

Euclidean Geometry and Traditional Chinese Medicine: Diving into the Real Origin of the Five Elements

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“The Laws of Nature are but God’s mathematical thoughts”.

Euclid [1].

Abstract

There is an impressive similarity evident in the knowledge acquired by the great Ancient Civilizations. In Athens, Plato found the Dimensional Solids and Euclid established the Five Regular Polyhedra; while towards Cathay, probably Zou Yan (c. 350 B.C., as Euclid) had already considered the “Five Makers of the Universe” in Chinese Medicine.

Regarding quoted Chinese hypothesis of Five Elements- that may be permanently generated and controlled by Creative and Destructive Cycles - it has the expectation that similar events or states allow for predictions that consistently derived in similar sequences.

Such “re-coupling cycles” provide knowledge with an everlasting multidimensional renewal that enables a “self-regulated” process of optimization, similar to quality management cycles. Chinese sages may have supported this upon a “virtuous circle” to affirm or reject the results they obtained from their experiences.

In fact, both Oriental and Western medicines respond to a original relationship with the most ancient formal science: Geometry, founding mathematical reasons to frame such knowledge within a precise context. To some extent, Euclidean propositions supported its principles derived from said process of inter-transformation which is, ultimately, what sets into motion the coming and going of things thus predicting the future thanks to the guidelines of such change.

Keywords: *Five Regular Polyhedra; Five Elements; Re-Coupling Cycles; Bibliographical Review*

Introduction

The Greek term mathemata, of pythagorean origin, can be roughly translated as “that which can be learned”. Within the classical Greek notion of knowledge, “that which could be learned” was in fact a constellation of different things that made up Plato’s “Seven Liberal Arts” at the Academy (387 B.C.) in Athens, namely:

- Trivium: Grammar - Logic - Rhetoric.
- Quadrivium: Arithmetic - Geometry-Astronomy and Music.

According to Archytas of Taranto, a noted Pythagorean mathematician [2], the sciences included in the Quadrivium provided the power of explaining the student “the order and harmony of the Universe” [2].

Euclid (330-275 B.C.) was an inspired and skilled mathematician who left us outstanding contributions not restricted to the exact sciences but to human knowledge in general [3]. His posthumous work, *Element* has been a must-read in general culture, having had a literary impact -according to Prof. Pedro Miguel González de Urbaneja - “comparable to that of the Bible or Quixote”. Euclid’s legacy has become, as we shall frequently repeat in this paper, “the perfect example of the axiomatic-deductive system of thought” [4].

He appears to have lived with an obsession to solve the enigma of the origin and constitution of Dimensional Solids which he transformed into the Five Regular Polyhedra brilliantly explaining via their geometrical principles and the unanswerable propositions published in his works. These were works that nurtured the dazzling minds of Descartes, Newton and King Ptolemy II himself [5].

According to Pla i Carrera in his work “Euclides: la definición de los axiomas en Geometría”, it may be possible that Euclid collected from his mentors two key mathematical concepts for the development and subsequent estimation of his regular polyhedral, namely:

- The theory of proportion, necessary to deduce theorems about lines and surfaces;
- The theory of exhaustion, i.e., the theoretical basis to estimate areas and volumes of geometrical solids.

This analysis made by Pedro González de Urbaneja [4] states that Euclid analyzed, in Books VII to X, the geometry of such platonic solids; however, in his Book XIII -the last and finest of those in *Elements*- he presented sound statements for definitely establishing the Five Regular Polyhedra. By doing so, he optimized previous works by Taetetus, a key figure in establishing epistemological and methodological basis for the construction of Dimensional Solids which reached their peak in Euclid’s work [6,7].

Materials

The great astronomer Galileo Galilei is reported to have said about *Elements: Philosophy (Nature)* is written on the great book that is always open before our eyes -the Universe -however, we are unable to understand it if we do not first learn the language and understand the symbols in which it is printed. The book is written in mathematical language and its symbols are triangles, circles and other geometrical forms. Without their help it is impossible to understand a single word, without them, one wanders hopelessly within a dark labyrinth [8].

The fact that the *Elements* or “Phases” the sage Zou Yan included in Chinese Medicine should only be “coincidentally homologous” to those introduced by Euclid is inconceivable. One may suspect that there is a kind of relationship, not mentioned or known up to now, that may link both of them, which are utterly important in their own subjects.

Let me quote here a precious paragraph by Paul Davies from a chapter called *The Cosmic Blueprint. (El programa cósmico)*-and I use the term precious on purpose in order to highlight its importance: In fact, the very word “elementary” implies in this case that the primary phenomena in nature are those which belong only to individual and irreducible objects. Collective phenomena such as self-organization [emphasis is mine] processes of life, the turbulence of fluids, superconductivity, conscious awareness... all those are things that have come to be considered purely secondary and reducible to -or deriving from- primary phenomena, no need for additional principles” [9].

There is a certain fact as regards the birth dates of both these wise men. Curiously enough, they were born within a brief period of time: between the years 305 - 330 B.C. As they were contemporary, we may venture they may have found out -even if remotely, perhaps- about the other one’s research and they may have shared their knowledge.

We are lucky to have Hua-Ching Ni's clarity to throw light on this matter: The ancient sage called these five forces the Five Great Makers of the Universe (Wu Hsing) and they symbolized them with five physical manifestations. Water represented raw force, characterized by incorporation, contraction, accumulation and condensation. Fire symbolized weak force, characterized by expansion, dissemination, dispersion and dissipation. Wood symbolized light force, characterized by explosion and dynamism. Metal symbolized heavy force, characterized by gravity. Because of their inherent nature, these four different forces fight among themselves and conquer one another, while, Earth symbolizes the force united, in harmony and neutral among them" [10].

Among them, the "Fifth Element" is man, who observes, alert and centered from the Earth all the mutational phenomena taking place in the Universe and those around him. In that respect, Hua-Ching Ni states that "...harmonization of the four forces creates a fifth, joint force, a T'ai Chi, i.e. the harmonizing force of the Universe, a common ground, that is why the ancient sage named these five forces the Five Great Makers of the Universe or Wu Hsing)" [11].

Methodological Approach

Kwei-Yee-Chu: "Therefore, the birth of a thing is called Transformation; the extreme level of something, Mutation; the unpredictable phenomenon of Yin and the Yang is called, the Divine; and the unlimited application of the divine is called Wisdom.

"Thus, the application of mutation implies the existence of infinity in Heavens and the way of man, called transformation on Earth, and that transformation generates five types of knowledge, that path generates wisdom and infinity generates the divine...

"Yet, Heaven and Earth are the extreme and the depth of all things"...

"I have consulted the Ancient Classics on the Circulation of Celestial Energies which includes the following statements: the Heavens are the originated infinity that provides space to every single thing"; "so that the generation and the transformation continue indefinitely, in turn providing life to every thing" [both capitals and emphasis are mine] [12].

Not long after the inclusion of Elements in Chinese Medicine, the first Western scholar to aim at providing a reason for the structure and conformation of the Universe was the Greek philosopher, mathematician, physicist and legislator Thales of Miletus (624-546 B.C.), considered one of the Seven Sages of Greece. In coincidence with the concept of "Primordial Waters" stated by the Chinese he stated that "Water is the element and beginning of everything so that every single thing may dissolve in it" [13]. The core of his thesis, therefore, stated that Water is the principle or original substance from which every reality making up the complex cosmic fabric had originated [13].

In parallel in the Hoang Ti Ba Shi Yi Nan Jing we can also read: "The pulse of the Twelve Channels is related to the origin of the living Qi that is why it is said that the origin of the living Qi is the root of the Twelve Channels. It is the Qi the one to move between the Kidneys. It constitutes the root of the Five Organs and the Six Viscera" [14].

It may seem as if Zou Yan had been the one who found out about Euclid's advances in Mathematics and established, then, his General Classification for Chinese Medicine, Philosophy and Cosmogonies.

Results

Ming Menn in traditional Chinese medicine

As already explained, and we shall be returning to this issue later on, Chinese Medicine especially considered the presence of Primordial Water, generator of "Hidden Fires" acting -we insist- within the human being. This generation site in humans is material and virtual at the same time. The physical place in humans (man-woman) in which the ancient Chinese considered the morphological development of a

fetus began is located between the 2nd and 3rd lumbar vertebrae, at the level of the fourth acupunctural point of the Ming Menn, also called “Entrance door for life” (See figure 1).

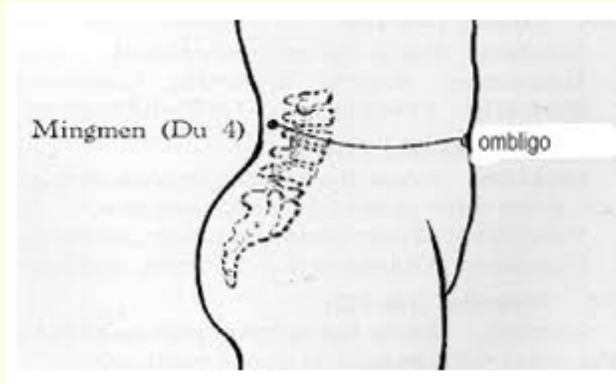


Figure 1: Illustration of Ming Menn [15].

Some Oriental and Western authors consider it of such importance that they suggest acknowledging it as an independent Vessel or Centre, having a physiology of its own and being self-regulating. At this “energetic node” is where the Cosmic or “Celestial” Qi and the Tellurian or “Terrestrial” Qi interact and match up. It is topographically located between the Kidneys (where the “Yin Kidney” lies) and the suprarenal glands are (the “Yang Kidney”) (See figure 2 and 3). In fact, many acupunctural treatments seek to make this location act as an “open system”, so that it enables the free and permanent body flow of Qi and thus reinstating the proper circulation of vital energy. It behaves as a “functional hiatus” during the respiratory process, its space changing from virtual to real, condensing the energies in between intervals at each respiratory pause (an “Intermediate Vacuum” materializing in a tangible Vacuum).



Figure 2: Ming dynasty (1573-1620) [16].



Figure 3: Qing period (1644-1911) [16].

Below are different drawings from ancient Chinese physicians referring to Ming Menn’s topography; they have traditionally been attributed to HuaTo [16].

In a nutshell, it is here where the innate Jing (or Gonadal Qi) combines with the acquired Jing to complete its genuine constitution, keeping individuals in a normal state of health.

The deduction presented earlier in the paper by Thales of Miletus (624 B.C.-546 B.C.) about Primordial Water derived from a rational statement: Water is essential for living beings -if not hydrated, they decay, dry up and die- and, in itself, it contained the virtue of inter-transformation, for it can exist either in liquid, solid or gaseous state. Maybe thinking about this, he considered that the other substances derived from it [9].

In the following quote from the ancient classical Su Wen, the interaction Ming Menn establishes at macro and microcosmic levels is well illustrated: “The Heavens are a cover and the Earth is a support that gives life to everything” [17].

And said interaction between both Fundamental Forces takes place precisely there, at the topographical and energetic core of men. The transcendence of the information provided by the T’ajitu scheme and its direct correlation with the Ming Menn has been duly indicated, as the following paragraph from the Yellow Emperor shows: “Yin and Yang are the path to the Heavens and the Earth, the great schemes of all things, the parents of change, the origin and the beginning of birth and destruction, the palace of the gods. The treatment of a disease should be based on the origins (Yin and Yang)” [18].

Already the Greek sage had proposed laws of conservation and transformation of the Elements which made sure that certain properties remained constant in the middle of those changes. In order to do so they had to determine the arché, i.e. the identity of those different, the principle guiding all other phenomena [19].

Precisely one of them, Thales of Miletus (624 - 543 B.C.), assumed that the origin of all things was the Water, “first principle” or original substance, from which every living thing in nature emerged [20]. Not only did he suppose its creative power, but he also believed in its capacity for purification, via heat (evaporation) or cold (solidification or freezing, when Water crystallizes) which exclude any impurity (be them acids, alkalis or salts) [21], for all these reasons he considered it to be of divine origin.

Later philosophers chose other basic principles in order to explain the universal diversity. For example, Anaximedes (590 - 524 B.C.), also from Miletus, was a disciple of Anaximandro's (who perceived a cyclical vision of the cosmos as well) and chose as arché the Air; something indeterminate and indefinite, also invisible limitless and eternal which could only originate from Nothingness and became indispensable as "vital breath" [22].

Heraclitus of Ephesus (535 - 475 B.C.) was, perhaps, the first Westerner who, on determining the identity of those different, managed to demonstrate the "formal identity of the Opposites", i.e. that Paradigmatic Contraries in fact do not oppose but coincide harmonically and without dissonances [23]. Arché for Heraclitus-an obscure, melancholic and disdainful hermit, according to Diogenes Laertius [24]- was the Fire, for he considered it "the witness of the Divine" consequently, everything derived and ended in it. Apollo being the god of the Sun and of the light, it should not come as a surprise that Heraclitus considered him the "sign" of the beginning of his arché.

Afterwards, for Xenophanes of Colophon (580 - 566 B.C.), linked to the Eleatic school, there was no "visible element" as primordial nature governing the Whole. However, he did say that the Earth was the principle and the end of all things [26]. According to Porphyry, Xenophanes considered as principles "the dry and the wet", let us say the Earth and the sea as opposed that ended "mixing up" (water dissolves earth into mud, a phenomenon that reverted into solidification, according to the findings of fossil fish and algae in the mountains). Apart from the elegies where he described the gods and their fights against titans and centaurs, Xenophanes deduced this transit of Elements founded on a cyclical theory in which multiple world orderings followed, demystifying celestial phenomena and all inconceivable as antithetical concept of that which is visible [27].

Surprisingly, thousands of kilometers far away, the ancient Chinese expressed -through Zou Yan 邹衍(305-240 B.C.)- a collection of Elements almost homonymous to the Greek one (the "Air" element could also be considered "Metal" [see below]) to which Wood had been added(not included in the list of Elements of Empedocles of Agrigento -a follower of Hippocrates' teachings-even though it existed, as was the case with the tetrahedron (carbon's atomic structure in Plato's Dimensional Solids)[see the Stele from the Universal History of Ancient Medicine at Hainan Medical University, Figure 4a-6b].



Figure 4a: Empedocles of Agrigento.

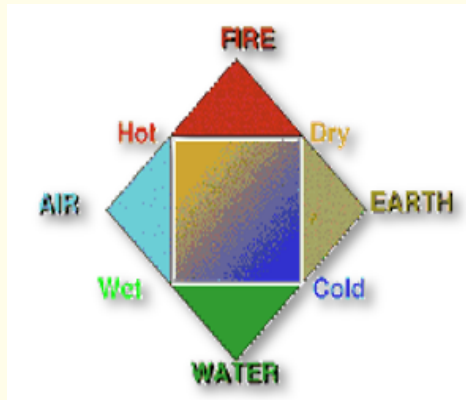


Figure 4b: The four elements [7].



Figure 5a: Stele of the history of medicine (Hainan Med. Univ.).



Figure 5b: Hippocrates (photos by the author).



Figure 6a: Zou Yan 邹衍.

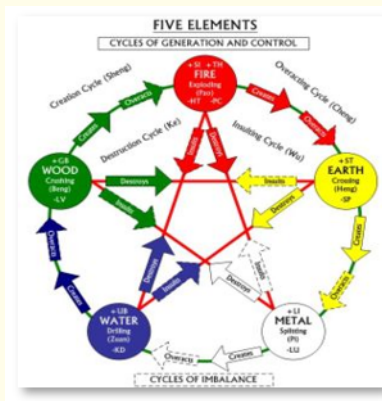


Figure 6b: The five elements [7].

Nonetheless, surprisingly, it looks as if it was the other way round: it was Euclid the one who used the Chinese Tangram to apply his unique deductive ability in order to solve several propositions of his “Elements”, the paradigmatic Pythagorean Theorem and Mesopotamian mathematical problems that had been unsolved for millennia [2].

Traditional Chinese geometry: The Chinese tangram

The Chinese Tangram is one of the most relevant achievements in Chinese Geometry to draw figures of a different shape but of an equal surface. Its name comes from the words “tang” -which means “Chinese” in Cantonese-and “gram”-which in English means writing or graph [28].

It is an elementary geometric method which in China is called qi qiao ban, which means “The Seven Boards of Cunning” [29]. In fact, it is a kind of “puzzle” which is made up of seven pieces - a rhomboid, a square and five triangles - that are all fitted inside a square (therefore, the sum of each of them equals the surface of the square). All seven pieces are used to create a variety of images (approximately 900), but the rule is that they should not overlap one another.

According to a Chinese legend, one of the emperor’s servants broke one of his delicate and expensive pieces of pottery (or glass). Feeling devastated, the servant unsuccessfully tried to fix it. In the process, he realized he was able to create other figures and showed his ludic possibilities to the emperor, who was amazed at the inventiveness of his servants. It is also said that it is based on furniture sets called yanjitu, which were made during the time of the Song dynasty [28]. What is really interesting about this creative mathematical game is that it enables the resolution of a series of complex geometric problems (See figure 7).

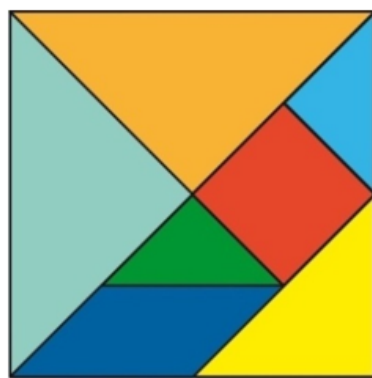


Figure 7: Chinese tangram [29,30].

We still do not know for sure whether Greek mathematicians developed it separately, for at that time the Silk Road was commercially active and there may have been -as was the case of Marco Polo- reciprocal influence among sage men and scientists.

Josep Plai Carrera believes that the deductive reasoning this game poses is the same to the one offered by Plato in his Menon, in which Socrates applies a similar reasoning to that in the Tangram, using isosceles triangles to calculate the diagonal of the base square [31]. Archimedes had also described it as Stomachion by the third century B.C.

What is even more curious is that Euclid himself used this basic tool in his geometry to calculate the Golden Ratio [32], to prove with great expertise the Pythagorean Theorem [33] and to construct the Regular Pentagon [34]-from which the Pythagorean Star is made, as it is constructed by drawing the pentagon’s diagonals- and the Dodecahedron [35] (See figure 8-11).

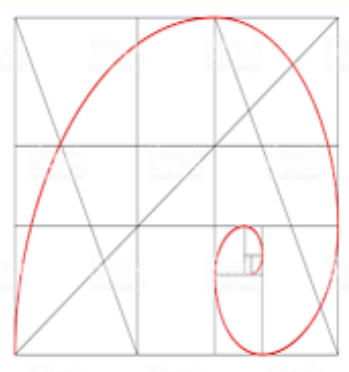


Figure 8: Golden ratio [32].

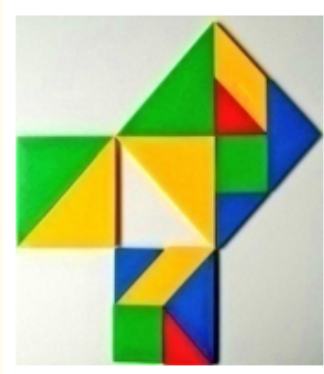


Figure 9: Pythagorean theorem [33].

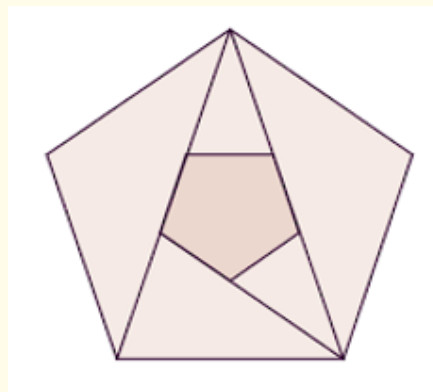


Figure 10: Regular pentagon [34].



Figure 11: Dodecahedron [35].

Traditional Chinese Medicine seems to have structured itself upon the basis of such conceptual guidelines. Thus, this knowledge may have been organized in a hierarchical organization into what Riedl calls “a superstructure”: i.e. a natural system that allows for the understanding of harmonious transformation, which takes place inside every Element. In the same way, this takes place in taxonomic classifications [36] in Botany and Zoology, which has given place to the continuity of the metamorphosis of these “similarity fields”, enabling thus their proper integration.

For some very experienced Western authors, such as Eric Marié’s works [37], this qualitative distinction is applicable in two ever-present opposing aspects forever present in the same thing, the interaction of several complementary principles such as:

- The interdependence principle (Yin Yang Hu Gen): in spite of the fact of an apparent competence situation, they are interdependent, i.e. that the previous condition of one is that giving rise to the existence of the other. For example, without Yin, the Yang cannot be originated; without the Yang, Yin would be unable of transformation.
- The opposition or duality principle (Yin Yang Dui Li) of every existing phenomenon, containing conflicting natures in itself; however, because of their natural antagonism, they eventually complement one another towards a cyclical mutual balance.
- The contradiction or growth/reduction principle (Yin Yang Xiao Zhang): the ongoing activity of Yin and Yang reveal permanent change. Such dynamic alternation between them implies growth for one and a simultaneous proportional reduction for the other.
- The subdivision principle (inter-divisibility and relativity): a consequence deriving from the previous principle, it shows a dramatic contrast between opposites, which becomes an extreme or an exaggerated condition. For example, “Extreme cold produces heat; extreme heat becomes cold”.
- The inter-transformation or intercompensability principle (Yin Yang ZhuanHua): a consequence of the previous one as well, is understood to be the capacity of changing an aspect of the same thing in its opposite. It sums up the intrinsic balance between Yin and Yang, capable of completely mutate to its contrary extreme. This implies, as stated in a second entry, compensation by complementarity between opposites. The loss of such capacity of oscillating adaptation is, in fact, what leads to the state of disease.
- The principle of alternation: an extension of the analysis of the previous phase, it implies understanding that the Universe is in constant movement; that is, nothing remains still or fixed. Thus, a reciprocal balance is created between mutual generation and control, which enables the natural regulation of opposites by means of a Dynamic Balance.

We can appreciate again, as regards the configuration of the surrounding Universe and based upon the inter-relations among the Five Principles presented above, that ancient Chinese conceived it as a theoretical abstraction relating every living thing my means of the already mentioned Dynamic Balance and its ongoing mutation: from its reciprocal generation to its mutual control.

Humberto Maturana believes that “we can only provide scientific explanation as long as we treat the phenomenon we are trying to explain as the result of the action of a structurally determined system. It is necessary to differentiate determinism from predictability”. [38]. Maturana and Varela then referred to the word prediction, that is, something that reveals to observers what they are expecting to take place [39]. Maybe we can find a correlation to what Sagan and Schneider explained as regards complex systems “Nature’s aversion towards gradients implies that these will tend to spontaneously disappear in a spectacular manner due to the action of self-organized complex systems...” [39].

As to the hypothesis of this Chinese proposal to create a General Classification Theorem of the Five Elements that may be permanently generated and controlled by Creative and Destructive Cycles, we may extrapolate what Riedl says “it has the expectation that similar

events or states allow for the prediction of similar sequences of events or states. This hypothesis of expectation of abstraction possibility contains a specific similarity field; a similar group of events or states also allows for the prevision of a similar sequence of events or states" [40].

These "re-coupling cycles" provide this knowledge with an everlasting and multidimensional renewal that enables a "self-regulated" process of optimization, similar to those cycles proposed, for example, in quality management. So, the Chinese sages may have based themselves on this "virtuous circle" to affirm or reject the results they got from their experiences. Schneider and Sagan further explain that "The evolution of complex and intelligent forms of life may be explained as life's efficiency as a cyclic system, devoted to the reduction of gradient" [41].

This means that in the development of both western science and Chinese medicine, knowledge is proven as the result of learning. This is why Riedl said that "the hypothesis of the cause comprises the expectation that similar events or states have the same cause and will produce the same effect" [42].

The enigma of number five in traditional Chinese medicine and philosophy

"Every existence has substance... every contingency has a cause".

Immanuel Kant [43].

Apart from what was proved by Euclid with respect to the Five Regular Polyhedrons, there are other references to the intrinsic value of number five.

In Tantric Numerology, the number five represents movement. In turn, these Five Elements are influenced by their corresponding planets, which govern cosmic energy, as follows: Jupiter: Wood- Mars: Fire -Saturn: Earth - Venus: Metal -Mercury: Water

Apart from China, these planets literally "gravitated" over the creation of the Five Continents that compose the world [44].

According to Dr. Liu Dong, the orbital path of the planets also governed the Five Major Events that worried China at that time, namely-The Yellow Emperor - the army - the imperial court - natural catastrophes - housing construction [45].

As regards this topic, Hoang Ti expresses in chapter 11 of the Nei King Ling Shu (addressing Dr. Khi Pa): "I have heard that a man's constitution corresponds to that of Heaven. A man has Five organs and there are Five colors and Five cardinal points (of which one is the center)" [46].

Another reference of the Ling Shu worth taking into account refers to the relevance of number five in the determination of the interaction of the Elements, key to the information and integration of acupunctural knowledge.

There are many similar references in the Chinese Classics. For example, the following paragraph appears in "On the Correspondence of Life Energy with Energy of Heaven"-attributed to the Yellow Emperor, regarding the gravitation of the Five Element Theory of Chinese Traditional Medicine: Life is based on the energies of the Five Elements and the three original energies; that is, the energy of Heaven, the energy of Earth and the transition of energy according to the Law of the Five Elements", "the sages may transmit their spirit towards the energy of Heaven to reach the Divine Light" [47].

Also, in the third chapter of the Nei King Su Wen the relevance of being careful when combining food in accordance with the Five Elements is highlighted, the wonderful result of which will be a long life: ...if people are able to select in an extremely careful manner the Five

Tastes of food, their bones will be straight, their tendons, soft, their energies and blood, free-flowing, their pores, closed, and they will have a healthy bone energy and a sufficient pure energy. Thus, those who attentively follow the Tao will enjoy a long life” [47].

Then, in the following chapter, Khi Pa -personal physician to the Yellow Emperor- warns us about the potential damage not following these rules may cause “the Winds of the meridians will blow to attack the Five Viscera, and will bring about harm and will become the “Winds of the Five Viscera” [47].

The organ interaction of our body biology with the environment is also established thanks to the Five Sense Organs, also called the Five Shen Organs: eyes, ears, the mouth, the nose and the skin [48].

In chapter 23 of the Nei King Su Wen titled: “On the Energy of the Five Viscera” [49] a direct reference is made about the direct influence of the number five in Chinese medicine. By way of example, the following coincidences are mentioned:

- The path of the Five Tastes: sour, towards the Liver; acrid, towards the Lungs; bitter, towards the Heart, salty, towards the Kidneys and sweet, towards the Spleen.
- The diseases of the Five Energies: the Heart causes burps; the Lungs, cough; the Liver, verbosity; the Spleen, reflux; the Kidneys, yawning and sneezing; the Stomach, vomits; both Intestines, diarrhea; the Lower Heater, edema; the Urinary Bladder, enuresis and anuria; and the Gallbladder, anger.
- The Five Blockages of Pure Energy: if it is blocked in the Heart, it will cause great happiness; if blocked in the Lungs, sadness or distress; in the Liver, it will bring about obsessive concern; when blocked in the Spleen, apprehensive rumination; and blockages caused by deficiency in the Kidneys will bring about every type of fear.
- The aversions of the Five Viscera are the following: the Heart has aversion to Heat; the Lungs, to Cold; the Kidney, to Wind; the Spleen, to Dump; and the Kidneys, to Dryness.
- The fluids transformed by the Five Viscera are the following: the Heart controls sweat; the Lungs, mucus; the Liver, tears; the Spleen, saliva; the Kidneys, water (“the saliva underneath the tongue”).
- The Five Attacks of Evil Energies: if Yang is attacked, dementia will occur; if Yin is attacked, this will bring about rheumatism; if they make Yang arise, they will attack the head; if they fight against Yin, causing deficiency, there will be hoarseness; if Evil Energy passes from Yang to Yin, the patient will be calm but if it passes from Yin to Yang, they will become angry.
- The Five Attacks of Disease: the Yin disease attacks the bone; the Yang disease, the blood; the Yin disease attacks the flesh; the Yang disease attacks the winter and the Yin disease attacks the summer.
- The Pulses of the Five Viscera: the metallic pulse of the Liver; the variable pulse of the Heart; the slow pulse of the Spleen; the Silky pulse of the Lungs and the hard pulse of the Kidneys.
- The Five Storages of the Viscera: the Heart stores the Spirit; the Lungs, physical strength; the Liver keeps the soul; the Spleen, the feelings and the Kidneys, willpower.
- The Viscera as the Five Lords: the Heart is the Lord of the blood vessels; the Lungs, de Lords of the skin; the Liver is the Lord of the tendons; the Spleen is the Lord of flesh and the Kidneys are the Lords of the bones [49].

Why was it emphatically accepted -as Euclid did- that there could only be five, and only five, Elements considered by Chinese Medicine? To this kind of “word game” we have just made, we may add the contemplative vision master Zen Pai-chang (720-814 A.D.) expressed as

regards this subject: “There is Movement where the Heart of Heaven can be seen: medicine, the stove and the pot, the different functions of the three bases (Heaven - Earth - Man), the Four Shapes, the Eight Trigrams and the Five Elements; they are all here” [50].

Could the Chinese have already known about the existence of the internal structure of the Five Elements to be able to explain the specific order of the features of atoms? Or did they only take into account the Void at whose core the atoms of the Five Elements would play at combining themselves or scattering in different proportions, in an everlasting, eternal and never-ending dance, on the verge of matter itself?

The explanation provided by Nobel Prize Robert B. Laughlin when he described the Law of Borders, may be relevant here: The logical conflict between an open border and a group of general laws may be resolved with the emergency phenomenon. Unfortunately, the term “emergency” has acquired a variety of meanings, among which there are the supernatural phenomena that are not governed by the laws of Physics. I do not use the word in such sense, but I am talking about a Physical Principle of Organization” [51].

Discussion

The notion of Balance implies the inversion of opposing actions in order to enable synchronic actions. When referring to the case of Traditional Chinese Medicine in particular, what results from such activity among the Elements (or Movements) shall be Harmony; if one wishes to understand it from a Western Medicine view, it shall be the optimal state or Homeostasis.

Notwithstanding the possibility that English-speaking authors may use the terms interchangeably, the difference shown above easily leads to the meaning of Harmony, that is, the sense of adequate proportion, correspondence and concordance among the different members of a group [52].

When applied to the biological realm, such balance reflects -as in the case of the hydro-electrolytic balance- the Homeostasis concept (from the Greek ὁμοιοχόμοιος, ‘equal’, ‘similar’, and στάσις, ‘state’). This means that there exists a set of self-regulating set of biological phenomena that ensure the maintenance of biochemical constants within an organism [53].

It should be impressive for us to find the strong similarity evident in the knowledge acquired by the great Ancient Civilizations. Euclid, in Peloponnesus established the Five Regular Polyhedra at the School of Athens; in the same place, Plato founded the Dimensional Solids at the Academy, while towards Cathay, the Chinese had already considered the “Five Makers of the Universe”. This situation may have probably led Zou Yan (born circa 350 B.C.) to propose the Theory of the Five Elements in Chinese Medicine [54].

Rafael Alemán Berenguer remarks in his book *En busca de la teoría del todo* (In Search for a Theory of Everything) that -after Bosovich’s attempt to quantitatively unify the natural forces (vide infra), in 1986 yet again an attempt is made to unify the four fundamental interactions, a situation quite analogous to that of the moments immediately after the genesis of the Universe. By then some scientists brought back to consideration quite a careful analysis of experiments carried out 80 years before which attested the existence of a “Fifth Force” with properties typical of elementary particles called “hypercharges”. This proposal produced such controversy that the ensuing research had to be postponed so that the functional idea of the Universe which Science had reached would not be further compromised [55].

Curiously enough, man for the Chinese constituted the “Fifth Element” as well, he who observes from the Earth all that takes place around him. In Greece, it was Aristotle who added to the list of four Elements mentioned above, the “Quintessence”, which presumably referred to celestial bodies and “beings” (tacitly including the human spirit). Sir Isaac Newton called it “Ether”, perhaps relating it to its mystical homonym “Æther”: according to Blavatsky, the esoteric concept for “Father-Mother” in Ancient Times. In that regard, she stated: Nature is a perpetual operator acting in a circular form, generating fluids from solids; fixed things from volatile ones and volatile ones from those fixed; subtle from coarse and coarse from subtle... perhaps everything may have originated in Ether (emphasis is mine) [56].

Theosophical mystics thought along the same lines as the Chinese and also attributed the Fifth Element to man; from a conceptual view that differed very little: The Fifth Order is quite mysterious for it is related to the Microcosmic Pentagon -the five-pointed star- representing man...;” In Egypt, the dead whose symbol is the pentagon or the five-pointed star because they represent the members of a man...;” also called the ‘Dragon of Wisdom’... the Human Soul or Intelligent Principle...” [57].

This justifies the Chinese wisdom about the chrono-biological course of human energy within the circadian cycle flowing two hours in the Yin and two in the Yang, again another two hours in the Yang and ending the cycle after two hours in the Yin. In that respect, Hua-Ching Ni in the masterwork “Hua Hu Ching - Las últimas enseñanzas de Lao Tsé”: When a being or an individual thing loses its balance, both inside as well as in its relation with the outer environment, its energy becomes incomplete or exhausted and eventually leads to the individual’s extinction. Only divine beings possess perfect balance and absolute integrity. That is why they can last forever... That is achieved by means for the balance between the Yin and the Yang, both internally as externally for, in order to evolve towards the Integral Realm, we need to reach the indestructible integration between Yin and Yang (emphasis is mine) [58].

Conclusion

From all the above, I expect to have made clear that, on observing the scientific events during the course of universal history, we can determine that the onset of both medicines -Oriental and Western ones- responds to a direct relationship with the most ancient formal science that exists: Geometry. There are no doubts in my opinion, that, in spite of the empirical knowledge from the beginning of its historical development, both “healing arts” found mathematical reasons to frame such knowledge within a precise context. To some extent, Euclidean mathematics and its propositions supported its principles derived from its initial organization.

As regards the latter, according to Robert Laughlin, the phases of matter (or solid, liquid or gaseous states) are also organizational phenomena [59]; this is how the Ancient sage sought to categorize all that exists under a General Classification Theorem. That is why, he comments in that respect “The property we value in both cases is order [emphasis is mine]. In spite of the fact that most of us would rather not think, we trust our lives to an organization, we do that every day” [59].

Afterwards, he continues stating the following: “The subject of the phases of matter sets precedent: it is the proof that at least some of the marvels in the world -perhaps all of them- depend on organization” [59].

Curiously enough, the aforementioned coincides with a Taoist vision of the Universe: everything that exists originates in Tao and returns to Tao. For that reason, Eva Wong infers that the process of change or inter-transformation is, ultimately, what sets into motion the coming and going of things; thus, the resulting divination is a way of predicting the future thanks to the guidelines of that change [60]. In that respect, we can read below what she states in Hua Hu Ching: The uncreated may create and re-create, and the untransformed may transform and transform again. What is created cannot prevent producing from the self, likewise, what has been transformed cannot help transforming from the self [emphasis is mine]. This means that there is no time or space without the production or transformation of things themselves [61].

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