *2-D*, it’s *7-fold* - and looks like a “wheel of wheels” -- a torus (Gal-Gal).

In *3-D*, it’s *12-fold* - and looks like a heart-shaped volume (Lav), -- that is defined by the 12 spheres of a cubeoctahedron.



This is a unique identification. It includes identification of the descriptive words, T’li, Gal-Gal, and Lav, as well as their unique geometric relationship to the three numbers, 3, 7, and 12.

