

A Philosophical Inquiry to Include Trance into Epistemology

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Abstract

In a state of voluntary trance or meditation, the perception of reality appears to extend beyond the usual and temporal boundaries that are normally perceived by the sense organs. It is argued that the problems of validity and reliability of trance experiences for scientific discourse are in principle no different than the problems associated with ordinary perception. The shift in early Greek philosophy from myth to and emphasis on *logos* (reason) has led to a neglect of those subtle qualities of reason that were considered to be gateways for divine revelation. Scientific methodologies cannot account for such revelation, and there are no criteria known to science that would enable people to utilize these phenomena. Shamanic experiences are intersubjectively accessible and provide data that is suitable for the construction of rational theories if appropriate methodologies are developed. However, for a scientist, shamanic experiences are considered at most to be psychological ones, and consequently without any value for empirical research. This article examines the possibility of reevaluating the terms “rational” and “consciousness,” in order to expand scientific methodologies in such a way that volitionally altered perceptions of reality can be integrated into scientific research.

Philosophical inquiry utilizing the phenomenon of trance appears to be a misnomer. How could one approach such a topic with the traditional tools of philosophical investigation in an area that appears to defy reason?ⁱ This article supports the belief that scientific research can include knowledge gained through trance. After all, since the Greeks, philosophers emphasize the importance of critical thought as well as empirical reasonable ways of understanding reality. The present author will argue that experiences achieved in a shamanic state of trance are intersubjectively accessible and thus enlarge the scope of the scholar’s collection of empirical data that is suitable for rational communication. Thus, the function of trance within a theory of knowledge is the experience of subtle structures of reality. The problems of the validity and reliability of such trance experiences in principle are no different than the problems associated with the assessment of ordinary perception. I suggest that a reevaluation of the term “rational” is necessary.

In 1890, when the English Society for Psychical Research carried out a large scale “Census of Hallucinations,” 9.9 percent of the 17,000 subjects had at some time in their lives experienced at least one hallucination not accounted for by illness, intoxication or any of the commonly recognized causes. In 1948, these findings were confirmed by the same society in a smaller follow-up study (West 1948). These studies referred to “sane” people in a normal environment. What can one learn, if these altered perceptions are to be systematically explored in a scientific setting? Within the context of contemporary theories of knowledge, altered perceptions (such as those which occur in trance) are not believed to exist. Rather, they are considered unsuitable for

scientific explanations because of their lack of intersubjective accessibility. Experiences achieved in a state of trance or meditation, or under the influence of divinatory hallucinogens do not qualify for so-called real scientific research, and are considered to be only private experiences. However, a shamanic flight or a conscious form of trance can be an additional “door of perception” (Huxley 1963) that is suitable for scientific investigation, if one is able to establish an appropriate methodology to utilize such information.

Human perception is fallible; thus, in the sciences, emphasis is given to technology and instrumentation to more easily control and measure data by means of logic and mathematics. Certainly, reliance on material aids in the study of perception does not necessarily provide sufficient information about additional possible perceptions, such as those available from conscious states of trance. The epistemological value of unusual perceptions at present is not recognized within scientific methodologies, because these states do not fit into the framework provided by these accepted approaches.

A lively discussion concerning the possibility of combining different epistemological viewpoints took place in the 1960’s and 1970’s, when the concept of incommensurability was addressed (Feyerabend 1975). This theory is based on the assumption that certain rival theories are mutually incompatible. Such incompatibility might also effect the change from an established theory or paradigm (according to Kuhn 1962), to a new form of conceptualization and theorizing about reality. Feyerabend recommended the adoption of a pluralistic methodology in which such alternate views that have failed in their competitive bid with rational thought can be improved rather than discarded. Today these concerns no longer are fashionable, and exactly the opposite viewpoint is supported. Pluralism in philosophy is no longer popular, and there is little motivation to consider the possibility of integrating different epistemological points of view. Academic philosophy, just like scientific research, is increasingly subjected to utilitarian and pragmatic justifications rather than reflecting a genuine interest and concern for the unknown.

The Greek Philosophic Inheritance

The shift from a mythological interpretation of reality to a purely rational one is considered to be the main achievement of our Greek intellectual heritage. As early as the fifth century B.C., Ionian philosophers distinguished between knowledge and belief. Xenophanes, although a deeply religious man, pointed out that there is a significant difference between faith and knowledge (Dodds 1951: 181). He denied the validity of divination and demonstrated his belief that one could analyze different attempts to give a true account of the gods. “No man has ever had, or ever will have sure knowledge about Gods; even if he should chance to hit on the exact truth, he cannot *know* that he has done so, though we can all have our opinions.”

There is a common problem with divinatory knowledge, trance, or hallucinations; namely that of proof. The problem of proof starts not with visionary or hallucinatory experiences, but with ordinary perception that is obtainable through the five senses. The philosopher Parmenides cautioned “not to trust the senses, but instead to judge by reason” (Guthrie 1965: 25): “For the

first time sense and reason are contrasted, and we are told that the senses deceive and that reason alone is to be trusted.”

The insistence upon the dominance of reason as a more reliable tool to hypothesize about reality also changed the perceptions of the world. Dependency on the gods decreased and a more autonomous existence for humankind became reasonable. With this transformation from myth to logic, a drastic change in attitude towards divinatory perception also took place. As a consequence, science distanced itself from those mythic forms of knowledge for the same reasons that were brought forth against religion.

The practice of altered states of consciousness used to take place within the context of communication with the divine. Its relevancy for human beings decreased as they became more independent from their gods. However, divinatory perception does not necessarily have to be interpreted as communication with the gods. Rather, it can be seen as a meticulously refined perception made possible through the complexity of the human nervous system, in combination with a volitional effort. Furthermore, it has been argued that such perception could allow the individual to perceive energetic frequencies of reality (Bohm 1981) as opposed to ordinary physical objects that are regularly perceived through the five senses.

While the concern of early Greek philosophers about the inaccuracy of sense perception has been widely accepted within science, little recognition is given to those early Greek warnings that human thought (reason) also could suffer similar limitations. Alcmaeon of Croton and Heraclitus, in particular, reported the limitations of human thought (Guthrie 1965). Although little information is available about Alcmaeon, there are some fragments preserved that specify his view (Wilbur & Allen 1979: 229): “Concerning things mortal, the gods have certainty, whereas to us as men, conjecture only is possible.” Divine wisdom is still considered to be superior to the ability of human understanding. With the increasing acceptance of *logos* as the divine part of human beings themselves, the superiority of the gods slowly became subject to doubt. The Greek noun *logos* is derived from the verb *lego*, which means “I say” (Kerferd 1972: 83). Within the context of philosophy, *logos* is understood as a guiding principle of human nature; the term is normally translated as “reason,” without clearly differentiating whether human or divine reason is addressed. Additionally, *logos* is opposed to *mythos*. Together, the terms describe the two poles of intellectual activity: One is conceptual and combines and analyzes, and the other is pictorial and creates from the unconscious (Nestle 1966).

The divine character of *logos*, however, was recognized by Heraclitus (ca. 500-460 B.C.) (Wilbur & Allen 1979: 64, 71): “Human nature has no power of understanding; but the divine nature has it.” (Fragment 78); “Most of what is divine escapes recognition through unbelief.” (Fragment 86); “Therefore one must follow ... that which is common to all. But although the *logos* is universal, the majority live as if they had understanding peculiar to themselves” (Fragment 2); “The soul has its own *logos*, which increases itself (i.e., grows according to its needs).” (Fragment 115). Heraclitus’ glorification of *logos* as a divine structure which permeates the cosmos has to be seen in its larger cosmological context. For him, at least three ideas are expressed through *logos* (Kerferd 1972: 83): “... human thought about the universe, the rational

structure of the universe itself, and the source of that rational structure.”

Two millennia later, human beings themselves are capable of understanding the complexity of reality through logos, which had become a synonym for rational, logical thinking. Contemporary science, however, does not combine these three concepts (conceptualization, reason, and metaphysics). To simply substitute the divine qualities of logos with rational and logical reasoning does not do justice to the metaphysical basis and origin of the term “logos.” Both human thought about the universe and any metaphysical considerations about the origins of the universe had to be eliminated in order to support the exclusive logical-mathematical analysis of reality.

Thus, it seems that the subtle quality of logos that was a link between the gods and man has been eliminated. According to Heraclitus (Fragments 2 and 78), logos is simply the universal law that is within the reach of human nature. The divine elements of logos that could be understood as a result of a volitional effort (Fragment 115) were rejected as part of the secularization process (Fragment 86).

The modern disinclination to utilize this knowledge outside the realm of mythos (subsumed as an additional element of logos) led to an artificial exclusion of the subtle qualities of logos from scientific applications. These qualities were only accepted within the context of mythical thought and as such were viewed as inferior to logical research. A typical description of the supposed differences between mythical and logical thought can be found in Snell’s classic book, *The Discovery of the Mind* (1982: 224): “Mythical thought requires receptivity; logic cannot exist without activity. Logic does not materialize until man has become cognizant of the energy within him, and the individuality of his mind. Logical thought is unimpaired wakefulness; mythical thinking borders upon the dream, in which images and ideas float by without being controlled by the will. As far as the enlightened intellect is concerned, myth is ‘unnatural,’ and that means above all that it is not free of contradiction.”

This typical example of misrepresentation of the subtle qualities of logos reflects scientists’ prejudices against such perception which reaches beyond the limits of a material representation of reality. Snell obviously confused mythical thought with folk tales. He does not recognize that mythical thought requires both receptivity and activity. The state of trance in which mythos plants the seed of knowledge is not a state of sleepy existence and dreams. Rather, it is the opposite, a state of extreme concentration and willpower. Myth becomes unnatural and contradictory only if a state of high concentration and willpower cannot be maintained by an individual. A scientist willing to bring divinatory knowledge into scholarly research must maintain the same integrity as any other scientist would bring to a selected field of competency. For example, Tart’s work on state-specific sciences (1975), which is discussed below, exemplifies this approach.

It is still an unresolved epistemologic question as to whether these so-called irrational elements are truly outside or beyond reason or logos. All that can be said so far is that a satisfactory methodology has not yet been found that provides a successful tool to systematically integrate such elements into a theory of knowledge.ⁱⁱ Divinatory knowledge is a challenge to the

materialistic world view of the humanities, a challenge that is not expressed in the opposition of religion versus science, but rather in the opposition of an energetic-wave world view as opposed to a micro-physical world view (Bohm 1981).

There is no indication of any major quarrel between science and religion in ancient Greece. At that time, science was embedded within the general field of philosophy. The metaphysical attempts to answer the question “What is reality?” led to both materialistic and immaterialistic concepts of reality. It became important to postulate a world *behind appearances*, that is, explanatory models and theories about reality were developed in order to find the ultimate principles according to which reality functioned.

This philosophical search was supported through science and religion. The pre-Socratic turn in philosophy (ca. 600-500 B.C.) made a religious interpretation of the world unacceptable. The world behind appearances could no longer be filled with theological concepts of explanation. Instead, the new concepts relied on logos as the ultimate principle to explain reality. In spite of the demise of theological concepts, room for religious experiences to illuminate our understanding of reality still existed (Rohde 1972: 363): “It might seem as if religion and philosophy were not merely different but dealt with different provinces of reality, and thus even strict and philosophically minded thinkers could honestly and without imagining disloyalty to philosophy, adopt particular and even fundamental conceptions from the creed of their fathers, and allow them to grow side by side and at peace with their own philosophical ideas.”

In particular, it was the individual’s religious experience that enabled a communication with and conscious perception of subtle elements of reality. For example, the Orphic and Bacchic initiation mysteries were based on the assumption (Rohde 1972: 342) that “man’s duty is to free himself from the chains of the body in which the soul lies fast bound like the prisoner in his cell.” In an ecstatic-cathartic ritual of purification the conscious *psyche* was believed able to perceive its original form of existence and thus the individual would empirically experience this subtle reality.

If we were to understand such so-called irrational elements, one might be able to integrate new and valuable information into science. The simple fact that a methodology has not been found that allows humankind to utilize altered perception for scientific research does not mean that such perception is beyond reason (in its more complex meaning similar to logos). According to Dodd (1951: 269), “What we need is not to abandon reason, but simply to recognize that reason in the last three centuries has worked within a field which is not the whole of experience, that it has mistaken the part for the whole, and imposed arbitrary limits on its own working.” Whether reason is a quality of consciousness or simply a logical constituent of theories should not effect the accumulation of empirical data. However, it will certainly effect their interpretation.

The Volitional Perception of Unusual Phenomena

In order to successfully integrate the concept of trance into systematic scientific research, the function of consciousness for human beings must be clarified. Theories of consciousness reflect

the metaphysical assumptions underlying any methodical research. A description or specification of consciousness within philosophy is limited by the efficacy of the theories involved. The description of consciousness within the natural sciences, however, is based on the observation of phenomena. Such observations, in turn, are based on two major conditions: (1) they are limited by the theoretical framework in which they occur; and (2) they control the applicability of a theory.

With regard to consciousness research, the means of observation are rather limited. Since one does not directly observe the objects perceived in trance, one can only infer from three sources of information: behavior, language, and physico-chemical reactions. These sources do not provide any direct data about consciousness and are simply the basis for speculative interpretation. It is not surprising that in the course of the history of philosophy, many hypotheses about consciousness have been developed that are entirely different from each other and sometimes even contradictory to one other (Bunge 1980).

One of the fundamental problems with regard to consciousness is the relationship between mind and body. Is the mind simply part of a universal consciousness? Can the mind actually control the brain? Or is consciousness rather a complex function of the brain? No matter which position one chooses, it will be either a variation of the dualistic or the monistic interpretation of the mind/body problem.¹ Many contemporary theories, which at first glance appear to be outside the limitations of reductionism, do not fulfill their potential promise. For example, there are theories based on cybernetics where a general 1:1 correspondence is considered to exist between physical and mental states. They can be explained through an analysis of cortical processes within the context of knowledge-based systems (George 1986), or within the context of folk psychology (Churchland 1988), or of holographic structures (Bohm 1981). In the final analysis, all these theories are a form of reductive materialism, even though their rationale seems to provide the answers to the perennial mind-body controversy.

Research about trance and shamanism requires an awareness of the philosophical consequences of a writer's approach – materialistic or idealistic – with regard to the function of consciousness. Such awareness or knowledge is a vital prerequisite to evaluate information that may have to be considered for a theory of trance. This can be explained by briefly discussing some aspects of a recent popular book which addresses some philosophical issues about consciousness.

In her book *Neurophilosophy*, Churchland (1988) introduces her interpretation of the general problem of consciousness and the mind-brain discussion within the context of “folk psychology.” Her description of folk psychology falsely suggests that this theory provides a larger understanding of human consciousness, in which scientific research is used to illuminate the intellectual potential of humankind.ⁱⁱⁱ This example will illustrate that the exact opposite situation is the case. Churchland has no room for consciousness in folk psychology. The

¹ Dualistic concepts assume two separate qualities of reality, a physical and a mental realm. Monistic theories are either materialistic (and do not consider the possibility of an independent mind), or they are idealistic (and consider an independent quality which is the basis for all manifestations of the physical or mental world). For an excellent overview see Bunge (1980).

“hominess” that she is talking about turns out to be the potential for an artificial manufacturing of “consciousness” within scientific laboratories. Churchland (p. 299) uses an entire array of success-words^{iv} in order to describe the “homey” features of folk-psychology (the term in itself is a suggestive word): “Folk-psychology is *commonsense* psychology - the *psychological lore* in virtue of which we explain behavior as the outcome of *beliefs, desires, perceptions, expectations, goals, sensations, and so forth*. [Folk-psychology is] ‘*intuitive* psychology,’ and it shapes our conceptions of ourselves” [emphasis added].

The connotative properties of these emphasized words suggest that folk psychology supports a humanistic approach to concerns about the mind-brain problem in which neuropsychology is used to describe the concept of our mind. However, later in her book, Churchland indicates that folk psychology has to be seen from the general context of eliminative materialism. She cautioned the reader (p. 396) that “the mind-brain is exceedingly complex, and it seems unlikely that *primitive folk* would have lit upon the correct theoretical framework to explain its nature” [emphasis added]. In order to emphasize the complexity of the mind-brain problem, Churchland downgrades the usefulness of “folk” and introduces the importance of “expert” knowledge. She saw such expert knowledge in “eliminative materialism,” which she incorrectly described (p. 396) as the view that holds: “(1) that folk psychology is a theory, (2) that it is a theory whose inadequacies entail that it must eventually be substantially revised or replaced outright (hence ‘eliminative’); and (3) that what will ultimately replace folk psychology will be the conceptual framework of a matured neuroscience (hence ‘materialism’).”

In philosophy, eliminative materialism is characterized as a monistic position according to which reality can be strictly explained solely in terms of physical properties. There are no mental properties different from the material world and there is no room for consciousness as a distinct feature of reality. Eliminative materialism is in the tradition of Watson’s and Skinner’s behaviorism.

Certainly, folk psychology goes far beyond these original concepts and considers the results of contemporary neuro-science. Churchland’s interpretation and application of such results, however, is within a reductionist materialistic ideology. Within such a theory, awareness no longer exists (p. 309): “... there may be no such thing as awareness ... Folk psychology may be a thoroughly muddled theory of mental business, and a newer and better theory may yield a theoretically more satisfactory characterization of it. What is *it*? Well, whatever it is that we now, perhaps mistakenly, characterize as awareness, which some future theory may characterize in a quite different way.”

Churchland’s choice of success-words to describe folk psychology suggests a humanistic treatment of mind/body problems. It appears that she is genuinely concerned to avoid the philosophic implications of materialistic reductionism. However, once the properties of the words “awareness” and “consciousness” are eliminated from the conceptualization of reality, we can also eliminate a self-motivating initiator of human action which is called free will.

For Churchland, such a principal readiness to accept reductionist claims is apparent, for example, when she introduces the concept of “cognitive software.” Metaphorically speaking, she claims

that the brain can be understood as a computer. Churchland hopes that such metaphors will eventually catalyze theorizing. However, it becomes clear that the intended theories will fit a reductionist frame of interpretation.

Contrary to the suggestive power of the descriptive terms for folk psychology, it becomes clear that its rationale is based on a scientific reductionism in which behavior and psychoneurological processes in the last analysis can be explained through physical determinism. In this context, the terms “physical determinism” and “physical” are used in the manner defined by Feigl (1967: 10): “‘Physical determinism’ [is] that degree of precise and specific in-principle-predictability that even modern quantum physics would allow as regards the macro- and some of the micro-processes in organisms. ‘Physical’ [is] the type of concepts and laws which suffice in principle for the explanation and prediction of inorganic processes.” This example should demonstrate that the convincing connotation of success-words does not necessarily have to correlate with the underlying ideologies of a theory. The inclusion of awareness and consciousness within the claims and surveillance of reductionist methodologies has become a critical issue affecting the quality of life of future generations, and places one squarely back in a Skinnerian world beyond freedom and dignity. Scientific freedom permits us, nevertheless, to develop equally strong theories of consciousness apart from the reductionist movement of scientism.

In spite of the difficulties in defining the properties of the terms “consciousness” and “awareness,” and in spite of the reductionist claims mentioned above, these terms will be used in the present article in such a way as to represent properties that cannot be reproduced by *artificial* neuronal firing. Both terms stand for an arbitrarily imposed grid on mental processes. The function of consciousness and awareness in human communication is still unclear.

The conscious observation of subtle (energetic) reality could bring forth the necessary empirical data to develop challenging theories of mind that would be an acceptable alternative to scientific reductionism. Throughout history, and in all cultures, the concept of soul or psyche that is disembodied and able to travel through time and space has been perennially discussed. This article neither overviews that corpus of material nor argues the opposite reductionist-materialistic approach. Rather, it is an attempt to shed some light on the philosophic and scientific applicability of trance or other ASC for epistemologic analysis.

The function of trance or ASC within a theory of knowledge is, at best, the immediate experience of subtle structures of reality in an intersubjectively reproducible way. Thus it might allow one to acquire additional conscious perception of reality suitable to enhance one’s structural knowledge of the physical world. There is little hope that the essential differences between the concepts of the physical sciences and the concepts of introspective-phenomenological psychology can be solved merely by including trance in scientific research. The first function of trance within science simply is the opening of an additional “door of perception” to provide new raw data that is suitable for scientific analysis.

The subject of trance has been researched extensively in anthropology and ethnopsychiatry. Shamanic trance is very often initiated by hallucinogens, alcohol or tobacco. It requires a high level of concentration to maintain awareness under the influence of strong doses of certain

psychoactive drugs. There are various techniques and exercises that seem to improve one's ability to concentrate. A vital prerequisite for a successful trance is the ability to interfere actively and with awareness with the mental imagery that accompanies the state of trance (LaBerge 1988; Peters & Price-Williams 1983).

Trance is generally considered to be passage into another state of consciousness. In a critical analysis of shamanism, Peters and Price-Williams (1980) pointed out that an important psychological criterion for distinguishing shamanic ecstasy from other types of trance is the factor of mastery and control. A shaman is not simply victimized by the trance but also has (1) voluntary control of entrancement and the duration of trance, at least once the shaman has left novice status; (2) posttrance memory; and (3) transic communicative interplay with spectators. As to the content of a shaman's trance, there are essential schemata of visionary travel from at least three up to 33 levels or "cosmic zones" in which the shaman interacts with "spirits" (Noll 1985).

No scientific satisfaction is gained if such spirits were interpreted merely as entities of a preternatural world. Rather, a conceptual model should be maintained in which the data perceived in ASC represent a different dimension of reality. Also, it is reasonable to assume that a shamanic vision will be bound to the level of imagination, knowledge, and experience of the individual shaman. Often, a shaman's trance is influenced by visions that are perceived in different cultures as from the nether realms or as guardian spirits. There is no doubt that a demonic or guardian vision is a memorable experience for an individual; however, the challenging question is the *function* of such an image during a shamanic flight. Is such a vision due to a psychological problem of the individual or is it a control mechanism to heighten awareness and as such, a hurdle signaling a shift in consciousness?

Visionary experiences very seldom take place in a scientifically controlled environment. It appears as if one party is not interested in communicating within an unsuitable, because consciousness and awareness are individual private properties and as such are not suitable for external manipulations. Certainly, this does not refer to communication between humans and gods or spirits. If the concept of communication still applies here, it is a volitional interaction between human beings and such subtle structures of reality that are neither bound by macrophysical laws nor dependent on the concept of time. Both of these variables are necessary frameworks in scientific observation. If human consciousness substantially influences the process of data-gathering, then scientific methodologies will have to reconsider those axioms of science that exclude the possibility of consciousness.

This does not mean that such consciousness data are outside the physical realm. One must not forget that the context in which the term "metaphysics" was formulated, belonged to a time in which knowledge of physics was entirely different. With respect to the radical changes of our knowledge of physics, a new definition for metaphysical or so-called supernatural events also appears to be appropriate. Such events might be considered energetic potentials of reality different from their manifestation as matter.

Generally it can be assumed that a shift of consciousness is initiated through so-called energy

centers (Mindell 1982). Furthermore, one may assume that there is a psycho-physical correlation to increase awareness or to change a state of consciousness. The conscious activation of energy centers (also called *chakras*) is supposed to change the perception of reality. Chakras may be directly connected with the endocrine system and certain ganglionic cells of the sympathetic nervous system. The energy centers may be embedded in the somatic sensory system and could be capable of activating the chemical messengers used by a nerve cell. A scientist could recognize the activity of a chakra, for example, by analyzing the active state of an endocrine cell, or by activating a plexus, and gather data about electromagnetic changes in specific areas of the physical body. Such functions could be controlled empirically.

By changing the supposed activity of an energy center, the resultant activity of an endocrine cell or the activation of a plexus could be directly influenced. In this context, chakras would be considered the basic energetic switchboards of the physical body with regard to its environment. Different activities of chakras, thus, would represent different frequencies of energy. Their activation would depend on stimuli that are only partially recognized within science. The seemingly vital part outside the methods of science is the participation of consciousness and awareness.

Once the possibility is accepted, that there are mechanisms to manipulate the frequency of a chakra, definite themes could be recognized in most esoteric traditions:

1. *Concentration*. It is commonly known that if one tries to concentrate on a certain object, it becomes very difficult to avoid the formation of chains of thoughts unrelated to the intended object of concentration.
2. *Imagination*. The mind cognitively structures perceived phenomena. It might be important to dissolve such structures in order to restructure such phenomena. In this way, the outcome of imagination fosters creativity.
3. *Breathing*. Breathing techniques to regulate the oxygen level in the blood system are especially important for increased sensitivity.
4. *Relaxation*. A quiet and aware state of one's body and mind is important to cultivate.
5. *Observation*. The brain's control function, in order to be constantly aware of one's state of consciousness, requires a sensitive balance between the trance experience and one's role as an observer.

A shamanic state of trance is a form of meditation that causes physiological changes in the shaman's body and the change of his/her level of perception. The performance of meditation aims to eliminate all chains of thought that lead the individual away from the object of meditation in order to allow a complete focusing on the object of observation. Sometimes it is the person who is the object of observation.

To meditate means to apply various techniques in order to enlarge one's cognitive capacity in such a way that a heightened state of consciousness is achieved. A meditative state allows the individual to experience, understand, and interact with the energy field of which one's body is a

part. The shaman's cathartic journey reaches a climax if the physical body can be liberated from cognitive limitations in order to serve the individual as the basis for an ASC in which awareness is bound within an energetic *dreambody*. In this context the term "dreambody" is used as one of many possible denominators to describe the conscious perception of a different energetic frequency of one's participation in reality. Other words commonly used to describe such a function are *Ka*, "astral body," "double," "eidolon," and "ethereal body." The frequency of the dreambody is different from the frequency of the physical body (Mindell 1982: 14): "Just as an elementary particle can be seen only indirectly by the streaking effects created by its movements in a cloud chamber, so the dreambody can be noticed but not understood in terms of the real body. The existence of the dreambody can be macroscopically tested and verified only by its effects on the 'real' world."

An ideological turning point in interpreting energetic matter is given by the different possible interpretations of consciousness. Reductionistic theories give little or no credit to the potentiality of human consciousness. However, in order to activate the subtle qualities of the dreambody, a vital prerequisite appears to be the unrestricted application of consciousness, which is based on a *volitional* activation of neuronal firing that could not be reproduced artificially. Thus, it seems that reductionistic methodologies according to their axioms cannot include any research data gained from those subtle realms. The observation of such realms depends on accepting a unique function of consciousness and awareness.

Similar methodological differences can be found in quantum physics (Mindell 1982: 16): "The gaseous, vibratory, or field-like quality of the dreambody is analogous to the physicist's discovery that the elementary particles of matter are not material particles at all but aspects of the field's qualities. Instead of particles we have relatively high field densities at certain areas in space and time. These field densities and their associated discontinuities and intensities correspond to what classical physics calls matter."

Basically there are three different main tendencies to interpret quantum physical events: (1) realistic-mechanical models (such as wave mechanics, quantum electrodynamics, matrix mechanics); (2) inductionistic-hypothetical models (such as S-matrix, the Copenhagen interpretation, theories of probability); and (3) holistic-dynamic models (such as the topological "bootstrap" theory, Bohm's concept of implicate order). Each of these models can be applied in many different ways, depending on additional assumptions based on preferred ideologies (e.g., realism or idealism, determinism or indeterminism, instrumentalism or objectivism). No physicist would question the validity of quantum mechanical formalism; the difficulties are of interpretative nature.

The two main variables in the interpretation of quantum events are the *probabilistic* versus *deterministic* theories. In addition to these interpretations of quantum physics, there are also holistic theories such as the theory of implicate order (Bohm 1981), which refers to a noncausal principle of structure which is contained in each region of space and time. In order to understand the implicate order of the universe, we have to accept the assumption of a "holomovement" or "holoflux," which is an immeasurable and undefinable variable that has the function of carrying

information within the implicate order.

The holomovement represents a new order that has its beginning not in energy fields or elementary particles, but rather in an undivided totality of reality (Bohm 1981: 149): “There is the germ of a new notion of order here. This order is not to be understood solely in terms of a regular arrangement of objects (e.g., in rows) or as a regular arrangement of events (e.g., in a series). Rather, a total order is contained, in some implicit sense, in each region of space and time. Now, the word ‘implicit’ is based on the verb ‘to implicate.’ This means ‘to fold inward’ (as multiplication means ‘folding many times’). So we may be led to explore the notion that in some sense each region contains a total structure ‘enfolded’ within it.” This holoflux or holomovement is considered the primary order of the universe which manifests itself in the two orders of immanence and unfolding. The problem with Bohm’s theory, however, is the fact that there is no explanation for that principle according to which the holomovement operates (Bohm & Welwood 1980: 26): “The holomovement is more ‘inward’ than the two orders which are its extremes. And beyond all this is that emptiness and fullness which is entirely implicit, which cannot be uttered.”

For Bohm, reality is not equivalent to wave functions defined by mathematical formulas. Rather, it is the result of an implicate order that can also be expressed through such formulas. Matter is only *one* possible apparent form of energy: an energy that had been formed because of such implicate order. A totally new way of looking at matter is introduced. For example, an electron is a manifestation of a holistic immanence that came into existence as matter; at the same time it is already replaced by a different immanent structure. This means that on one hand an electron is not a *thing* in a materialistic sense, but a steady manifestation of structure; on the other hand it also has the properties of a particle since this partial information of *particle* also is an integrated information of the whole.

Every moment of the universe is characterized as a projection and simultaneous reprojection of the entire information of which this universe consists. We can demonstrate this situation with a simple analogy. Imagine the ocean and its waves rolling to the shore. Each wave is effected by the previous one, and simultaneously affects the next one. This causality can only be understood by considering the entire ocean; however, it does not shed light on one singular wave. Therefore, a nonlocal causal principle can be imagined: whatever happens on one particular location of the ocean will also effect the entire ocean.

How can the implicate order possibly provide any information for a theory of trance? The connecting link is the function of consciousness. For Bohm, consciousness fulfills a function similar to that which a laserbeam does for the hologram. This function is understood as a specific characteristic of the holomovement that is contained in all of matter. With such an assumption, how can Bohm escape the accusation of regressing to panpsychism, a philosophical theory in which it is assumed that there is a psychological aspect present in all things? He used the concept of implicate and unfolded order. The interface between matter and consciousness is not the result of a transcendent or spiritual force; rather it resembles a holographic image.

By using the holographic model, Bohm explained that each event within any part of the universe

is *potentially* present in the entire universe. The event-forming conditions are given through the holomovement. Eventually these energy forms achieve threshold values which can be perceived by human senses.

For Bohm, consciousness is constructed in such a way that the conscious interface with the holoflux forms awareness and consciousness. This is, indeed, a circular definition. Thus in the final analysis, Bohm's theory also is a reductionist theory until a definition is postulated for the guiding principle of the holoflux. This particular problem, however, does not effect a theory of trance, since Bohm likened consciousness to a laserbeam that interacts with a hologram. This theory of consciousness was further developed by Pribram (1986).

Certainly, one would be going too far to assume that either Bohm or Pribram would support a theory of trance based on their scientific findings. Nevertheless, it appears that there is the possibility to *consciously affect the perception of different structures of the universal hologram*. In this context, different forms of trance may allow us to perceive different frequencies of reality. This is definitely a challenging prospect for any future theory of trance.

This brief excursion into some methodological possibilities in the study of trance may demonstrate that *in principle* there is an acceptable way to include refined perceptions of reality into the general context of scientific research. That this has not yet been done seems to be more an ideological problem rather than a data-related one. There is no guarantee that an accumulation of data collected by observation by the five senses would lead to a more accurate description of reality when compared to a data collection that also includes additional forms of perception such as trance. The danger appears to be more at the ideological end. Reductionistic theories depend on the assumption that reality can be explained solely in terms of physical laws. To accept the possibility that consciousness and awareness might be properties which cannot be manipulated externally (e.g., through artificially stimulated neuronal firing) is contradictory to reductionistic theories.

Appearance and Reality

Any interpretation of reality will lead to epistemological problems that in the final analysis require a pragmatic approach. Such an approach will have bearing on the area of intersubjectivity. However, in order to reach any sound conclusions about features of reality, one must be attributing reality to some sort of entities, but not restrict one to entities in a physical sense. Rather, the understanding of "object" must be expanded in such a way that it is not seen as an ultimate conceptual or substantial entity in the puzzle of analyzing reality, but solely a possible form of existence available to humankind's comprehension and perception. In spite of any conceptual difficulties that might arise in sharing different or even contrasting schemes underlying human experience, a scientist must find some criterion of truth to evaluate the attempts to organize such human experiences (Davidson 1973).

Merely being in the world or experiencing the world may not suffice for understanding the world. It is precisely this display of *understanding* that indicates evolutionary progress. But what

are the conditions according to which understanding becomes possible? Is it really necessary to assume that concepts (such as mind, consciousness, and thinking) exist, or would it be more appropriate to reduce these concepts to the functional level of their presumed physical properties?

A radical empirist immediately would call upon the principle of economy that became known in philosophy as Occam's razor. Thus, it would be preferable to present a parsimonious explanation with as few assumptions as possible. However, principles are very patient tools. For example, for a radical empirist, Occam's razor also might be used to cut off any consideration about consciousness. On the other hand, a radical idealist could use this principle to deny the existence of physical reality, since nature without perception is a rather dull affair (Whitehead 1948: 56): "soundless, scentless, colorless; merely the hurrying of material, endlessly, meaninglessly."

Scientific philosophy uses clear research guidelines. Scholars interested in philosophic research must keep in mind that they will be steadily confronted with the temptation to apply Occam's razor in order to comfort their own limited ability of conceptualization. A methodology can only be a tool for investigation. It cannot legitimately be the foundation to select data. Certainly, any methodology will affect the selection of data, but it is important to remember that it is due to the underlying ideological assumptions that a methodology is enforced. This consideration applies for a scientist as well as for a concerned practitioner of trance. The following example will demonstrate this assumption.

In an attempt to develop clear research guidelines, a philosophical movement developed during the 1920's and 1930's that became known as the Vienna Circle or logical positivism. Here, strong emphasis was given to the use and analysis of language. Philosophical questions about reality, or the mind-body problem, or questions about consciousness were no longer ontological questions that dealt with physical reality. Instead, they became semantic questions. Quine (1960) tried to demonstrate that the ascent into language ("semantic ascent") was not an accident or a careless maneuver but one of the last chances to have any criteria to decide upon statements about reality. This idea was based on the assumption that all knowledge can be communicated, and the means of communication is language.

A legitimate use of language is given when a proposition can be verified, at least in principle. The method of verification, though, "is the occurrence of a particular state-of-affairs, ascertained by observation and immediate experience" (Schlick 1979: 157). All definitions must eventually end by some demonstration or activity that is intersubjectively accessible which can be verified with scientific precision. Physical properties are ideal standards of verification, since at least in principal, they are measurable. Their definition depends on the method of measurement. In order to escape the necessity to define such terms like "consciousness" or "mind," a philosophy had been developed that became known as "physicalism": psychological data themselves are now defined as physical properties, at least if such data refer to propositions about the physical world (e.g., a frequency, a number of vibrations per second). However, if such psychological data refer to nonphysical properties (e.g., emotions, ideas), their definition only succeeds as long as empirical data from the physical world can be used to describe such properties. This does not

necessarily refer to the possibility of whether or not consciousness might exist. It simply indicates that one cannot make any meaningful statements about such metaphysical properties. For example, Wittgenstein (1974: 3) suggests the following in his *Tractatus*: “What can be said at all can be said clearly, and what we cannot talk about we must pass over in silence.” He emphasized that the purpose of all philosophizing is to make language clear and unambiguous. This means we must reject all statements for which no method of verification can be found. Any proposition that cannot be subjected to a strict measure of verification has been regarded as factually meaningless. In this context, the differentiation between appearance and reality no longer refers to the differentiation between mental states and physical reality. Rather, the term “appearance” designates something like an illusion or wrong observation, whereas the term “reality” is used to designate an established fact. As a consequence, consciousness also no longer exists as a valid proposition. *At least it does not exist as a subject for scientific investigation.* Any attempts to find an *engram* – a physical trace of consciousness somewhere within the human brain – has been unsuccessful (Segal 1986). So far there has been no method of verification (or a method of falsification) to demonstrate the existence of consciousness in a physical environment.

As we see from this example, Occam’s razor had been used to eliminate the discussion about consciousness from scientific philosophy, and gave support to those radical claims according to which consciousness per se no longer exists. The general difficulty in verifying metaphysical claims has led to their exclusion from empirical research within science. As positivistic methodology has taken prominence, a selection of information has also taken place which is restricted to one particular segment of reality. However, one must take issue with the lack of merit in reducing human beings to trivial machines simply out of the requirements of a chosen methodology.

A theory of trance should not be confused with being able to solve discussions about the existence of consciousness. Nor, by the same token, is there any need to exclude trance from further scientific consideration. The deciding element is whether or not the proposition "consciousness" can enhance clarification of scientific issues.

At the present level of scientific research, a decision about the value of consciousness and awareness may not have to be based on facts alone. Rather, it could be viewed as an ethical necessity. The ethical imperative would be: “act always as to increase the number of choices” (Von Foerster 1981: 307). Such an imperative does not at all favor the idea that consciousness is an independently existing soul-substance, alongside physical substances. Such an imperative simply maintains the challenge to conceive of possibilities of communication that could enhance a meaningful contribution to the concept of reality. Additional systematic research about ASC may provide important data for a unified theory of science. However, it is important to investigate such data within its own context. If a belief in consciousness would have a catalyzing effect as to the quality of investigation, then the methodological framework must be adjusted in order to meet such needs.

Conclusion

Shamanic forms of trance and divinatory hallucinations are based on the ontological assumption that communication with subtle energetic structures of reality is possible. Scientific research does not include such patterns of communication as valid tools to explain physical events. As a consequence, consciousness and awareness are seen only as semantic propositions to explain certain neural events. I suggest that we consider trance and certain hallucinations as a tool to acquire subtle perceptions of reality which can bring substantially new raw data into a reconceptualization of reality. Whether or not consciousness exists should not affect our recognition of the function of consciousness, which allows an individual to perceive those subtle structures of reality that may not be bound by metaphysical ideologies or by macrophysical laws.

Glossary of Terms

Determinism: The assumption that all events, including human actions, are predetermined.

Dualism: A philosophical theory that assumes objects, events, states or processes are either mental or material; neither can be reduced to the other; any philosophical system that divides the world into two categories or types of things, or uses two ultimate principles of explanation, or insists that there are two kinds of substances.

Eliminative Materialism: Similar to physicalism, reality can be strictly examined in terms of physical properties.

Empiricism: (Greek: *empeira*; experience). A philosophical theory that recognizes experience as the only source of knowledge.

Epistemology: A branch of philosophy concerned with the foundations of knowledge, its presuppositions and basis, and the general reliability of claims of knowledge.

Idealism: (Greek: *idéa*; something seen, visual aspect). A philosophical theory that knowledge of the external world or the material universe is in some important sense created by the mind or at least is dependent on the mind.

Incommensurability: (Latin: *commetiri*; compare, incomparable). Normally used in mathematics. In contemporary philosophy, incommensurability refers to the assumption that scientific theories are not always comparable in regard to their claims about veritable information.

Indeterminism: Sometimes referred to as free will, other times as chance. The assumption that one is able to choose and act according to the dictates of one's own will. Also used in the sense of "whatever happens by chance cannot happen by necessity."

Instrumentalism: A philosophical theory that theories are merely instruments, tools, or calculating devices for deriving some observation statements (data); opposed to most realist theories of science.

Logical Positivism: Philosophical ideas put forward by a group of philosophers during the 1920's until the 1940's. A systematic search for truth employing empirical knowledge combined

with logical and analytical interpretation; all idealistic claims were rejected.

Logos: Ancient Greek term generally translated as “word,” with many additional connotations that are fulfilled by other words in modern languages. The most controversial term included in *logos* is “reason” because it refers to both human and divine reason.

Mind-Body Problem: The relation between brain and mind has been for many centuries one of the most difficult problems, both of philosophy and of science. Several approaches to the problem have been proposed without ever reaching a solution.

Monism: A philosophical theory maintaining that there is only one substance; the unity of all of reality is expressed in the unity of things in time, space or in quality.

Mythos: Ancient Greek term generally translated as “narration” or “fable.” Also understood as pictorial creation from the unconscious.

Objectivism: A philosophical theory that there are certain moral truths that would remain true regardless of an individual’s beliefs.

Occam’s Razor: A methodological principle of parsimony to explain phenomena in order to eliminate pseudoexplanatory entities. Nothing is to be assumed necessary in accounting for any fact unless it is established by evident experience or evident reasoning.

Ontology: A philosophical discipline discussing the subject matter of “being”; commonly used as the name of a subdivision of metaphysics with the emphasis to consider the more general properties of things. In the context of analytic philosophy, the term “ontology” is used to discuss relations between intensional and extensional logic.

Panpsychism: A philosophical theory that there is a psychological aspect present in all things.

Physicalism: A philosophical theory that every object, state, process or event can be completely described and explained by the physical sciences; this includes nonmaterial properties, such as gravitational field or electromagnetic radiation as well as mental states.

Psyche: Greek term often used in the meaning of “life”; also identified with “soul” in the sense of the conscious self. Socrates used *psyche* to identify the rational as well as emotional side of personality.

Rational: (Latin: *ratio*; reason). Generally designates the specifically human mode of conceptual discursive knowledge. In a larger sense, “rational” also includes intellect and the ability to grasp knowledge before any process of conceptualization has occurred.

Realism: A philosophical theory that universals and particulars exist independently of sensory experience. In modern philosophy, it is used for the view that material objects exist externally and independently of sensory experience.

Reductionism: The assumption that every theoretical term can be defined in terms of observables, or at least in terms of conditional statements.

Reductive Materialism: The most straightforward of the several materialist theories of mind: mental states *are* physical states of the brain.

Truth: In philosophy, truth cannot simply be described as “conforming with facts” or “agreement with reality.” There are at least four major different theories of truth that take into consideration the complexity of human understanding and the problems of perception: coherence

theory, correspondence theory, performative theory, and pragmatic theory.

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ⁱ For the non-philosophically trained reader, see the glossary of terms.

ⁱⁱ This, of course, does not mean that such systematic attempts would not exist. For example, Tart (1975) introduces the concept of “state specific sciences.” He develops a systematic approach to utilize different states of consciousness for scientific research. In this context, any properly trained observer would be capable of participating in a state-specific communication. For Tart, a consensual validation of internal phenomena by a trained observer is possible in principle. He challenged the belief that a scientist’s observation could be replicated by any intelligent man (p. 213): “I cannot go into a modern physicist’s laboratory and confirm his observation. Indeed, his talk of what he has found in his experiments would probably seem mystical to me, just as descriptions of internal states sound mystical to those with a background in the physical sciences.” Tart encourages the belief that it would be a matter of education and training to utilize ASC as systematic tools for scientific research. In spite of this valuable information, Tart’s methodology did not take into consideration that internal states of mind cause different epistemological problems as opposed to the predictable behavior of invisible physical entities as recorded in the physical sciences.

ⁱⁱⁱ See Noll (1989) for his discussion of neuromythology

^{iv} The term “success-word” is used in a similar sense as described in Stove (1982: 7): “A journalist will often write such a sentence as, ‘The Minister to-day refuted allegations that he had misled Parliament,’ when all he means is that the Minister denied these allegations. ‘To refute’ is a verb with ‘success-grammar’ (in Ryle’s phrase). To say the Minister refuted the allegations is to ascribe to him a certain cognitive achievement: that of showing the allegations to be false. ‘To deny,’ on the other hand, has no success-grammar. So a journalist who used ‘refuted’ when all he means was ‘denied’ has used a success-word, but without intending to convey the idea of success, of cognitive achievement, which is part of the word’s meaning.”