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# AN ATTEMPT TO UNDERSTAND THE MYSTERY OF THE MECHANISM OF COMMUNICATION WITH GOD

by

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## Introduction

One night Eli, whose eyes were becoming so weak that he could barely see, was lying down in his usual place. The lamp of God had not yet gone out, and Samuel was lying down in the temple of the LORD, where the ark of God was. Then the LORD called Samuel. Samuel answered, "Here I am." And he ran to Eli and said, "Here I am; you called me." But Eli said, "I did not call; go back and lie down." So he went and lay down. Again the LORD called, "Samuel!" And Samuel got up and went to Eli and said, "Here I am; you called me." "My son," Eli said, "I did not call; go back and lie down." Now Samuel did not yet know the LORD : The word of the LORD had not yet been revealed to him. The LORD called Samuel a third time, and Samuel got up and went to Eli and said, "Here I am; you called me." Then Eli realized that the LORD was calling the boy. So Eli told Samuel, "Go and lie down, and if he calls you, say, 'Speak, LORD, for your servant is listening.' ". So Samuel went and lay down in his place.

[1 Samuel 3:1-9 (NIV)]

An answer to the question of what God's works of providence are, the Westminster Shorter Catechism states that "God's works of providence are, his most holy wise, and powerful preserving and governing all his creatures, and all their actions"<sup>1</sup>. The mechanisms He employs to enable such a work are as many as they are complex. His providence through intervention into our world has been classified as either cosmic, ecclesiastical or personal, providing views of divine activity "by which the world has been created and is being sustained and redeemed"<sup>2</sup>. This three-fold aspect of God's interaction, with humanity in particular, is accomplished by diverse means. In sustaining His creation, which includes special attention to the human kind, He necessarily communicates with us both generically and personally, directly and indirectly. This is for the purpose of affecting our thinking with the hope that it will influence our actions to help fulfil His Divine purpose in this world, including His ideal purpose for our lives.

Before the fall, Adam enjoyed open face to face communion with God.<sup>3</sup> The purpose and process of the dialogue would differ in many respects to that of the period after the fall

<sup>&</sup>lt;sup>1</sup> Helm, P. The Providence of God. Page 31

<sup>&</sup>lt;sup>2</sup> Helm, P. *Ibid.* Page 93

<sup>&</sup>lt;sup>3</sup> White, E.G. Patriarchs and Prophets. Page 17

where we can no longer see His Being. Perhaps the focus after the fall would be, in some respects, more redemptive in nature. His overall desire to have an intimate relationship with human kind remains, but sin has veiled his direct communication with us. He has in the course of history spoken to people more directly and also collectively. At Sinai the voice of God was audible and majestic. "There was a period of solemn silence and then the voice of God was heard. Speaking out of the thick darkness that enshrouded him, as he stood upon the mount, surrounded by a retinue of angels, the Lord made known his law."<sup>4</sup> Paul, on the road to Damascus heard God's voice.<sup>5</sup> It is significant that he immediately identified the voice as belonging to God, although this might have been because of the accompanying light from heaven. In modern history there is evidence of significant people being addressed by God. Ellen White is a prime example, and had many communiqués from God. The voice that was heard in all of the cases cited above could have been either a neurological signal which bypassed the eardrum and was heard by the individual or as a result of a physical sound wave propagated in the air surrounding the individual. It is also logically plausible that a voice heard by a group, could be the result of God communicating individually within the group by some mechanism which stimulates the auditory nerve, for example. This might explain the simultaneous translation and understanding of the myriad of languages at Pentecost.<sup>6</sup>

God's intervention in the world is not required or predictable but is voluntary by a God of love. "God is not like the law of gravity, totally indifferent to context and uniformly unchanging in consequence. The Christian God is not just a deistic upholder of the world. If petitionary prayer, and the insights of a providence at work in human lives and in universal history, are to carry the weight of meaning that they do in Christian tradition and experience, then they must not simply be pious ways of speaking about a process from which particular divine activity is in fact absent and in which the divine presence is unexpressed, save for a general letting-be"<sup>7</sup>. Theoretically, God could, if He so chose, over rule actions in the world to mandate His will in our lives and the world in general. However, God's character of love precludes such overriding intervention in the world.

The question to be addressed in this paper deals with the physical mechanisms that God might use to communicate with human beings directly and the extent to which we can understand them. We can only conjecture from the perspective of our finite human plane as to the nature of the interface between our three-dimensional physical world and that of the Divine God. Yet, at some point in three dimensional space, God's power must infiltrate the boundary with this world to enable His influence to be potentially realised. Divine influence may be manifested in several ways including, inter alia, i) in earth

<sup>&</sup>lt;sup>4</sup> Ibid. Page 239

<sup>&</sup>lt;sup>5</sup> "As he neared Damascus on his Journey, suddenly a light from heaven flashed around him. He fell to the ground and heard a voice say to him, "Saul, Saul, why do you persecute me?" "Who are you, Lord" Saul asked." Acts 9:3-5

<sup>&</sup>lt;sup>6</sup> "Now there were staying in Jerusalem God-fearing Jews from every nation under heaven. When they heard this sound, a crowd came together in bewilderment, because each one heard them speaking in their own language. Utterly amazed, they asked: "Are not all these men who are speaking Galileans? Then how is it that each of us hears them in his own native language...."Acts 2:6-8

<sup>&</sup>lt;sup>7</sup> Polkinghorne, J. Belief in God in an Age of Science. Page 49

systems<sup>8</sup> or ii) generically to human beings in, for instance, the possession of a conscience<sup>9</sup> or iii) personally to an individual (as in the case of the boy Samuel). Ellen White suggests that inherent goodness is a gift from God to every person. "Every gem of thought, every flash of the intellect, is from the Light of the world."<sup>10</sup> Indeed it may be argued that life itself is from God and that everything with life has some inherent God-like characteristics. The Hebrew-Aramaic words with connotations to soul and spirit are *ruach* and *pneuma*. These words can also signify the life principle. "This form of divine energy is also an invisible agent – one that manifests itself in and through living things."<sup>11</sup> This does not in any way suggest that God's influence is equated with some of the many invisible forces found in nature although some entanglement with nature is inevitable. For instance, when God speaks to us personally and directly, as in the case of Samuel, and we hear His voice, how are the neurons in our brains activated? How is our consciousness breached? "God cannot touch our minds without, simultaneously and inextricably, in some way touching our brains as well."<sup>12</sup>

It is assumed that God would act consistently within the system of laws He created and that those laws would be universal and determinable when manifested in the physical world we find ourselves. As scientists, we are humbly aware of the fact that our current understanding of the natural realm is incomplete and the laws we have discovered are subject to revision or revolution, but nevertheless not ineffable. In particular, this paper will look at the specific act of God communicating with humanity directly through our senses. How did Samuel *hear* the voice of God, i.e., in what ways was it different to normal hearing? If God did in fact speak to his mind directly, what mechanism was involved? I believe the search for a fuller understanding of some of the areas which have been traditionally classified as mysteries is relevant and is worth pursuing and has in fact been the subject of many books and papers. It is hoped that this study of the Divine/human interface will strengthen our faith in Him as we try to understand the mystery of God.

#### Consciousness

In the passage from I Samuel above, the boy Samuel heard a voice and assumed it to be that of Eli. It was evidently audible to Samuel because Eli, who did not hear it, was close enough such that Samuel thought the voice was that of Eli. If this was direct communication from God, then Samuel could not tell the difference between normal hearing and God 'speaking to him' so it is plausible that Samuel 'heard' in the same way as if the signal had come from his auditory nerve. The sound was perceived to be of

<sup>&</sup>lt;sup>8</sup> "He got up, rebuked the wind and said to the waves, "Quiet! Be still!" Then the wind died down and it was completely calm." Mark 4:39

<sup>&</sup>lt;sup>9</sup> "David was conscience stricken after he had counted the fighting men, and he said to the Lord, "I have sinned greatly in what I have done. Now, O lord, I beg you, take away the guilt of your servant. I have done a very foolish thing. " 2 Samuel 24:10

<sup>&</sup>lt;sup>10</sup> White, E. The Desire of Ages. Page 463

<sup>&</sup>lt;sup>11</sup> Mansell, D.E. The Mystery of Consciousness. Page 34

<sup>&</sup>lt;sup>12</sup> Polkinghorne, J. Belief in God in an Age of Science. Page 55

human origin but was probably a result of God's direct communication with his mind. There is no evidence to suggest schizophrenia<sup>13</sup> or any other psychotic disorder is involved here. The mechanism of this psychotic disorder is the subject of intense research and is thought to be the result of the imbalance of three of the neurotransmitters, epinephrine, dopamine and serotonin. However, the fact that this mental illness is treatable with medication supports the idea that such brain activities as hearing voices is actually a physiological process. Does this, however, mean that when God 'speaks' to us, He actually interfaces with our neural activity? Is He in some way projecting His influence into our three dimensional world in order to communicate with us? The answer is probably yes. If so, then in this case, there is some Divine interaction inducing normal brain activity related to our consciousness. Each of our sense receptors in our physical state provides us with a complementary avenue to perceiving and understanding reality affecting our consciousness. Although the brain anatomy might be identical for each human, the consciousness or unconscious effects of these impulses are disparate. We would not be expected to respond in the same way - this is intuitive based upon normal human behaviour. If we all responded identically, then we would be surprised. This concept of individuality in behaviour and other aspects of human life is accepted as normal but is really an extension of the principle of uncertainty and is inherent to a certain extent in all life systems. The uncertainty becomes even more opaque when complex processes within the brain are involved. The uncertainty is not just a result of the complexity, but is an inherent and indispensible reality of nature itself. Even if the processes involved in consciousness were thoroughly understood, it would remain impossible to predict an outcome from a particular stimulus.

But what is consciousness? Culbertson<sup>14</sup> asserts that consciousness is indeed mechanistic and thus the brain is neither supernatural nor superphysical. It consists of two aspects, sense data originating from perceptions from the sense organs and memory images which he considers as mediated by neurons in the brain circuits. It would therefore be possible to synthesise artificial intelligence with some electronic circuitry. Steven Weinberg states that "of all the areas of experience that we try to link to the principles of physics by arrows of explanation, it is consciousness that presents us with the greatest difficulty<sup>,15</sup>. He predicts, though, that "objective correlatives to consciousness can be studied by the methods of science and will eventually be explained in terms of the physics and chemistry of the brain and body."<sup>16</sup>

Likewise, David Chalmers asserts that consciousness "may be the largest outstanding obstacle in our quest for a scientific understanding of the universe."<sup>17</sup> Importantly he assumes that consciousness is a natural phenomenon 'falling under the sway of natural laws"<sup>18</sup> although these laws might be different to those in other domains. However the

<sup>&</sup>lt;sup>13</sup> Schizophrenia is a brain disorder during which the patient hears imaginary voices and assumes they are real. <sup>14</sup> James T Culbertson, The Minds of Robots, Sense Data, Memory Images and Behaviour in Conscious Automata,

pp. 1-466 <sup>15</sup> Weinberg, S. Dreams of a Final Theory, page 44

<sup>16</sup> ibid

<sup>&</sup>lt;sup>17</sup> Chalmers, D. J. *The Conscious Mind*, page xi <sup>18</sup> ibid

mind requires the physical brain to function. "The brain by itself cannot explain mental activity, and the mind does not exist without a brain."<sup>19</sup>

#### Indeterminism

In any Divine encounter through the mind, one assumption needs to be explicitly stated as, I believe, it characterises God's nature. John Polkinghorne, in discussing human activity, makes the assumption that "it (human activity) is exercised with a certain degree of freedom; that is our impression of *choosing* what to do is *not* an illusion."<sup>20</sup>(Italics inserted) He is stating here that human beings do have free choice and we are not compelled to respond to God's promptings in any predetermined way. "God permits every person to exercise his individuality."<sup>21</sup> This would support the idea that for identical brain-like neural networks, an identical stimulus can elicit different responses. Quantum mechanics, which operates at the sub-atomic level, describes the behaviour of natural systems and might hold the key for understanding the interface between the physical brain and the conscious mind or the *psychophysics link* as Chalmers defines it.<sup>22</sup> Classical physics theory is inadequate to accommodate this apparently chaotic or quantum behaviour.

At this level, absolute certainty about behaviour is not possible and predictions are quantified as probabilities using mathematics. For example, Heisenberg's uncertainty principle restricts the precision with which a particle's position and momentum can be simultaneously determined as well as its energy at a particular time. This may be expressed macroscopically by the indeterminacy of related events. It is this fundamental law which, I believe, also applies within God's interaction with humanity. Thus although God may inject a projection of His will into our conscious or unconscious minds, there is no certainty that we will even be aware of His intending influence and further, our consciousness has the inherent freedom to respond or not. Certainly, if we are aware of His promptings, we have an innate choice to accept or ignore them. This intrinsic free will is encompassed in God's character of love. It is as much a law of nature as is Newton's Law of Gravitation or the Sine Law. God's love demands it. Natural scientists support the premise of indeterminacy of conscious actions. According to Roger Penrose, consciousness must involve more than behaviour, and there must be "an essentially nonalgorithmic ingredient in the action of consciousness.<sup>23</sup> This allows for freedom of choice as supported in Deuteronomy for instance.<sup>24</sup> The systemic response of our minds is a result of a series of basic physiological processes in our brains including chemical reactions, electric currents, cellular and molecular changes. Each of these is fundamentally governed by the laws of physics at the subatomic level and therefore subject to quantum effects. Hodgson suggests that these uncertainties occur at the

<sup>&</sup>lt;sup>19</sup> Graves, M. Mind, Brain and the Elusive Soul, page 3

<sup>&</sup>lt;sup>20</sup> Polkinghome, J. Belief in God in an Age of Science, page 48

<sup>&</sup>lt;sup>21</sup> White, E.G. Letter 20. 1902

<sup>&</sup>lt;sup>22</sup> Chalmers, D. J. The Conscious Mind, page 333

<sup>&</sup>lt;sup>23</sup> Penrose, R. The Emperor's New Mind, Page 407

<sup>&</sup>lt;sup>24</sup> Deuteronomy 30:19 "This day I call heaven and earth as witnesses against you that I have set before you life and death, blessings and curses. Now choose life, so that you and your children may live."

neural level due to their inherent statistical nature. However the brain is more robust than to be affected by a single quantum fluctuation and macroscopic effects would only be apparent for many such fluctuations being coordinated. Also in neural networks, neurons "have of the order of 1000 incoming connections so quantum-level events in all or many of these connections could very plausibly affect neuron response."<sup>25</sup> Although there has been some disagreement<sup>26</sup> with the notion of a single quantum event affecting a macroscopic system (and in particular the will), scientific evidence supports the idea. A rod cell in the human retina can signal the absorption of a single photon, which activates only one of the 100 million rhodospin molecules in the rod.<sup>27</sup>

#### **Psychic Phenomena**

Is God's directly speaking to us beyond explanation using physiological processes? C.D. Broad<sup>28</sup> of Cambridge University asserts that although the brain is a physiological organ functioning according to the laws of biochemistry and physiology, it does exhibit psychic phenomena which are well defined and documented but which cannot be explained on the basis of any known mechanistic, chemical or physical laws. The question clearly must also consider whether God's intervention falls within the realm of the normal natural reality or some other psychic reality, for which Broad asserts as lying beyond empiricism. What is the relationship between that and consciousness as well as unconsciousness? And does God's interaction with our minds occur at a classical level or some other quantum level? Does it matter as long as the end result is an image or electrical impulse perhaps triggering some conscious reaction?

Mysticism is considered to be beyond science by most scientists and is avoided, yet surprisingly many notable scientists have espoused mysticism including Einstein, Pauli, Heisenberg, Eddington and Jeans.<sup>29</sup> Many have experienced some revelatory insights akin to a mystical experience. Fred Hoyle believes that "by acting at the quantum level this super-intelligence can implant thoughts or ideas from the future, ready made, into the brain" which he suggests "is the origin of both mathematical and musical expression"<sup>30</sup>. It seems therefore that our consciousness is open to influence from other sources. "The essence of the mystical experience, then, is a type of shortcut to truth, a direct and unmediated contact with a perceived ultimate reality"<sup>31</sup> Mysticism, however, is not addressed in this paper due to time and space constraints.

<sup>25</sup> Hodgson, D. The Mind Matters. Page 401

<sup>&</sup>lt;sup>26</sup> In Rodney Cotterill's No Ghost in the Machine (1989), he suggests that this quantum uncertainty "could have no influence on the will, because it makes itself felt at much too small a scale." He goes on to say "A single neuron is composed of millions of atoms, and the quantum phenomena of many individual atoms cooperate to give a macroscopic effect only under very special conditions, conditions which would not prevail in biological cells." <sup>27</sup> Schnapf, J.L, and Baylor, D.A. (1987) How Photoreceptor Cells Respond to Light. Scientific American. April. Pages 32-39 <sup>28</sup> Wilder Smith, *The Creation of Life*. Page 167

<sup>&</sup>lt;sup>29</sup> Davies, P. The Mind of God. Page 226

<sup>&</sup>lt;sup>30</sup> Ibid. Page 229

<sup>&</sup>lt;sup>31</sup> Ibid. Page 228

It is evident from human experience that the mind can also be excited by other influences. Ellen White warns that "For thousands of years Satan has been experimenting upon the properties of the human mind, and he has learned to know it well. By his subtle workings in these last days, he is linking the human mind with his own, imbuing it with his thoughts; and he is doing it in so deceptive a manner that those who accept his guidance know not that they are being led by him at his will. The great deceiver hopes so to confuse the minds of men and women, that none but his voice will be heard."<sup>32</sup> The impulses to the brain in such an influence may not be as direct or empowering as those executed by God and the thoughts that evolve from such influences are therefore not overwhelming and can be controlled. Thoughts here are differentiated from impulses as they are constructed in an individual based upon many factors including memory and experience. In fact, this is substantiated by the writings of White. Based upon the scriptural text from the book of Peter we are admonished to "gird up the loins"<sup>33</sup> of our mind. White expands on this to suggest that we ultimately have control over our thoughts. "The thoughts must be controlled. There must be a fixedness of purpose to carry out that which you shall undertake..... No one but yourself can control your thoughts."<sup>34</sup> Here the idea of training the mind to accept or reject thoughts born from external impulses is inferred. "In the Word of God we read that there are good and bad consciences....Take your conscience to the Word of God, and see if your life and character are in accordance with the standard of righteousness which God has there revealed..... The conscience of man cannot be trusted unless it is under the influence of divine grace. Satan takes advantage of an unenlightened conscience, and thereby leads men unto all manner of delusions."<sup>35</sup>

One other aspect of the Divine-human intercourse not pursued in this paper is that of prayer directed to God. The salient idea that God can read our minds is certainly plausible based on the ideas already presented. If God has the ability to implant ideas and speak to our minds, then it is highly probable that He could also read our minds. So, unspoken communication with God and God's response is beyond the scope of this paper although some sort of reciprocal mechanism is most likely.

The possibility of the human mind being 'wired' for the religious activity of prayer or meditation has been studied elsewhere in scientific research.<sup>36</sup> It has shown that the benefits of prayer are measurable and greater when combined with sincere faith.<sup>37</sup> The purpose, process and results of prayer precipitate other quandaries which complicate the discussion and are purposely avoided in this paper.

<sup>&</sup>lt;sup>32</sup> White, E.G. Review and Herald. December 18, 1888.

<sup>&</sup>lt;sup>33</sup> "Wherefore gird up the loins of your mind, be sober, and hope to the end for the grace that is to be brought unto you at the revelation of Jesus Christ." 1 Peter 1:13

<sup>&</sup>lt;sup>34</sup> White, E.G. Letter 33. 1886

<sup>&</sup>lt;sup>35</sup> White, E.G. Review and Herald. September 3, 1901

<sup>&</sup>lt;sup>36</sup> Benson, H. & Stark, M. 1996. *Timeless Healing*. Simon and Schuster, New York.

<sup>&</sup>lt;sup>37</sup> Larson, D.B. 1995. Insight on the News. "Have Faith: Religion can Heal Mental ills". March 6. Page 18

#### Searching for a Mechanism

Is the pursuit of a mechanism engineered and implemented by a Divine Being realistic? Polkinghorne believes it is. "With the nature of human agency still mysterious, we can hardly dare to aspire to more than hopeful speculation when it comes to talk of divine agency. Yet the demand for an integrated account of both theological and scientific insight impels us to the task."<sup>38</sup>

Departing from the dualist view of humanity where the Greek notion of the mortal physical body is differentiated from the immortal spirit, an assumption is made that humanity is in fact monist in nature. Peacocke "suggests that religious experience that is mediated through sensory experience is intelligible in the same terms as that of the interpersonal experience of human beings. It is therefore plausible to think of God as communicating with human persons through the constituents of the world."<sup>39</sup> It is unlikely that God would use some mechanism outside of His natural laws to communicate, and doing so would either invoke the dualist nature of man or suggest incoherence of God's laws. Peacocke is also "very reluctant to postulate God as communicating to humanity through what would have to be seen as arbitrary means, totally different in kind from other means of communication to human consciousness"40.

The mechanism involved in direct conscious communication with the minds of humans will probably not be understood using classical physics including electromagnetic theory. The limits of classical physics are well defined and understood. Physics forms the basis for understanding the behaviour of the constituents of matter and the influence of this behaviour in complex areas of science. Other higher level sciences are responsible for explaining the processes of more complex systems. An attempt to understand the mind and consciousness using classical physics extends as far as the neurological architecture. Criteria deemed necessary for consciousness have been created such that any machine could be tested to see if it was "conscious" and "able to emulate processes in human consciousness classed under the broad categories of feeling, intuition, and imagination."41 However, there are some higher level natural processes that are not deterministic. This has led neurobiologists to postulate a different non-deterministic mechanism based upon, not classical physics, but quantum physics. Newtonian physics is in fact used to describe neurobiological mechanisms although inadequately. In addition to classical neural networks there are virtual neural networks where quantum effects, such as tunnelling<sup>42</sup> occur. And yet, we cannot simply ascribe a quantum aspect to it on the basis that it is, like consciousness, somewhat mystical. However some models do appeal to aspects of quantum theory. Quantum mechanical phenomenon such

<sup>&</sup>lt;sup>38</sup> Polkinghorne, from A. M. Farrer. 1967. Faith and Speculation. A&C Black, USA

<sup>&</sup>lt;sup>39</sup> Peacocke, A. The Sound of Sheer Silence, from Neuroscience and the Person. Page 243 <sup>40</sup> Ibid. Page 244

<sup>&</sup>lt;sup>41</sup> Nadeau, R.L. Mind, Machines and Human Consciousness. Page 13

<sup>&</sup>lt;sup>42</sup> This is a quantum mechanical phenomenon involving particles tunnelling through an energy barrier when they don't have enough energy. It is analogous to a sprinter running straight through a brick wall without making a hole in it or jumping over it.

as Bose-condensation interference<sup>43</sup> within the nervous system has been proposed by several physicists (I. Marshall, H. Fröhlich)<sup>44</sup>. Coordination of the indeterminacies within a neural network on many neurons is a quantum phenomenon associated with Bose condensation is conjectured.<sup>45</sup> Fröhlich argues that this Bose condensate is achievable at body temperatures where biological dipole oscillators, such as dielectric protein molecules, vibrate under the influence of an electrical short range force between the poles of a single oscillator and the coulomb forces between the oscillators.<sup>46</sup> Other evidence to support Fröhlich's model exists and has been noted.<sup>47</sup>

If this is similar to the materialisation of God's transcendence into the physiology of the mind, then it can be scientifically studied as has been shown. So where does the mystery lie? Part of the mystery must of course include the reason for God's apparent (to our finite human minds) inconsistent mediation. Why, for instance, does He choose to intervene at times and other times not? Why does He perform miracles at times and other times apparently permit the demise of a person? This is clearly beyond human reasoning or understanding and not the subject of this paper. The other part of the mystery to be addressed deals with the mechanism God uses to interface with our mind processes.

A researcher at Canada's Laurentian University, Michael Persinger, conducted a scientific study on the simulation of the God experience<sup>48</sup> by exposing subjects to a weak complex magnetic field. He stimulated the right temporal lobe of the cerebral hemispheres with an electromagnetic field of between 10 nT to 1  $\mu$ T,<sup>49</sup> while the subjects were blindfolded. The conditions were similar to those during which patients had historically experienced 'inspirational insights'. About twenty five percent reported a feeling akin to an out-of-body experience and a "sensed presence" which was hypothesised as being the prototype of the God experience.<sup>50</sup> Most just felt dizziness and tingling. Although the results are subjective, they were reportable and correlated with the biophysics involved. Other neuroscientists have reported their findings on brain

 $<sup>^{43}</sup>$  Bose-Einstein condensate (BEC) is a state of matter of bosons confined in an external potential and cooled to temperatures very near to absolute zero (0 K, -273.15 °C, or -459 °F). Under such supercooled conditions, a large fraction of the atoms collapse into the lowest quantum state of the external potential, at which point quantum effects become apparent on a macroscopic scale.

 <sup>&</sup>lt;sup>44</sup> Fröhlich, H. 1986. Long-range Coherence in biological systems. International Journal of Quantum Chemistry, 2
641-649: Marshall, I.N. 1989. Consciousness and Bose-Einstein condensates. New Ideas in Psychology, 7, 73-83
<sup>45</sup> Lockwood, M. Mind, Brain and the Quantum. Pages 251-260

<sup>&</sup>lt;sup>46</sup> Biological oscillators of this kind are pervasive in nature: living matter is made of water and other bio molecules equipped with electrical dipoles, which react to external stimuli with a spontaneous breakdown of their rotational symmetry. The biological usefulness of such biological oscillators is that, like laser light, they can amplify signals and encode information (e.g., they can "remember" an external stimulus). (Piero Scaruffi)

<sup>&</sup>lt;sup>47</sup> Bond, J.D. and Huth, G.C. 1986. Electrostatic modulation of electromagnetically induced nonthermal responses in biological mechanisms. In F. Gutmann and H. Keyzer (eds). *Modern Bioelectrochemistry*, New York: Plenum, 289-313.

<sup>&</sup>lt;sup>48</sup> Persinger, M. Experimental Simulation of the God Experience: Implications for religious belief and the future of the Human Species, from Neurotheology: Brain, Science, Spirituality, Religious Experience, page 279. <sup>49</sup> n (nano) is the prefix for  $10^{-9}$  and  $\mu$  (micro) is  $10^{-6}$ . T is the abbreviation for the unit of magnetic field strength, the tesla.

<sup>&</sup>lt;sup>50</sup> Ibid.

states or conditions to certain types of mystical and spiritual experiences.<sup>51</sup> Although the experiments do not provide solutions to the puzzle of the mechanism, they do however add credence to the plausibility of quantifying a mind event which can sometimes be a component of God's action in the world.

# Justification for the Search for a Mechanism

What, then, is the mechanism involved? Is it possible to even consider the question and attempt to find a rational description this side of Heaven? Is it possible that God forbids this sort of enquiry? I am inclined to believe that we have been given intellects and are entitled to pursue every avenue to understand God more fully. Just as children develop the power of reason and enquiry to become independent and fully functioning members of society, so God expects us to grow in our knowledge and understanding of Him. The projection of a three dimensional object onto a two dimensional plane (orthographic projections), although incomplete, can reveal some information of the original object. By selectively looking at projections from different angles a picture may be built up of the object. So too, is it possible to learn more about God's character by studying his revelation to us in as many facets as possible. As rational beings with the capacity to analyse and understand our world<sup>52</sup>, we are expected to enquire about God. God is the designer of the Universe and has established all of the working laws which He also uses and abides by. While he is not constrained by His laws, it is rational to assume that He would have created sufficient laws to accommodate all eventualities. History has taught us that we should not be as presumptuous as to assume we understand, or are even aware of all of the laws of nature. On the issue at hand Wilder-Smith contends that "the mind is outside nature though transcending and pervading it."53 Or as James Jeans expresses it, "non in tempore, sed cum tempore, finxit Deus mundum."54

## Conclusion

It is evident that neuroscience can begin to explain phenomena associated with some mind activities including memory and consciousness. Quantum physics can also be employed to attempt to account for the indeterminacy of the neural networks of the brain. God chooses to intervene in this world and does so in various ways, one of which includes through an individual's mind. While the physiological processes involved in the brain itself might be partially understood, the physical mechanisms God employs to interact with the human mind is unclear. In the human - Divine interface, where the power or influence of God intersects with this world, we can at best understand our side of the reality in our finite human states. Even if it is assumed that He would use laws

<sup>&</sup>lt;sup>51</sup> D'Aquili, E. & Newberg, A. 1999. The Mystical Mind. Fortress Press. USA

<sup>&</sup>lt;sup>52</sup> Davies, P. 1992. The Mind of God. Page 20

<sup>53</sup> Wilder-Smith, A.E. The Creation of Life. Page 176

<sup>&</sup>lt;sup>54</sup> Jeans, J. The Mysterious Universe. Page 155 "God created the world with the help of time but not in time."

consistent with His creation and His character, our understanding of the mechanisms involved on His side of the boundary are speculative.

While the mechanisms of God's communication may even be partially understood, the precise purpose and timing for special intervention will probably remain a mystery. It appears as if God does intermittently intervene directly beyond what is considered to be His normal sustaining work. He presumably speaks to everyone, perhaps in the form of the Holy Spirit, to guide and encourage where His influence here is more pervasive and affects more those who are in tune with Him. For many people, His voice is drowned out and is not 'audible'. However, as in the case of Samuel and many other instances throughout the history of humankind, His intervention is occasionally direct and unmistakeable. People have heard God's voice, experienced visions of special revelation and sensed His presence. The mystery of God's communication with us might not be so much the mechanism, but rather the mystery of why He sometimes chooses to reveal Himself or His purpose so directly to individuals.

Finally, whether the mechanism is understood or not, it is apparent that the mind has another dimension beyond the purely physical. There are metaphysical factors, both good and bad, which through a mechanistic process influence the mind. There is progress being made on understanding the complex mechanisms at play in the human mind. As the door to the intricacies of the mind and consciousness is slowly opened, the nature of the interface between the Divine and the human will become clearer. "But the larger point to recognise is that the modern secular psychological paradigm – the effort to give a complete account of the workings of the human mind without reference to God or spirit – has crumbled. Modernity failed to achieve its ambition of a comprehensive, materialistic alternative to the religious understanding of the human condition. A purely secular view of human mental life has been shown to fail not just at the theoretical, but also the practical, level."<sup>55</sup> God speaks to mankind and it would not be surprising if it was discovered that the architecture of the brain predisposed it to 'hear' His voice.

<sup>&</sup>lt;sup>55</sup> Glynn, P. God the Evidence. The Reconciliation of Faith and Reason in a Postsecular World. Page 77

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