

## **LACK OF THEORIES, ABSENCE OF PHENOMENA?**

by

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*“There are no ‘natural’ or  
‘supernatural’ phenomena, but only  
large gaps of ‘knowledge’ about what is ‘natural’.”*

Edgar D. Mitchell

One of the maxims that is expressed relatively frequently by certain intellectuals and scientists regarding the “pseudo-scientific” status of parapsychology is that, in parapsychology, scientific theories capable of explaining the psi phenomenon do not exist; therefore, these phenomena do not exist. A similar concept is traceable to the belief founded on the correlation phenomenal existence = theoretical presence, and is the fruit of disinformation in the knowledge of the scientific research relating to it. It is more or less known that when one observes a phenomenon in order to understand it, he attempts to rationalize it within his own sphere of knowledge. This means that one tries to support the “reality” of the event by putting it in the theoretical context that enables him to justify it (reconstruct it). For ordinary facts and events, this is rather simple, but in reality, how many natural phenomena are considered true even if they are not justified by a theory? When a phenomenon acquires the definition “paranormal” because its characteristics do not conform to known laws (normally it is said to “contradict known laws”) in the mind of the observer – if (prejudicially) he does not accept the paranormal event – a process that leads him to the complete refusal of a paranormal interpretation of the event is then activated. Yet it would suffice to remember that every paranormal phenomenon, pertaining to complex, non-linear systems, requires recourse to the knowledge of branches of science whose paradigms differ from the physical-mathematical one of empirical sciences. This requires a familiarity with biology, medicine, psychology, etcetera. In addition, because such phenomena bring about new problems, it is necessary to have the awareness of the need to research new approaches to solving them. Therefore, the desire to repudiate the unknown and bring it back to the realm of the known, continuing to use antiquated and inappropriate ideas, or to turn to valid terms only in the descriptive realm and not in the explicative realm, is imposing cognitive limits which contrast with the path of knowledge. To give an example, let us say that to explain a particular narrative of a paranormal event, one attributes the phenomenon not to something anomalous, but to a simple “hallucination”. He who uses this term believes to have given the correct explanation; the simplest, the most obvious, thus eliminating interpretations lacking theoretical support. However, he who makes a similar

affirmation does not realize that he has created a cognitive ambiguity that is only capable of involving two different conceptual levels: one operative and the other theoretical, both insufficient for explaining the event. To resolve the problem rationally, the hypothetical person turns to the term “hallucination”, which, in reality, was created and is still used to describe a certain type of human psychological event. To consider the paranormal event a hallucination is to give it the value of a hypothesis, valid only at a presumptive level; therefore, it is from here that the necessity of a study from a parapsychological point of view emerges. It may be that, after a study of the event, the application of the term “hallucination” will be appropriate, but only after having correctly conducted research on the particular phenomenon.

The second aspect refers to the term “hallucination”. With the use of this word, the critic believes he is giving the explanation of the phenomenon, but he forgets that he is using a term that possesses only a descriptive meaning and not a theoretical or explicative meaning. In fact, there is no scientific theory that explains the neurophysical dynamic of the hallucinatory process, as is the case for many other conscious events, for example, the phenomenon of hypnosis or that of dreams. These are both events which today can only be described, yet theoretically remain a mystery. Philosophers and scientists who study the mind-body connection are aware of this. It is on the existence of such beliefs that I base my argument about the illusory nature of the criterion that considers the reality of a particular event only if there are scientific theories which justify it. The term “scientific theories” customarily refers solely to physical-mathematical concepts, given that it is erroneously assumed that only the physical-mathematical paradigm represents “science” and “knowledge”.

Now that I have stated my premise, let us proceed by degrees in our examination of the following proposition: A phenomenon exists only if its “discovery” is justified by a noted scientific theory. The criterion inherent in such a proposition, according to my premise, is not logically or scientifically acceptable. Furthermore, if this idea were true, science would not have any possibility of expanding its knowledge. Because science is progressive, it increases its knowledge by continually correcting itself, automatically overcoming its insufficiencies and errors, thus enriching itself with new theoretical and practical knowledge. In other words, it is not true that that if a scientist discovers an event, that event has a right to exist only if it is explainable from a theoretical context shared by the scientific community. To clarify, it is sufficient to pose a question to oneself: How many natural phenomena, even if their existence is indisputable, do not yet have a theoretical explanation?

Philosophy, queen of logic and rationality, relies often on “a priori”, on “axioms”, which are given as presupposed hypotheses, and, even so, construct the physical and metaphysical vision of reality. Even mathematical science uses hypothetical axioms, and even if today the mathematical axiom tends to be considered, out of conventionality, more similar to a postulate, it remains, however, undemonstrable. Even if we reduce human knowledge to only the empirical knowledge of Western science, difficulties result not only in the fields of physics and chemistry, but also (and especially, as we will see), in that of biology.

P. Odifreddi, in his recent interview with the Nobel prize winner for physics Chen Ning Yang, reminds us that in the field of chemistry, “every molecule can exist in two forms: There are, for example, two types of sugar, dextrose and levulose. The two forms are not always interchangeable: one of the two types of morphine, for example, is completely innocuous. Life favors molecules,

amino acids, and DNA with “right-handed” properties. But this is only the result of an evolutionary process: a “left-handed” world would not violate any chemical laws” (P. Odifreddi, 2002). This last reflection is very important because it leads us to the understanding that if, linguistically, to express an objective observation, one uses the expression “it wouldn’t violate any chemical laws”, in reality that discrepancy – the violation of a law – comes from the verification of the way an event occurs in relationship to the known; in the way that it obviously presupposes a type of legality (the presence of a law) that science does not yet know. In reality, it is men who with their behavior can “violate” a law, but a natural phenomenon does not possess the liberty to infringe on the laws of creation. That event which we define anomalous is considered such because it behaves according to a modality that is outside of known laws, but which responds to a legality yet unknown. In these cases, in everyday jargon, it is common to say that the exception reconfirms the rule, and it is implicit in this affirmation that the exception corresponds to an event that, even in its strangeness and rarity, is objectively evident, but of which we are still ignorant of the theory that governs it. Therefore, it is we who tend often – too often – to forget that we are in a condition of cognitive relativity, and on this claim I believe that we can all agree. In fact, experience teaches us

that, talking face-to-face in a calm manner, all rational people share similar thoughts. Still, it often happens that we have to verify that, within the intellectual community and in certain sectors of the scientific community, there are people who strangely forget the limits of their knowledge and, as a result, the awareness of their cognitive limitations disintegrates in a sea of arrogance. Returning to our theme, I will give some examples of and reflections on problems present in the field of physics. In quantum physics, I believe it can be said that the “realities” which populate this sector of knowledge, supported by noted physical laws, are all breathtaking realities in which every truth connotes the incredible and the surreal. At one time – and for a long time – science claimed, for example, that none of the four irreducible forces: gravitation, electromagnetism, strong interaction and weak interaction violated the law of specular symmetry (symmetry). But in 1956, two Chinese physicists, Chien Ning Yang and Tsun Dao Lee (Nobel Prize for physics) discovered “that the laws that govern weak nuclear forces (relative to radioactive disintegration) allow us to distinguish the real world from the speculative world” (2002). This was a formidable discovery, but today, after forty-six years, notwithstanding all the theoretical knowledge that scientists have formulated, no one in the world has yet understood why gravitational, electromagnetic, and strong nuclear forces do not violate the laws of symmetry, while weak nuclear force does. Why does this happen?

This phenomenon has been studied and analyzed, but still today has not been justified theoretically. So does it exist, or will it become existent only when it is understood? The same C.N. Yang reminds us that physicists have long believed in the spectral symmetry of nature without, however, possessing experimental support, and it was only in later times that the theory was demonstrated to be true. In addition, on the occasion of his Nobel speech, Yang asked himself, why does nature seem to have taken advantage of the simple mathematical representation of the laws of symmetry while some forces violate it? His answer was: “Not only do we not know, but perhaps we will never know. We can only verify, thanks to the history of physics of Newton and Einstein that nature has chosen precise and wonderful mathematics to construct the universe.” Yang says that “perhaps we will never know”, and, given the authority of this mind, such a statement must cause reflection, even though many times I have heard from scientists themselves that one day science will know everything. Personally, I think not, because, from a logical point of

view, if human beings are part of Everything, only Everything can know the Part, while that Part can only intuit the reality that transcends it.

If now we direct our considerations to another scientific field, biology, everything becomes more complex, mainly because the vital processes merge with the dynamics of the mind. Today, through the study of molecular biology, we possess much theoretical knowledge regarding the biochemophysical mechanics of the cell. On the other hand, even though the existence of phenomena dependent on the action of the mind on the organic system is indisputable, we do not possess any theory capable of interpreting the way in which the psyche merges with the neural system and decodes electromagnetic and biochemical signals – i.e. in conscious events, how it can be capable of modifying and altering the functionality of the same neurons and the organs of the body? It is sufficient to consider the puzzling subject of the “mind-body” connection to have an idea of the chaos of hypotheses which swarm in the world of philosophy of the mind and also in the world of neuroscience in regards to this specific problem. Notwithstanding the efforts – and enormous capital – employed to conduct experimental research on the mysterious relationship between mind and body, theoretical babble incapable of explaining how a sensorial stimulant becomes a conscious experience still reigns. Descartes believed that the hypophysis regulated the mind-body relationship, but although we now know for sure that it does not, we still do not know what is responsible for this phenomenon. Even so, the mind-body question does not seem to be a pseudo-problem. Therefore, once again the question: Lack of theories = absence of phenomena? What to say, then, of the severe human problems that mark the fields of psychology and psychiatry? Here we can count many theories, but the physical-mathematical paradigm of empirical

science does not consider them scientific theories. The most clamorous example is the psychoanalytic theory of Sigmund Freud, which has never been considered a scientific theory. Does this mean that psychoanalysis and modern psychology are pseudo-sciences? And psychiatry? Is this also a pseudo-science that studies pseudo-diseases? Here is yet another biological consideration: Reflecting on genetics and the world of genomics, E. Boncinelli observes that in these fields, “the conceptual instruments needed to interpret the massive available data are often lacking. We still do not know how to read the masses of DNA sequences of the genomes of the diverse biological species, and they are accumulating all over the world” (2002). In the words of Roy Britte and Davis Kohne, the origin and function of repetitive DNA is still unknown (1979). However, one thing is certain: Even if the theory that suggests how to confront the knowledge of these facts does not yet exist, the facts exist, and correspond to concrete realities. In addition, on the subject of problems related to genetics, it is interesting to reflect on a situation for which psychiatry still has not developed a plausible hypothesis. In other words, it lacks a theory. The phenomenon is the following: It is known that monozygotal twins are individuals who originate from a single fertilized egg that then divides into two. The genetic material is identical in both, yet the idea that the resulting twins are identical is false. Without listing the differences which become evident throughout life, including these attributable to the influence of culture on the formative process, there is however a strange fact, an anomalous fact, an unexplained fact. Based on recent studies, R. Plomin, J.C. Defries and G.E. McClearn have confirmed that “More than half of the couples of genetically identical twins are discordant in regards to schizophrenia.” Among other things, if one twin is schizophrenic, then the other may not be. Since they have the same DNA and the same family culture, all this means that there is something else at work within them. However, we still do

not know what that something else is (1990). Lack of theories = absence of phenomena? Unfortunately, even in this case, it is not so, because the facts tell us that very often, one twin is healthy and the other is schizophrenic.

A paradigmatic case, moving on to the analysis of psychological science, is one that relates to the problem of “emotion”. It may seem strange, but even today psychology is not yet able to understand the psychophysiological processes which occur when a subject feels joy, fear, and other sentiments; there is not even consensus on the meaning of the term emotion. Dario Galati writes: “The uncertainty about what emotion means still reigns today among psychologists, and various attempts at definition have only multiplied the meanings of the word “emotion” instead of clarifying it in a consensual manner” (2002). Therefore, the question is: If a definition of emotion does not exist, and the process of physiological transduction by which emotion manifests itself in human behavior is unknown, does this mean that emotion does not exist? Many psychologists agree with Galati’s statement that “it is necessary to reach a definition of emotion that is as precise as possible, because only in this way will we be able to clearly delineate the confines in the field of research on the psychology of emotions, avoiding the suppositions and confusion with other disciplines which have thus far obstructed the advancement of research” (D. Galati op. cit.). Because emotions, before being concepts, are experiential events, it would suffice to interview people all over the world and ask them if emotions exist. Since, realistically, the answer cannot be anything but affirmative, what could psychologists do? They would have no choice but to look for a way, without, however, being tempted into absurdity, as was E. Duffy, who proposed negating scientific validity not only to the concept, but also to the term “emotion”, which he relegated to the coarse instruments used by “popular psychology” (1941). Do the lack of theories, and, in this case, absence of scientific definition of the term equal absence of phenomena? In the field of parapsychology the problem is the same both from a definitive and an interpretive point-of-view. Naturally, the difficulty stems from the fact that the paranormal phenomenon entails a whole complex of knowledge that goes beyond the event’s appearance. In the field of parapsychology, there is certain difficulty in understanding that an interdisciplinary vision is necessary to confront the knowledge of the psi interaction in its psicognitive and parapsychical aspects. This necessity is due to the presence of Bios, or life, in the paranormal phenomenal system, and, in the human field, the presence of psycho-emotive and psycho-cognitive spheres. This is a mental world whose conscious and unconscious energetic dynamics are capable of modifying physiological behavior to the point of pathologizing it, and, at the same time, through the relationship that the human being has with the world, of acting on the physical world and other living systems, modifying their physical and biophysical states. In the parapsychological field, it is not that there is a theoretical gap. In reality, an energetic hypothesis does exist, an energy that has conventionally been called psi energy. Its presence is manifested by indirect revelations of paranormal phenomena, the same way in which physicists, through the indirect instrumental observation of macro- and microscopic realities and the documentation of the effects of such realities on physical systems, have spoken, for example, of “gravitational force” and have listed numerous types of energy included in the ample electromagnetic spectrum, giving each one a specific name (infrared rays, ultraviolet rays, x-rays, cosmic rays, neutrons, quark, etcetera). However, if the effects give testimony to the presence of a cause, then a similar discourse is applicable also to the theoretical concepts of Eastern philosophers, mystics and sages who for millennia have spoken of Purusa and Pacriti – primordial energies from

which derive every kind of manifestation. Purusa in Sanskrit means “man” in his bio-physical-spiritual whole, while in the general sense it means “vital energy”. United with Prakrit, which in Sanskrit means “primal matter” – according to the Yogasutra theory of Patanjali, it is one of the two eternal foundations of the world. Even so, this ancient vedic theory, not corresponding to the empirical-instrumental methods of Western thought, is deprived of scientific significance. The same can be said for Yin and Yang energy, on whose ancient concepts Chinese medicine has based the practice of acupuncture. These are energies, which are still undecipherable by Western instrumental experiments, but whose effects are indisputable, as demonstrated by the many Western “acupuncture” schools. But my argument does not finish here. Who has not heard of prana? Essence of cosmic life, the breath that nourishes the universe and all it contains; therefore, also man and his consciousness. According to its philosophical theory, its flux permeates the entire organism and circulates in an organic web of “canals” (nadi), which are in sync with the seven chakras, the energetic centers distributed throughout the body. This energy is used in an empirical manner by so-called “pranotherapists” or “healers”. These men and women of the “therapeutic touch” are disseminated in cultures all over the world. This energy is ignored, even negated, by the Western scientific world, because a scientific demonstration of energy that radiates from the human body still does not exist. However, the effects on suffering human beings exist and the evidence of healings are too many to deny. In this case, Western scientists propose diverse interpretations to justify them, while not only Eastern, but also Western populations turn to such practices for healing and well-being.

This argument relates to other energetic theories hypothesized by Eastern sages, such as the kundalini, the “serpent force” of yoga. This theory is considered earthly and unearthly. In man, it is located in the sacrum, and from this sexual-psycho-nervous center, kundalini can rise to the seventh and highest chakra, the lotus flower of a thousand petals, which is situated at the crown of the head. For centuries, tantric schools have claimed that the reawakening of the kundalini is considered the beginning of a spiritual awakening in a human being. This awakening, however, manifests itself in indisputably objective behavior to whose energetic component no physical-instrumental method corresponds. The same applies to the techniques of Rei-ki, which responds theoretically to the binomial of spiritual and vital energy.

In the history of mankind we cannot forget the conceptions of prophets, mystics, Eastern philosophers and even Western doctors who speak of “spirit” (pneuma), referring to “it that vivifies”. In Christianity it is the Holy Spirit who “gives life”, while Western science speaks of “vital energy”, giving to this term the authentic meaning of something that gives life to inanimate material. It is the spirit, therefore, to use the words of H. Hartmann, that represents “the real protagonist of history”. Finally, in the Western field of biology we speak of “orgone”, and now, more insistently, of “bioenergy” or “biophotons”, which emerge not only from cells, but from DNA. Therefore, philosophical, scientific, religious, and esoteric thought for thousands of years speaks of biological, psychological and spiritual energy, energies that scholars of every discipline have qualified with a conventional name, making reference to the characteristics derived from the observation of their diverse effects. We all know that the near-totality of energies considered outside of the physical-mathematical paradigm are not considered valid by Western science because everything that is not justifiable by a physical-theoretical interpretation and is not able to be analysed by Western science’s instruments is metaphysics, or pseudo-science, or illusion. But from

a realistic experiential point-of-view, this concept does not eliminate the presence of these events. It is for this reason that we are obligated to search for other criteria to analyze these particular aspects of reality. Therefore, when a scholar speaks of “psychic energy”, he does not use any of the mathematical formulas adopted by empirical science, but their analogies. And since quantity can be measured by physics through the use of numeric values, in psychology an evaluative term that implies the intensity of the events is used. On the other hand, as C.G. Jung wrote: “Psychic intensities and their gradual differences indicate processes which are characterized quantitatively but are inaccessible by direct observation, and therefore, by measurement. Psychological verification, though it is substantially qualitative, also possesses a sort of ‘latent physical energy’ through which psychic phenomena permit a certain quantitative aspect” (1976). Before concluding these thoughts, I must clarify another point that often is not realized and is many times the subject of equivocation. We have seen that the near-totality of physical, biological, psychological, and spiritual energies are in part theorized or hypothesized by the observation of the results which their presence produces on physical and biological systems, and through these, the effects which they produce on instrumental systems and on the world. But there is an empirical fact that needs to be emphasized because, conceptually, it unites all the hypothetical energies. Experience has demonstrated that energy can be activated, manipulated, and transformed, as is demonstrated by its effects, and thus through the adoption of physical systems (represented by instruments and apparati), or with the use of biological systems (genes, DNA, viruses, molds, etcetera) through the learning of particular psychological and spiritual behaviors (exercises such as autogenetic training, meditation, prayer, therapeutic touch, etcetera), or by the presence (conscious energy) of the observer or the experimenter. We cannot forget the parapsychological hypothesis of psi energy, justified by observation and analysis of spontaneous phenomena and the study of facts drawn from possible experimental controls. Its vector could reside in “subatomic realities” as yet unproven but hypothesized; therefore, sooner or later susceptible to verification by quantitative criteria.

A capable philosopher of the last century, Paul Feyerabend, criticizing the concept that new hypotheses must agree with already-established theories, wrote: “The condition of coherence, which calls for new hypotheses to be in agreement with accepted theories, is unreasonable...The hypotheses in contradiction with affirmed theories furnish us with experimental materials which cannot be obtained in any other way” (1981). With this, I believe that I can conclude by affirming that, since we have verified that a lack of theory does not exclude a phenomenon, and that the refusal of hypotheses that physical-mathematical conceptuality considers non-scientific, from a knowledgeable point-of-view, is an unacceptable violation. Einstein, Bohr, Heisenberg, Schroedinger and many others have upended the concepts of classical physics, demonstrating that space, time, causality and determinism are relative to the systems considered valid, for which I maintain that it is right to consider that many physical-chemical, biological, psychological, parapsychological and transpersonal phenomena, if in the future are not justified by empirically controlled theories, will be able to find their justification in other paradigmatic environments. The fact I would like to emphasize in my conclusion is that wanting to stabilize a priori norms by which we decide which phenomena are deserving of recognition and existence equals freezing the realities of the world into historical moment. And that is absurd and unscientific

## SUMMARY

One of the maxims that with relative frequency is expressed by certain intellectuals and scientists regarding the pseudo-scientific status of parapsychology is that, in parapsychology, scientific theories capable of explaining psi phenomena do not exist, rendering the phenomena nonexistent. Marabini confronts the analysis of this theme by reviewing various phenomena pertaining to different fields, from chemistry to physics, from biology to psychiatry and psychology; phenomena whose existence is indisputable, yet which still lack theoretical justifications capable of interpreting them. Marabini observes that the near-totality of energies considered outside the physical-mathematical paradigm are not considered valid by Western science because everything that is not justified by a physical-mathematical theory and is not able to be analyzed by conventional instruments is considered metaphysics, pseudo-science, or illusion. But, logically speaking, and from an experiential point-of-view, this concept does not eliminate the presence of those events, to which we need to add a good series of facts that science considers real but for which no scientific theories exist to justify them.

Marabini concludes by claiming to be able to affirm, having verified that the presence or lack of a scientific theory does not exclude a phenomenon, that the refusal of hypotheses which a physical-mathematical framework considers unscientific from a knowledgeable point-of-view, is an unacceptable violation.

## WORKS

## CITED

Boncinelli E., Data mining: un'incredibile ricchezza di dati. *Le Scienze*, n. 407, July 2002, 111.

Britte Roy J and Kohne David E., Segmenti ripetitivi del DNA. *Le Scienze*, n. 20, July 1979, 31.

Duffy E., An Explanation of Emotional Phenomena Without the Use of the Concept of Emotion. *Psychology*, n. 25, 1941, 283.

Feyerabend P.K., *Contro il metodo*. Feltrinelli, 1981, 30.

Galati D., *Prospettive sulle emozioni e teorie del soggetto*. Bollati Boringhieri, 2002.

Jung C.G., *La dinamica dell'inconscio*. Opera omnia, n. 8, Boringhieri, 1976.

Odifreddi P., Il cinese che sconfisse la simmetria. *Le Scienze*, n. 407, July 2002, 10.

Primer E. and Freeman W.H., *Behavioral Genetics*. New York, 1990.

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