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Chapter 8

**THE OLD-NEW VIEW OF CONSCIOUSNESS:
A REVIEW OF PHILOSOPHICAL AND SCIENTIFIC
APPROACHES TO CONSCIOUSNESS**

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ABSTRACT

The nature of consciousness has profound implications for our own existence. Consciousness thinks, creates, sees and perceives the world's reality. Consciousness influences our health; it determines our spirituality; it leads our life. Human beings are conscious beings. Western philosophy investigated the fundamental constituents of reality and put forward the concept of the soul and the realm of the spirit, and the dichotomy between mind and body. In the 19th century, in both America and Europe, there were multiple experiences of mediumship and psi phenomena, which attracted the attention of philosophers, scientists and the general public. Some denied their veracity, but many well-known scientists have investigated them and support the view of the spirit as an independent individuality. The main aim of science is to understand Nature. Through the laws of physics and mathematics, through chemistry or biology, many of Nature's secrets have been unveiled; civilization moved on with the development of technology. However, there is still no explanation to why an unconscious particle develops consciousness, i.e., how life appears in a lifeless particle. In general, science still believes consciousness is a product of the brain; it ignores consciousness anomalies or psi phenomena (telepathy, remote view, clairvoyance, psychokinesis, etc.). Nevertheless, when anomalous consciousness phenomena are viewed from the perspective of well-accepted theories of modern science, certain phenomena, previously thought as impossible, can be explained. This chapter discusses these phenomena and certain scientific theories that could contribute

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to an explanation of anomalous consciousness phenomena. Some theories explain better than others particular features of the phenomena, but no theory can explain all of them. Considering the existence of consciousness as a lasting individuality that evolves with time has a profound impact on health, medicine, and society. This chapter brings forward this old-new view of the human being, the soul, that manifests through its consciousness.

Keywords: consciousness, consciousness anomalies, psychic research, extrasensory perceptions, medical philosophy, metaphysical mind-body relation

INTRODUCTION

Through the development of science and technology humankind has achieved high standards of living but people do not yet understand the fundamental reason for their own existence, neither how thought is created, or consciousness arises.

The nature of consciousness has profound implications for our own existence. Consciousness allows us to think, to perceive the reality of the world; it also plays games inasmuch as one person's perception of reality is not true for another. Understanding the nature of consciousness is part of the quest for a better life. Consciousness influences our health; it determines our spirituality; it leads our life. Consciousness is the essence of what we are. Since ancient times, philosophers have argued about this essence of the human being, which we name here 'consciousness'.

Through science, we have learnt that living organisms are made of cells, molecules, atoms and particles. Science has clarified fecundation and birth and it has decoded the human genome. Science discovered that whether plant or vegetable, mouse, elephant or human, any living organism has the DNA molecule, and that the code (or the order of the letters in the DNA) differentiates one species from another. Science has confirmed that the human body consists of billions of cells, far more than the number of stars in the Milky Way.

Every day, many cells die and others regenerate; the cells, organs, and systems of living organisms present dynamic equilibrium and coherence as a whole. They act as one, up to the time of death, when this coherence and equilibrium are lost, and life is extinguished. From this point on, there are again, only atoms and particles. The body is extinguished, but there is evidence that consciousness persists.

In understanding consciousness, this chapter reviewed the ancient metaphysics, the mediumship events of the 19th century and also discusses psi phenomena. When these experiences are viewed from the perspective of recent scientific theories, certain phenomena, previously thought as impossible to occur, can be explained, could indeed exist. Therefore, this chapter also reviewed the few scientific theories which could contribute to the understanding of the physical nature of consciousness phenomena. Among these theories, we focused on: the waveform collapses interpretation of quantum

mechanics, the implicit order or David Bohm's interpretation (1980) and the Orchestrated Objective Reduction (Orch OR) approach to explain consciousness. We also go on to discuss more recent proposals, which consider the observable features of consciousness phenomena.

Although some of these interpretations allow a good explanation of some consciousness anomalies¹, they still do not consider the existence of consciousness after death, the so-called 'spirit' or 'soul'². This paper brings forward this old-new view of the human being: the soul, the spirit, the consciousness - the individuality that survives death.

WHAT IS CONSCIOUSNESS?

Since ancient times, philosophers have argued as to what life is; scientists have tried to understand it through the laws of physics, but there is no conclusive explanation as to why an unconscious particle becomes conscious, i.e., how life arises. Consciousness is what differentiates living organisms from pure matter.

Consciousness is what enables us to use our senses, to reason, to understand what is happening, and to make decisions. Consciousness allows us to distinguish faces, colours, learn new things and recognize old patterns. But how can we explain what consciousness is? How can we describe a colour to someone who is blind? How do we explain why red is red, and blue is blue? How does one account for the differences in perceptions of the same event among different people? These questions are part of the 'hard problem' of consciousness, as categorized by David Chalmers (1995).

Chalmers described the phenomenon of consciousness in two ways: the easy and the hard problem. The 'easy problem' relates mainly to behaviours, more specifically, as Chalmers categorized, to:

“the ability to discriminate, categorize, and react to environmental stimuli; the integration of information by a cognitive system; the reportability of mental states; the ability of a system to access its own internal states; the focus of attention; the deliberate control of behaviour; the difference between wakefulness and sleep” (Chalmers, 1995:2).

These 'behaviours' can, at least theoretically, be explained by cognitive science or neuroscience or psychology. They are easy to grasp and can be related to brain processes and quantified/qualified in a methodology.

¹ Consciousness anomaly is used in this paper to name the anomalous phenomenon that can be observed in our reality, i.e., the physical world.

² Although 'soul' and 'spirit' are used with different meaning within the scope of some philosophical approaches, in this paper they are used as synonyms.

The ‘hard problem’ is the problem of conscious experience, the subjective aspect of how we perceive an event. How does one explain the feeling of falling in love? How does one express the experience of swimming alone in sea, or looking at the myriad of stars in the sky on a dark night? The ‘hard problem’ is seeking an explanation for such experiences, which are individual experiences and denote a state of being, or a mental state. The ‘hard problem’ is hard because it seeks the essence of consciousness itself and for an understanding of what it means for an organism to be conscious. This is the quest we cannot easily answer.

Aiming to understand better the essence of consciousness, which we highlighted using Chalmers (1995) terminology, but is also part of psi experiences, we reviewed the line of thought of ancient and modern philosophers and recalled the mediumship and psi phenomena of the 19th century.

ANCIENT WESTERN PHILOSOPHY – THE METAPHYSICS OF THE SOUL

In ancient Western philosophy, several philosophers argued for the existence of the soul. Thales of Miletus (c. 624 - 546 BC) was one of the first Western thinkers to consider the existence of the soul in the sense that it is present in all living things (or things that ‘move by themselves’). By observing magnets, he concluded that they have a soul! Don’t be surprised! At that time, magnetism was not well understood. Although magnets do not have a soul, he made his point by concluding that everything that either moves, or makes something else move, has a soul. Thales of Miletus was one of the very first Pre-Socratic philosophers. He is also considered one of the first scientists thanks to his attempts to define matter and the substances that constitute matter. He represents the Pre-Socratic view that the soul is an elemental feature of the natural world.³

By the 5th century, the time of Socrates and Plato (429? - 347 BC), the soul was defined so as to distinguish between living and non-living things. The soul was also described as the bearer of thinking, sentiments and virtues and emotional states.

The philosophy of Socrates (c.470 – 339 BC)⁴ and his disciple Plato (429? - 347 BC) described the soul as separate from the body. For them, the soul was not only independent of the body, but had a greater degree of understanding when not attached to the body. The immortality of the soul was also part of their thinking. For Socrates, the soul travelled back and forth between the world of death and the material world; it is immortal and the bearer of knowledge; whilst for Plato, the human being was a soul imprisoned in a body.

The Greek ancient philosopher Aristotle (384 - 322 BC), the disciple of Plato, also advocated the existence of the soul, but rejected Plato's concept of the soul. For Aristotle,

³ This line of thinking is named Panpsyquism.

⁴ Socrates left no writings. His doctrine is written by Plato in Phedon, considered one of the greatest tributes ever paid by a disciple to his teacher.

the soul could not exist without the body, i.e., the soul is not immortal and does not reincarnate. The soul evolves through different biological aspects, such as nutrition in plants, movement in animals and reasoning in human beings. Aristotle reduced the soul to a system that enables living organisms to perform their vital functions. For him, mental processes are not special characteristics of the soul, but they can be explained as can be any natural phenomenon.

Aristotle's philosophy influenced the world-view for centuries. Thomas Aquinas (1225 - 1274) set the framework of Christian philosophy and, even today, philosophers still look to Aristotle work for inspiration. His great contribution is the principle of logic, which taught man to think clearly, using reasoning, and a scientific method that has been adopted in all areas of knowledge since then.

Although Aristotle was largely forgotten for centuries, René Descartes (1596 - 1650) revived his views. Descartes was the first modern philosopher. He was also a mathematician and a scientist or natural philosopher. By questioning all his own knowledge and beliefs, Descartes (1637) concluded he could deny having a body, but he could not deny having a soul that is entirely distinct from the body, because it is the soul that could doubt, believe and think, while the body couldn't. We can express his ideas through the famous saying, "Ego cogito, ergo sum" (I think; therefore, I am), which shaped a new vision of the natural world. In his vision, the world of matter has fundamental properties, which interact through a few universal laws, and it has also a separate, immaterial soul. This Cartesian view formulated the mind-body duality and has influenced the evidence-based medicine practised worldwide and embraced by international health organizations today (Sallam, 2010).

For Descartes, as for Plato, the soul is born with ideas, knowledge, and beliefs. Experiences are the key to unlocking this innate knowledge, but not the source of knowledge itself. Descartes' proposal gives an identity to the individual through the thinking process, however, it does not address the problem of what survives after the death of the physical body; it does not tell of the soul's origin. Arthur Schopenhauer (1788 - 1860) replaced the thinking process of Descartes with 'the will'. In Schopenhauer's philosophy, the will is a fundamental quality and the inner nature of all things. The will seems also to play an important role in the explanation of healing power or the phenomenon of mind acting over matter.

Emmanuel Kant (1781 - 1787), one of the most influential modern philosophers, argues that it is not possible to acquire knowledge of the soul, nor to know whether it is immortal or not, except through a rational faith. In Kant's metaphysics, the existence of God, and free will, as well as the immortality of the soul, can be accepted only through rational faith.

"What I think as spirit, is not remembered by me as man, and, conversely, my state as man does not at all enter into the conception of myself as spirit (...) however clear an idea

one may, by reasoning, derive of himself, i.e., of his soul, as a spirit, still this idea is with no man an object of actual sight and experience.” (Kant, 1900, p. 68-69)

For Kant (1900, p. 55-70) the human beings are connected to their souls and live in two different realities: the body submitted to the physical laws; and the spirit connected to the body but submitted to natural spiritual laws. Nevertheless, the law of association of ideas allows the transmission of spiritual ideas to the human conscious mind. Moreover, the spiritual world is neither heaven nor hell, but a state of consciousness determined by the connections with other similar spirits. Kant’s metaphysics is profound and rich. It makes it possible to accept religious ideas with a rational basis, without dogma or any knowledge of the objects of belief.

Outside the realm of philosophical approach, Galileo (1564 - 1642), Descartes and Newton (1643 - 1727) started the scientific revolution and brought in the mechanist view of the world - a radical form of dualism. In this Cartesian world-view, there is a clear separation between mind and matter, in which matter is unconscious and the soul is immaterial. The metaphysical division between soul and body contributed to a hard division between those who believed in dualism and those who didn’t, giving rise to scientific materialism.

The view that the body is comprised of machine and soul, or that the mind is immaterial and dissociated from the body, contributed to a materialist approach to health. Indeed, medicine has successfully addressed many health issues, yet still has its weaknesses. By treating the symptoms and problems of a particular system or organ, Western medicine misses the whole, the individual consciousness, and usually ignores its manifestation in the physical world. Such manifestations include consciousness anomalies such as remote viewing, near-death experiences and the various forms of mediumship. Before we review what are consciousness anomalies, we will review the mediumship events that occurred in the 19th century.

THE MEDIUMSHIP EVENTS OF THE 19TH CENTURY

In the 19th century, so-called spirit manifestations attracted the attention of both scientists and the general public. The events started with physical phenomena such as raps or other kinds of rhythmic noise, moving tables or other objects, and they evolved into physical appearances and conversations with the deceased.

Several individuals who acted as mediums for these phenomena became famous. Some of them earned their living performing on stage; others experienced the mediumship within private circles. Many mediums went through exhaustive investigations. They were tied up; their bodies were inspected; their intimacy violated by lay-persons and by scientists to verify both their honesty and the veracity of the phenomena. Famous mediums of the 19th

century include the Fox sisters, Andrew Jackson Davis, Daniel Douglas Home, Elisabeth D'Esperance, Henry Slade, Stainton Moses, Eusapia Palladino, to name but a few.

The Fox sisters are said to have triggered the public interest in spirit manifestations. They were seven and ten years old when their family experienced an outbreak of noises, such as knockings and the sounds of moving furniture, in their house in Hydesville⁵ (USA). The rapping became quite intense on the night of 31 March 1848. On this night, one of the young sisters, Kate Fox, snapped her fingers and challenged the 'unseen power' to repeat the snaps of her fingers (Doyle, 1926, p. 26); surprisingly, she got a reply! The conversation with this unseen power revealed that it was the soul of a peddler named Charles B. Rosna, who had been murdered and buried in the house. In 1904, almost 50 years later, human bones were discovered within the walls of the cellar, proving the veracity of the communications.

The sisters Fox went public and held sittings (or seances) in New York and other places in the USA, as well as in England (Kate Fox). A method of spelling was invented to decode the raps and soon, everywhere, there were communications with souls.

Common effects observed through the psychic forces of the Fox sisters were raps, sounds of people walking or dancing, luminous substances, direct writing and also materialization of hands or full-form materializations (Doyle, 1926, p. 41-42). In 1871, Kate Fox went to England, where William Crookes (1832 - 1919)⁶, investigated her psychic powers.

In England, Kate Fox met Daniel Douglas Home, (1833 - 1886) a medium of much stronger psychic power. Home had had psychic visions (clairvoyance) and premonitions since childhood; this was said to be a characteristic of his family (Doyle, 1928:80-89). However, Home's mediumship or psychic abilities covered a broad range of phenomena: healing; raps and noises of different types, such as music and harmonious sounds; objects being transported from one place to another; full-form materializations that could talk, write and hug; automatic writing and his own levitation up to few metres. These phenomena were observed by many people, and more astonishing, his own levitation occurred over 100 times and was in each occasion observed by several reputable people (Doyle, 1926). In his book, *Lights and Shadows of Spiritualism* (Home, 1877), we discovered a critical, honest and rational person, very down to earth. He didn't give public seances, nor did he perform in theatres or earn money from his abilities. Although he truly believed that the spirits acted via many phenomena, he also openly criticized fake mediums, who used tricks to convince people and to earn easy money or to become celebrities. He also called into question the large number of historical famous names said to communicate in the form of raps and other physical phenomena. In his own words:

⁵ Hydesville is a village near Newark, in the District of Wayne County, close to New York. Currently, there is a Hydesville Memorial Park in the land where the Fox's cottage stood.

⁶ William Crookes was a physicist and chemist who discovered thallium and developed the Crookes tube. The latter provide the basis for several other important discoveries, such as the x-ray by Roentgen.

"I have these powers," he would say, "I shall be happy, up to the limit of my strength, to demonstrate them to you, if you approach me as one gentleman should approach another. I shall be glad if you can throw any further light upon them. I will lend myself to any reasonable experiment. I have no control over them. They use me, but I do not use them. They desert me for months and then come back in redoubled force. I am a passive instrument - no more." (Doyle, 1928, p. 80)

Home and Kate Fox were both investigated by William Crookes, who presented his observations in the book *Researches into the Phenomena of Spiritualism* published in 1874. Crookes examined the phenomena of psychic power from a point of view as strictly physical as their nature allowed (Medhurst, 1971). He recognized that the phenomena have physical components, but also that their nature may vary. This was an interesting and unexpected statement conveyed to a society that believed he would refute the whole! Concerning Home's levitation, Crookes concluded:

"The evidence in favour of it is stronger than the evidence in favour of almost any natural phenomenon the British Association could investigate." (Doyle, 1928, p. 76)

A large number of mediums and phenomena in the middle of the 19th century attracted the attention of many scientists, philosophers, writers, and laymen. Many of them dedicated time to observe and investigate the phenomena. Spiritualist and scientific associations were established, helping to investigate the phenomena in America and in Europe. In 1882, the Society for Psychical Research (SPR) was established by a group of academics and scholars in London, with the main purpose of investigating psi phenomena using scientific methods. Among its members were William Crookes and Charles Richet (1850 - 1935) both Nobel laureates in physics and medicine, respectively.

Arthur Conan Doyle (1859 - 1930), the British writer and creator of the character Sherlock Holmes, Camille Flammarion (French astronomer, 1842 - 1925) and later the physics laureates Marie Curie (1867 - 1934) and Pierre Curie (1859 - 1906) are among those who dedicated time to investigate the phenomena. In the preface of his book *The History of Spiritualism*, Arthur Conan Doyle (1926)⁷ says that the spiritualism movement was considered by many as "the most important in the history of the world since the Christ episode."

One could argue that their conclusions would not have the same weight if they were made today, because at that time science was not as advanced as today. However, it is inarguable that their observations confirmed the veracity of the events.

Anomalies do not happen that often. They are not easily reproduced in labs, and the scientific method may not be applied in an entirely desirable manner, but they do exist. If

⁷ Arthur Conan Doyle (1859 - 1930) was a famous Scottish writer and physician, best known for his detective character Sherlock Holmes. The above-mentioned book is the best compendium of mediums and phenomena from the time of Emmanuel Swedenborg (1688 - 1772) to after the World War I.

science cannot explain their causes, it is because either mainstream science does not want to look at them, or current science can't yet explain them.

Before looking for possible explanations of consciousness phenomena by modern science, we should uncover the work of a French educator - prof. Hippolyte Léon Denizard Rivail (1804 - 1869), or Allan Kardec.

THE WORK AND FINDINGS OF ALLAN KARDEC – SOUL, SPIRIT, MEDIUMSHIP AND PSI

Among the researchers of the 19th century, a well-known French educator, prof. Hippolyte Léon Denizard Rivail, was the first to take an in-depth look at the consciousness phenomena from a scientific, philosophical and religious point of view.

Educated in Pestalozzi's school in Yverdon, Switzerland, Rivail wrote several didactic and pedagogical books, including a French Grammar. He also established a school, where he educated Parisian children and young people for about 30 years. A very pragmatic person and a man of vast culture, when one of his closest friends mentioned the events of the '*moving and talkative tables*', he said:

"I will only believe when I see, and when you prove to me that a table has a brain to think, nerves to feel and that it may become somnambulistic. Until then, allow me to see in case no more than a fairy tale." (Kardec, 1912, p. 256)

With such a rational mindset, he attended meetings with different mediums who performed within their circle of family and friends. Soon, Rivail began to bring to the meetings questions dealing with metaphysical and other topics; he received from the Spirits precise, in-depth and logical answers. He wrote five books in which he recorded the Spirits' teachings, consolidating a doctrine which embraces scientific, philosophical and religious aspects.

Rivail published his work under the pen name of Allan Kardec, in Paris, in 1957. He named this collection of principles and laws Spiritism, explaining they were revealed by superior spirits through individuals who have mediumship, a natural human condition. Though Spiritism arises with no link to religious belief or convictions, it considers God as the Creator of all things and beings.

Kardec's philosophy is of a metaphysical and evolutionist nature. It ascertains answers to the nature, origin and destinies of humankind and analyses the causes of human contentment and suffering. The philosophical aspects are presented in *The Spirits' Book*

(1857). The scientific aspect, issued two years later⁸, provides evidence regarding the nature and immortality of the spirit; the influence exerted by the spirits; and the phenomena related to the link between the incarnated soul (living in the physical reality) and the disincarnated soul, which pertain to the spiritual reality. The religious aspects deal with the moral consequences of human behaviour, defined by the use of free will and governed by the universal law of cause and effect and was published in *The Gospel according to Spiritism* in 1864. Two additional books by Kardec further discuss the metaphysical philosophy and the new science: *The Genesis* (Kardec, 1868) and *Heaven and Hell* (Kardec, 1865).

Kardec provided an organized set of knowledge concerning certain categories of facts or phenomena empirically analysed, catalogued and reported by its researchers. The result is a new science, with its own philosophy and with ethical and moral aspects. This new science is not mystical; on the contrary, it is surprisingly rational. It demonstrated the existence of a spiritual principle, its properties and how it actuates over matter. It also acknowledges and proves the existence of a link between the physical body and the spirit, which Kardec named 'perispirit', or spiritual body. The perispirit remains after the destruction or death of the physical body and it is inseparable with the soul. It is one of the constitutive elements of human beings and the vehicle of thought transmission.

In Kardec's (1857) concept, spirits are the intelligent beings of the Universe. They are created simple and without knowledge. Evolution provides for the development of intelligence and acquisition of moral and ethical values. To evolve, the spirit should live in the physical world. The duality of matter-spirit is part of his doctrine, which has similarities with Kant (1900)'s philosophy, except for the concept of perispirit (the link between body and spirit). According to Spiritism, human beings have three main elements: spirit, perispirit and physical body.

In *The Mediums' Book*, Kardec (1861) analyses the spirits' communication and sets out the difference between the soul's phenomena and those phenomena resulting from the interaction between two beings, one in the physical body (incarnated) and the other without it (disincarnated). Remote view, telepathy, psychokinesis and clairvoyance are properties of the soul. He also states that everyone is a medium. Mediumship is a natural human ability; like intelligence and memory, it develops over time with the evolution of spiritual abilities.

By considering the perispirit as a link between body and spirit, Kardec provides an explanation for several phenomena, such as healing, self-healing and the placebo effect. Certain illnesses arise from experiences and behaviours kept by the spirit in its memory; through the perispirit, they are reflected in the physical body. Such a concept has tremendous implications in health and medicine. An energy field, whose full nature is still unknown, actuates in the body and can be treated before the illness manifests.

⁸ Initially presented in a short version, *The Mediums' Book* was revised and published in 1861. The 1861 edition has been translated to several languages.

Indeed, Kardec outlined, designed and created the path to unveil the mysteries of consciousness, he named the immortal spirit, and opened the door for a new world-view.

PSI PHENOMENA – AN OVERVIEW

Psi phenomena, such as telepathy, remote view, clairvoyance, psychokinesis and the various types of mediumship have been observed in all times and cultures of humankind. They have called attention to the spiritual reality of life and, through their analysis, we can achieve a better understanding of the nature of consciousness.

People who manifested some of these abilities have been called prophets or saints, or labelled as possessed by demons. In general, religion considered such phenomena demoniac work and discouraged the manifestations and use of these abilities of the mind. Consequently, scientific research was also discouraged, and psi phenomena were blighted by the shadows of mysticism or hocus-pocus up to the 18th century.

Medicine has also played a role in keeping the phenomena in the shadows. People showing strange behaviours were greatly misunderstood and treated heartlessly and with cruelty. Till the 18th century, certain psi anomalies were often considered mental illnesses. People were committed by their families into institutions that were more like prisons than hospitals. It was the French physician Phillipe Pinel (1745 - 1826) who changed the status quo for mentally ill individuals by ordering a complete change of environment when he became chief of the Paris asylum of Bicêtre in 1792 and two years later in Salpêtrière. Pinel pioneered a new, humanized treatment in such hospitals. In spite of this, it took another two centuries for medicine to acknowledge the difference between psi phenomena and mental illness.

Mediumship

Mediumship is usually associated with phenomena that mediate communication between human beings and the disincarnated soul/spirit, such as psychography or automatic writing, speaking mediums or psychophony⁹.

Mediumship, as conceptualized by Spiritism, is a natural human condition. Some individuals experience insights, such as a vivid intuition of what is going to happen, or the feeling of being compelled to call a family member or a friend; when the other person picks the phone they immediately say, “Oh, I was just going to call you”! Or, “I was thinking of you and you called.” Other people have much stronger and ostensible mediumship. They have visions of spirits in the spiritual world. They can ‘see’ in advance what is going to

⁹ Psychophony is defined by Kardec (1986) as the communication of spirits by the voice of a speaking medium.

happen in the near future. For them, it is not an intuition: they visualize situations. Mediumship includes a wide variety of phenomena, such as clairvoyance, physical effects, or several types of action over matter (psychokinesis, automatic speech, automatic writing, etc.). Some people are able to elevate (levitate) or move objects without touching them, or they sweat out perfume and other smells. They may produce diverse events that show the action of mind over matter. Truly, it is quite difficult to distinguish between events exclusively produced by the individual psychic power and those events produced through the action of spirits or disincarnated souls, because the communication usually overlaps.

Understanding the nature of psi phenomena in the light of Spiritism has changed psychiatric practices in several hospitals in Brazil and other countries, where patients are treated with a combination of conventional medicine and mediumship meetings¹⁰. Some mental disorders have a spiritual component due to connections between the individual and other spirits¹¹ in past lives. The spirits show hate, jealousy or rivalry and want revenge – the typical emotions and reactions of betrayed people. In Spiritist hospitals, medical doctors and mediums work together. Through this interaction, those mediums (often, they are also doctors), who possess the sensibility to see and/or talk to spirits, interact with the patient experiencing mental disorder, and treat spirit and patient separately, through dialogue, prayer, and bioenergy transfer (Thiesen, 2012).

Spiritist mediums have contributed to the improvement and establishment of mediumship practice, aligning themselves with charity and self-development. Francisco Cândido Xavier (1910-2002) was one of the famous Brazilian mediums who followed this concept. In his presence, diverse phenomena could be observed, such as materialization of flowers, exhalation of perfume and other smells, and communications from deceased persons to console family members who were left behind. He also channelled many books. One of his famous interventions was when he channelled a letter from a spirit, giving testimony of innocence of the person accused of his murder. The case was accepted by the Brazilian Court and the accused declared innocent. Another of Xavier's contributions was in the field of science. Through his mediumship, the mechanisms of mediumship were explained, and medical breakthroughs predicted, including the function of the pineal gland, which was only proved by scientists more than 50 years later (Xavier, 1998).

The mediumship of the educator and humanist Divaldo Franco (1927 -) also covers a wide variety of phenomena. Divaldo Franco has channelled about 270 books (10 million copies have been sold) from 217 spiritual writers. Copyrights have been officially donated to philanthropic institutions. During his lectures and therapeutic visualizations, it is common to observe his skin exuding oil with the scent of roses or other fragrances. Through this mediumship, flowers have been materialized in front of several people; messages brought news from the deceased, who identified themselves with great accuracy and details known only by other relatives who were not present at the moment of the communication.

¹⁰ In this case, mediumship meetings consist of intellectual communications between mediums and spirits.

¹¹ In this sense, the spirit is the disincarnated soul.

Franco sees the spirits, he talks to them and he channels them. He is a quiet, gentle and intelligent man. Acknowledging his mediumship abilities after reading and studying Spiritism, Franco has worked for the social inclusion of needy people, and to make peace wherever he goes. His mediumship is well documented by many Brazilian writers. Recently, Schubert (2017) compiled evidence from people who recalled and gave testimony of Franco's mediumship experiences.

Spiritism advocates the survival of the spirit (or consciousness) after death of the physical body and consequently, the exchange of knowledge between incarnated and disincarnated spirits - not to forget that, in this concept, any human is, in essence, an individual spirit, who lives either in a human body or as a soul in the realm of the spirit. The spirit, who in essence is an intelligence, survives the death of the physical body. To evolve, the consciousness or spirit experiences life after life, developing its intelligence and learning to live in harmony with the universal laws.

Clairvoyance or Remote Viewing

Clairvoyance¹², or remote viewing, is the ability to seek accurate information about a distant object or unseen target or an event without knowing anything in advance and without using the physical senses or any other way of acquiring information rather than the mind. Clairvoyance is also named second sight or anomalous cognition.

Remote viewing is generally used for the learnt or trained skill, while clairvoyance is used for individuals with a natural ability (i.e., without training). We understand that this difference is just conceptual. Both are abilities of consciousness, or expressions of its abilities, which can be developed naturally over a long time (many reincarnations), or trained on a relatively short time with proper techniques.

Remote-viewing research was undertaken for 20 years (1974 - 1994) by the Central Intelligence Agency (CIA) and the US Army. It is said that over USD 20 million were spent in this CIA program, which concluded that the technique was not usable (Fredriksson, 2012). It However, Russel Targ, a laser physicist working at the Stanford Research Institute (SRI) at the time of the CIA project, says:

"We learned that the accuracy and reliability of remote viewing were not in any way affected by distance, size, or electromagnetic shielding, and we discovered that the more exciting or demanding the task, the more likely we were to be successful. Above all, we became utterly convinced of the reality of psi abilities." (Targ, 1996, p.77)

¹² From the French *clair*, meaning clear and *voyance*, meaning distance.

Remote viewing (or clairvoyance) is a non-local and/or timeless phenomenon. The subject 'travels' with the mind to an unknown location, 'looks' at the surroundings and reports what has been seen with extreme accuracy. Most interestingly, the individual accesses the information about the location both as if it is in the present and/or back to the past or towards the future. When it deals with information from future events, it is named *precognition*.

Targ (1996) gives a good example of the non-local and timeless features of remote viewing in his paper *Remote Viewing at Stanford Research Institute in the 1970s: A Memoir*. Targ highlights the need for attention when protocols and results are not consistent to avoid missing important information. In the protocol created by Russel Targ and Hal Puthoff for the remote-viewing research at SRI, they prepared several target locations in the San Francisco Bay area and then chose one randomly. Two people would drive to the location, while Targ would stay with the remote-viewing subject, who would describe the location the other two were visiting.

In one experiment with Patrick Price, a police commissioner in Burbank, California, who already used his psychic abilities in his work, Price described with great accuracy the target location: a circular pool of water and another rectangular pool to the side, and a concrete block house. The pool dimensions were also precisely given. However, Price added to his drawing water-storage tanks and rotating machinery. Both features were not at the site. Targ was puzzled with the result and thought Price had given wings to his imagination. It is interesting to get the story directly from his paper:

"That was the story as I understood it as of March 15, 1995. However, on March 16th, I received the Annual Report of the City of Palo Alto, celebrating its centennial year. On page 22 of the report, it is stated that "In 1913 a new municipal waterworks was built on the site of the present Rinconada Park." (...) The illustration shows those two water tanks, just where Price had drawn them! This amazing phenomenon demonstrates an important feature of remote viewing targeting; namely, that one must specify not only the target location to be observed but the time as well." (Targ, 1996:79)

Russell Targ's hope has been that "our awareness of this interconnectedness derived from research into our psychic abilities will also promote greater compassion among all people." (Targ, 1996, p. 88).

For the same reason, we have undertaken the task of writing this chapter, to increase awareness of psi phenomena and, in particular, to bring back the concept of the immortal spirit or consciousness, who lives and evolves, life after life, with the ultimate objective of both gaining knowledge of the laws that govern the universe, and placing itself in harmony with them.

Telepathy

Telepathy is the ability to be aware, with accuracy, of someone's mental activities: thoughts, feelings, perceptions or images. It's mind-to-mind communication.

A common example is the well-known intuition that someone we love or know well wants to talk to us: suddenly, that person calls. Everyone has this kind of telepathic ability. Although telepathy is usually understood as a mind-to-mind transfer of information between people, if we accept that communication between incarnated and disincarnated souls is also mind-to-mind communication, we can conclude that the nature of both phenomena is the same.

Joseph Banks Rhine (1895 - 1980), the founder of parapsychology and a pioneer in psi research at Duke University (USA) developed the Zener cards, a method by which to test telepathy, clairvoyance, and precognition under a controlled lab environment. His method showed statistically significant results. An article summarizing his results says that:

“By 1940, 33 experiments had accumulated, involving almost a million trials, with protocols which rigorously excluded possible sensory clues. (...) Twenty-seven (27) of the 33 studies produced statistically significant results - an exceptional record, even today. Furthermore, positive results were not restricted to Rhine's lab. In the five years following Rhine's first publication of his results, 33 independent replication experiments were conducted at different laboratories. Twenty (20) of these (or 61%) were statistically significant (where 5% would be expected by chance alone).” (*Who was J. B. Rhine*, Available at https://archived.parapsych.org/members/jb_rhine.html)

Telepathy is also a non-local phenomenon. It does not matter where the other person is, near you or on the other side of the world, telepathic communication will work to some degree.

Precognition

Precognition is the ability to see in the future, to become aware of events or facts that will happen when no rational prediction could be done. It is also a non-local experience, where the perception of time contradicts our daily reality.

A well-known example of precognition is the vision of Emanuel Swedenborg (1688 - 1772), a Swedish scientist and Lutheran theologian. Swedenborg was both a man of faith, and a scientist struggling to harmonize his Lutheran faith with his spiritual experiences: visions, clairvoyance, and precognition of events. It is said that in 1795, when attending a meeting in Göteborg, he communicated that a fire was threatening his house about 400 km away, in Stockholm. Two hours later, he said the fire had been extinguished, just three

houses away from his. Two days later, messengers arrived from Stockholm and confirmed the event. Swedenborg became a spiritual teacher and wrote his own doctrine on metaphysics, which was analysed by Kant (1900) in his essay *Dreams of a Spirit-Seer*.

Psychokinesis

Psychokinesis, or PK, is the effect of the mind over matter or over other living systems, i.e., the ability to mentally influence something (a living organism or an object). With the power of the mind, objects or systems can move or images can be produced and photographed.

Nina (or Ninel) Kulagina (1926 - 1990), a Russian housewife whose abilities caught the attention of the scientists in the former Soviet Union in the 1960s, is a good example of an individual with psychokinesis ability. She also exhibited other psi abilities, including mediumship, remote viewing and levitation. Nina Kulagina served in the Red Army during World War II, when she was only 14 years old. According to her, she was always aware of her psychic abilities, but at the age of 33, she discovered that when she was angry, the objects around her moved spontaneously.

Nina was analysed for more than 20 years by 40 scientists, including two Nobel laureates and Dr Leonid Vasiliev (1891 - 1966), founder of the experimental parapsychology laboratory in St Petersburg. She was submitted to several experiments. In one of them, when ordered to move the needle of a compass, Nina made circular passes over the object, at a distance of about 15 cm, with her fingers parallel to the table. After about 20 minutes her heart rate accelerated, and her pulse rate was 250 beats per minute (normal pulse in adults ranges from 60 to 100 beats per minute). She shook her head from side to side, staring at the compass, and suddenly, the needle shuddered, and slowly began to spin counter-clockwise. Then the compass, which was inside a plastic case sealed with a piece of leather, began to whirl. At this point, Nina began to show signs of fatigue and fell back, exhausted. After the experience, she had pain in her legs and arms, dizziness and could not sleep. During the experiment, Nina's electroencephalogram (EEG) showed great activity in the cerebral area responsible for the vision (fixed eye). The analysis of Nina's electrocardiogram (ECG) and EEG, together with the results of the pulsations of the magnetic field around Nina, showed that the three fields pulsed in synchronized rhythm (Ostrander & Schroeder, 1970).

Although some experiments were not carried out in a controlled lab, Russian research revealed much about the nature of PK phenomena. The exhaustion of the subject, the changes in her pulse and heart rate, and the EEG all indicated that PK saps the strength of the subject.

Materialization and de-Materialization (or Invisibility)

Another intriguing phenomenon in the realm of mediumship, or psi, is the materialization and de-materialization of objects, also called ‘transport’ in Spiritist and psi literature. Bozzano (1939) compiled many experiences and events related to this phenomenon. Through the mediumship of Madame D’Esperance (1855 - 1919), plants appeared in a closed room and objects disappeared and reappeared weeks later, without any scientific explanation.

Schubert (2017) provides several testimonies to the mediumship of Divaldo Franco, the well-known Brazilian medium. These are documented in Schubert’s book *Divaldo Franco: A life with the Spirits*¹³ (2017), including an event involving the materialization of flowers. During one of Franco's visit to Curitiba, a city in southern Brazil, a Spiritist meeting was organized with him. One of the participants, Ms. Nancy Correia, reported that a spirit named Scheilla offered flowers to each of the attendees, except her. Nancy said she thought, "Why didn't I get any?" and then, Scheilla replied through Franco, "Nancy, honey, you're going to pick the flower you want," and a rosebud suddenly appeared. According to Nancy Correia, the flowers were transported from the hotel in which she was staying to the meeting room (Schubert, 2017, p. 91).

In Kardec’s work, the Spirit Erastes explained that this process can be achieved by making the objects invisible, or by composing them using a template (Kardec, 1861, p. 94-101). Today, science uncovers possible processes for such phenomena through the experimental research with metamaterials which have the property of rendering objects invisible (Valev, 2014).

The Near-Death Experience (NDE) and the Out-of-Body Experience (OBE)

The near-death experience is an experience reported by an individual who was declared dead due to the absence of vital signs, but then comes back to life, i.e., vital signs are restored. It is observed in certain individuals who have been through life-threatening situations. NDE presents some interesting patterns:

- 1) The person experiences a feeling of detachment from the body and may experience the events in an expanded spatial location.
- 2) The individual may see a strong light or deceased relatives, saints or luminous beings or any messenger, but also terrifying beings.
- 3) The person may have a recollection of their current life, or of entering a tunnel.

¹³ Original title: Divaldo Franco, uma vida com os espíritos.

Individuals who have been through OBEs report they perceive the environment from a spatial location outside the body, allowing them to see objects and persons from a non-usual spatial position. They also experience a detachment from the physical body, but no recollection of the current life or the tunnel experience.

NDE and OBE are evidence of survival of the consciousness. Critics of the survival of the consciousness argue that during an NDE the body does not actually die, and the experience may occur due to physiological changes in the dying brain. For the OBE, these same critics state that the person enters an altered state of consciousness and, therefore, they can be more aware of spatial events, as occurs in clairvoyance, remote viewing, telepathy or precognition.

Both phenomena can be explained by considering the existence of the spiritual body, or subtle body or, simply, the perispirit, as it is described by the Spiritist doctrine. Evidence of the existence of the spiritual body exists in many cultures and has been described in several pieces of scientific research.

Early in the 1980s, the English biologist Rupert Sheldrake (1981) revived the concept of morphogenetic or morphic fields¹⁴ to explain how organisms adopt characteristic forms and behaviours. For Sheldrake, morphic fields are present in every type of organism: each type of crystal (mineral), each type of plant or animal organism, and also each pattern of behaviour has a characteristic morphic field. Morphic fields are organized fields in Nature. These fields evolve continuously, and can be used through space and time without loss of intensity after they have been created. This definition is similar to the Spiritist definition of perispirit, the subtle field (or body) which links spirit and the physical body.

CHARACTERISTICS OF CONSCIOUSNESS PHENOMENA

In the previous sections of this chapter, we highlighted two main characteristics of consciousness anomalies observed in the physical realm: time and non-locality. We will not discuss other characteristics related to mediumship, but focus on these two features, which are common in telepathy, remote viewing, precognition, and mind-matter interactions. Based on these phenomena, we reviewed interpretations of quantum mechanics and other theories.

Time

The arrow of time seems not to work in the realm of consciousness-related experiences. Some individuals report ‘seeing’ the past or the future in such detail to make it seem as if

¹⁴ Morphic fields were first proposed by the Russian biologist Alexandre Gurvitch in 1923.

they are actually occurring in front of them. We designate such experiences as ‘timeless’ to highlight that individuals experiencing the phenomenon access information from the past or the future.

Nevertheless, on several occasions, our perception contradicts the actual measured time and varies according to our emotional experience. The five seconds during an accident or the five minutes waiting for an important interview may be perceived as ten times longer than the time measured by the clock. On the other hand, an hour of good conversation between friends may be perceived as taking only five minutes! This perception of time is not a consciousness anomaly: it is a characteristic of consciousness (or the mind), which we accept and live with without questioning, and without taking much notice of it!

Time seems to behave differently in precognition, presentiment and clairvoyance phenomena, when information flows backwards or forwards in time (i.e., there is time symmetry). Edgar Allan Cayce (1877 - 1945) left extensive documentation concerning visions of the past and also of future predictions provided in his mediumistic trances spanning more than 40 years. Euripedes Barsanulfo (1880 - 1918), Brazilian journalist and medium, predicted the day of his own death more than a month in advance. He wrote it in an calendar in his home, leaving a testimony of his precognition mediumship. Cayce and Barsanulfo are only two examples among thousands of individuals reporting detailed knowledge of a distant past, or information about events that are yet to come.

Time is indeed relative in the realm of consciousness experiences. In the realm of matter, time helps to differentiate past, present and future. Time is a fundamental parameter in classical physics, and it is generally accepted that the arrow of time goes from past to future, i.e., time is asymmetric, as commonly perceived. There are several arrows of time in physics. Examples are: the thermodynamic arrow of time (the entropy of a system increases with time) and the cosmological arrow of time (time flows in the direction of the expansion of the universe). However, the arrow of time is one of the most intriguing concepts in science and discussions on time do not stop here.

In Einstein’s theory of relativity, time depends on the relative speed between the observers, or on their relative location to a gravitational field. Since Einstein, we have accepted that time flows more slowly when we travel in supersonic airplanes than when we ride a horse! The theory allows space-times with closed time-like curves, where time goes back; and so, the concept of time dilation became popular through science-fiction movies as a means of travelling to the future or going back to past times.¹⁵

Roger Penrose (1995) proposes that time perception is related to quantum processes in the brain, which relate to consciousness and are similar to time coherence in lasers. More recently, at least two models have discussed the alignment of the psychological arrow of time with the thermodynamic arrow of time. One of them enables the return to the past, but

¹⁵ Stephen Hawking (2018) reviews the science behind time travel in his book *Brief Answers to the Big Questions*.

no traces are left apart from those of the observer and their memory (Maccone, 2009), while the other enables predictions of the immediate future (Mlodinov, 2014).

Non-Locality (or Action at Distance)

The action of mind over matter is typical of several psi experiments. Consciousness anomalies or psi experiences, such as remote viewing, clairvoyance, NDE, OBE, or psychokinesis indicated that such events are either non-local, or action occurs at a distance.

In the early times of classical physics, action at distance was primarily used to describe those events where an object can be affected (moved or changed) without being physically touched by another object, such as the effect of magnets attracting iron filings. In modern physics, the concept is used to explain the interaction of objects that are separated in space, i.e., the quantum property of particles, which 'know' each other's states even though they are separated in space.

Non-locality is one of the most important, intriguing and debated features of quantum mechanics. Einstein described the non-local influences that were transmitted instantly between one local and another, as "spooky actions at distance."

In quantum mechanics, when two particles are entangled, they 'know' or share each other's states. Even if separated by large distances, entanglement does not diminish. Entanglement is a well-proven phenomenon in quantum physics.

Anton Zeilinger (2017), one of the first to prove entanglement of particles, agrees that "nature cannot be local and objective randomness exists." Dean Radin (2006) affirms in his book *Entangled Minds* that "our minds are physically entangled with the universe."

In fact, as a consequence of the above, the investigation of psi phenomena should take into account features of other sciences, including, at least: physics, neurosciences, biology, and psychology.

SCIENCE AND CONSCIOUSNESS

Most scientists embrace the idea that consciousness is solely a product of brain processes. Therefore, they have searched for consciousness in the brain and have avoided deep investigations into anomalous experiences and phenomena, either because these phenomena challenge their preconceptions, or because they cannot be easily reproduced or replicated. We will not discuss preconceptions; however, we should rethink scientific methods when human beings are at the core of the investigation.

Human beings are not machines that can be controlled or measured at any given moment and provide the same result within a certain degree of uncertainty! Measuring human behaviour is quite difficult, if not impossible in social and behavioural or medical

sciences. Statistics and other empiric methods are widely used in those areas. Henry Bauer, from the Virginia Tech, USA, wrote in a recent commentary in the *Journal of Scientific Exploration*:

"Demanding that being scientific requires observations and measurements to be replicable would, therefore, bar, from being accepted as scientific, not only parapsychology but all of medical and social science." (Bauer, 2018, p. 721 - 722)

The science of consciousness (if there is any!) is full of unusual phenomena. Events happen suddenly under certain conditions one day, yet on the next day, when the experiment is repeated, it may not occur again. How does one replicate conditions for a human being in a given moment within determined circumstances if, for the individual, each moment is unique and not replicable? How does one consider and account for the influence of other people in the individual who produces the phenomena? These questions are only two of the many constraints when psi phenomena are under scientific investigation.

In fact, there is no scientific consensus on how consciousness emerges, or about the nature of consciousness. Candance Pert (1998), who discovered the widely accepted relationship between the network of neuropeptides and neuroreceptors and emotions in the 1980s, proposes a single integrated entity, a 'body-mind'. With this definition, she avoids the mind-brain dichotomy and opens the discussion on how emotions affect the brain and vice-versa. She also states that "mind is information" and thus how it should be treated:

"A mind is composed of information, and it has a physical substrate, which is the body and the brain, and it also has another immaterial substrate that has to do with information flowing around. Maybe mind is what holds the network together." (Pert, 2018, p. 8 - 16)¹⁶

The concept that mind is information is compatible with the concept of an entity independent of the body. However, another distinctive characteristic of consciousness is intelligence. Information can be stored and used with intelligence and rationally to create thoughts and ideas which will be realized in the physical realm. Indeed, in a rough comparison, if the body is the car, the consciousness is its driver.

Although scientific materialism holds that the mind is a physical process of the brain, other theories don't support this view. Research on consciousness anomalies (e.g., psychokinesis, past-life memories, remote view, etc.) has indicated that consciousness transcends time; it is non-local and can influence matter.

The view that any phenomenon can be explained by physical laws and theories may be too ambitious. However, if we accept that psi phenomena truly occur - and we cannot doubt

¹⁶ Also available at <http://candacepert.com/articles/the-wisdom-of-the-receptors-neuropeptides-the-emotions-and-the-bodymind/>.

the reality of subjective experiences, as we have seen in this chapter - some theories of modern physics may bring light to the discussion and lead to better understanding of an individual consciousness that manifests itself through the physical body, survives death and is able to transcend time and space. This concept of consciousness has tremendous implications in medicine. It takes into account an individual who transcends time and therefore brings to its own life the inheritance of the past and the potential to change the future. Consequently, illness is a state of disequilibrium or disharmony, not of an organ or a system, but a disharmony in his/her own essence, the consciousness.

In our view, consciousness is not matter, but intelligence. Consciousness is responsible for thought, reasoning, and memory. Consciousness' origin is still a mystery, it lies in the philosophic realm and on the testimony of other consciousness. However, we might be able to explain consciousness phenomena by investigating - with the tools of modern physics - their manifestation in the physical world. In this sense, we consider that everything that manifests in the physical world should be explainable by science (or will).

Within this perspective, we looked at ancient philosophy and, in the following lines, we will look at some interpretations of quantum mechanics, which is the well-accepted scientific theory for explaining the microcosmos, the physics relating to the very small.

IS THERE A THEORY THAT EXPLAINS CONSCIOUSNESS?

Modern physics, which started with the development of quantum mechanics¹⁷ and the theory of relativity at the beginning of the 1900s, imposed a new view of the world, or a new reality. Classical physics (or Newtonian physics) applies to the macroworld and is of deterministic nature. Quantum mechanics is the physics of the micro and is non-deterministic. How to integrate those two realities in our view of the world has been the quest for scientists and philosophers since then.

According to quantum mechanics, non-locality and entanglement are intrinsic properties of the microworld of particles, and these particles are part of each and every piece of matter in the physical realm. Our body, our brains, streets and machines, and our artefacts are all part of this intrinsic reality. Although quantum mechanics has been well proven and is generally well accepted, scientists still argue as to its interpretations. Some of these interpretations encompass a new reality, which many don't want to see or cannot accept, but where psi phenomena have a place and can be explained.

The space-time independence and the non-locality of psi phenomena are similar properties of quantum mechanics or the quantum wave function that is the mathematical expression of a quantum system. There are several discussions on the interpretation of

¹⁷ Classical physics, or Newtonian physics, applies to the macroworld, with some exceptions, while quantum mechanics is the physics of the microworld.

quantum mechanics. They range from deterministic and randomness, hidden variables or not, measurement problems or the role of the observer, etc.

George R. Williams (2006) discussed the connections between three classes of interpretations of quantum mechanics and consciousness through the analysis of anomalous data from psi experiments in parapsychology (remote viewing, telepathy, precognition, mind-matter interaction and group resonance). The classes of interpretations analysed in his study were: wave collapse, no wave collapse, such as the Everett 'many worlds' interpretation (1957) and the hidden variables interpretations.

Williams concluded that:

- 1) Theories where consciousness collapses the waveform could explain telepathy and mind-matter interaction. They do not explain precognition and clairvoyance/remote viewing, where time goes backwards or forwards, and time symmetry is needed.
- 2) The many world interpretations theory does not explain the psi phenomena.
- 3) Theories of hidden variables are consistent and explain all five phenomena.

Consciousness Influencing Waveform Collapse

The waveform collapse is the main feature of quantum mechanics. There are several interpretations for the waveform collapse. In the pragmatic Copenhagen interpretation, proposed by Niels Bohr (1885 - 1962), there is no microscopic reality, no quantum world; the waveform collapses entirely due to the probabilistic process. In another common approach, also widely accepted by those interested in an interpretation of the new reality proposed by the theory, the waveform collapse is due to the observer, who influences the results. This interpretation can account for events where there is mind-brain interaction (non-locality) and where the will is a predominant force in collapsing the waveform. However, usually, those theories do not accept that time can flow back and forth, i.e., to the past as well as to the future.

Recent studies consider the possibility of reversing time in quantum mechanics to explain very recent past memories. Lorenzo Maccone (2009) concludes that for information to be stored, or to leave detectable traces, the entropy should increase and remain constant (the thermodynamic arrow of time). If the entropy decreases, no detectable information remains, as if the event simply didn't occur.

Orchestrated Objective Reduction Theory

Hameroff and Penrose's Orchestrated Objective Reduction (Orch OR) theory maintains that the objective collapse of the waveform does not depend on the observer. In this theory, consciousness emerges from quantum computing within the brain's networks of microtubules¹⁸. These networks allow quantum entanglement between the brain and the environment, thus putting forward the possibility that the brain accesses non-local information (i.e., information from distant sources, such as in remote viewing). Hameroff and Penrose (2014) suggest that Orch OR could explain psi phenomena due to non-local quantum entanglement, or the phenomenon of quantum teleportation (Zeilinger, 2007).

One of the major points against Orch OR has been the argument that the brain is too "warm, wet and noisy" for a sustainable quantum collapse of the waveform. However, in 2014, a research group led by Anirban Bandyopadhyay (Ghosh, Sahu, & Bandyopadhyay, 2014) showed evidence for microtubules' quantum decoherence¹⁹ and entanglement, thus supporting Hameroff and Penrose's theory. However, for Williams (2016), it is hard to see how entanglement over longer distances would be possible. Moreover, even if one considers the possibility that entanglement occurs, "it's difficult to see how meaningful and coherent information can be transmitted across great distances." (Williams, 2016, p. 342). For this and other reasons, he concludes that Orch OR does not explain the aforementioned phenomena.

According to Hameroff and Penrose (2014), the orchestrated quantum activity in the brain allows for free will (i.e., choice) and also for interconnectivity between the brain's molecular processes and the space-time geometry of the universe.

The theory is a major step forward in reconciling science and consciousness. We agree with Deepak Chopra's view (2014) that "Orch OR provides a credible, testable model for how mental activity enters the physical world." There is no evidence that consciousness arises from quantum phenomena in the brain, but it is likely that there are quantum processes in the brain, and consciousness interacts with them to evoke the conscious mind. Therefore, the theory can explain some consciousness phenomena, such as remote viewing. By linking brain processes with space-time geometry, the theory suggests that consciousness is an intrinsic element of the universe: an important conclusion (Hameroff and Penrose, 2014). Consequently, we may infer from the theory that consciousness is an intelligence that instills order and information; it is a creative and influential force. Although Orch OR is a major step forward in unveiling brain processes, it is not clear how the theory would explain mediumship or afterlife experiences, both of which imply the survival of consciousness. Therefore, in our view, it cannot be a complete theory of consciousness.

¹⁸ Microtubules are microscopic tubular structures present in the cytoplasm of cells.

¹⁹ Quantum decoherence is the loss of quantum coherence. It enables to explain why all other superpositions of states in a system are not possible, and the preferred outcome emerges.

Many Worlds Interpretation

The many-worlds interpretation does not explain psi phenomena according to Williams. Nevertheless, if consciousness survives the death of the physical body, as suggested by near-death experiences and mediumship, the existence of other dimensions, either in space or in space-time, or a similar feature, could provide an explanation. They could be part of a future theory of consciousness.

Hidden Variables Theory

David Bohm's (1980) theory of hidden variables proposes "an undivided and broken whole," or a holistic view of the world. In his theory, Bohm proposes the existence of an implicit order in the universe. He suggests another dimension of a greater order than in which we live, with non-local, super-holistic characteristics and in which time does not exist. In this theory, everything is connected, so an individual element could obtain information about any other element in the universe. In Bohm's theory consciousness emerges in this implicit order and manifests in the world as the reality we perceive, which Bohm calls the explicit order:

"(...) the easily accessible explicit content of consciousness is included within a much greater implicit (or implicate) background. This, in turn, evidently has to be contained in a yet greater background which may include not only neuro-physiological processes at levels of which are not generally conscious but also a yet greater background of unknown (and indeed ultimately unknowable) depths of inwards that may be analogous to the 'sea' of energy that fills the sensibly perceived 'empty' space." (Bohm, 1980, p. 210)

Assuming a simpler framework, which incorporates the work of Bohm, the probabilistic feature of quantum mechanics, which he considers intrinsic to reality, and the existence of "a field of pure, nonlocal information," Williams (2016) considers a framework where the conscious intention is linked with the probabilistic feature of quantum mechanics. Within this framework, he can explain the phenomena of telepathy, clairvoyance, distance vision, premonition, mind-matter interaction, and collective resonance.

Other Scientific Approaches

An analysis conclusive of the existence of consciousness beyond the brain processes is presented by Jan Pilotti (2011). Consciousness is described by a six-dimensional space-

time reference, which explains, for instance, the space-time features of NDE and OBE, or afterlife phenomena such as those occurring in mediumship. In a six-dimensional space-time with three dimensions of time, for each three space-dimensional point in time, there would be at least three possibilities in the future (space-time). Although only one of them would become reality due to the choices made (free will is taken into account), in space-time all of the future possibilities would exist. Considering that Einstein's theory of relativity allows for superlight velocities if the subject (in this case, consciousness) is born with superlight velocities, there would be no time-travel paradox, because the consciousness travels back and forth in time without affecting the world reality.

Liang Shan (2018) proposed three experimental designs to test non-local entanglement between many consciousnesses, with the aim of explaining telepathy and the nature of consciousness. She proposes that "consciousness is an independent entity characterized by discrete states entangled with superposed eigenstates of an observed system in a measurement process."

For Nicholas Humphrey (2011), a representative of the current materialism, consciousness emerged from natural selection in the evolution of the species. The conscious mind would evolve from unconscious matter without the interference of the mind. But how would consciousness emerge from brain mechanisms? It remains an unanswered question.

Looking in depth to psi phenomena, especially those phenomena that manifest in the physical realm and could be explained by science, is part of this search. Though few dedicate their time to afterlife or mediumship phenomena, which are also part of the reality of consciousness, these phenomena are historically seen in all the eras of mankind worldwide. Without a complete review of all types of consciousness-related phenomena and experiences, consciousness will remain an unopened box.

TOWARDS A NEW CONCEPTION OF THE WORLD

Consciousness is intelligence. Consciousness is responsible for the process of thinking, reasoning, and memory. Consciousness implies will, awareness and it englobes the inner world and the explicit reality we observe with our senses, which are also part of consciousness.

The nature of consciousness remains a mystery for science. Some theories include considerations or allow interpretations that take into account several consciousness-related phenomena or anomalies, but not all of them. Currently, there is no conclusive theory of consciousness and we may not see one in our lifetime.

However, we can grasp the world of consciousness when we meditate, when we pray and when we concentrate. So, why should we look for consciousness in the physical world

and not in its own realm? What prevents the consideration of a model of consciousness with its own individuality, permanence or immortality?

The nature of consciousness remains in the philosophic realm and depends on the testimony of other consciousnesses. We should accept that and let materialism or religious preconception fade.

The old-new view of consciousness proposes that consciousness is an individual entity, survives the death of the physical body and it is evolutionary - consciousness has evolved from a proto-consciousness or a proto-intelligence to the level of consciousness of the humanity of our time, and will continue evolving to unimaginable levels...

Within this view, consciousness both communicates with, and commands the body through a field - the spiritual body or perispirit - which has long been known by ancient cultures. This field has a major role to play in NDE and OBE, when an individual's awareness expands, and the individual involved perceives it.

The evolution of consciousness should not be difficult to accept. Even materialists could support it, although in their own contradictory way. The survival of consciousness after death of the physical body is well proven, but again, many will reject it on materialist grounds.

The acceptance of consciousness as an individual entity has enormous implications for medicine and health, and for our society. Survival of the consciousness means acknowledging that memory of past lives still influences the individual's health and wellbeing. Taking into account the existence of morphic fields and the wholeness of the universe means that we are indeed interconnected, and our actions influence each other.

Healing, health and our approach to life may change with this new world-view.

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