

The Five Elements: Origins and Application through Neurofocal Dentistry

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Abstract

Dentistry, like other branches of medical care, tends progressively to provide holistic integration of complementary therapies to restore the emotional and biopsychosocial states of its patients.

In this context, Neurofocal Dentistry appears as an evolutionary expression aimed at a comprehensive help for our cases, helping them to recover with their natural healing resources. In addition, the interrelation between the teeth and the rest of the body is an ecological and holistic approach to health that also implies the interdependence of the Five Elements of Chinese Medicine, which determine a synchronized correlation between our natural environment and the biological systems present in our body.

This work had the mission of evaluating the diagnostic accuracy of said dental specialty, subjecting it to a rigorous and detailed statistical evaluation, objectively demonstrating the usefulness of its semiological certainty of its results.

Keywords: Neurofocal Dentistry; Chinese Five Elements; Semiological Certainty

Introduction

Nowadays, Dentistry - as well as other branches of Healthcare - is progressively tending to provide care in a truly holistic and comprehensive manner. With the integration of complementary therapies, which have been rigorously tested through the process of the scientific method (required by evidence-based medicine), a wide range of “therapeutic possibilities” has become available, which, far from diluting the responsibility of the specialist, allows for a virtuous agglutination for those who are devoted to restoring the bio-psychosocial and emotional states of their patients.

It is in this context in which Neurofocal Dentistry was born, as a comprehensive and evolutive expression aimed at aiding the patients’ own natural healing resources, not only with respect to the patients themselves but also to their history and environment. The concept was coined in Karlsruhe (Germany) around 1958 by physician and dentist Ernest Adler, who interpreted dental damage (which he called “focal event”) to be the source of irritation in the oral cavity. He called such active focus “interference field” [1,2] and considered it to be responsible for triggering different systemic nosological conditions [3].

Reinhart Voll, German physician, anatomist and physiologist - taking into account Adler’s experience of the systemic effects of oral pathologies - developed a particular electrodiagnosis based on classic acupuncture, which was supported as well by modern electronics knowledge [4]. He initially started with dermatones, and then he was able to identify the close relationship between odontons and the different organs and segments of the human body [5].

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More specifically, the body protecting immunologic function of the area of the paranasal sinuses, nose, mouth and nasopharynx - and its lymphatic drainage - is of utter importance. Voll and F. Kramer brought their table of "Pathologic findings in the maxillo-dental region and its energetic interrelation with the whole body" before the International Association of Acupuncture in Plochingen (Germany), and created a device which could identify response electric potentials [6,7].

Background

It can be clearly seen that throughout history, there was already an ecologic and holistic approach to health, which involved the interdependence of the Five Elements which determined the ecosystems, and the Organs and the Bowels in our body. This was the case both for Empedocles - who established the Four Elements for Western Medicine - and for Zou Yen, who introduced a general classification theorem based on the Five Elements or Phases for Traditional Chinese Medicine [8].

Moreover, the interrelation between the teeth and the rest of the body is not something conceived by present Dentistry, as it is part of a macro and microcosmic comprehensive cosmivision, established by ancient medical knowledge that marked out the history of humanity [9]. In the International Neural Therapy Conference (Encuentro Internacional de Terapia Neural), held in Colombia (2003), Colombian Dentist Yoseth Osorio Díaz quoted an Assyrian letter which dated back to the eighth century BC, which read as follows: "... the inflammation which grips the man's head and **neck** and wrings the joints of his arms and **legs**, comes from his teeth; the source of all pain" [10].

Hippocrates also claimed that "rheumatism could be successfully cured by tooth extraction" [9]. Paracelsus, a Swiss physician and alchemist, referred to dental infection as the source of general sepsis. Centuries later, Billings identified systemic septic processes as the result of oral infection. In 1910, anatomist and surgeon William Hunter, suggested applying non-conservative oral therapies over septic focuses to avoid the occurrence of septicemic processes, which Fischer defined when determining the origin of arthritic and myocardial focuses. Such assertion led T. Duckett Jones in 1944 to coin the term rheumatic fever, as deriving from peritonsillar focuses, and which consists of pancarditis and migratory polyarthritis caused by group A beta-hemolytic streptococcus (*Streptococcus pyogenes*) - which damages not only the central nervous system (Sydenham Chorea) but also the teguments (Meynet and Aschoff nodes and erythema marginatum) [11].

Among other oral germs, the alpha hemolytic streptococci, such as *Streptococcus viridans*- which is generally present in the oral flora and is the source of tooth decay (*Streptococcus mutans*) - are responsible for the occurrence of dental abscesses and a dangerous systemic infection: bacterial endocarditis.

Research Objective

The main aim of this research is to further explore the basis of the Five Element Theory [8], searching new evidence that may rigorously determine its scientific nature, and to ponder the results produced by its extrapolation in the theory of the odontons, justified in the light of the analysis of Chinese medical principles.

Methodology

Materials (1): Dental Focus Concept

It is a region with chronically altered tissue which is the source of generalized diseases or local affections in other distant regions. Research carried out by Austrian pathologist Alfred Pischinger on mesenchyme and extracellular fluid, led to the support of his theory between 1949 and 1956 -confirmed by electronic microscopy around 1978 - which showed that the transmission of bioelectrical impulses in extracellular fluid was made by trien acids [12-14].

Such “fundamental substance” is composed of sugar-based polymers - proteoglycans and glycosaminoglycans - which are joined to proteins that retain water. Due to their negative polarity, they carry out the ion exchange in every process that takes place in the interstitial compartment [15]. According to Pischinger, such connective matrix is the information focus that influences its interfering field, and hinders its normal metabolic regulation [16,17]. According to Yoseth Osorio Díaz, focuses at cephalic level produce the main interference fields, which are generally caused by masticatory mechanical irritation [10], and which trigger or aggravate chronic diseases, delaying or preventing complete healing. Osorio Díaz insists that trigeminal irritation may be one of the main causes of interference overload (through the multiple interconnections of the trigeminal nerve and other cranial nerves) towards the whole organism [14,17] (See figures 1a and 1b).

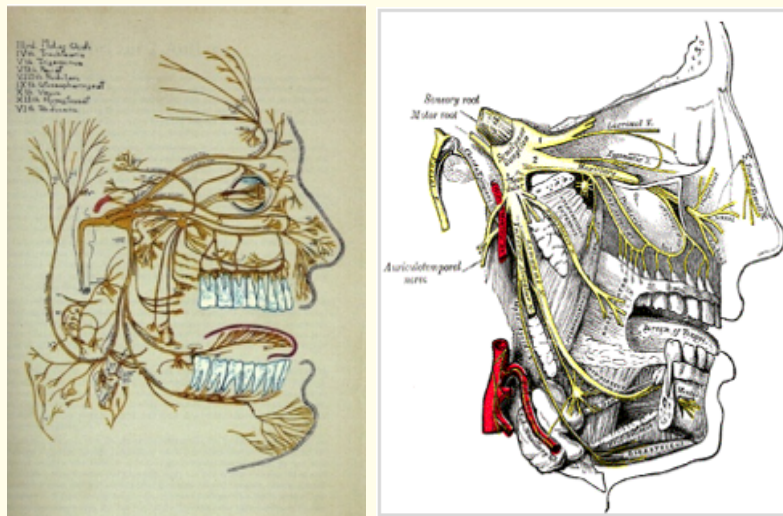


Figure 1a

Figure 1b

Figure 1a and 1b: Oronasal region anatomy: diagrams showing the regions covered by branches of the trigeminal nerve.

Dr Adler had already discovered that beside the wisdom tooth there was a retromolar space and that, after the evolution of the species - from primate to man - the jaw was reduced in size. That is why on many occasions, wisdom teeth lack space in the mouth and occupy such retromolar space, causing thus trigeminal irritation [3].

Dental focuses: Classification

According to research published by DMD Osorio Díaz, there are several types of dental focuses, as follows [10,13,14]:

Primary focuses: Which are not visible on radiographs (pulp necrosis).

Silent or potential focuses: In which part of their defense capacity is hindered even though there still is organic response (odontoma, root canal treatment).

Active focuses: Local defense barriers are broken (abscess, alveolitis, root canal obturation).

Interfering field ("Field of disturbance")

According to the definition of Yoseth Osorio Díaz, an interfering field (field of disturbance) is a permanently irritated region which may alter the regular flow of information along the organism (tissular damage, a foreign body, non-eliminable material, metals, etc.). It is a non-bacterial neural event that creates a chronic region of depolarization (interfering discharges) which ends up by conducting a harmful energetic impulse [10,13,18].

Form the anatomopathological point of view, it presents histological alterations that over-stimulate and disturb the Central Nervous System, first causing functional alterations and then, organic lesions. Russian researchers such as Pavlov, Speransky and Spike, among others, proved the importance it has in the information relations in the different components of the organism [14,19].

Materials (2): Classification of fields of disturbances

Dental interference, as it reduces the regulation capacity of the organism, may lead to the occurrence of any disorder or worsen other interferences exponentially.

Interfering Fields may be classified - according to Yoseth Osorio Díaz - as follows [10,20,21]:

Teeth with necrotic pulp: Teeth without obturation or with partial or total apical obturation of the root (which may cause apical periodontitis, cysts or granuloma).

Focal action: Presence of detritus or non-biodegradable material that may cause neural irritation due to bioelectrical changes that impact on the organism. It appears as an active and permanent immune reaction able to produce changes from a distance (especially in canals in immunosuppressed patients or in affected teeth that are closely related to the affected organ [13,14,19].

Abnormal segments in edentulous maxilla: Impacted teeth, root remainders, follicular cysts, foreign bodies (metal fragments, amalgams, implants, osteitis or sclerosis).

Other fields of disturbances: Gingivitis, periodontitis, non-physiological oral rehabilitation, overflowing obturations, sensitive uncovered necks (in senile gums), metals, forced orthodontic eruption, traumatic or post-extraction scars, nutritional problems, trigger points, psycho-emotional factors, environmental aspects, etc. These energetic alterations condition the symptoms and diseases that an interference may cause (e.g. wisdom teeth) [3,4,13,14,21].

Local disorders: Otalgia, otitis, cervical contractures, cervicobrachialgia (loss of strength, paresis and paresthesia in upper limb).

Regional (cephalic) disorders: headaches, dizziness, unsteadiness, trigeminal neuralgias.

Distance Disorders: According to the organs that are affected, for example:

Cardiac disorders: Tachycardia, arrhythmia, heart failure, angina pectoris and heart attack.

Digestive disorders: Inflammation, heaviness, poor digestion, related to the small intestine.

Urological disorders: Nephritis, urinary tract infections, even kidney failure, related to the kidneys.

































Fertility disorders: Infertility, amenorrhea, ovarian cysts, endometriosis, painful periods, uterine myomatosis.

Osteo-articular disorders: In shoulder, elbow, ulnar region of hand, hip and sacroiliac joint.

Psychological disorders: Agoraphobia, claustrophobia, behavior change, anxiety disorders, epilepsy or typical or atypical psychosis (owed to the presence of a retained third molar or “wisdom tooth”).

General disorders: Colds, postural orthostatic syndrome, hypotension, allergies, autoimmune diseases and symptoms of adrenal failure [22] (See figure 2).

Be advised that an issue in one tooth socket can cross over one socket, so consider adjacent tooth-organ connections too.

Loneliness, Acute Grief, Humiliated, Trapped, Inhibited, Lack Joy Greed, Not lovable	Anxiety, Self-Punishment, Broken Power, Hate, Low self-worth, Obsessed	Chronic Grief, Overcritical, Sadness, Controlling, Feeling trapped, Dogmatic, Compulsive, Uptight	Anger, Resentment Frustration, Blaming, Incapable to take action, Manipulative	Fear, Shame, Guilt, Broken will, Shyness, Helpless, Deep exhaustion	Fear, Shame, Guilt, Broken will, Shyness, Helpless, Deep exhaustion	Anger, Resentment Frustration, Blaming, Incapable to take action, Manipulative	Chronic Grief, Overcritical, Sadness, Controlling, Feeling trapped, Dogmatic, Compulsive, Uptight	Anxiety, Self-Punishment, Broken Power, Hate, Low self-worth, Obsessed	Loneliness, Acute Grief, Humiliated, Trapped, Inhibited, Lack Joy Greed, Not lovable						
Duodenum Middle Ear, Shoulder Elbow, CNS S-I joint, foot, toes	Sinus: Maxillary Oropharynx, Larynx	Sinus: Paranasal and Ethmoid Bronchus, Nose	Sinus: Sphenoid Palatine Tonsil Hp, Eye, Knee	Sinus: Frontal Pharyngeal Tonsil Genito-Urinary System	Sinus: Frontal Pharyngeal Tonsil Genito-Urinary System	Sinus: Sphenoid Palatine Tonsil Hp, Eye, Knee	Sinus: Paranasal and Ethmoid Bronchus, Nose	Sinus: Maxillary Oropharynx Larynx	Ileum, Jejunum Middle Ear, Shoulder Elbow, CNS S-I joint, foot, toes						
Heart, Small Int., Circulation/Sex, Endocrine	Pancreas Stomach	Lung Large Intestine	Liver Gallbladder	Kidney Bladder	Kidney Bladder	Liver Gallbladder	Lung Large Intestine	Stomach Spleen	Heart, Small Int., Circulation/Sex, Endocrine						
															
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
															
Heart, Small Int., Circulation/Sex, Endocrine	Lung Large Intestine	Pancreas Stomach	Liver Gallbladder	Kidney Bladder	Kidney Bladder	Liver Gallbladder	Spleen Stomach	Lung Large Intestine	Heart, Small Int., Circulation/Sex, Endocrine						
Shoulder, Elbow Ileum, Middle Ear Peripheral Nerves S-I joint, foot, toes	Sinus: Paranasal and Ethmoid, Bronchus, Nose	Sinus: Maxillary Larynx, Lymph, Oropharynx Knee	Sinus: Sphenoid Palatine Tonsil Hp, Eye Knee	Sinus: Frontal Ear, Pharyngeal Tonsil Genito-Urinary System	Sinus: Frontal Ear, Pharyngeal Tonsil Genito-Urinary System	Sinus: Sphenoid Palatine Tonsil Hp, Eye Knee	Sinus: Maxillary Larynx, Lymph, Oropharynx Knee	Sinus: Paranasal and Ethmoid, Bronchus, Nose	Shoulder, Elbow Ileum, Jejunum, Middle Ear Peripheral Nerves S-I joint, foot, toes						
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Acumeridian Tooth-Organ Relationships [with Autonomic/Neuropeptide Emotion correlations]

Abridged, from various sources – credits on website. Dr. Ralph Wilson www.NaturalWorldHealing.com

Figure 2: Organ and Bowel correlations of the Odontons [22].

Materials (3): Present concept of “odontone”

Nowadays, the importance of appropriate dental hygiene and health is highlighted. Moreover, many instruments used today in dentistry can modify the biology of live tissue.

Voll used the term odontone to refer to a true morphophysiological unit established in the correlation teeth-organs [4] (See figure 4). It comprises: tooth, gum, connective tissue, alveolar bone, vascular-nervous dental structure (artery, vein and nerve), and its lymphatic vessel (See figure 3). This unit is part of Pischinger’s basic system and it works as a whole. Therefore, any disorder in an odontone may affect every system in our organism [16] (See figure 4). The severity of the damage will depend on the patient’s strength. Sometimes, the least serious disorder may unleash severe diseases and vice versa. Even unpredictable emotional disorders may disturb the balance of the system and unleash different disorders that are difficult to heal [22].

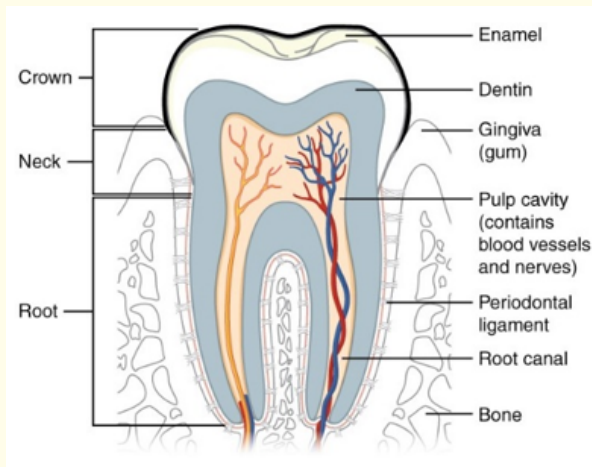


Figure 3: An Odontone [23] Source: <https://courses.lumenlearning.com/suny-ap2/chapter/the-mouth-pharynx-and-esophagus/>.

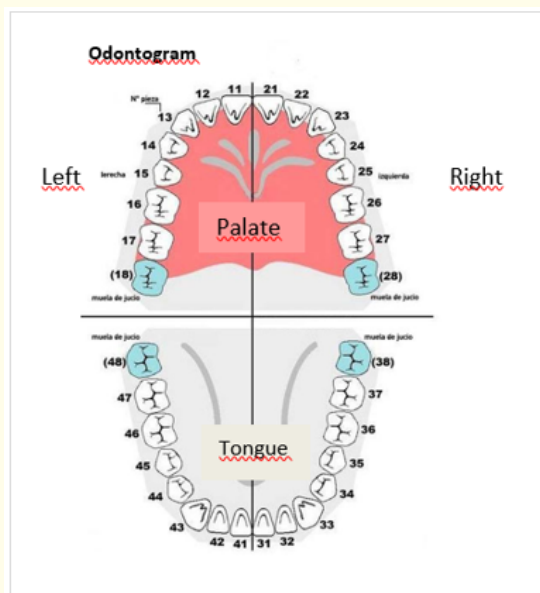


Figure 4: Odontogram [24].

According to Voll, Angerer and Sollmann, the energetic correlation of the nose, the paranasal sinuses and the oropharynx and the odontogenic system is of extreme value, as their mucous membrane is the most important defense barrier in our body [4,25]. Their lymphatic drainage towards the tonsils and the Waldeyer ring is key in the coordination of the “immunologic status” of a person (See figure 5).

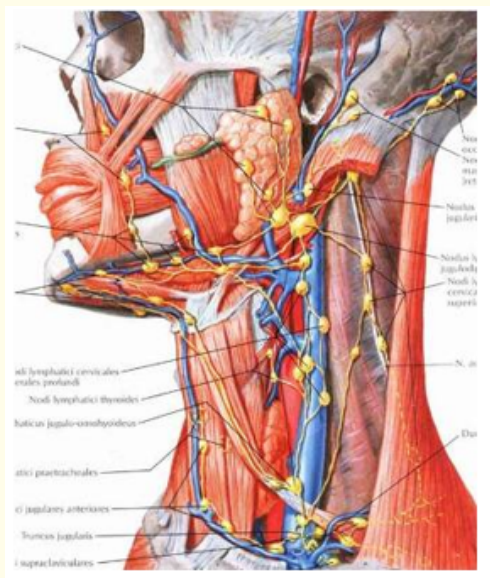


Figure 5: Waldeyer ring and lymphatic drainage of the oropharynx [26].

Odontons and the five elements in Chinese medicine

Odontons, according to Voll and Kramer’s evaluation - also have a close relationship with the Five Elements in Traditional Chinese Medicine. According to Mastalier, such regions have the following anatomic and functional correspondences [25,26]:

Frontal sinuses and pharyngeal tonsils are related to the upper and lower area of the incisor teeth, connected with the Kidneys and the Urinary Bladder (odontons 1 and 2).

The nose and paranasal sinuses, and the ethmoidal sinuses, are connected with the Lung and the Large Intestine (upper premolar teeth - lower mandibular odontons 6 and 7 and upper mandibular odontons 4 and 5).

The sphenoid sinuses and palatine tonsils are functionally related to the Liver-Gallbladder circuit (odontons 1 to 3) (See figure 6a and 6b).

The oropharynx, along with the maxillary sinuses and the larynx, are energetically related to lower maxillary odontons 6 and 7 and upper mandibular odontons 4 and 5, and they therefore belong to the functional relation Pi-Wei (Stomach-Spleen) of Chinese Medicine.

The energetic correlations of the eight odontone are: the heart, the small intestine, the endocrine system, the psyche and, through its correlation with the ear, with the kidney and the adrenal glands, according to Beisch [7,25,26] (See figure 7).

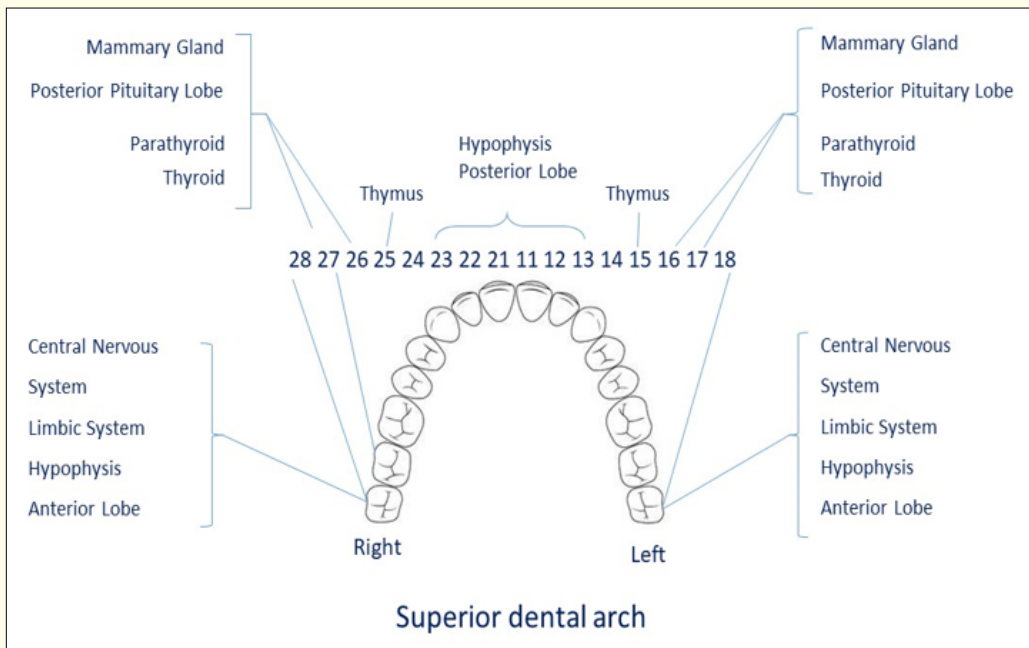


Figure 6a: Odontons: Superior dental arch.

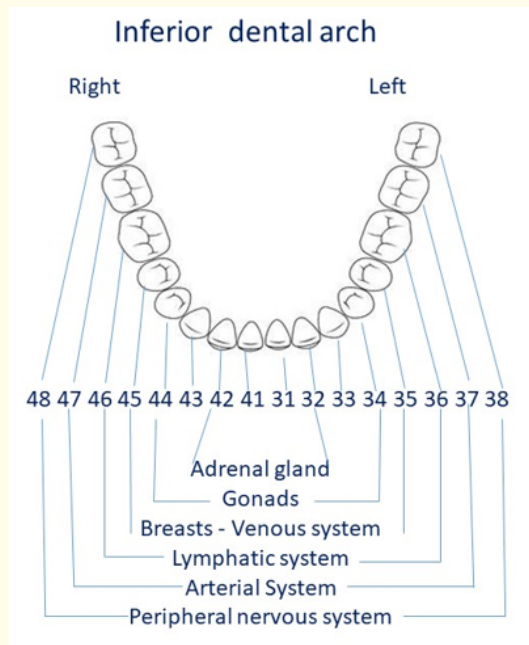


Figure 6b: Odontons: Inferior dental arch.

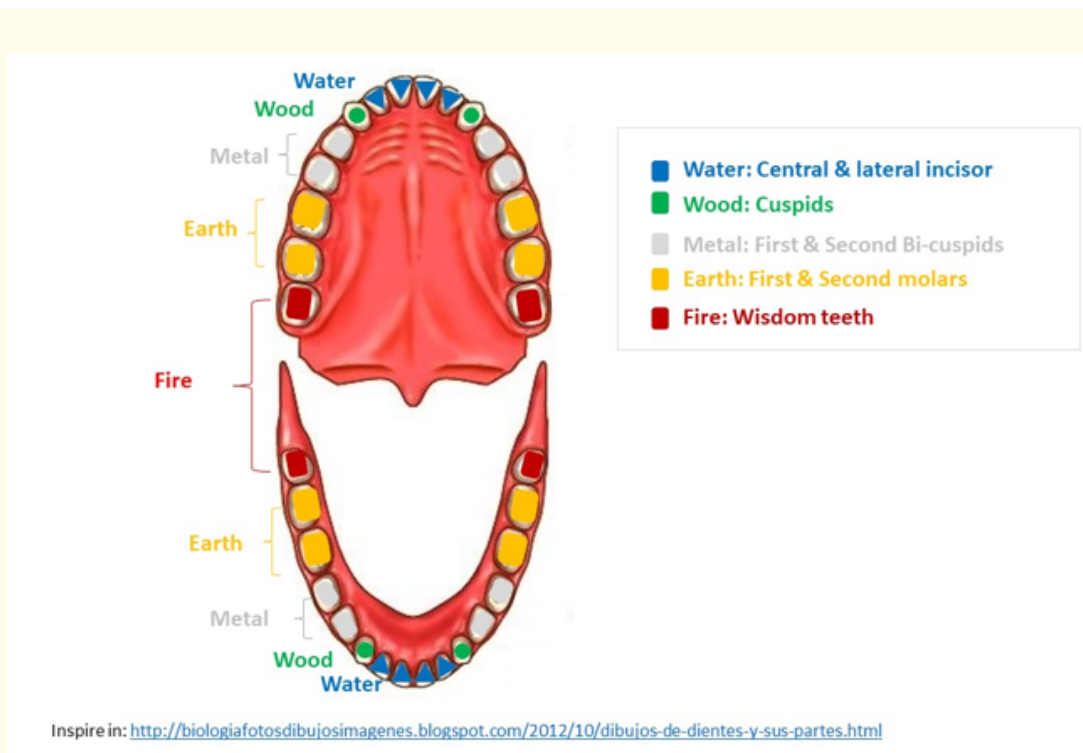


Figure 7: Correspondence of dentary pieces and the Five Elements of Chinese Medicine (drawing of the author).

According to Traditional Chinese Medicine (TCM), the nose is related to the Metal element and is the “door to Fei” (Lung). The Lungs, apart from initiating the circadian circle of energy, are the ones that govern the body Qi. The mouth and the oropharynx, along with the lips, govern the Spleen-Stomach (Pi-Wei) Qi, while the lymphatic region of the ear canal and the nasopharynx belongs to the Lung and Large Intestine circuit.

When inhaling Heaven Qi, or Tien Chi, and combining it with the essence of food arisen through the Pi-Wei, Gu Chi, Zheng Chi or “True Chi” is produced: the basis of the Later Heaven. When dispelled in a descending way, it protects the body surface - Wei Qi - from the invasion of external pathogens (Evil Energies) [8]. Therefore, environmental noxae and exogenous pathogens with their own antigens and homotoxic substances find their natural entrance through the nostrils [26].

As it governs the tegument metabolism, it also regulates the skin physiology through the convection, evaporation and sweating of the body fluids (Jin Ye). Thus, upon the loss of functional control of the pores, there will be heavy sweating, due to a Void (Xu) which will bring about an ostensible weakening of Wei Qi, which will damage the organism due to a systemic immunodeficiency. In this way, it is possible for us to understand the close relationship between Fei (Lung) and Shen (Kidney) - Water is the child of Metal -, which is essential for the sequence of the body energetic recycling to be fulfilled, according to the Five Element Theory [8,26].

Method: Analysis of the relationship between Chinese and Euclidian geometry

The fact that the Elements or “Phases” the sage Zou Yen 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 [8].

There is certain knowledge regarding the birth dates of both of these wise men. Oddly enough, they were both born on very close dates: between the years 305 to 330 BC. As they were contemporary, they may have found out - even in a remote way - about the other one's research and they may have shared their knowledge [8].

But there is not only a chronological coincidence in Universal History between them both. Prima fascie, it may seem as if Zou Yen 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. 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, to solve several propositions of his "Elements", the paradigmatic Pythagorean Theorem and Mesopotamian mathematical problems that had been unsolved for millennia [27].

EL 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" [28]. 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 could 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 8).

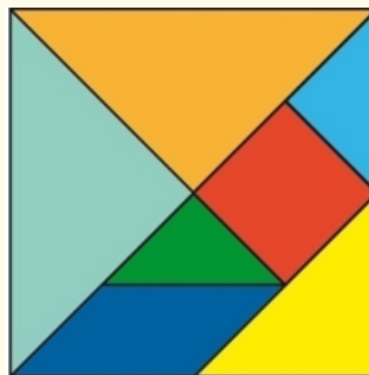


Figure 8: Chinese Tangram [29].

We do not know for sure whether Greek mathematicians developed it separately, as 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 Pla i 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 [28]. Archimedes had also described it as Stomachion by the third century BC.

What is even odder is that Euclid himself used this basic tool in his geometry to calculate the Golden Ratio, to prove with great expertise the Pythagorean Theorem and to construct the Regular Pentagon - from which the Pythagorean Star is made, as it is constructed by drawing the pentagon's diagonals - and the Dodecahedron [28] (See figures 9-11).

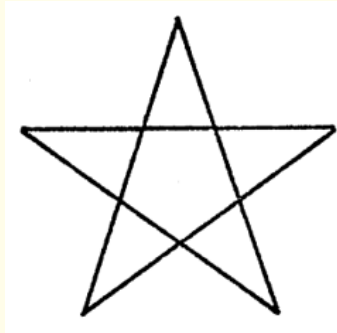


Figure 9: Pythagorean Star [30].

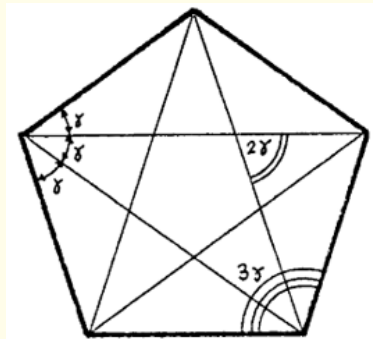


Figure 10: Regular Pentagon [31].

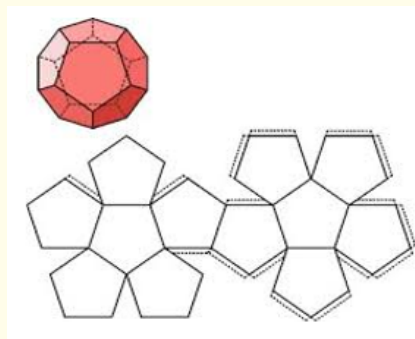


Figure 11: Dodecahedron [32].

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”: 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 [33] in Botany and Zoology, which has given place to the continuity of the metamorphosis of these “similarity fields”, enabling thus their proper integration. 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” [34]. Maturana then referred to the word prediction, that is, something that reveals to observers what they are expecting to happen [34]. Maybe we can find a correlation to what Sagan and Schneider explained regarding 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...” [35].

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” [36].

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 gradients [37].

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” [38].

The enigma of number five in chinese medicine and philosophy

“Every existence has substance... every contingency has a cause”

Immanuel Kant [39].

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, number five represents movement. This agrees with what is stated in Chapter 61 of the Ling Shu, in which Siao Seu expresses that: “The Cosmos has a correspondence with number five, so there is not only one kind of Yin and Yang, but five different types. They are called Yin and Yang only to simplify the concept. The five types of Yin and Yang are: Tae Yin, Chao Yin, Tae Yang, Chao Yang and the balanced Yin and Yang” [40].

In turn, these Five Elements are influenced by their corresponding planets, which govern cosmic energy. For example: - 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 [41]. According to

Dr Liu Dong, the orbital path of the planets also governed the Five Major Events that worried China at that time: - the Yellow Emperor - the army - the imperial court - natural catastrophes - housing construction [41].

Regarding 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 colours and Five cardinal points (of which one is the center)” [42].

Another reference of the Ling Shu to take 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:

“Hoang Ti: “Tell me about the origin of the Five Organs, the bowels and their meridians”.

Khi Pa: “Each of the Five Organs has Five relevant points: Tsing, Long, Lu, King and Ho, in each of the meridians, which makes up 21 relevant points... this must be understood well and such points must not be considered isolated elements but part of a Whole”.

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” [43].

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 follow the Tao attentively will have a long life” [42].

Then, in the following chapter, Khi Pa - personal physician of 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” [43].

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 [44].

In chapter 23 of the Nei King Su Wen titled: “On the Energy of the Five Viscera” direct reference is made towards the direct influence of number Five in Chinese medicine. For 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 Aversion 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").

Five things to avoid with the Five Tastes: Should there be an Energy disease, the acrid taste must be avoided; in case of Blood diseases, the salty flavor must be avoided; in case of Bone diseases, sour food should not be consumed; sweets must be avoided in case of flesh diseases and patients with diseases in their tendons should avoid acid food.

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 Five Types of Harmful Tiredness: The extended use of sight affects the blood; lying down for a long time affects energy; sitting down for a long period of time affects the flesh; standing for a long time affects the bones and walking without any rest will affect the tendons.

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 [45].

Theosophical mystics thought the same as the Chinese, and also attributed the Fifth Element to the human being; from a not so different point of view: "The Fifth Order is really mysterious, as it is related to the Microcosmic Pentagon - the five-point star - which represents the human being..."; "...in Egypt, the symbol displayed on headstones is the pentagon or the star of the five points, which represent the parts of the body..."; "it was also called the Wisdom Dragon...the Human Soul or Intelligence Principle..." [46].

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 expressed regarding the 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"

Pai-chang (720-814AD) [47].

It is hard to believe that there should be that many coincidences related to the Five Elements... If we wished to go beyond, we would have to consider the fundamental particles, which are the basic pillars of Nature, organized in a never-ending and increasingly smaller

hierarchy, to sustain the space-time structure. Nowadays, the Five Families of Fundamental Particles that can be seen in the tiniest end of matter are grouped together in Fermions and Bosons, each of them with their own Leptons and Quarks... [48].

Could the Chinese already know about the existence of the internal structure of the Five Elements so as to be able to explain the specific order of the features of atoms? Or did they only take into account the Void in whose heart 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: “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” [49].

Results

According to a thorough biostatistic analysis carried out by DMD Tsukamoto, performed on 171 cases of patients from Colonia Urquiza, the following systemic alterations were found, which were related to tooth decay, loss or presence of dental restoration related to the direct affection of the Five Elements: Teeth under the influence of the Wood Element [13-43]:

- Liver
- Gallbladder: 45 cases
- Sphenoid sinus
- Neurohypophysis
- Eye: 1 (glaucoma).

Out of the 45 patients with gallbladder pathologies, only 12 of them have some of their 4 canine teeth compromised (See figure 12).

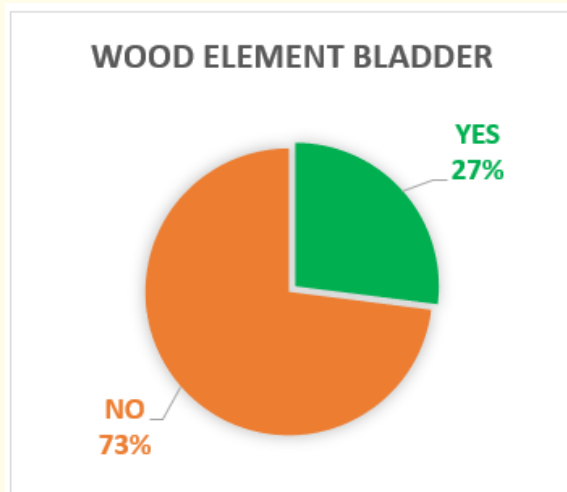


Figure 12: Wood: Percentages of dentary affection.

The only patient with glaucoma has 3 of his 4 canine teeth compromised.

According to the principles of Neurofocal Dentistry, the 46 cases under the influence of the Wood Element should have their 184 pieces compromised, but only 33 canine teeth are affected, which means there is only 17.9% tooth-element coincidence rate (See figure 13).

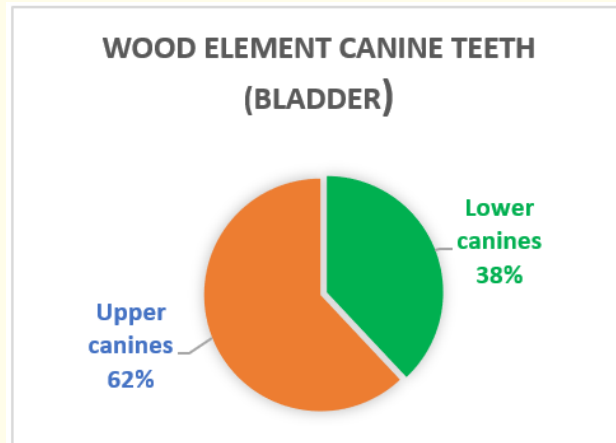


Figure 13: Dentary affection (Gallbladder).

Dentary pieces governed by the Fire Element [18-48]:

- Heart: 40 (hypertension, tachycardia, arrhythmia, heart failure and cardiac arrest)
- Small Intestine: 1 (celiac disease)
- Cavernous sinus
- Adenohypophysis
- Inner ear

39 out of the 40 cases of patients with heart problems are related to the third molar. The only patient with celiac disease has half of her third molars compromised (See figure 14).

Therefore, of 164 third molars in 41 patients, only 126 were compromised. Therefore, the relation element-dentary piece is 76.8% (See figure 15).

- Dentary pieces involved in the Earth Element [16-47]:
- Stomach: 7 (gastritis, ulcer)
- Spleen-Pancreas: 13 (diabetes)
- Maxillary sinus
- Thyroid: 10 (hypothyroidism)
- Parathyroid
- Breasts: 5 (nodes)
- Gonads: 3 (ovarian cyst)

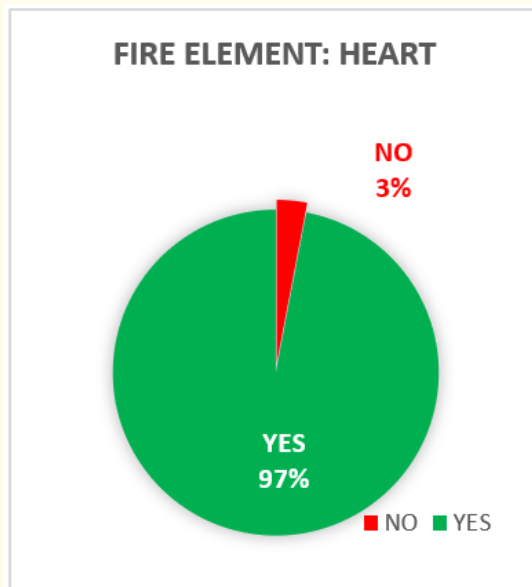


Figure 14: Fire: dentary affection (percentage).

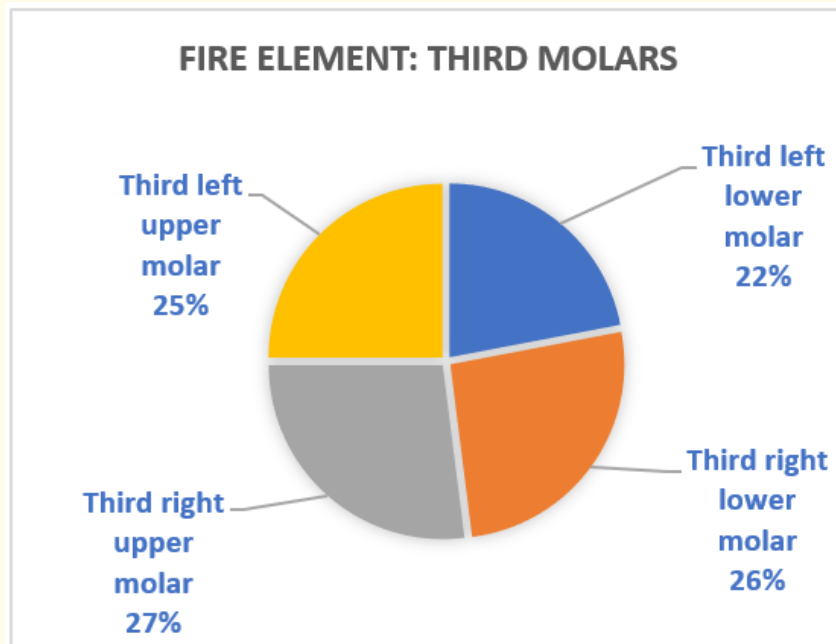


Figure 15: Dentary damage in the fire element.

38 patients were affected under the influence of the Earth element. Of the 304 dentary pieces that should have been compromised, only 214 were affected, which represents a 70.4% teeth-element coincidence rate (See figures 16-25).

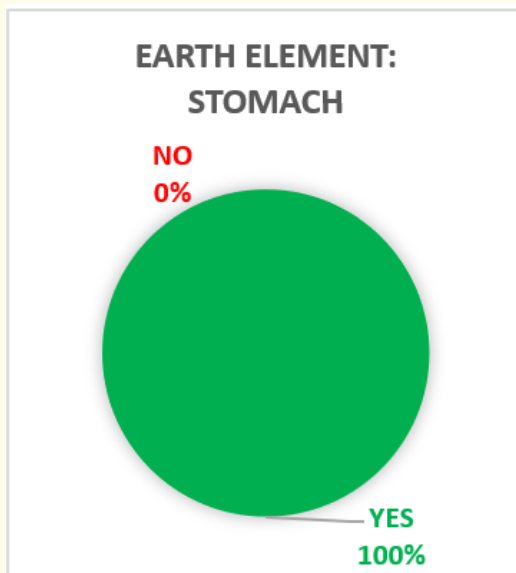


Figure 16: Earth: Gastric affection (percentages).

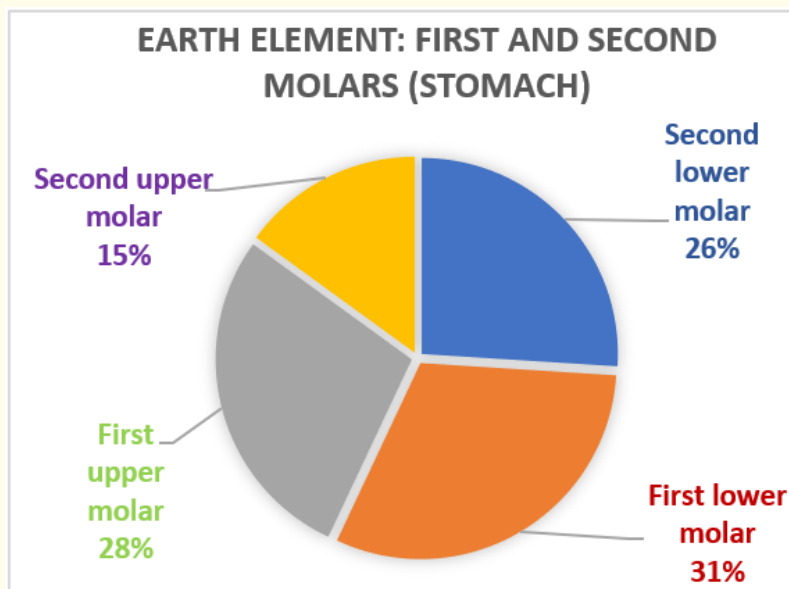


Figure 17: Earth: dentary damage (Stomach).

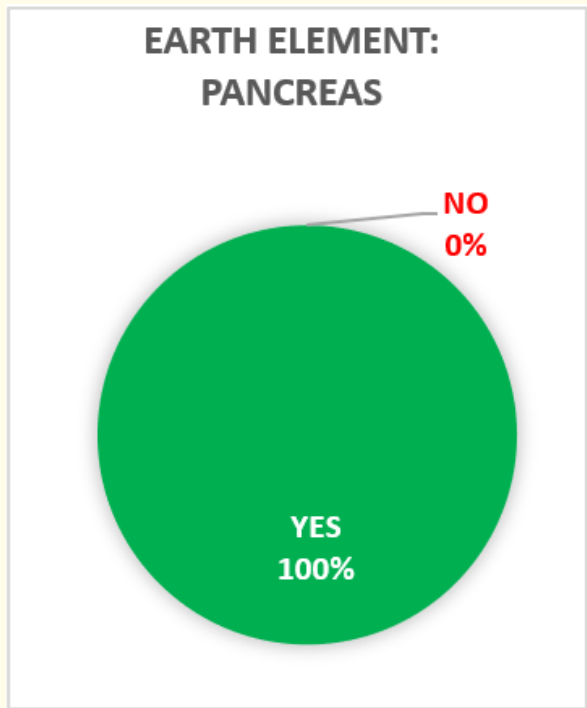


Figure 18: Earth: affection in the pancreas (percentage).

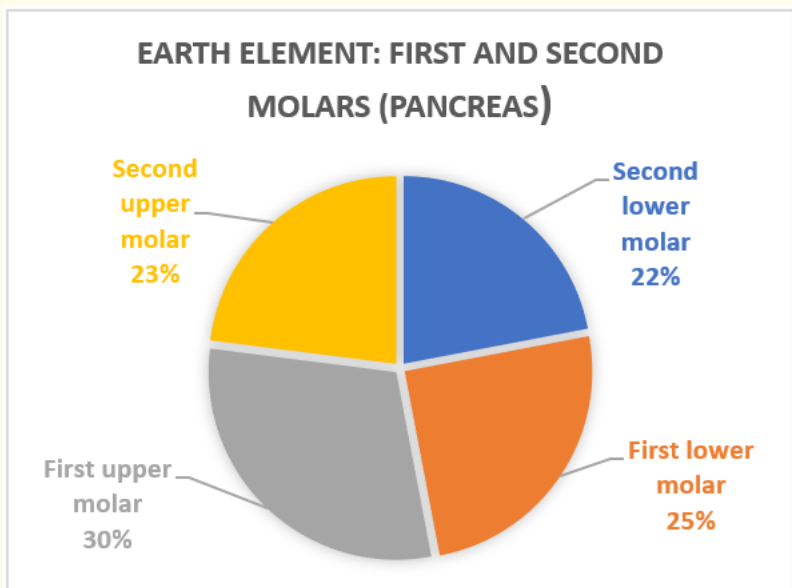


Figure 19: Earth: dentary damage (Spleen-Pancreas).

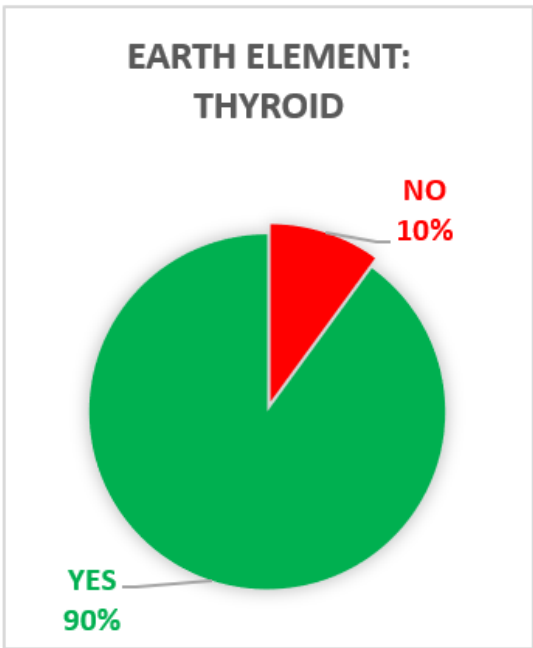


Figure 20: Earth: thyroid affection.

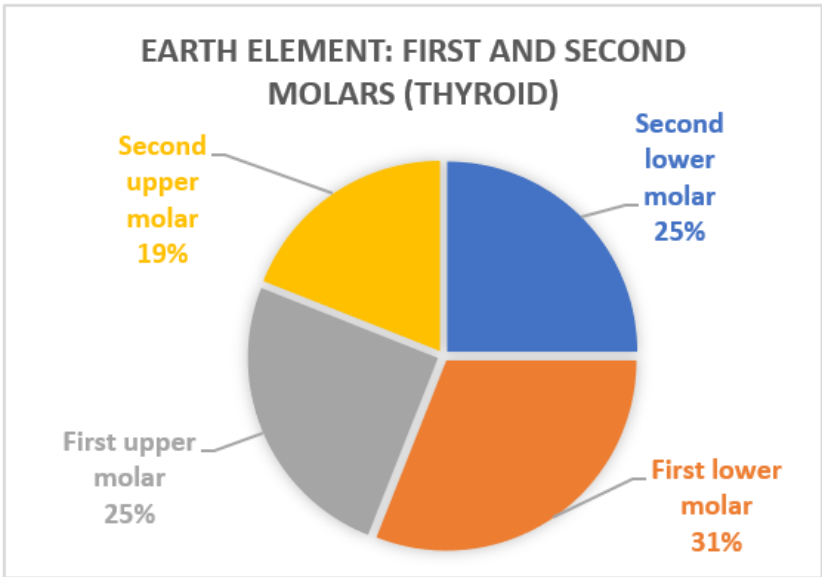


Figure 21: Earth: dentary damage (Thyroid).

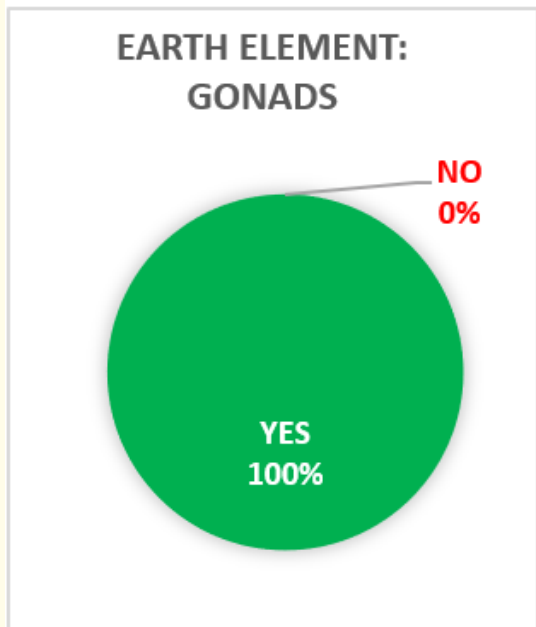


Figure 22: Earth: affected gonads.

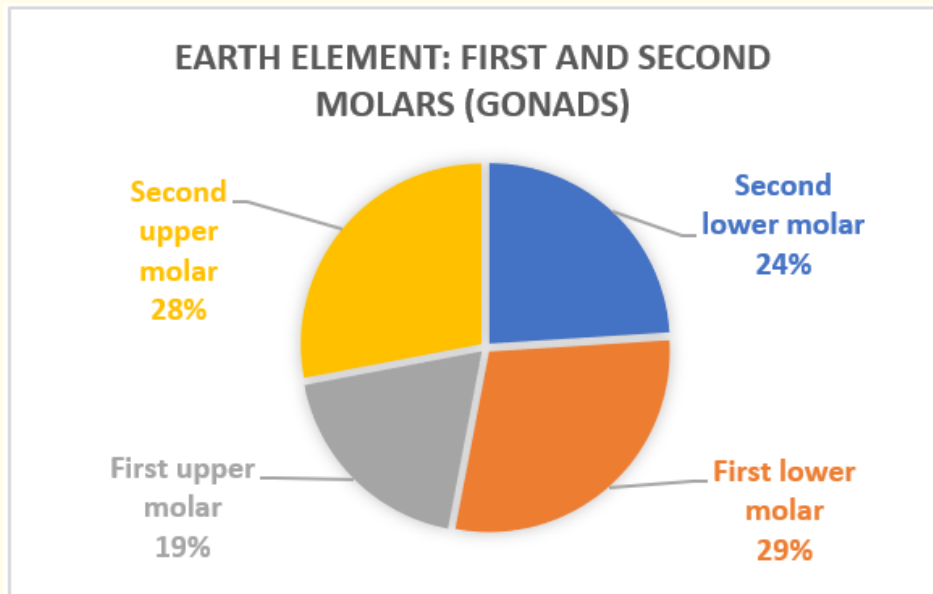


Figure 23: Earth: dentary damage (Gonads).

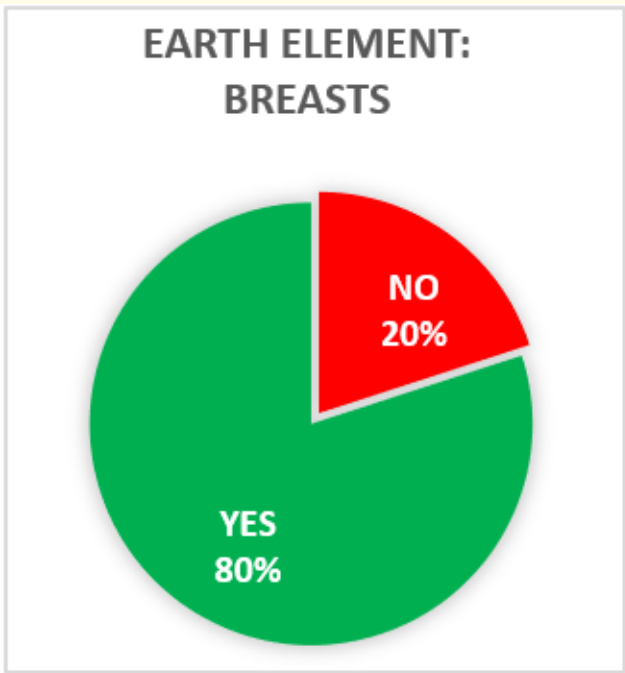


Figure 24: Earth: breast affection.

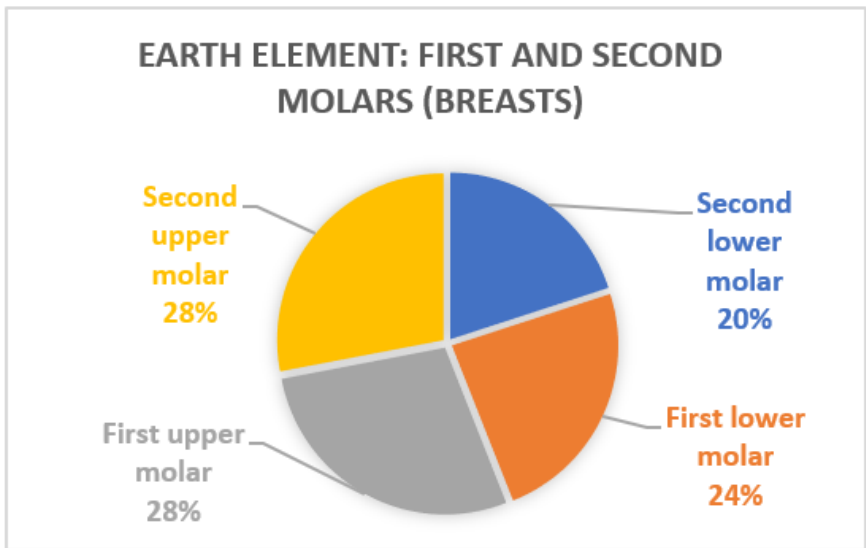


Figure 25: Earth: dentary damage (Breasts).

Dentary pieces referred to the Metal Element [14-44]:

- Lung: 4 (asthma)
- Large Intestine: 1 (colorectal cancer)
- Paranasal sinuses: 2 (sinusitis)
- Hypophysis
- Arteries
- Veins: 1 (varicose veins)
- Thymus

We have studied few patients under the influence of the Metal element. Nevertheless, of the 64 pieces that should have been compromised, only 45 were affected, which represents an Element-tooth relation of 70.3% (See figure 26 and 27).

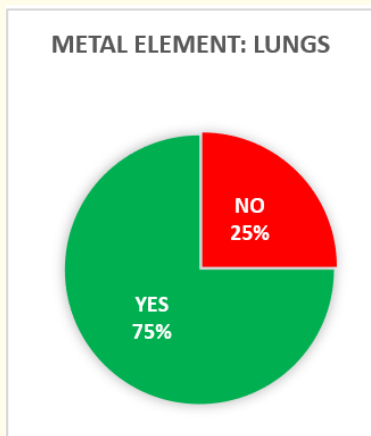


Figure 26: Metal: percentage of affection.

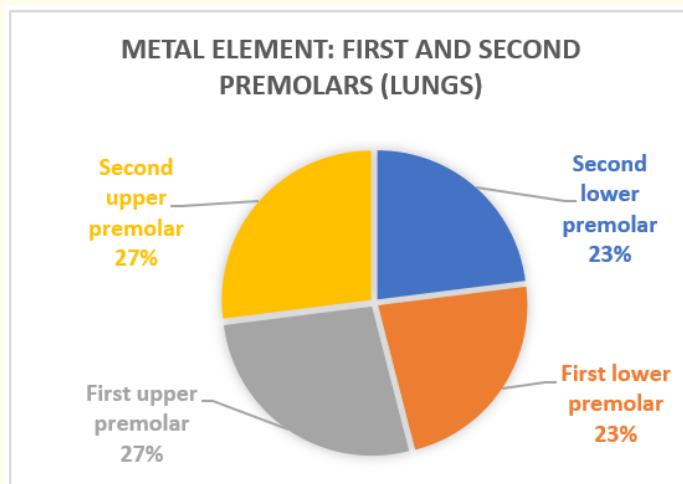


Figure 27: Metal: dentary damage (Lung).

Last, we have the dentary pieces governed by the Water Element [11-42]:

- Kidney: 1 (infection)
- Urinary Bladder
- Prostate: 1
- Epiphysis
- Middle ear
- Adrenal glands

Of the 2 cases among 171 patients, 4 incisors were compromised, which represents 25% of the reciprocal relation of odontons and their Element, according to Neurofocal Dentistry.

Discussion

Taking into account which functional circuit of a specific odontone is affected by a certain disease and its energetic correlation, is of utter diagnostic importance. The diseases in the nasal cavity, paranasal sinuses and the oral and pharyngeal cavity should always be assessed from the holistic, interdisciplinary point of view and that of the TCM. Nevertheless, claiming the multiple diagnosis of focuses and interference fields to be a standard diagnostic prediction seems to be - according to the comparative analysis of the results obtained - a matter somehow wrong. We agree with Mastalier on that Traditional Chinese Medicine has accurate meta-models of therapy that have proven to be efficient along centuries, together with their corresponding combinations of therapeutic points, to obtain a multimodal treatment with no side effects [26].

Functional analogies represent such similarities that allow for the organization of concepts under one specific condition. Even if an isolated similarity is not enough to consider a cause, a field of similarities may be considered, as that knowledge that may be subjected to comparisons that may show convergent or divergent results [50]. I believe that this is what the ancient Chinese did with their knowledge. When essential similarities are found, such knowledge is called homology: that is, a series of characteristics that are limited to a specific model, whose interdependence transmits them a specific hierarchy. In other words, it is not always possible to extrapolate certain parallelisms that may “force” the efficiency found in the meticulous diagnostic sequence of the classic Chinese syndromes, which involve clear criteria of governing Organ, State and Vessel affected, to reach a correct and efficient treatment.

The interaction of the oronasal cavity and the paranasal sinuses with the organs and the tislular systems account for numerous disfunctions owed to interference fields. That is why they are especially recognized in the specific diagnosis and holistic treatment. However, there is a gap between the theoretical propositions that try to justify Neurofocal Therapy and the diagnostic accuracy of Chinese Medicine, which has surprised us for 48 centuries. Clearly, the extrapolation arguments that gave birth to this modality of diagnostic and therapeutic approach in dentistry have not been able to become aligned with the principles of the Ancient Chinese Classics.

With respect to metals, as they are made up of different alloys, their use favours the release of ions and corrosion [51], due to the difference of electric potentials among them. Amalgams with mercury allow for the appearance of vital enzyme blockages, as it is a well-known cellular toxin, due to its linkage to the sulfide groups of proteins [10]. Their accumulation in organs of intense metabolic activity such as the liver, kidney, the spleen or the brain implies its slow elimination: their average lifespan in the brain is of 18 years, and there have been reported cases of chronic poisoning.

The use of metals that cross the palatine line is not advisable for some patients. Nor is the use of prosthesis with metallic reinforcements. We have already seen the correlations between odontons and Traditional Chinese Medicine, and we may conclude that, even though in practice it may not seem to completely replicate the accurate diagnosis attributed to this modern conception in odontology, it is advisable

to stick to certain guidelines when prescribing certain therapeutic practices. For example, patients with renal problems should not be put implants in their upper or lower incisors. In case of infertility or hepatic disorders, they should not have implants in their upper canines. And patients with gastric problems should not be overburdened with implants in their first upper molars or in lower premolars [22].

When we ask such important experts as Y. Osorio about the extensive assessment of oral fields of interference, their response is somewhat laconic: “it depends” and “sometimes”, as she states that the metals used in the oral cavity are compounds of different alloys [10]. Making such assertion is like saying “it sometimes happens and it sometimes doesn’t...” I don’t think that Dr Adler believed that every psycho-organic pathology should only be subsumed to interference fields. Adler thought it was a mistake “not to take them into account” [22] as it is well-known - both in orthodontics and endodontics - that the forces created bring about changes in the electric potentials of some organs, which appear in different ways in different patients [52], as has been proved on several occasions during sessions of electro measurements with the dermatron.

We believe Yoseth Osorio Díaz’s suggestion would be appropriate when she states that: “a wise behaviour would be deciding in a sensible manner on what kinds of patients and when it would be essential to prescribe orthodontic treatment or implants” [10].

Conclusion

After the objective analysis of the valuable information provided by DMD Alicia Tsukamoto, we can see the highest percentage of cases in which the relation tooth-Element is affected, and believe that the Element that is more involved is Wood, which was 35%, followed by the Fire element, 30%, Earth, 28%, Metal, 6% and, last, the Water Element, which was only 2%.

The relative assessment provided by DMD Alicia Tsukamoto is really interesting, as we can see that, taking into account the Element and the affected dentary piece/s - and considering also that the Earth, Water and Metal Elements involve 8 pieces of the dental arch while Wood and Fire only involve 4 pieces (canines and third molars respectively) - the Earth Element involved 51% of all the pieces, the Fire Element, 30%, Metal, 10%, Wood only 8% and last Water, 1% (see figure 28).

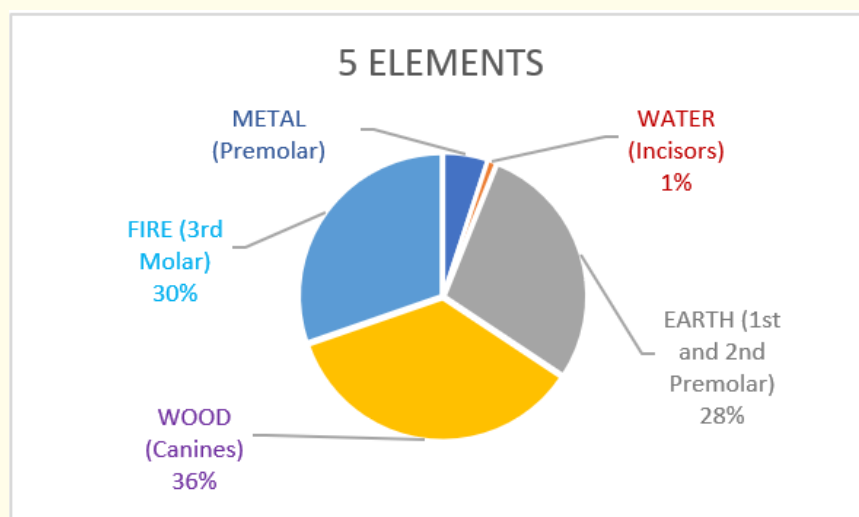


Figure 28: Percentage of tooth damage according to the Five Elements.

When analyzing all the dentary pieces that should be involved according to each Element and the number of cases, with respect to the Wood Element, of 184 canines (46 patients), only 33 were decayed caries, lost or restored, which represents a coincidence rate of diagnosis of 17.9%. In the case of the relation between the dentary piece governed by the Fire Element, (41 patients), said coincidence rate 76.8%. In dentary pieces governed by Earth (38 patients) the diagnosis coincides in 70.4% of the affected dentary pieces. In the case of the Metal Element, (8 patients) the diagnostic correlation “Element/odontone” is 70.3% and in the Water Element (2 patients), it is only 25% (See figure 29).

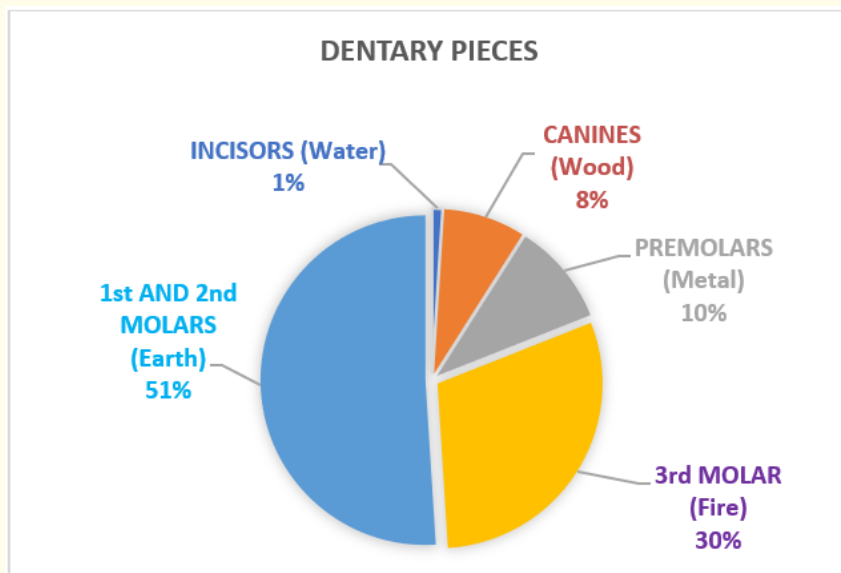


Figure 29: Percentage of relative affection according to DMD Alicia Ester Tsukamoto.

Therefore, it may be said that there is a “non-complete” diagnostic relation between the dentary damage and the systemic affection (that is, usually coincident with their Element) in incisors and canines. Nevertheless, the other damages may be more related at a general level but, as they are pieces which are more commonly affected (with a wider surface of plaque accumulation) they will always be prone to suffering from caries and/or a periodontal disease.

It is worth explaining that the author - even though the published percentages were subjected to more accurate statistical tests (Fisher’s test - P significance - Bessel’s correction) - decided not to publish the obtained results, as the data showed an impaired diagnostic accuracy of Neurofocal Odontology. Said situation may result from the bias in the variability seen in relative percentages according to the dentary pieces involved or the Element considered, wisely identified by DMD Tsukamoto.

Both “bodies of knowledges” -the Five Element Theory and the Yin/Yang -provided sufficient validations to be considered Laws. As if specifically analyzing Traditional Chinese Medicine, Riedl provides, in his “Biology of Knowledge”, a valid argument regarding its continuation along millennia. As every concept hierarchy derives from a governing principle, then...

“... a system of principles creates a hierarchy of hypotheses that control one another (the idea in bold is mine), which carries inside the greatest possibilities, close to certainty, of possible predictions” [53].

To Chinese Medicine, this system of laws has constituted a “body of assumptions” which has provided it - along time - with amazing accuracy, efficient to process expectations and arguments to affirm or reject its judgments. Maybe that is why it has been able to integrate itself into present knowledge, contributing its peculiar way of contemplating the surrounding world, the reciprocal relationships of its conditions and causal connections. A wonderfully easy way of processing, balancing and selecting data to support and orient our knowledge, in this complex world of non-linear systems in their cause-effect chains [54].

Luckily, this argument - so close in time to the development of the aforementioned Chinese theories - allows us to assert that its accurate demonstration not only supports its intrinsic mathematic comprehension, but it also enables us to consider Traditional Chinese Medicine not just a group of lessons based on metaphors and legends that are part of an empirical or pre-scientific tradition, but an organized multi-parametric knowledge, supported in Geometry: the oldest exact science.

The same happened when considering the methodologic approach resulting from comparing Euclid’s Five Regular Polyhedrons and the Five Phases of Traditional Chinese Medicine. The similarities among them - as we have been stating - structure the model into defined subgroups [55], which support the practical application of said categorization. Maybe this explanation clears up the practical sense it had in the East to categorize experiences by means of a classification order governed by laws. Only its proper interpretation will make us achieve the expected results. It seems clear that certain adaptations to such criteria lack a bias that diverts the accurate propaedeutic path trying to generalize governing principles from the particular to the general, that is, from the teeth to the whole body.

In their millennial practice, the Chinese ended up defining a general principle, when a certain phenomenon is confirmed a number of times, it will then become a Law because: “...it allows for, in the case of specific qualities of its group or type of objects and processes, the elaboration of predictions. And only this has practical importance” [53].

The objective meaning of the results achieved leads us to look for higher diagnostic accuracy considering the theory of the odontons. Maybe its conceptual essence should not only arise from an analytical perspective of particular assertive retrospections but from a true integration to the body of diagnostic principles of the classic syndromes which, from the beginning have marked the surprising art of Chinese Medicine.

Nevertheless - and in agreement with all the quoted authors - we believe that, removing the greatest quantity interfering fields which overburden the oral cavity and may affect a person’s health involves an interdisciplinary perspective based on the creation of team treatments, avoiding conducts that may progressively dissociate the harmonious wellbeing of a person.

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