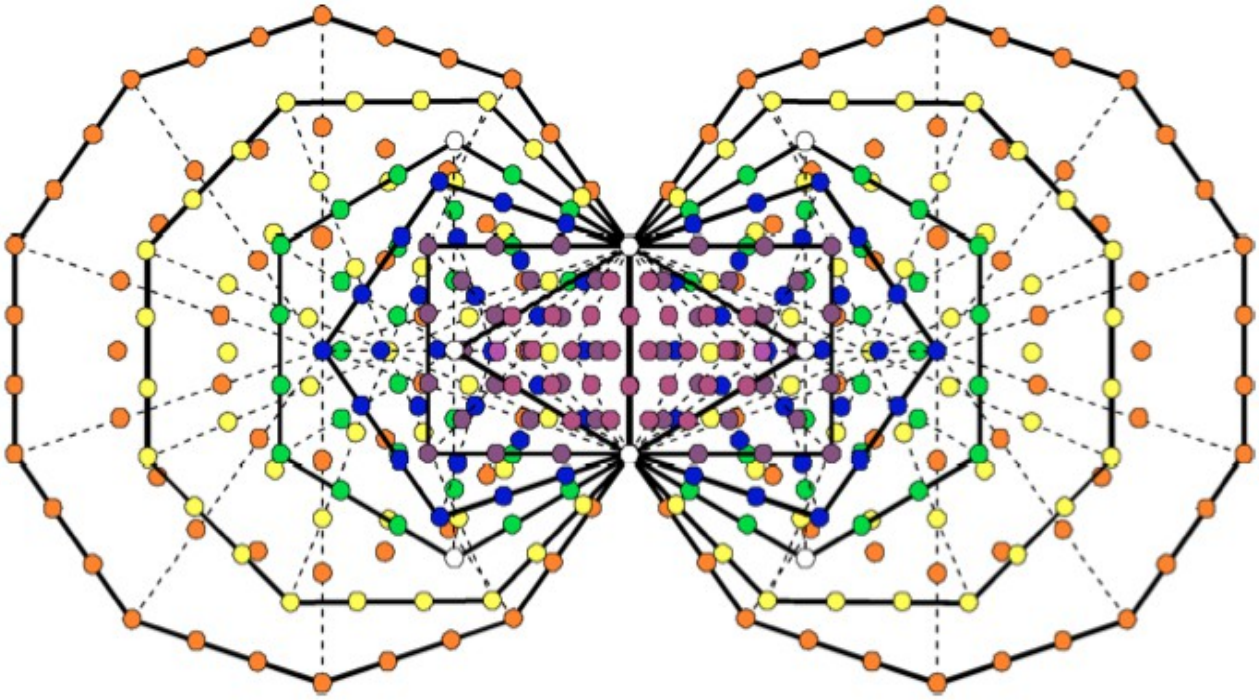
Magnetic Fields, 64 I Ching Hexagrams and the Sephirot

By John Frederick Sweeney



Abstract

S.M. Phillips has described the isomorphic relationships between the 64 hexagrams of the I Ching (and 64 DNA amino acids), the Klein Quartic, Octonions, PS 2 / 5 and the Sephirot of the Cabala. In so doing, Phillips has described how the stable Satvic 8 x 8 = 64 creates a magnetic field from the Sephirot. This paper explains the work of Phillips from this perspective, and discusses the formation of the DNA helix from Magic Squares, as well as the Tai Xuan Jing as a magnetic field in the form of 9 x 9 = 81 Rajic matter. The paper discusses the Townsend (Electron) Avalanche and Amperian Loop in relationship to the I Ching hexagrams.

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Introduction

Upon discovering the work of Stephen M. Phillips, I felt somewhat wary, since much of his work includes the Cabala and Jewish mysticism. A decade or so ago, Dan Winter was forced into hiding and exile over a lawsuit which involved the same – an ugly business for someone dedicated to Sacred Geometry. I hardly wished to invite such trouble into my own life, and so ignored those aspects of Phillip's work as proved possible.

Recently I learned that the Jewish tradition originates from the Rig Veda, and this changed my viewpoint. This evening while researching the collapsing magnetic fields of Supernovae, the idea arose that Phillip's discussion of yods and the Sephirot revealed something that Phillip apparently did not realize: his depictions of multiple Trees of Life and their correspondence to the 64 hexagrams of the I Ching described magnetic fields. Simply, the matrix of 64 hexagrams that Phillips analyzes comprise a magnetic field related to the Svas Tika, the four – armed symbol, itself created from a special Magic Square matrix which creates helical motion, either clockwise or anti – clockwise, which Buddhists have adopted as a sacred symbol.

The twin triangular fields of the 64 hexagram matrix correspond to the two groups of 28 Sedenion triplets described by Robert de Marrais, and so directly relate to electromagnetic fields in the Sedenions which are described by Weng. Since the 64 hexagram structure of the I Ching forms an isomorphic relationship with the 64 amino acids of the DNA strand, or twin helix, then these fields of 28 probably provide the mechanism for the creation of the twin DNA helical strand.

This paper provides standard Wikipedia entries for magnetic fields, then borrows some of Phillip's work to illustrate the points made above, then analyzes the Tai Xuan Jing as a magnetic field, before concluding with a few hypotheses about Supernovae. The cover illustration is borrowed from Phillip's Article 17.

Wikipedia on Magnetic Fields

A **magnetic field** is the magnetic effect of electric currents and magnetic materials. The magnetic field at any given point is specified by both a *direction* and a *magnitude* (or strength); as such it is a vector field.[nb 1] The term is used for two distinct but closely related fields denoted by the symbols $\mathbf{B}$ and $\mathbf{H}$, where $\mathbf{H}$ is measured in units of amperes per meter (symbol: A·m ^{1} or A/m) in the SI. $\mathbf{B}$ is measured in teslas (symbol:T) and newtons per meter per ampere (symbol: N·m ^{1}·A ^{1} or N/(m·A)) in the SI. $\mathbf{B}$ is most commonly defined in terms of the Lorentz force it exerts on moving electric charges.

Magnetic fields can be produced by moving electric charges and the intrinsic magnetic moments of elementary particles associated with a fundamental quantum property, their spin.[1][2] In special relativity, electric and magnetic fields are two interrelated aspects of a single object, called the electromagnetic tensor; the split of this tensor into electric and magnetic fields depends on the relative velocity of the observer and charge. In quantum physics, the electromagnetic field is quantized and electromagnetic interactions result from the exchange of photons.

In everyday life, magnetic fields are most often encountered as a force created by permanent magnets, which pull on ferromagnetic materials such as iron, cobalt, or nickel, and attract or repel other magnets. Magnetic fields are widely used throughout modern technology, particularly in electrical engineering and electromechanics.

The Earth produces its own magnetic field, which is important in navigation, and it shields the Earth's atmosphere from solar wind. Rotating magnetic fields are used in both electric motors and generators. Magnetic forces give information about the charge carriers in a material through the Hall effect. The interaction of magnetic fields in electric devices such as transformers is studied in the discipline of magnetic circuits.

In geometry, a **decagram** is a 10-sided star polygon. There is one regular decagram, containing the vertices of a regular decagon, but connected by every third point. Its Schläfli symbol is {10/3}.[1]
The name decagram combine a numeral prefix, *deca-*, with the Greek suffix *-gram*. The *-gram* suffix derives from (*gramm s*) meaning a line.[2]

Magnetic field shape descriptions[edit]

Schematic quadrupole magnet ("*four-pole*") magnetic field. There are four steel pole tips, two opposing magnetic north poles and two opposing magnetic south poles.

An *azimuthal* magnetic field is one that runs east–west.

A *meridional* magnetic field is one that runs north–south. In the solar dynamo model of the Sun, differential rotation of the solar plasma causes the meridional magnetic field to stretch into an azimuthal magnetic field, a process called the *omega-effect*. The reverse process is called the *alpha-effect*.[38]

A dipole magnetic field is one seen around a bar magnet or around a charged elementary particle with nonzero spin.

A quadrupole magnetic field is one seen, for example, between the poles of four bar magnets. The field strength grows linearly with the radial distance from its longitudinal axis.

A *solenoidal* magnetic field is similar to a dipole magnetic field, except that a solid bar magnet is replaced by a hollow electromagnetic coil magnet.

A *toroidal* magnetic field occurs in a doughnut-shaped coil, the electric current spiraling around the tube-like surface, and is found, for example, in a tokamak.

A *poloidal* magnetic field is generated by a current flowing in a ring, and is found, for example, in a tokamak.

A *radial* magnetic field is one in which field lines are directed from the center outwards, similar to the spokes in a bicycle wheel. An example can be found in a loudspeaker transducers (driver).[39]

A *helical* magnetic field is corkscrew-shaped, and sometimes seen in space plasmas such as the Orion Molecular Cloud.[40]

S.M. Phillips on I Ching Structure

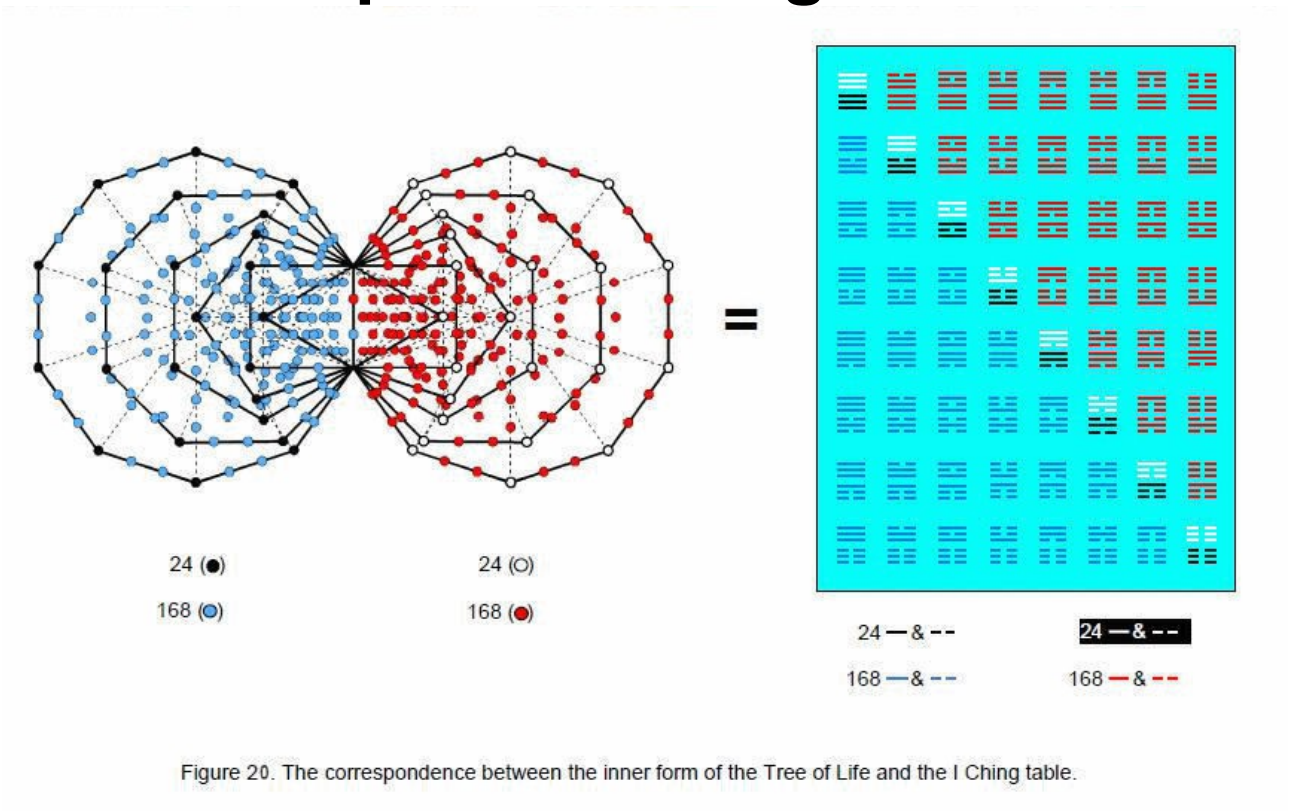


Figure 20. The correspondence between the inner form of the Tree of Life and the I Ching table.

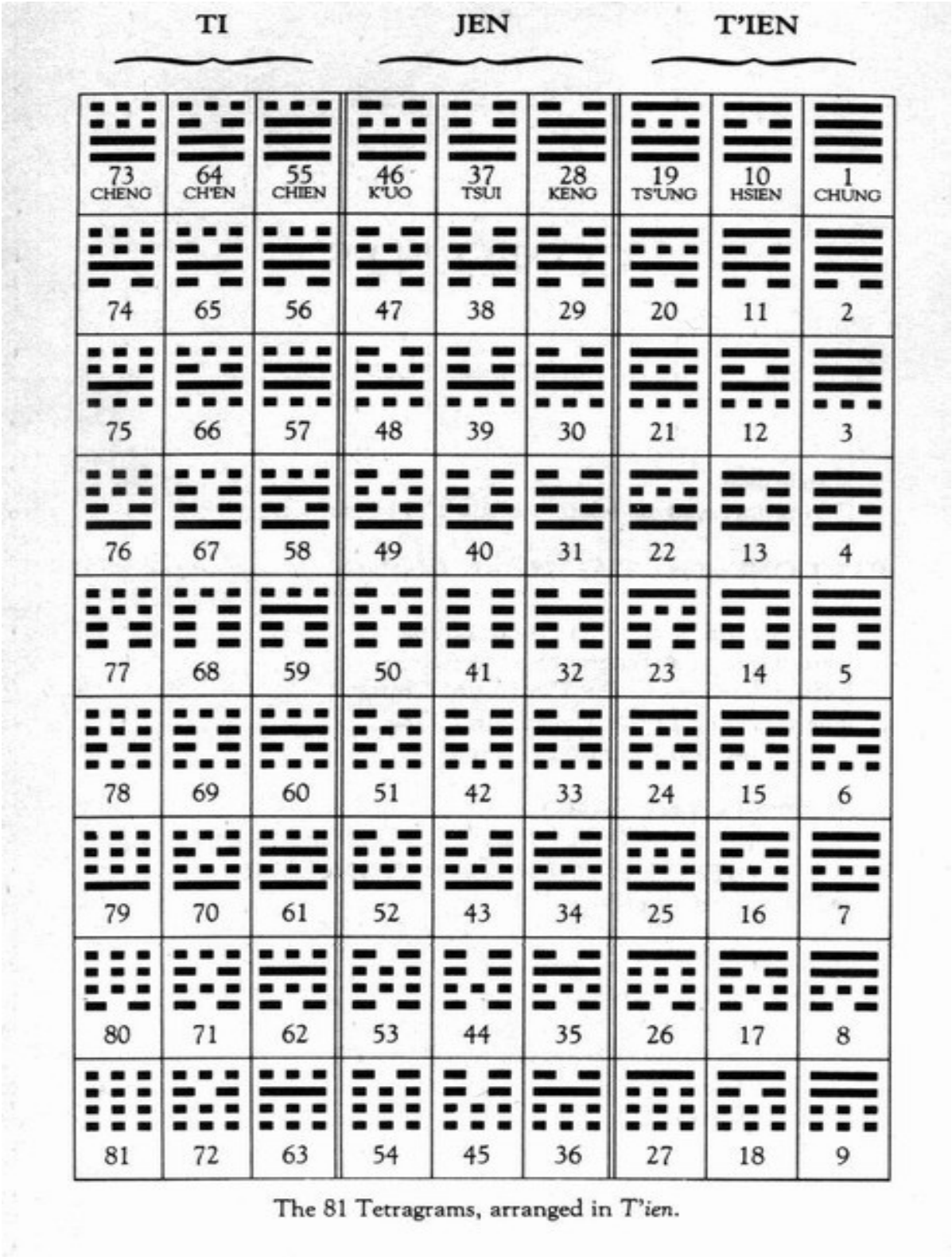
The right – hand side blue square illustrates the 64 I Ching hexagrams, divided from the left diagonal into two triangles of 28 hexagrams, which correspond to the 28 triplet groups of the Sedenions. The left diagonal consists of double trigrams, which form part of the 64 hexagrams. The red and blue yin and yang lines of the hexagrams correspond to the yods in the left diagram. The two decagrams join in the center, and the two vertices at top and bottom of the joined section form North and South magnetic poles.

The number 24 corresponds to the 24 Hurwitz Quaternions, while the number 168 refers to the Octonions, their multiplication table, the Fano Plane, and to the Klein Quartic, as well as to PS 2 – 7.

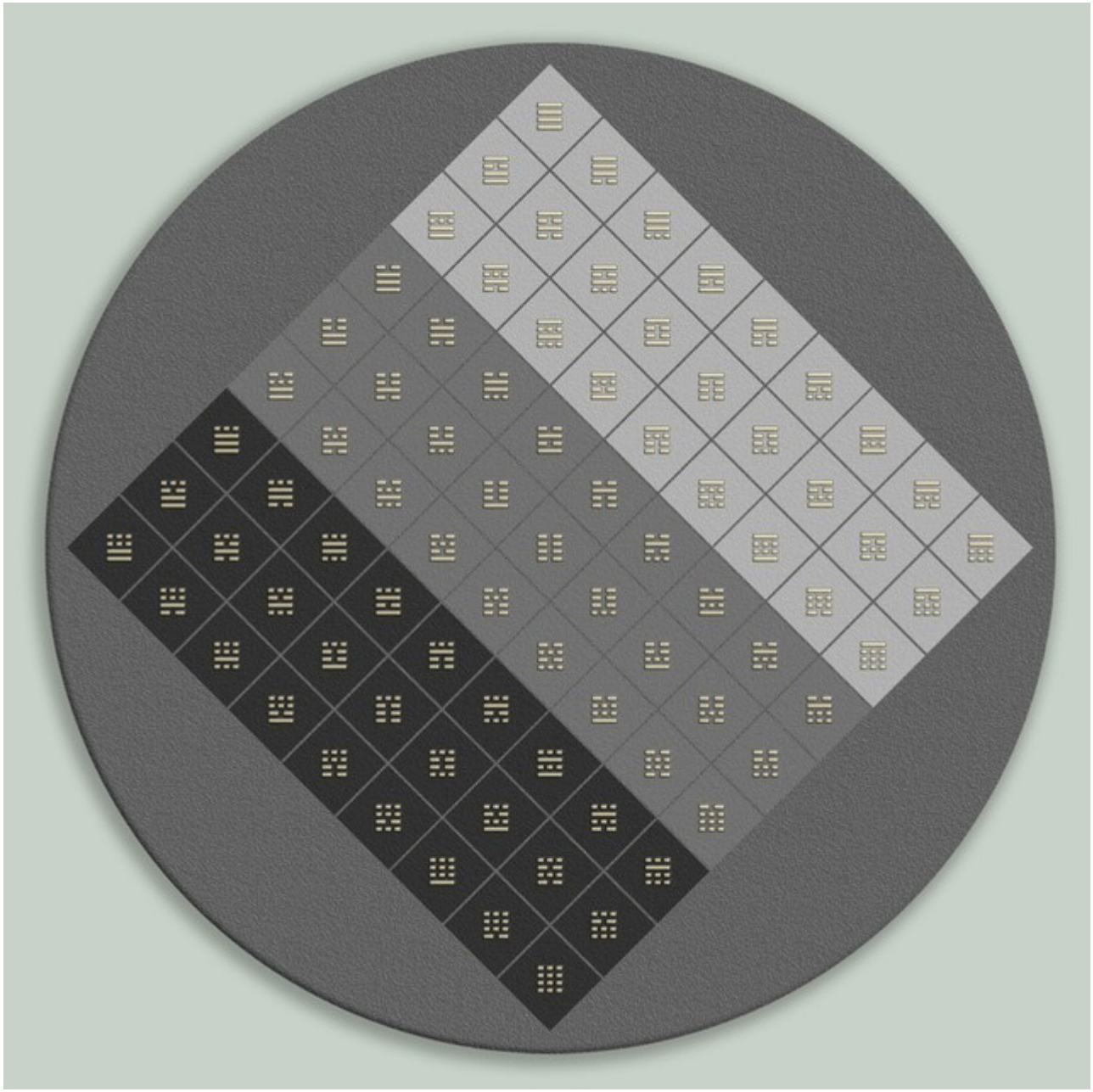
Phillips describes the twin decagrams as composed of yods and multiple copies of the Sephirot – the Cabala Tree of Life with its ten stations, Chokmah, Binah, etc. The red and blue dots of the I Ching correspond to the Sephirot yods, which both form isomorphic relationships to the Octonions and the Fano Plane. For specific details interested readers should refer to the article series on Phillip's website.

In short, Phillips has discovered the isomorphic relationships between the I Ching, Fano Plane, Octonions, Klein Quartic and the group these pertain to, as well as to the Cabala and the Hebrew language and culture. Since the latter derives from the Vedas, all of these relationships descend from the Vedas.

Tai Xuan Jing as Magnetic Field



The 81 Tetragrams, arranged in *T'ien*.

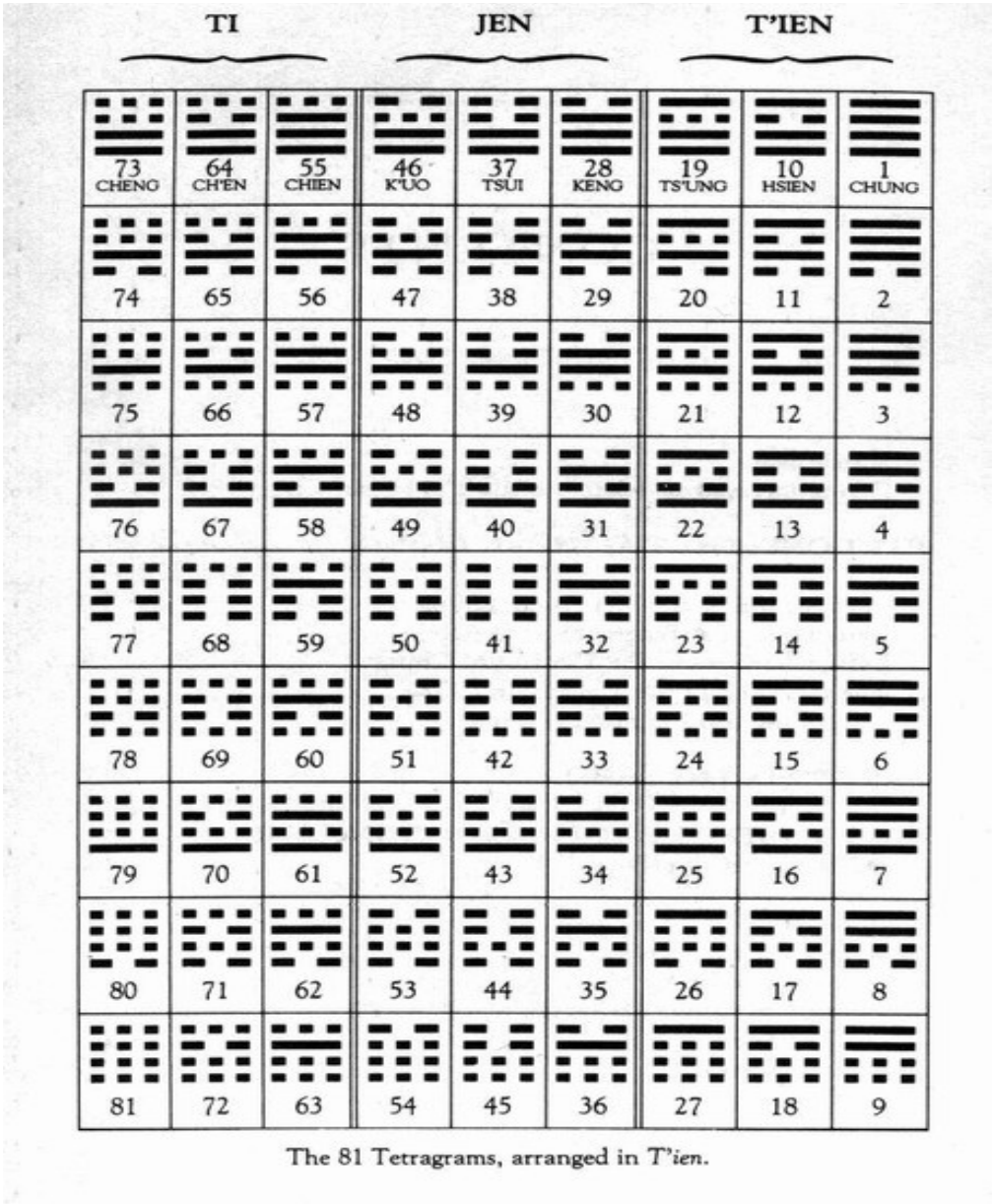


The 81 tetragrams of the Tai Xuan Jing form a magnetic field in the same way as do the 64 hexagrams of the I Ching, as Phillips has shown above. The top diagram illustrates the 81 tetragrams in numerical order, which includes the three divisions of 27 tetragrams each, which pertain, from right to left, to Heaven, Humanity and Earth.

The second diagram arranges the tetragrams between Yang at top and a ternary version of Yin at bottom, with equal portions of Yin and Yang at the right and left corners, with pure Yin at center.

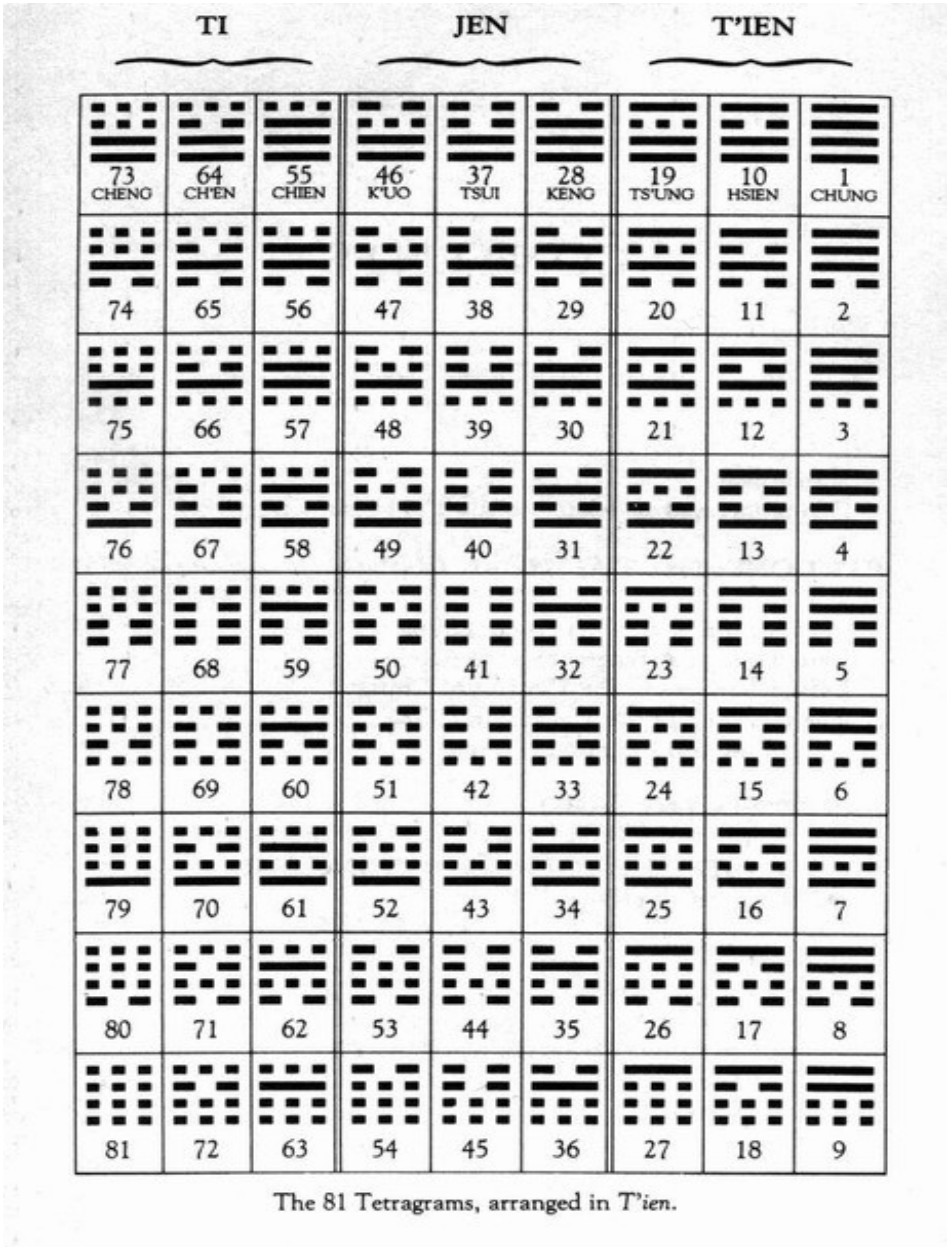
Line (yao) Analysis of the Tai Xuan Jing **36 Tetragrams 144 Lines**

Column					
1	22 Yang lines	6 Yin lines	4 Ternary lines	Zhong	Center
2	13 Yang lines	11 Yin lines	6 Ternary lines	Xian	
3	11 Yang lines	5 Yin lines	9 Ternary lines	Cong	
4	10 Yang lines	12 Yin lines	1 Ternary line	Geng	
5	5 Yang lines	10 Yin lines	1 Ternary line	Cui	
6	4 Yang lines	4 Yin lines	4 Ternary lines	Kuo	
7	5 Yang lines	1 Yin line	4 Ternary lines	Jian	
8	2 Yang lines	1 Yin line	1 Ternary line	Chen	



The 81 Tetragrams, arranged in *T'ien*.

Tetragram	Yang	Yin	Ternary	Name	Pinyin		
9	2	0	2				
17	1	2	1				
25	2	0	2				
33	1	2	1				
41	0	4	0				
49	1	2	1				
57	2	0	2				
65	1	2	1				
73	2	0	2				



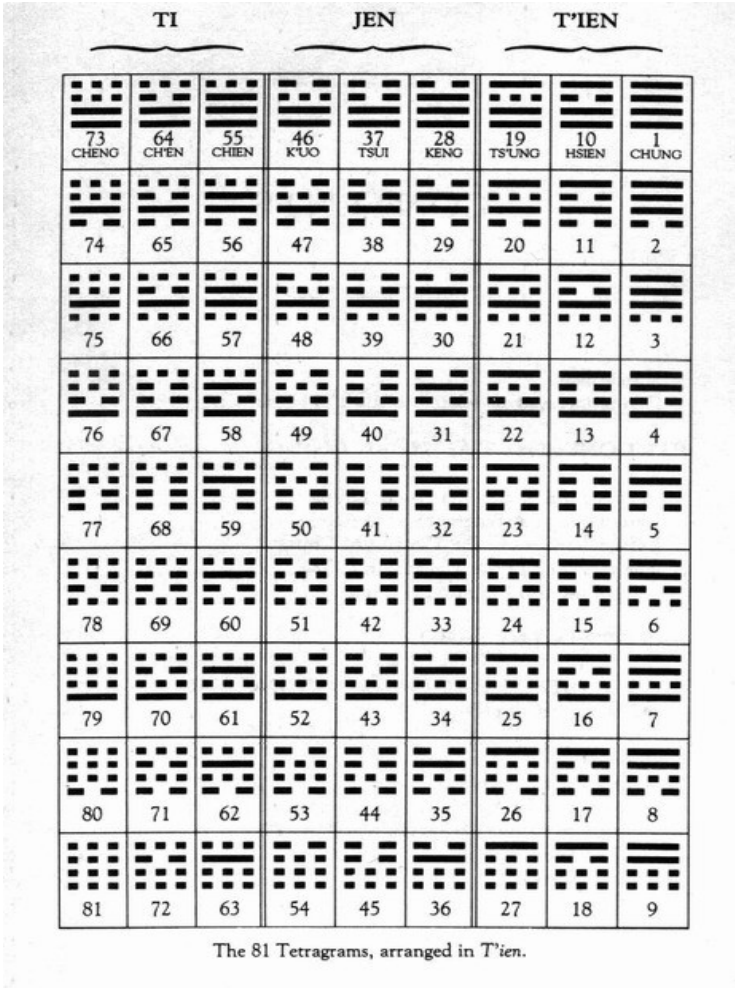
The 81 Tetragrams, arranged in *T'ien*.

Left Diagonal lines 9 tetragrams 36 Lines

Lower Left Triangle 36 Tetragrams 144 Lines

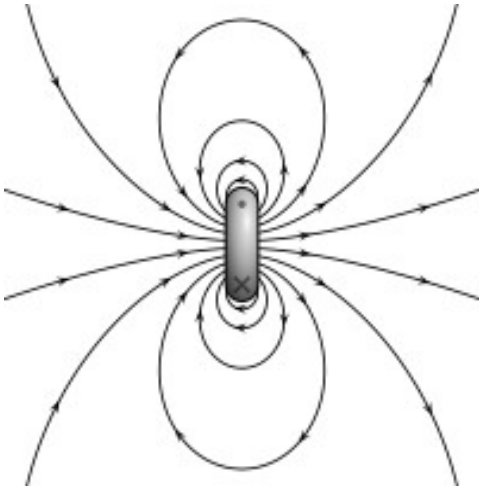
Tetragram	Yang Lines	Yin Lines	Ternary	Name			
18	1	1	2				
27	2	1	5				
36	4	4	4				
45	1	10	5				
54	1	9	11				
63	8	6	14				
72	3	14	12				
81	3	6	18				

Not counting left diagonal tetragrams.



The 81 Tetragrams, arranged in *T'ien*.

Amperian Loop



The similarities between the Amperian Loop Model and Phillip's Tree of Life structure differs only in the angle of the diagram – this at ninety degrees to the right from Phillip's design. The title of the Loop Model hints at Sedenion Structure: Octonions, Sedenions and Trigintaduonions contain loops in their structures, as described by Raoul Cawagas.

Wikipedia

The Amperian loop model: A current loop (ring) that goes into the page at the x and comes out at the dot produces a $\mathbf{B}$-field (lines). The north pole is to the right and the south to the left.

After Oersted discovered that electric currents produce a magnetic field and Ampere discovered that electric currents attracted and repelled each other similar to magnets, it was natural to hypothesize that all magnetic fields are due to electric current loops. In this model developed by Ampere, the elementary magnetic dipole that makes up all magnets is a sufficiently small Amperian loop of current I. The dipole moment of this loop is $m = IA$ where A is the area of the loop.

These magnetic dipoles produce a magnetic $\mathbf{B}$-field. One important property of the $\mathbf{B}$-field produced this way is that magnetic $\mathbf{B}$-field lines neither start nor end (mathematically, $\mathbf{B}$ is a solenoidal vector field); a field line either extends to infinity or wraps around to form a closed curve.[nb 9] To date no exception to this rule has been found. (See magnetic monopole below.) Magnetic field lines exit a magnet near its north pole and enter near its south pole, but inside the magnet $\mathbf{B}$-field lines continue through the magnet from the south pole back to the north.[nb 10] If a $\mathbf{B}$-field line enters a magnet somewhere it has to leave somewhere else; it is not allowed to have an end point. Magnetic poles, therefore, always come in N and S pairs.

More formally, since all the magnetic field lines that enter any given region must also leave that region, subtracting the 'number'[nb 11] of field lines that

enter the region from the number that exit gives identically zero. Mathematically this is equivalent to:

$$\oint_S \mathbf{B} \cdot \mathrm{d}\mathbf{A} = 0,$$

where the integral is a surface integral over the closed surface S (a closed surface is one that completely surrounds a region with no holes to let any field lines escape). Since $\mathrm{d}\mathbf{A}$ points outward, the dot product in the integral is positive for $\mathbf{B}$-field pointing out and negative for $\mathbf{B}$-field pointing in.

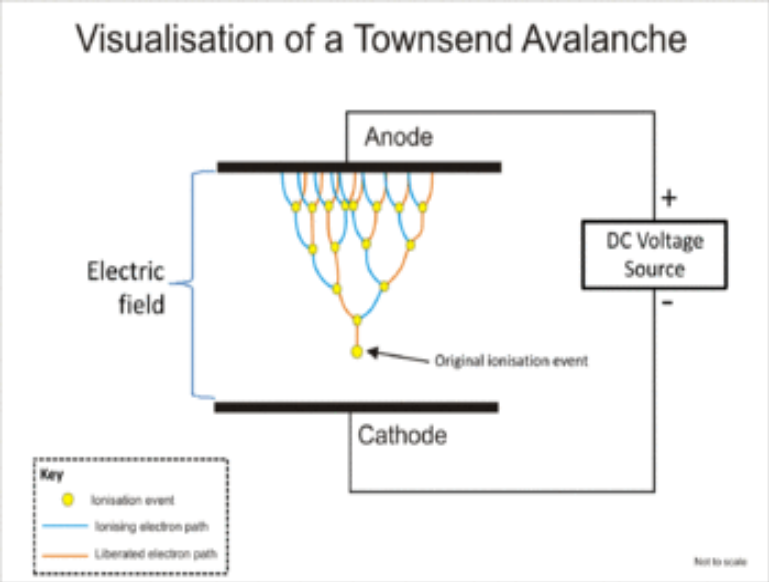
There is also a corresponding differential form of this equation covered in Maxwell's equations below.

Energy is needed to generate a magnetic field both to work against the electric field that a changing magnetic field creates and to change the magnetization of any material within the magnetic field. For non-dispersive materials this same energy is released when the magnetic field is destroyed so that this energy can be modeled as being stored in the magnetic field.

Comment:

In supernovae, some theorists suggest that Gamma Ray Bursts may be formed with gravitational collapse and the destruction of the magnetic field. The released energy of the magnetic field creates the Gamma Ray Burst. In this light, by knowing how the magnetc field is constructed and the size of electromagnetic charge the field carries, as well as its particle type composition, it may prove possible to analyze more precisely the origins of specific gamma ray bursts.

Electron (Townsend) Avalanche



The schematic diagram above describes the Townsend Avalanche or Electron Avalanche. The same tree describes the Eight Trigrams of Chinese metaphysics, the foundation of the 64 I Ching hexagrams. An ancient Egyptian proverb, written on Putamon's coffin states:

First I am One, then I am two, then four, then eight, and then One again.

This same proverb has been translated into Chinese and comprises the essence of “Chinese” metaphysics. In short, Chinese metaphysics and culture were borrowed from Vedic Hindu culture or from Ancient Egypt and preserved there. The proverb describes the Eight Trigrams, which form the basis of the I Ching, as well as Bott Periodicity.

One may see the trigram structure in the binary tree structure in the diagram. The starting point in Chinese metaphysics is Tai Yi, while in Vedic Nuclear Physics, the starting point is functional Dark Matter, called Brahma in Sanskrit. Tai Yi is Brahma, and this correspondence serves as an instance of Chinese cultural borrowing from Vedic India and Ancient Egypt.

The Tai Xuan Jing, which is composed of the 9 x 9 = 81 Rajic structure, stands as the next step beyond the stable 8 x 8 = 64 Satvic structure. For all intents and purposes, the Chinese soundly rejected this document over the past two millenia, if the Chinese understood Vedic philosophy at all. This raises the possibility that Hindu superiors gave only the 8 x 8 Satvic philosophy while withholding the dynamic 9 x 9 Rajic philosophy, in order to create a stable and subservient colony in China. This may explain why China requires strong central leadership and cannot develop democratic institutions.

If the I Ching corresponds to Octonion structure, then the Tai Xuan Jing must

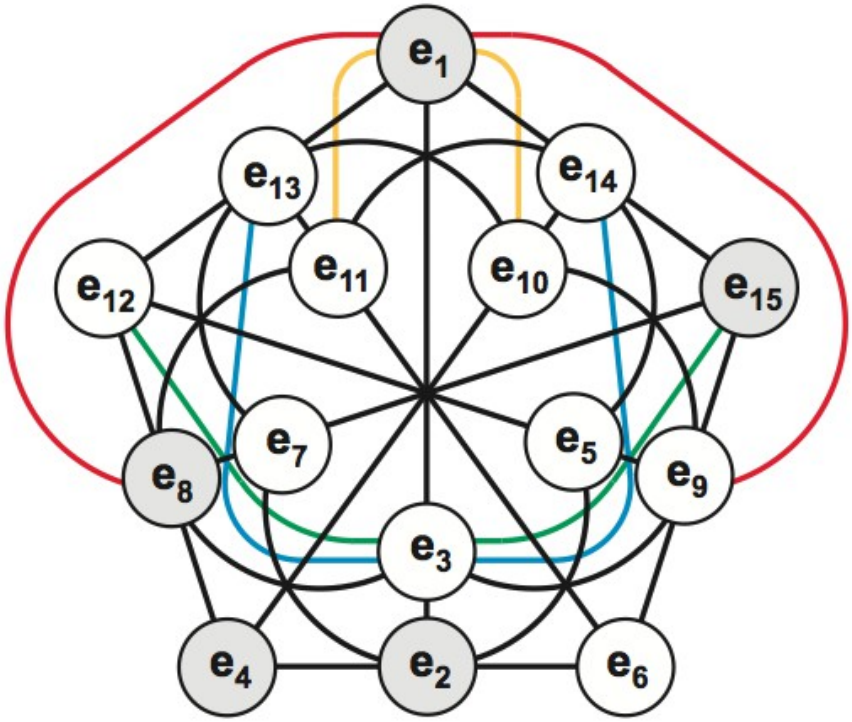
correspond to Sedenion and Trigintaduonion structure.

Sedenion Multiplication Table

*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	−0	−3	+2	−5	+4	+7	−6	−9	+8	+11	−10	+13	−12	−15	+14
2	+3	−0	−1	−6	−7	+4	+5	−10	−11	+8	+9	+14	+15	−12	−13
3	−2	+1	−0	−7	+6	−5	+4	−11	+10	−9	+8	+15	−14	+13	−12
4	+5	+6	+7	−0	−1	−2	−3	−12	−13	−14	−15	+8	+9	+10	+11
5	−4	+7	−6	+1	−0	+3	−2	−13	+12	−15	+14	−9	+8	−11	+10
6	−7	−4	+5	+2	−3	−0	+1	−14	+15	+12	−13	−10	+11	+8	−9
7	+6	−5	−4	+3	+2	−1	−0	−15	−14	+13	+12	−11	−10	+9	+8
8	+9	+10	+11	+12	+13	+14	+15	−0	−1	−2	−3	−4	−5	−6	−7
9	−8	+11	−10	+13	−12	−15	+14	+1	−0	+3	−2	+5	−4	−7	+6
10	−11	−8	+9	+14	+15	−12	−13	+2	−3	−0	+1	+6	+7	−4	−5
11	+10	−9	−8	+15	−14	+13	−12	+3	+2	−1	−0	+7	−6	+5	−4
12	−13	−14	−15	−8	+9	+10	+11	+4	−5	−6	−7	−0	+1	+2	+3
13	+12	−15	+14	−9	−8	−11	+10	+5	+4	−7	+6	−1	−0	−3	+2
14	+15	+12	−13	−10	+11	−8	−9	+6	+7	+4	−5	−2	+3	−0	−1
15	−14	+13	+12	−11	−10	+9	−8	+7	−6	+5	+4	−3	−2	+1	−0

An inspection of this table yields as many as 35 distinguished triples, namely:

$$\{1,2,3\},\{1,4,5\},\{1,6,7\},\{1,8,9\},\{1,10,11\},\{1,12,13\},\{1,14,15\},$$
$$\{2,4,6\},\{2,5,7\},\{2,8,10\},\{2,9,11\},\{2,12,14\},\{2,13,15\},$$
$$\{3,4,7\},\{3,5,6\},\{3,8,11\},\{3,9,10\},\{3,12,15\},\{3,13,14\},$$
$$\{4,8,12\},\{4,9,13\},\{4,10,14\},\{4,11,15\},$$
$$\{5,8,13\},\{5,9,12\},\{5,10,15\},\{5,11,14\},$$
$$\{6,8,14\},\{6,9,15\},\{6,10,12\},\{6,11,13\},$$
$$\{7,8,15\},\{7,9,14\},\{7,10,13\},\{7,11,12\}.$$

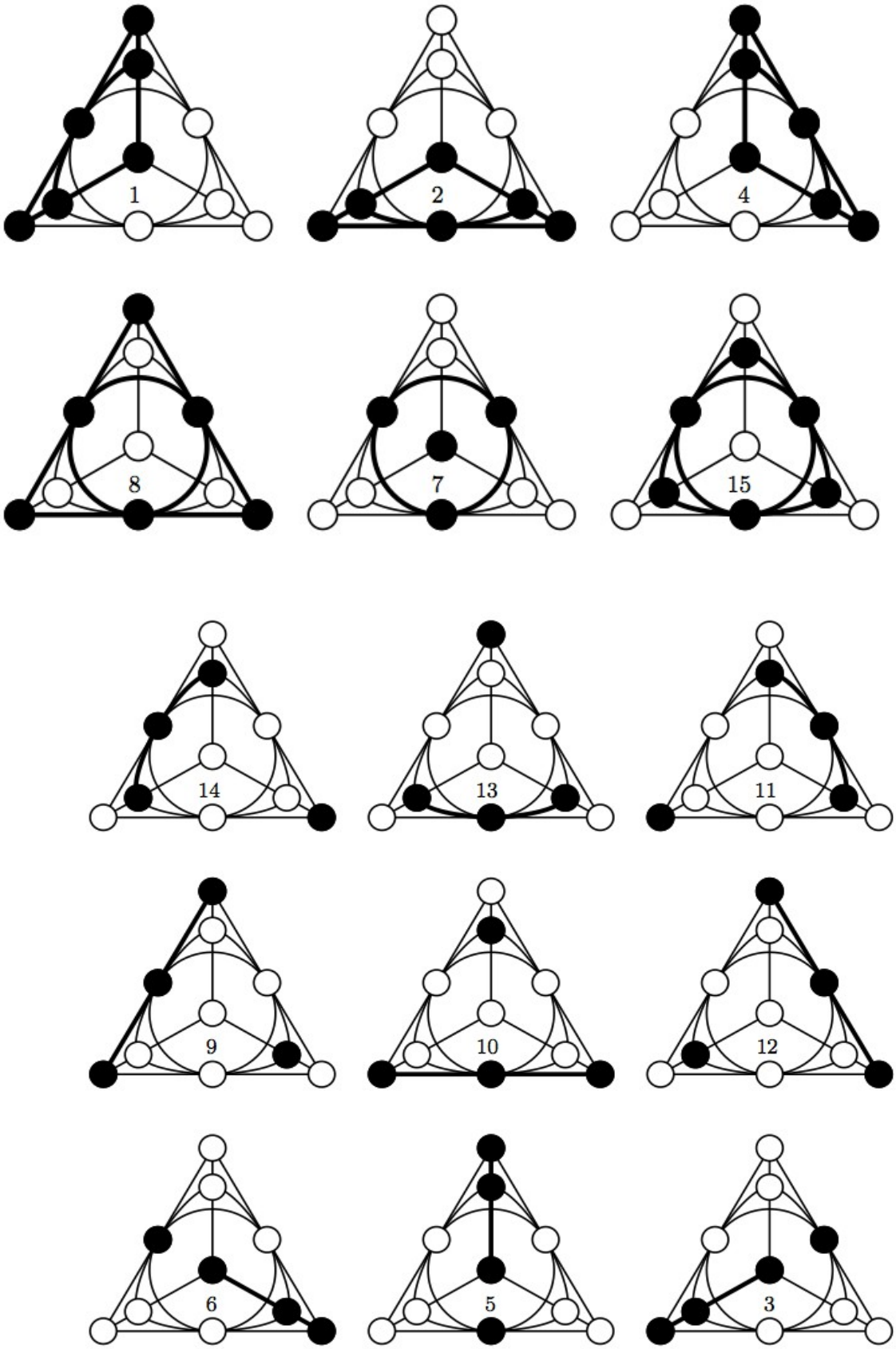


An illustration of the structure of PG(3, 2) that provides the multiplication law for Sedenions. As in the previous case, the three imaginaries lying on the same line are such that the product of two of them yields the third one, sign disregarded.

Comment: “ sign disregarded” is in fact a key feature of the oft – maligned Sedenions. At higher organizational levels of numbers, the relative freedom of Sedenions and Trigintiduonions is crucial when dealing with the Zero Divisors of Sastri and Asastri energy fluctuations and their spaces.

The next diagram illustrates the importance and role of the 35 sets of triplets and their geometric connection to the Fano Plane and the Octonions.

The fifteen geometric hyperplanes of the Desargues configuration. The hyperplanes are labelled by imaginary units of sedenions in such a way that the 35 lines of the Veldkamp space of the Desargues configuration are identical with the 35 distinguished triples of units, that is with the 35 lines of the PG(3, 2) Fano Plane.



Conclusion

This paper has shown how S.M. Phillips has illustrated the relationship between Octonions, the Fano Plane and the Cabala, and how the I Ching fits in with them in terms of numerical relationships. The point the author makes is that the I Ching and the Tai Xuan Jing serve as magnetic fields which help to form the Amperian Loop described by multiple copies of the Cabala Tree of Life. Varied arrangements of the I Ching and Tai Xuan Jing may produce tori, as Mark Rodin has shown with his Rodin Coil.

While the 8 x 8 Satvic I Ching array connects with the Octonions, Sedenions and Trigintaduonions (since the multiplication tables of the Octonions and Sedenions form part of the Trigintaduonion multiplication table), it remains unclear exactly which structures the magnetic field corresponds with. Most likely, these particles would be dynamic, 9 x 9 Rajic gas or fluid types, or possibly Hopf Fibrations, since these appear only in odd dimensions, specifically S3, S7 and S15.

A future paper on the Tai Xuan Jing will attempt to link specific tetragrams with the Sedenion multiplication table and specific forces, such as electro – weak, strong etc, of quantum physics, to follow up on work begun by Weng.

Since the 64 I Ching hexagrams form an isomorphic relationship to the 64 amino acids of the DNA helical strand, the I Ching magnetic field probably plays a key role in the formation of this strand.

In terms of social science, the Chinese have never known that the sequence does not stop at the number eight: in their stable, Satvic social system, which is based on the Eight Trigrams, the I Ching and Confucianism, the Chinese have created the world's longest extant, most stable social system, while at the same time the Chinese have rejected the dynamic 9 x 9 = 81 Rajic system, represented by the Tai Xuan Jing.

While Yang Xiong probably translated the document from Sanskrit during the Later Han period, Chinese scholars since that time have rejected the Tai Xuan Jing as non – Confucian, and have neglected the document for the most part over the past two thousand years. This may help to explain how social values such as caution and conservatism have helped to create a stable social system which has lasted five millenia.

At the same time, the Chinese underwent the longest and most turbulent

revolution for 140 years, from 1840 to 1980, which only prepared the nation to transform into a modern industrial economy; social and political changes lag far behind economic development. The result of the Chinese Revolution is that the nation has adopted the Japanese State Capitalist economic development model, which the Japanese began to implement at home during the Meiji Restoration of 1868. As John Fairbanks wrote, not much has changed in China, despite the length of the Chinese Revolution and the great number of its casualties. Mao Ze Dong became the new emperor, and his successors have ruled the new Chinese empire under the legitimacy Mao created.

The length of the revolution, and the requirement of three generations of unemployed intellectuals to carry out the revolution, attests to the diamond – like social structure of Chinese society. Many have tried to change China, but the 8 x 8 Satvic structure of Chinese society makes the task extremely difficult, and perhaps explains why so little has changed in China, and why social and political change prove difficult to impossible.

In conclusion, the Vedic philosophic concepts of Raja, Satva and Tamas can be construed in philosophical terms, as with the Chinese, as well as in terms of nuclear physics. The highly scientific qualities of the Sanskrit language and of Vedic literature and philosophy allows readings and interpretations on both levels, simultaneously. Scholars have long sought such a “hard” science connection to social science, and the Chinese case provides a fruitful example.

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Dedication

Some men see things as they are, and ask, “Why?”

I see things that never have been, and ask, “Why not?”

So let us dedicate ourselves today to what the Greeks wrote so long ago:

To tame the savageness of man and to make gentle the life of this world.

Robert Francis Kennedy