



UNIVERSIDAD SAN FRANCISCO DE QUITO

Colegio de Postgrados

**Philosophical Understanding of the I Ching based on Mathematics
Comprensión Filosófica del I Ching basado en Matemáticas**

Paúl Steven Armas Castillo

Tesis de grado presentada como requisito para la obtención del título de Magíster
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UNIVERSIDAD SAN FRANCISCO DE QUITO**Colegio de Postgrados****HOJA DE APROBACIÓN DE TESIS****Philosophical Understanding of the I Ching based on Mathematics
Comprensión Filosófica del I Ching basado en Matemáticas****Paúl Steven Armas Castillo**

José Salazar Carbonell, M.A.
Director de la Maestría en Filosofía China
Director de Tesis y Miembro del Comité
de Tesis

Zhang Xianglong
Miembro del Comité de Tesis

Renaud Neubauer
Miembro del Comité de Tesis

Carmen María Fernández-Salvador
Ayala, Ph.D.
Decana del Colegio de Artes Liberales

Víctor Viteri Breedy, Ph.D.
Decano del Colegio de Postgrados

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Dedicatoria

Las palabras e ideas que contiene este documento de estudio, es un legado a las posibilidades de pensamiento que pueden tener otras personas que están vinculadas a estos temas filosóficos o tienen interés por comprender conceptos trascendentales como la casualidad, el caos, el destino, o muchos otros. Este trabajo va dedicado a todos quienes puedan sacar provecho de estas ideas y las puedan llevar más allá.

Agradecimiento

Este trabajo de desarrollo filosófico, ha sido un producto de la paciencia y perseverancia de muchas personas que han labrado el espacio para que un estudio de este nivel se haya podido llevar a cabo en un país de occidente. El conocimiento legado por sus ancestros a los seres que habitan el lado oriental del planeta, por así llamarlo; es de un valor inmensurable. El haber conseguido que parte de ese conocimiento se transmita de manera directa por actores catedráticos de estas disciplinas en nuestros salones de enseñanza, ha sido un regalo de la vida que se debe agradecer con verdadero sentimiento. Un sincero agradecimiento dirigido al cuerpo de docentes que hizo posible que este conocimiento milenario haya sido entregado de manera directa a un grupo de estudiantes de maestría en este lado del planeta.

RESUMEN

Desde sus inicios el I Ching cuando Fu Hsi lo empezó a desarrollar a través de la lectura de las rajaduras de los caparazones de las tortugas, estuvo ligado a la casualidad. El método se desarrolló en el tiempo, pasó a la lectura de ramas de milenrama y aumentó el nivel de complejidad de los sistemas matemáticos internos que involucraba. En su esencia interna inherente el I Ching es una evolución de posibilidades que nacen de la probabilidad inicial de sí o no, que si representa por el 1 o 0, define la base del sistema binario que es hoy en día la estructura de la informática y todos sus sistemas. Este mundo de probabilidades basado en una probabilidad matemática inicial totalmente proporcional, está ligada filosóficamente a los principios taoístas del yin y el yang. Bajo la lectura de los conceptos del yin y del yang se definen géneros y conceptos a esta serie de combinaciones que se conforman en grupos de tres, llamadas Pa Kua o trigramas.

El I Ching en el día de hoy es la lectura combinada de dos trigramas sobre puestos uno encima del otro. En el sistema de lectura de las ramas de milenrama, existe una falla matemática proporcional. Es más probable que se obtenga un yang de cambio y es menos probable que se obtenga un yin de cambio, mientras que es más probable que se obtenga un yin normal que se obtenga un yang normal. Esta circunstancia evidencia una intencionalidad filosófica propia inherente al I Ching. Por otro lado, de la base del análisis del código binario que lo desarrolló Leibniz en el siglo XVIII, inspirado en la estructura del I Ching, es posible llevar una secuencia matemática exponencial desde un principio de 1 y 0, es decir 2, que elevado al cubo es 8 y que éste mismo elevado al cuadrado llega al 64, lo que nos define el número de hexagramas existentes sobre los cuales se basa el I Ching hoy en día su lectura.

Si se lleva más allá el desarrollo exponencial de esta progresión estadística de probabilidades, entonces encontramos que un siguiente exponencial que define una circunstancia filosófica interesante es el 8 elevado a la 8 en donde se tiene una combinación de los 8 trigramas en una misma lectura, y siguiendo más adelante en este desarrollo de progresiones matemáticas, es posible llegar a analizar un 8 elevado a la n, el cual permite hacer un análisis matemático más complejo basado en la matemática diferencial, en la cual es posible encontrar un nivel de respuestas filosóficas más sofisticado y quizá menos especulativo, que el simple azar o la casualidad; es posible que en este nivel de relación matemática filosófica sea factible involucrar la estructura del I Ching con teorías matemáticas conceptuales como la Teoría del Caos o las asociaciones físicas de Causa y Efecto, o quizá tomar noción de matrices y algoritmos que de una u otra forma definen nuestro diario vivir, nuestro pasado y nuestro futuro.

Keywords: I Ching, Binario, Matemáticas, Wu Wei, Caos, Exponencial, Trigramas, Fu Hsi, Posibilidades.

ABSTRACT

From its beginnings of the I Ching when Fu Hsi started to develop literature throughout the cracks of the turtle shells, it was linked to the casualty. The method was develop throughout time, it was passed through lectures of Milenrama and increased the level of complexity of the internal mathematical systems involved. In its internal essence of I Ching it is a evolution of possibilities that are born within yes or no, with represents between 1 or 0. This defines the base of the binary system which is nowa days the basic structure of the informatics and all those systems. This world of probabilities based on a initial mathematical probability completely proportional its linked to the philosophical Taoists principles of yin and yang. Under the lectures of the concepts of the ying and yang diverge genres and concepts are defined to these whole series group in combination of three called Pa Kua or trigrams.

The I Ching is nowadays the combined lecture of two trigrams over post one among the other. In the system of readings of the branches of the Milenrama there exists a proportional mathematical fault. As matter of fact it is more probable to exist a yang of change and less probable to exist a ying of change mean well it is more probable to exist a normal yin which is obtained from a normal yang. This circumstances evidence a philosophical intention proper to the I Ching. On the other hand, from the bases of binary code developed by Leibniz on the XVIII century inspired by I Ching structure, it is possible to carry on a mathematical exposure from a principle of 1 and 0, meaning to less, two, which elevated to three it is 8 which it is elevated to itself is 64. This defines the number of hexagrams existent over which the I Ching is based nowadays.

If the exponential development of this statistical progression of possibilities follows beyond, then it is possible to find that a following exponential one that defines an interesting philosophical circumstance is the 8 high to the 8. At this point it is possible to find a

combination of the 8 trigrams in a same reading. Continuing further on in this math progressions development, it is possible to analyze 8 high to the “n”, which permits doing a more complex mathematical analysis based on the infinitesimal mathematics calculations. The possibilities to find answers to a higher level of more sophisticated philosophical answers and perhaps less speculative, seems to be a reality trough this mathematical analysis of the I Ching. It is possible through this philosophical mathematical relation to be feasible to involve the structure of the I Ching with conceptual theories of math as the Theory of the Chaos or the physical associations of Cause and Effect. Perhaps take notion of matrix and algorithms structured on our all days, our passed and our future it is a possibility because of the I Ching and its mathematical system understanding.

Keywords: I Ching, Binary, Mathematics, Wu Wei, Chaos, Exponential, Trigrams, Fu Hsi, Possibilities.

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I. Fu Hsi eight Trigrams - I Ching origin - Casualty effect

In Asia, the humanity through their more primitive time of society development, in our days China land, this society was organized by groups of villages. Those villages were organized on a common social structure. A counsel of elders was on charge of this common structure. One of the missions of this counsel was to decide the norms and make decisions about the future of this society. There was a supreme teacher, established as supreme master, even over the counsel. He lived alone in the far away mountains, his name was Fu Hsi. His existence defined many of the development parameters of these villages followers of its teachings. It was used to ask him all about the most important decisions about their cultivations, or about philosophy and all about their future. Fu Hsi lived in the mountains in a constant state of meditation and reflection. His spiritual level and knowledge were considered in the later time as those of enlightenment.

Fu Hsi frequently used to wear tools from the environment to eat and to harbor its body. The live of this sage, dates approximately between the 3,000 and 4,000 years before Christ. One of these tools used frequently by him at that time was the shell of the tortoises in which he used to prepare the food. Setting them over the fire, used as containers for the food, those shell of the tortoises were his pots. One day, while he was preparing his food, consumed in its meditation, he forgot that the shell of tortoises was exposed to the fire. The fire evaporated the contained food until the shell was completely empty. While it was empty, it continued exposed to the fire until it suffered a gash. This gash was a lineal physical texture.

Because of this accident, he realized that when the shell suffered this gash, there was a kind of casualty applied to the morphological physic manifestation of that line.

Through the experimental application of that accident to many other shells, he was able to distinguish two kinds of gashes. One was a whole line, and the other was a broken line.

Through the time and the experimental analysis of this accidental casualty, Fu His was able to connect the geometry of the gashes with the environmental circumstances that happened when they appeared. Then he realized that there was a relation between the geometry of the gashes and the answers he got when they appear. After many years it was possible for him to determinate specific parameters connected to the readings of those accidental geometrical gashes that appear in the shell of the tortoises he used to expose to fire.

Those shells of tortoises began to be not enough for its readings. It was always harder to found them. So then his experimentations were linked to the possibility to find them. So, he decided to ask through his meditation for a new tool of analysis, one easier to find in the nature, to go ahead within his reading development. At that time, he has been able to define that each kind of geometrical manifestation on those lines, represented an opposition. The continue line represented one group of possibilities, and the broken line represented the opposite group of possibilities. He based his readings and interpretations of those accidental manifestations on those two geometries, each one represented a group of definitive parameters arguing its readings.

Looking for this new tool to continue with these analyses, in a middle of a meditation, Fu His found a milenrama bush. It used to be known as aquilea. These bushes used to be composed by many branches bigger than sixty centimeters and at the top appear a crowned flower that in spring and summer time was filled by many green leaves curved at the boundaries. He took a bunch of branches and cut of them. There was know that a bunch of milenrama branches

boiled in water was a great medical medicine to cure flu and wash the face and the body when was cold. So, he decided to make an infusion of those branches and asked to the shell if it was the plant to continue with its readings. He was relieved when received a positive answer.

He began by choosing from the bunch of branches those were dry and light, as a better feeling. Seek at them for a long time, and then he realized there were as two hundred. He decided to eliminate those smaller and bigger branches, so the resting bunch could have a similar size of them. When he had a bunch of branches close to three times the palm of his hand of size, then he got a good feeling. He realized there were less than a hundred; he took them, after rubbing them as looking for a convenient morphological alignment, it was better then. At the next day, when he went to take them again, one felt down to the floor indicating directly toward him. Fu Hsi advice that it was the one that always would be pointing to him as a sign that there is someone else that looks at his actions and its value. The count the rest of the branches in his hand, there were forty nine leaving. It is seven times seven.

It was hard to find a mathematical solution for those forty nine branches and to find a method of reading its relation with the environment through this numerical composition. He asked them how the way to find answers with them was. The first he thought was the obvious; to divide them in seven groups of seven, but there wasn't a continue logical solution to go further. Then he thought it was possible to divide them in nine groups of five branches and one of four, but there wasn't neither a logical answer to analyze it and go further. Those exercises let him know that dividing those branches in smaller groups of them, was a right way to understand the inherent structure of them. When he remind that those geometrical gashes in the tortoises shells were armed in two groups of opposites, then he linked this

situation to the association to those numerical groups of branches. After five years working daily with this numerical association of group of branches with a philosophical concept of opposition; Fu Hsi was able to define broken and unbroken lines, and even further, he was able to combine those lines and obtain associated results. Then after forty nine years, he was able to create a small whole, of ALL THAT IT IS, from the relation between the lines and its results. Then he was able to know the future and look inside the heart the whole.

Fu Hsi realized that it was necessary to leave this knowledge for the future generations, to transcend the time and to go ahead in the humanity knowledge. He found an apprentice and began with him to explain all the knowledge he was able to approach in that time. At the end he explained the broken and unbroken lines and its answers, yes or not. Then he tried to join two lines and then he discovered four possible combinations. When there were two unbroken lines together, that lecture had an absolute yes as an answer. When there were two broken lines together, that lecture had an absolute no as an answer. Then, it appears the possibility of combine results between a broken and an unbroken line. Those results could be reading of possibly yes or possibly not. To understand the order of that reading, Fu Hsi, based his answer on the nature and its growing. Inside the earth, the seeds, then the plants and later the trees, all grow from down to up. So then if nature grows in that direction, the combination of those two different answers should be based on that analysis. When there is an unbroken line down and a broken line up, so then the answer should be possibly yes, and so, when there is a broken line down and a unbroken line up, so then the answer should be possibly not.

Fu Hsi believes were linked to the philosophical understanding of the universe as a composition of many Gods, the river God, the mountain God, the agriculture God, and so on. Going against this way of view of the universe it was an evil fact. Fu Hsi was, through his

acquired knowledge the first human being that proposed a unique God governing over all the things, even over the earth and the stones, and the plants. All was full of life, some kind of life imperceptible for us, but life.

When Fu Hsi, finally determined this combination of possibilities, and then decided to limit its reading system. He realized that when masculine joins feminine, then life appears. So linked these masculine and feminine concepts to the unbroken and broken lines concepts. To the unbroken line he linked the masculine concept and to the broken line he linked the feminine concept. When it was finished this conceptual analysis, he decided to increase one more line to the four combinations he had before. So then to the four combinations there were added at the bottom one unbroken line, representing the masculine offspring, and a broken line representing the feminine offspring. Fu His found eight combinations of three lines each one. He drew them in the tortoise shells and called them kua (gwa).

Through the called masculine and feminine characterized lines and its possible combinations, Fu Hsi was able to represent a family in the eight symbols he created. The symbol with the three unbroken lines would be the father and the one with the three broken lines would be the mother. The older brother is that one with the unbroken line in the bottom and two broken lines up. The move and arising of the line it represent its genre in between the opposite lines, represents the family part it is. So, then the middle brother is the unbroken line in the middle of two broken lines, and the young brother is the unbroken line at the top and two broken lines down. The same case applies for the daughters, beginning with the older with one broken line at the bottom and two unbroken lines over. The middle daughter one broken line in the middle of two unbroken lines, and the young daughter with a broken line at the top and

two unbroken lines down. So was how Fu Hsi composed this family structure of the eight Kua.

The reading method finally was composed of fifty branches of milenrama. One was always left in front of the reader to seek the virtue of the process. The other forty nine branches were divided in two groups of a random number of them each one. From the left group of branches it should be taken one in between the fingers. It represents the human being. The other branches should be divided in groups of four. Those branches left without a group should be taken in between the fingers also as the first one. The same procedure should be done with the right group except for the first branch. There should be in the hand five or nine branches. They should be separated from the group and set on apart. This procedure should be done three times. In the next two times, the results would be four or eight each one. When finished the three times, then the resting branches should be separated in groups of four. The amount of groups of four should be from six to nine. Six meant a full broken line, or completely feminine and eight a normal feminine. The nine meant a full unbroken line, or completely masculine and seven a normal masculine. This lecture, repeated three times defined a Kua or a member of the family. Each member of the family has for Fu Hsi a specific meaning.

Father represents the creative force of God, not God as itself, but its force applied to the creation, it represents heaven. Mother represents the receptive force of God. It is through the receptive force of God that the creative force of God can create. It represents the earth. These two forces are complementary of each other. Feminine force receives the Masculine energy through its force. Father was named Chi'en and the mother K'un.

The older brother represents the force that arises, that force that let things happen, its name is Ch'en; this force makes act all that Ch'ien creates. Its symbol is the thunder. The young

brother is the stopping force; its symbol is Ken and its symbol the mountain. It represents the quiet force.

The middle brother is K'an the abyss and the water. Represent danger, a danger wave or a great storm. It is floating in the middle of two broken lines.

The middle daughter, called Li, it is the sun and the fire. So as it is the light and the reason. In the dark the light supplies clarity and understanding.

The older sister is called Sun and represents the wind. This wind blows over the earth and brings dialogue to every were. It is also the wood. It arises from the earth, so its meaning is success and growing.

The young daughter, called Tui, represents the swamp, a lake or a water reserve. It is linked with the union to itself.

The whole world, its reality and creation is developed on based to these eight figures, called kua. Nothing happens in the universe that is not linked with these eight forces. It is only because of these forces that in heaven so as in the earth things happen and fate are filled by itself. When the darkness of K'an arises, it is only because the light of Li is turned off. I the light of Li grows, it is because the darkness of K'an yields. Every end has a new beginning. Every end contains a new beginning.

II. Mathematical exponential base, eight to one – Equations and statistics on the reading system of the I Ching.

In its basic mathematics, the I Ching is composed by a masculine continuous line, in the Taoist conceptualization based on yin – yang vision, this line represents the yang side; The other side, yin, is represented by a female broken line.

If you give a numeric value to each one of these elements, you have a plain base on the 0 and 1 numbers.

Under this type of mathematics, plain that are part of the Book of Changes, Leibniz at the 17th century, is now based on, the modern computer system, thanks to that we have informatics tools as internet, software and other electronic devices that have changed the actual reality.

What is more important, in 1973 it was discovered that the sixty-four kua match perfectly the construction of the sixty-four DNA codons of the genetic code when represented in binary form. That is ample substantiation that Fu Hsi's system is based on Universal order. (I Ching – Becoming your authentic self, Wu Wei).

The structure of this binary code based on zero and one, corresponds to a perfect numeric system, in spite of that is the possibility to go further into an infinity development in a total numeric perfection. This subject is going to be developed in the chapter of Binary Code and Leibniz.

The combination of zeros and ones, with conceptual values it corresponds to yes and no, That was the beginning of what was going to be the I Ching, through the interpretation of a gash produced in a tortoise shell, that Fu Hsi's life entered into the fire until it broke. The gash could be continuous or broken. This started by and causal accident.

The unbroken line has a conceptual value of yes, and the broken line has a conceptual value of no. In the binary code 0 and 1, in the beginning reading as a separated answer, that later will be part of a complex plain of combinations in order to define the reading of the oracle.

The next step in the mathematic system was to combine two probabilities of answers, getting a plain of four possible answers.

00, 01, 10 y 11.

The finally answers was easy to discover due it whole numeric situation as a definitive yes or definitive not. To interpret the combination of 01 and 10, Fu Hsi used the nature values as the growing down to up to give support to his hypothetical interpretation of a combination of two equal probabilities of 50% each one. This conceptual philosophical base give the change to an unbalance, in side of a mathematic completed equilibrate answer.

This game of philosophical mathematic variables, interpretive in conceptual and numeric values, shows at the beginning and in the whole Book of Changes, this is what allows seeing with a control development of the readings and the efficiency of the predictions.

Fu Hsi, one more time trying to find a profound method of reading of this casualty effects, decide to put a conceptual limit to his base elements and gives them a genre. Male for the unbroken line and female for the broken line. Done that he decide to incorporate as a base of the previous compositions and in that way duplicate his possibilities of answers and there for of the interpretations. So he gets a plain as is detailed as follows:

000, 001, 010, 011 y 100, 101, 110, 111

This new group of combination divided in two groups: the ones based on 0 and the ones are based on 1 that made the eight trigrams, those that are until these days the base group of the combinations that are used in the reading of the I Ching. The group based on 0 defines the male familiar group and the group based on 1 defines the female familiar group. In this way emphasizing to the combination of 0 as the father and the 1 combination as the mother living the next 3 combinations, each one in their group as the oldest brothers, middle and youngest as well in the female side as the male side.

Finally the trigrams are based in the combination of 3 probabilities that get into 8. In side of a mathematic view. The first mathematic base is defined by 0 and 1, 2 elements multiplied by 2, which allow obtaining the first group of 4 variables. This group once more multiplied by 2, allows to have 8 mathematic probabilities calls Pa Kua, or the eight trigrams that until this days correspond to the eight philosophical elements with interpreted the I Ching.

$$0 \text{ y } 1 = 2$$

$$00, 01, 10, 00 = 2^2 = 4$$

$$000, 001, 010, 011 \text{ y } 100, 101, 110, 111 = 4 * 2 = 8 \text{ or}$$

$$2^3 = 8$$

In other words, starting from the base of two opposite elements, in the Taoist Chinese philosophical base are yin and yang, elevated to three finally produce the 8 trigrams that are the base of the whole posterior development and interpretation of the I Ching:

$$0 \text{ y } 1 = 2^3 = 8$$

Mathematic way of reading - The Mathematic initial way of reading develop with the principle of a gash of different geometric characteristic, represent in the turtles shell exposed to the fire, allows to read of two variables, yes or not, or yin or yang.

This statistics method of basic probabilities comes with a numeric connotation of 50% y 50%. Ones that have the intention of getting profound in the interpretation system it open the opportunity of a combination of four probabilities; each one of those has the 25% of probability to appear as an answer. Ones that decide to go further in the reading system, have to continue with a more complex method, even in the middle of the process in which the mind go to a subconscious state allowing the casualty act in a more spontaneous way and the answer, could be more effective.

There is a shorter method of reading the trigrams that is based on throwing of 3 coins, one of their side means yin and the other means yang. It gives a value of 3 to yang and 2 to yin. The combination of the three ceros 000 = 9 is a total yang, the combination of two ceros 00 and one 1 is 8 a regular yin, the combination of 0 and 11 is 7 a regular yang and the combination of three 111 is 6 a total yin. It is:

$$000 = 9 = \text{yang} *$$

$$001 = 8 = \text{yin}$$

$$011 = 7 = \text{yang}$$

$$111 = 6 = \text{yin} *$$

This series of possible combinations, group by three conform the trigrams, developing starting from the bottom and moving uppers.

The more adequate method of reading is through the branch of milenrama, in which interact with 50 elements or branch. One of those is separated at the beginning.

$$50 - 1 = 49$$

This 49 are random divided in two groups, the group X and the group Y

$$X + Y = 49$$

Group X, is the Left side and group Y the right side, so at the group X one element is taken to the left hand, then it divided in groups of four, the one that are leave of this division are taken to the left hand adding to the one that was all ready taken. It is not possible to obtain 0 as the number of elements leaved in that case the residue is four elements. This procedure has to be repeat 3 times in total, the number of groups that are at the end is what define the line that is obtain to the answer.

$$(X - 1)/4 + R$$

$$R = \text{resting}$$

$$Y + R$$

Fail of stadistic probability in the reading of the I Ching.

For the reading of The I Ching there are a few ways. Starting from the primitive one based on the morphologic of the gash in the shell, going through the three coins, until the most respectful way with the branch of Milenramas. The two first ways responds to a basic game of probabilities of the change, in which are the 50% of probabilities that appear a yin line or a

yang line. This happens with the turtle shell and with the coins, because when the coins are thrown into the air they have a 50% probability to appear on one side as in the other. It leaves as a result a yang line or a yin one.

With mathematics as a part of the method through the branch elements, the statistics is not so basic and the probabilities to obtain a yin or a yang line, it is not proportional. Before going into the analysis of the mathematics of this method, it is necessary to make a differentiation between this and the other ways of reading. The method with the turtle shell Fu Hsi used in ancient times when the reading was so basic, and the possibilities were only yes or no. Further in time the method became more complex and the variables increased. It is not possible to use this method because we needed 6 shells and too much time. The coins method is a simple game of chance, is the faster one and a relative answer from the point of view of a mound of conciseness involves. It is hard to value the mound of concentration that could involve this method. So it is kind of difficult to know how profound are the answers just based in the wu wei of how the coins fall. In the reading with the branch of milenramas there is a process of change of consciousness, the mathematical game, things that get the person into a sub consciousness, in which the profound of the person are more involved in an effective way. The reading through the coins is effective just because it is based in a Taoism principle like the Wu Wei; what we do not know is the level of the consciousness that is involved. The level of sub consciousness in the branch method are higher because of the mathematics movement involved.

Because of this it is important to consider that the method of branch of milenrama is the most well known and respected, so therefore it gets the deepest philosophical answer. Maybe it works to call this method the one that has more transcendental value between all the methods known by humans.

Based on this level of importance of the branch method, start mine interest in analyzing the mathematic in this, so starting from the sub conciseness we could see a consciousness way, specially the structure of the possibilities.

Based on this importance level of the Reading of the Milenrama, it has been growing the intention of its inherent mathematical analysis. It can be focused from an unconscious state of mind to a conscious one, specially its statistical structure.

It is beginning with the 50 units at the reading; one is taking apart as an observer of the process to value the virtue of the reader. The 49 resting brunches are divided in two groups in a random way. From the left is taking off one brunch, and then it is divided in groups of 4. The resting brunches fo those groups of 4 re taking off too. If there are not uncompleted groups, then 4 brunches are taking off. The same process is done at the right group. At the beginning there is the possibility of existing 12 groups of brunches and one that it is taking off from the left group.

49 initial units

12 groups of 4 units + 1 extra unit

If when the 49 units are divided y two groups randomly, one of the 12 groups is divided, then there will be 11 complete groups between both sides, one group of 4 divided in both sides. Always when it happens, there will be 5 brunches as the result of the subtractions of the process. When the randomly separation of the two groups doesn't brakes a group, then the final result of it would 9 brunches subtracted.

Represented on ecuations and mathematical probabilities it is like that:

If it is divided in 2 groups: $X \text{ y } Y$,

then $X + Y = 12$

when $X + 1$ it is the group of brunches of the left and

when Y it is the right group,

then, the amount of brunches subtracted will be 9 and

the amount of groups resting it will be 10

It is, there will be resting 40 brunches for the next selection.

when $(X + 1) + 1$ i the left group,

then $Y + 3$ it will be the right group,

In these case $X + Y = 11$, because on group has been dividen in both sides.

The same happens when, $(X + 1) + 2$ it is the left group,

then $Y + 2$ it will be the right side, and

when $(X + 1) + 3$ would be the left group,

then $Y + 1$ it will be the right group.

In all these three cases, always the amount of subtracted brunches, it will be of 5.

Then the possibility of eliminate 9 brunches, it will be one of 4, but,

The possibility of eliminate 5 brunches, it will be 3 of 4.

When 9 brunches are eliminated, the resting group it will be of 40 brunches. But when 5 brunches are eliminated the resting group of brunches it would be of 44. Both are multiples of 4, so then the mathematical probabilities of have a different result in both cases are the same.

When $X + Y$ it is the same as “n” complete groups,

Dividing in 2 the possibilities are as follows:

When $X + 1$ is the left group,

then $Y + 3$ is the right group,

In these case the amount of brunches subtracted it would 8;

When $(X + 1) + 1$ is the left group,

then $Y + 2$ is the right group,

when $(X + 1) + 2$ is the left group,

then $Y + 1$ is the right group,

In both cases the amount of brunches subtracted it would be 4;

When $(X + 1) + 3$ is the left group

then $Y + 4$ is the right group,

In this case the amount of brunches subtracted It would be of 8.

In this step the possibility of obtain 8 brunches subtracted, it would be 2 of 4, and to obtain 4 subtracted brunches, it would be 2 of 4 as the same.

For the third step of the reading process, the probabilities calculation is exactly the same , because the amount of resting brunches it would be always a multiple of 4.

Then,

1. If in the first case, the probabilities to obtain 9 subtracted brunches are 1 of 4, it is of 25%, and to obtain 8 subtracted brunches in the second and third steps, the probabilities are 2 of 4, it is 50%; it is possible to affirm that the combined probability of eliminate 25 brunches in the three steps is:

1 of 4 + 2 of 4 + 2 of 4, in the whole 5 de 12, it is 41,60%.

Taking off 25 brunches, there will be resting 24 brunches at the end, it is 6 groups of 4, it represents a yin of change.

So, then the possibility to obtain a yin of change is of 41,60%.

2. If in the first case, the probabilities to obtain 5 subtracted brunches are 3 of 4, it is of 75%, and to obtain 4 subtracted brunches in the second and third steps, the probabilities are 2 of 4, it is 50%; it is possible to affirm that the combined probability of eliminate 13 brunches in the three steps is:

3 of 4 + 2 of 4 + 2 of 4, in the whole 5 de 12, it is 58.30%.

Taking off 13 brunches, there will be resting 36 brunches at the end, it is 9 groups of 4, it represents a yang of change.

So, then the possibility to obtain a yang of change is of 58.30%.

3. To obtain a normal yin, at the end there would be 32 brunches or 8 groups of 4. It is required then, to eliminate 17 brunches in the 3 steps. It can be effort in two ways:

a) I there would be eliminated 9 brunches in the first step and 4 in the second and third steps.

b) I there would be eliminated 5 brunches in the first step and 4 in the second and 8 in the third step (or 8 in the second and 4 in the third step).

The probabilities that it could happen are:

a) 1 of 4 + 2 of 4 + 2 of 4 = 5 of 12 it is of 41,60%.

b) 3 of 4 + 2 of 4 + 2 of 4 = 7 of 12, it is of 58,30%.

Both combined are of 12 of 24, it is 50%.

Then the probability to obtain a normal yin are of 50%.

4. To obtain a normal yang, at the end there would be 28 brunches or 7 groups of 4. It is required then, to eliminate 21 brunches in the 3 steps. It can be effort in two ways:

a) I there would be eliminated 5 brunches in the first step and 8 in the second and third steps.

b) I there would be eliminated 9 brunches in the first step and 4 in the second and 8 in the third step (or 8 in the second and 4 in the third step).

The probabilities that it could happen are:

a) 3 of 4 + 2 of 4 + 2 of 4 = 7 of 12 it is of 58.30%.

b) 1 of 4 + 2 of 4 + 2 of 4 = 5 of 12, it is of 41.60%.

Both combined are of 12 of 24, it is 50%.

Then the probability to obtain a normal yang are of 50%.

Then:

Based on a mathematical analysis the probabilities of the I Ching Reading method through the 49 Milenramas brunches, shows as follows:

- 1) There is a 16,70% more probabilities to obtain a yang of change than a yin of change.
- 2) The most probable it is to obtain a yang of change through the Reading with a 58,30%
- 3) It is exactly the same probable to obtain a yin and a yang normal as a result.
- 4) The less probable to obtain in the Reading is a yin of change with 41,60%

- 5) There is a mathematical unbalanced statistical probability in the method of I Ching Reading through the Milenrama brunches. It is balanced heavily to yang of change.

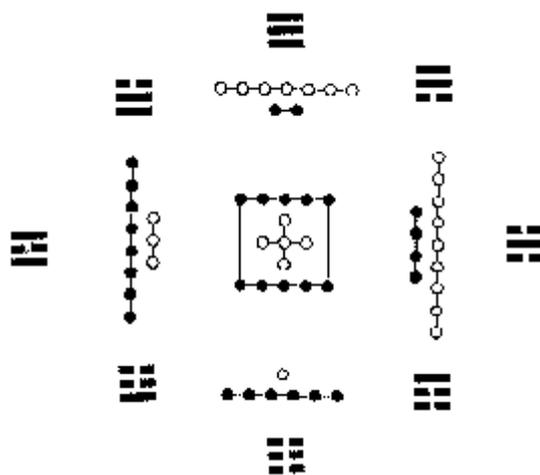
Then a philosophical thinking must be understood:

There is a philosophical conceptual reason to justify this mathematical statistical unbalanced situation for yang of change in the reading of the I Ching through this method?

To solve this question it is necessary to proceed with this analysis of the individual philosophy of each trigram and further analyze the 64 hexagrams as a whole composition of this philosophy, as a mathematical combination of 8^2 .

III. Trigrams, Individual Analysis

The Ba gua (Chinese: 八卦; pinyin: bā guà; pa kua; literally "eight symbols") are eight diagrams used in Taoist cosmology to represent a range of interrelated concepts. Each consists of three lines, each either "broken" or "unbroken," representing a yin line or a yang line, respectively. Due to their tripartite structure, they are often referred to as "trigrams" in English. These Trigrams have been evolving through the time since they were conceived by Fu His around 4.000 b.C. The basical scheme there was structured in the earlier time it was like this:



This is known as the SEQUENCE OF THE EARLIER HEAVEN, or PRIMAL ARRANGEMENT. The Earlier Version of Pa Kua indicates the overall structure of the Universe. One may notice that the kua opposite each other are the complement of each other. The sky kua (three solid lines) opposite to earth kua which has three broken lines. Notice their special arrangements. Wind is opposite of Thunder; Fire is opposite of Water; Mountain is opposite of Marsh. (Lee) Lee, J. (s.f.). http://kheper.net/topics/I_Ching/trigrams.htm.

The eight trigrams are:

☰ Tien 天 "Heaven"

☱ Ze 泽 "Lake/Marsh"

☲ Huo 火 "Fire"

☳ Dian 雷 "Thunder"

☴ Feng 風 "Wind"

☵ Shui 水 "Water"

☶ Shen 山 "Mountain"

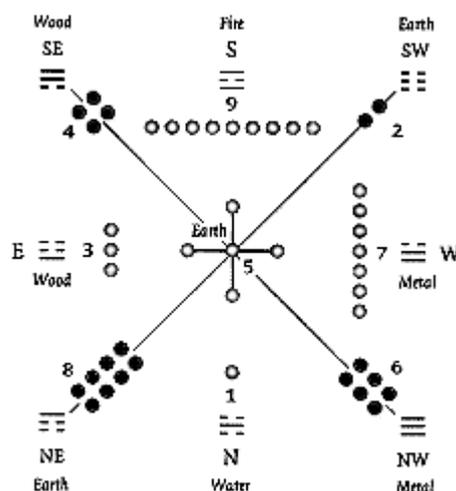
☷ Di 地 "Earth"

The Limitless (Wuji) produces the delimited, and this is the Absolute (Taiji). The Taiji produces two forms, named yin and yang. The two forms produce four phenomena, named lesser yin, great yin (taiyin also means the Moon), lesser yang, great yang (taiyang also means the Sun). The four phenomena act on the eight trigrams (ba gua), eight eights are sixty-four hexagrams.

Another philosophical description of the source is the following, attributed to King Wen of the Zhou Dynasty: "When the world began, there was heaven and earth. Heaven mated with the earth and gave birth to everything in the world. Heaven is Qian-gua, and the Earth is Kun-gua. The remaining six gua are their sons and daughters".

The trigrams are related to the five elements of Wu Xing. The Water and Fire trigrams correspond directly with the Water and Fire elements. The element of Earth corresponds with both the trigrams of Earth and Mountain. The element of Wood corresponds with the trigrams of Wind (as a gentle but inexorable force that can erode and penetrate stone) and Thunder. The element of Metal corresponds with the trigrams of Sky and Lake. Wikipedia. (s.f.). [http://en.wikipedia.org/wiki/Bagua_\(concept\)](http://en.wikipedia.org/wiki/Bagua_(concept)).

The evolution of the eight trigrams have been used and developed by many philosophical schools like the Yin Yang school, great masters like Kung Tzu, and also many kings like the King Wên, the Duke of Zhou and also by many Feng Shui scholars, that based their understanding of the five elements on the eight trigrams structure. The scheme of the later trigrams used specially by the Feng Shui scholars looks like this:



This is known as the SEQUENCE OF THE LATER HEAVEN, or INNER WORLD ARRANGEMENT. This composition of the eight trigrams is based on the sequence of the seasons and time in the year. The bright circles and the dark circles represent the opposite of their basic consideration. White circles represent the odd numbers; black circles represent the even numbers. It would be changed by the King Wên when he developed the composition of the 64 hexagrams, replacing those circles by lines in the scheme of the I Ching lecture.

King Wen of the Zhou Dynasty has been accredited with the following philosophical description of the source of I Ching.

"When the world began, there was heaven and earth. Heaven mated with the earth and gave birth to everything in the world. Heaven is Qian-gua, and the Earth is Kun-gua. The remaining six gua are their sons and daughters".

(http://www.uponreflection.co.uk/iching/iching_trigrams_chen.htm)

“Heaven and Earth determine the direction. The forces of mountain and lake are united. Thunder and wind arouse each other. Water and fire do not combat each other. Thus are the eight trigrams intermingled.

Counting that which is going into the past depends on the forward movement. Knowing that which is to come depends on the backward movement. This is why the Book of Changes has backward moving numbers. . . .

. . . The eight primary trigrams are named in a sequence of pairs. Ch'ien, heaven, and K'un, earth, determine the north-south axis. Then follows the axis Kên-Tui, mountain and lake. Their forces are interrelated in that the wind blows from the mountain to the lake, and the clouds and mists rise from the lake to the mountain. Chên, thunder, and Sun, wind strengthen each other when they appear. Li, fire, and K'an, water, are irreconcilable opposites in the phenomenal world. In the primal relationships, however, their effects do not conflict; on the contrary, they balance each other. . .

. . . To know this movement is to know the future. In figurative terms, if we understand how a tree is contracted into a seed, we understand the future unfolding of the seed into a tree. . .

. . . Within the Primal Arrangement the forces always take effect as pairs of opposites. Thunder, the electrically charged force, awakens the seeds of the old year. Its opposite, the wind, dissolves the rigidity of the winter ice. The rain moistens the seeds, enabling them to germinate, while its opposite, the sun, provides the necessary warmth. Hence the saying: “Water and fire do not combat each other.” Then come back the backward moving forces. Keeping Still stops further expansion; germination begins. Its opposite, the Joyous, brings about the joys of harvest. Finally there come into play the directing forces – The Creative, representing the great law existence, and the Receptive, representing shelter in the womb, into which everything returns after completing the cycle of life.

As in the course of the year, so in human life we find ascending and backward-moving lines of force from which the present and the future can be deduced.” (Wilhelm, 1950)

Each of the eight trigrams is attributed with many symbolic meanings, animals, symbols, etc. These attributes form the character of the trigram and constitute the formal view of each other. So, the Creative is strong, the Receptive is yielding, the Arousing means movement, the Gentle is penetrating, the Abysmal is dangerous, the Clinging means dependence, Keeping Still means stand still, the Joyous means pleasure.

Also, the Creative acts in the horse, the Receptive in the cow, the Arousing in the dragon, the Gentle in the cock, the Abysmal in the pig, the Clinging in the pheasant, Keeping Still in the dog, the Joyous in the sheep.

Also, the Creative represents itself in the head, the Receptive in the belly, the Arousing in the foot, the Gentle in the thighs, the Abysmal in the ear, the Clinging in the eye, Keeping Still in the hand, the Joyous in the mouth.

All of these eight trigrams are conformed in a Family order, according to this determination they are as follows:

I Ching Trigram Ch'ien ☰ Tien 天 "Heaven"

Ch'ien represents heaven and creative originality in all things. It signifies a change for the better. The Creative is heaven; therefore it is called the father. The Creative is heaven. It is round, it is the prince, the father, jade, metal, cold, ice; it is deep red, a good horse, an old horse, a lean horse, a wild horse, tree fruit.

Jade is the symbol of spotless purity and of firmness; so likewise is metal. Cold and Ice are accounted for by the position of the trigram in the northwest. Deep red is the intensified color of the light principle. The various horses denote power, endurance, firmness, strength. Fruit as a symbol of duration in change. Later commentaries add following: it is straight; it is the dragon, the upper garment, the word.

Family	Father
Body Part	Head
Compass Point	NW
Element	Metal
Season	Late Autumn/Early Winter
Natural Element	Heaven

I Ching Trigram K'un ☷ Di 地 "Earth"

K'un represents the earth and all feminine things as well as fertility. The receptive is the Earth; therefore it is called the mother. It is cloth, a kettle, frugality, it is level, it is cow with a calf, a large wagon, form, the multiple, a shaft. Among the various kinds of soil, it is the black.

Cloth is something spread out; the earth is covered with life as with a garment. In the kettle, things are cooked until they are done; similarly, the earth is the great melting pot of life. Frugality is a fundamental characteristic of nature. "It is level" means that the earth knows no partiality. A cow with a calf is a symbol of fertility. The large wagon symbolizes the fact that the earth carries all living things. Form and ornament are the opposite of content, which finds expression in the Creative. The multitude, plurality, is the opposite of the oneness of the Creative. The shaft is the body of the three, from which the branches spring, as all life sprouts forth from the earth. Black is intensified darkness.

Family	Mother
Body Part	Belly
Compass Point	SW
Element	Earth
Season	Late Summer/Early Autumn
Natural Element	Earth

I Ching Trigram Chen ☳ Dian 雷 "Thunder"

Chen signifies thunder representing the movement and development of situations. In the trigram of the Arousing she seeks for the first time the power of the male and receives a son. Therefore the arousing is called the eldest son. It is dark yellow; it is spreading out, a great road, the eldest son. It is decisive and vehement; it is bamboo that is green and young, it is reed and rush. Among horses it signifies those which can neigh well, those with white hind legs, those which gallop, those with star on the forehead. Among useful plants it is the pod-bearing ones. Finally, it is the strong, that which grows luxuriantly.

Dark yellow is a mixture of the dark heavens and the yellow earth. A “spreading out” suggests the luxuriant growth of spring, which covers the earth with garment of plants. A great road suggests the universal way of life in the spring. Bamboo, reed, and rush are especially fast-growing plants. The neighing of horses denotes their relationship to thunder. White hind legs gleam from afar as the horse run. The gallop is the liveliest gait. The seedlings of pod-bearing plants retain the pods.

Family	Eldest Son
Body Part	Foot
Compass Point	E
Element	Wood
Season	Spring

Natural Element	Thunder
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I Ching Trigram Sun ☱ Feng 風 "Wind"

Sun represents penetration, pliability, influence and the growth of vegetation. In the trigram of the Gentle the male seeks for the first time the power of the female and receives a son. Therefore the Gentle is called the eldest daughter. The Gentle is wood, wind, the eldest daughter, the guideline, work; it is the white, the long, the high; it is advance and retreat, the undecided, odor. Among men it means the gray-haired; it means those with broad foreheads; it means those with much white in their eyes; it means those closes to gain, so that in the market they get threefold value. Finally, it is the sign of vehemence.

The guideline belongs to this trigram in that it refers to a wind like dissemination of commands. White is the color of the yin principle. Here yin is in the lowest place at the beginning. Wood grows long; the wind goes up to the great heights. Advance and retreat refer to the changeableness of the wind; indecision and the odor wafted by the wind belong in this same context. Gray-haired scanty-haired people have a great deal of white in the hair. People with much white in their eyes are arrogant and vehement; those who are eager for gain are likewise vehement, so that finally the trigram turns into its opposite and represents vehemence, Chên.

Family	Eldest Daughter
Body Part	Thighs

Compass Point	SE
Element	Wood
Season	Late Spring/Early Summer
Natural Element	Wind

I Ching Trigram K'an ☵ Shui 水 "Water"

K'an means pit and signifies danger and flowing water. It is associated with the mind and concentration. In the Abysmal she seeks for a second time and receives a son. Therefore it is called the middle son. The Abysmal is water, ditches, ambush, bending and straightening out, bow and wheel. Among men it means the melancholy, those with sick hearts, those with earache. It is the blood sign; it is red. Among horses it means those with beautiful backs, those with wild courage, those which let their heads hang, those with thin hoofs, those which stumble. Among the chariots it means those with many defects. It is penetration, the moon. It means thieves. Among varieties of wood it means those which are firm and have much pith.

Bending and straightening out are implied by the winding course of water; this leads to the thought of something bent, of bow and wheel. Melancholy is expressed by the fact that one strong line is hemmed in between two weak lines; thus also sickness of the heart. The trigram signifies toil and the ear. Pains in the ear come from laborious listening. Blood is the fluid of the body, though a somewhat brighter red than that of Ch'ien, the Creative. When applied to carriage, is made to symbolize a broken down vehicle that serves as a wagon.

Penetration is suggested by the penetrating line in the middle wedged in between the two weak lines. Means the moon, which therefore appears as masculine. Persons who secretly penetrate a place and sneak away are thieves. The pithiness of wood is also connected with the attribute of penetration.

Family	Middle Son
Body Part	Ear
Compass Point	N
Element	Water
Season	Winter
Natural Element	Moon

I Ching Trigram Li ☲ Huo 火 "Fire"

Li represents separation (fire and lightning) but in the context of divination it signifies beauty and firmness. In the Clinging he seeks for a second time and receives a daughter. Therefore it is called the middle daughter. The Clinging it is fire, the sun, lightning, the middle daughter. It means coats of mail and helmet; it means lances and weapons. Among men it means the big bellied. It is sign of dryness. It means the tortoise, the crab, the snail, the mussel, the hawk bill tortoise. Among trees it means those which dry out in the upper part of the trunk.

Trigram is firm without and hollow, or yielding, within. This aspects account for the weapons, the fat belly, the shell-bearing creatures, and the hollow trees beginning to wither at the top.

Family	Middle Daughter
Body Part	Eye
Compass Point	S
Element	Fire
Season	Summer
Natural Element	Sun

I Ching Trigram Ken ☶ Shen 山 "Mountain"

Ken means mountain and represents obstacles and blockages. It can also signify a well earned rest. In Keeping Still she seeks for the third time and receives a son. Therefore it is called the youngest son. Keeping Still is the mountain; it is a bypath; it means little stones, doors and openings, fruits and seeds, eunuchs and watchmen, the fingers; it is the dog, the rat, and the various kinds of the black-billed birds. Among trees it signifies the firm and gnarled.

A gate is suggested by the form of the trigram. Fruits and seeds are the link between the end and the beginning of plants. Eunuchs are doorkeepers, and watchmen guard the streets; both protect and watch. The fingers serve to hold fast, the dog keeps guard, the rat gnaws, birds

with black grip things easily; likewise, gnarled tree trunks possess the greatest power of resistance.

Family	Youngest Son
Body Part	Hand
Compass Point	NE
Element	Wood
Season	Late Winter/Early Spring
Natural Element	Mountain

I Ching Trigram Tui ☱ Ze 泽 "Lake/Marsh"

Tui represents happiness, joy and satisfaction, manifested as achievement and progress. In the Joyous he seeks for the third time and receives a daughter. Therefore it is called the third daughter. It is the lake, the youngest daughter; it is a sorceress; it is mouth and tongue. It means smashing and breaking apart; it means dropping off and bursting open. Among the kinds of soil it is the hard and salty. It is the concubine. It is the sheep.

The sorceress is woman who speaks. The trigram denotes a mouth and a tongue. It stands in the west and is therefore connected with the idea of autumn, destruction; hence the smashing and breaking apart, the dropping off and bursting open of ripe fruits. The concubine derives

from the idea of the youngest daughter. The sheep, outwardly weak and inwardly stubborn, is suggested by the form of the trigram.

Family	Youngest Daughter
Body Part	Mouth
Compass Point	W
Element	Water/Metal
Season	Autumn
Natural Element	Lake

Resume:

	Trigram Figure	Binary Value	Name	Translation: <i>Wilhelm</i> ^[6] , others ^[1]	Image in Nature ^[7]	Direction ^[8]	Family Relationship ^[9]	Body Part ^[10]	Attribute ^[11]	Stage/State ^[12]	Animal ^[13]
1	☰	111	乾 <i>qián</i>	<i>the Creative, Force</i>	heaven, sky 天	northwest	father	head	strong	creative	dragon

2	☵	110	兌 duì	<i>the Joyous, Open</i>	swamp, marsh 澤	west	third daughter	mouth	pleasure	tranquil (complete devotion)	sheep
3	☲	101	離 lí	<i>the Clinging, Radiance</i>	fire 火	south	second daughter	eye	light-giving, dependence	clinging, clarity, adaptable	pheasant
4	☳	100	震 zhèn	<i>the Arousing, Shake</i>	thunder 雷	east	first son	foot	inciting movement	initiative	horse
5	☴	011	巽 xùn	<i>the Gentle, Ground</i>	wind 風	southeast	first daughter	thigh	penetrating	gentle entrance	fowl
6	☵	010	坎 kǎn	<i>the Abysmal, Gorge</i>	water 水	north	second son	ear	dangerous	in-motion	pig
7	☶	001	艮 gèn	<i>Keeping Still, Bound</i>	mountain 山	northeast	third son	hand	resting, stand-still	completion	wolf, dog
8	☷	000	坤 kūn	<i>the Receptive, Field</i>	earth 地	southwest	mother	belly	devoted, yielding	receptive	cow

IV. Binary Code, Leibniz

In the book of changes or I Ching, it is possible to analyze its mathematical structure and the binary system it is composed. The book has 64 hexagrams, each one is the combination of two trigrams, and each trigram has three lines. Those lines can be yin or yang. The combination of these two possibilities develops the 64 hexagrams. All these mathematical structure is based on two possibilities. The I Ching from the two possibilities of yin or yang created this mathematician numerical system called in our days: binary system.

In the western culture it was not discovered until the seventieth century when a mathematician called Gottfried Wilhelm Leibniz (1646 - 1716), met the I Ching and finally developed this binary numerical system. It was never thought that this numerical system would change our lives when now it is the base for the entire computational world.

Leibniz believed logic, or 'the laws of thought' could be moved from a verbal state - which was subject to the ambiguities of language, tone and circumstance - into an absolute mathematical condition:

"A sort of universal language or script, but infinitely different from all those projected hitherto, for the symbols and even words in it would direct the reason, and errors, except for those of fact, would be mere mistakes in calculation. It would be very difficult to form or invent this language or characteristic, but very easy to understand it without any dictionaries."

The concept was a bit high-flown for his time, and Leibniz idea was ignored by the scientific community of his day. He let his proposition drop - until about ten years later when the Chinese 'Book of Changes', or 'I Ching', came his way.

Leibniz found some sort of confirmation for his theories in the I Ching's depiction of the universe as a progression of contradicting dualities, a series of on-off, yes-no possibilities, such as dark-light and male-female, which formed the complex interaction of life and consciousness. He reasoned that, if life itself could be reduced to a series of straightforward propositions, so could think, or logic.

Heartened by his new insights, Leibniz set out to refine his rudimentary binary system, studiously transposing numerals into seemingly infinite rows of ones and zeros - even though he couldn't really find a use for them.

Leibniz' stepped wheel calculator was built for decimal numbers. Although he apparently gave some thought over the years to another machine which would incorporate his beloved binary system, the long strings of binary numbers that replaced single decimal digits must have seemed daunting.

Actually, they must have seemed overwhelming, because Leibniz seemed to lose the plot towards the end of his life, endowing his binary system with a kind of quasi-religious mysticism. Binary numbers, he came to believe, represented Creation. The number one portraying God; and zero depicting Void.

Leibniz died without achieving his dream of a universal mathematical/logical language, but leaving the fundamental idea of the binary yes-no/on-off principle for others to play with, including Ploucquet, Lambert and Castillon. George Boole picked up their combined efforts roughly 125 years later for another buff and polish.

The I Ching has one strike line (yin) and another broken line (yang). Given to them a numerical number as 0 for the broken line and 1 for the unity, then it is possible to make changes. These changes leave the possibility to work on the science of combinations. This

science of combinations can be compared with the decimal arithmetical system, but it is also proved that this binary system is further more complete than the decimal. The Chinese science showed to be much more developed than the western. In the binary system it is possible to write all the numbers from the combination of the 1 and the 0:

	1
10	2
100	4
1000	8
10000	16

In this example it is possible to discover that adding a zero to the number one, each time one more, it is possible to express a number that duplicates its value each time. According to this the whole numbers would be:

	0
1	1
10	2
11	3
100	4
101	5

110	6
111	7
1000	8

So the number 11 is $10+1=2+1=3$ or, $101=100+0+1=4+0+1=5$ or, $111=100+10+1=4+2+1=7$ and so going ahead all the numbers can be expressed by this binary combination of 1 and 0.

The columns are periodic, the same periodicity recurring ad infinitum.

The first column runs : 0,1,0,1,0,1..., the second runs: 0,0,1,1,0,0,... the third column runs: 0,0,0,0,1,1,1,1,0,0,0,0,1,1,1,1... This periodicity lets developed the whole numbers until infinite without any calculation. It is called enumeration.

It is also possible to make addition, subtraction, multiplication and division in the binary system. The most important use of this system is not this arithmetical calculation. The principal utility of this binary system is that it can do much to perfect the science of numbers, because all calculations are made according to periodicity. It is some achievement that the numerical powers of the same order, made by raising the ordered natural numbers, however high the order, never have a greater number of periods than the natural numbers themselves which are their roots.. Leibniz (Discourse on the natural Theology of the Chinese).

Through this mathematical analysis that Leibniz has discovered in the mathematics of the I Ching, it was possible to understand these ancient knowledge that has brought to our times the possibility of have an oracle that involves a perfect numeric system to its reading.

V. Composite method of the 64 Hexagrams - Understanding of the relation between the 8 trigrams and its possible combinations

Once, the eight trigrams have been understood, and all those possible meanings and connotations; going on further in the analysis of the I Ching, it is important to understand when those trigrams are combined by groups of two and produce 64 possible combinations called hexagrams.

These 64 hexagrams are the possible texts that can be read in our days by the I Ching and are considered the oracles for the questions in fact. According to the history of the Book of Changes, at the beginning the first person who developed the eight trigrams, it was Fu His, but it is a moot question who first multiplied the figures from the trigrams universally ascribed to Fû-hsî to the 64 hexagrams of the Yî. The more common view is that it was king Wăn; but Kû Hsî, when he was questioned on the subject, rather inclined to hold that Fû-hsî had multiplied them himself, but declined to say whether he thought that their names were as old as the figures themselves, or only dated from the twelfth century B.C.

The 64 hexagrams are produced by the combination of the 8 trigrams, one to each other in all the possibilities they can be combined, even considering the position between them, if it belongs above or under. The result of these possible combinations mathematically is 8 high to the 2, or in other words, 8×8 , in the whole 64 possibilities, so then, 64 hexagrams.

The relation between these hexagrams, tied to the meanings detailed in this text before of every trigram as an individual concept, develops the meanings of each hexagrams and the result of a question when it appear as an answer.

This mathematical stop in the 64 possible combinations. Further there will be part of the study to analyze what happened going on up to other higher possible combinations, until analyze the infinitesimal calculation of the 8 trigrams. No Chinese writer has tried to explain why the framers stopped with the 64 hexagrams, instead of going on to 128 figures of 7 lines, 256 of 8, 512 of 9, and so on indefinitely. No reason can be given for it, but the cumbrousness of the result, and the impossibility of dealing, after the manner of king Wǎn, with such a mass of figures.

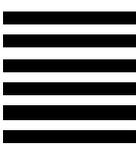
There are many stories about the origin of these 64 hexagrams and the development of the meanings of each figure. The lord of Kâu, when incarcerated in Yû-lî, with the 64 figures arranged before him. Each hexagram assumed a mystic meaning, and glowed with a deep significance. He made it tell him of the qualities of various objects of nature, or of the principles of human society, or of the condition, actual and possible, of the kingdom. He named the figures, each by a term descriptive of the idea with which he had connected it in his mind, and then he proceeded to set that idea forth, now with a note of exhortation, now with a note of warning. It was an attempt to restrict the follies of divination within the bounds of reason. But all the work of prince Khang or king Wǎn in the Yî thus amounts to no more than 64 short paragraphs.

The development of the individual meanings of each line in the hexagram, it is attributed to his son Tan. Perhaps he took the lineal figures in hand as a tribute of filial duty. What had been done for the whole hexagram he would do for each line, and make it clear that all the six lines 'bent one way their precious influence,' and blended their rays in the globe of light which his father had made each figure give forth.

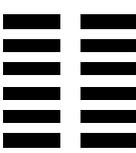
Kung Tzu and all the people around him; they were important developers of the conceptual meanings of the I Ching and all the lines inside the hexagrams, so as the hexagrams in fact. Those text and conceptual philosophical descriptions of the I Ching hexagrams and lines, are

considered in the ten wings text, where it is possible to understand the studies of these ancient knowledge. It becomes to be a recompilation of knowledge sampled from the ancient sages and all their fellows through the time it was created by Fu His, until our times.

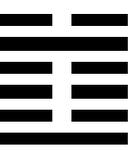
The 64 hexagrams

Hexagram 1 

Hexagram 1 is named 乾 (qián), "Force". Other variations include "the creative", "strong action", "the key", and "god". Its inner (lower) trigram is ☰ (乾 qián) force = (天) heaven and its outer (upper) trigram is the same.

Hexagram 2 

Hexagram 2 is named 坤 (kūn), "Field". Other variations include "the receptive", "acquiescence", and "the flow". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is identical.

Hexagram 3 

Hexagram 3 is named 屯 (chún), "Sprouting". Other variations include "difficulty at the beginning", "gathering support", and "hoarding". Its inner trigram is ☳ (震 zhèn) shake = (雷) thunder, and its outer trigram is ☵ (坎 kǎn) gorge = (水) water.



Hexagram 4 is named 蒙 (méng), "Enveloping". Other variations include "youthful folly", "the young shoot", and "discovering". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water. Its outer trigram is ☶ (艮 gèn) bound = (山) mountain.



Hexagram 5 is named 需 (xū), "Attending". Other variations include "waiting", "moistened", and "arriving". Its inner trigram is ☰ (乾 qián) force = (天) heaven, and its outer trigram is ☵ (坎 kǎn) gorge = (水) water.



Hexagram 6 is named 訟 (sòng), "Arguing". Other variations include "conflict" and "lawsuit". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water, and its outer trigram is ☰ (乾 qián) force = (天) heaven.



Hexagram 7 is named 師 (shī), "Leading". Other variations include "the army" and "the troops". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water, and its outer trigram is ☷ (坤 kūn) field = (地) earth.



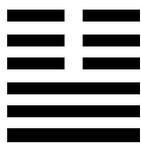
Hexagram 8 is named 比 (bǐ), "Grouping". Other variations include "holding together" and "alliance". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is ☵ (坎 kǎn) gorge = (水) water.



Hexagram 9 is named 小畜 (xiǎo chù), "Small Accumulating". Other variations include "the taming power of the small" and "small harvest". Its inner trigram is ☰ (乾 qián) force = (天) heaven, and its outer trigram is ☴ (巽 xùn) ground = (水) wind.

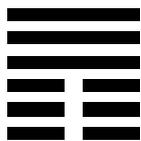


Hexagram 10 is named 履 (lǚ), "Treading". Other variations include "treading (conduct)" and "continuing". Its inner trigram is ☱ (兌 duì) open = (澤) swamp, and its outer trigram is ☰ (乾 qián) force = (天) heaven.



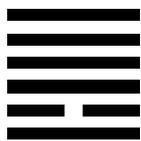
Hexagram 11

Hexagram 11 is named 泰 (tài), "Pervading". Other variations include "peace" and "greatness". Its inner trigram is ☰ (乾 qián) force = (天) heaven, and its outer trigram is ☷ (坤 kūn) field = (地) earth.



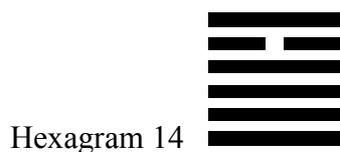
Hexagram 12

Hexagram 12 is named 否 (pǐ), "Obstruction". Other variations include "standstill (stagnation)" and "the wife". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is ☰ (乾 qián) force = (天) heaven.



Hexagram 13

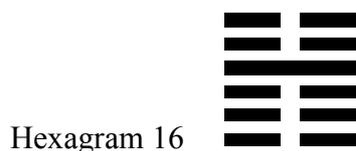
Hexagram 13 is named 同人 (tóng rén), "Concording People". Other variations include "fellowship with men" and "gathering men". Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is ☰ (乾 qián) force = (天) heaven.



Hexagram 14 is named 大有 (dà yǒu), "Great Possessing". Other variations include "possession in great measure" and "the great possession". Its inner trigram is ☰ (乾 qián) force = (天) heaven, and its outer trigram is ☲ (離 lí) radiance = (火) fire.



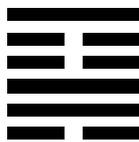
Hexagram 15 is named 謙 (qiān), "Humbling". Other variations include "modesty". Its inner trigram is ☶ (艮 gèn) bound = (山) mountain and its outer trigram is ☷ (坤 kūn) field = (地) earth.



Hexagram 16 is named 豫 (yù), "Providing-For". Other variations include "enthusiasm" and "excess". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is ☳ (震 zhèn) shake = (雷) thunder.

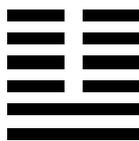


Hexagram 17 is named 隨 (suí), "Following". Its inner trigram is ☳ (震 zhèn) shake = (雷) thunder, and its outer trigram is ☱ (兌 duì) open = (澤) swamp.



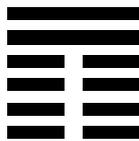
Hexagram 18

Hexagram 18 is named '蠱' (gǔ), "Correcting". Other variations include "work on what has been spoiled (decay)", decaying and "branch" [1]. Its inner trigram is ☱ (巽 xùn) ground = (風) wind, and its outer trigram is ☱ (艮 gèn) bound = (山) mountain.



Hexagram 19

Hexagram 19 is named 臨 (lín), "Nearing". Other variations include "approach" and "the forest". Its inner trigram is ☱ (兌 duì) open = (澤) swamp, and its outer trigram is ☷ (坤 kūn) field = (地) earth.



Hexagram 20

Hexagram 20 is named 觀 (guān), "Viewing". Other variations include "contemplation (view)" and "looking up". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is ☱ (巽 xùn) ground = (風) wind.



Hexagram 21 is named 噬嗑 (shì kè), "Gnawing Bite". Other variations include "biting through" and "biting and chewing". Its inner trigram is ☳ (震 zhèn) shake = (雷) thunder, and its outer trigram is ☲ (離 lí) radiance = (火) fire.



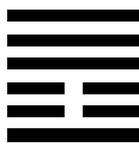
Hexagram 22 is named 贲 (bì), "Adorning". Other variations include "grace" and "luxuriance". Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is ☶ (艮 gèn) bound = (山) mountain.



Hexagram 23 is named 剝 (bō), "Stripping". Other variations include "splitting apart" and "flaying". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is ☶ (艮 gèn) bound = (山) mountain.

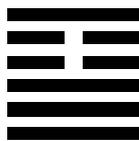


Hexagram 24 is named 復 (fù), "Returning". Other variations include "return (the turning point)". Its inner trigram is ☳ (震 zhèn) shake = (雷) thunder, and its outer trigram is ☷ (坤 kūn) field = (地) earth.



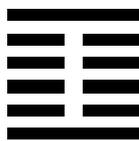
Hexagram 25

Hexagram 25 is named 無妄 (wú wàng), "Without Embroiling". Other variations include "innocence (the unexpected)" and "pestilence". Its inner trigram is ☳ (震 zhèn) shake = (雷) thunder, and its outer trigram is ☰ (乾 qián) force = (天) heaven.



Hexagram 26

Hexagram 26 is named 大畜 (dà chù), "Great Accumulating". Other variations include "the taming power of the great", "great storage", and "potential energy." Its inner trigram is ☰ (乾 qián) force = (天) heaven, and its outer trigram is ☶ (艮 gèn) bound = (山) mountain.



Hexagram 27

Hexagram 27 is named 頤 (yí), "Swallowing". Other variations include "the corners of the mouth (providing nourishment)", "jaws" and "comfort/security". Its inner trigram is ☳ (震 zhèn) shake = (雷) thunder, and its outer trigram is ☶ (艮 gèn) bound = (山) mountain.



Hexagram 28 is named 大過 (dà guò), "Great Exceeding". Other variations include "preponderance of the great", "great surpassing" and "critical mass." Its inner trigram is ☱ (巽 xùn) ground = (風) wind, and its outer trigram is ☱ (兌 duì) open = (澤) swamp.



Hexagram 29 is named 坎 (kǎn), "Gorge". Other variations include "the abysmal (water)" and "repeated entrapment". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water, and its outer trigram is identical.

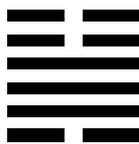


Hexagram 30 is named 離 (lí), "Radiance". Other variations include "the clinging, fire" and "the net". Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is identical.

The origin of the character has its roots in symbols of long-tailed birds such as the peacock or the legendary phoenix.

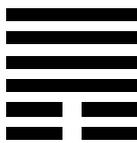


Hexagram 31 is named 咸 (xián), "Conjoining". Other variations include "influence (wooing)" and "feelings". Its inner trigram is ☶ (艮 gèn) bound = (山) mountain, and its outer trigram is ☱ (兌 duì) open = (澤) swamp.



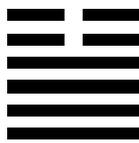
Hexagram 32

Hexagram 32 is named 恆 (héng), "Persevering". Other variations include "duration" and "constancy". Its inner trigram is ☷ (巽 xùn) ground = (風) wind, and its outer trigram is ☳ (震 zhèn) shake = (雷) thunder.



Hexagram 33

Hexagram 33 is named 遯 (dùn), "Retiring". Other variations include "retreat" and "yielding". Its inner trigram is ☶ (艮 gèn) bound = (山) mountain, and its outer trigram is ☰ (乾 qián) force = (天) heaven.



Hexagram 34

Hexagram 34 is named 大壯 (dà zhuàng), "Great Invigorating". Other variations include "the power of the great" and "great maturity". Its inner trigram is ☰ (乾 qián) force = (天) heaven, and its outer trigram is ☳ (震 zhèn) shake = (雷) thunder.



Hexagram 35 is named 晉 (jìn), "Prospering". Other variations include "progress" and "aquas". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is ☲ (離 lí) radiance = (火) fire.



Hexagram 36 is named 明夷 (míng yí), "Darkening of the Light." Other variations are "brilliance injured" and "intelligence hidden". Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is ☷ (坤 kūn) field = (地) earth.



Hexagram 37 is named 家人 (jiā rén), "Dwelling People". Other variations include "the family (the clan)" and "family members". Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is ☴ (巽 xùn) ground = (風) wind.



Hexagram 38 is named 睽 (kuí), "Polarising". Other variations include "opposition" and "perversion". Its inner trigram is ☱ (兌 duì) open = (澤) swamp, and its outer trigram is ☲ (離 lí) radiance = (火) fire.

Hexagram 39 

Hexagram 39 is named 蹇 (jiǎn), "Limping". Other variations include "obstruction" and "afoot". Its inner trigram is ☶ (艮 gèn) bound = (山) mountain, and its outer trigram is ☵ (坎 kǎn) gorge = (水) water.

Hexagram 40 

Hexagram 40 is named 解 (xiè), "Taking-Apart". Other variations include "deliverance" and "untangled". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water, and its outer trigram is ☳ (震 zhèn) shake = (雷) thunder.

Hexagram 41 

Hexagram 41 is named 損 (sǔn), "Diminishing". Other variations include "decrease". Its inner trigram is ☱ (兌 duì) open = (澤) swamp, and its outer trigram is ☶ (艮 gèn) bound = (山) mountain.



Hexagram 42 is named 益 (yì), "Augmenting". Other variations include "increase". Its inner trigram is 震 (zhèn) shake = (雷) thunder, and its outer trigram is 巽 (xùn) ground = (風) wind.



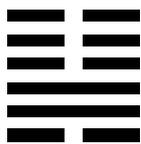
Hexagram 43 is named 夬 (guài), "Parting". Other variations include "break-through (resoluteness)" and "resoluteness". Its inner trigram is 乾 (qián) force = (天) heaven, and its outer trigram is 兌 (duì) open = (澤) swamp.



Hexagram 44 is named 姤 (gòu), "Coupling". Other variations include "coming to meet" and "meeting". Its inner trigram is 巽 (xùn) ground = (風) wind, and its outer trigram is 乾 (qián) force = (天) heaven.



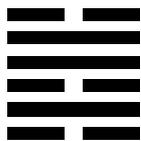
Hexagram 45 is named 萃 (cuì), "Clustering". Other variations include "gathering together (massing)" and "finished". Its inner trigram is ☷ (坤 kūn) field = (地) earth, and its outer trigram is ☱ (兌 duì) open = (澤) swamp.



Hexagram 46

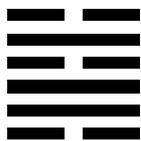
Hexagram 46 is named 升 (shēng), "Ascending". Other variations include "pushing upward".

Its inner trigram is ☱ (巽 xùn) ground = (風) wind, and its outer trigram is ☷ (坤 kūn) field = (地) earth.



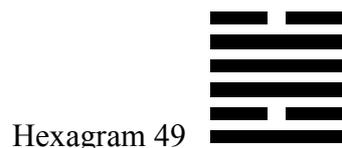
Hexagram 47

Hexagram 47 is named 困 (kùn), "Confining". Other variations include "oppression (exhaustion)" and "entangled". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water, and its outer trigram is ☱ (兌 duì) open = (澤) swamp.

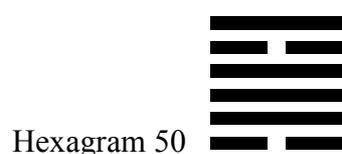


Hexagram 48

Hexagram 48 is named 井 (jǐng), "Welling". Other variations include "the well". Its inner trigram is ☱ (巽 xùn) ground = (風) wind, and its outer trigram is ☵ (坎 kǎn) gorge = (水) water.



Hexagram 49 is named 革 (gé), "Skinning". Other variations including "revolution (molting)" and "the bridle". Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is ☱ (兌 duì) open = (澤) swamp.



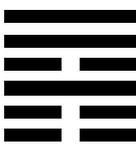
Hexagram 50 is named 鼎 (dǐng), "Holding". Other variations include "the cauldron". Its inner trigram is ☴ (巽 xùn) ground = (風) wind, and its outer trigram is ☲ (離 lí) radiance = (火) fire.



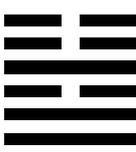
Hexagram 51 is named 震 (zhèn), "Shake". Other variations include "the arousing (shock, thunder)" and "thunder". Both its inner and outer trigrams are ☳ (震 zhèn) shake = (雷) thunder.



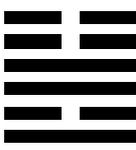
Hexagram 52 is named 艮 (gèn), "Bound". Other variations include "keeping still, mountain" and "stilling". Both its inner and outer trigrams are ☶ (艮 gèn) bound = (山) mountain.

Hexagram 53 

Hexagram 53 is named 漸 (jiàn), "Infiltrating". Other variations include "development (gradual progress)" and "advancement". Its inner trigram is ☶ (艮 gèn) bound = (山) mountain, and its outer trigram is ☴ (巽 xùn) ground = (風) wind.

Hexagram 54 

Hexagram 54 is named 歸妹 (guī mèi), "Converting the Maiden". Other variations include "the marrying maiden" and "returning maiden". Its inner trigram is ☱ (兌 duì) open = (澤) swamp, and its outer trigram is ☳ (震 zhèn) shake = (雷) thunder.

Hexagram 55 

Hexagram 55 is named 豐 (fēng), "Abounding". Other variations include "abundance" and "fullness". Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is ☳ (震 zhèn) shake = (雷) thunder.



Hexagram 56 is named 旅 (lǚ), "Sojourning". Other variations include "the wanderer" and "traveling". Its inner trigram is ☶ (艮 gèn) bound = (山) mountain, and its outer trigram is ☲ (離 lí) radiance = (火) fire.



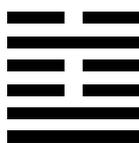
Hexagram 57 is named 巽 (xùn), "Ground". Other variations include "the gentle (the penetrating, wind)" and "calculations". Both its inner and outer trigrams are ☴ (巽 xùn) ground = (風) wind.



Hexagram 58 is named 兌 (duì), "Open". Other variations include "the joyous, lake" and "usurpation". Both its inner and outer trigrams are ☱ (兌 duì) open = (澤) swamp.

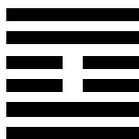


Hexagram 59 is named 渙 (huàn), "Dispersing". Other variations include "dispersion (dissolution)" and "dispersal". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water, and its outer trigram is ☴ (巽 xùn) ground = (風) wind.



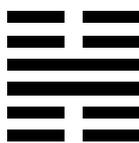
Hexagram 60

Hexagram 60 is named 節 (jié), "Articulating". Other variations include "limitation" and "moderation". Its inner trigram is ☱ (兌 duì) open = (澤) swamp, and its outer trigram is ☵ (坎 kǎn) gorge = (水) water.



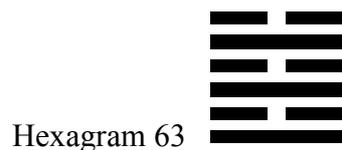
] Hexagram 61

Hexagram 61 is named 中孚 (zhōng fú), "Center Returning". Other variations include "inner truth" and "central return". Its inner trigram is ☱ (兌 duì) open = (澤) swamp, and its outer trigram is ☴ (巽 xùn) ground = (風) wind.

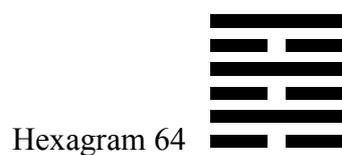


Hexagram 62

Hexagram 62 is named 小過 (xiǎo guò), "Small Exceeding". Other variations include "preponderance of the small" and "small surpassing". Its inner trigram is ☶ (艮 gèn) bound = (山) mountain, and its outer trigram is ☳ (震 zhèn) shake = (雷) thunder.



Hexagram 63 is named 既濟 (jì jì), "Already Fording". Other variations include "after completion" and "already completed" or "already done" . Its inner trigram is ☲ (離 lí) radiance = (火) fire, and its outer trigram is ☵ (坎 kǎn) gorge = (水) water.



Hexagram 64 is named 未濟 (wèi jì), "Not Yet Fording". Other variations include "before completion" and "not yet completed". Its inner trigram is ☵ (坎 kǎn) gorge = (水) water, and its outer trigram is ☲ (離 lí) radiance = (火) fire.

VI. Mathematical understanding of the 8 high to 8 - All the trigrams in one lecture, its effects and possible relation accord to the order.

Actually the possibility to add more combinations to the basic hexagrams composed by six lines, it looks like to against the primarily logic of the philosophical meaning of the I Ching, especially if it is possible to find written in the beginning specifically texts that determine the use of the six lines as the heavenly composition of the I Ching.

“In ancient times the holy sages made the Book of Changes thus:

Their purpose was to follow the order of their nature and of fate. Therefore they determined the tao and heaven and called it the dark and the light.

They determined the tao of the earth and called it the yielding and the firm. They determined the tao of man and called it love and rectitude. They combined these three fundamental powers and doubled them; therefore in the Book of Changes a sign is always formed by six lines.

The places are divided into the dark and the light.

The yielding and the firm occupy these by turns.

Therefore the Book of Changes has six places, which constitute the linear figures.”
(Wilhelm, 1950)

This fully composition of the six lines in the hexagrams of the Book of Changes, all represent a specific meaning. The odd lines, first, third and fifth are light, by the other side, the even lines, second, fourth and sixth are dark. Also the hexagram divided in three stages of a pair

of lines represents a fully rounded concept of the universe directly related to that expressed in the Doctrine of the Mean. The two lowest places are those of the earth, the third and fourth are those of man, and the two at the top are those of heaven.

Thus, to continue with this mathematical development about the exponential possibilities of the basically 8 trigrams high to any number; it is necessary to keep in mind clearly this philosophical consideration about its conception of opposites and of Universal fully rounded concept from earth, through man and to heaven.

VII. Informatics application and Infinitesimal calculation - 8 high to “n”

Considering the mathematical possibility of high the 8 trigrams basics to “n” exponential number, it means to consider an infinite number of possible combinations at once in one only hexagram. It means also that in this only hexagram can be constituted by infinite number of the 8 trigrams that initially were considered by Fu Hsi. As well as it is a total possibility, it is important to begin from the task that in the same infinite figure there are all the 8 trigrams, repeated each one in an infinite possible quantity. So then to consider the specific meaning of each trigram and it appears in the figure, it is not in fact a valid option, because all already are in there. But, even as it appears to be a full options figure, there is something important to consider in this conceptual structure of an infinite figure for the I Ching. It is the patron or order how the trigrams appear in the infinite figure. If we call this infinite figure ∞ , so then ∞ is constitute by infinite number of trigrams, of all the 8 trigrams, and also there is a mathematical patron through the one the possible trigrams appear in the infinite sequence of possibilities.

There is also the infinitesimal possibility that ∞ could be only of one trigram, of 2 of them, of 3 of them, and so on, even including the possibility that sequences of appearing on these infinite figure could have a sequential patron of repetition.

With the technology developed in nowadays, using a computer as a analysis tool, it is possible to build a command to produce a randomly sequence of the trigrams in a continuously way. This randomly creation of a sequence of trigrams is possible to be analyzed by parameters programmed in the system, so as counting of the frequency of repeating of each trigram in a time. It can be analyzed the frequency of the combination of

trigrams and the creation of hexagrams in the continuous sequence. There are many circumstances that can be count in a time and the frequency of this appears. Through this information it is also possible to create a matrix system and also to build algorithms that respond to this information created by the casualty of the created sequence of trigrams.

This matrix and also those algorithms can be understood as casualty equations of a metaphysical circumstance that happens in a space of time. It remarks a tendency of the wu wei of the moment and can be applied for many philosophical analysis of the time and as a guidance of the space-time it is developed.

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