



## *Mensionization Complementation*

### *The Mathematics of Hermetic Alchemy*

## *Hermetic Alchemy and Nikola Tesla's 3, 6, and 9*

This explication uses CCS (*Colored Coded Semantics*) for *Intuitive Learning*.

To understand the *Tesla (3-6-9)* and *Hermetic Alchemy* you must also understand the mathematical  $2^n$  *exponential* expansion and *Digital Roots*.

### *$2^n$ & Digital Roots*

The value  $2^n$  in mathematics is called an “*exponential*” because it contains an *exponent*. There are two *positions* in the exponential  $2^n$ ; the numerical value “2” is termed the *base* and the “n” is termed the *exponent*. For this explication’s use, the exponent “n” will *only* contain positive *integer* values; the *exponent’s* value’s range will be 0, 1, 2, 3, ...  $\rightarrow n$  (no fractions).

You may be wondering why the value *two* (2) is used in the exponential. The *two* (2) is the *base* of the *binary* number system whose values only contain the numbers *zero* (0) and *one* (1). The numerical number *two* (2) in  $2^n$  is very significant in all philosophies because it represents the “*Duality of Nature*,” the *Volatile* (1) and *Fixed* (0) of *oppositions* in *Hermetic Alchemy*; the *Yin* (0) and *Yang* (1) of the *I Ching*, and *Chokmah* (1) and *Binah* (0) of the *Kabbalah*. It is also known *universally* as the *two* genders *Masculine* (1) and *Feminine* (0). *Hermetic Alchemy* principles and the *Tesla (3-6-9)* are based on the order of the  $2^n$  expansion.

The *Binary Number* system is included because it provides a set of mathematics that is used in many Logic disciplines such as *Boolean Algebra* and more important it is the *zero* (0) and *one* (1) in computer technology.

A table of the exponent “n” values for the  $2^n$  expansion is shown below which results in the *Binary-decimal values* for each exponential.

$$2^n$$

$$2^0 = 1$$

$$2^1 = 2$$

$$2^2 = 2 \times 2 = 4$$

$$2^3 = 2 \times 2 \times 2 = 8$$

$$2^4 = 2 \times 2 \times 2 \times 2 = 16$$

$$2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$$

You can readily observe that the *exponential expansion* sequence of  $2^n$  is simply a *successive multiplication* of the *base (2)* of the *exponential "n"* times. Simply stated, its *blue* decimal values *double* each time you *increase* the exponent by *one (1) integer* unit.

The *Digital Root* is a basic math operator in *number* relationships. A *Digital Root*, when *calculated manually*, is simply a *successive summation* of the compound numbers encountered within *number* computations. By *successively* summing each compound number, the remaining *single* number is its *Digital Root*. For example the random number **768** shown below has a *Digital Root* equal to a *single* number *three (3)*.

$$768 = (7+6+8) = (21) = (2+1) = 3 \rightarrow \text{"a Successive Summation"}$$

*Digital Roots* are very versatile in that a correct addition of the numbers arranged in any form will give the *exact* same *Digital Root* number; however a *Digital Root* is a different type of *sum* of numbers. We initially form a *sum* of one single compound number's *units* by successively adding each individual number within the compound number. In the following table the versatility of *Digital Roots* is shown.

### *Digital Roots of November 07, 2013 (11-07-2013)*

1. *November 07, 2013* =  $(11+0+7+2+0+1+3) = (24) = (2+4) = 6$
2. *Single digits*  $(1+1+0+7+2+0+1+3) = (15) = (1+5) = 6$
3. *Double digits*  $(11+07+20+13) = (51) = (5+1) = 6$
4. *Triples & Doubles*  $(110+720+13) = (843) = (8+4+3) = (15) = (1+5) = 6$
5. *Fours*  $(1,107+2,013) = (3,120) = (3+1+2+0) = 6$
6. *Five's & Triple's*  $(11,072+013) = (11,085) = (1+1+0+8+5) = (15) = (1+5) = 6$

- 7. *Six's & Two's*      $(110,720+13) = (110,733) = (1+1+0+7+3+3) = (15) = (1+5) = 6$
- 8. *Random*              $(11+0+7+2013) = (2,031) = (2+0+3+1) = 6$
- 9. *Random*              $(1+10+720+1+3) = (735) = (7+3+5) = (15) = (1+5) = 6$

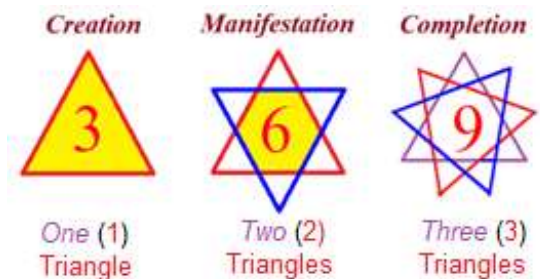
In regular addition you can also arrange numbers in *any* order and retain the same *sum*. The *Digital Root* in number systems is used most often to show the numbers that form the result as in  $(1+5) = 6$ . An example of the expansion of  $2^n$  and its *Digital Roots* are given in the table below.

$2^0 = 1$	1	$2^6 = 64$	$(6+4) = (10) = (1+0) = 1$
$2^1 = 2$	2	$2^7 = 128$	$(1+2+8) = (11) = (1+1) = 2$
$2^2 = 4$	4	$2^8 = 256$	$(2+5+6) = (13) = (1+3) = 4$
$2^3 = 8$	8	$2^9 = 512$	$(5+1+2) = 8$
$2^4 = 16$	$(1+6) = 7$	$2^{10} = 1024$	$(1+0+2+4) = 7$
$2^5 = 32$	$(3+2) = 5$	$2^{11} = 2048$	$(2+0+4+8) = (14) = (1+4) = 5$
1 2 4 8 7 5		1 2 4 8 7 5	

The *six* (6) numbers 1, 2, 4, 8, 7, 5, repeats *infinitely* in *groups* of *Six* (6). Notice the *Digital Root* numbers 1, 2, 4, 8, 7, 5, do *not* contain the *Tesla* numbers 3-6-9; there is *not* an *exponent* of  $2^n$  that produces a 3, 6, 9, or 0. However there exists a  $2^n$  value for the numbers 1, 2, 4, 8, 7, 5 but we must include *Digital Roots* in the process. The numbers 1, 2, 4, 8, 7, 5, are significant in both *Tesla* (3-6-9) and *Marko Rodin's Vortex* theory.

I assume you are familiar with *Nikola Tesla's* calculations and definitions as presented by *Marko Rodin's* theory of his *Vortex Math*. If not, in this explication I will *particularly* discuss how *Tesla's* (3-6-9) applies to the philosophical discipline *Hermetic Alchemy*. However after a short introduction of *Tesla's* arguments I will briefly compare it to *Rodin's* Theory.

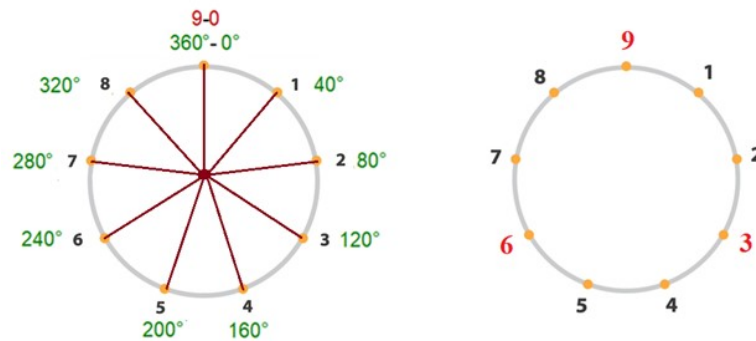
### Primary Tesla Properties



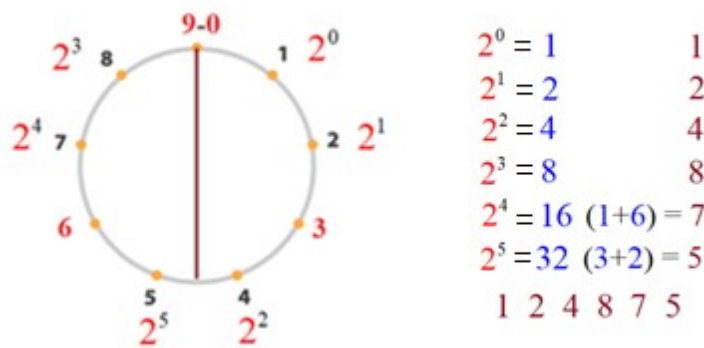
In the explication of *Tesla's* (3-6-9); both 3 and 6 are used separately and in combination. The individual *interactions* of the 3 create the 6 and the 6 is a *physical-material* manifestation of the interactions of 3. The *nine* (9) is seldom mentioned in the process as it is the number of *completion* and *Terror*. In the next topic we will *build* and explain *Rodin's Theory*.

### Building Marko Rodin's Vortex Math Structure

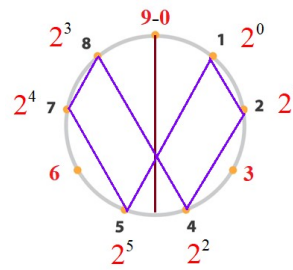
*First* draw a circle, then *measure* and *mark* on the circle *nine* (9) 40° angle points around the circle. *Second*, remove the inner lines leaving only the numbers and points and a *blank* graphic. We will begin with a blank graphic with equal spacing for the *nine* numbers. The *Tesla* (3-6-9) numbers are shown in *red* and the rest of the numbers 1, 2, 4, 8, 7, 5 in black.



### Place the 2<sup>n</sup> Exponentials in their Digital Root Positions

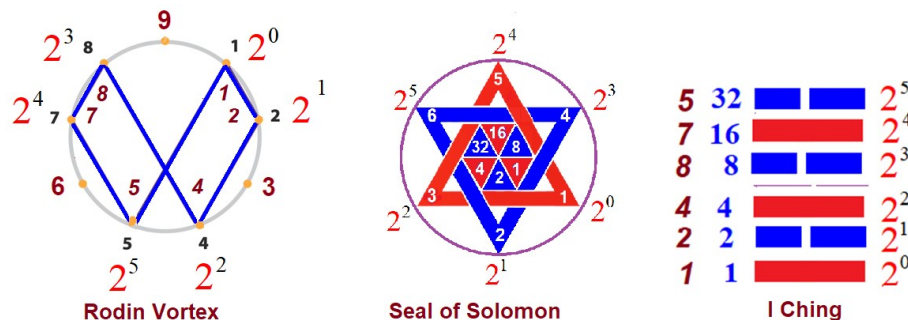


Draw a *vertical* diameter beginning at the 9-0 point separating the circle into two 180° sections or semicircles, the bottom of the diameter should be *half-way* between the numbers 4 and 5. The right side of the graphic above shows the *Digital Root* of the first *six* (6) 2<sup>n</sup> values. Place each exponential 2<sup>0</sup> → 2<sup>5</sup> in their respective 1, 2, 4, 8, 7, 5 *Digital Root* positions as shown above. We now have the *Rodin* circle in terms of its 2<sup>n</sup> value along with the *Tesla* 3-6-9.



In the graphic above, begin at the  $2^0$  position and draw a short line between  $2^0$  and  $2^1$  ( $2^0 \rightarrow 2^1$ ), next draw a line from ( $2^1 \rightarrow 2^2$ ), another line ( $2^2 \rightarrow 2^3$ ), crossing the diameter; next a short line ( $2^3 \rightarrow 2^4$ ), then ( $2^4 \rightarrow 2^5$ ), and a last line ( $2^5 \rightarrow 2^0$ ), again crossing the diameter.

The double-sided *parallelogram* formed in the graphic above is *Rodin's Vortex*. Mathematically, if you consider the double parallelogram as one "cycle", you could possibly explain the parallelogram structure in terms of an inner circular-type motion that would resemble the normal circular motion of a *vortex*, however this relationship was not found in any my observations of his works. The actual movement is a repetition of the numbers 1, 2, 4, 8, 7, 5 or the exponentials  $2^0, 2^1, 2^2, 2^3, 2^4$ , and  $2^5$ . He describes the movement as a *Vortex circular type* movement where the *Tesla 3, 6 and 9* are the numbers that created and manifested the movement. Rodin did not include the  $2^n$  expansion and *cycle* connection in his diagrams. He only described the process as similar to a human cell *doubling* each time in its divisions. Not explaining the  $2^n$  expansion, cycle, and its properties did not satisfy the mathematics "rigor" requirements.  $2^n$  is the basic operator within this structural system and it gained very little attention from the math society. At this point *Rodin's* theory and *terminology* seemed to progressively break down. In the graphic below we will compare Rodin's structure to other structures that provide the same  $2^n$  information.



Notice the  $2^n$  expansion values on each graphic. They were absent on the Rodin *vortex* graphics.

I placed the  $2^n$  values in their correct position to show the graphic is simply a different way to explain an expansion of  $2^n$ . Although, he can be given credit for a unique approach in metaphysics, it is a long way from being "*The Fingerprint of God*" as the "YouTube" videos' portrayed it.

I'll leave it for you to decide the validity of *Rodin's* theory because the following is how *Tesla's* (3-6-9) occurs within the *principles* of *Hermetic Alchemy*. **From this point to the end of the text, be observant of all *Tesla's* (3-6-9) number occurrences and the *Alchemy* principles from which they occurred. It will speak for itself.**

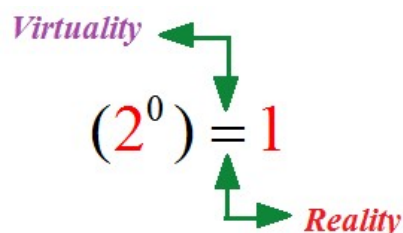
## *Hermetic Alchemy Hierarchy*

An understanding of a basic *structure* of *Hermetic Alchemy* is needed before proceeding with *Tesla's* (3-6-9) comparisons. A *Hierarchy* will be established that defines an orderly progression to follow in the evolution of *Hermetic Alchemy's* properties and principles. *Hermetic Alchemy's* philosophical  $2^n$  mathematical structure will be shown as it is also a *generic blueprint* for the other early philosophies. The  $2^n$  expansion creates a mathematical sequence that will define an orderly *hierarchy* in the different philosophies and *theology*.

An expansion of  $2^n$  is shown again below, it is an exponential representation of the *doubling* of *properties* and *principles* by *dimension*. Each one (1) *integer* unit exponent increase of  $2^n$  *doubles* the previous exponents' numerical values. The *doubling* of the values is equivalent to the *doubling* of *Principles* in *Hermetic Alchemy*. The following sequence is the mathematical structural order of the *Hermetic Alchemical* hierarchy.

$$2^0 \rightarrow 2^1 \rightarrow 2^2 \rightarrow 2^3$$

The *beginning* point is the *Virtual* to *Real* transformation.



## **The Virtual 0-Dimensional Binomial State $\mathbb{R}^0$**

$$f(m_0) = (\alpha + \beta)^0$$

*A beginning incorporeal, “unseen,” virtual barrier when crossed becomes the **ONE**, the Deity, the Mension, the Prima Materia, the T'ai Chi, +...+ The Principium.*

*Nature* was first believed by the early *Hermetic* philosophers to consist of a virtual incorporeal world of the *unseen* and a physical world of *Reality* that could be seen and detected by our *five* (5) senses. A beginning level of  $2^0$  is representative of the boundary between the *virtual* incorporeal *unseen* realm and the *material* physical realm. The mathematical  $2^0$  is a 0-dimensional boundary between *virtuality* and dimensional *reality*.

Once the boundary is crossed, the result is a *Principium* [beginning manifestation ( $2^0 = 1$ )]. The significance of the number *one* (1) in ( $2^0 = 1$ ) is *universal*. The one (1) is the essential *energy* and *position* needed for a beginning manifestation in our physical world that resulted from crossing of the *virtual* barrier and entering the material world. It has universal *units* and *meanings*. Any meaning can be applied to this *unit*. In *Alchemy*, it is known as the “*Prima Materia*,” in the *Kabbalah* it is the sephirah “*Kether* (*Ein Soph*);” in the oriental “*I Ching*, it is the *T'ai Chi*,” in *Theology* it is represented as “*Deity*,” and it could also represent *you* as an *integralized* Human Being.

$$(2^1) = 2$$

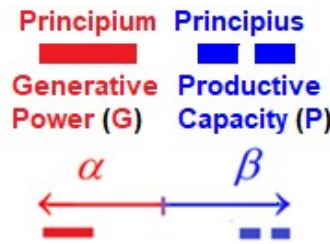
## **The 1-Dimensional Binomial State $\mathbb{R}^1$**

$$f(m_1) = (\alpha + \beta)^1$$

*The Duality of Nature. The  $\alpha, \beta$  Oppositional Duality. The Binary (0, 1). The concept of Opposition, Masculine & Feminine. It is the number (2) in ( $2^n$ ). The Formation of a Principium and Principius*

This state was the beginning observations of *oppositional* dualities, a *Principium* and *Principius*

such as *day-night*, *dry-wet*, *hot-cold*, and the magnitude of others.



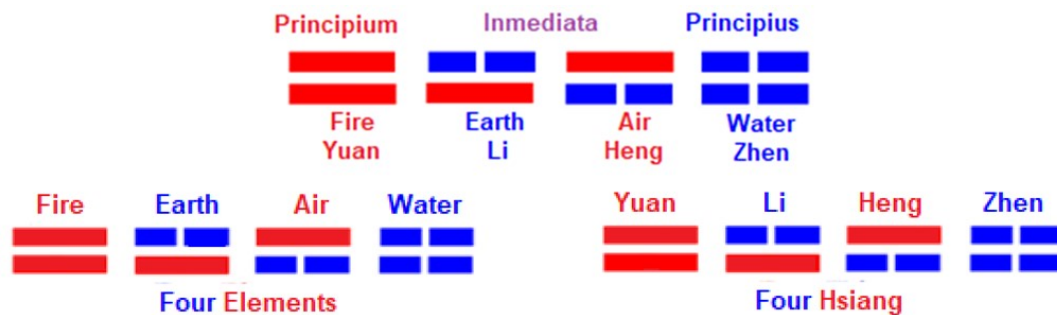
The result from this reality based observation convinced the early *Alchemical* philosophers that *Nature* was just an organized system of the interactions of *oppositional dualities*; where the dualities were *opposite* in their nature.

$$(2^2) = 4$$

*The 2-Dimensional Binomial State  $\mathbb{R}^2$*

$$f(m_2) = (\alpha + \beta)^2$$

*The Expansion of the 1-dimensional Oppositional State; the Four Element Bigrams; Fire, Earth, Air, and Water; the Four Hsiang Bigrams; Yuan, Li, Heng, and Zhen. The Formation of a Principium, Inmediata, and Principius. A Beginning, Middle, and End.*



The *2-dimensional* expansion is the interactions of the *Four Elements* of *Hermetic Alchemy* and the *Four Hsiang* bigrams of the *I Ching*. The *Four Elements* were believed to be a fundamental cause for the differences that occur within the *material* world and also *human nature*. *Note*: the *Four Element's* symbols (*Bigrams*) are found *only* in  $\mathbb{R}^2$  2-dimensional systems.

The *I Ching* has a system of five (5) elements; however, it also has what is termed "The *Four Hsiang*" which is an analog of *Alchemy's Four Elements*, and is known as the "*Bigrams*" (*Old*

Yang, Young Yang, Young Yin and Old Yin). The *Bigrams* were used in the *I Ching* as an *intermediate* step between the duality *Yin* & *Yang* symbols and the *trigram's* symbols, plus, they are also inadvertently included in interactions similar to the *Alchemist's Four Elements*.

$$(2^3) = 8$$

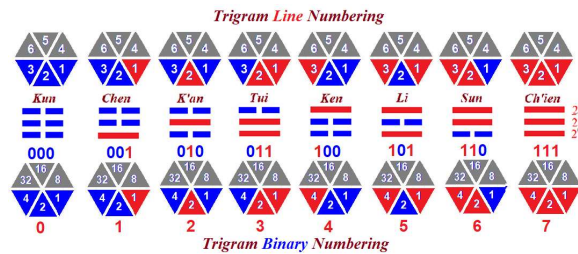
The **3- Dimensional Binomial State Tesla's (3)  $\mathbb{R}^3$**

$$f(m_3) = (\alpha + \beta)^3$$

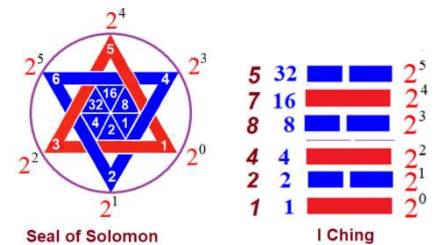
A system of *Trinities (3)*; the *Tria Prima (Sulphur, Salt, Mercury)*; (*Soul, Body, Spirit*); (*x, zed, & y*). The *Eight (8) Trigram Three's (3)*; the *Duality of Trigrams*.

The *Hexagram (6)*.

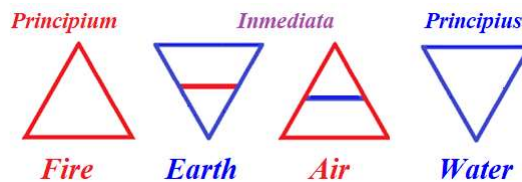
The *Eight Trigram's (3's)*



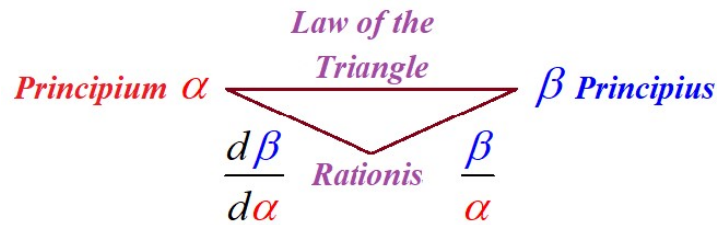
The *Hexagrams (6)*



The *six-(6)* pointed star (originally termed as a *Sexanary*) had its beginning in *Alchemy* as a *single equilateral* triangle. The *Four Elements* symbols were the first *single* equilateral triangles whose (3) sides were used to define their 3 properties of *Cardinal, Fixed & Mutable*.



The 3-dimensional state is the formation of a *Principium, Rationis, and Principius*. The *Law* of the *Triangle*, where two (2) entities interact to produce a *third* (output or *Rationis*).



The *double* equilateral triangle or *sexanary* has had a long history in *Jewish* mysticism and the *Kabbalah* where it is known as the *Seal of Solomon*. To understand *Hermetic Alchemy's* use of the *double* triangle (*Sexanary*) a brief explanation is given below.

### Seal of Solomon Hexagrams

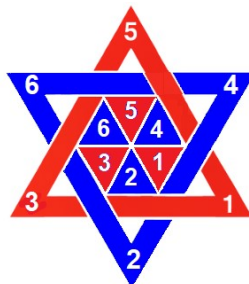


Shield of David Seal of Solomon

There is an important philosophical difference between the two graphic structures above. In modern times people reference the "*Shield of David*" as the "*Star of David*." *King David*, although unsupported by archaeology, used the *motif* on his shield in their various wars. It became known as the *Star of David* in the late 19<sup>th</sup> century when the *Zionist* movement made it their *official* seal. It eventually became the *logo* for the Flag of Israel.

The *Seal of Solomon* was anciently used as a *motif* by many different philosophies as a reference for some of their *beginning* principles. *Solomon* was noted for his early involvement in the mysteries and the occult. Notice the interlocking triangles within the *Seal of Solomon*. The triangles were first combined in *Alchemy* one above the other in an inner-locking fashion to represent the inherent bond between *oppositions* where one cannot exist without the other. i.e., *Opposites* must occur in "*pairs*."

The following *example* graphic shows how each hexagram is presented and the inner Hexagon's graphic's individual numbering of its *six* (6) *interior* equilateral triangles.



The *interior hexagon's* equilateral *triangles 1, 2, & 3* of the graphic are in a *clockwise* direction and *triangles 4, 5, & 6* are in an *counter-clockwise* direction. This arrangement solves a *Binary* value operation in the use of *Binary Trigrams*, where each trigram *opposite pair* sums to a *binary* value of *seven (7)*, which can be seen in the *red* and *blue's 180°* alignment of the its' numbering.

The *3-* dimensional system ( $2^3 = 8$ ) expansion has been one of the most investigated of principles. Its fundamentals are almost entirely within the *integer* value of its exponent *three (3)*, known as a "*Trinity.*"

The *Trinity's* notable beginning came in the form of an early *theological* belief in "a *triune Deity.*" From this belief, associations of *three (3)* expanded. The following quote is from *Albert Pike's Morals and Dogma* which was sanctioned in the late nineteenth century by the Supreme Council of the *Thirty-Third (33<sup>rd</sup>)* Degree for the Southern Jurisdiction of *Freemasons* of the United States.

**[Albert Pike, Morals and Dogma; Philosophical Trinities]** *The ONE* designates harmony, order, or the Good Principle (the One and Only *Deity*), expressed in Latin *Solus*, whence the words *Sol, Soleil*, symbol of the *Deity* or *G-d*. The interpretation of the *Hermetic* fables shows, among every ancient people, in their principal gods, first, *1*, the Creating Monad, then *3*, then *3 times 3*, *3 times 9*, and *3 times 27*. This *triple* progression has for its foundation the *three* ages of *Nature*, the *Past*, the *Present*, and the *Future*; or the *three* degrees of universal generation, *Birth*, *Life*, *Death*, *Beginning*, *middle*, *end*. The *Monad* was *Male*, because its action produces no change *within* itself, but only *out* of itself. It represented the *Creative Principle*. *Two*, or the *Duad*, is the symbol of Antagonism; of *Good* and *Evil*, *Light* and *Darkness*. It is *Cain* and *Abel*, *Eve* and *Lilith*, *Jachin* and *Boaz*, *Ormuzd* and *Ahriman*, *Osiris* and *Typhon*. The *Duad* is the origin of contrasts. It is the *imperfect* condition into which, according to the *Pythagoreans*, a being falls, when he detaches himself from the *Monad*, or *Deity*. Spiritual beings, emanating from the *Deity*, are enveloped in the *duad*, and therefore receive only *illusory* impressions.

*Three*, or the *Trinity*, is most significantly expressed by the *equilateral* and the *right angled* triangles. There are *three* principal colors or rays in the rainbow, which by intermixture make *seven*. The *three* are the blue, the yellow, and the red. The *Trinity* of the *Deity*, in one mode or other, has been an article in all creeds. He *creates*, *preserves*, and *destroys*. He is the *Generative Power*, the *Productive Capacity*, and the *Result*. The *immaterial* man, according to the Kabbalah, is composed of vitality, or life, the breath of life; of *soul* or *mind*, and *spirit*. *Salt*, *Sulphur*, and *Mercury* are the great symbols of the alchemists. To them man was *body*, *soul*, and *spirit*. *NINE* is the square of the *trinity*, and is represented by the *triple triangle*. The *novary* or *triple ternary*.



*Novary  
Triple  
Triangle*

Hence the name of *ninth* envelope, given to matter. Every *material extension*, every *circular line*, has for representative sign the number *nine*, among the Pythagoreans; who had observed the property which this number possesses, of reproducing itself *incessantly* and *entire*, in every multiplication; thus offering to the mind a very striking emblem of *matter* which is incessantly composed before our eyes, after having undergone a thousand decompositions. The number *nine* was consecrated to the *Spheres* and the *Muses*. It is the sign of every *circumference*; because a circle of *360* degrees is equal to *9*, that is to say,  $3 + 6 + 0 = 9$ . Nevertheless, the ancients regarded this number with a sort of *terror*: they considered it a *bad presage*; as the symbol of *versatility*, of *change* and the emblem of the *frailty* of *human affairs*. Wherefore they avoided all numbers where *nine* appears, and chiefly *81*, the product of *9* multiplied by itself, and the addition whereof,  $8 + 1$ , again presents the number *9*. As the figure of the number *6* was the symbol of the terrestrial globe, animated by a divine spirit, the figure of the number *9* symbolized the *earth*, under the influence of the *Evil Principle* thence the *terror* it inspired. Nevertheless, according to *Kabbalists*, the

figure 9 symbolizes the generative egg, or the image of a little globular being, from whose lower side seems to flow its spirit of life. The *Ennead*, signifying an aggregate of 9 things or persons, is the first square of unequal numbers. Everyone is aware of the singular properties of the number 9, which, multiplied by itself or any other number whatever, gives a result whose final sum is always 9, or always divisible by 9. *Nine*, each member whereof, composed of two figures, presents a remarkable fact; for example: multiplied by each of the ordinary numbers, produces an arithmetical progression.

If the number *three* was celebrated among the ancient sages, that of *three times three* had no less celebrity; because, according to them, each of the *three* elements which constitute our bodies is *ternary*: the *water* containing *earth* and *fire*; the *earth* containing *igneous* and *aqueous* particles; and the *fire* being tempered by globules of *water* terrestrial corpuscles which serve to feed it. Not one of the *three* elements being entirely *separated* from the *others*, all material beings composed of these *three* elements, whereof each is *triple*, may be designated by the figurative number of *three times three*, which has become the symbol of all formations of bodies.

The Egyptians arranged their deities in *Triads* the *FATHER* or the Spirit or *Active Principle* or *Generative Power*; the *MOTHER*, or *Matter*, or the *Passive Principle*, or the *Conceptive Power*; and the *SON*, *Issue* or *Product*, the Universe, proceeding from the two principles. These were *OSRIS*, *ISIS*, and *HORUS*. In the same way, *PLATO* gives us *thought* the *Father*; *Primitive Matter* the *Mother*; and *Kosmas* the *World*; the *Son*, the *Universe* animated by a *soul*.

Pike's above explication will be referenced many times. If you observe deep enough you can find a basic *trinity* (3) in every philosophy and multiple *trinities* in theology. Our early mathematics teach us how to determine a *result* or *slope* (*Rationis*), from interactions of the duality *x* and *y* in algebra. The *Law* of the *Triangle* (3), where two (2) entities interact to produce a *third* (output or *rationis*).

Each philosophy has a beginning *Trinity (3)* as its cornerstone; the *trinity* was not only an identifier of the philosophy but an indicator of the content that would determine its principles.

### ***The Trinity (3) of Parallels in Various Disciplines***

<u><b>ALCHEMY</b></u>	<u><b>I CHING</b></u>	<u><b>KABBALAH</b></u>	<u><b>ASTROLOGY</b></u>
<b><i>Sulphur</i></b>	<b><i>Heaven</i></b>	<b><i>Soul</i></b>	<b><i>Sun Sign</i></b>
<b><i>Salt</i></b>	<b><i>Man</i></b>	<b><i>Body</i></b>	<b><i>Ascending Sign</i></b>
<b><i>Mercury</i></b>	<b><i>Earth</i></b>	<b><i>Spirit</i></b>	<b><i>Moon Sign</i></b>

The *three (3)* most Important *Creative Elements* in *Hermetic Alchemy* are the *Tria Prima* (The *Three Primes*) *Sulphur*, *Salt* and *Mercury* however it does not end there. A *Tria Prima* can be defined simply as *three* entities which form a *complementary trinity* based relationship with each other; The *Four Element's* complementary *trinity* relationship is divided into *Cardinal*, *Fixed*, and *Mutable* modes, the *Law* of the *Triangle* is a *complementary trinity* relationship. One of the more familiar *Tria Prima* sets is time's *Past*, *Present*, and *Future*. The "term" *Tria Prima* is strictly reserved for the terms *Sulphur*, *Salt* and *Mercury* although there are others that match this nature.

### ***A Misconception within Hermetic Alchemy.***

There is a *misconception* that still remains within the *Alchemical 3-dimensional* complementary properties of their elements. I will show the arguable *tenet* and correct the misconception that has been in the texts for ages. We will begin within the *hierarchy* of the *Alchemists*.

The essential early phrase and misconception is within the *Alchemist's* original definition of the *Quintessence* of *Matter*. "The *Four Elements* with the addition of the *Quintessence*" is a *correct*, generalized phrase and was how it was understood in the earlier texts. The *Quintessence* has had several lateral meanings over the ages; from its beginning to the early modern era it was presented as *Aether*. The concept of *Aether* also known as the *fifth* element or *quintessence* was at first thought to be the material that fills the region of the universe beyond the earth's sphere; it was thought to be the *air* in which the gods breathed and was prominent in early philosophy. However in the modern era it is generally assumed *not* to exist. It wasn't until 1905, when Albert Einstein published his Special Theory of Relativity, which did *not* include the *Aether*, physicists

began to accept the hypothesis that *Aether* did not exist. The negative outcome of the Michelson–Morley experiment in 1887 suggested it also; however there are still many physicists that believe it exists and could be a possible explanation of *Dark Matter*. The misconception in *Alchemy* occurs within the numerous uses and definitions of *Aether*. The holistic *concept* of *quintessence* is true in this case because there *is* a “*fifth*” property that involves *matter* and the *Four Elements* which does not fully match the general understanding of the term *quintessence*; it is the “*Tria Prima*.”

A *correct* meaning of the phrase above is “the *Four Elements* with the addition of the *Tria Prima*.” However, a more correct statement is “the *intermingling* of *three (3) sets* of *Four Elements* within the *Tria Prima*.” An improper use of *Quintessence* is one of the ways the *Alchemists* hid their actual meanings from the non-initiated.

The *Four Element's Bigrams* are found only in  $\mathbb{R}^2$  2-dimensional systems; therefore; to understand the interactions of the *Tria Prima* and its connection to *matter* and the *Four Elements* we must, by the mathematics of *calculus*, differentiate the equation of the 3-dimensional *Hermetic* binomial opposition  $(\alpha + \beta)^3$  into *permutations* of 2-dimensional systems which *contain* the *Four Elements*. In order to take the *first derivative* of a composite function such as the binomial 3-dimensional function,  $(\alpha + \beta)^3$ , we must use the Calculus' *Chain rule* with  $(\alpha)$  as the independent variable; we can *differentiate* the binomial with the general power rule giving an output of  $n(\alpha + \beta)^{n-1}$  thus completing the “*composite*” relationship rule.

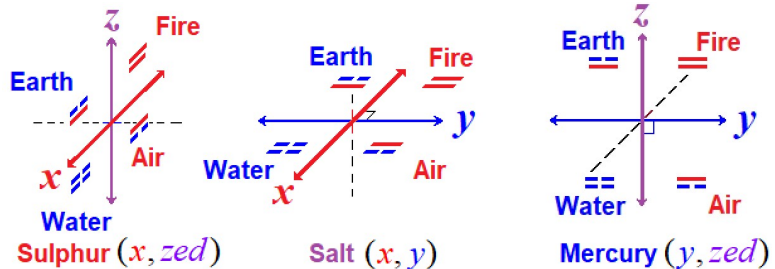
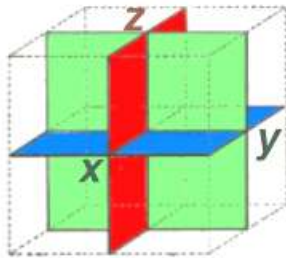
$$\begin{aligned} & \text{Chain Rule} \\ & \frac{d}{d\alpha} [(\alpha + \beta)^n] \\ & n(\alpha + \beta)^{n-1} \cdot \frac{d}{d\alpha} [\alpha + \beta] \\ & n(\alpha + \beta)^{n-1} \cdot \left[ \frac{d}{d\alpha} (\alpha) + \frac{d}{d\alpha} (\beta) \right] \\ & n(\alpha + \beta)^{n-1} \cdot (1 + 0) \\ & n(\alpha + \beta)^{n-1} \end{aligned}$$

When taking the *first derivative* of the 3-dimensional function  $(\alpha + \beta)^3$  we reduce its *exponent* to a 2-dimensional function  $(\alpha + \beta)^2$  and find there are *three (3) permutations* of 2-dimensional systems  $3(\alpha + \beta)^2$  operating within one 3-dimensional oppositional system, the *Sulphur (x x zed)*, *Salt (x x y)*, and *Mercury (y x zed)*. Each of the *three Tria Prima Sulphur, Salt, and Mercury 2-dimensional systems* has a relative set of *Four Elements* as its elements. The intermingling of the *three (3) Four Element 2-dimensional systems* are the twelve *modal* elements within the oppositional structure of the *Tria Prima (Sulphur, Salt, and Mercury)* system which forms *hyper-planes* within the 3-dimensional oppositional system.

### The First Derivative of the 3-Dimensional Function

$$f'(\alpha + \beta)^3 = 1(\alpha + \beta)_{(x, zed)}^2 + 1(\alpha + \beta)_{(x, y)}^2 + 1(\alpha + \beta)_{(y, zed)}^2 = 3(\alpha + \beta)_{(x, zed, y)}^2$$

$$f'(\alpha + \beta)^3 = 3(\alpha + \beta)^2$$



In the graphic on the above left, the *three (3) Four Element 2-dimensional systems' hyper-planes* are shown as a *red, green, and blue* square-plane, where the *Four Elements* are present in each of the *three (3) 2-dimensional hyper-planes*, therefore, there are *three (3) sets of Hermetic Alchemical Four Elements* in operation not just one (1). There is the *Sulphur set (x × zed)*, the *Salt set (x × y)*, and the *Mercury set (y × zed)*.

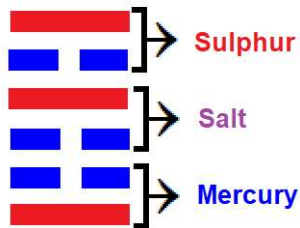
In this case the alchemist's meaning of the *Quintessence of Matter* is the *three (3) Tria Prima sets of Four* fundamental "Modal" elements intermingling and functioning independently and in conjunction with each other within the *3-dimensional "Hermetic Alchemical 2" orthogonal* oppositional system. The resulting *elemental diagram* then becomes a *six (6) figured α,β structure* containing *three (3) Four Element sub-codon positions*, where each sub-codons' *position* represents *one of the three (3) "Tria Prima," Sulphur, Salt, and Mercury* . The *three (3) sub-codon positions* can at any one time contain *any three (3) of the 12 modal elements of the three (3) sets of Four Elements*. It is called a *Hexagram (6)*. It is formed from a *second derivative* of the *3-dimensional binomial opposition*.

$$f^2(\alpha + \beta)^3 = 6(\alpha + \beta)^1$$

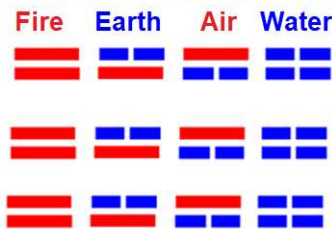
The *12 modal elements* will be defined later on in this topic; however, the *hexagram* is shown in the next graphic below. *Note:* Just as in *DNA's (TCAG) & RNA's (UCAG) bases*, only *three (3)* out of its' four bases, and similarly only *three (3)* single elements out of the *three (3) Four Element sets* are used in the hexagram at any one time to define the *DNA/RNA codon* or define the *6 line hexagram*.

## The Tria Prima System

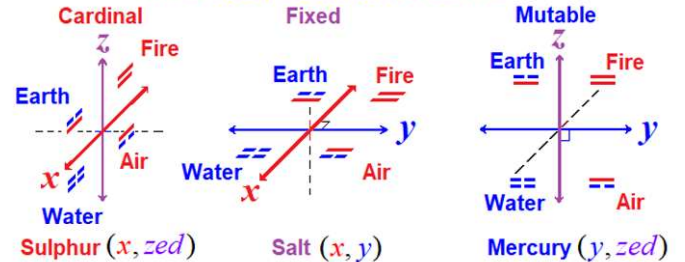
### Hexagram



### Three Sets of Four Elements



### Three Four Element Systems



One of the fundamental tenets of *Paracelsus*, a 16<sup>th</sup> Century, Physician/Alchemist, was that all manifestations are composed of *three* (3) philosophical functions, “*The Tria Prima*, (*The Three Primes*).”

***Anima*, the Soul, (*Sulphur*).**

***Corpus*, the Body (*Salt*)**

***Spiritus*, the Transforming Spirit (*Mercury*)**

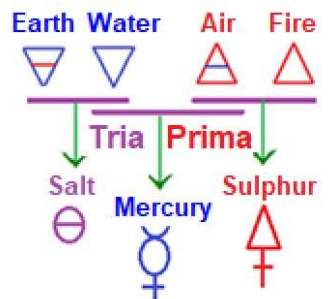
*Sulphur* corresponds to a Volatile, active *Principium* ( $\alpha$  *Generative Power* principle); also in philosophical *human nature*; more often, it was referenced as a *Soul*. *Mercury* corresponds to an expandable *Principius*, ( $\beta$  *Productive Capacity* principle), and *Salt*, (*body*), a result or *Rationis*; the *Rationis* is an algebraic *slope*-type blend of the interactions of the two opposing complementary  $\alpha, \beta$  principles.

Paracelsus' *Three Primes*” belief was instrumental in the *acceptance* of a philosophical *Sulphur* to *Mercury* ratio (*Rationis*), which was a belief that each *metal* was formed having a specific ratio of the philosophical *Sulphur* to the philosophical *Mercury* and that a *metal* could be converted into any other *metal* by adjusting, or changing the philosophical *Sulphur* to *Mercury Rationis*. Therefore, many alchemists believed it was logical to assume lead (*or any other metal*) could be converted into the noble metals of gold or silver if a correct ratio could be found by adjusting the amounts in the *Rationis* of philosophical *Sulphur* to philosophical *Mercury*.

To the *Kabbalists* and *Alchemists*, a human consisted of a *soul*, *body*, and *spirit*; the *three* being analogs or equivalents of the *Sulphur*, *Salt*, and *Mercury* which their codons, by turn, becoming *Volatilized* or *fixed*, composed the *Azoth* or spirit of the sages; in which *Azoth* was believed to be an essential agent or catalyst of transmutation in early philosophy, it had the ability to create life. The essential transforming agent they called *Mercury* or “*Spiritus*,” a name given by the

**Kabbalists-Alchemists** to the animating spirit or *presence* hidden within all matter and manifestations that makes evolutionary reproduction and transmutation possible. According to the alchemists, **Sulphur**, **Salt**, and **Mercury** are the *three-fold* philosophical aspects of all phenomena, to be found in all compounds of a mineral or organic nature. It was postulated that by changing the proportions of the philosophical **Sulphur** to **Mercury** ratio in a compound; it would cause a reproduction or transmutation to occur. Also, in relation to *human nature*; to the philosophers, every phenomenon and manifestation in *Nature* was believed to possess these *three* philosophical attributes, especially the *human being*.

**Sulphur** (*Soul*) was believed to be a composition of the philosophical **Fire** and **Air**; **Mercury**, a mixture of the philosophical **Air** and **Water**; while **Salt** was a composition of the philosophical **Earth** and **Water**. **Sulphur** represented vital *Energy*, *Individuality* and a *Soul*; being that quality or nature of a particular manifestation which distinguishes it from others of the same species, especially when it's intensity is strong. It is the principle of *feeling*, *emotions*, *thought*, and *action* in humans, regarded as a distinct *non* physical entity, and commonly believed to be one of the two spiritual natures of humans that reside within the physical body.



**Mercury**, in philosophy is generally associated with *Gnostics*; *intelligence*, *mind* and *knowledge*; according to whichever philosophy you are referencing, it also has had many lateral definitions over the ages. It was represented at one time as a spiritual immaterial essence, principle, or animating *life force*. In traditional Greek mythology, **Mercury** was the messenger of the Gods, and was in constant movement between the *above* and the *below*. Above being the abode of the Gods or the heavens, and below being the earth or gross matter. Within the human body, **Mercury** is the *spirit*, or the animating life force. Whereas **Sulphur** is a *Soul*, **Mercury** is the life force that moves through the soul and gives it being. It is the *carrier* that brings the *soul* down into the physical world of *Salt* or *body*. While **Sulphur** is the *fuel* for ethereal manifestations of change, **Mercury** is the animating spirit that actually shapes and transforms substances or presences in that change.

**Salt** is a *matter structure* that gives corporeal *reality* to interactions of the *Generative Power* and *Productive capacity*. **Salt** represents the body, as well as physical matter in general, *crystallization*, and *condensation*. **Salt** is the basic matter through which the more spiritual

principles work. Each principle was thought to contain a “*Density*,” and each progressed through various levels of density, with *Salt* having the greatest density. It is a quality of the philosophical *Water* and *Earth* elements. Salt in humans is the physical body, and is therefore very intricate and complex. Among other entities, the human body was thought to be a microcosm of the universe. The human body followed “the rule of *correspondence* - as above so below.” [There was another addition to the rule of correspondence, “As *right* so *Left*.” It was first purposed as an 8<sup>th</sup> Hermetic principle which involved the equilibrium of “*Ethics* and *Morality*, however it became reserved only for initiates; just as our *left* hand mirrors our *right* hand, an initiate had to have a balance of ethics and morality.] The human body was a result of the interactions of our *soul* & *spirit* and the place in which they *resided*.

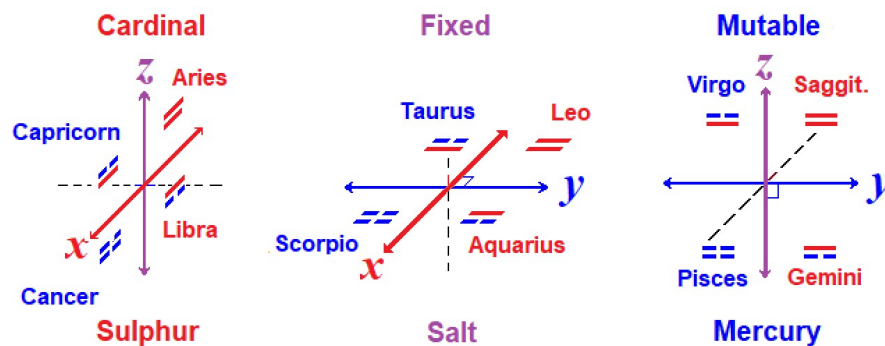
Consider the following simple analogy. An automobile engine produces work. It is a *stand-alone* system similar to the function of *Hermetic Alchemy's* 3-dimensional opposition ( $\alpha + \beta$ )<sup>3</sup>. If it were possible to mathematically take the *first derivative* of this automobile engine, it would reveal *three* (3) salient 2-dimensional (*Four Element*) operating systems within it, (four elements per each component of the *three Tria Prima*) that are needed to produce the work. First, it would need to have a physical assembly (*motor*) capable of producing the work, (the *Salt* quality or *body*); second, it would need to have *energy* or fuel to power the physical assembly (the *Sulphur* quality or *Soul*); and last it would need to have *spark* to ignite the fuel that powers the assembly (the *Mercury* quality or *Spirit*). This *trinity* of systems works independently of each other but only when they work in conjunction with each other, with each contributing its own special quality does the engine function and produce work. This simple analogy is an illustration of the philosophical operations of the “*Tria Prima*,” (*Sulphur*, *Salt*, and *Mercury*) systems of the *Hermetic Alchemical* system.

In addition to the above-discussed properties, until the early 19<sup>th</sup> century, philosophical *Astrology* (a *syncretic* discipline of *Hermetic Alchemy*) had been more widely a verbally handed-down staple and discipline of reference with the *Alchemists* for understanding *human nature*. From philosophical *Babylonian* astrology though, their *Hermetic* philosophers had early on determined that within our 3-dimensional spatial system, the internal sub-codons of the *Sulphur*, *Salt*, and *Mercury* were each identified as interacting within *three* (3) *sets* of the four elements in which there are *three* (3) different types of *Fire* elements, *three* (3) types of *Earth* elements, *three* (3)

types of *Air* elements and *three* (3) types of *Water* elements. They called these subsets "*Modes*," in which the elements were separated into the *three* (3) *Cardinal*, *Fixed*, and *Mutable* modes.

The *Babylonian* philosophers had previously associated the *three* (3) sets of *Four Elements* with the twelve signs of the *Astrological* Zodiac. The *Fire* elements are *Aries*, which is of the *Cardinal*-Fire quality, *Leo* of the *Fixed*-Fire quality and *Sagittarius* of the *Mutable*-Fire quality. The *Earth* elements are *Capricorn* of the *Cardinal*-Earth quality, *Taurus* of the *Fixed*-Earth quality and *Virgo* of the *Mutable*-Earth quality. The *Air* elements are *Libra* of the *Cardinal*-Air quality, *Aquarius* of the *Fixed*-Air quality and *Gemini* of the *Mutable*-Air quality. The *Water* elements are *Cancer* with a *Cardinal*-Water quality, *Scorpio* of the *Fixed*-Water quality and *Pisces* with the *Mutable*-Water quality.

The early *Babylonian* astrological philosophers explained the *Cardinal*, *Fixed* and *Mutable modes* in terms of *Seasonal Change*. *Cardinal* is the beginning of a new season of each year, thus it is the beginning of *new seasonal conditions* (*warm*, *Hot*, *Cool*, *Cold*), it acts as a catalyst; welcomes, enhances, and begins the new changes; *Fixed*, is the middle of the season, is stable, stubborn, resists change; its changes maintain status quo; it protects and furthers the changes of the original *Cardinal* quality. *Mutable*, is the prelude to a new season and *completes* the beginning changes from the original *Cardinal* and starts preparing for the start of a new *Cardinal* season.



Each season, of the *four* seasons of a year, cycle through *three* (3) different modal elements. The *modal* elements as a whole are defined by the *Alchemical* definition of the "*three times three*" (3 x 3) rule in *Albert Pike's* discussion of *Hermetic Alchemical Trinities* (think of it as a *3 by 3* rule, not especially as a *multiplication* which it actually is).

**[Pike, *Morals and Dogma, Trinities*]** *The Trinity of the Deity, in one mode or other, has been an article in all creeds. He creates, preserves, and destroys. He is*

the *Generative Power*, the *Productive Capacity*, and the *Result*. The *immaterial man*; *Salt*, *Sulphur*, and *Mercury* are the great symbols of the alchemists. To them man was *body*, *soul*, and *spirit*. If the number *three* was celebrated among the ancient sages, that of *three times three* had no less *celebrity*; because, according to them, each of the three elements which constitute our bodies is ternary. Not one of the *three* elements being entirely separated from the others, all material beings composed of these *three* elements, whereof each is *triple*, may be designated by the figurative number of *three times three*, which has become the symbol of all formations of bodies.

To untangle the (3 x 3) rule we need to understand what Pike is telling us in the above paragraph. Note the underlined text above; Pike is telling us *three* (3) elements out of the 12 modal elements (*Sulphur*, *Salt*, and *Mercury*) constitute our bodies (*immaterial man*). The 12 modal elements are divided into *three* (3) equivalent sets of *Four Elements* by the *Tria Prima*.

First, we have the *three* (3) *Tria Prima Sulphur*, *Salt*, and *Mercury*; the *three Tria Prima* make up the "*immaterial man* (*Soul*, *Body*, and *Spirit*)." Each member of the *Tria Prima* has its own relative set of *Four Elements* and each of these four element sets can be one of the *three* (3) *Cardinal*, *Fixed* or *Mutable* modes. This relationship is the 3 x 3 rule. However to understand the *modal* elements, we need to recall the functioning of *seasonal change*.

*Seasonal changes* occur within *harmonic* time cycles of circular motion of the four *seasons*. Their properties will be presented *linearly* where it is a little more understandable. The table below starts at each circle's Eastern most point, which in *Western* philosophies, represents the *Spring Equinox* of an upcoming year.

There are two (2) *Equinoxes* and two (2) *Solstices* during a yearly cycle. The *equinoxes* occur at the beginning of *Spring* and at the beginning of *Autumn*; the *solstices* occur at the beginning of *Summer* and the beginning of *Winter*. *Equinoxes* are the times of the year when day and night have equal lengths, *Solstices* are the times of the year when the *Sun* is at its highest or lowest position (*declination*) in the sky.

Spring			Summer			Autum			Winter		
C	F	M	C	F	M	C	F	M	C	F	M
F	E	A	W	F	E	A	W	F	E	A	W
♈	♊	♈	♋	♌	♍	♎	♏	♐	♑	♒	♓

The 360 degrees of the yearly cycle is shown above as linear, straight, informational rectangles. Shown are four (4) linear rectangles showing the *seasons* of the year, the *Cardinal*, *Fixed* and *Mutable* times of the Year (C F M), the separation of the *three Four Element* sets of the alchemists that occur within a year and the 12 signs of the *Zodiac*. In a yearly cycle there are *four* (4) sets of the *three* (3) *Cardinal*, *Fixed* and *Mutable* (C F M) *modes* and *three* (3) sets of Alchemical *Four Elements* (F E A W). We will also need the dates of these *Equinoxes* and *Solstices*, plus the dates of the *middle* and *ending* parts of each *season*.

*Spring Equinox* (Mar. 21 – Apr. 19)

*Mid-Spring* (Apr. 20 – May 20)

*End-of Spring* (May 21 – June 20)

*Summer Solstice* (Jun. 21 – Jul. 22)

*Mid-Summer* (Jul. 23 – Aug. 22)

*End-Summer* (Aug. 23 – Sept. 22)

*Fall Equinox* (Sept. 23 – Oct. 22)

*Mid-Fall* (October 23 – November 21)

*End-Fall* (Nov. 22 – Dec. 21)

*Winter Solstice* (Dec. 22 – Jan. 19)

*Mid-Winter* (Jan. 20 – Feb. 18)

*End-Winter* (Feb. 19 – Mar. 20)

The above dates are the approximate dates an *astrological sign* changes from one to another. *Aries* is the beginning of the *Spring Equinox*, *Taurus* is the *middle* of Spring, and *Gemini* is the *ending* month of Spring. Similarly *Cancer* is the *Summer Solstice*, *Leo* is the *middle* of Summer and *Virgo* is the *ending* month of Summer. The *Autumn Equinox* is *Libra*; *Scorpio* is the *middle* of Autumn and *Sagittarius* is the *ending* month of Autumn. Finally, *Capricorn* is the *Winter Solstice*; *Aquarius* is the *middle* of Winter and *Pisces* is the *ending* month of Winter. Having these dates we can accurately calculate the *modality* of any of the *Fire*, *Earth*, *Air* and *Water*, twelve (12) *modal elements*.

In the rectangular chart above, the *blue* rectangle is the *four* (4) sets of *Cardinal*, *Fixed*, and *Mutable* modes and the two *red* rectangles are the *three* (3) sets of *Four Elements* and 12 *Zodiac* signs, all of which occur in a yearly cycle all corresponding to one another. The season's rectangle notes the *three* (3) months (another *trinity*) in a season and shows the first month of spring (*Aries*) is a *Cardinal-Fire* (C<sub>F</sub>). The second or middle month of spring is *Taurus* (an *Earth* element), and

by the same *convention* as above, we note the sign *Taurus* is a modal *Fixed* Earth ( $F_E$ ) element. For the final month of spring, the sign *Gemini*, through the same process as above is found to be a *Mutable* modal *Air* element ( $A_M$ ). Complete this same process for each of the *three* (3) remaining months for the *summer*, *autumn*, and *winter* seasons and we will have a complete set of the twelve (12) *Modal* elements needed in *Hermetic Alchemy* and *Astrology*. The Seasons are *Tesla's* four, *three* (3) month cycles.

Before modern times the “*Astrological Sun Sign*” data changed with the *Precession* of the *Equinox* (a cyclic wobbling in the orientation of Earth's axis of rotation within a period of 25,772 years), however, being related to *time*, and the seasons of each year; *plus*, the seasons being a constant cyclic *repetition* or *frequency*, the standardized system used in *Astrology* in modern times was adopted.

### ***The Hexagram (6), (Structural “Engine” for the 3-Dimensional System)***

*Successive derivatives* of the 3-dimensional system return the main internal operational functioning parts of a 3-dimensional  $\alpha, \beta$  oppositional system. If *successive derivatives* are performed on the general equation for the 3-dimensional binomial function  $f(m_3) = (\alpha + \beta)^3$  until it reaches the 1<sup>st</sup> dimensional differential *binomial* state  $(\alpha + \beta)^1$ , its *coefficient* or *permutations* will be the number of dimensional  $\alpha$  or  $\beta$  graphic figures in its elemental diagram.

The *second successive derivative* of this equation shows the *six* (6) individual graphic figures or *permutations* of the *hexagram*, each line is capable of holding either an ( $\alpha$ ) or ( $\beta$ ) binomial *oppositional bit-type* symbolic line.

### ***Successive Derivatives of the 3-Dimensional System***

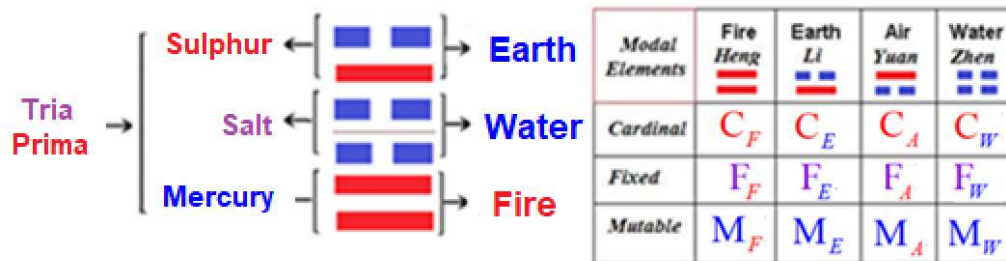
$f^1(\alpha + \beta)^3 = 3(\alpha + \beta)^2$  *1<sup>st</sup> derivative (three (3) permutations of 2-dimensional Modal Four-element, Bigram Systems for one Tria Prima, Sulphur, Salt, and Mercury.*

$f^2(\alpha + \beta)^3 = 6(\alpha + \beta)^1$  *2<sup>nd</sup> derivative, (the six (6) 1-dimensional permutations of  $\alpha$  or  $\beta$  elemental figures of the 6-figured Hexagram.*

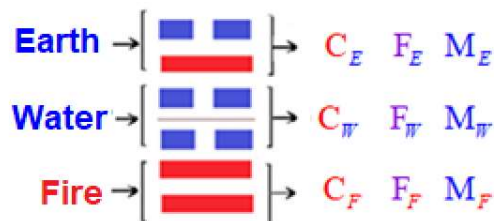
The *coefficient* of the 2<sup>nd</sup> derivative is the *six* (6) permutations of  $\alpha, \beta$  graphic figures. *Note*: The 2<sup>nd</sup> derivative *forms* the *hexagram*; the *hexagram* then uses the *Four Elements* of the 1<sup>st</sup> derivative as *inputs* to form its structure, holistically forming an inner mathematical *hierarchy*.

In the diagram below, the *graphic figure* is shown as bold and broken lines of an *I Ching* (6) line *Hexagram*. The *Tria Prima* is separated into its *three* (3) individual permutations or *positions*, *Sulphur*, *Salt* and *Mercury*. Each of the *three* (3) *positions* is an individual *permutation* that can hold any one of the *12 modal bigram* elements. It is a “*material*” or physical manifestation of the interactions of the *Tesla three* (3).

### The Hexagram



Only *three* (3) of the twelve modal elements are used at any one time just as in *DNA* and *RNA* bases where it uses only three (3) of its four (4) bases. In the graphic above, the top position (*Sulphur*) now contains a *generic Earth* element; the middle position, (*Salt*) contains a *generic Water* element; and the bottom position (*Mercury*) contains a *generic Fire* element, in which the combination of all *three positions* form the *hexagram* (6). The line in the middle of the hexagram divides the hexagram into its two *trigrams* of *K'an* (☵) (*top*) and *Tui* (☱) (*bottom*). The graphic below shows the three *generic positions* of *Earth*, *Water*, and *Fire* having to be one of their *three* different *modal* elements, *Cardinal*, *Fixed* or *Mutable*.



The *generic Earth* element (*top*) has to be *one* of the three modal *Earth* elements, *Cardinal*, *Fixed*,

or *Mutable* (right side), for an accurate *Four Element* type. The accuracy of using modal elements was a beginning reason the twelve (12) signs of the Astrological Zodiac were formed, it introduced a "time" separation into the system. Each of the remaining two (2) *generic* elements, *Water* & *Fire*, have to be one of their *three* modal elements for an accurate *Four Element* type.

Normally, in generalized situations, we just use the *generic Fire, Earth, Air, and Water* natures to produce a *generic* type *hexagram*; however, if we need more in-depth information (as its use in *Astrology* and *Alchemy*) we do the *modal* calculations. The *Cardinal, Fixed, and Mutable* modes are inclusive for each different independent element in which an *Earth* element has *Earth* element qualities and the *modal Earth quality* only alters one quality of the manifold *qualities* that determine the nature of an *Earth* Element.

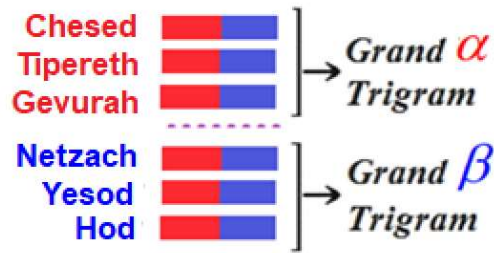
To summarize this topic and follow up on the *hexagram* in general, the combination of the *three* (3) bigram *Four-Element* sub-codons taken at once gives two "Sub-Master" codons (an *upper* and *lower* trigram), shown right, which forms another 3-dimensional compositional data structure, the hexagram



*Engine*. There are 64, ( $2^6$ ) possible hexagram master codons that can be formed from the *six* (6) lines of the *hexagram*, however, once the formation of the *hexagram* codon is completed from three (3) elements of the 12 *modal* elements, the generic interactions of the *hexagram* is viewed differently. The *three Tria Prima* positions *Sulphur, Salt, and Mercury* (*three* (3) 2-dimensional *Four Element* bigrams) are now transformed into a *duality* of two 1<sup>st</sup> order *trigram* elements as an additional 3-dimensional set of operators. From the *hexagram* shown above, the *three* (3) *Tria Prima* positions become the two trigrams, "Kun (☷)" & "Tui (☵)" for *I-Ching* Hexagram number "45", "Gathering Together" or Alchemical *Grand Elements* as noted below from *Albert Pike*.

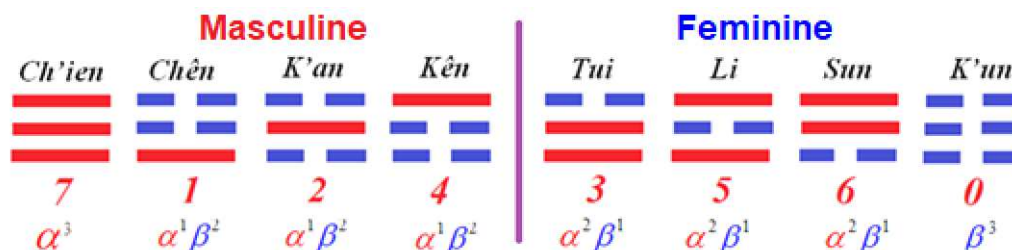
*[Pike, "Morals & Dogma" page 783]- From the mixture of the four elements and of their four qualities, result the Three Principles, Mercury, Sulphur, and Salt. These are the Philosophical, not the Vulgar. The philosophical Mercury is a Water and a Spirit, which dissolves and sublimates the Sun; the philosophical Sulphur, a Fire and a Soul, which mollifies and colors it; the philosophical Salt, an Earth and a Body, which coagulates and fixes it; and the whole is done in the bosom of Air.*

From these *three* principles result the *Four Elements* duplicated, or the *Grand Elements*.





The Grand  $\alpha$  and Grand  $\beta$  *alchemical trigram* duality is similar in respect to the  $x$  &  $y$  of the 2-dimensional four modal elements except the *Grand Elements* contain masculine or feminine *trigrams* in the two positions of the divided *hexagram* along with masculine or feminine *trigram volatile* ( $\alpha$ ) and *fixed* ( $\beta$ ) bold and broken lines of the  $x$ ,  $zed$ , &  $y$ , however, the Grand  $\alpha$  is still an external form masculine *Generative Power* and the Grand  $\beta$  is still representative of an internal form feminine *Productive Capacity* as in an  $\mathbb{R}^2$  2-dimensional *bigram* system, but existing in a higher *harmonic*, more complex level.

The hexagram, along with being defined by the *three*-(3) bigram sub-codon positions of the *Tria Prima*, *Sulphur*, *Salt*, and *Mercury*, can now additionally be defined philosophically in terms of the *I Ching's* 3-dimensional 1<sup>st</sup> order *trigram* ( $\equiv$ ) elements. However, whereas the *Four Element* bigrams contain an  $x$  and  $y$  position one above the other; the Grand Elements contain two 1<sup>st</sup> order trigram ( $x$ ,  $zed$ , &  $y$ ) positions, one above the other. The Grand Elements suggest the existence of a Grand Active ( $\alpha$ ) *Yang* and a Grand Inactive ( $\beta$ ) *Yin trigram*. In the *I Ching* this is indeed the case when we consider the traditional arrangement of the eight trigrams into the *familial* masculine and feminine. The *King Wen* or later arrangement assigns the trigrams *Ch'ien*, *Chên*, *K'an*, and *Ken* as *Yang* or masculine and *Tui*, *Li*, *Sun*, and *K'un* as *Yin* or feminine, which is seen from the gender relationship shown below along with their *math* identifiers and their *Western* culture *binary* numbering.



(For a listing of each *trigram's* concept, properties, familial relationship, and other qualities see *INDEX A* in the Reference Section found on my website *men-comp.com*).

The *I Ching* system was used as a reference in this explication on *Hermetic Alchemy* because it is a complete *Graphic Binary System* using only *two* graphic symbols, the  $\alpha$  (*yang*) and the  $\beta$  (*yin*).

Yang   $\alpha$   
 Yin   $\beta$

The graphics are much *simpler* and more easily understood than using *Alchemy's* "Seal of *Solomon*" hexagram's large bulky structure. However before ending this explication I will leave you with a couple of other facts about the *Tesla six* (6).

The *hexagram* (6) has many unique mathematical properties. To begin with it contains *six* (6)  $\alpha$  or  $\beta$  lines of the hexagram. A first quality is having the number 6 as its identification. The number *six* (6) is called the "*most perfect number*" because both the *sum* and *product* of its divisors are equal to itself .i.e., it is divisible by (6), (3), (2) and (1). Every number is divisible by 1 so we can discard the number 1. Then,  $\frac{6}{6}=1$ ,  $\frac{6}{3}=2$ ,  $\frac{6}{2}=3$  which gives the *results* of its *divisors*. If we take the results of its divisors and *sum* them,  $1+2+3=6$ , also if we *multiply* the results of its divisors,  $1 \times 2 \times 3 = 6$ . It is the only number in the set of numbers that constitutes the *decimal system* (0 through 9) that has this property, this *sum* and *product* principle is why it is called the most perfect number. Shown below is *Albert Pike's* explication of the number *six*.

**[Pike, *Morals and Dogma, The Philosophical Number Six*]**

*The number (6) was, in the Ancient Mysteries, a striking emblem of nature; as presenting the six dimensions of all bodies: the six lines which make up their form, viz., the four lines of direction, toward the North, South, East, and West; with the two lines of height and depth, responding to the zenith and nadir. The sages applied the sexanary (6) to the physical man; while the septenary (7) was, for them, the symbol of his immortal spirit.*

*The hieroglyphical sexanary (the double equilateral triangle) is the symbol of Deity. Six is also an emblem of health, and the symbol of justice; because it is the first*

*perfect number*; that is, the first whose aliquot parts (1/2, 1/3, 1/6, or 3, 2, and 1), added together, make itself. *Ormuzd* created *six* good spirits and *Ahriman six* evil ones. These typify the *six* summer and the *six* winter months. In *six* days, or periods, *G-d* created the Universe, The circle is divided into *six* sections of *60* degrees. Twice *6* is the number of the lines of equal length that form a cube.

Also *remember three* (3) famous quotes from *Nikola Tesla*:

***“The day Science begins to study non-physical phenomena, it will make more progress in one decade than all its previous centuries of existence.”***

***“If you only knew the magnificence of the 3, 6, and 9, then you would have the key to the universe.”***

*\*Note\**: Keep in mind *Tesla did* exhibit a *strong* interest in these numbers, often incorporating them into his daily routines and *suggesting* they held some fundamental significance. His *fascination* has led to various *interpretations*. However, despite these interpretations, there is no known concrete evidence in *Tesla's* own writings or published works where he definitively states that *3, 6, and 9* are the *"key to the universe"*. Some researchers have suggested this phrase originated from interpretations, rather than from direct statements.

***“If you want to find the secrets of the universe, think in terms Energy, Frequency, and Vibration.”***

If the *last word* of the *last quote* were changed to *“Harmonics,”* then it would better reflect *21<sup>st</sup>* Century terminology. *Nikola Tesla* was born in *1856* and passed away in *1943*.

