



A Transdisciplinary Approach of the Role of Consciousness and Spirituality in Physics and Healing

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Abstract: *Transdisciplinary research represents a paradigm shift in healing practice. This paper deepens the theme of the article, titled “The usefulness of integrative medicine in contemporary society”, that was published in the Transdisciplinary Journal of Engineering & Science (TJES). Thus, this paper aims to highlight the role of consciousness and spirituality in physics and healing. Therefore, some classical healing methods are discussed, including Chinese medicine’s therapeutic effectiveness in alleviating some diseases’ symptoms. Also, we refer to some contemporary healing methods and relate them to the “spontaneous healing” experienced by Sister Bernardette Moriau, a phenomenon that which conventional medicine does not explain. In this regard, morphogenic fields have been described as a possible mechanism that might explain the efficiency of Chinese medicine. Also, the altered, modified, and amplified states of consciousness (A/M/ASC) are described in detail as a potential explanation for the occurrence of “spontaneous healing”. Finally, the biofield concept was related to the new healing paradigm proposed by the integrative medicine model.*

Keywords: History of Eastern and Western medicine; Practices of Chinese medicine; Distant Healing and “Spontaneous” cures; Higher levels of consciousness; Integrative medicine model.

1 Introduction

Both Eastern and Western cultures, spanning from classical to contemporary healing methods have highlighted the role of consciousness and spirituality in physics and healing. Among the classical healing

methods, we highlight the history of Chinese medicine (CM) (Hoizey and Hoizey, 1993), particularly the ancestral books «Divine Farmer's Materia Medica», «The Yellow Emperor's Medicine Classic» and «The Classic of 81 Difficulties of the Yellow Emperor». These foundational works reflect the practical application of the Taoist and Confucian philosophies, aiming to promote a harmonious relationship between the natural environment (macrocosm) and the physiology of the human organism (microcosm) to achieve and maintain a healthy human body. In this regard, some concepts and theories of CM emerged, such as Qi, Yin Yang, Wu Xing, Zang Fu (Hoizey and Hoizey, 1993). Qi might be defined as a vital force that exists in the universe and it is constituted by two complementary forces known as Yang and Yin. They are the constituents of the integrated whole symbolized by the Tao. The Wu Xing theory provides an explanatory framework for the cyclical processes that occur in nature, including human physiology. It can be applied to interpret both climatic phenomena, and circadian rhythms (Porkert and Ullmann, 1988). There are other theories in CM, such as San Jiao Theory, the Theory of Channels, the Theory of Noxious Cold, the Ancient Shu Theory, and the Wen Bing Theory. With the birth of the People's Republic of China, several practitioners of acupuncture came together to create a unified medical system known as “traditional Chinese medicine” (TCM) (Porkert and Ullmann, 1988). TCM represents a simplistic view of CM, often reducing it to the application of Wu Xing theory, and its use in acupuncture through the dissemination of maps of meridian paths and acupuncture points. Some other relevant classical healing methods are described by the history of traditional Indian medicine or Ayurveda. We know that in Sanskrit, Ayurveda means Science (Veda) and Life (Ayur) and it was developed in India over 4500 years ago (Martins, 2017). It was originated in the Vedas (the sacred books of Hinduism) and Samkhya philosophy (one of the six Darshanas of Indian philosophies). The fourth book of the Vedas, known as the Atharva-Veda, serves as a practical health care handbook, containing descriptions of anatomy, and the use of herbs for treating both physical and psychic illnesses. This knowledge has contributed to the integrative medicine model (Martins, 2017). There are also some texts considered as fundamental for the healthcare spiritually provided by Ayurveda, namely «Charaka Samhita» (a treatise of oral medical tradition), «Sushruta Samhita» (surgery treatise), and «Astanga Hridayam» (philosophical principles). The Ayurvedic procedure is used to relieve disease symptoms and harmonize the chakras (“centers of consciousness”) through the analysis of the mind-body relationship, which is designated by the doshas (vata, pitta, kapha) (Martins, 2018). There are seven main chakras, each related to seven “levels of consciousness” that an individual can experience (Sturgess, 2014). This perspective is present in the origins of transdisciplinarity, development, and current issues, including studying multiple levels of reality (Bernstein, 2015).

Regarding contemporary healing methods, there is some relevant literature on distant healing and “spontaneous healing”. The distant healing method, known as Reiki or the “vital energy of the universe” is a healing art introduced by Mikao Usui. It aims to channel vital energy – referred to as Prana by Ayurveda and Qi by TCM – through the imposition of hands (Quest, 2011). Mikao Usui had some “visions” about the method of healing by channeling the “vital energy” of the universe through the use of certain symbols. Following this, Mikao Usui decided to have a holistic approach to healing, addressing the various dimensions of the patient. This is based on “the five spiritual principles of Reiki” and “twenty one self-treatment techniques”, which are carried out across the three Reiki levels. Reiki fosters self-awareness in human beings, as the language of the unconscious is represented by symbols (Quest, 2011). It also promotes attunement with various Reiki symbols that operate on a multidimensional level beyond physical space-time, aligning with the Panchakoshas theory of Ayurveda. In this regard, we want to mention some studies on applied transdisciplinarity through ancestral philosophy and symbolism of Jungian psychology that are present in both classical and contemporary healing methods (Costa, 2022). Still related to distance healing, there have been some research studies on “spontaneous healing”, particularly in the medical and religious area, for which conventional medicine has no clinical explanation. In such cases, a religious process declares the occurrence of “spontaneous healing” as an action of God, i.e. a “miracle”, something wondrous and independent of the laws of Nature (Holland, 2016). Meanwhile, the works of Edgar Morin (2008) and Basarab Nicolescu (2010), on complexity and transdisciplinarity respectively, contributed to a new paradigm characteristic of Cosmodernity. It is based on the interdependence of the relationship between the living systems, seeking to highlight the importance of human consciousness, present in the various “levels

of consciousness” of the Subject-Object relationship. These perspectives are a challenge to the Cartesian paradigm and the current biomedical model (Martins, 2018).

2 Materials and Methods

Some theoretical and practical forms of transdisciplinary research on healing seek to integrate different methodologies through a holistic perspective that spans across various areas of knowledge, including medicine, philosophy, social sciences, and the humanities (Versluis and Nicolescu, 2018). Thus, Complementary and Alternative Medicine (CAM) incorporates the concept of “vital force”, commonly referred to as “Qi” in TCM. TCM therapeutic interventions, such as acupuncture and Qi Gong, aim to influence “Qi” through specific reflex points on the body, known as acupoints, referred to in the next section. Some authors referred to this as the biofield. Indeed, Qi Gong practice, known as “energy projection therapy”, involves a combination of specific motions, postures, breathing exercises, and a focused mental state aimed at achieving self-regulation and awareness (Matos et al., 2015). Similarly, Reiki has emerged. Researchers have been exploring the underlying physics of these practices, suggesting potential connections to electromagnetic, acoustic, and thermal effects (Chen, 2004). Compelling data suggest that intention possesses the potential to exert a powerful impact on physical reality, ranging from unicellular organisms to human beings (Matos et al., 2021). A notable analytical review was conducted by Chen (2004) with a particular emphasis on evaluating the effects of “external qi.” The researchers utilized five distinct categories of detectors: 1) physical signal detectors; 2) chemical dynamics methods; 3) detectors employing biological materials; 4) detectors utilizing living sensors, and 5) detectors utilizing the human body (Chen, 2004). This paper focused on the studies that explore the human body as a detector in the context of healthcare applicability. Regardless of the approach used, these practices are often associated with evident stress reduction patterns, as demonstrated by Reeve et al. (2020) while evaluating the effects of Healing Touch as an intervention for posttraumatic stress disorder. Their study showed a significant mean reduction of symptom severity by approximately 18.11 points in the experimental group, compared to a change of 5.57 points in the control group. Those exposed to biofield treatment reported various positive physical and psychological effects (Reeve et al., 2020). Primary outcomes may be associated with compensating for the adverse effects of stress through sympathetic activation of recipients’ left-anterior cerebral cortex, as demonstrated by Pike et al. (2014). These results indicated an enhancement of the left-anterior activation of the cerebral cortex relative to placebo and no-treatment controls, signifying a higher overall reduction in state anxiety compared to baseline measures (Reeve et al. 2020). Stress-related physiological variables are also responsive to biofield treatments, as demonstrated by Lee et al. (2004). In their crossover study, “external qi” therapy was found to induce significant changes in encephalography and circulating cortisol concentrations in the real intervention group compared to the placebo control. Subjects reported improved emotions of satisfaction, relaxation, and calmness during the real intervention compared to placebo treatment (Lee et al., 2005). “External qi” therapy positively affected sympatovagal function, reducing heart rate and increasing heart rate variability (Lee et al., 2005). These physiological mechanisms might be common to studies reporting beneficial effects of biofield practices in burnout, anxiety, and depression (Matos et al., 2021). In this regard, we need to mention the transdisciplinary approach carried out by several researchers on biofield science and healing who may contribute to an integrated perspective of consciousness and the living universe (Hammerschlag et al., 2015). These studies support the findings of a systematic review conducted by Jain et al. (2010) who included 66 clinical studies on various biofield therapies in different patient populations. Strong evidence was found for reducing pain intensity in pain populations and moderate evidence for reducing pain intensity in hospitalized and cancer populations. Furthermore, moderate evidence suggested decreased negative behavioral symptoms in dementia, anxiety in hospitalized populations, improved quality of life in cancer patients, and decreased cardiovascular patients’ anxiety (Jain and Mills, 2010). Bat (2021) also conducted a pilot randomized, double-blinded, and placebo-controlled study to assess the effects of Reiki on heart rate, blood pressure, body temperature, and stress levels. Additionally, a single-blinded, assessor-blinded, placebo-controlled, randomized trial conducted by Gaillard et al. (2021) assessed the

effects of non-touch biofield therapy on warts in adults. Some reductions in size were observed for the biofield therapy group (Gaillard et al., 2021). Moreover, biofield therapies have been studied in cancer populations, such as, Lutgendorf et al. (2010) who observed a marked reduction in natural killer (NK) cell activity in both relaxation and usual care groups, contrasting with a mild decrease in the Healing Touch group.

3 Results

We are going to present some results on classical and contemporary healing methods.

3.1 Some Classical Healing Data in Chinese Medicine (CM)

The World Health Organization (WHO) (2002) provides evidence-based recommendations for various acupuncture procedures in treating different pathologies. The National Institute for Health and Care Excellence (NICE) (2021) highlights the improvement in pain management through acupuncture, while other authors recommend acupuncture for an additional various conditions and diseases. In this paper, we divided the research into areas of intervention in Chinese Medicine, namely Acupuncture, Qi Gong and Phytotherapy, leaving out Chinese Dietetics and Tuina. The methodology applied to clinical procedures, and it has been a target of criticism, particularly the placebo control of pharmacological studies (Birch et al., 2022). Furthermore, the variables involved in an acupuncture intervention are highly complex, as illustrated in Figure 1. This complexity arises from the difficulty in separating the different modalities in acupuncture, which can vary significantly from one another (Birch et al., 2022). CM is often combined with moxibustion, cupping therapy, guasha, TuiNa massage and Tai Chi or Qi Gong.

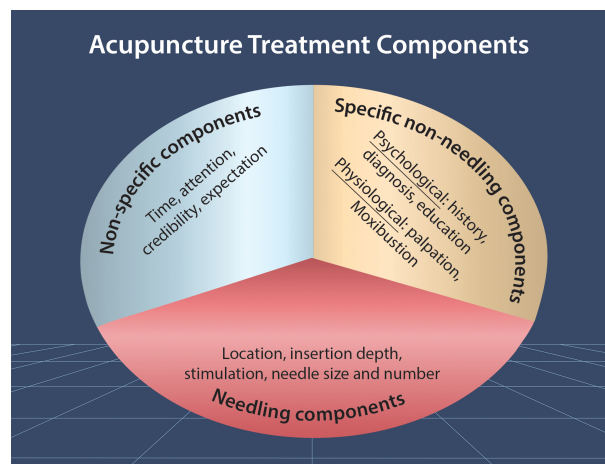


Figure 1: Components of acupuncture treatments divided according to specific and non-specific effects, as well as puncture components (Photo Source: Courtesy of Helene Langevin et al., adapted from Langevin et al. (2011)).

In this regard, the concept of the Neural Acupuncture Unit (NAU) (Zhang et al., 2021) is important for understanding the mechanisms of acupuncture effects, although it clashes with based explanations on neurological functioning mechanisms. The effects of acupuncture depend on one or more combinations of points (Cheng, 2013) that are detected by resonance imaging functional magnetic (fMRI) studies. This reinforces the perspective that the placebo effect in acupuncture has no scientific support (Yu et al., 2022). There are some difficulties regarding the use of a placebo in Gi Gong intervention (Gonçalves et al., 2020). Also, the new techniques for measuring changes in body temperature have demonstrated that the explanatory mechanisms of Qi circulation find support in objective measurements, as proven by Luís

Matos et al. (2012). We searched for articles on Acupuncture, CM, and QiGong applied for the treatment of several pathologies, as illustrated in Table 1.

Table 1: Articles found in Pubmed from the expressions that contain the words Acupuncture, Chinese Medicine, Qi Gong in the title for reviews or systematic reviews, in the last 3, 5 or 10 years.

Type of Article and Area	Total Published	During Last 10 years	During Last 5 years	During Last 3 years
Acupuncture, Chinese Medicine Or Qi Gong in Titleg	27840	14106	8435	5782
Review or Systematic Review Articles	4789	3135	2121	1598

3.1.1 Musculoskeletal Pain (Shoulder, Cervical e Low Back Pain)

For musculoskeletal pain restricted to the low back pain, shoulder, and neck regions, we found one hundred and twenty-three articles, twenty of which are systematic reviews. Since 2022, out of six articles, three of them referred to low back pain, and one of them referred to post-stroke shoulder pain (PSSP). The reviews referred to low back pain indicated the effectiveness of acupuncture treatments compared to the control groups (Baroncini et al., 2022). In the systematic review of the treatment of acupuncture in pregnant women, verified significant improvements in the functional state of pregnant women. The review of shoulder pain after stroke, which compares acupuncture with rehabilitation and includes fifteen studies in the meta-analysis, involving a total of 978 patients, concluded that both acupuncture and rehabilitation are effective in relieving PSSP. It suggests that these treatments may be optimal for this condition, although further studies are recommended to confirm these findings. Also, we have to mention the Sherbrooke model which applies a transdisciplinary approach to the treatment of musculoskeletal pain (Loisel et al., 1994).

3.1.2 Diseases of the Immune and Respiratory System

Since 2022, Pubmed has indexed 23 studies, with ten meta-analyses – six focused acupuncture, two on Chinese medicine, and two on both. These meta-analyses refer to diseases, including eczema and urticaria, asthma, allergic rhinitis (AR) and rheumatoid arthritis. Regarding asthma (Pang et al., 2023), it was found that acupuncture, when combined with conventional therapy, may improve the quality of life for people with asthma and enhance lung function (FEV1%). In the most recent meta-analyses on allergic rhinitis (Du et al., 2022), which encompassed thirty studies comparing acupuncture with sham acupuncture, it was concluded that Filiform Needle Acupuncture (FNA) is an effective and safe intervention for AR. FNA can help with symptom relief, improve quality of life (QoL), reduce medication usage, and increase patient satisfaction. In the most recent meta-analyses on rheumatoid arthritis, it shows that the combination of conventional treatment of western medicine with Chinese medicine injections can improve the treatment efficacy on rheumatoid arthritis. However, the Surface Under Cumulative Ranking Curve (SUCRA) of Chinese medicine injections (CMIs) need to be further verified with high-quality multi-center, large-sample, randomized double-blind trials. Within the diseases of the respiratory system, we want to highlight a transdisciplinary study carried out by a researcher in the health area on the development of novel therapies for the treatment of fibrotic diseases, including pulmonary fibrosis (Hecker, 2016).

3.1.3 Qi Gong

Qi Gong is one of the fastest growing Chinese Medicine approaches in addressing pathologies in the field of integrative practice of health (Toneti et al., 2020). A search on Pubmed shows 35 results related to this intervention for meta-analysis studies in the last five years. The different approaches (schools) of QiGong and the difficulty in parameterizing the modes of intervention make it difficult to compare ways of applying this therapeutic exercise (Tian et al., 2024). However, the positive effects of this practice are recognized in several conditions, such as improving the quality of life in patients with cancer, anxiety, COPD, stroke, and Parkinson's disease. The most effective method to assess the increasing application of this therapeutic intervention may be through its adaptation in the distinct context of occidentalization, especially evident in the emergence of what is referred to as mindfulness. This practice serves as a subtle way of hiding the roots of QiGong, blending an ancient therapeutic method with modern relaxation techniques.

3.2 Some Contemporary Healing Data On “Spontaneous Healing”



Figure 2: Ma vie est un miracle (My life is a miracle).

This case study (Martins, 2022) describes a “spontaneous healing” experienced by Sister Bernadette Moriau, after she went on a pilgrimage to the Sanctuary of Lourdes, in 2008, as illustrated in Figure 2. In fact, Sister Bernadette Moriau described her “spontaneous healing” (Moriau, 2018, p. 11-41) thus: “... Since I was twenty-seven years old, I started experiencing back pain which led to the diagnosis of “cauda equine syndrome” (a type of spinal stenosis), resulting in quasi paralysis. My clinical case was monitored

by the general physician, Dr. Christophe Fumery, and complemented by the rheumatologist, Dr. Christophe Alliaume, who conducted knee and arthrosis examinations, followed by surgeries performed by Dr. Frank Becigneul, the pain specialist. My left foot was practically turned, and I had to use a prosthesis to keep it straight. I also had four surgical operations due to a permanent inflammation of the nerve roots, as my legs suffered chronic sciatica pain. A neuro-stimulator was also implanted in the lumbar region... I started taking morphine to minimize the pain... In 2002, my clinical situation deteriorated very quickly, having been declared invalid. In this regard, I often went to the Anti-Pain Center, in Nantes... Meanwhile, my general physician, Dr Fumery suggested that I go to the Sanctuary of Lourdes, which I did on the 4th of July 2008, as part of a pilgrimage in my diocese. In Lourdes, I felt in my heart that the Lord Jesus visited me, as never before, during the blessing of the Blessed Sacrament. Then, the Lord Jesus spoke to me, and here is what He said to me «I see your suffering and that of your sick brothers and sisters, give me everything». In no time, I asked for my healing... Then in the pools, I was washed of everything bad. So, with the fire of the Blessed Sacrament and the water of the pools, I felt that a new life was beginning, even though I was not yet healed... Then, after 3 days, on Thursday, 11th July 2008, I left my room at the convent when I was resting and I went with Sister Marie Albertine to our modest chapel across the hall for worship and prayer. At 5:00 p.m., we were celebrating Eucharistic communion, spiritually united with the sick of Lourdes. At precisely 5:45 p.m. (local time), we were praying during the adoration of the Blessed Sacrament and, suddenly, I felt a relaxation in my body together with a warmth that came out of the heart and spread throughout the body... Other people who were healed miraculously in Lourdes have described the same phenomenon of inner “heat”... I returned to my room. Then, I heard an inner voice that said to me: «Take off your devices», and thinking about what Jesus said to the paralytics: «Get up from your bed and walk!». I took everything off, that is, the vest and the devices of the legs and feet... I interrupted the morphine and the neuro-stimulator. After Sister Albertine, the first witness of the phenomenon, I have mentioned the kind Sister Geneviève, who visited me every day, after I returned from Lourdes. Then, I called Sister Marie-Albertine who asked me, “What happened to you?”. After nearly forty years of battling the disease, I found myself healed within a few minutes. It’s incredible”.

A dossier on the reports of Sister Bernadette Moriau was compiled by Dr. Christophe Fumery, along with his colleagues Dr. Alliaume and Dr. Becigneul, who had been following her clinical case. They testified to her unexpected recovery. This dossier was analyzed by both Bureau des Constatation Médicales (BCM) and Comité Medical International des Lourdes (CMIL), which conducted additional diagnostic examinations as required by some specialists. The medical-scientific methodology applied to validate this “spontaneous healing” has met the seven criteria that were defined by Cardinal Prospero Lambertini (Holland, 2016). Thus, Prof. Alessandro de Franciscis (president of BCM) wrote a “Clinical Report” validating this “spontaneous healing” as “unexplained according to the current scientific knowledge”, in 2018. Furthermore, a declaration of a “miracle” has been validated, verifying, both whether the patient did indeed have a severe prognosis (irreversible and incurable), and whether the cure was in fact effective (spontaneous, complete/without convalescence and irreversible) according to “current medical knowledge” (Holland, 2016).

This “spontaneous healing” has been investigated through a transdisciplinary perspective (Martins, 2022), including the assumptions of quantum physics, transpersonal psychology, and Indian philosophies (Martins, 2025). The integrative medicine model that is advocated in this paper supports a perspective of interdependence between the patient’s mind and body, in agreement with the principles of Ayurveda (part of the study of Indian philosophies) described by the “doshas” and Panchakoshas theory. So, it was referred to in another article (Martins, 2018, p. 38-39): “*Ayurveda also defends that the process of healing is performed in the five dimensions of the human nature, as described by Panchakoshas theory. These five plans of consciousness are: Annamaya kosha (physical body), Pranamaya kosha (vital or pranic body), Manamaya kosha (thoughts/feelings or concrete mind-body), Vijnanamaya kosha (archetypal body), Anandamaya kosha (conscious link with the soul or intuitive body), Atman (soul). Also, the access to the various areas of consciousness is described by the Egg’s diagram. In it, we can see the several areas of consciousness of the human mind, including the unconscious side of the human being (numbers 1,2,3 and 7), the field of consciousness (or consciousness mind) of the human being (number 4), where appear the*

mental and emotional patterns of behavior (Jung called them archetypes), and the “ego/personal I” (number 5) that might establish a conscious link with the soul (number 6).”.

4 Discussion

4.1 Some Considerations About The Results In Chinese Medicine (CM)

In CM, disease is seen as an imbalance between the complementary aspects of Yang and Yin, which are components of the vital energy (qi) that flows through a system of channels, known as meridians, according to the theory of Channels of CM. These meridians are correlated with the physical organs whose fundamentals are described by the Zang Fu theory mentioned above. For example, the Triple Heater and the Heart Protector have a relevant role in the transmission of qi between organs (Goswami, 2004). The practice of Qi Gong is often characterized by the release of “heat”, and it plays an important role in spiritual awakening and a change in an individual self-consciousness (Jung, 1999), described by the theory of chakras (Sturgess, 2014). TuiNa massage can also promote the movement of qi. The meridians describe only approximate pathways because vital energy is quantum in nature, and so it is not possible to describe with equal accuracy the velocity and movement of the qi. Thus, the treatments in CM and Ayurveda are individualized because the imbalances that gave rise to the patient’s health problem may have different causes. Both CM and Ayurveda are known as mind-body medicine (Goleman and Gurin, 1993), since they promote the healing of all “bodies” of consciousness through the alteration of the patient’s behavior patterns (Svoboda and Lade, 1995). Thus, it was mentioned in another article (Martins, 2018, p. 37-38): *“One purpose of integrative medicine is to contribute to the connection between Eastern and Western medicine in order to develop a system of health care that might heal the person in a holistic way (bio-psycho-spiritual dimensions of the human being). Then, one target of integrative medicine is to support goal #3 (‘To ensure healthy lives and promote well-being for all, at all ages’) of the Sustainable Development Goals (SDG) of the United Nations 2030 Agenda”.* The transdisciplinary approach used in this paper allows us a new perspective to the science of life that promotes wellness through Eastern and Western medical practices (Phalen, 2012). It also reflects a harmony between the different aspects of the human being (soul, mind, feelings, body) through which the healing process is carried out. Basarab Nicolescu (2010) defends the interconnection between the various levels of perception of the “subject” (observer) with the different levels of Reality of the “object” (observed). Thus, some authors argue that when an observer makes a self-awareness choice, Purusha or Divine simultaneously “collapses” the “waves of possibility” of the mental, emotional and vital bodies onto the physical plane, in a top-to-bottom process (Goswami, 2004). The choice of the observer’s self-awareness determines the manifestation of the “quantum waves of possibilities” existing (in potential) in reality (Goswami, 2004). The vital body provides the original blueprints (morphogenetic fields) of the biological organs that allow the physical body to perform the existing “patterns” in the field of consciousness of the patient. The quantum-entanglement between the observer’s self-perception and the structure of the physical world “shapes” the quantum body (all bodies except the physical) (Wolf, 1986). This new approach to medicine allows us to see illness and healing as an integral part of our personal choice during spiritual development (Astin and Astin, 2002). Thus, the role of the mind in physics and healing is emphasized, showing that not all diseases are caused exclusively on the physical level, as advocated by the current biomedical model (Pelletier, 1992).

In this regard, we need to highlight the concept of morphogenetic field. Modern understanding of neoplasm formation is mainly attributed to epigenetic causes (Fructuoso, 2015), whose studies support a dual model applied to medicine. In the model, the biological stuff is “informed” with a kind of energy coming from an upper level of consciousness, and the physiological systems are interactive fields exchanging information. Rupert Sheldrake (1988) proposes the theory of biomorphic genetic fields, which work in health and disease. An anecdotal proof is the so-called “phantom member” that persists after an amputation. Researchers were intrigued by the potential of therapies, such as meditation and prayer, against some diseases or simply to improve the quality of life (Carrel, 2012). Thus, it would be necessary to introduce an additional dimension - that of “altered states of consciousness” - where access to a “spiritual realm”

transcending rational thought becomes possible. This realm is believed to potentially influence both the mind and the body.

4.2 Some Considerations On The “Spontaneous Healing” Experienced By Sister Moriau

In 1948, the World Health Organization (WHO) gave a holistic perspective in its definition of health (WHO, 1948, p.100): “*Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity*”. In this regard, there are several reports in which spirituality and faith improved or even cured physical problems (Krippner and Acterberg, 2000). These include conditions that can be addressed by medicine, although with reserved prognoses or cases referred to as “abandoned by medicine”. More challenging to explain are the “miracles”, which are believed to result from prayer and “divine” or saint intercession. When something similar happens, the attribution of causality is referred to as the “remote psychic influence on biological and physical systems” (DMILS) or “psychic healing”, in the domain of parapsychology. In the 17th century, Blaise Pascal recognized the existence of miracles, while Pavese (2005) considers that the miracle resets the natural order of Nature. It is an extensive interpretation of Jesus’s miracles, where He is seen as challenging the “Natural Laws”. It is similar to what Alexis Carrel (2012) points out: Miracles prove the existence of organic or mental processes that we do not fully understand. In fact, the “spontaneous healing” of Sister Bernadette Moriau continues to challenge the scientific ground and conventional healthcare. Thus, some paragraphs are devoted to defining consciousness and its altered, modified, and amplified states (A/M/ASC).

4.2.1 The “I”: The Organizing Instance of Psychic Life Within Consciousness

The spectrum of possible experiences in the field of consciousness extends from unconscious to mystical experience, in the domain that could be considered the “supraconscious” (Scharfetter, 1990). This exchange of information with intentionality (meaning) includes synchronicity, paranormal phenomena, placebos, and exceptional human experiences. It seems that there is a structure (instance) within consciousness that gives sense or significance to the set of phenomena that occurs in its field - the Self or Ego – as described in Egg’s diagram (Martins, 2018). According to Christianity, it would be something immortal, while Indian philosophies consider the Self as a set of body, soul, and spirit. The shortcomings of animal models of psychic life are referred to here because there is a lack of verbal cognitive and emotional experience, especially of the Ego or Self. When a machine, like the Language Model for Dialog Application (LaMDA) says “I am afraid”, it implies that “itself” is experiencing this feeling. However, the question of whether LaMDA is truly sentient remains an open one, as described by HPTD-M theory (Costa, 2024). In fact, some authors argue that, unlike computer cognition, human decision-making requires the interaction between cognition and consciousness that occurs in the grey zones (Loisel, 2024).

In this paper, we consider two dimensions of consciousness, namely the vertical and the horizontal. The first represents the lucidity, and clarity of consciousness up to its extreme of coma, while the second begins with the twilight state, then the “oniroid”/dream-like state, followed by a state of feeling that nothing is remembered until the vigil state is reached. The functional model of consciousness presented in this paper suggests that consciousness is directed by attention, which causes any data that reaches consciousness to form a configuration - an evanescent image that last for a short time, with temporary memorization. An example is a figure drawn by E. Boring (1930) that represents a superposition of configurations: it allows us to see both an old woman and a young woman, depending on how the viewer’s attention is directed. It is one or the other depends on the self-conscious choice made by the observer (Goswami, 2004). Therefore, this kind of stimulus will be the first link in a chain of thoughts, which obeys a logic of affections or affective logic (Ciompi, 1982) that associates an emotional meaning for each stimulus of the cognition that goes beyond rational thought. Here, one could make a similar approach for faith in a miracle – an intuition of cure, based in similar cases or signs of known bliss, prayer, and belief – but in the case, with a determined objective, the cure.

4.2.2 Emotional And Magical Thinking And Representation Of Reality

Emotional thinking, the predominant form of thinking in an Altered/Modified/Amplified State of Consciousness (A/M/ASC), is an affective logic that does not respect the principle of temporal sequence, since everything that was experienced in the past can be updated, in its entirety (holistically) at a given moment, without a temporal hiatus. Effective logic also does not respect the principle of contradiction (impossibility of being and not being at the same time). Therefore, the same is valid for the “miracle” – an existing disorder or disease is compatible with a definitive healing. It should be noted that the representation of a cure/miracle, does not coincide with the external reality. For example, studies on hypnosis (Hilgard, 1986) demonstrate that the common aspects of representation and reality are, above all, at the level of affective experiences, more than cognitive ones. Strong objectivity has been destroyed by the fundamentals of quantum physics (Goswami, 2004). Thus, the inner experience is only a representation of the reality made in a holographic way, which only partly coincides with the observed reality, as described in the literature (Letellier, 2019). Both quantum mechanics and poetry concern the description of objective reality, namely the various manifested faces of a veiled Real.

4.2.3 Levels Of Consciousness and Its Basic Structures

Neurosciences have not yet been able to explain the subjective awareness of experience and living. What is usually called “spirit” would be the so-called integrating principle. One author, who has best managed to integrate current knowledge in classical psychology with the transpersonal and spiritual traditions, is Ken Wilber (1984, 1984a). He proposed nine basic structures, whose development takes place in “fulcrums”, which, if not overcome harmoniously, can give rise to physical and psychopathological disturbances. It reminds one of the traditional subtle bodies depicted in the yoga tradition (Sturgess, 2014). The sensor-physical level (fulcrum 1) is the domain of matter, sensation, and perception, which corresponds to Piaget’s sensory-motor level (1977); The second phantasmatic-emotional level (fulcrum 2) is the domain of the emotional-sexual, élan vital, libido, imaginal world; The third mental-representational level (fulcrum 3) corresponds to the pre-operational domain, to the world of symbols and concepts; The fourth fulcrum of development, of the mental-operational level (fulcrum 4) corresponds to the concrete operational thinking of Piaget (1977); At the mental-formal reflective level (fulcrum 5), Piaget’s domain of operational formal thinking, the individual thinks about “thinking”, has self-reflection and introspection, hypothetical and propositional thinking; At the perspective-logical level (fulcrum 6) there is the domain of the “network” of ideas, synthesis and integration of concepts. It is the highest personal integrative structure - the Self or reflective I; The next levels of consciousness are only regularly attainable through an A/M/ASC, the psychic level - path of the Yogis (fulcrum 7). At this level of complex psychic phenomena are observed, and minor forms of mystical experiences and some paranormal abilities emerge.

The subtle level - path of the Saints (fulcrum 8) is that of archetypes, forms (Plato), “audible illuminations” and “subtle sounds”, “transcendent insight” and “absorption”, of personal divinity and pseudo-nirvana; The last of the levels of consciousness referred to by Wilber (1984, 1984a) as the causal level - path of the Wise (fulcrum 9) would be the domain of the source, not manifested, of all inferior structures. It is usually associated with Void, Formless Self, or Paramatman that is common and pervades all human beings, as well as other sentient beings; These last levels of consciousness, attainable through an A/M/ASC, seem to be necessary for a miracle. They question paradigms of logic (time and space) and of the psychology of self-consciousness.

4.2.4 Altered/Modified/Amplified States of Consciousness (Chance For The “Miracle”)

Also, A/M/ASC has long been rooted in different cultures and appeared in religious, healing or social-magic contexts, with frequency being a function of socio-cultural variables (Simões, 2002). Generally, they are induced in ceremonies, following a ritual where set (inner attitude) and setting (ambiance), play a very important role. Another type of experiences that arise in A/M/ASC is the experience of self-dissolution of the self (bad trips), but also mystical experiences. The experience would be trans-rational (beyond rational)

and can be experienced under hypnosis (Tranel and Eslinger, 2000). Professionals ought to recognize spirituality as an essential component of healthcare that might integrate the knowledge of Eastern and Western traditions. This can be achieved through A/M/ASC (Almendro, 2022). Transpersonal psychology intends the bio-psycho-emotional-social-cultural and spiritual well-being, as well as the use of ASC to promote relaxation and visualization to obtain therapeutic impact (Walach et al., 2005). In fact, in the case of the “spontaneous healing” of Sister Moriau, there was no ingestion of drug, no mediumistic trance. There was just an “altered state of consciousness” which made her to access higher levels of consciousness (fulcrum 7-10 of Wilber), resulting in the miracle (Moriau, 2018). This “spontaneous healing” might be related to the results of the Aspect’s experiment, which involved “instantaneous, lasting and inexplicable” phenomena (Martins, 2022 & 2025). The practice of praying to Jesus might have contributed to the non-local “quantum intricacy” between them, as defended by the Grinberg-Zylberbaum experiment (1994). Two yogis were connected through intentional meditation, and when one of the Yogui experienced a series of flashes of light, the other Yogui also exhibited the same transferred potential, in both phase and intensity, even though they were in electromagnetically isolated chambers. The control group with no internal connection between them has no transferred potential.

5 A Transdisciplinary Approach Of The Role Of Consciousness And Spirituality In Physics and Healing

The current biomedical model, supported by the Cartesian paradigm, has primarily focused on chemical, biological, and physical healing approaches for patient treatment. Therefore, the main objective of this paper is to provide a transdisciplinary (TD) and integrated approach to understanding the role of consciousness and spirituality in physics and healing. When we approach healing from the transdisciplinary and integral perspective, we are considering all the dimensions of human beings, including their spirit, mind and body. Thus, we are going to see how they all connect and interact with one another. For this purpose, we are going to define transdisciplinarity (TD) in order to establish a connection with Figure 3 and Table 2 which illustrate the four quadrant model of consciousness (AQAL) and the fulcrums of self-development, respectively.

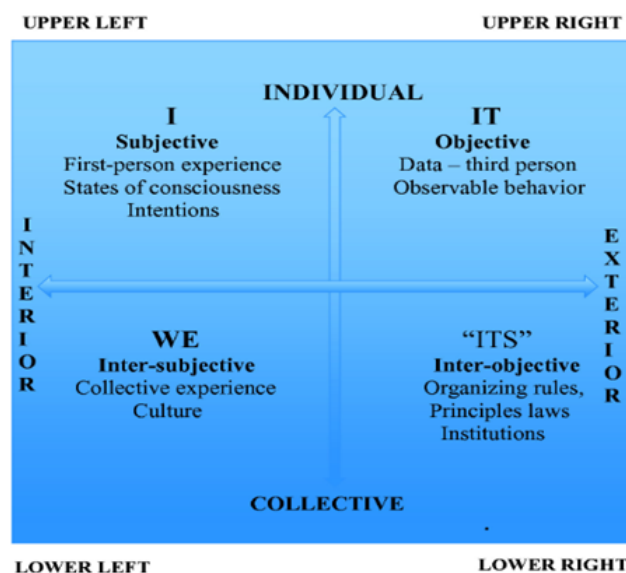


Figure 3: The Four Quadrant Model Of Consciousness (AQAL).

There are different perspectives on transdisciplinarity, including Piaget, Jantsch, and Lichnerowicz. These perspectives were deepened and synthesized by Basarab Nicolescu (2010) and Edgar Morin (2008) who proposed the terms "beyond disciplines" and complexity, respectively. The term "beyond disciplines" concerns the idea of limits of disciplinary knowledge due to a total separation between the knowing subject and Reality. Thus, Basarab Nicolescu proposed a new understanding of the Subject-Object interaction that includes the formulation of the methodology of transdisciplinarity. There are three axioms in transdisciplinarity, namely the ontological axiom, logical axiom, and complexity axiom. The ontological axiom deals with levels of perception of the Subject and levels of Reality of the Object. The Subject has access to several levels of perception, and therefore the Object has several levels of Reality. Edgar Morin proposed that between the levels of Reality, there is a zone of non-resistance, corresponding to the Sacred, that is not rationalizable. Thus, transdisciplinarity introduces a multidimensional perspective of reality. The logical axiom deals with the logic of the included middle which makes the conciliation between antagonistic pairs, such as subject-object, and wisdom-technoscience. The logic of the included middle applies to different levels of Reality. For example, the mathematical language used by technoscience deals with just one level of Reality – the physical, while the symbolic language used by tradition deals with other dimensions of human beings, including mind and spirit (Nicolescu, 2008).

For this side, Ken Wilber (1997) proposed an Integral Theory that integrates classical and contemporary perspectives in psychology, philosophy, spirituality, and tradition. Wilber's Integral model – "all quadrants, all levels, all lines, all states, all types" – is commonly referred to as the AQAL model, which stands for "all quadrants, all levels". This model describes the patterns of all reality through five elements: quadrants (interior/exterior, individual/collective), levels (of complexity), lines (of development), states (of consciousness), and types (such as personality types), as illustrated in Figure 3.

The AQAL provides a comprehensive map for understanding the various dimensions of human beings, recognizing that integral healing considers the complexity of patients and the world in which they live (Duffy, 2020). The Four Perspective Quadrants, described in Figure 3, are as follows: The upper right quadrant (URQ) shows the "It" which represents the outside of the individual, the upper left quadrant (ULQ) shows the "I" which represents the inside of the individual, the lower left quadrant (LLQ) shows the "We" which represents the inside of the collective, the right lower quadrant (RLQ) shows the "Its" which represents the outside of the collective. Thus, the quadrants are the inside and the outside of the individual and the collective, which means that all four quadrants need to be considered to have an integral perspective of the patient's health. Ken Wilber's (2006) defends that conventional medicine has emphasized the "It" (the outside of the individual) and URQ approach, valuing mostly the physical aspects of illness, and therefore prescribing only chemical, biological, and physical interventions, including medication, NMR, surgery, among others. For example, it is mentioned that Sister Bernadette Moriau underwent several medical tests and was prescribed morphine by her physician, Dr. Christophe Fumery, to minimize the lower back pain she suffered, along with a neurostimulator. She was also referred to the application of other conventional medicine procedures and treatments, such as the four unsuccessful surgeries that made her physicians to say that she had a "permanent disability" (Moriau, 2018).

However, the AQAL claims that every illness has four dimensions (the quadrants), and thus physical illness should have an integral approach according to the various dimensions of the patient, including the "I", "We" and "Its". For example, both Ayurveda and MTC argue that the patient's interior states (psychological, emotional, intentional) play a crucial role in the integral healing of the patient. The ULQ approach deals with psychological and emotional states, emphasizing the mind-body relationship. Thus, ULQ is also a key factor for the integrative medicine model that includes psychotherapy, and hypnosis. In her book *«Ma vie est un miracle»*, there is no indication that Sister Bernadette Moriau resorted to complementary medicines, such as Traditional Chinese Medicine (TCM), for musculoskeletal pain, to relieve her lower back pain, contributing to her overall well-being (Baroncini et al, 2022; Loisel et al., 1994). In the Shrine of Lourdes, there have also been other cases of "spontaneous healings" from other pathologies, such as respiratory diseases and cancer and whose application of TCM can be equally useful (Du et al., 2022; Hecker, 2016), namely to minimize the side effects of oncological chemotherapy treatments (Williams et al., 2016; Wang et al., 2023; Chen et al., 2023). TCM, like Ayurveda and psychotherapy, could

have complemented conventional medicine treatments. Still, we must highlight that Sister Bernadette Moriau's life of prayer and introspection might have contributed to her mind-body well-being (Moriau, 2018). Furthermore, the patient's consciousness is embedded in family patterns, cultural values, and worldview, described by the "We" (the inside of the collective) and the LLQ approach, which may influence how the patient copes with the disease, thereby affecting its course. We are told that there was good communication between the general physician, Dr. Christophe Fumery, and Sister Bernadette Moriau (Moriau, 2018, p.19): "*Dr. Christophe Fumery suggested that I go to the Sanctuary of Lourdes, which I did on the 4th of July 2008, as part of a pilgrimage in my diocese.*". Likewise, she appears to be well integrated into the religious community where she lived and prayed daily with other sisters, including Sister Marie-Albertine, who witnessed her "spontaneous healing" (Moriau, 2018, p.38-41): "*After Sister Albertine, the first witness of the phenomenon, I must mention the kind Sister Geneviève, who visited me every day after I returned from Lourdes. Then, I called Sister Marie-Albertine, who asked me «What happened to you?».*". For its side, the "Its" and RLQ approach concerns the public health policy (material, economic, and social factors) that can influence the patient's healing, including health insurance, well-equipped hospitals, with well-trained physician, who are also decisive in the development of the patient's healing (Wilber, 2006). The RLQ contributed positively to the comprehensive treatment of Sister Bernadette Moriau, as mentioned by herself (Moriau, 2018, p.19): "*My clinical case was monitored by the general physician, Dr. Christophe Fumery, and complemented by the rheumatologist, Dr. Christophe Alliaume, who conducted knee and arthrosis examinations, followed by surgeries performed by Dr. Frank Becigneul, the pain specialist.*". Sister Bernadette Moriau was also sent to a specialized medical center called Anti-Pain Center in Nantes (Moriau, 2018, p.15): "*I started taking morphine to minimize the pain... In 2002, my clinical situation deteriorated very quickly, having been declared invalid. In this regard, I often went to the Anti-Pain Center, in Nantes.*".

We will now integrate all the components, utilizing the AQAL map illustrated in Table 2, to achieve a transdisciplinary perspective on the case study of Sister Bernadette Moriau, as discussed in section 3.2. The transdisciplinary perspective on "beyond disciplines" is expressed through the levels of development of each quadrant of the AQAL map. In fact, the AQAL map was drawn up according to the philosophies of India including the the Panchakoshas theory. This theory makes the connection between levels of consciousness or perception of the Subject, and levels of Reality of the Object, which was described in another article on integrative medicine (Martins, 2018). Furthermore, the logical axiom of the included middle is expressed through the unity of knowledge from the various quadrants. These quadrants have to be considered together to have an integral perspective of the patient's health. Also, transdisciplinary complexity is also present in the AQAL map through the ancient principle of universal interdependence. It is not the amount of information coming from a single quadrant that can give an integral perspective of the patient's health, but rather the ability to interconnect and integrate all the information from the different quadrants. These transdisciplinary approaches are essential for the integration of science, culture, and spirituality, in contemporary society (Nicolescu, 2014).

We will utilize Table 2 to gain a more comprehensive transdisciplinary understanding of the case study concerning Sister Bernadette Moriau, as mentioned in section 3.2. Integral theory (Wilber et al., 1986) aims to unify Western and Eastern tradition models through the concept of a "spectrum of consciousness" that ranges from archaic consciousness to an integral structure of consciousness (the highest form of consciousness) (Combs, 2001). In this regard, Wilber proposed the integration of levels of development and forms of psychopathology, as shown in Table 2. Ken Wilber (1984 & 1984a) proposed the use of nine factors (parameters or "fulcrums"), as the framework for more effective approaches of the role of human consciousness in an integral model of healing. Sometimes ten factors are used, if we consider the Ultimate, Paramatman (F-10) as a "fulcrum" (Combs, 2001). This perspective is the deep basis of the transformation of consciousness in human beings (Combs, 2001).

The "fulcrums" show the Subject-Object connection of several levels of perception, and the several levels of Reality proposed by the ontological axiom of transdisciplinarity. Each "fulcrum" or level of consciousness has to be integrated by the patient before he can experience the next "fulcrum". This integration is made by the logic of the included middle applied in each "fulcrum". There are exceptional cases of "spontaneous

Table 2: Levels of development shown fulcrums with characteristic pathologies and treatment Modalities.

Fluctuation of self-development	Characteristics psychopathology	Treatment modalities
Ultimate (F-10)		
Causal (F-9)	Causal Pathology	Path of Stage
Subtle (F-8)	Subtle Pathology	Path of Saints
Psychic (F-7)	Psychic Disorders	Path of Yogis
Existential (F-6)	Existential Pathology	Existential Therapy
Formal-Reflexive (F-5)	Identity Neurosis	Introspection
Rule/Role (F4)	Script Pathology	Script Analysis
Rep-Mind (F3)	Psychoneurosis	Uncovering Techniques
Phantasmic-Emotional (F2)	Narcissistic-Borderline	Structure-Building Techniques
Sensory Physical		
Undifferentiated Matrix (F1)	Psychoses	Physiological/Pacification

healings” in children, even when they have not consciously integrated all the “fulcrums” up to the stage of the “miracle”. Furthermore, the complexity axiom states that between the levels of Reality, there is a zone of non-resistance, corresponding to the Sacred, that it is not rationalizable. In fact, the “fulcrums” of self-development exemplify the multidimensional perspective of transdisciplinarity. The conciliation between science and spirituality is present in the “spontaneous healing” experienced by Sister Bernadette Moriau. This case study was approached both by conventional medicine (morphine relieved her physical pain), and by the spiritual dimension of healing (Jesus healed her through fervent prayer). However, conventional medicine treatments apply only to the first five fulcrums listed in Table 2. There is only a possibility of a “miracle” in the last three “fulcrums”, namely, 7, 8, and 9 through rituals in a religious context, exactly as previously described by Sister Bernadette Moriau, both in the Sanctuary of Lourdes and in the chapel of the convent, where she lives. The “fulcrum 7” or Path of Yogis, refers in this case study to bhakti yoga (path of devotion) which represents her life in the convent. Sister Bernadette Moriau says (Moriau, 2008, p. 31-39): “*In Lourdes, I felt in my heart that the Lord Jesus visited me, as never before, during the blessing of the Blessed Sacrament... Then, after 3 days, on Thursday, 11th July 2008, I left my room at the convent...At precisely 5:45 p.m. (local time), we were praying during the adoration of the Blessed Sacrament and, suddenly, I felt a relaxation in my body together with a warmth that came out of the heart and spread throughout the body... Then, I heard an inner voice that said to me: «Take off your devices», and thinking about what Jesus said to the paralytics: «Get up from your bed and walk!».* I took everything off, that is, the vest and the devices of the legs and feet.... I interrupted the morphine and the neuro-stimulator... After nearly forty years of battling the disease, I found myself healed within a few minutes.”. It is stated in “fulcrum 7” that the psychopathological feature is “psychic disorders”. But, when discussing spirituality, and “spontaneous healings”, it is more accurate to refer to these states of heightened levels of awareness (A/M/ASC), as difficult stages of a radical personality transformation that could lead to a spiritual opening in the patient’s life. In this regard, Janet Colli says (2025, p. 3-5): “*Yet, in my clinical experience, spiritual emergencies or STEs may sometimes present with the symptomatology of psychiatric disorders,.. Stanislav Grof contributed to the de-pathologizing of difficult spiritual experiences which are often diagnosed as a psychic disorder and treated with suppressive medication. He argued that these experiences are difficult stages of a radical personality transformation and spiritual opening... This development is, at the same time, a process of discovery of one’s true identity and of the dimensions of one’s being that connect one with the entire cosmos and are commensurate with all of existence*”. This

perspective is in accordance with Nicolescu's transdisciplinary perspective (2010, p.24): *“Knowledge is simultaneously exterior and interior. The studies of the universe and of the human being sustain one another. Without spirituality, the knowledge is a dead knowledge”*.

6 Conclusions

This article highlights the use of traditional Chinese medicine (TCM), with a particular focus on practices like acupuncture, and Qi Gong. The potential benefits of these practices in improving physical and cognitive functions in different population segments were mentioned, including those with neurological disorders and stroke survivors. It emphasizes that while most research has focused on middle-aged and elderly populations, further investigations involving young people are needed. The Biofield therapies can also provide valuable support during cancer treatment and complement conventional treatments for chronic conditions (Matos et al., 2021; NCCIH, 2022). However, challenges remain in effectively controlling for placebo effects and standardized protocols (Hohenschurz-Schmidt, D. et al., 2023). Also, the topic of faith in relation to “spontaneous healing” presents a challenge for the scientific community and conventional healthcare practices. There are certain methods, such as sacred dance, meditation, prayer, hypnosis and rituals that can induce these heightened states of consciousness (A/M/ASC) characteristic of “spontaneous healing”. However, there is no room for the integrative healing approaches mentioned before through the current biomedical model supported by the Cartesian paradigm of separation of mind and body, where the body should be treated as a “machine” (Engel, 1977). In this regard, it was mentioned in another article (Martins, 2018, p. 40): *“This idea is the core of the research work of António Damásio. This scientist claims that Descartes's error is related to the separation between body and mind, and that they could exist separately from each other. António Damásio defends that emotions and feelings are an important link between thoughts and the physical body. For example, feelings and emotions have played a key role in our decision-making and personal choices in the survival of mankind through ages, as well as in the perception and expansion of awareness of human beings. The mind of a patient (thoughts and feelings) plays a relevant role in his or her outer reality (which is not relevant in the Cartesian Universe).”*. In summary, the transdisciplinary approach “beyond disciplines” used in this paper sought to identify the multiple factors that might influence a patient's health, and so contribute to a model of integrative medicine (Madni, 2007), including the AQAL map and levels of development with characteristic pathologies and treatment modalities (Combs, 2001; Duffy, 2020; Wilber et al., 1986; Wilber, 1997; Wilber, 2006). Transdisciplinary research might accommodate this paradigm-shifting of the healing power of consciousness used by Chinese medicine, Ayurveda, Reiki (distance healing) and “spontaneous healing”. The model of integrative medicine might also contribute to the design of health systems more effective, and therefore more cost-efficient in the treatment of patients (Perović and Krklješ, 2017).

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