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Dantian Cultivation and the Hard Problem of Consciousness

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Consciousness is one of the least understood phenomena of human existence. In the 21st century, psychology, philosophy, neuroscience, biology, and physics are trying to unravel its mysteries. In the discussion of consciousness, a distinction can be made between states of consciousness and the nature of consciousness. “States of consciousness are qualitatively different patterns of subjective experience” about both internal and external events (Kowalski and Westen 2005, 294). States of consciousness include, a) Freud’s conscious, preconscious, and unconscious; b) Jung’s collective unconscious; c) conscious and unconscious cognitive processes; d) sleeping and dreaming; e) altered states of consciousness such as meditation and hypnosis; and f) drug-induced states of consciousness.

The nature of consciousness is about how it arises and what it is in-itself, i. e., its ontology. Most current descriptions do not reach to its foundation. For example, two Western psychology definitions of consciousness are, “the subjective awareness of mental events” (2005, 294), and “our moment-to-moment awareness of ourselves and the environment” (Passer and Smith 2004, 159). There are other, similar definitions of consciousness that describe its process but not its ontology. The ontological questions eventually come down to whether there is a physical or non-physical basis to consciousness and whether or not it exists as a fundamental property of the universe (Shannon 2008). This paper attempts to show that Daoist dantian or elixir field cultivation, as practiced in internal alchemy, leads to an experience of cosmic oneness which

sheds light on the ontology of consciousness and removes some of the obstacles to the current understanding of it.

Consciousness Past

Consciousness has always been critical to human existence. Throughout history it was utilized and experienced in various ways. It alerted prehistoric people when danger was near. Ancient shamans used altered states to enter nonphysical realms and gain important information that lead to healing and balance. The Hindu Upanishads describe the expansion of consciousness as the way for humans to unite with the cosmos, i. e., Atman connecting to Brahman (Prabhavananda and Manchester 1948).

In Greek philosophy, Plato believed that true reality consisted of eternal forms or ideas that were beyond the physical world. In his *Allegory of the Cave*, Plato thinks humans should focus their consciousness on the highest truth (symbolized by the sun) instead of letting consciousness remain in the darkness of the cave (symbolized by shadows). Plato, and other philosophers after him, examined states of consciousness rather than what it is in-itself.

A significant development in the ontology of consciousness was Rene Descartes' statement "I think, therefore I am" (*cogito ergo sum*). This made mind or consciousness a fundamental factor of human existence, dividing the world into two basic factors, physical external objects and mental internal processes. Descartes's dualism of mind and body became firmly established in Western philosophy and science. While impeding developments in medicine and psychology, dualism nevertheless established consciousness as a central factor of the human condition.

A strong interest in consciousness occurred in the late 19th century, when Wilhelm Wundt and E. B. Titchener began conducting studies on the nature of consciousness. Consciousness then came to play an important role in the psychological theories of William James and Edmund Husserl. Sigmund Freud and Carl Jung put it at the center of psychodynamics. Behaviorism ignored consciousness, but it came to the forefront again with the development of cognitive, humanistic, and transpersonal psychologies during the 1960s and 70s.

Since the late 1980s, the ontology of consciousness has received a lot of attention. Several theories have been put forth and two main obstacles

have been encountered. David Chalmers labeled the two obstacles the "easy problems" and the "hard problem" of consciousness (2006; 2002).

The first involves features such as discriminating sensory stimuli, how the brain integrates information from many different sources, and verbalizing internal states of mind. These processes are closely associated with consciousness and are the objective mechanisms of the cognitive system. Neuroscience is solving many of these problems by observing brain activity and discovering the neural correlates of various behaviors. Easy problems are about objective phenomena which can be observed, so it seems to be only a matter of time until cognitive science and neuroscience solve them.

The "hard problem of consciousness" is the question of how physical processes in the brain give rise to subjective experiences. For example, the visualization of deep blue, the sound of violin music, or the memory of a walk through the forest on a sunny day are inner subjective experiences, related to external, objective reality. Subjective experiences are called qualia. A quale is the intrinsic property of an experience itself which is separate from the physical world. Many Western scientists, philosophers, and psychologists maintain a distinct separation between the physical and non-physical. They assume consciousness originates in the brain and attempt to discover how the firing of brain neurons gives rise to qualia.

Major Paradigms

Western thinkers have used three basic paradigms in their attempt to solve the hard problem. The first is material monism or physical reductionism. This approach understands fundamental reality to be entirely physical. The second, dualism, assumes there are two fundamentally different kinds of reality, physical and non-physical. It attempts to explain the nature of consciousness by looking for interactions between the material and non-material. The third paradigm, the mental/spiritual, states that there is a higher, mental, trans-physical reality where consciousness originates (Klimo 2016; Baars 2006). It extends concepts beyond the boundaries of reductionism and dualism.

Proposed solutions regarding the nature of consciousness which originate in the monistic physical reductionist paradigm are mainly put

forth by traditional Western scientists. Francis Crick, who collaborated with James Watson to discover the double helix structure of DNA (they jointly won the Nobel Prize in 1962), strongly believed that consciousness was based in the physicality of firing brain neurons. Crick and his associate, Christof Koch, stated that, “We believe at the moment the best approach to the problem of explaining consciousness is to concentrate on finding what is known as the neural correlates of consciousness—the processes in the brain that are most directly responsible for consciousness. By locating the neurons in the cerebral cortex that correlate best with consciousness, and figuring out how they link to neurons elsewhere in the brain, we may come across key insights into what David J. Chalmers calls the hard problem: a full accounting of the manner in which subjective experience arises from these cerebral processes” (Crick 2006; Crick and Koch 2002). It is theorized that neurons in the brain stem, thalamus, and cerebral cortex are the principle areas responsible for consciousness (Damasio 2010, 243; Edelman and Tononi 2000, 40).

Another physical reductionist theory has been put forth by Stuart Hameroff and Roger Penrose. Their theory focuses on microtubules which are protein scaffolding structures within brain neurons. During his study of microtubules, Hameroff noticed that microtubules seem to have computational abilities that process information. He hypothesized it was reasonable that consciousness could arise in the microtubules (2006). Hameroff and Penrose emphasize that consciousness arises from processes within neurons instead of connections between neurons. They call their theory Orch OR which stands for Orchestrated Objective Reduction of the Quantum State. But they also think it possible that consciousness might also be a fundamental property of the universe to which microtubules are connected (2015). They are open to the idea that consciousness may potentially exist both inside and outside of the brain.

Max Velmans also has a physical reductionist theory of consciousness. Velmans, like Hameroff and Penrose, thinks that consciousness could possibly exist outside the brain. He hypothesizes that, although the brain is necessary to the conscious process, the actual experience of consciousness goes beyond the brain (2006). He says that the conscious subjective experience incorporates the three-dimensional world around us. Brain processes, Velmans notes, interact with real energies in the objective world to produce subjective experience. The interaction between

the brain and objective physical energy implies "There might be a fundamental relationship between consciousness and matter" (2006, 238). He adds that the relationship between the brain and physical objects may be similar to how waves transform into particles in quantum mechanics (2006, 240)

Studying the nature of consciousness requires an expansion of thinking beyond scientific reductionism. Traditional Western scientists and philosophers are beginning to realize that, in order to discover what consciousness is in-itself, they will have to move past the physical reductionist boundaries imposed by classical science. Hameroff, Penrose, and Velmans, all prominent scientists and thinkers, acknowledge that consciousness may exist both inside and outside the human brain and body.

Dualist theories of consciousness see the physical and non-physical as being equally important in the nature of consciousness. "Contemporary dualists are generally property dualists; they say that some of our brain states have nonphysical properties, and they posit such properties to explain consciousness" (Prinz 2012, 8).

Dualists recognize there is a non-physical aspect of consciousness, but have difficulty describing how the physical (brain) and non-physical (qualia) interact. It has been suggested that meditative methods could be used to understand mind-body interactions. "I think one task may be to go with introspective attention, into the real, deep structure of conscious experience without making theories, without naming things, without relating them to anything in the past, and to see whether there is anything like selfhood as such there" (Metzinger 2006).

Henry Stapp, renowned physicist at the University of California, has a complex theory of how consciousness and the brain interact, based in quantum mechanics. He thinks that consciousness may be fundamental to the universe. Although a dualist, he views consciousness as a powerful force which controls neural excitation in the brain. Conscious experience is a psychical event, and if a psychical event is an experience related to the physical world, consciousness directs the brain to update its representation of the physical thing. Subjective experience results from the interaction of consciousness and neural brain activity, but consciousness controls the experience. Stapp's intricate theory describes how consciousness interacts with the brain, but does not fully deal with the ontology of consciousness, except to say it is a powerful force fundamental

to the cosmos (2015, 36). His view seems to be that when we understand quantum mechanics, then we will understand how objective reality and consciousness are related to each other.

New Perspectives

When Descartes established a separation between mind and matter, it paved the way for science to focus exclusively on external, objective reality. “Over time, it became an *unstated assumption* of physics that “no human qualities of consciousness, intention, emotion, mind, or spirit can significantly influence a well-designed target experiment in physical reality”” (Tiller 2008). However, the separation between mind and matter became blurred with the development of quantum physics during the early 20th century. When physicists explored the world of tiny particles, they discovered properties that contradicted the laws of classical physics and questioned the validity of physical reductionism. Two significant quantum discoveries that questioned classical scientific logic were wave-particle duality as well as entanglement or nonlocality.

Wave-particle duality refers to a phenomenon where a wave transforms into a particle. In classical physics, a wave of radiation and a particle are distinct and separate from each other. In quantum mechanics, when an attempt is made to measure the location of a wave, it collapses into a particle. No one understands why this happens. Some physicists think that consciousness, i. e., a conscious observer doing the measurement, causes the collapse (Rosenblum and Kuttner 2011, 54, 129). Other physicists, however, point out there is some evidence which shows that an inanimate measuring instrument can cause the collapse (Nauenberg 2015). Whatever the cause, the idea of distinct things transforming into one another defies the logic of classical physics. It shows that an object is not separate from an observer or a measuring instrument. That separate things can have some kind of connection indicates something happening which is not yet understood. It raises the question of whether there is truth beyond physical reality and, if so, whether it is non-physical?

Entanglement or non-locality refers to a phenomenon in quantum mechanics where two particles, previously in contact with each other, but now a great distance apart, can instantaneously interact (Radin 1997, 315). When something changes in one particle, there is an instantaneous

corresponding change in the other. There is no physical force connecting the two particles. This behavior has been verified through experiments (Rosenblum and Kuttner 2011, 171). Entanglement suggests there is a universal connectedness that science does not understand (2011, 189). Quantum mechanics seems to support indivisibility, which raises questions about dualism. Entanglement also suggests that consciousness is involved because interacting objects separated by a great distance can have an instant awareness of each other. "Well, we often describe intuition, or our innate capacity for knowing, as our sixth sense. But we now understand that this kind of knowing is rooted in the quantum world, at a level even beyond atoms" (Mitchell 2010).

Quantum mechanics poses serious questions to both physical reductionism and dualism because wave-particle duality and entanglement imply a non-separability between things that have been classically described as separate and distinct. Quantum mechanics is moving in the direction of viewing the universe as an interconnected whole.

Mental/spiritual paradigms assume that non-physical reality is the basis of the physical, and/or that consciousness and matter are two complementary aspects of one reality. Philosophers who have this perspective often relate it to Eastern philosophy and meditation systems. Consciousness is viewed as a fundamental property of the universe which is both inside (subjective) and outside (objective) of human beings.

The mental/spiritual paradigm holds that consciousness is universal and transcends the physical (Bache 2010, 224). Human beings are seen as the cosmos in human form and human consciousness is an inflection of the universe's consciousness (Tarnas 2010, 264). The brain only gives shape to preexisting consciousness (Russell 2010, 243).

It also understands consciousness as closely related to cosmic unity. Edgar Mitchell reflects, "And suddenly it settled in, a visceral moment of knowing that the molecules in my body, the molecules in the spacecraft, and the molecules in my partners had been prototyped and manufactured in an ancient generation of stars. It was not an intellectual realization, but a deep knowing that was accompanied by a feeling of ecstasy and oneness that I had never experienced in that way before" (2010, 234).

The idea that consciousness and mind are fundamental to the universe and the basis of physical reality is difficult for science to accept because spiritual theories are founded in subjectivity. Science raises the

question of “how can we know that subjective experience is authentic?” On the other hand, the reductionist, dualist, and mental/spiritualist perspectives also have problems because they are unable to get to the bottom of what consciousness is in-itself. They know that consciousness exists because we all have it. But they are unable to determine its source because reductionists limit themselves to the physical world, dualists cannot find a bridge between the physical and mental, and mental/spiritualists trap themselves in subjectivity.

This paper will attempt to show that Daoist philosophy and dantian cultivation, which embrace the non-physical as primary, go beyond the subjective and objective viewpoints to give a deeper picture of the ontology of consciousness. Dantian cultivation also provides insights that eliminate the hard problem of consciousness.

Dao, *Qi*, and Dantian Cultivation

Daoism is a philosophy and practice of oneness. “Awakening to Dao and attaining oneness with it are key goals of all Daoists; they form the ultimate purpose of Daoist cultivation” (Lu 2009, 77). Dao is eternal, nameless, and the source of all things. In Daoist cosmology, there was nonbeing before there was existence. “The numinous opening, mainspring of immortality” is where “there is something like a movement.” In the expression “lies in what has nothing prior to itself,” “nothing” means that there is not yet matter; as it “lies in what has nothing prior to itself,” it is devoid of form and matter,” yet contains it in latency (Wang 2011, 48). From the Daoist perspective, all things we know through consciousness originated in nonbeing.

Qi, the essential energy of the cosmos, has a unifying property that underlies all aspects of existence. “We can say that everything in the universe, organic and inorganic, is composed of and defined by its *qi*. . . . Chinese thought does not distinguish between matter and energy, but we can perhaps think of *qi* as matter on the verge of becoming energy, or energy at the point of materializing” (Kaptchuk 1983, 35). Condensed and less condensed forms of *qi* exist as a continuum between matter and non-matter. “Most sinologists generally agree that *qi* corresponds to “matter,” although not matter in a restrictive materialistic sense, as *qi* can

also assume very rarified, dispersed, non-material forms" (Macciocia 1989, 36).

"The mind, in Chinese medical thought, is not different from the body, but flows through it as a subtler form of energy together with the energy and the blood" (Kohn 1993, 163). "The Chinese generally do not radically distinguish between body and mind, seeing them both essentially as *qi*, with the *caveat* that the mind vibrates at a subtler and faster level" (Kohn 2011, 6). The significance of the vibrational rate of energy was hypothesized in quantum mechanics by Erwin Schrodinger when he stated that "quantum transition is an energy change from one vibrational mode to another" (Rosenblum and Kuttner 2011, 76-77). I accordingly postulate that there is a continuum of *qi* from body to mind to spirit to Dao and this continuum, vibrating at different rates, is the foundation of unity. Further, non-material, refined *qi* is the basis of condensed, less refined, material *qi*.

Dantian cultivation serves to connect and unite with Dao. The cultivation process first involves transforming essence to *qi* and *qi* to spirit, from where it extends into the cosmos to unite with Dao. Subtle methods of breathing, postures, movements, energy circulations and meditations are used to refine *qi* and accomplish internal transformation. There are different methods, but they all work with *qi* in ways that begin with the physical body and progress to the mental and spiritual aspects of existence. "This equal weighting of spirit and matter within an alchemical continuum of transmutation distinguishes internal alchemy from purely transcendent approaches seeking the absolute" (Winn 2009, 188).

Consciousness as Qi-Continuum

The primary purpose of dantian cultivation is to unite with Dao, but it can also be viewed as a way of understanding the relationship between the material and non-material. Science attempts to explain consciousness by focusing on how firing brain neurons produce non-material qualia. From the Daoist perspective, the underlying unity of the *qi*-continuum gives a deeper understanding of how the material and non-material are related.

During the practice of refining *qi* in the various dantian centers, and because of the close connections between essence, *qi*, and spirit, the adept

becomes aware of a continuum between the physical, mental, and spiritual. The meditative experience of this continuum leads to an experience of the unity of all things, and eventually, cosmic oneness.

As one keeps advancing, concepts of physical and non-physical lose their meaning. There is only a direct experience of being. "It is experienced as a nondual, numinous awareness "that precedes words" and lies deep within the "mind within the mind"" (Roth 1999, 117). This writer hypothesizes that nondual, numinous awareness is the foundation of consciousness and supports a *qi*-continuum that underlies all things.

Not distinguishing between the objective and subjective takes place when normal consciousness is lost. The practitioner experiences complete absorption into the foundation of life. "Completely free from dualistic thinking or bodily self-consciousness, it represents a state of no-mind where there are no boundaries between things and where the person as person has "lost himself"" (Kohn 2009, 11). "Introvertive mystical experience looks inward and is exclusively an experience of unity, that is, an experience of the unitive or what some scholars call "pure" or object-less consciousness" (Roth 1999, 128).

To me this means that the source of consciousness, as well as consciousness in itself, is the nondual, numinous awareness that precedes words. It also means that consciousness is fundamental to the cosmos, so that nondual, numinous awareness supports a *qi*-continuum that serves as the root of all things. Consciousness is the unified *qi*-continuum that is neither subjective nor objective, a potency that connects the physical and non-physical through the transformations that take place during dantian cultivation.

Thus, consciousness and oneness are the same, inseparable, a fundamental truth of the universe, rooted in Dao. Also, consciousness as a fundamental aspect of the cosmos, exists both inside and outside the body. As a *qi*-continuum, finally, it vibrates and interacts with the vibrational frequencies of all things, material and non-material.

All things in the cosmos form from the non-material (Wang 2011, 48). A tree, for example, is a form of condensed *qi* that, through the *qi*-continuum, has a non-material *qi* configuration at its core. When a person looks at a tree, fundamental consciousness as *qi*-continuum simultaneously interacts or vibrates with the physical tree, the human eye or visual cortex, the *qi* core of the tree, and the non-material human mind.

The *qi*-configuration at the tree's core creates a mental image in the mind. It is a single, whole experience that results from the *qi*-continuum of consciousness. Brain neurons firing in the visual cortex and a non-material quale appearing in the mind are not separate things. There is no hard problem of consciousness. I believe this process is a form of quantum entanglement.

The entangled process of fundamental consciousness, based in cosmic unity, connects the material and non-material through the *qi*-continuum. It is the cosmic perspective. Science, on the other hand, takes the human perspective and looks for a logical, objective explanation to understand the nature of consciousness, which leads to the hard problem of consciousness. The *qi*-continuum of fundamental consciousness eliminates the hard problem.

Discussion

Consciousness is cosmic oneness. It cannot be separated into objective and subjective, physical and non-physical, material and non-material. Consciousness reflects the unity of the cosmos. It is a oneness of *being only true being* and can be experienced through dantian cultivation.

Western science does not trust first-person experience to be able to know and understand reality. It is true, as science points out, that people are often inaccurate when they report their own subjective experiences. From the human perspective, third-person observation seems to be more reliable.

However, Western science is slowly beginning to accept the notion that observation of external objects still requires a subjective observer. Thus, so-called third-person objectivity has a subjective component. A study in physics or biology still has a person reporting it, so there is a first-person component (Varela 2006, 224). Subjective experiences can be accurate. For example, Buddhist meditation methods, which train attention to be calm and lucid, provide accurate reporting of first-person experience (Wallace 2007, 59).

Quantum mechanics will eventually cause science to make some changes in methodology. When consciousness, wave-particle duality, and non-locality became significant factors in quantum mechanics, the validity of reductionism and dualism was questioned. "To understand

the connections in the universe it is essential to create a new level of integration of the natural sciences and mysticism while avoiding the perception of these two as opposites" (Bock-Mobius 2012, 33). "The diligent separation of subject and object, long practiced in the natural sciences, is now making way for a closely interconnected reality" (2012, 85). While change is slow, some scientists are understanding that conscious experience goes beyond intellectual knowing. They realize that something beyond normal physics or psychology is needed in order to understand consciousness (Rosenblum and Kuttner 2011, 233-234). More than anything else in science, quantum entanglement and wave-particle duality imply that the universe is a state of oneness without separations.

In addition to solving the hard problem of conscious, Daoism and its methods of *qi*-cultivation can help solve many problems we currently face in the world. Working simultaneously with body and mind cultivates oneness and unites human beings. Uniting human beings from different, and even conflicting, cultures can reduce problems such as inequality, violence, crime, and drug abuse while increasing mental health, educational motivation, positive attitudes, and peace. There is an important place for Daoism in our world. It's there, we just have to use it.

Consciousness as *qi*-continuum is a mysterious process beyond intellectual realizations. Logic or reason cannot explain why it is incomprehensible, manifesting in experiences of *being only true being* without a first-person I or a third-person observer.

In the *Zhuangzi*, Big Concealment says to Cloud Chief, "Well, then – mind nourishment! You have only to rest in inaction and things will transform themselves. Smash your form and body, spit out hearing and eyesight, forget you are a thing among other things, and you may join in great unity with the deep and boundless. Undo the mind, slough off the spirit, be blank and soulless, and the ten thousand things one by one will return to the root – return to the root and not know why" (Watson 1968, 122). "Not knowing why" is how to solve the hard problem of consciousness.

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