Mathematical Laws Used in Rapid Treating and Diagnosis Techniques and Methods by the Projection of the Human Body on Four Dimensions

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Abstract—The missing link in the modern medicine approach can be detected by projecting of the human body geography on the 64-hexagram square in I Ching. The mathematical laws, particular to this magic square, become fundamental, specific and tangible and a true cosmogony of the body, health and life in general is created by the use of the hexagram mutation law. As a case study using the diagnosis and rapid treating on reflex areas, we have chosen the Kidney meridian. Both the diagnosis and treatment result can be verified by modern methods. The computer program presented here is able to generate and follow by mutation the steps of any of the three hexagrams that are characteristic to each energy meridian.

Keywords—tesseract; DNA; I Ching; hexagrams; magic square; cell; energy meridian; kidney; acupuncture/acupressure; diagnosis and treating methods; mathematical models; computer program.

I. INTRODUCTION

Since ancient times it has been known that, in the process of creation, the human being has resulted as perfection, capable to receive and conduct all vibrations and is considered to be a transition, more than a purpose in itself.

The string theory says that nature manifests in the binary base as a six chord instrument. Complementing the above we can say that any line or rope vibration of an atom can exist in two states:

Yin - the inactive state, shown as an interrupted line;
Yang - the active state, shown as an uninterrupted line.

The Yin/Yang states are also described in the science of breath, written in Sanskrit and treated in the philosophy of the Tattvas, according to which vibrations, with their two phases, inhale-exhale, with no discontinuity, represent life. The vibrations are the basis of the perception of the five senses and this is known in the process of evolution as the fivefold generative process or the Pancikarana ethers that, by their endless combinations, represent all possible manifestations of life.

It is well known that, after fecundation, the human cell follows the twofold pattern. Therefore, once stabilized in the uterus in the fifth day, the total number of the dividing cells is 32. The functioning pattern of the cells is: \(2^0, 2^1, 2^2, 2^3, 2^4, 2^5\).

It is also known that the molecular structure (James Watson and Francis Crick – the Nobel prize 1962) is based on the combination of four nucleotides: T-thymine, C-cytosine, A- adenine, G-guanine, U-uracil, with the specification that three nucleotides sequences on the DNA chain form the genetic code that establishes the order the amino acids are bound together to form the molecule. By replacing T-thymine with U-uracil, the deoxyribonucleic acids overwrite themselves in the so-called ribonucleic acids (RNA). In conclusion, the deoxyribonucleic acids are very long combination chains of these three letters (DNA in short).

The genetic dictionary includes 64 words called codons, each of them composed of a sequence of three letters.

Starting from what we described above, imagine you draw a point, then another point, you connect them with a line and you draw a square, than a cube, and then a tesseract. From one single point you pass from two dimensions to three dimensions and then four dimensions (fig. 1).

Suppose the connecting points in the geometric shapes above are cells and. By division, each cell contains, in the order of construction, the information of the precedent cell. Thus, we may very well say that each cell contains the pattern of the whole.

The first of the five wise men (4400-2200 B.C.) who mediated about the human body, the nature and the dependence between the two of them was king Fu Xi (2952-2836 B.C.). Using combinations of uninterrupted lines (Yang) and/or interrupted lines (Yan), he draw eight figures...
made of combinations of three Yang and/or Yin lines each, named trigrams (fig. 2(a)).

By the time of king Wu (1200 B.C.), the continuation of the trigram philosophy led to 64 hexagrams. The cells were disposed in an 8x8 matrix and each cell was attributed a number, and each number was attributed a hexagram with specific characteristics (fig. 2(b)).

In this context, 8 of the 64 hexagrams are symmetrical, having the same meaning when read from left to right or from right to left and each of the remaining 56 hexagrams has a different meaning when read from left to right than when read from right to left. Thus, hexagrams may be arranged in two equal columns of 18 hexagrams each. We will talk about the number 18 as the number of alarm points later.

Wang Wen (sec. XI B.C.) attributed the I Ching hexagrams a binary arrangement, later influencing G. W. Leibniz (1646-1716) and the binary arithmetic and information analysis in the computers that were to be invented later.

The hexagrams in the matrix are generated by mutation, following the eight steps for each row: in the first row of the matrix, the superior trigram is operated, in the second row the inferior trigram, and so on, until the eight mutation phases are exhausted, like in the image below (fig 3(a)).

If you replace the ADN matrix elements: U-uracil, C-cytosine, A-adenine, G-guanine, the I Ching elements: U → """, C → """, A → """, G → """, matrix we can generate standard genetic code (fig. 3 (b)).

If a hexagram is the result of a association of two trigrams, the immultirea 6 of 64 results all acupuncture points, ie 384.

In order to put the use of these acupuncture points into practice, we have to build a magic 8x8 square, that is 64 elements, which are the eight mutation phases of the eight trigrams.

Starting from the comparative studies in the genetics field and I Ching, we might conclude that, by disposing the 64 hexagrams of the I Ching in simple arithmetic models, which are characteristic for a magic square, named the Mercury square, a new order is defined. The key to the body’s health balance is to decipher these squares and the governing laws of life can be explained by finding this key.

In order to demonstrate the above, we will generate an even matrix, \( A_{ij} \); \( i,j=1..8; \) with 64 elements, lexicographically generated from right to left:

We rebuild the matrix using the magic squares properties:
We obtain a magic square, in which all magic squares properties are respected. In this context, considering that each cell is attributed a number and an I Ching hexagram is attributed to each number, a new concept is born, that each magic square is a representation of the human body and the laws connecting the different cells of the square explain the profound laws of the human body geometry. The mutation and operation game within the square represent the way of the diseases.

The odd meridians pathways are portions of the other meridians.

The vital energy flowing function makes the difference between meridians. If the flow is intense, the vital energy can be compared to a river. If the flow is slow, it can be associated to a reservoir. In this context, the paired meridians resemble to rivers, while the odd ones are more like reservoirs.

The meridians cannot fall into anatomical patterns. Each meridian is made of an internal organ and portions of another anatomical components, as well as energetic and physiological functions. In other words, according to the principal of the universal duality, meridians have two components: one material and one energetic. The channel network represents the material component, while the vital energy flowing through the channels represent the qi energy component.

The pathway or channel of a meridian has one superficial side, close to the body surface, and one interior, profound, side. The interior pathway goes through the internal organs, the limbs, and the head. The superficial channel corresponds to a fraction of the interior pathway and holds all access points where which the vital energy in the meridian is operated.

The names of the meridians is linked to the organs they cross: the Small Intestine, the Triple Warmer (Three Burners), the Large Intestine, the Heart, the Heart Protector (Pericardium), the Lung, the Bladder, the Gall Bladder, the Stomach, the Spleen-Pancreas, the Liver, the Kidney.

There are eight different channels that do not fusion directly with the primary meridians: Tae-mo, Governing Vessel, Yin-keo, Yin-oe, Conception Vessel, Tchcong-mo, Yang-oe, Yang-keo.

The organs grouped in Yang functional formations are called hollow organs or hard-working organs (Fu): Stomach, Gall Bladder, Bladder, Small Intestine, and Large Intestine. They govern the absorption and the selection of food and eliminate waste. The Yang organs diseases are sharp, violent, short-timed and superficial.

The organs that are grouped in Yin functional formations are called full (Zang) organs: Heart, Lung, Spleen, Liver and Kidney. Their role is to make blood flow, to control and purify it, and their diseases are chronic, long and profound.

If we take a look at the matrix in the fig. 6(a), we might say every meridian is made of three boxes, represented by three numbers corresponding to the three hexagrams, with the specification that these boxes are not disposed linearly, but in a lifelike order. The top high box corresponds to the upper part of the meridian, while the top bottom box corresponds to the lower part of the meridian, each box corresponding to one third of the meridian.

The square in fig. 6(a) can be divided into five areas: the four squares in the corners correspond to the organic meridians: “Fire”, “Earth”, “Air” and “Water”, while the extraordinary meridians form a cross with the center made of four boxes (28, 29, 36, 37) representing the fifth element.
According to the Law of the 5 elements and considering that a disease is a lack of balance of this binary rhythm, the Chinese physiology groups different elements by two, this way obtaining six Yin/Yang functional formations of organs and innards, so that each element has both a corresponding Yin and a Yang organ: the Liver and the Gall Bladder correspond to Wood, the Heart and the Small Intestine correspond to Fire, the Spleen and the Stomach correspond to Air, and the Kidney and the Bladder correspond to Water (fig. 6(a)).

Like any other being, humans can be understood in terms of the five archetype energies existing in each of us, with one predominant element in each person.

To continue the demonstration, we approach the concept of human body representation in fig. 6(b) from square fig. 6(a) to cube fig. 7, that make the transition from two dimensions to three dimensions while maintaining the properties of a magic square, as follows:

If the square in fig. 6(a) is a representation of the human body in two dimensions, then the cube in fig. 7 is undoubtedly a representation of the human body in three dimensions and the laws connecting the different boxes of the cube explain the profound laws of the human body geometry.

The representation of each meridian on the cube is also made by three values. We can therefore claim, as a result of the demonstration, that the energetic matrix of the I Ching, represented by a magic 8x8 square, has more deep roots in the fourth dimension, more precisely in the tesseract. As a fundamental pattern of nature, this self generating mechanism may generate life at any level.

Such mechanisms exist in:
- I Ching – the two hexagrams pattern ☰ ☱, in different combinations so that the 6 sides of a tetrahedron forms the 64 tetrahedron crystal;
- Osirion Temple at Abydos, in Egypt – on a drawing burned in the atomic structure of the rock;
- the Temple of the Forbidden City in China – on the spheres under the paws of the guardian lions (the “foo dogs”)
- the human DNA represented in the modern scientific research by a double spiral of a 64 codon, etc.

II. CASE STUDY

The history of I Ching proves that the mechanism was understood in several ways, of which we remind: as an oracle, to forecast the future, as base in defining a proper social and moral order, as a philosophical or mystical guide, as well as in specialized interpretation of medical, anatomical, mathematical or poetic nature.

For a better understanding, we will make use of the mathematic of the problem in the operation and balance of a meridian on its energetic trail. That is, we will use the relation among the boxes inside the cube and the hexagram mutation law. In this context, a true cosmology of the body, of life in general and of health in particular is created.

It is well known that there are more reflex points situated on the meridians of the anterior side of the body that offer us important keys to maintain our health by acupuncture or acupressure treatments. From these points, just 18 are alarm points and are all situated on the ventral surface of the thorax and abdomen. Each point is associated to the function of one of the 12 energetic meridians. Six of the 18 alarm points are unilateral and six are bilateral. The unilateral alarm points are located on the Conception Vessel meridian that controls all other meridians. The starting point of this meridian is the perineum, it goes up through the abdomen, the throat, the lower lip and ends up in the tongue.

A sudden pain, sensitivity or ache caused by a slight pressure indicates an excess of qi in the meridian.

A sensitivity caused by an intense pressure indicates a qi deficiency.

The alarm points are generally associated with the Yin-type diseases, characterized by sensibility to cold, depression and fatigue (fig. 8).

We will analyze the Kidney meridian from the I Ching and tesseract perspective in order to put what we said before into balance. To understand the Kidney meridian operating mechanism, we must briefly analyze it by detecting the anomalies along the energetic pathways, risking richness to simplicity.

In order to physically and mentally/emotionally correct the anomalies, we will use as a treatment the acupuncture, combined with a proper food diet in order to correct the anomalies. The efficiency of a treatment system is therefore
The kidneys look like two 12 cm beans located at the left and the right of the spine, between the 11th thorax vertebra and the 3rd lumbar vertebra. Their operating climax period is between 17:00 and 19:00. Their role is to eliminate water and toxins (especially the uric acid). The Kidney meridian belongs to the water meridian, because water is the vehicle eliminating toxins from the body.

The Chinese medicine identifies 27 energy focal points on the Kidney meridian that can be stimulated by acupuncture, acupressure or YOGA techniques.

The Kidney meridian starting point is the posterior side of the big toe, it goes slantwise on the sole until it reaches the point named Yongquan-R1 situated in the middle of the sole, then ascends on the posterior foot’s medial side, where it makes a clockwise loop around the internal malleolus. It then goes up the medial side of the calf and continues on the interior side of the foot, cutting across the Spleen channel. It goes further up the interior thigh, then up the posteromedial side of the hip towards the spine, through the Changjiang point, where it splits in two branches: one internal and one external.

The internal branch enters the abdomen, connects with the bladder and goes right inside the kidney. From this point, it goes upwards across the liver and diaphragm, penetrates the lung, where it bisects. One branch climbs up the larynx ending up at the tongue’s root, the other branch enters the heart and connects with the Pericard-Jueyin meridian of the hand.

The external branch climbs past the pubis, 0.5 cm aside from the median line to 1 cun under the xiphoid appendix, then sideways 2 cun from the median line until before reaching the clavicle.

The Kidney meridian includes the kidney as the main organ, some of the sexual organs, the trails along the ventral side of the torso and lower limbs, as well as the trails in the dorsal and upper sides of the head. Still, the Kidney meridian’s energy reaches the head through its pair meridian, the Bladder meridian. The common thing of the two pair meridians is the fact that they include the sexual organs. Energetically and subtly, the Kidney meridian is in relation with the Bladder and the Heart Protector meridians.

The Kidney meridian is said to be in conflict with the Spleen-Pancreas (SP) meridian and controls the Small Intestine meridian (SI), the Triple Warmer (TW) and the Bladder meridian (BL).

The result of the conflict between two meridians is not a negative thing. In our case, the body accelerates the elimination of gases and blood-soluble toxins resulted from the metabolism due to the conflict between the Kidney and Spleen-Pancreas meridians.

The kidneys are considered to be the “essence of life or life root” because they are able to store a precious substance inherited from our parents, the quantity of which cannot be modified during our life, but only supplemented by the energy extracted from light, air, water, or food. The kidneys and the adrenal glands, repository for the “essence”, govern the life stages (the birth, the growing, the maturation and the reproduction), the muscles (muscle cramps) and the connective tissues, which makes them responsible for the excretion.

Because they control the bones growth and evolution, the kidneys feed the bone marrow, the source of red and white blood cells. The brain’s functioning is strongly related to the Kidney meridian because it is directly connected to the brain by the bone marrow. Weak kidney energy will therefore cause immunity deficiency, weak memory and incapability of thinking clearly, back pains and anemia. The Kidney meridian also controls the concentration of stagnant fluids, such as the synovial fluids of the joints, which relates them to rheumatic diseases. According to Chinese medicine, the will (Zhi) is stored in the kidneys and it provides us with a strong mind, focused on exact goals. Thus, any depreciation of the kidneys’ energetic system weakens the will, causes the mind to be easily discouraged and distracted, which reflects in fear, paranoia and even depression.

Taking into consideration the pathways followed by this meridian and its connection, it is recommended to operate it even in diseases and pains that apparently have no connection with its deficiency, such as lung, lumbar, constipation, diarrhea, insomnia or depression issues. Consequently, any energetic unbalance of this meridian may result in physical and psychological symptoms.

The incorrect functioning of the kidneys is expressed by: lack of appetite or excessive appetite, dark complexion, eczemas, acne, dry palms, swollen eyelids and bags under the eyes, unclear sight, warm and dry tongue and oral cavity, tooth decays, mouth ulcers, throat inflammations, tonsillitis, coughing, laryngitis, angina, hard breathing, asthma, expectoration of blood phlegm, hepatitis, arrhythmia, heart aches, chronic fatigue, asthenia, frequent need to rest, sexual organ issues, endocrine gland issues, painful corns, slowing of the growth, hormonal dysfunctions, sexual problems, infertility, miscarriage, fertility decline, fragile bones, lower
limb numbness and inertia, hearing and balance issues, pains and sensibility of the interior thigh, pelvic area, knees, calves and ankles accompanied by sole pains, burning and swelling and any of these may lead to a kidney condition.

Among the physical symptoms are: memory problems, impossibility to communicate, wariness, the tendency to make mistakes, anxiety, selfishness, cynicism, impatience, suspicion, desperation, sadness, phobias, shyness, fear, panic, tendency for black humor, lack of motivation and perspective, lack of determination, difficulties in the spiritual development.

As a remedy, one of the most important acupoints of the Kidney meridian is in the middle of the sole, corresponding to the second toe. The reflex zone is pretty deep and, when massaging it, the kidneys are stimulated to an immediate and better blood irrigation, which leads to a better kidney functioning. This functionality is reflected in a short time by a change in the urine color from yellow to yellowish-brown or red-brown, sometimes smelling badly.

The kidneys’ role is to clean the blood from toxins and adjust the blood water, minerals and salts level. Because the body is not able to eliminate the mercury that exists in a mercury amalgam dental filling, the body will store the toxin in the central nervous system, the kidneys and the lymph, causing dysfunctions of the joints, spine, throat and the genitourinary system.

The kidney’s vitality is externally reflected by the state of the head and hair and is associated with the earhole. According to Chinese medicine, the ears are the door to the kidneys. The ear issues may be chronic or acute. The chronic issues are related to the kidneys’ malfunctions and the acute issues are related to dysfunctions on the Liver and Gall Bladder meridians.

As ear noises are a sign of renal issues, visual acuteness is directly related to the kidneys functioning. For example, a weakness of the renal function causes a child’s feet to be cold for a longer period of time and studies show that children with renal dysfunctions will wear eyeglasses from a very young age.

Fear may cause a weakness in the Kidney meridian energy and, on the contrary, a kidney dysfunction may cause fear sensation.

In the following analysis we will prove the fundamental relation between I Ching and the 64 hexagrams matrix on the one hand and the conversion of the geographical projection of the human body from matrix to cube and then to tesseract.

The hexagrams corresponding to the external pathway of the Kidney meridian (Image 7), corroborated with the ones in Image 6(a) are [57,16,24]. The following mutations result from deriving these hexagrams:

- hexagram 57 → 9,53,59,44,18,48;
- hexagram 16 → 51,40,62, 2,45,35;
- hexagram 24 → 2,19,36,51, 3,27;

We may conclude this: if we have a corresponding acupuncture point for every line in a hexagram, then a constant number of points (3x6) correspond to each meridian, meaning 18 acupuncture points.

The self generating scheme in fig. 10 represents the whole creation system and the binding elements among them are the main powers of manifestation.

Generating such a perfectly balanced symmetrical system represents the creation system and the manifestation order. This entire hexagram derivation process represents the genesis of the whole world.

Let us analyze hexagram 57 and its derivation:

- hexagram 57 → 9,53,59,44,18,48;

Hexagram 57 represents the first third or the upper third of the Kidney meridian. Its course starts on the sole, goes along the interior and slightly posterior side of the calf and ends up at the knee. It is in connection with the urinary tract and the vertebral column It has an important role in assimilating the mineral salts and the calcium at the head level until the fontanelle ossifies in the first years of life. From a psychological viewpoint, this part of the meridian has a special role in relaxation, influencing the sleep.
Fig. 11

Line 1 of hexagram 57 (by mutation, it becomes hexagram 9).

Hexagram 9 corresponds to the middle third of the Bladder meridian, which begins its course at the buttock and ends in the middle of the back, which means it acts upon the urinal tract and lumber area. It represents the assimilation point of calcium and silicon. Several important dysfunctions related to it are: sole decalcification leading to cracks on the sole and between toes; annoying corns, especially on the big toe; strong expectoration in case of bronchitis.

Line 2 of hexagram 57 (by mutation, it becomes hexagram 53).

Hexagram 53 corresponds to the middle third of the Governing Vessel meridian. It spans from the first vertebrae to the last ones and is directly related to the spinal cord. This allows the communication among the sexual organs, heart and head, and plays a fundamental role in the relation of the consciousness with the instinctive subconscious. It is basic for health and the personality formation. Since it acts upon the throat and oral cavity, we must treat the throat in order to fix the voice and treat the cavities in order to fix the mouth.

Line 3 of hexagram 57 (by mutation, it becomes hexagram 59).

Hexagram 59 represents the last third of the Large Intestine meridian. It starts on the elbow and ends on the face. It governs the balance of the colon, as well as the throat, the bronchi, the nose and the ears. It is the point of those with hearing deficiencies. If the calcium assimilation is problematic, the joints (especially the knees) lose their elasticity. If the sexual organs activity diminishes, the risk of ovary and testicle cyst emergence appears. Since it is related to cognitive tendencies, it has the capacity to disperse them wherever they are.

Line 4 of hexagram 57 (by mutation, it becomes hexagram 44).

We must analyze the sensibility of the polyps in the nose and sinuses, because the illness might migrate from the lungs to the kidneys during a respiratory infection. The polyps’ sensibility might be caused by solanine (a slightly toxic substance in the green potatoes exposed to the sunlight) and/or ivy. We must not forget its relation with hexagram 44, which corresponds to the last third of the Tae Mo extraordinary meridian that starts on the unattached ribs and ends in the sexual organs area. Its main role is having a great influence on the blood. It also has an important role in the pelvis and the sexuality balance.

Line 5 of hexagram 57 (by mutation, it becomes hexagram 18).

We must not ignore the necessity to have well-balanced endocrine and adrenal glands, which could lead to the weakness of the feet. Another risk is the drop in the blood sugar level and a rise in the red blood cells. Yolk eating is recommended for its high content of lecithin. Let’s see what the relation between hexagrams 57 and 18 is by mutation. Hexagram 18 corresponds to the last third of the Heart Protector meridian, with an access zone from the middle of the forearm to the palm. This is the commanding area of the heart and coronary arteries, with an important role on the mind, sleep, idea emergence and a very important role on sexuality.

Line 6 of hexagram 57 (by mutation, it becomes hexagram 48).

It is the vertebral column checkpoint, mainly the lumbar vertebrae. Let’s not forget the hypertensive crises that are a heart condition or the risk of abscesses and dental abscesses. Hexagram 48 corresponds to the final part of the Lung meridian and spans from the middle of the forearm to the thumb. It is in direct relation with the upper airways and the eyes. Due to its localization, it has an important role on the airways, the eyesight quality, the immune defense coordination, controlling the wrists that can be affected by arthritis, or other thumb-related disorders.

- hexagram 16 → 51,40,62, 2,45,35;

Hexagram 16 represents the middle third of the Kidney meridian, it spans from the sexual organs to beyond the umbilicus. It operates upon the urinary tract and the spine, particularly upon the prostate-kidney / heart couple.
Hexagram 24 represents the last third of the Kidney meridian, it starts in the area corresponding to the solar plexus and ends under the clavicle. This fragment of the meridian governs the urinary tract and spinal cord marrow and is the area where the nervous system calms down.

III. CONCLUSIONS

Starting from the dichotomous process where we divide the unity by two, we reach the easiest process that controls the fundamental laws of nature.

Through this analysis, we demonstrated the basic relation between I Ching and the 64 hexagram matrix, while obtaining the conversion of the human body geography projection from matrix to cube and then tesseract, starting from the cell binary manifestation. In addition to the analysis, a study on the Kidney meridian was made and consists of locating and treating the abnormalities that occur on the energetic pathways. The information program generating hexagrams on the energy meridians by mutation emphasizes the fact that a new order is defined by simple arithmetic methods. Decipher these models is the key element for healthy body balance and the key finding can be explained by laws governing the life. IT Program presented in this article is able to generate and follow the steps to any three hexagrams mutation characteristic of any meridian energy.
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