

The Broken Thread of Asian Culture

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Abstract

Sociobiology derives its atheistic stance from the Darwinian framework of purposeless, naturally selections of random variations of matter in motion. However, explanatory gaps in sociobiology's explanation of religion, from the initial cosmic singularity to free will, invite a Divine foot in the door. By interpreting yogic, Taoist and Kabbalistic descriptions of the anatomical connection between the human and the divine not as primitive, poetic metaphors but as interoceptions of a little-known, enigmatic, epigenetically suppressed, structure running through the central axis of the central nervous system called Reissner's fiber. I propose a new theistic sociobiological theory of religion. Justified belief in this theory could epigenetically reawaken the suppressed Reissner's fiber genes and begin the empirical testing of the theory.

Keywords: sociobiology of religion, neurotheology, subtle anatomy, quantum mysticism

1. Gaps in Sociobiology's Atheistic Stance

Combatants in the "sociobiology wars" have vehemently disagreed about the extent to which biology governs social behaviors. But nearly all agree that God has no place in the temple of science.

E. O. Wilson (1975), who ignited the conflict during the 1970s with the publication of *Sociobiology: The New Synthesis* —"the systematic study of the biological basis of all social behavior" - describes religion as a "hodgepodge of special genetic adaptations to an environment largely vanished." Religious texts were written by myopic scribes around 500 B. C. They are fanciful stories that evoke satisfying responses in our brain which have been programmed by millennia of evolution. Believers are constrained by blind dogmatic faith rather explorations of evidence.

Richard Lewontin (1997), Wilson's Harvard colleague and principal adversary, who vigorously opposes what he perceives to be sociobiology's "genomania" and its threat of social Darwinism and eugenics, nevertheless, adamantly insists that science's materialism must be absolute, "for we cannot allow a Divine foot in the door." Science, he said, cannot coexist with a "powerful God who at any moment can rupture natural relations." However, if "God cannot intervene, he is not God; he is an irrelevancy."

While the "sociobiology wars" have settled into an uneasy truce allowing both sides freedom to adjust the variables of the genome, the environment and culture, the alliance against religion has become more militant. Richard Dawkins (2006), for example, contends that religious beliefs are memes that parasitically infect the mind with delusions which predispose the sufferer to terrorism and genocide.

Sociobiology's atheist stance derives from its Darwinist interpretation of the origin of religion. According to the current consensus, life originated almost 4 billion years ago by the spontaneous formation from the primordial soup of amino acids and self-catalyzing, replicating nucleic acids that encoded protein synthesis, and their enclosure by phospholipid membranes. *Homo sapiens* evolved from 3.8 billion years of naturally selected random variations of the original genetic code. At some point during the evolution from the first microorganisms to *homo sapiens*, self-awareness, free will and creativity emerged. Religions are among the social behaviors that derive from those emergent properties of purposeless, naturally selected random variations of matter in motion.

While sociobiology provides a satisfying intellectual framework for explaining religion because it is seemingly based solely on reason and evidence rather than blind faith in lost ancient revelations, there are gaps that might be fillable only by God. Such a "God of the gaps" is dismissed by sociobiology as the last desperate redoubt of those who prefer the wishful thinking and dogmatic faith of religion to the truth of science. However, some of

the gaps in sociobiology's explanations of religion have been concealed with obfuscation and promissory materialism.

First, while biological evolution started 3.8 billion years ago, cosmic evolution started 13 billion years earlier with the Big Bang. For millennia, theologians and philosophers have answered the perennial riddle of why there is something rather than nothing by invoking God. During the 21st century, cosmologists developed theories showing how configurations of quantum fields, (zero-point quantum fluctuations whereby virtual particles and anti-particles are created and annihilated within the range of quantum uncertainty), can spontaneously create the universe. Because quantum fields permeate what was previously thought to be "empty space," cosmologists claim that they have explained how the universe came from nothing. Stephen Hawking (2010) famously asserted that because the law of gravity mathematically balances positive and negative energies, "Spontaneous creation is the reason there is something rather than nothing, why the universe exists, why we exist. It is not necessary to invoke God to light the blue touch paper and set the universe going." However, quantum fields and the law of gravity are not nothing. Hawking rejects invoking God because that would merely deflect the question of who or what created the universe to who or what created God. One can either fill the gap of the cosmic singularity by incoherently calling gravity and quantum fields nothing or with an eternal self-subsistent God.

Second, sociobiologists agree that random variation and natural selection sufficiently explain evolution from molecules in the primordial soup to man. However, statistical analyses based on biochemistry and genetics increasingly strain our credulity that the phenotypes cast into the struggle for survival arrive solely through chance. Inasmuch as the acceptance of the sufficiency of random variation and natural selection to explain the apparent intelligent design of life was the tipping point in the shift of biologists toward atheism, it needs to be carefully evaluated. Furthermore, the fine-tuning of the physical constants required to produce the atoms from which life evolved is so improbable that the only alternative to a cosmic intelligence is a multiverse, a virtual infinitude of parallel universes.

Third, sociobiologists agree that consciousness emerged when organisms crossed a threshold of complexity. However, there is an explanatory gap between nonconscious physical systems and conscious ones. Because we can be conscious of consciousness and conscious of our consciousness and so on . . . , consciousness spins away from our grasp in infinite self-referential loops. An immaterial, eternal soul might provide a better explanation than the unfulfilled promissory materialism of sociobiology.

Fourth, sociobiologists agree that we can rise above biological determinism and our selfish genes to make moral choices and freely create conceptual models that increasingly approximate the Truth. But such free will allows the Divine foot into the citadel of sociobiology. For, if God is excluded from the temple of science because He can "rupture natural relations," why are scientists allowed to control the atoms of their brains inside the temple?

1.1 Filling the Gaps

A key problem with filling the gaps in sociobiology's explanation of religion with God is that this would seemingly disconnect religion from biology. While near-death experiences might point toward the possibility of disembodied consciousness, a "brainectomy" would end the discussion.

The following is an alternative to sociobiological orthodoxy that allows for a biological connection to God. It is based on the hypothesis that descriptions of the "subtle anatomy" -- the microcosm of the macrocosm -- described by the earliest mystical traditions -- Kabbalah, Hinduism and Taoism -- are based on interoceptions of a little-known, enigmatic threadlike structure that runs through the central axis of the central nervous system called Reissner's fiber. These interoceptions endowed the originators of those traditions with supersensory perceptions of ultimate reality, the Ein-Sof, Brahman and the Tao. 100,000 years ago, environmental pressures led to the epigenetic suppression of the genetic expression of the genetic machinery responsible for the production of Reissner's fiber. The originators of the oldest mystical traditions were rare individuals whose Reissner's fibers persisted in spite of the environmental pressures suppressing it. During the past 5,000 years, the original revelations have become disguised, distorted, fragmented and embellished.

2. Reissner's Fiber

Reissner's fiber was discovered in 1860 by Ernst Reissner (1860) as a .038-millimeter diameter cord inside the central canal of the spinal cord of a lamprey. Although Reissner distinguished this cord from axons or irregular masses previously observed floating in the central canal, subsequent investigators mistakenly identified the fiber as an axon, cellular debris or an artifact for more than sixty years.

Porter Sargent, (1905) who observed the fiber 1899 while dissecting fish as a graduate student at Harvard was astonished that such a conspicuous, strategically located structure had been ignored and omitted from textbooks.

He established the modern neuroanatomical understanding of the fiber: It originates from the center of the brain and travels through the central fluid-filled cavities and passageways of the brain and spinal cord, collectively known as the neurocoele. His neuroanatomical studies and behavioral experiments convinced him that the fiber is a novel, specialized pathway for the high-speed transmission of signals. This view was widely accepted (Horsley, 1908), but later rejected after it was shown that the fiber lacks a polarized membrane characteristic of neural spikes. While the fiber is still excluded as a neural correlate of consciousness, and its function remains unknown, it has been associated with the regulation of the chemistry of the cerebrospinal fluid (Hess, Sterba, 1973; Rodriguez, 2001; Sterba, 1975) hydrocephalus (Rodriguez, 2007; Vio, 2000), and embryonic neurogenesis, morphogenesis and axonal guidance (Burstyn-Cohen, Frumkin, 1998; El-Bitar, Dastugue and Meiniel, 1999; Lehmann, Naumann, 2005).

2.1 Reissner's Fiber as the "Devil According to Baudelaire"

Reissner's fiber is currently so far under neuroscience's radar that two historians of neuroscience recently dubbed it the "Devil according to Baudelaire" whose loveliest trick is convincing us that he doesn't exist" (Oly, Haines, 2003).

I have personally witnessed the fiber's devilish tricks of concealment. For 18 months, as a medical student under the mentorship of Dr. Charles Loeser, chairman of the neuroscience department, University of Connecticut School of Medicine, I extensively searched the scientific literature about the central canal and its associated structures in search of possible anatomical correspondences with the system of *nadis* and *chakras* described by yogis. The fiber came to our attention as the result of a fortuitous encounter with an obscure journal article 18 months after our search had begun (Wile, 1991, 2012).

The remarkable neglect of this strategically located structure that has persisted throughout at least 541 million years of evolution is due primarily to the fact that it falls outside the current neurobiological paradigm defined by the neural doctrine and it typically undergoes late fetal involution in humans. However, the fiber's 5-nanometer filaments are an attractive site of quantum behaviors that are being incorporated into emerging new neurobiological paradigms. Also, the fiber has been observed in a 14-year-old teenager (Agduhr, 1922).

It is possible that Reissner's fiber could have thus far evaded observation in human adults because of its rapid post-mortem degeneration and inaccessibility. The words of the French investigator of Reissner's fiber, Etienne-Jules Legait (1942) remain true today: "when its existence is denied, this fact should be carefully analyzed and discussed: one could not take it into account if fixation is uncertain." Observation of the fiber in living subjects is also problematic. Current neuroimaging devices such MRI and PET lack sufficient resolution to detect the fiber.

2.2 Reissner's Fiber's Embryological Hard Wiring of the Brain

The genetic code for Reissner's fiber has been preserved for more than 500 million years. A likely reason for the fiber's evolutionary persistence is that it provides information for the hard wiring of the brain. During embryological development, each of the neural stem cells along the surface of the neurocoele that migrate to their destination and form a trillion synapses among 100 billion neurons is imprinted directly by the fiber and indirectly by its influence on the extracellular matrix. This input is maintained throughout life in other animals. But in humans, epigenetic factors typically suppress the expression of the genes for Reissner's fiber during late fetal development. Conscious interaction with the environment replaces Reissner's fiber as the controller of neural wiring.

3. Reissner's Fiber and the "Subtle Anatomy"

While the teachings of the earliest mystical traditions supposedly originated from revelations received more than 5,000 years ago, it was not until Medieval times that complete Kabbalistic, yogic, and Taoist texts first appeared. These texts were said to be based on recovered ancient transcripts, secret oral traditions, and fragments inscribed on stone, pottery, vellum and bronze sheets. Following the Enlightenment, mystical traditions fell into oblivion, dismissed as dreamy, occult confusions.

3.1 Yogic Subtle Anatomy

During the late 19th century, however, chiefly due to the influence of Swami Vivekananda (1947), an infusion of science reawakened interest in yoga. Vivekananda interpreted yogic texts not only as manuals, poetic metaphors, and philosophical and theological speculations, but as descriptions of neuroanatomical structures interoccluded during expanded states of consciousness as well. Curiously, while his description of the ascent of *kundalini*, "serpent power," (a female, coiled, cosmic, psychospiritual energy) from the *mooladara chakra*, "Lotus of the Kundalini" (a triangular structure at the base of the spine) through the *Sushumna nadi*, "Heavenly Passage," (a

hollow canal running through the spinal cord) corresponds to the coiled ending of Reissner's fiber inside the triangular terminal ventricle and its passage through the central canal, Vivekananda identified the path of *kundalini* as traveling from the sacral plexus and various neural plexuses located outside the spinal cord.

During the 1920s, two investigators of the scientific basis of yoga, Vasant Rele (2007) and Theos Bernard (1940) identified Reissner's fiber with the innermost *nadis* inside the *Sushumna nadi*. But their ideas have faded so far into obscurity that it was not until forty years after I had identified the fiber with the innermost *nadis* that I became aware of Rele's and Bernard's earlier identification, in spite of persistent searches.

3.2 Taoist Subtle Anatomy

The "subtle anatomy" underlying Taoist mystical traditions, especially the governing and conception vessels that serve as central reservoirs of *Qi*, closely corresponds with the central *nadis* of yoga. Like the yogic anatomy, the anatomy underlying mystical Taoist practices such as Qi Gong and acupuncture as applied Taoism is generally dismissed as a misinterpretation of poetic metaphors based on primitive anatomical knowledge. However, recent investigations of the anatomical basis of acupuncture provide evidence that the governing vessel corresponds to Reissner's fiber.

In 1960, a North Korean scientist named Kim Bonghan (De Vernejoul, 1985) injected radioactive phosphorous (P^{32}) into acupuncture points on a rabbit's abdomen. He found that injections into these points followed meridians along a novel network of ducts. Injections into other sites dispersed. Injections into the acupuncture point corresponding to the Governing Vessel labelled a thread-like structure inside the central canal. However, assisting Reissner's fiber in playing one its greatest tricks of concealment, Bonghan made no reference to Reissner's fiber and named the labelled structure the "neural Bonghan duct."

Bonghan was praised by the North Korean government for discovering a "monumental theory in global science," and elevated to a high position in the government. However, shortly thereafter, amidst political intrigue and allegations that he'd withheld details of his methodology, which prevented other scientists from replicating his results, he was discredited and banished.

The scientific community dismissed Bonghan's findings for several decades. Then at the turn of the twentieth century, neuroscientists at the Seoul National University, using new anatomical techniques including fluorescent magnetic nanoparticles and confocal laser scanning microscopy, "rediscovered" the network of Bonghan ducts. According to Kwang-Sup Soh (2004, 2009) at the Biomedical Physics Laboratory these microscopic ducts acts as optical channels for coherent biophotons. In 2008, his team reported the discovery of a novel thread-like structure in the cerebral ventricles and central canal in a rabbit (Lee, 2008). Assisting Reissner's fiber in playing a devilish trick of concealment, Soh claimed that Reissner's fiber had eluded detection and the "novel thread-like structure" he observed was a different structure that occupies the same space!

3.3 Kabbalistic Subtle Anatomy

The Kabbalistic counterpart to the central *nadis* and the governing vessel is the central pillar of the *Sephirot*, the symbolic representation of the divine image in which man was created. Wary that anatomical descriptions of the human microcosm could lead to anthropomorphic conceptions of God, Kabbalists have traditionally interpreted the *Sephirot* in abstract psychological and spiritual terms. Nevertheless, Charles Ponce (2008) has proposed that the *Sephirot* represent a lost form of yoga. His explanation of Kabbalah provides an unintended poetic allusion to the fiber:

There's an Adam within each of us...in exile from the Garden. The aim of Kabbalah is the restoration of the divine man in the medium of mortal man...We are the laboratory...If one can learn to connect the thread dangling free from the *Sephirot* with the thread of one's own being, one may begin the work of restoration

3.4 Interocepting the Subtle Anatomy

If Reissner's fiber is the neuroanatomical equivalent of the innermost *nadis*, the governing vessel and the central pillar of the *Sephirot*, it is unreasonable to believe that it was discovered by dissecting humans. Detecting the fiber in humans remains a challenge for modern anatomists. However, the inner-directed sensory system that surrounds it could have generated perceptions of the fiber.

The observation that the fiber is surrounded by cilia that resemble the rods and cones of the retina and the hair cells of the inner ear led to the hypothesis that an inner-directed sensory system (Fry, 2007; Kolmer 1921, 1931; Rohon, 1877; Siso, 2010 Tretjakov, 1913), hereafter referred as the circumneurocelic sensory system (CNSS) (Wile, 2016, 2018), is focused on the fiber. The original descriptions of the subtle anatomy could, therefore, be based on interoceptions of the fiber by the CNSS. Meditation shifts the attention to introspective and

interoceptive awareness. Sensory input is quieted (d'Aquili, 1993; Newberg, 2001). Reissner's fiber could appear in such a field of consciousness like a star in a night sky.

4. Evolution

While the date and epigenetic mechanisms responsible for the transition from the persistence of the fiber throughout life in our evolutionary predecessors to its typical late fetal involution in modern humans are unclear, evidence suggests that a radical cognitive leap that occurred 100,000 years ago was responsible. At that time, humankind took a vertical leap from the previous evolutionary trajectory and began creating an ever-expanding world of knowledge that has revealed cosmic secrets and liberated itself from genetically programmed patterns of behavior. According to Noam Chomsky (1991), this evolutionary leap occurred when language transformed from an analog system in which, for example, the continuous varying of the intensity of warning cries could signal whether a tiger was near or far to a digitized system of language. Chomsky proposes that this evolutionary leap resulted from a chance mutation that produced the neuroanatomical basis of language in "near perfect form." This event was analogous to planting a seed crystal in a supersaturated solution to create a digital infinity.

The leap from an analog to a digitized system of language provided the linguistic basis for what Einstein (Schilpp, 1949) called the "metaphysical original sin," the creation of the concept of physical objects independent of our stream of subjective sensations. The differentiation between sense impressions and "mere ideas," upon which the positing of physical reality is based, cannot be logically justified: "There is no such thing as a conceptual definition of this distinction (aside from, circular definitions, i.e., of such as make a hidden use of the object to be defined" (Einstein, 1936). Hence Einstein's characterization of the creation of the concept of independently exist physical objects as a "sin" which, in Einstein's opinion, is necessary to avoid solipsism. The commission of the "metaphysical original sin" and the digitization of language started humankind on the road of science.

Given the fiber's remarkably strategic location, its dissolution is an attractive candidate for the "seed crystal" that created the digital infinity of language. Analyses of human epigenome from the era in question could test this hypothesis.

4.1 Road to the Absolute

Scientifically minded individuals created increasingly more unified systems from which this primary layer of complexes of sensory experience could be logically derived. The logical limit of the progression toward unity was reached with the postulation of an infinite, eternal, all embracing cosmic principle, the Brahman, Tao and Ein-Sof. According to mystical lore, this conceptualization of the logical limit of unity was reached more than 5,000 years ago, after almost 100,000 years of intellectual progress. But mystical traditions claim that their originators had knowledge that went beyond philosophical speculation. They were endowed with supersensory perceptions of ultimate reality. Those supersensory perceptions included perceptions of the human microcosm of the macrocosm, the innermost *nadis*, the governing vessel and the central pillar of the *Sephirot*. The mythical originators of the earliest mystical traditions, the Adiyoga who transmitted the secrets of yoga to the first seven rishis, the Three Sovereigns who transmitted the secrets of acupuncture as applied Taoism and Qi Gong and Adam, Enoch and Noah who transmitted the secrets of the Kabbalah, were among the last individuals to resist the environmental pressures that induced the epigenetic suppression of Reissner's fiber.

The composers of the earliest mystical texts not only pondered the imponderable ultimate unity of the digital infinity of language and directly perceived ultimate reality but also "saw," "heard" and cognized deeper levels of language wherein the vibrations of spoken words and the geometry of written words were not merely arbitrary sounds and signs arbitrarily associated with sensations but were intrinsically connected to subtle levels of reality (Holdrege, 1996). Standing before ancient Sanskrit, Chinese, and Hebrew scriptures without Reissner's fiber, we are like aphasics lacking Wernicke's area. Not only have we lost the ability to comprehend the mystical levels of language but without Reissner's fiber, but we no longer perceive the realities to which they refer. Our reality is in an interpretation of neural activity. Reissner's fiber's stimulation of the CNSS would have been commensurate with the stimulation of our external sensory organs and could have thereby generated an alternate perception of reality.

4.2 Roads from the Absolute

Because there can be only one all-embracing, eternal infinite reality, the theology that reflects it must be the *prisca theologia*, the one true theology, which threads through all religions and expresses the transcendent unity anciently revealed to humankind. The experiential basis of the *prisca theologia* is absolute. However, eventually as a consequence of the "metaphysical original sin," the digitization of language and the loss of supersensory

perceptions, the esoteric depths of sacred scriptures have been lost. The oldest stretches of the 5,000-year-old road leading from the original revelations of the earliest mystical traditions were buried beneath the dust of fallen Babel. The Kabbalistic, yogic and Taoists interpretations of the lost supersensory revelations diverged. Interpretations of yogic revelations focused on liberation (*moksha*) from the cycles of birth and rebirth (*samsara*). Taoism focused on achieving harmony between the human and the divine, and between the opposing forces of yin and yang. The Kabbalistic revelations merged with the Torah's prophecies of elevating the earth toward holiness. Ultimately, however, the transcendent unity of the original revelations converges on messianic eschatologies.

By 2,000 B.C., with possible rare exceptions, the environmental pressures suppressing the genetic machinery of Reissner's fiber eliminated human adults who possessed the fiber. The chain of transmission from the original mystical revelations was broken. Faint subconscious echoes from perinatal imprinting by the fiber and from the collective unconscious, and whispers from oral traditions were heard by some. For others, faith bridged the gap between the human and the divine. For others, mystical lore was merely a primitive superstition.

While the Adiyoga, the Three Sovereigns and Adam are generally regarded as mythical characters, Jesus, who proclaimed, "For truly I say to you, until heaven and earth pass away, not the smallest letter or stroke (one iota or one tittle) shall pass from the Law (Torah) until all is accomplished." (Matthew 5:18), is generally regarded as an historical figure. He is considered by his followers to be the ultimate realization of the unity of the human and the divine, the "son of God," "the word made flesh." That Reissner's fiber is the biological basis of Jesus' supposed unity with God is consistent with the Transfiguration described in the synoptic gospels (Matthew 17:1-8, Mark 9:2-8, Luke 9:28-36). These gospels tell of a meeting of Moses, Elijah and Jesus, the only three men in the Bible who are said to have undergone fasts of 40 days and 40 nights.

Their miraculous defiance of dehydration, hypovolemic shock and heat stroke might be evidence of their functioning Reissner's fibers. The fiber's two primary connections to the brain, the preoptic region of the hypothalamus and the subcommissural organ, regulate the hormone vasopressin, a water conserving, anti-diuretic, and aldosterone which promote water absorption and blood pressure elevation, respectively (Farrell 1959; Gilbert 1956, 1964; Palkovits, 1964). The preoptic region of the hypothalamus is the brain's thermoregulatory center. Also, the preoptic region of the hypothalamus and the pineal gland, which is functionally and anatomically connected with the subcommissural organ regulate the biological clock. By orchestrating a coordinated response to the desert heat, Reissner's fiber could have conserved water, maintained blood pressure, regulated body temperature, and slowed metabolism to create a state of suspended animation (DARPA, 2018).

The image on the Shroud of Turin, the alleged burial shroud of Jesus, continues to baffle scientists. Philip Ball (2005), who was the physical science editor of *Nature* when the journal published the carbon dating results that seemed to disprove the authenticity of the Shroud, wrote the following after credible new analysis opened the possibility that the Shroud is 2,000 years old:

The scientific study of the Turin Shroud is like a microcosm of the scientific search for God. It does more to inflame any debate than settle it And yet, the shroud is a remarkable artifact, one of the few religious relics to have a justifiably mythical status. It is simply not known how the ghostly image of a serene, bearded man was made.

According to a theory proposed by Frank Tipler (2007), professor of physics at Tulane University, the image on the Shroud was formed by neutrinos released from an obscure process involving "sphaleron baryon annihilation" produced by astronomically improbable quantum coherences in the cells of the body. A burst of radiation from quantum coherences of Reissner's fiber would far more probable.

5. Quantum Biophysical Basis of Reissner's Fiber's Connection to God

The skeptical reader will no doubt argue that that the anatomical representations of the yogic, Taoist and Kabbalistic texts are crude Medieval inventions rather than descriptions of interoceptions of Reissner's fiber. The evidence connecting Jesus to Reissner's fiber is tenuous at best. Even if Reissner's fiber is the biological basis of the origins of the oldest mystical traditions and the perceived divinity of Jesus, it is more reasonable to presume that those individuals whose Reissner's fibers persisted into adulthood were charismatic psychotics rather than individuals endowed with supersensory powers capable of knowing God (Murray, 2012). Influential religious figures were victims of hallucinatory confusion. The possibility that religious figures were psychotics whose Reissner's fibers persisted into adulthood is supported by experiments showing that the serum of schizophrenics has antibodies against the subcommissural organ, the main source of the fiber (Vilkoy, 1984).

The skeptic will, therefore, be unwilling to fill the gaps in sociobiology's explanations of religion with Reissner's fiber as the biological basis of supersensory perception of ultimate reality, be it referred to as Brahman, Tao, Ein-Sof, or God. However, there is another door open to the skeptic rather than waiting for materialist science to fill in sociobiology's gaps. For nearly 100 years, physicists have tried to explain the origin of the universe, its cosmic order, consciousness and free will, with quantum mechanical and cosmological alternatives to materialism (Lambert, 2009; Mohseni et al., 2014; Rosenblum and Kuttner, 2006; Smythies, 2012). The problem has been that quanta exist as unvisualizable mathematical abstractions. As a famously proclaimed by the founders of quantum orthodoxy: "There is no quantum world. There is only an abstract quantum description" - Niels Bohr (Petersen, 1963); "The use of classical concepts is finally a consequence of the general way of thinking. There is no use in discussing what could be done if we were other beings than we are." - Werner Heisenberg (Plotinsky, 2010). The cosmic singularity is a place where even cosmological equations can't go without exploding into infinity or dissolving into quantum abstractions.

Quantum heretics, however, most notably Wolfgang Pauli (Miller, 2010) and Erwin Schrodinger (2010) contemplated a synthesis of mystical traditions and modern physics. Pauli called for "a synthesis embracing both rational understanding and the mystical experience of unity," that would be achieved when "natural sciences will out of themselves bring forth a counter pole in their adherents, which connects to the old mystic elements." Schrodinger warned, "The scientist subconsciously, almost inadvertently, simplifies his problem of understanding Nature by disregarding, or cutting out of the picture to be constructed, himself, his own personality, the subject of cognizance." This objectification is basis of natural science. "But it leaves gaps, enormous lacunae, leads to paradoxes and antinomies, whenever, unaware of the initial renunciation, one tries to find oneself in the picture or to put oneself, one's own thinking and sensing mind, back into the picture." Schrodinger recommended, "a bit of a blood-transfusion from Eastern thought," but warned, "we must beware of blunders – blood transfusion always needs great precaution to prevent clotting. We do not wish to lose the logical precision that our scientific thought has reached..." However, by the 1950s, the debate about assigning a role to consciousness in our understanding of subatomic reality was settled in favor of the materialists. Mysticism was rejected as antithetical to the spirit of science. Currently, the interface between mystical traditions and science is clotted with florid metaphors.

However, Reissner's fiber, seen through the lens of the nascent fields of quantum information, quantum thermodynamics and quantum biology might provide a logically precise, empirical basis for the synthesis envisioned by Pauli. We are currently denied perceptions of the quantum world because it mysteriously transitions to material reality somewhere along the pathway from its interaction with the environment, to the visual pathways of the brain, and to its fixation in consciousness. Reissner's fiber's unique location as the focus of the CNSS might open a new window to the quantum world.

Quanta are evanescent and fragile. Typically, macroscopic quantum effects are manifest only at temperatures close to absolute zero where quanta coalesce to form macroscopic quantum systems such as superfluids and superconductors. However, recent experiments have demonstrated quantum effects in photosynthetic systems, the retina and the avian compass (Al-Khalili and McFadden, 2014; Gauger et al., 2011; Sia, 2014). Physicists have developed systems of feedback and control which show that the barriers to the creation of macroscopic quantum system, "Schrodinger cats," are technical not conceptual (Haroche, 2012). Feedback and control of quantum effects generated by the brain, the most complex structure in the known universe, focused upon Reissner's fiber, could amplify the fiber's quantum effects. Direct consciousness of the fiber unmediated by ordinary sensory pathways, an immaculate perception, could result in supersensory perceptions of the paranormal realities of the quantum world, currently grasped only as mathematical abstractions.

Another expansion of consciousness might be achieved by relativistic conduction through the fiber. The maximum speed of action potential conduction along myelinated axons is 150 m/sec. Researches have recently developed hollow optic fibers that operate at 99.7% speed of light, nearly 300 million m/sec. When Einstein's dear friend Michael Besso died in 1955, he wrote the following in a condolence letter to his family: "Now he has departed from this strange world a little ahead of me. That signifies nothing. For those of us who believe in physics, the distinction between past, present and future is only a stubbornly persistent illusion."

Mathematical models of time travel might also be realized by Reissner's fiber. Wormholes through the fabric of spacetime, first mathematically conceived as Einstein-Rosen bridges, were thought to be physically impossible. During the 1980s, however, Kip Thorn at Caltech proposed that negative energy produced by the Casimir effect, whereby two mirrors separated by a hairsbreadth cancel out certain wavelengths, could sustain traversable wormholes (Morris, 1988). The hollow tube running through the center of Reissner's fiber, surrounded by 5-nanometer filaments is well suited to function as a laboratory to explore Casimir effects.

The proposition that macroscopic quantum systems in the brain are the stuff of consciousness, rather than neural networks of binary neural spikes, remains outside mainstream neuroscience. However, microtubules, synaptic vesicles, the extracellular matrix and ion channels are being investigated as possible quantum mechanical sites for the interaction between mind matter. The discovery that different isotopes of lithium have different psychotropic effects implies that the difference in quantum spins between the two isotopes is the determining factor (Fisher, 2015).

Ever since quantum uncertainty was introduced, people have speculated that free will might operate within its parameters. Sir John Eccles (1994), who won the Noble Prize for his neurophysiological discoveries, developed a model whereby the will operates within a 5-nanometer spatial uncertainty involved in the release of neurotransmitters. He was a theist who believed that the human will ultimately derives from a divinely created soul. Reissner's fiber's 5-nanometer filaments are an attractive site for applying Eccles' theory.

Reissner's fiber's connection to the cosmic singularity and the cosmic order hang on even more abstruse mathematical threads. Recent astronomical observations challenge the long held cosmological principle according to which the universe that was created from the cosmic singularity is isotropic and homogeneous. One hypothesis to explain the data is that the universe has a central axis (Land, 2005). Consistent with this hypothesis are mathematical models that predict that the early universe which exploded from the cosmic singularity was one-dimensional (Mureika, Stojkovic, 2011). Such a one-dimensional initial cosmic axis could have holographically encoded natural laws and the fine-tuning of the physical constants just as our three-dimensional universe is thought to be holographically encoded on the two-dimensional surface of the universe.

Reissner's fiber could connect to these abstruse cosmological mathematical threads by virtue of its possible role in the brain's holographic encoding of information. While holographic models of the brain lie on the border between metaphor and neuroscience, the possibility of quantum coherences in the fiber suggest that it could serve as a coherent reference beam analogous to lasers used in laser holography that is attuned to the cosmic hologram. Reissner's fiber is not a product of naturally selected mutations, but a manifestation of what Einstein called, "the harmony of natural laws, which reveals an intelligence of such superiority, that compare with it, all the systematic thinking and acting of human beings is an utterly insignificant reflection" (Einstein, 2012, pg. 28).

While contemplation of the frontiers of neurotheology and neurocosmology confirm Heisenberg's conclusion that "The first gulp from the glass of natural sciences will turn you into an atheist, but at the bottom of the glass God is waiting for you," (Hildebrand, 1988) Reissner's fiber's possible input to the sociobiology of religion is obscured by the sediment of materialism, the mists of prehistory, the cunning of the Devil's tricks, and layers of skin, muscle, bone, and delicate neural tissue and membranes. And for nearly all of humankind, the fiber vanishes months before birth.

6. Future of Reissner's Fiber's Input to the Sociobiology of Religion

If the epigenetic suppression of Reissner's fiber during late fetal human fetal development was triggered by the first steps on the road of science--putting sense impressions into a rational order and turning away from Reissner's fiber's hard wiring--then perhaps another radical shift of consciousness can reverse that epigenetic suppression. Epigenetic research has shown that social factors can produce heritable changes in the expression of genes that produce hormones such as oxytocin (Kumsta, 2013; Puglia, 2015) and neurotransmitters such as dopamine and serotonin, (Abdolmaleky2013; Holloway, T. 2008) whose levels correlate with spirituality and religiosity (Mohandas, 2008). Geneticist Dean Hamer (2004) has identified an epigenetically influenced gene, VMAT2, as the "God gene" because of its association with spirituality and mystical experiences.

Currently religious believers take a leap of faith that lost revelations of God are true. Sociobiologists hold the faith that materialist science will fill the "God of the gaps." They assuage their cognitive dissonance with obfuscation. Others reject traditional religious belief because their childhood beliefs were later perceived as lies. As Freud (2008) observed, "Truths contained in religious doctrines are, after all, so distorted and systematically disguised that the mass of humanity cannot recognize them as truth. The case is similar to what happens when we tell a child that new-born babies are brought by the stork." Einstein criticized "the fanatical atheists whose intolerance is of the same kind as the intolerance of the religious fanatics. . . . They are like slaves who are still feeling the weight of their chains which they have thrown off after hard struggle. They are creatures who—in their grudge against the traditional 'opium of the people'—cannot hear the music of the spheres" (Jammer, 2002).

Perhaps the epigenetic factors that have switched off the Reissner's fiber genes can be switched on by justified true belief that the 5-nanometer filaments of Reissner's fiber can fill the God sized gaps in sociobiology's explanation of religion. We can repair the broken thread of Asian culture. To fulfill religion's promise of redemption and achieve a synthesis of ancient mystical traditions and science we need to combine interoceptions

of the fiber with its objective measurements. Not only would ancient mysticism and modern science unite, but so too would the combatants in the “sociobiology wars.” For if social behaviors can influence biology, which, in turn, influence behaviors, then we are neither material automatons nor blank slates floating above biology.

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