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Chapter

Acupuncture, Yoga, Homeopathy, and Apitherapy under the Vibrational Point of View

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Abstract

Albert Einstein was one of the greatest physicists in recent history and his contributions changed the paradigm of science in the 20th century. From this, it was proposed the understanding that all matter is energy, and we can assume the understanding that the human body is a dynamic energy system. Energy and matter are two different manifestations of the same universal substance from which we are all formed, atoms. It is known that the movement between the constituent parts of the atom (electrons, neutrons, protons and smaller particles) and the forces that connect them, generates energy. Since the atoms are in constant movement, what can be measured is vibration. Therefore, in this chapter, we propose to present some millenary therapies like acupuncture, yoga, apitherapy and, more recently, Homeopathy, under the point of view of vibrational integrative therapies, exploring the hypothesis that through these therapies we can adapt the waves generated in the bodies to transform them into personalized therapeutic agents.

Keywords: acupuncture, yoga, homeopathy, apitherapy, vibrational medicine

1. Introduction

In 1948, the World Health Organization (WHO) defined health as 'a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity'. WHO supports the idea about the integration of conventional and complementary practices to reach the best results for the patient and society [1] Traditional, Integrative, and Complementary Medicine practices are being adopted in several countries' members of WHO. Acupuncture was the most common form of practice, closely followed by herbal medicines and indigenous traditional medicine. Homeopathy and traditional Chinese medicine came in next, each used by 100 Member States [2].

In 2006, Brazil the Health Ministry launched the National Policy of Integrative and Complementary Practices (PNPIC, MS ruling no. 971/2006) [3] with ensures to the population partial access to Complementary and Alternative Medicine. Under PNPIC, patients are provided with traditional Chinese medicine/acupuncture, homeopathy, botanicals, and herbal medicine cares free-of-charge, among others at Health Basic Units (HBU) and Family Health Support Units (NASF). Yoga was included in 2017 [4], and finally, apitherapy with the other 9 practices was included

in 2018 [5]. According to the Health Ministry from Brazil, in 2019, 1,4 million of individual queries were done in these practices, with acupuncture in the leadership. Integrative practices are present in 9350 services and 3173 cities, from this 88% of the public health care system.

Considered the last frontier to be crossed in Hippocratic medicine, vibrational medicine aims to shed light on the understanding of the bodily system in its most subtle aspect of energy transference and systemic functioning regarding the physical-etheric interface of bodies. The Cartesian and mechanistic division of science and the world of the 20th century, which undoubtedly drove the great technological advance that the world finds today, as postulated by Einstein, Heisenberg, and colleagues, overcame this Newtonian fragmentation and led us back to the idea of unity, expressed in ancient Greece and Eastern philosophies [6].

Albert Einstein was one of the greatest physicists in recent history and, from him, there was the recognition that all matter is energy, and one can assume the understanding that the human body is a dynamic energy system. Energy and matter are two different manifestations of the same universal substance from which we are all formed, atoms. It is known that the movement between the constituent parts of the atom (electrons, neutrons, protons and smaller particles) forces that lead them, to generate energy. As the atoms are in constant motion, what can be measured is vibration. Each atom is unique because the distribution of positive and negative charges, combined with the speed of rotation, creates a specific vibration and a personalized frequency pattern [7]. The biophysical aspects of some therapies such as acupuncture, yoga, homeopathy among others, in general, are not many in publications in the area, due to the limited instrumental validation available.

The electromagnetic force is the fundamental reason for life. Atoms are sets of electrons and protons, molecules are sets of atoms, biopolymers are groups of macromolecules, and in the same way, life is an interactive congregation of biopolymers and macromolecules. The living being can then be considered an electromagnetic entity, which responds to a given electric or magnetic signal, as an expected result based on the laws of physics. Experiments have shown a level of electromagnetic organization in living organisms; intrinsic electrical characteristics and their sensitivity to external electromagnetic fields [8]. In this way, the human body can be considered a "resonance box", capable of responding to various sources of stimuli (mechanical, sound, light, olfactory and tactile). Thus, everything that acts in its electromagnetic field or that comes into contact in the form of vibration in its physiological ensemble is liable to mobilize and be transformed into energy. It is from understanding the connection between the subatomic universe and physiology that we can understand how acupuncture, yoga, homeopathy, and why not apitherapy, that are capable of triggering various biochemical activities already mapped by science with their purely vibrational aspect. Considering the importance of the integrative and complementary medicine for health and aiming to contribute to the data already available in the scientific literature, this chapter aims to present some concepts about acupuncture, yoga, homeopathy, and apitherapy from the vibrational point of view, an important approach to understand the functioning of these impacting traditional medicines in human life.

2. Talking about some integrative therapies

2.1 Acupuncture

Acupuncture, one of the tools of Traditional Chinese Medicine (TCM), in its more than 3000 years of existence, appeared intuitively in China, however it has

had progressive scientific validation since the middle of the 18th century and, until today, it proposes to do the integration of the physical, psychic and spiritual bodies through the management of vital energy (*Qi*) on tracks arranged in the physical body called meridians. There are evidences that these tracks are arranged in the connective tissue, which permeates the body in its multidimensions. What is proposed is to connect the ancestral knowledge of these tracks that lead the electromagnetic energy from the external environment to the internal environment (addressed to each body system) to the production of homeostasis, the fundamental principle of health. Brito et al. recovered, through the originals of the emeritus physiologist Claud Bernad, the concept of homeostasis, where the highly developed living being is an open system that has many relationships with its surroundings - in the respiratory and alimentary tracts, and through receptors of surface, neuromuscular organs and bone levers. Changes in the surroundings excite reactions in this system, or affect it directly, so that internal disturbances of the system are produced. Such disturbances are normally kept within narrow limits, as automatic adjustments within the system are put into action, and therefore, large oscillations are prevented and internal conditions are kept virtually constant [9]. In its acupuncture meridian system, which is an interface of energy exchanges between the various body tissues with the Central Nervous System (CNS), the connective tissue is stimulated inserting needles for the transduction of energy until the outbreak of energetic phenomena, physiological factors that influence cellular electrophysiology [10].

According to Lipton, the behavior of energy waves is important for biomedicine because vibrational frequencies can change the chemical and physical properties of an atom [11]. The knowledge of the links between the material body and its subtle form can enable a greater understanding of how it is possible to expand health in a preventive way in a global, affordable, and personalized environment [12]. We will not stick to the descriptions of the meridians paths, treatments, or explanation of the syndromes that are treated by acupuncture, but the biophysical events as a link that provides the effectiveness of the treatments of this ancient method.

2.1.1 Chinese philosophical thinking

According to Chinese philosophical thought, there is a concept of energy that permeates everything around us. It influences from the simplest form of life and even the movement of the planets, in a constant flux of renewal and expansion. This force/energy is part of the essence of the universe and involves all the entities that exist in it are called TAO [13]. In this philosophy there is a very particular view that correlates all the movements of the universe, macrocosm with the microcosm that represents everyone, in this way, everything is part of a great set. In this logic, the body is a macrocosm with countless microcosms, transforming and expanding with each movement of the individual. With this position, when contemplating a garden or a beautiful landscape, human being knows that the same energy that sustains and nourishes nature also exists within him; it manages to amplify its capacity for self-understanding and to value the importance of life cycles, confirms that it can establish itself in the face of the elements of existence [14]. From this point of view, the individual relates better and more respectfully to everything around him, perceives and contemplates the beauty of cycles, such as the arrival and the end of a season, harmoniously moving creation and destruction, and above all, he perceives himself to be actively acting in a macrocosm full of microcosms. Energy flows can be compared to the movement of the oceans. The currents have different characteristics, one is hot and fast, the other cold and slow, they vary according to the depth, and when they move they generate a lot of energy in this ecosystem [6].

In the millennial Huang Ti Nei Jing, known as Principles of Internal Medicine of the Yellow Emperor, we find the following statement: "the whole universe is an oscillation of *Yin* and *Yang* forces". Through centuries of observation, from the era of the Yellow Emperor (2704–2100 BC), many masters noticed these correlations and found that this knowledge could be used to understand the functioning of the human body and, consequently, its regulation and harmonization for maintaining health [13]. These energies are always dual. The duality it is identified as *Yin* and *Yang*, opposites that complement each other, demonstrating that in nature there is always, even if in small quantities, the influence of one polarity within the other.

Yin and *Yang* in an eternal movement of mutation determine the entire balance between pairs, constituting a polarized unity, such as female and male, body and soul, conscious and unconscious, right and left, hot and cold, day and night. Each pole is associated with an energy identical in value to the other, but of opposite signs, one exists only because the other does not exist; they are complementary and need each other. However, when this harmony of the parts is disturbed, each has its destructive side. Therefore, nature does not encourage one pole to dominate/overcome the other, there is no better or worse pole, both are important in maintaining this delicate and intricate balance for the benefit of the whole, or the TAO [13].

For the quality of life and health maintenance, acupuncture treatments provide information for understanding the circulation of vital energy (*Qi*) to harmonize the flow of energy that flows through the body. A blocked or uncontrolled/excessive internal flow can cause illness, feelings of regret, and loss of vitality. If the movement of these energies is properly tuned, the harmony is resumed, and the stagnations are undone. Understanding the functioning of vital energy in all systems of the universe and, especially in its relations with the human body, allows a conscious and respectful posture of the vital cycles that everyone will go through. The movements of creation and destruction that are witnessed at every moment outside and inside each one keeps this flow constant. The TAO keeps macro and microcosms connected and within the same energetic web [15].

In Oriental philosophy, the absence of health is seen as a momentary resource of the body in the search to reorganize itself, being a system of adaptation of this organism to anomalous environmental stimuli, pollutants, toxic agents, conflicts, and a decrease in vital energy.

2.1.2 Classical meridian theory and the School of the Five Elements

The oldest written reference on acupuncture meridians is present in the book Huang Ti Nei Jing and contains precise descriptions of its principles and we can assume that it is the result of observing the beginnings of Chinese medicine. It contains information that, when stimulating the points on the map associated with certain organs or viscera (*Zang Fu*), a clear sensation of heat and paresthesia is triggered along the paths described from the acupoint [16]. These points, modernly we know that they belong to equal dermatomes. Dermatomes are determined areas of the body innervated by a nerve that exits the spine, the spine is composed of 33 vertebrae from which 31 pairs of nerves and 2 coccygeal vestigial vertebrae come out that are distributed throughout the body in an organized manner. Each nerve that leaves the spine is responsible for giving sensitivity and strength to a certain area of the body [11]. When these lines were drawn connecting the various analogous points, they obtained the longitudinal trajectories, called *Tin* (meridians), and horizontal trajectories called *Lo* (communications) [13].

Exploring the developments resulting from the relationships between them is not the goal of this chapter but understanding how the dermatomes connect with the meridians serves to complete the understanding of the invisible systemic tracks

that run through the organism. To understand the vibrational vision in acupuncture, and which supports it scientifically, the first step is to know the studies that can validate this specialty over time, through the embryogenesis of acupuncture meridians.

2.1.3 The embryogenesis of acupuncture meridians

It is known that meridians are a distinct morphological pathway. This finding was possible in humans through the findings of Frenchman Pierre de Vernejoul and his collaborators, who injecting metastable radioactive technetium 99 (99mTC) into the acupuncture points, observed the progression of the isotope in the mapped meridian lines, covering a distance of 30 cm in 4 to 6 minutes. When 99mTC was injected at random points on the skin, there was no similar result compared to the injection in the cuff [10].

Vernejoul based the work of Korean Kim Bong Han in the 1960s. By visualizing the path of the isotope phosphorus 32 (P32) injected into a rabbit's acupuncture point, Kim observed the absorption of the isotope in a tubular system with about 0,5 to 1.5 μ (microns) in diameter with the use of micro auto-radiography; this path corresponded to the acupuncture meridian tracing of a given point; little or no activity was noticed in the meridional line when the isotope was injected into a vessel adjacent to the point. Through the histological study of these tubules, Kim's group found that there were superficial and deep ducts that "floats" freely over the inside of the lymphatic vessels and vascular tissue, penetrating the vessel walls at specific points of entry and exit. The fluid present in these tubules moved in the same direction of blood and lymph flow and also in the opposite direction to them, which suggests that its origin is probably independent and previous chronologically to the embryogenesis of blood and lymphatic vessels.

According to him, as long as blood vessels develop, they grow around the meridians. The sequence of these findings was followed by the description of other tubular systems: The Intra-external Ducts, which appear to be arranged along the surface of Organs internal organs and flow independently from the blood, lymph, and nervous vessels. Superficial Ducts are found on the skin; and, finally, the Neural Ducts, distributed in the central and peripheral nervous system. All Duct systems are interconnected by Terminal Ducts of the various ductal systems and these reach the nucleus of the cell. Kim has also done numerous experiments that confirm the continuous flow of these ducts and the fluid contained in them. Within these ducts were found high concentrations of DNA, RNA, amino acids, nucleic acids, sixteen types of free nucleotides, adrenaline, corticosteroids, estrogen, and other hormonal substances at levels different from those found in the bloodstream. This indicated the path of understanding the interrelationship of acupuncture meridians and the regulation of the endocrine system [10]. Kim's findings, according to Richard Gerber (2007), were associated with those of Yale's neuroanatomist Harold S. Burr. Burr deeply studied the energy fields surrounding plants and living animals. He mapped the electric fields in the salamanders at an early stage of embryogenesis and found that the electrical axis that was aligned with the animal's brain and spine originated in the unfertilized egg. Kim, consulting Dr. Burr's findings, found that in the chicken embryo, the meridian ducts formed within 15 hours of fertilization. At that time, not even the most rudimentary organs were formed. With this, he can suggest that the functioning of the acupuncture meridian system influences the migration and the spatial orientation of internal organs. Burr and Kim proposed that meridians form a physical-etheric interface, where bioenergetic information and vital energy flow from the etheric body to the cellular level through these tracks, nourishing the bodily systems [10].

We can connect these studies with those of molecular biologist Bruce Lipton (2007), who, through a quantum perspective, reveals that the universe is a set of integrated and interdependent energy fields. The physical part and the energy fields that make up matter describes a non-linear or holistic flow of permanent emanation. According to him, the specific frequencies and patterns of electromagnetic radiation in the environment can regulate DNA, RNA, protein synthesis, alter the function and shape of proteins, control genes, cell division, their differentiation, morphogenesis (a process in which cells group together to form organs and tissues), hormonal secretion, growth and nerve functions [8]. In acupuncture treatment, the insertion of needles into acupoints, known in Chinese literature as the arrival of the sensation of *Qi* [Ch'i], is the source of vibration that triggers a tingling sensation called deqi energy when this sensation extends to the along the channel in which the insertion is carried out, we can say that a PSC (Propagated Sensation along the Channel) phenomenon is established [17]. There are countless methods of insertion, ways to manipulate the needles - how to press, pull or rotate them - however as soon as the patient feels the sensation of the de*Qi* [deCh'i], it is known that the neural trigger was given away. This information contributes to the foundation of acupuncture as a vibrational therapy in its essence.

2.1.4 What can be behind deQi

We have already seen that the meridians are not like a vascular system and neither are nerves, but they can be the neural and neurohormonal links between the central nervous system (CNS) and the peripheral nervous system, influencing it through the connective tissue when stimulated through their paths. In the nervous system, communication takes place through electrical action potentials. Information is transmitted through changes in the frequencies of action potential discharges. The rate of nerve electrical discharge per second generates a code, which will have a certain reading depending on the nerve that is communicating with the brain sensory region. The discovery that the systems made up of glial and Schwann cells - which previously only served to nourish the surrounding nerves also has the function of an electrical nature [10], is an important link for understanding this communication system physical-etheric. The most recent research indicates that the glial cell network can transmit information through slow changes in direct current potentials. It is possible that with the vibration of acupoint stimulation, which is characterized by a location on the skin with low electrical potential, an input is created in the nervous system, influencing the direct-current potentials of the glial cell network, which follows the path of the nerves [10]. When an action potential discharge begins in a nerve cell, a sequence of events is triggered, which passes through the entire sensory nerve fiber until reaching its synaptic ends. The electrical impulse, which carries a message to the brain, undergoes an energetic transformation in the synaptic cleft, which is converted into the release of neurotransmitters. The electrical potential in the cell membrane determines the reaction of each neuron to release neurotransmitter packages. Each nerve cell is in contact with many others forming a network, thus "spreading" the information for the modulation of the CNS and, consequently, the harmonization of regions that are unbalanced in the body system. It can be assumed in this way that the dual wave-particle behavior of subatomic particles is producing a set of "information" that, in essence, generates vibrations (waves) that seem to make the connection between the material and immaterial systems of bodies [12]. The acupuncture meridians and the nervous system operate in a complementary manner and, when adequately supplied with information and nutrition, they will promote higher energetic phenomena translated into harmonic cellular physiological patterns and

also immunity, organized by the individual and unequivocal model of functioning present in each individual in the pituitary.

With the change in the energy environment of glial cells, the meridian system becomes capable of influencing the bioelectronic systems of growth and regeneration. We conclude with this that the effects of neurochemical releases, associated with changes in direct currents that are slowly transmitted along the perineural pathways, are not primary, but a secondary effect of the fluctuation of energy fields located in the vicinity of nerves and glial cells. Surrounding them from the vibrational stimulation of the needles in the dermis.

It is common knowledge that vibration triggers the action potential (AP) in neural cells, which originates through a disturbance of the resting state of the cellular membrane, with a consequent flow of ions, through the membrane and alteration of the ionic concentration intracellular and extracellular media [18]. Thus, the main cause of the resting potential would be the unequal distribution of ions in solution on both sides of the membrane, compartmented actively or passively by the selective mechanisms of transmembrane ion transport. The membrane, therefore, acts with a capacitor, storing energy in this spatial distribution of electrically charged ions; this potential electrical energy is available to be recovered quickly, in addition to stabilizing the membrane preventing this system from being disturbed by any minor factor. The aqueous medium fills most of the intracellular and extracellular spaces, and it is where almost all molecules (soluble, of course) interact to animate the intermediate metabolism, the mobilization of energy and nutrient sources, and the maintenance processes are suspended, and molecular and cellular repair [19]. The important fact is that all living cells have some differences in electrical potential between the cytoplasm and the extracellular space, being generally negative on the inside (resting potential of the cells). Some cells, however, can leave this situation of rest, propagating, throughout their membranes, disturbances that cause transmembrane ionic currents throughout the cell, and that can even invert the electrical profile concerning rest, even leaving it for some time the cytoplasm positive concerning the exterior: these are called excitable cells, and include neurons, muscle cells, and endocrine secreting cells. Some of these nerve endings release outgoing transmitters that tend to trigger an impulse; others are inhibitors and reduce the nerve's tendency to fire. The impulse trigger will depend on the balance between the exciting and inhibiting influences of hundreds of synapses [15]. This mechanism and all known developments in the Western are responsible for the vibrational potential produced by acupuncture (**Figure 1**).

The trigger above explains the *Yin-Yang* concept as polarities; these are the ignition of the "boiler" flame of substance transformation. However, for this boiler to remain in operation, a permanent energy generation process is necessary.

It is in the transformation of *Qi* into various nutritive and humectant fluids, in the transmission and processing of stimuli from the medium into neural signals, and in the maintenance of metabolism for the continuous production of energy that is obtained *Qi* strong and circulating, free from stagnation, it is health in the systemic and vibrational point of view of acupuncture.

The greater the understanding of the biophysical aspects of the energy generation, information, nutrition, and defense production processes in the body system, the better and more comprehensive the direction of integrative and complementary therapies in current and future integrative medicine will be.

2.2 Yoga

Yoga is one of the six most important philosophies in India and to understand it from a vibrational point of view, first we will present some important concepts. As

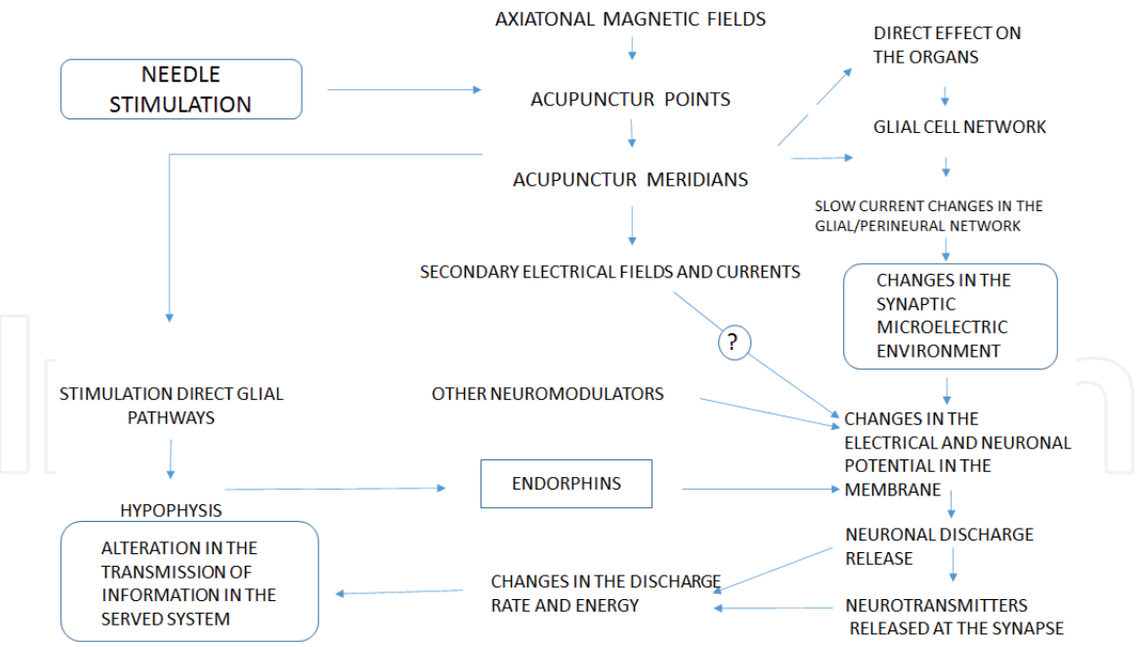


Figure 1.
Neuroendocrine modulation from acupuncture stimulus (Source: Gerber, 2007).

well as several other holistic knowledges, there are indications that Yoga has existed for at least 3000 years. It is a timeless philosophy that comprises a set of moral and ethical values, as well as some techniques to harmonize body, mind, and spirit. And although it is based on teachings contained in the "Vedas", texts that form the basis of Hinduism, they have no religious connection. In Sanskrit, a language considered sacred in India, Yoga means to "unite". It refers to the union of the being with the whole, through the study of oneself (self-knowledge) and the understanding that mind, body, and spirit do not separate.

For centuries, the teachings of Yoga were passed on orally, directly from master to disciple. Until, around 200 BC, a great Indian philosopher, "Patañjali", codified them in 196 aphorisms, constituting what is known today as one of the most important texts of Yoga, the "Yoga Sutras" [20]. It should be noted that among these aphorisms, two of them, the III-53 and IV-33 deal with theories where the nature of time and matter would be discontinued, in line with current discoveries of quantum physics, scientifically proven, that irradiation of light is not continuous [21]. Patañjali describes eight steps that the Yoga practitioner must follow. The first two stages, *Yamas* and *Nyamas*, comprise an ethical and moral conduct that everyone must observe and practice to live well in society and with themselves. *Yamas* deals with behaviors that we should avoid, while *Nyamas* deals with behaviors that we should adopt. The third stage deals with the practice of *Asanas* - Yoga postures - where the practitioner must remain stable and comfortable in each one. The fourth stage deals with the practice of *Pranayama*, that is, breathing exercises that aim at mastering vital energy. *Pratyahara* is the fifth step, where one must abstain from external senses. The sixth stage explains *Dharana*, the directing of attention, which is essential to reach the next step, which is *Dhyana*, where the goal is to keep your attention on the object of meditation. Finally, the eighth step is Samadhi, when the practitioner reaches the state of equanimity, understanding of existence and communion with the universe.

The "Yogis" believe that the physical body is only one of the five different bodies (layers), which constitute the being and that must be in perfect harmony to reach the state of totality. The five bodies, or *kosas* as they are called in Sanskrit would be: the physical body *annamaya kosa*, the energetic body *pranamaya kosa*,

the body mental *manomaya kosa*, the intellectual body *vijnanamaya kosa* and the spiritual body *anandamaya kosa* [22]. According to them, there are no tangible boundaries between these bodies, and their interactions cause everyone to emit a unique frequency. Following this concept, the individual's health is also related to the balance between these bodies and not just to the proper functioning of the physical body.

According to this philosophy, there is an energy originated in the Sun, which penetrates the Earth's atmosphere through the sun's rays and is responsible for all life on the planet. This energy is called Prana and has been reported by different peoples around the world for millennia. They gave these energy different names, but it is the same vital energy. In China, it is known as *chi* or *qi*, in Egypt as *ka*, in Polynesia *mana*, in Japan *ki* and in Jewish mysticism they call it *ruach*.

The sacred texts also speak of 72,000 *nadis* that would be the channels through which vital energy flows [23]. According to the "Yogis", there are three main channels: *Ida nadi* that starts on the left side of the base of the spine, *Pingala nadi* that starts on the right side and *Sushumna nadi* that rises right in the center of the base of the column, the latter being considered the main channel among the three. Everyone moves in an upward flow, reaching the top of the head [24]. *Ida* would be related to the negative pole representing the feminine and lunar energy and *Pingala* to the positive pole, representing the masculine and solar energy. While *Sushumna* represents the free spiritual manifestation released by the action of *Ida* and *Pingala*. Making an analogy with anatomy, *Ida* and *Pingala* would correspond to the trunks of the sympathetic nerve and *Sushumna* to the spinal cord.

Nadis are also responsible for transporting *Prana* to the energy centers: the *Chakras*. These energy centers would be like circular vortexes, or swirls of energy that rotate at high speed, corresponding to the seven musical notes and the seven colors of the prism. Seven are considered *Chakras* main, arranged vertically from the base of the spine to the top of the head. They are *Muladhara, Svadhisthana, Manipura, Anahata, Vishudha, Ajna*, and *Sahasrara*. The earliest records on the *Chakras* appear to have appeared in the ancient scriptures "*Upanishads*" around 600 BC [25]. The description of *Chakras* in ancient scriptures is also very similar to the anatomy of the nervous system described by modern science [26]. The *Chakras* act as transforming elements of higher energies, reducing their shape and frequency to suit the energy pattern of the physical body. This energy is translated into hormonal, physiological, and cellular changes. The *Chakras* also seem to establish a relationship with some psychic aspects.

The analogy between these two different structures, one based on neurophysiology and the other on a tradition of ancestral wisdom, has been the focus of several scientific studies. They aim to understand how this complex and extensive energy network is related to the nervous system, endocrine glands and blood and its relationship with the health-disease process [27–32].

Neuropsychiatrist S. Karagulla deepened her research on the interaction of the etheric body and *Chakras* and their effects on the endocrine glands, where she observed more than 200 cases respecting the rigor of scientific methodology. Her findings indicated that severe abnormalities in the color, rhythm, direction of movement, luminosity or shape of the *Chakras* indicated illness in the respective endocrine gland or in the region of the body to which that *Chakra* supplied energy. With that, it was possible to predict which area this disease would be installed even before the appearance of the first symptoms. In his research he used information about etheric abnormalities identified in the *Chakras* through clairvoyance, comparing them with the medical records available. The word clairvoyance has a French origin (clairvoyance) and means "to see clearly". Clairvoyants have an open etheric or astral vision, being able to see at corresponding levels [33]. This ability is related to the

energy center located on the forehead, the *Ajna Chakra*. Therefore, in the research in question, the clairvoyant was oriented to concentrate on the etheric level, so it would be possible to observe the function of the endocrine glands and the *Chakras* corresponding. The clairvoyant never spoke to any patient, nor did she have contact with medical reports and examinations. She was about twenty feet from the patient and did not even see their faces. It usually took two to three hours to complete your observation on the seven *Chakras* main. Then she filled in the kind of a map with her observations and the researcher made her comparison with the clinical map of the respective patient [34]. Finally, he identified the following relationships between the *Chakras* and the endocrine glands as shown in the table below.

It is also worth mentioning the research carried out by Motoyama, Ph.D. in Philosophy and Clinical Psychology, which tends to confirm the existence of *Chakras* and their possible bioenergetic and or bioelectric action. That is because he believed that although the nature of the energy in these energy centers was subtle, there could be secondary reverberations that could be measurable due to their electrostatic nature. These secondary energies would be in a lower harmonic octave, like the electrostatic fields. For such studies, he developed two instruments, the "AMI" that serves to measure the functional states of the energy channels and their internal counterparts and the "*Chakra* instrument" to discover the energy produced and expelled by the body, in terms of physical variables. The latter was developed to detect the smallest energy variations of a patient. The detectors are installed in a light-proof container, with walls covered with ground wire and the internal surfaces covered by a thin aluminum sheet. The patient is 12 to 20 centimeters at distance and a disc-shaped copper electrode and a photoelectric cell are positioned towards the supposed location of the *Chakra* to be studied. A magnetic field fluctuation detector is placed on the floor, in front of or beside the patient. Thus, they record all signals that are then amplified and analyzed by a processor, a force spectrum analyzer and other similar equipment [35].

Another relevant study was carried out by Dr. Valerie Hunt, which were used electrodes electromyography devices connected to telemetry equipment, to capture changes in the skin, in the region corresponding to the location of the *Chakra*. And it also counted on with the clairvoyant works, to identify changes in the individual's energy field (aura). The electrical impulses were sent to a recording booth where different types of oscillographs recorded energy fluctuations in those regions. The clairvoyant did not have access to this information during the period of her observations. The results obtained in this study demonstrated a perfect correlation between the clairvoyant's observations about the color changes in the individuals' energy fields and the electrical records presented by the electromyogram electrode [10].

According to the Yoga philosophy, the principle of everything that exists in the universe is propagated through vibrations. Thus, it is believed that thoughts, words, feelings, food, and everything else that exists on this planet, has a vibratory pattern that can affect people's health in a positive or negative way.

The balance between the five bodies and the healthy functioning of the *Nadis* and the *Chakras* are of the utmost importance for the "Yogis" since their dissonances can breed several diseases. This balance can be achieved through the correct performance of psychophysical postures (*asanas*), breathing exercises (*pranayama*), chanting of *mantras*, contraction of some muscles of the body (*bandhas*), gestures (*mudras*) and meditation (*dhyana*).

Recently, scientific studies have been published to assess the benefits of *Bhramari Pranayama*, in which the practitioner is instructed to make a bee-like tinnitus. One of the studies suggests that the performance of this *Pranayama*, increases the expression of nitric oxide, increasing carbon dioxide by prolonged

exhalation and alkaline pH, avoiding coagulopathies and morbidity due to Covid-19, due to the oscillating sound wave [36]. It is estimated that tinnitus increases the endogenous generation of the nitric oxide level by 15 times compared to the total exhalation [37]. Studies carried out with adolescents have identified that *Bhramari Pranayama* promotes the improvement of cardiac cognitive and autonomic function for this population [38, 39]. In another study conducted with patients with essential hypertension, there was a significant increase in parasympathetic tone in the first session [40].

The vibrational benefits of Yoga are also promoted by chanting *mantras* which, when repeated, make the *Chakras* spin faster. Each *mantra* has a different vibration that can attract energies of peace, happiness, harmony, love, etc. A study carried out with college students, concluded that the sound vibrations improved the participants' general joy and clarity of mind [41]. Another study looked at the effects of the *mantra "OM"*, the most important of the *mantras*, according to the Yoga philosophy in participants who were instructed to chant the *mantra "OM"* for 30 minutes aloud. The *mantra "OM"* is considered the sound of the universe, it means the beginning and the end of everything. In this study, the results showed a significant increase in theta power when the average of all regions of the brain after the intonation was calculated, confirming its high relaxing power [42]. The vibrational power from chanting *mantras* has also been proven to improve perceived stress, sleep, mood and osteoarthritis in the knee of elderly people [43].

Asanas, psychophysical postures, gained prominence and became a binding element when it comes to Yoga in the West. However, they represent much more than health for the body, because when performed correctly, they also stimulate the practitioner's psychological action. According to the psychoanalyst Georg Groddeck, there is no separation between body and psyche, but both would be facets of the same whole [44]. Through *Asanas*, the functions of internal organs, muscles, and the nervous system are toned and stabilized. But the aim is to control energy flows. When performed correctly, with permanence and adequate breathing, *Asanas* massage internal organs, endocrine glands, nervous system, and muscular system. There are three groups of trunks, the first of which consists of increasing the assimilation of *Prana*, stimulating its circulation through the *Nadis*. The second group aims to strengthen and regularize *Sushumna*, the main energy channel, according to this philosophy. And the third group, strengthen the concentration on the energy centers. However, it is noted that the performance of *Asanas* needs to follow a progress, where *Prana* and *Nadis* are worked to then work the *Chakras* [35]. Knowing this concept performing *Asanas* in Yoga has a purpose that goes far beyond the physical aspects of the practice. In the scientific literature, there are thousands of studies on the benefits of *Asanas* in several diseases, but the lack of clear and common methodological criteria among the researchers makes it difficult to prove its benefits.

Another technique widely used in Yoga, are the *Bandhas*. It can be said that they are contractions made consciously in some regions of the body that subtly influence the *Chakras.* The *Jalandhara Bandha* whose concentration is on the *Vishuddha Chakra*, the *Mula Bandha* that focuses on the *Muladhara Chakra*, and the *Uddiyana Bandha* with a concentration on the *Manipura Chakra*. Both help to release the flow of *Prana* in the channel *Sushumna*. At first, this technique can be performed alone so that the practitioner becomes aware of it, however, the ideal is that it is performed with breath-holding and *Mudras*.

Mudras are gestures usually performed with the fingers. At first not its effects are visible, but the truth is that the performance of these gestures has power dressing helps in the balance of the five elements in the human body and stimulates the circulation of vital energy in the energy channels that will eventually lead to the *Chakras* [45].

The five fingers of the hands represent the five elements. Fire (*Agni*) is represented by the thumb, air (*Vayu*) by the index finger, ether (*Akash*) by the middle finger, earth (*Prithvi*) by a ring, and water (*Jal*) at a minimum. Some *Mudras* act within minutes, but others can take up to 45 minutes to work.

There are several reports on the "powers" acquired through the practice of Yoga. Motoyama recounts his experiences in the book "Theory of the *Chakras*". This book contains rich details about his process and how to perform each technique he used. In the Yoga philosophy, these powers are called *Siddhis* and are also described in the "Yoga Sutras". According to Patañjali, the individual can either be born or acquire these powers using some medicinal herbs, through the chanting of *Mantras*, through the effort on oneself, or through the attainment of *Samadhi* (understanding of existence and communion with the universe). Some of the *Siddhis* that can be obtained through the practice of Yoga and meditation are: knowledge of the past, present, and future; tolerance to cold and heat; self-control; knowledge of what goes on in other people's minds; insensitivity to the sun, fire, water and poisons.

However, Yoga is a philosophy that uses techniques to manipulate and harmonize vital energies, unlock the channels and energy centers, encouraging the practitioner to (re)connect with the vibration that exists in everything. Induces the practitioner to disconnect from the external agitation and dive into the internal vibration, becoming aware of the energetic reality emerging in their bodies and minds, and thus, letting go of *Maya*, the illusion, the primary cause of all human suffering and its greatest prison in this world.

2.3 Homeopathy

Homeopathic therapy was created by the German physician Samuel Hahnemann in 1796, due to his dissatisfaction with the therapy used at that time. Hahnemann made his proposal for this new therapy after seeing that the symptomatic picture of malaria, which had quina bark (*Cinchona officinalis*) as standard treatment at the time, had the same intermittent fever and other symptoms that were characteristic of malaria, in healthy individuals. Based on this observation, Hahnemann proposed the thesis that institutes homeopathic therapy that is based on the Law of Similars or *Similia similibus curentur*, that is, "be the similars healed by similars" [46].

This concept had already been presented by Hippocrates, considered the father of Medicine, who describes that "the disease is produced by the similar and, through the similar, the patient returns to health". Although this proposal was previously presented, it was Hahnemann who was responsible for demonstrating it clinically, based on his fundamentals, endowed with information in the Experimental Medical Matter and with an exclusive Pharmacotechnics [47].

In addition to the presented principle that "the similar heals other similar", Hahnemann introduced the concept of minimum doses, explaining that these were chosen after their effectiveness was noticed, since, by reducing the concentration of substances through their dilution, the same continued to have a therapeutic effect, without harming the symptoms of intoxication [48].

The art of studying the toxic effect of substances on animals already existed, but it was necessary to make a similar study in man, so that Hahnemann developed this experimentation, elaborating the homeopathic medical materials from these observations. To explain this fundament, the father of Homeopathy quotes in his book considered being the greatest work [49], *"There is, therefore, no safer or more natural way to infallibly discover the proper effects of medicines on the man Health, than try them separately and in moderate doses in healthy individuals and observe the changes that result in physical and moral states"*.

Another basis of homeopathy presents the proposal of using a single medicine, capable of covering the entire symptomatic of the individual, which is, a medicine whose pathogenesis best coincides with the manifestations presented by the patient, this being his simillimum [47], that is, a medicine that when used, will act considering the organism as a whole, having all its integral parts, in order to re-establish the harmony of the system.

From his experiences, Hahnemann proposed a therapy based on the vital force, explained by him in the 6th edition of Organon [50] by the words *"In the individual's state of health, the vital force of the non-material type reigns absolutely that animates the material body like Dynamis, keeping all its parts in a vital process admirably harmonious in its sensations and functions, so that our rational spirit that inhabits it can freely use this living and healthy instrument for a higher objective of our existence"*.

And then, according to the principle of Vital Force, under the Law of Similars proposal, and following the fundamentals of experimentation in a healthy man, minimum doses and single medicine, it was published by Hahnemann, in 1976, in the Journal of Practical Medicine, an article in which states that "disease can be cured by drugs that cause symptoms similar to the disease" [47].

To exemplify the law of similars, Bellavite et al. [49], presented some schematic representations of two examples of the application of the law of similars and of diluted and dynamized substances, in inflammatory models. The example presented was obtained with the medicine *Apis mellifera* and *Pulmo histaminum*, which not only represent the law of similars, since both cause the same symptomatic condition that they intend to heal, but also represent the concept of 'iso' therapies, where a substance that causes the problem is streamlined to address it, as can be seen below.

The scheme presented represents the results of Poitevin et al. [50] and were based on the use of bee venom (*Apis mellifera*) and *Pulmo histaminum* (pulmonary histamine), since these substances present, respectively, melittin and histamine, substances capable of stimulating basophils and triggering an inflammatory reaction. It is known that histamine is produced by the decarboxylation of histidine, stored in granules of basophils and mast cells, and are released within seconds after its activation. Histamine in tissues exerts vasodilation and increased permeability, and thus causes the formation of edema and papules. On the other hand, *Apis mellifera* and *Pulmo histaminum*, are used in homeopathic medicine to treat allergic and inflammatory processes [49], with the same symptoms, such as edema, heat, pain, and allergy.

As shown in **Figure 2a** and **b**, the sources of the medical material *Apis mellífera* and *Pulmo histaminum*, when diluted and dynamized (homeopathic medicines) are able to prevent the effects of the stimulation triggered by the anti-IgE antibody (which has the same effect a melithin and histamine). In other words, it was demonstrated in "in vitro" experiments by measuring the degranulation of basophils, the law of similar, where a substance that triggers an effect, when diluted and dynamized, was able to inactivate this effect. In clinical practice, the symptomatic picture of allergies and acute inflammations is eliminated.

The mechanisms by which Hahnemann's proposal is based is not yet clearly demonstrated, and most likely due to the technological limitation for such energetic measures involved to be made. A look from a vibrational point of view may shed light on a possible way in which homeopathic medicines act, especially when you think about the concept of a single medicine and its fundaments that the similar heals other similar.

Homeopathic medicines come from a solution or mother tincture produced from products of plant, animal, or mineral origin. All of these have atoms, protons, electrons, neutrons and smallest particles, and for that reason, they are in constant vibration, and the energy/matter duality, just like humans, having the

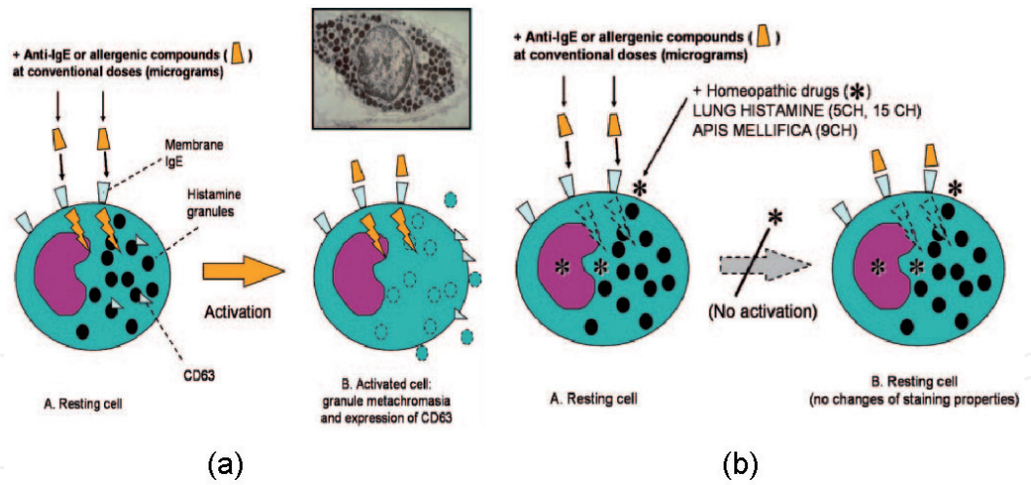


Figure 2.
a - Activation of normal basophil degranulation caused by IgE antibodies. b - Inhibition of basophil degranulation by the use of homeopathic drugs (ultra-diluted and dynamized) such as Apis mellifera *and* Pulmo histaminum. *Source: Immunology and Homeopathy. 2. Cells of the Immune System and Inflammation [51].*

premise of Einstein's theory, in which matter is composed of particles, which ultimately consist on light/energy, in the wave/particle duality. Analyzing the Hahnemannian point of view on the vital energy, someone could suggest that the vital energy is the vibration that needs to be preponderant for the state of health. When diseases change this vibrational frequency, they need something that offers the dosage of energy/frequency necessary for this vibration return the original vital energy.

In the process of health and illness, it could be said that the individual's energetic/vibrational state has been altered, and in order to restore the original energy, a vibrational energy medication compatible with that necessary for the restoration of the individual's vital energy, is necessary. Thus, and taking as a reference the homeopathic process of dynamization of the medicines, which follows a dilution and a succussion (rhythmic shaking of the bottle containing a medicine), aiming to awaken the medicinal energy of the substance, in water, and considering that the raw materials of departure have their own vibration, it is possible to suggest that homeopathic medicines, already without quantifiable matter by chemical methods, considering the number of Avogadro, have only the vibration of the original substance, the subtle energy, which will exercise its function of the ethereal subtle energy of the sick individual.

One hypothesis is that the drug energy of a substance that causes a symptomatic picture identical to that provoked by the disease, presents the same frequency as it, and thus, the frequencies cancel each other out, returning the vibration of the normal individual to preponderate. It is not uncommon in the homeopathic healing process, the individual presents an aggravation of the symptoms, and this could be the consequence of the initial summation effect of the medication vibration, added to the energetic picture of the disease, which highlights the symptomatic picture to stimulate the immune response to restore the individual's energetic/vibrational state of balance.

2.4 Apitherapy

After the Albert Einstein presentation about the revolutionary theory of energy and matter, using the very famous equation: $E = mc^2$, which establishes the quantitative equivalence of the matter's transformation into energy or vice versa, and the comprehension of each atom is composed by electrons, neutrons and protons that

are under constant vibration, emitting energies with different frequencies, and that humans are, in the last level, composed by atoms (equivalent to energy), it is much easier to understand that each individual possesses your own vibrational standards. When this vibrational standard state of 'normal' level is modified by one disease, something needs to happen to re-establish the energy to the 'normal level' again (Vital Energy, *Prana, Qi*) [10].

To clarify this statement, imagine the electrons that are in specific space regions known as orbitals. Each orbital presents a specific characteristic of energy and frequency, according to the atom and its molecular weight. In order to change the position of one electron to another next superior orbital, it is necessary to transmit the energy of a certain frequency. Only one quantum of exact energy necessary will stimulate the jump of the electron to the next superior orbital. Through the resonance process, the energy of appropriate frequency will excite the electron and cause it to pass to the highest energy level in its orbit around the nucleus. Maybe human behavior could be compared to the electron change of energy level, if we consider (as an analogy) the existence of 'orbitals' of health and disease, for example with different vibrational levels (vibration/frequency). In the case of human beings whose energetic systems are in a disease orbit, only a subtle energy dose with the appropriate frequency can be accepted and cause the body to move into a new orbit or steady state of health. Vibrational remedies could inject the quantity necessary of subtle energy in the human system through the induction of resonance. This etheric energy changes the vibrational level of disease to the orbital of health [10].

The energy that gives life is called 'vital energy' in homeopathy, 'prana' in yoga and *"Qi"* in acupuncture. This etheric energy can dictate the cellular physical information of the matter, on the health, and in the disease. And consequently, vibrational medicines that can modify these frequencies, can change the disease's vibration into a health steady-state.

During this chapter, it was possible to present until now, 3 different types of treatments, all based on vibrational medicine, with different techniques: acupuncture, yoga, and homeopathy. Considering all this information, now it is time to talk about apitherapy and how bees can help during the health process.

Apitherapy or "bee therapy", from Latin *"Apis",* which means bee, is the medicinal use of products produced by honeybees, like honey, propolis, bee venom, bee pollen, royal jelly, beeswax, besides others, as therapy for some diseases. If we think in a more complete and philosophy way, the definition proposed by Stangaciu (2015), can be more suitable to define all levels reached by this therapy, *'the art and science of treatment and holistic healing through the honeybee and her products for the benefit of mankind and all the animal kingdom'* [52].

Ancient civilizations with their millennial therapies recognize and use the bee products as valuable resources in their medical practices. The history of medicines of the Chinese, Tibetan, Egyptian and also the Greco-Roman civilizations are quite rich, containing in its records, dated for a long time (more than 6000 years in ancient Egypt), hundreds of recipes, including among the main ingredients, honey, propolis, bee larvae and eventually the bees themselves to cure or prevent diseases [53].

Hippocrates (460–370 BC), Aristotle (384–332 BC), and Galen (130–200 AD) prescribed the use of honey and bee venom as a cure for baldness. Hippocrates recognized the healing virtues of bee venom for treating arthritis and other joint problems, also used propolis for healing sores and ulcers internally and externally. Today growing scientific evidence suggests that various bee products promote healing by improving circulation, decreasing inflammation, and stimulating a healthy immune response [51].

Nowadays, apitherapy is adopted in some countries as Complementary and Integrative Medicine with a specific regulation, as is the case of Brazil for example [5], but some others deserve special attention since they possess an important tradition in the apitherapy use and/or Organizations of Apitherapy running some job in each country in this field. In Brazil, honey and propolis possess widespread use by the population. Apis Flora Company introduced propolis extract in the Brazilian market at the beginning of the 80s, and from this moment, several other innovations appeared as the natural syrups based on mixtures of honey with propolis and others bee products, and/or with herbal extract and/or essential oils, vaporizers with the same type of mixtures. Extracts, lozenges, tablets, capsules, and others can be found in European, American and Asiatic countries, and they can be found in pharmacies, drugstores, natural product houses, supermarkets, etc. [54]. Besides honey and propolis, royal jelly, bee pollen, and apitoxin can also be found, however with less expression than the firsts.

For understanding the apitherapy importance as integrative medicine and in order to propose some connection with vibrational medicines, it could be useful to present some small information about what each bee product is, its traditional use, composition, and benefits according to clinical trial and/or systematic review available until now. As the literature about each bee product is quite large, and the deeper description about "in vitro" and "in vivo" protocols about mechanisms involved already done, are not our focus in this chapter, only some information will be provided in order to try to propose an innovative way about thinking apitherapy with vibrational medicine information. But first, let's know something about the vibrational communication between bees.

2.4.1 Vibration signal and communication

"Cooperative activities in honey bee colonies involve the coordinated interactions of multiple workers that perform different, but interrelated tasks. The vibration signal functions as a type of 'modulatory communication signal'. It is directed toward diverse recipients, causes a non-specific increase in activity that may alter responsiveness to a wide array of stimuli, and thus may influence the performance of many different tasks simultaneously. These signals are involved in coordinating at least three colony-level activities: food collection and foraging-dependent tasks, queen behavior during swarming and queen replacement, and house hunting by honey bee swarms. Signals that function like the vibration signal may be widespread in highly social insects and social animals in general and may help to fine-tune the collective decision-making processes that underlie cooperative actions in a wide array of species" [55].

As could be seen in the text published by Scheider & Lewis [55] the vibration signal produced by bees is used as a modulatory communication signal, as it is involved in several actions executed in the beehive. The frequencies, high or low, the pulses short or long, besides other characteristics in the vibration not only activate but also are involved in the stop of some functions. Von Frisch [56] compared this warning sounds with the vibrations produced by honeybees during "buzzing dances" and the buzzing tones. Stop signals are short, high-frequency signals that occur under rather different conditions. Nieh [57] described that short pulses of body vibrations were performed by foraging bees, offering a warning to the others about a dangerous food experience. The literature available proposes that different signals communicate different things, activating, or stopping actions. Not surprisingly, many different terms have been used to characterize these different short pulses (e.g., piping, begging, buzzing, shaking, whooping).

Besides the communication actions developed, Schneider, Huang & Lewis discovered that the juvenile hormone titers of workers 15–30 min after receiving

vibration signals are slightly, but significantly higher than those of non-vibrated control bees that are matched for age, location in the nest and initial activity levels [55]. One parallel that it is possible to do in this topic is that the evidence already described the higher concentrations of some hormones like adrenalin, estrogens, corticosteroids, besides others, in the meridians used as key points in acupuncture, in comparison with the concentration in the blood, show evidence about the connection of these points with the body endocrines glands [10]. So, the vibration modified by the application with the needles in the acupuncture in these meridians can modify the endocrine glands' behavior, affecting some physical behaviors in the body. Here it is possible to meet some convergence with what vibration provoked by bees can do in the production of some hormones of other bees.

It let us consider that vibration produced by bees can stimulate higher production of some compounds in the bee organism. And the question that one could do is: Can vibration produced by bees energize bee products produced in the beehive as royal jelly, bee venom, honey, propolis, etc.? Is there some characteristic vibration of bee products that can affect the etheric vibration of the humans? Of course, this hypothesis needs to be validated, but let's do an exercise with bee products in order to evaluate this hypothesis.

2.4.2 Honey

Honey has been used in the human diet since 25,000 years ago when the first tangible demonstration was found [58]. Besides its use for nutrition and mainly as a sweetener, its use as a traditional medicine in several cultures worldwide was very well documented [59–61]. The use of honey for therapeutic purposes dates back to Egyptian papyrus, and it was also mentioned in Chinese medicine and Hindu documents [62].

The chemical composition of honey is based on a supersaturated sugar solution, especially rich in fructose and glucose, which also present more than 181 substances containing minor quantities of minerals, vitamins, phenolic acids, flavonoids, enzymes, organic and amino acids, proteins, and a huge variety of essential oils according to the different flowers visited by honey bees [63, 64]. The honey composition will never be the same since it depends on the source-type, soil, climate, and genetic factors and procedures methods involved. In this sense, the feeling and sensation promoted by honey as colors, flavors, smells, and tastes difficult will be the same [65, 66].

Several biological properties were already demonstrated for honey as antioxidant action that contributes to the prevention of several diseases as cardiovascular problems, cancer, diabetes, and others, especially by the protection against free radicals and other oxidative substances [67–69]. Besides antioxidant action, antimicrobial and wound healing are other two properties very well recognized in the literature and it is mainly attributed to high osmolality and sugar concentration, low pH, aromatic acid, volatile substances, and peroxides composition [70–73]. Antiviral and fungicide activities were also demonstrated and linked to some flavonoids found in honey as chrysin, acacetin, and apigenin [74].

Riera et al. evaluated the Cochrane systematic reviews and protocols for complementary medicine in order to check several new therapies approved in Brazilian regulation. These studies demonstrated that honey dressings for partial healing of wound burns and honey to reduce coughing among children with acute coughs were effectively able to demonstrate scientifically and with the scrutiny of rigor science, the important safety and efficacy of honey (26 randomized clinical trials, with around 3100 individuals), supporting apitherapy introduction in the therapies proposed by the Brazilian Government [75].

Although several biological actions under Newtonian methods were already demonstrated, to think about the influence of the vibrations produced by bees when they are communicating with each other ("buzz") and its impact on the bee products under vibrational level, the question could be: could honey be 'carrying' the energies of the flowers that were visited by bees during the collection of nectar and pollination? Flowers as the humans are composed of atoms, protons, electrons, and neutrons, and also, vital energy, and consequently, also possess their own frequencies. Besides it, flowers are rich in essential oils, volatile compounds that can be energized during the flights of the bees with the vibrational movements and sounds. Could honey be acting in the healthy restoration by modifying the etheric Humans Vibration? (in the level of Vital Energy, *Prana,* and *Ch'i*? Here are good questions to be investigated.

2.4.3 Propolis

The word propolis means 'in defense of the city', and it is derived from Greek *"Pro"* and *"polis".* Propolis is a resin collected and transformed by *Apis mellifera* bees to use it for sealing up their hives. Propolis is a sticky filler material with aroma, smell, and taste particular and dependent on the botanical source [76]. In Europe and Asiatic countries, propolis mainly botanical source is poplar (*Populus spp*.); in Brazil, it was already related to 12 types of propolis, according to Park et al. [77].

The literature already demonstrated several important biological activities for propolis as an antioxidant, anti-inflammatory, immune modulator, antibacterial, antifungal [76–80] and several many others [76]. Propolis was evaluated in some clinical trials with important good results in preventing respiratory tract infections in children in a randomized, double-blind, placebo-controlled, multicenter study [81], as a supplement as an adjuvant in asthmatic patients [82] and as a prophylactic for immune stimulation [83].

As it happens in the case of honey, propolis also is variable according to the region, botanical sources, climate, etc. that bees collect the exudates to transform into propolis. This was an important remarkable point for regulatory agencies such as the European Medicines Agency (EMA) to criticize the approval of propolis as a medicine, due to the lack of standardization [84]. In this sense, it was presented in 2012, a propolis standardized extract called EPP-AF® [79]. Propolis EPP-AF® was already studied according to its safety and efficacy in animal and human protocols for several applications [79, 85–89]. Of remarkable interest was the clinical trial done with EPP-AF® (500 mg/kg/day) in kidneys damage protocol during 12 months of research and monitoring of elderly patients, with impacting results in the reduction of proteinuria biomarkers [90]. Also, and not less impacting was the demonstration of the lack of interaction evaluated in a clinical study with hepatic enzymes CYPs and the transport protein PgP. Propolis EPP-AF® demonstrated safety at this level using WHO protocols [91]. Finally, Berretta et al. [80] published a review article supporting the use of propolis to reduce the damages and aggressiveness of SARS-CoV-2 in the COVID-19 patients. But, besides the Cartesian mechanisms already demonstrated above to propolis effects, could propolis also act by vibrational medicine? After looking forward to finding some toxicity data in animal and clinical trials for propolis, no impacting results were found, except by sparse cases of an allergic reaction [92, 93]. Some patients can be allergic to propolis due to a topical application, inhalation, or ingestion. Curiously, diluted propolis applied by inhalation reduced allergic airway inflammation system [94], besides the several studies demonstrating that propolis possesses anti-inflammatory results in several models with a huge range of dosages. In this example about allergy, Does the small dosage inhaled, could be acting following

the principle of homeopathy? Could propolis be "energized" by the vibration produced by bees? This is another hypothesis to be tested if we can attribute vibrational effects to apitherapy.

But, if we consider that propolis was produced by bees after the collection of plant exudates, rich in chemical substances as flavonoids, phenolics, essential oils, etc., that possess vital energy and a vibrational standard, and suffer vibration during this process, could we postulate the hypothesis that propolis could be acting in the frequency modification on an etheric level as a vibrational medicine? Newtonian evidence already demonstrated the pharmacological effects, but could something more be happening?

2.4.4 Apirespiration

Some European countries as Germany and Slovenia are using as apitherapy beehive air inhalation ("apirespiration") to promote the health of respiratory systems. The inhaled aroma produced in beehives has been suggested to be beneficial to the health of human beings [95]. The best results usually were related to immune disorders such as allergies, chronic sinusitis, and susceptibility to infections, for patients of all ages [96].

In the beehive environment, the air is constantly circulating due to the vibration of the wings of thousands of bees. The air is saturated with water vapor, particles of isoprene, terpene, essential oils, hormones, feromones, liquid wax, alcohol, bee saliva secretions, propolis, trace elements, enzymes, choline, phytohormones, etc. By natural respiration, these substances are applied in the human body, having a positive effect on various diseases, whether as prevention, cure, or stabilization [51]. "Apirespiration" sum the benefits of the substances produced in the beehive with the vibrational energy of the flight of the bees, associated with the breathing of the pleasantly warm bee air (around 36°C). Excellent results of apirespiration have been proven with bronchitis, asthma, allergies, diphtheria, chronic inflammation, impaired immunity, migraines, and depression [51].

Several systems were proposed to this type of apitherapy, as a respiratory system connected directly to the honeycomb (**Figure 3**) and others completer and more planned in well-structured rooms were already suggested, the ApiHouses.

The inhaled aroma produced in beehives has been suggested to be beneficial to the health of human beings. This integrative medicine is still an incipient field of study, and research projects in rich countries have improving its current results despite the inherent difficulties by the high number of bee species and consequently

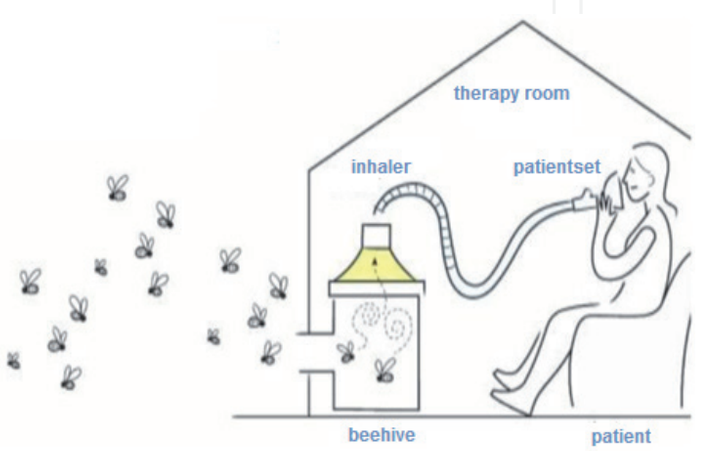


Figure 3.
Apirespiration system.

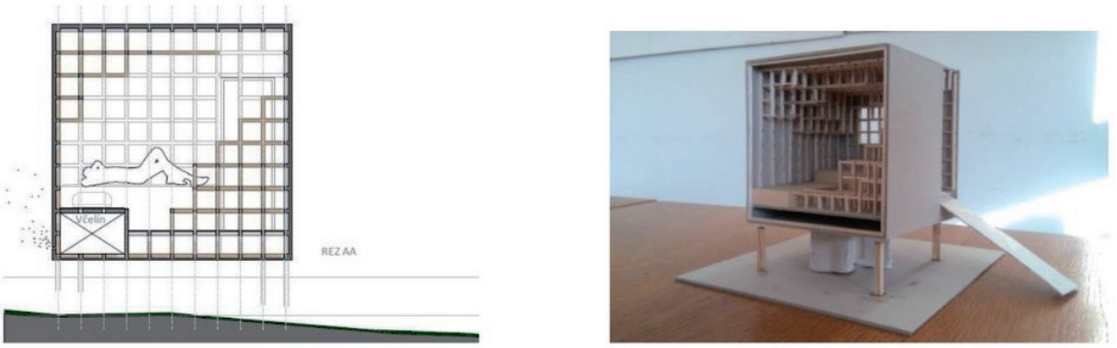


Figure 4.
Some ApiHouses proposed by [51].

the quantitative and qualitative differences in the chemical composition of the honeybees and the concentration of their by-products (**Figure 4**).

The different models and classifications used in each case for ApiHouses were related to different kinds of experience. Some more related to the api respiration properly said, the inhalation of the volatile substances and the vibration offered by bees, but also the interaction and peace obtained with the vibration of nature and its sounds.

In the cases of ApiHouse, the question could be if the vibration/sounds produced by bees were affecting the etheric vibration of the patient modifying it to the 'normal' level, or if the vibration was "energizing" the volatile substances emitted by the beehive, or both.

2.4.5 Bee Venom

Bee venom importance was highlighted with the publication of the First scientific paper by Desjardins, a French physician on the successful treatment and curative properties of bee venom for rheumatic disease. Filip Terc (1888) was considered as the "Father of Apitherapy", he applied around 39,000 bee stings to over 500 rheumatic patients, was the first one to use systematically this type of therapy culminating with the publication "Report about a peculiar connection between bee stings and rheumatism" [96].

Bee venom is produced by bees for two glands (acid and alkaline glands) associated with the sting apparatus of worker bees [96]. It is a complex mixture from honey bees, which possesses various peptides including melittin, apamin, adolapin, apamin and mast cell degranulation peptide, enzymes (PLA2, hyaluronidase, acid phosphomonesterase, α-D-glucosidase, and lysophospholipase), biologically activity amines, and non-peptide components such as histamine, dopamine, and norepinephrine [97].

Bee venom therapy can be applied in some different ways, (i) live bee sting, (ii) bee venom injection, and (iii) bee venom acupuncture. The scientific data suggests that bee venom acupuncture is more effective than the application of live bee sting, bee venom injection, and acupuncture alone [96, 97]. The sum of bee venom and acupuncture offers the benefits of the chemical and pharmacological effects of the substances found in the bee venom and the mechanical application in the acupoints [97].

The number of studies already published with bee venom is too large. In order to show some application of its bee product, some interesting results will be present. Curiously, bee venom and acupuncture are very connected. Khalil et al. [98] demonstrated that bee venom acupuncture at Yanglingquan acupoint (GB34) improved

locomotor behavior significantly, reduced several central amines, reduced pro-inflammatory cytokines, and neuronal apoptosis, demonstrating strong evidence of a neuroprotective effect of this therapy. Bee venom and acupuncture also demonstrated good results in idiopathic Parkinson's disease [99]. In rheumatoid arthritis, the effects occur beginning with an anti-inflammatory action, reducing the expression of some cytokines and the level of glucocorticoids, protease activity, and reactive oxygen species (ROS) [97].

Besides the innumerous animal studies with bee venom, only some clinical trials were already performed, however, with a relatively small number of patients, for the lumbar disc disease treatments, knee osteoarthritis, rheumatoid arthritis, adhesive capsulitis, lateral epicondylitis, neuropathic pain, Parkinson disease, stroke, depression. An interesting mini-review about the use of bee venom under the point of view of safety and efficacy in acupuncture puts the question "to bee or not to be" in this topic, since the risks about the allergic reactions can be very high and so, a good evaluation of the 'costs' and benefits needs to be done in order to take this decision - "To bee or not to be, is that question" [100].

Now, under the point of view of vibrational therapy, definitely, the tiny quantities of the bee venom necessary to produce the effect let us know about the effect of homeopathic medicine, especially thinking about the potential toxicological effects. Would the Bees vibration offer a homeopathic characteristic to this product? The high incidence of successful results applying bee venom in the acupoints really calls attention. The substances present in bee venom, in a tiny concentration, can offer different pharmacological types of effects, including important damages. The mechanical application of needles in specific acupoints can stimulate vital energy *"Qi".* Could bee venom present some frequency able to offer a more intense stimulus to the vital energy of *Qi?* Curiously, bee venom is recommended to be applied intradermally and not intravenous. It can remind the conjunctive route tissue explained in the acupuncture topic.

Other bee products could be presented here as royal jelly, bee wax, bee pollen, however, with the examples presented above it was possible to know something about apitherapy and its importance for humanity, and open the mind to think about new possibilities for the influence of bee products in living beings. If these hypotheses are true, we will only know if appropriate techniques are used. So far, it is only speculation to be tested.

3. Conclusion

It is noted that, although more comprehensive, the new concept of health adopted by the World Health Organization is still incomplete, not considering the "individual" in its entirety, which includes the vibrational and energetic aspects addressed in this chapter. Biologists have long been impressed with the ability of living things to maintain their own stability. The idea that a disease is cured by natural powers, by "*a vis medicatrix naturae*", an idea that was supported by Hippocrates, implies the existence of entities ready to act corrective when the normal state of the organism is disturbed [9]. The most important principle of vibrational medicine is the concept that human beings are dynamic energy systems that reflect evolutionary patterns [10]. The assumptions we formulate throughout this chapter are not new. Since the publication of the General Systems Theory, proposed by Austrian biologist Ludwig von Bertalanffy in 1950, the basic assumptions point to a clear tendency towards integration between the natural and social sciences, allowing, in a comprehensive way, to study the

non-physical fields of scientific knowledge, promoting the multidisciplinarity so necessary to science.

Starting from the essential unit of matter, these authors presented the biophysical links in common and specific methods for the search for homeostasis. The search for the integral man, full of its capacity for self-regulation, goes through the path of effective and progressively more natural preventive health.

Launching a vibrational look at ancient therapies (acupuncture, yoga and apitherapy), as well as for the youngest among them, homeopathy, represents contemplating and renewing the ancestral bonds that connect the three parts of the human being: body, mind and spirit. An innovative way of think in this sense were presented for homeopathy and some new hypotheses were formulated, especially regarding the function of bees as a vibrational instrument for each bee product known.

It is possible that many readers will be concerned, because the larger the body of evidence, the more it will be possible to provoke a closer look within the countless therapies presented in this book. The greater the understanding of the biophysical aspects of the energy generation process, the distribution of information, the use of nutrition for the production of defense in the body system, the more accessible and comprehensive the integrative and complementary therapies in current and future medicine will be.

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Conflict of interest

The authors declare that they have no conflict of interests.

Appendices and nomenclature

WHO	World Health Organization
PNPIC	National Policy of Integrative and Complementary Practices
MS	Ministério da Saúde/Health Ministery
HBU	Health Basics Units
NASF	Family Health Support Units
TCM	Traditional Chinese Medicine
CNS	Central Nervous System

AP	Action Potential
SP	Spleen and Pancreas meridian
LU	Lung meridian
K	Kidney meridian
L	Liver meridian
HT	Heart meridian
TE	Triple Burner meridian
SI	Small Intestine meridian
LI	Large Intestine meridian
EMA	European Medicines Agency
EPP-AF	Propolis Standardized Extract – Apis Flora®
CYPs	Cytochromes
PgP	Glicoproteína-P
PLA2	Phospholipase A2
SARS-CoV-2	Severe acute respiratory syndrome
COVID-19	Coronaviruses

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