Article

Life in Parallel Worlds & Buddhist Psycho-Metaphysics: Parallels & Interconnections between the Quantum Spiritual Worldview of Michael B. Mensky and Buddhism (Part I)

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ABSTRACT

Michael B. Mensky's quantum spiritual psycho-metaphysics is an overarching paradigm for a post-materialist science and philosophy, and his work in this area is of immense significance for the modern world. His quantum-spiritual psycho-metaphysics is entirely consistent with 'mystical' insights, in particular it is coherent with Buddhist psycho-metaphysics. Mensky's quantum psycho-metaphysical paradigm succeeds dramatically by indicating that both Life and consciousness are fundamental internal aspects of quantum reality, Mensky's 'Alterverse'. Furthermore, according to Mensky's quantum psycho-metaphysical model of the process of reality Life and consciousness are unfolded from the quantum realm through the operation of an inner teleological 'pressure' which Mensky calls the 'Life-Principle'. This remarkable conceptual revolution, which shatters the materialist madness of many contemporary physicists and philosophers, is entirely consistent and coherent with the metaphysical insights of quantum theory and it corresponds closely with central Buddhist psycho-metaphysical doctrines such as karma and rebirth. Also, according to Mensky's quantum spiritual worldview, the endpoint of the long chain of rebirths is enlightenment.

Keywords: Michael Mensky, extended Everett concept, many worlds, quantum consciousness, life principle, alterverse, quantum spirituality, Buddhist psycho-metaphysics, inherent existence, emptiness, ground consciousness, pure being, karma, rebirth, enlightenment.

Michael B. Menksy is a physicist and professor working at the Lebedev Physical Institute of the Academy of Science in Moscow. He has been working in fields such as quantum field theory, quantum gravity, quantum theory of measurement and the foundations of quantum physics. His interest in the foundations of, and metaphysical implications of quantum theory has led to him having some spectacular insights into the relationship between quantum theory and the 'mystical' claims of some religions. His work in this area is of immense significance for the modern world. In his articles and his book *Consciousness and Quantum Mechanics: Life in Parallel Worlds - Miracles of Consciousness from Quantum Reality* he provides a comprehensive spiritual psycho-metaphysics based on the discoveries of quantum physics and theory.

The Buddhist philosopher-practitioner B. Alan Wallace, in his excellent book *Hidden Dimensions*, points out that Vitaly L. Ginsburg, a Russian theoretical physicist and astrophysicist

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who was awarded the 2003 Nobel Prize in Physics, and a committed atheist, reviewed Mensky's work and, as Wallace says, Ginsburg:

> …begins by acknowledging that scientists have not satisfactorily explained the origin of life and consciousness, so it would be a mistake to categorically dismiss Mensky's discussion of the origin of human consciousness and its relation to quantum mechanics. Such informed theorizing is, precisely what is required … Ginsburg asserts that two of the most important and interesting problems in physics at the beginning of the twenty-first century are the interpretation of quantum mechanics and the problem of reductionism, that is, the question of whether the phenomenon of life can be explained on the basis of presently known physics.[1]

In this context Mensky's quantum psycho-metaphysical paradigm succeeds dramatically by indicating that both Life and consciousness are fundamental internal aspects of quantum reality. Furthermore, according to Mensky's quantum psycho-metaphysical model of the process of reality Life and consciousness are unfolded from the quantum realm through the operation of an inner teleological 'pressure' which Mensky calls the 'Life-Principle'. This remarkable conceptual revolution, which shatters the materialist madness of many contemporary physicists and philosophers, is entirely consistent and coherent with the metaphysical insights of quantum theory. It also corresponds closely with central Buddhist psycho-metaphysical doctrines.

There are other physicists working in this area, most notably Henry Stapp and Amit Goswami, these three offer an entirely modern context for the truths of various spiritual 'mystical' traditions. Amongst these three, however, Mensky's presentation is possibly the most comprehensively succinct, although Gowami covers similar ground in impressive detail and cogency. Furthermore, Mensky's approach is particularly close to Buddhist psycho-metaphysics.

In his book *Mindful Universe* Stapp has written that quantum physics:

> …upsets the whole apple cart. It produced a seismic shift in our ideas about both the nature of reality, and the nature of our relationship to the reality that envelops and sustains us. The aspects of nature represented by the theory are converted from elements of *being* to elements of *doing*. The effect of this change is profound: it replaces the world of *material substances* by a world populated by *actions*, and by *potentialities* for the occurrence of the various possible observed feedbacks from these actions.[2]

Here Stapp indicates the fact that, despite much desperate kicking and screaming to the contrary on the part of a cadre of hardcore metaphysical materialists such as Richard Dawkins and Daniel Dennett, the quantum evidence today is emphatic that the process of reality is driven by embodied minds acting upon and through quantum potentialities in order to bring into being a world of embodied experience. It is the intentional actions of sentient beings that determine what "feedbacks" arise from quantum potentiality. Collectively such actions and perceptions bring the material world into experiential being from the fundamental ground of quantum potentiality.

Mensky, however, goes beyond Stapp in a visionary manner. He has appreciated the fact that the quantum scenario is entirely consistent with the spiritual insight that, not only do the actions, perceptions and intentions of sentient beings, in particular human beings who have a much widened sphere of freewill beyond that of animals, create future feedbacks in a current life, they also condition future potentialities for future lives. In this insight Mensky has seen that quantum physics indicates the reality and significance of two of the central doctrines for Buddhist practice: *karma* and *rebirth.* This is indeed a dramatic upsetting of "the whole apple cart" of the anti-spiritual materialist worldview.

There is a group of materialist scientists and philosophers who currently see themselves as embattled champions for a 'naturalistic', which is in essence a cover word for 'materialist', style of science. Thus we find the crudely materialist biologist Richard Dawkins writing on the back cover of the physicist Lisa Randall's book *Higgs Discovery: The Power of Empty Space* that "Science has got a battle for hearts and minds on its hands." Randall's book is an exposition of the Higgs particle and mechanism, a book which seeks to underplay and cover over the fact that recent discoveries indicate that what appears to be a material world is actually generated by interactions of immaterial quantum fields. Her work therefore appeals to the materialist camp because it sets out to hide certain important facts which have been recently discovered regarding the ultimately immaterial nature of the process of reality.

Books like Randall's are part of an unscientific movement to suppress certain scientific discoveries in order to avoid allowing "a Divine Foot in the door,"[3] as the evolutionary biologist Richard Lewontin describes the materialist "battle" with any spiritual implications that modern science has uncovered. In this situation spiritual psycho-metaphysical perspectives such as that proposed by Mensky and others, based as they are on cutting edge physics, are of great significance for the modern age.

We can point to two great discoveries that stand at the heart of a newly emerging worldview, a worldview desperately resisted by proponents of what is termed "scientific materialism" or "methodological naturalism," which are trumped up terms for the dogmatic assertion that only materialist explanations can be admitted as science. The first discovery is that the causes of all the phenomena of the apparently material world are entirely immaterial, they are to be found within the operation of an energetic mind-like immaterial field of potentiality. As Stapp has pointed out:

> We live in an *idealike* world, not a matterlike world. The material aspects are exhausted in certain mathematical properties, and these mathematical features can be understood just as well (and in fact better) as characteristics of an evolving idealike structure. There is, in fact, in the quantum universe no natural place for matter. This conclusion, curiously, is the exact reverse of the circumstances that in the classical physical universe there was no natural place for mind.[4]

The second crucial discovery is the now clear fact that Darwinism, from its inception down to Neo-Darwinism (called by some 'Ultra-Darwinism'), is completely false. As the philosopher Thomas Nagel has written:

> Physico-chemical reductionism in biology is the orthodox view, and any resistance to it is regarded as not only scientifically but politically incorrect. But for a long time I have found the materialist account of how we and our fellow organisms came to exist hard to believe, including the standard version of how the evolutionary process works. The more details we learn about the chemical basis of life and the intricacy of the genetic code, the more unbelievable the standard historical account becomes.[5]

These two dramatic modern discoveries underlie the two central 'battlefields' within modern scientific and philosophical discourse: 1) the implication of quantum theory that the process of reality involves primordial consciousness, and 2) the rearguard action on the part of a group of hardcore materialists to save materialist Darwinism from intellectual extinction.

On the first battleground we find the opposing camps of those who propose and those who oppose the emerging paradigm of what has been called "quantum spirituality," a perspective described by David Scharf as:

> ...the idea that some aspect of consciousness plays a fundamental role in the universe and that advanced physics should be interpreted as having to some extent already incorporated this principle [which] has had distinguished representation among both physicists and philosophers. It has generated an upsurge of grassroots enthusiasm because of the widespread sense that science and spirituality, rather than being fundamentally separate or even opposed, are in fact deeply connected and mutually reinforcing.[6]

This is precisely Mensky's viewpoint, a viewpoint held in various formulations by Henry Stapp, Amit Goswami, David Bohm, Stuart Hameroff, Robert Lanza and others. It is a viewpoint vigorously resisted by those opposed to divine feet getting in doors and spiritual perspectives in general, although evidence and reasoned arguments are in short supply in the opposing materialist camp.

Furthermore, it is worth pointing out that the black and white manner in which the 'New Atheists', a group of proponents of ultimate mindlessness which includes Richard Dawkins, Daniel Dennett, Christopher Hitchens and Sam Harris, present the supposed warring dichotomy between science and religion is not accepted by all scientists, for there are many scientists who have been or are religious. As John C. Lennox points out in his book *God and Stephen Hawking: Whose Design Is It Anyway?*:

> Take for example, … Francis Collins, the Director of the National Institute of Health in the USA, and former head of the Human Genome Project. His predecessor as head of that project was Jim Watson, winner (with Francis Crick) of the Nobel Prize for discovering the double-helix structure of DNA. Collins is a Christian, Watson an atheist. They are both top-level scientists...[7]

The physicist and an evangelical Christian Don Page, to give another example, has recently written *A Theological Argument for an Everett Multiverse*.[8] Stapp, who has given no indication of being a Christian, has nevertheless stated that he thinks that quantum theory is:

> ...concordant with the idea of a powerful God that creates the universe and its laws to get things started, but then bequeaths part of this power to beings created in his own

> image, at least with regard to their power to make physically efficacious decisions on the basis of reasons and evaluations.[9]

It seems then that in their presentation of the supposed science verses religion scenario, as in most aspects of their claims and proclamations, the anti-spiritual brigade are crudely simplistic, and many scientists, religious or otherwise, do not endorse their vision of science.

On the second battleground, of course, are the opposing perspectives of Intelligent Design (not necessarily theistic) and neo- (ultra-) Darwinism. Both quantum theory and recent advances in biology such as the evolutionary-development paradigm (Evo-Devo) come down on the side of non-theistic Intelligent Design.

There is then a new scientific worldview, a worldview compatible with spiritual perspectives, emerging from recent scientific discoveries. The September/October issue of *Explore: The Journal of Science and Healing* contains an article by a group of scientists entitled '*Manifesto for a Post-Materialist Science*'. They point out that new discoveries require a dramatic revision of our view of the nature and purpose of the process of reality, a transition from the crude materialism that sufficed for scientific progress prior to quantum discoveries to a post-materialism which comprehends the fact that:

> ...the materialistic focus that has dominated science in the modern era cannot account for an ever-increasing body of empirical findings in the domain of consciousness and spirituality.[10]

The authors then proceed to point out that the approach to science embodied in "scientific materialism," which is the view that only material causes and explanations are admissible to science, has become a widespread dogma within academia. And:

> ...the nearly absolute dominance of materialism in the academic world has seriously constricted the sciences and hampered the development of the scientific study of mind and spirituality. Faith in this ideology, as an exclusive explanatory framework for reality, has compelled scientists to neglect the subjective dimension of human experience. This has led to a severely distorted and impoverished understanding of ourselves and our place in nature.[11]

The authors list the discoveries and phenomena which undermine a crude materialist worldview, some of which are denied by supporters of materialism despite compelling evidence. The list covers:

- Discoveries in quantum mechanics that indicate the significance of consciousness at the quantum level.
- The fact that there is no plausible account of how mindless matter could possibly generate consciousness.
- Psychological studies which show that "thoughts and emotions can markedly affect the activity of the physiological systems (e.g., immune, endocrine, and cardiovascular) connected to the brain."
- The demonstrated reality of 'psi phenomena.'

- The phenomenon of near death experiences (NDEs), in which "conscious mental activities can be experienced in clinical death during a cardiac arrest."

Such phenomena, which are now undeniable, cannot be accounted for within materialist science, although materialists have tried to concoct ridiculous explanations, such as that of NDEs, wherein temporarily dead human beings witness every detail of what is happening in an operating theatre from a vantage point somewhere on the ceiling, being due to residual physiological brain processes. As the proponents of post-materialist science point out:

> NDEs in cardiac arrest suggest that the brain acts as a transceiver of mental activity, i.e., the mind can work through the brain but is not produced by it. NDEs occurring in cardiac arrest ... further suggest the survival of consciousness, following bodily death, and the existence of other levels of reality that are non-physical.

This is exactly the conclusion that Mensky asserts as being unavoidable:

> Life is not the function of the body, and consciousness is not a function of the brain. Rather [the] body is a realization of life, and brain is an instrument of consciousness.[12]

The latest discoveries of science lead towards the necessary acceptance of the fact that the process of reality is ultimately immaterial and has a fundamental spiritual dimension involving consciousness. As the proponents of post-materialist science conclude:

> Scientists should not be afraid to investigate spirituality and spiritual experiences since they represent a central aspect of human existence.

This is a view, as we shall see, also vigorously asserted by Mensky when he tells us that evidence for his 'Extended Everett Concept' (EEC):

> ...may be found in the spiritual sphere of knowledge (oriental philosophies, world religions and deep psychological practices). As a result, a much closer unification of the material and spiritual spheres of knowledge [can be] achieved.[13]

Mensky's quantum spiritual psycho-metaphysics is in fact an overarching paradigm for a post-materialist science and philosophy. In particular his quantum-spiritual psycho-metaphysics is entirely consistent with, coherent with, and supportive of Buddhism, not that Buddhism requires such support.

Given this situation it is shocking to find that there are scientists who consider themselves to be Buddhists who, at the same time, reject any kind of spirituality of this kind, or any kind for that matter. They are ardent materialists, and assert that consciousness must be produced by non-conscious and mindless matter. The biologist and 'psychologist' David P. Barash is an example of someone who claims to be a Buddhist, at the same time as asserting that many of the core doctrines and metaphysical claims of Buddhist practitioners and philosophers are nonsense. Buddhism, he asserts, must be "shorn of its hocus-pocus and abracadabra," and "shorn of its magical trappings."[14] In his book *Buddhist Biology* Barash claims that the Buddhist notion of enlightenment is ridiculous. He quotes the Buddhist scholar and philosopher Robert Thurman, who asserts the reality of Buddhist enlightenment, Thurman writes:

> No matter how preposterous it may seem to us at first, it is necessary to acknowledge the Buddha's claim of the attainment of omniscience in enlightenment. It is foundational for every form of Buddhism. It is rarely brought to the fore nowadays, even by Buddhist

> writers, since this claim by a being once human is uttermost, damnable sacrilege for traditional theists and a primitive fantasy, an utter impossibility, for modern materialists. But it is indispensable for Buddhists.[15]

Barash comments on this:

> I do not want to be unkind, either to Thurman or to any Buddhas past or future … but … such a claim really is "preposterous," a "primitive fantasy" and an "utter impossibility."[16]

The 'New Atheist' Sam Harries is another example of someone who, whilst endorsing some of the teachings and practices of Buddhism, at the same time rejects the overall non-materialist worldview of Buddhist psycho-metaphysics:

> It is true that many exponents of Buddhism, most notably the Dalai Lama, have been remarkably willing to enrich (and even constrain) their view of the world through dialogue with modern science. But the fact that the Dalai Lama regularly meets with Western scientists to discuss the nature of the mind does not mean that Buddhism, or Tibetan Buddhism, or even the Dalai Lama's own lineage, is uncontaminated by religious dogmatism. Indeed, there are ideas within Buddhism that are so incredible as to render the dogma of the virgin birth plausible by comparison. No one is served by a mode of discourse that treats such pre-literate notions as integral to our evolving discourse about the nature of the human mind.[17]

Harris, an American author, philosopher, and neuroscientist, suggests that notions such as karma and rebirth are nothing more than "pre-literate notions." He also asserts the non-existence of freewill[18] and the view that consciousness can be explained by, and reduced to, brain-states.[19]

Barash and Harris however, make their claims on the basis of what Stapp calls a "known-to-be-false understanding of the nature of the physical world."[20] Quantum physics has now indicated the presence of primordial nondual consciousness/awareness within the quantum ground of the process of reality, and therefore, as Stapp says:

> ...proclaiming the validity of materialism on the basis of an inapplicable-in-this-context nineteenth century science is an irrational act.[21]

Barash, however, and other materialists like him, embrace such an irrational act, and then proceed to make unwarranted dogmatic proclamations on the basis of their fundamental unscientific irrationality. Mensky, on the other hand, suggests that, given the fact that primordial consciousness/awareness suffuses the entirety of Everett's multiverse (the infinite number of potential quantum 'universes'), it follows that should a human being manage to dissolve individuated consciousness into primordial consciousness, then such an "attainment of omniscience in enlightenment" might be possible. The use of the term "omniscience" here does not indicate a knowledge of "the number of bugs in the world"[22] but, rather, direct access to all potentialities within the quantum ground, which Mensky calls the "Alterverse," the infinite pool of potential alternative realities.

According to Barash consciousness is without a doubt, even though there is no evidence for the assertion, nor no glimmer of any coherent explanation of a possible mechanism, a production of the entirely mindless material world. He writes:

> So, let's grant a 'how' to consciousness. Some*how* or other, energy and matter come together and produce it, via electro-chemical events across neuronal membranes. The process itself is still a puzzle, one that is being vigorously tackled today.[23]

Such declarations of absolute certainty that "somehow or other" consciousness *must* have come from mute, blind and mindless matter have been asserted vigorously, in the face of mounting contrary evidence, by adherents of the materialist cause for many years now. And during that time there has not been any indication of what the "somehow" or the "other" might be.

It is difficult to comprehend how such dogmatic and unsubstantiated proclamations have been accorded any academic credibility. Barash wrote the above in 2012, at a point when the Evo-Devo (evolutionary-development biology) revolution and the discoveries of epigenetics had demoted the gene from pride of place, but he still maintained a staunch dogmatic and simplistic crude materialist Darwinism, claiming that a few successive random mutations of material genes could magically turn on a new world of awareness, knowing, and experience of experience:

> … maybe consciousness really *is* adaptive. This would mean that those who are conscious are more 'fit' (in the evolutionary sense) than those lacking this trait. More precisely, genes that contribute to consciousness must somehow have been more successful than alternative alleles in getting themselves projected into the future.[24]

"Maybe" such views are nonsense. In fact they are clearly nonsense, all the evidence is to the contrary. Did one random mutation of an entirely material gene, devoid of any aspect of consciousness or consciousness-potentiality, produce a barely discernible flickering smidgeon of a glimmer of awareness-consciousness? How could such a barely noticeable glimmer of internal light have an evolutionary advantage in a world when unconscious mechanistic processes were presumably getting along just fine? How could an entirely random and entirely material event produce an entirely immaterial sphere of awareness at all?

We now know that consciousness interacts with the immaterial quantum level of the process of reality, so the notion that an entirely material random event might give rise to consciousness/awareness is beyond the implausible. And then, are we to believe, in the materialist account, that a hardly noticeable, hardly useful, barely functional glimmer of consciousness hopefully awaited future amplifications of immaterial intensity through more random material gene flaws? Nonsense is too mild a word, asinine is closer to the mark! How else could one describe the claim by Barash that: "Consciousness might, then, be comparable to male nipples"?[25]

Yet such is the stuff of much modern academic life, flying in the face of all evidence. And such is the confident arrogance of such purveyors of materialist absurdity that they suggest that they are up to the task of taking to task the Buddha, and his many subsequent followers who achieved various states of enlightenment. Barash asserts, without evidence or argument, that the doctrines of Buddhism are unscientific myth, superstition and nonsense, and he tells us that he intends to:

> …biologize the Buddha, pointing respectfully as a biologist to the useful and insightful teachings of Buddhism, once shorn of its magical trappings.[26]

However, the style of science presented by Barash is that of the late nineteenth century. He seems entirely oblivious to modern developments.

When the full array of current evidence is taken into account the anti-spiritual crusade on the part of desperately deluded individuals turns out to be nothing other than prejudice and dogma. And in the face of such materialist prejudice and dogma, quantum psycho-metaphysical spiritual worldviews such as that presented by Mensky, based upon up-to-date science, are crucial. The new scientific-spiritual worldview is brilliantly elucidated by Mensky's psycho-metaphysics. The beauty of Mensky's quantum-spiritual psycho-metaphysics resides in the fact that it seamlessly incorporates the new discoveries of quantum physics and psychology in a succinct, coordinated, comprehensive and coherent manner.

Mensky's quantum-consciousness based account of the functioning of reality, which he calls the Quantum Concept of Consciousness (QCC) and also the Extended Everett Concept (EEC), which, as the name indicates, extends Hugh Everett's 'Many-Worlds' quantum metaphysics to incorporate consciousness, naturally gives rise to the necessity of the presence of both intelligence and design. And Mensky's achievement does not end there. As previously mentioned Mensky's psycho-metaphysical account indicates that core features of some spiritual traditions, such as karma and rebirth, are consistent with, perhaps even indicated by, quantum discoveries.

Mensky also gives a detailed account of a quantum mechanism which underlies the functioning of the process of reality as described by his quantum psycho-metaphysics. In a nutshell, in his EEC and QCC Mensky identifies a transcendent sphere of universal Mind as extending across all the worlds within Everett's many-worlds. For Mensky this multiverse is termed the "Alterverse," the infinite scope of all alternative *possible worlds*. Any individuated mind associated with a sentient being will occupy only one of these worlds depending on their previous actions and mind-states. This indicates the operation of *karma-vipaka*, action and result. Intentional actions and cultivated mind-states in any particular lifetime will leave traces within a subtle quantum consciousness or 'soul', and this subtle rebirth consciousness will influence which potentialities are activated within the Alterverse in future lifetimes.

Mensky indicates a quantum-consciousness 'look-ahead' mechanism which enables sentient beings to be able, within limits, to perceive future potentialities and thereby alter their own quantum potentialities in order to steer, so to speak, in the direction of more favorable future scenarios. Such a quantum 'look-ahead' mechanism underlies the quantum process of photosynthesis in which a quantum unit of energy called an 'exciton' is able to compute the most efficient energy transfer route by exploring, in the form of a spread out quantum potentiality-wave, all possible paths. All possible paths of energy transfer are tested out at the same time in quantum potentiality before 'collapsing' into the most efficient.[27]

This mechanism, operating in the context of quantum consciousness, Mensky calls "*postcorrection*." The idea is that when the focused individuated consciousness is "turned off" or reduced then the individuated mind has access to the universal consciousness of the transcendent dimension of the entire Alterverse. The individuated aspect of consciousness can then either just rest itself in the transcendent sphere or 'look-ahead' within the realms of future

quantum potentialities. According to Mensky, it is this mechanism which underlies mystical states, paranormal phenomenon, and seeming "miracles" such as spiritual healing. Mensky also indicates that 1) this quantum-consciousness 'look-ahead' mechanism operates within evolution, this mechanism, a quantum-consciousness *Life-Principle*, replaces the discredited Darwinian mechanism, and importantly 2) the final goal of this universal quantum-consciousness 'look-ahead' mechanism is enlightenment.

In a recent article, *Contiguity of Parallel Worlds: Buddhist and Everett's*, the Buddhist philosopher Andrey Terentyev refers to the "striking similarity of the views on reality in Buddhism and in the Extended Everett Concept by M. Mensky." In his conclusion Terentyev writes that:

> I'd like to stress that we are not just considering analogies in different fields of human endeavour; in fact, both Buddhist thinkers and modern physicists, using very different methods, arrived basically at the same description of [the] reality we live in. This is the point where the parallel worlds of Buddhism and Physics unexpectedly touched each other, and the deeper meaning of this is yet to be appreciated by both parties.[28]

The precision and detail of the "analogies," similarities and parallels between quantum discoveries and Buddhist insights that were established between the time of the Buddha and the early centuries of the common era, and then subsequently reformulated in various new perspectives, are so remarkable and profound that Terentyev's assertion that we are not dealing with superficial "analogies," but are confronted with deep and profound core truths concerning the nature of the functioning of reality and its inner purpose, is entirely appropriate.

In the early part of his book *Consciousness and Quantum Mechanics: Life in Parallel Worlds*, Mensky tells us that:

> …the phenomena of life and consciousness cannot be mechanistically reduced to the action of the laws of science as they are found in the course of exploring [inanimate] matter. The explanation of these phenomena on the basis of quantum mechanics requires [the] addition of a special independent element to the set of quantum concepts and laws. Such a new element of theory should directly connect quantum concepts with the concepts characteristic of life. The simplest way to find this element is to consider the phenomenon of consciousness and compare it with the description of observation (measurement) in quantum mechanics. Then it may be formulated as identification of consciousness with the "separation of the alternatives" - a concept relating to the "Many Worlds" interpretation of quantum mechanics. … the addition of this element simplifies the conceptual structure of quantum mechanics instead of [rendering] it more complicated. If we consider not only the phenomenon of consciousness but [also the] more general phenomenon of life, this additional element may be called [the] "*life principle*". It very naturally follows from the analysis of [the] theory of consciousness … The life principle formulates [the] evolution of [a] living system in such a way that it is determined by … goals as well as by causes. The main goal of living system[s] is survival so that their evolution provides their survival. However, for more sophisticated forms of life, the goals may include other criteria [such as] the quality of life.[29]

Mensky is emphatic that the phenomena of life and consciousness cannot be *reduced* to either quantum mechanics or "any other theory of [inanimate] matter." These aspects are, of course, involved in the processes and functions of living organisms, but:

> …life and consciousness are not the direct consequence of these processes. Life is not the function of the body, and consciousness is not a function of the brain. Rather body is a realization of life, and brain is an instrument of consciousness.[30]

This is a beautifully formulated observation. It is the phenomenon of 'life', considered as a fundamental force within the process of reality, which evolves the bodies of sentient beings, and it is consciousness, again considered to be fundamental, that organizes the brain for the manifestation of individuated consciousness from a deeper layer of non-individuated primordial consciousness/awareness.

According to Mensky, although life and consciousness are not *reducible* to quantum mechanics, it is nevertheless the case that they are "connected" in a deep and irreducible manner with "quantum reality." In fact, as Mensky's quantum psycho-metaphysical scenario unfolds it becomes apparent that he considers life and consciousness to be fundamental aspects of the universe that are internal to the quantum realm. Mensky, furthermore, considers the concepts of quantum reality, consciousness and the 'life principle' as being interconnected and mutually supporting. Quantum reality has an internal aspect of consciousness which manifests through the unfolding of life through the operation of the life-principle. The life-principle can be thought of as an internal 'pressure' within quantum reality which produces the bodies of various organisms. This process occurs through a quantum evolutionary process, in order that individuated consciousness can be expressed through the brains which are "instruments of consciousness." Individuated consciousnesses are all fragments of the vast undifferentiated consciousness-awareness which resides within quantum reality. The internal 'pressure' due to the life-principle operates in order to maximize the degree and qualitative nature of embodied consciousness. Furthermore, Mensky explicitly views consciousness as having a "mystical" depth. He speaks of the necessity for including within the realm of consciousness "deep mystical features."

The implications of Mensky's EEC (Extended Everett Concept) are dramatic and spectacular, with applications to several foundational problems in the arenas of psychology, parapsychology, evolutionary-biology and spirituality. Within the arena of the Darwinian-evolution verses intelligent design debate, Mensky's perspective indicates that there is an intelligence *internal* to the process of reality, not an external guiding God. What appears to be a material evolution is in reality an unfolding of quantum potentialities driven by the internal quantum 'life-principle' which acts through the quantum realm of potentiality to produce the manifested apparently material world and sentient beings within it. This entire process is ultimately a quantum illusion. Mensky's account naturally and coherently elucidates the origin of life as being due to the internal pressure of the 'life-principle' acting through the quantum level.

Within the arena of the so-called 'hard problem' of consciousness, the problem is resolved naturally and coherently. Individuated consciousness is an embodied fragment of the universal non-differentiated unified consciousness-awareness which is an internal aspect of quantum reality.

Within the arena of spirituality and mysticism, Mensky's EEC indicates that mystical states of awareness are experienced when individuated consciousness dissolves into the less differentiated state of the ground-quantum-consciousness. This aspect of the EEC corresponds precisely to the Buddhist *Yogācāra* (Yoga-practitioners-Consciousness-Only) distinction between *jnana,* which indicates the universal nondual consciousness-awareness, which is also called 'wisdom', and *vi-jnana,* or divided consciousness, dualistic consciousness. In *Yogācāra* psycho-metaphysics there are various levels of *vijnana,* the most fundamental being the *alayavijnana* or the ground-consciousness.

The precision of the mapping of this aspect of *Yogācāra* psycho-metaphysics onto Mensky's EEC is highlighted by Mensky's assertion that individuated consciousness (*vijnana* – divided or dualistic consciousness) is associated with the "separation of the alternatives" which reside within the 'many-worlds' of quantum reality. According to Mensky:

> …while consciousness cannot be understood in the context of chemistry, classical physics and physiology, it turns out that it (or at least its main features) can be understood in the context of quantum mechanics. More precisely, the essence of consciousness can be interpreted as a special type of perception of quantum reality by living beings.[31]

Classical physics, of course, refers to the pre-quantum physics which operated from the assumption that the material world existed at some level as it appears, as solid bits of matter. This perspective viewed consciousness as some strange magical transformation of matter into a qualitative realm of experience. Such a view, however, produces the 'hard problem' of the arising of consciousness because matter itself is, in this 'classical' view, defined to be devoid of the qualities of consciousness. With the advent of quantum discoveries this 'hard' problem has dissolved because the illusion of the material world has been found to have dissolved into the deeper immaterial realm of quantum potentiality which has an internal qualitative aspect of consciousness. As the physicist Nick Herbert has pointed out:

> …every quantum system has both an 'inside' and an 'outside', and ... consciousness both in humans as well as in other sentient beings is identical to the inner experience of some quantum system. A quantum system's outside behavior is described by quantum theory, it's inside experience is the subject matter of a new 'inner physics'….[32]

Individuated consciousness is channeled through the physical organization of organic sentient beings from the deeper nondual undifferentiated quantum awareness-consciousness within quantum reality.

By the phrase "the essence of consciousness can be interpreted as a special type of perception of quantum reality by living beings" Mensky indicates that living beings perceive a tiny portion of the full sweep of all the possibilities within the quantum realm, as if putting on blinkers in order to occupy and experience just one of the possible worlds. Mensky is by no means the only quantum physicist who has matched up the phenomena of perception, consciousness and the nature of 'quantum reality'. Wojciech Zurek, the proponent of 'quantum Darwinism', also suggests an important link:

> Measurement – perception – is the place where physics gets personal, where our role and our capabilities as observers and agents of change in the universe (and our limitations as entities subject to the laws of physics) are tested - or, rather, where we get put in our place. I believe that quick solutions, and I include both the Copenhagen interpretation and many worlds here, have a tendency to gloss over the real mystery, which is how do we - that is to say, how does life - fit within the quantum universe. … The virtue of the focus on quantum measurement is that it puts issues connected with information and existence at the very center. This is where they should be.'[33]

Mensky calls his quantum psycho-metaphysical perspective the Extended Everett Concept (EEC), which means it is a development of the Many-Worlds quantum perspective which derives from Hugh Everett III, which also involved John Wheeler and Bryce DeWitt. Zurek considers the MWI (Many Worlds Interpretation) and the Copenhagen interpretation, which asserts that consciousness collapses quantum wavefunctions of possibility, to be both "quick solutions" to the quantum measurement problem, both of which hide deeper complexity.

The quantum measurement problem is the problem of exactly how just one of the multitude of quantum possibilities prior to observation (a *superposition* of potentialities) becomes actual. According to Zurek:

> The key feature of the Copenhagen Interpretation is the dividing line between quantum and classical. Bohr emphasized that the border must be mobile so that even the "ultimate apparatus"—the human nervous system—could in principle be measured and analyzed as a quantum object, provided that a suitable classical device could be found to carry out the task. In the absence of a crisp criterion to distinguish between quantum and classical, an identification of the classical with the macroscopic has often been tentatively accepted.[34]

Here Zurek indicates that the Copenhagen Interpretation requires a moveable boundary, a boundary which in principle can move into the consciousness of the observer. But often a more simplistic boundary is accepted. It is sometimes mistakenly assumed that a measuring instrument can 'collapse' quantum wavefunctions without the necessity of consciousness at some level of the mechanism.

The Many-Worlds scenario, however, avoids such a 'collapse'. According to Zurek:

> The Many Worlds Interpretation (or more accurately, the Many Universes Interpretation), developed by Hugh Everett III with encouragement from John Archibald Wheeler in the 1950s, claims to do away with the boundary... In this interpretation, the entire universe is described by quantum theory. Superpositions evolve forever according to the Schrödinger equation. Each time a suitable interaction takes place between any two quantum systems, the wave function of the universe splits, developing ever more "branches."[35]

Before a measurement or observation of a quantum system is performed there 'exists' *as potentialities or possibilities* a 'superposition', set or 'stack' of 'alternative worlds' (W_1, W_2, W_3, … W_n,…). None of these worlds fully 'exist' as manifested and experienced worlds, they are quantum potentialities which kind of semi-exist in a quantum void of potentiality. Even the term

'semi-exist', however, is misleading because if we state the quantum existence-configuration as revealed by experiment, all quantum possibilities neither exist nor non-exist, nor both exist and non-exist, nor neither exist nor non-exist! Perhaps the best we can say is that these, possibly infinite, quantum potentialities are potential worlds of experience waiting to be experienced.

In essence, according to Bohr's 'Copenhagen Interpretation' (figure 1), there is a radical transformation which takes place when an 'observation' or 'measurement' of a quantum system takes place. The quantum superposition of the multitudes of quantum possibilities 'reduces' down to just one 'classical' experienced world (W_x). The Many Worlds interpretation (figure 2), on the other hand, abolishes the quantum-classical divide by asserting that whenever an observer interacts with the quantum system, the observer divides between the worlds, within each world a copy of the observer experiences the potentials which go along with that world. In another world another copy of the observer experiences the potentialities of that particular world. And so on. This process quickly produces a vast number of experiential "branches" within the overall quantum realm of potentiality. Indeed Bryce Dewitt, a MWI enthusiast, said of this viewpoint:

> I still recall vividly the shock I experienced on first encountering this multiworld concept. The idea of 10^{100+} slightly imperfect copies of oneself all constantly splitting into further copies, which ultimately become unrecognizable, is not easy to reconcile with common sense.[36]

The notion, however, that there *really* are vast multitudes of "slightly imperfect copies of oneself all constantly splitting into further copies," is very difficult to comprehend or to take seriously, although quite a few do. Indeed, this view only has surface plausibility, a philosophical analysis of exactly what it means to be the 'same' self in a 'different' world indicates serious issues of conceptual coherence. At what point does the supposedly same 'self' become a different 'self' for example. The significant physicist John Bell declared that:

> …if such a theory were taken seriously it would hardly be possible to take anything else seriously.[37]

The number of supposedly separate worlds, occupied by 'imperfect' copies of multiple selves, at every moment in time, according to MWI, must constantly increase by a vast amount. DeWitt referred to this idea as "schizophrenia with a vengeance."[38] But such schizophrenic nonsense, which is highly useful for science fiction writers, results from drawing crude conclusions from what is actually a very complex and subtle quantum situation. However, as we shall see, Mensky's extension of the MWI rescues the MWI from desperate implausibility and in so doing provides a subtle and profound quantum psycho-metaphysics that has a spiritual dimension.

Niels Bohr

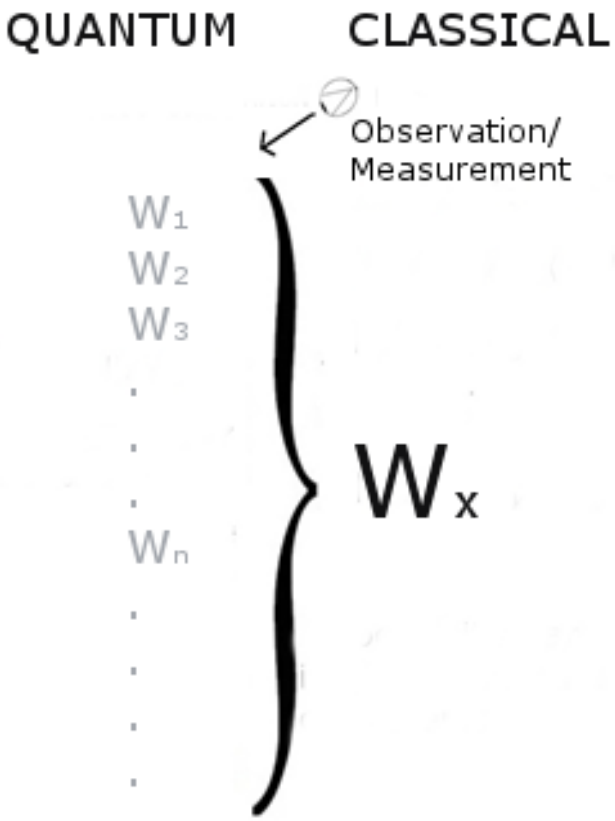

Figure 1: Bohr's Copenhagen Interpretation

Hugh Everett III

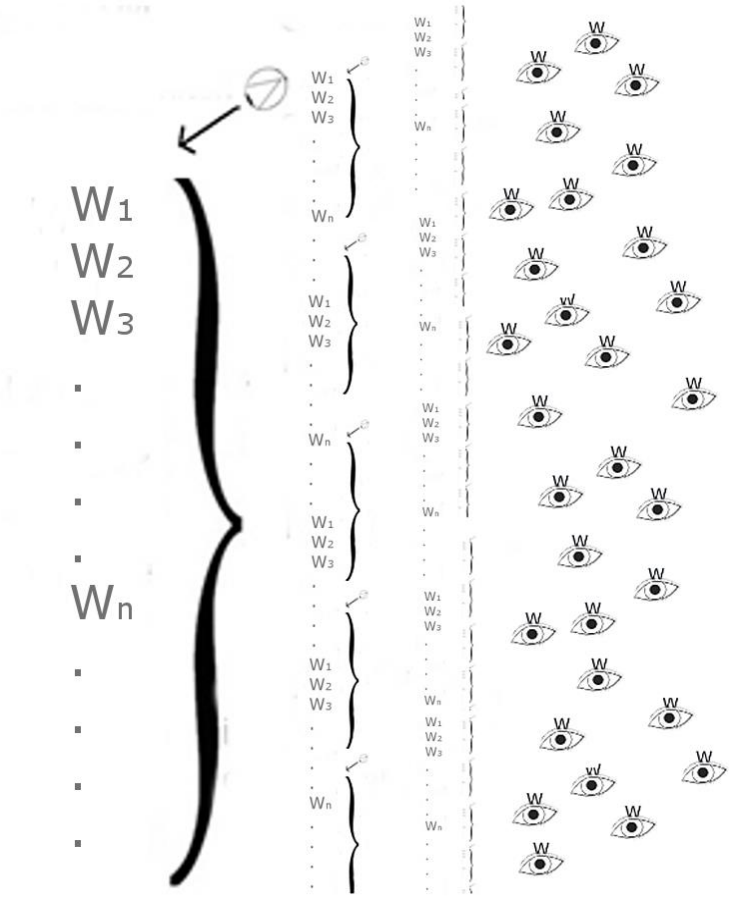

Figure 2: Many Worlds

Furthermore, according to Mensky, the fact of the entanglement of consciousness at the quantum level means that our ideas of scientific methodology must be extended. If consciousness has now been shown to be part of physics then direct observations of the phenomena associated with subjective consciousness must also become a part of evidence taken into account. In his paper *Everett Interpretation and Quantum Concept of Consciousness* Mensky writes that:

> …the conventional methodology of physics accepts [the] verification of theories only with the help of instrumental experiments. From the conservative viewpoint, the verification by [directly] observing [subjective] phenomena is not objective. Therefore, such observations may be called 'verification' only if the meaning of the term is extended. This means extending the methodology. If the notion of verification is actually extended in this way, a lot of [evidence] of [the] EEC may be found in the spiritual sphere of knowledge (oriental philosophies, world religions and deep psychological practices). As a result, a much closer unification of the material and spiritual spheres of knowledge [can be] achieved.[39]

And Mensky also tells us that:

> … quantum mechanics … attempts to represent the measurement process … as completely objective, as absolutely independent of the observer who perceives the result of the measurement, [such attempts] have not met with success … the description of quantum measurements … must involve … the observer or, to be precise, *the observer's consciousness*…[40]

This resonates with Penrose's observation concerning the MWI that:

> …the behaviour of the seemingly objective world that is actually perceived depends on how one's consciousness threads its way through the myriads of quantum-superposed alternatives. In the absence of an adequate theory of conscious observers, the many-worlds interpretation must necessarily remain incomplete.[41]

And it is precisely Mensky's Quantum Concept of Consciousness (QCC) that provides such a completion. Mensky's proposal is that consciousness can be identified with the:

> …"separation of the alternatives" – a concept relating to the "Many Worlds" interpretation of quantum mechanics. It is interesting that the addition of this element simplifies the conceptual structure of quantum mechanics instead of [making] it more complicated.[42]

According to Mensky the canonical science fiction MWI, wherein sentient beings split between alternatives, producing multiple copies of themselves, is incorrect. And, also, the Copenhagen view that the alternatives reduce down to just one upon an observation is also mistaken. Instead the consciousness of a sentient being "threads its way through the myriads of quantum-superposed alternatives" by 'choosing', mostly unconsciously, one of the alternatives. On this view, individuated consciousness is associated with the separation of the alternatives that the consciousness "threads through" within the multiple worlds. During this process it is not the case that the other potentials disappear, they remain as virtual quantum potentialities for the sentient being in question. Furthermore, other sentient beings will be threading their way through other quantum pathways.

According to Mensky:

> … not only does the Many-Worlds picture excessively dramatize the situation, but may also mislead (and quite often does so) … in reality no 'many classical worlds' exist at all. There is only one world, and this is a quantum world, and it is a superposition state. It is simply that every component of the superposition taken separately corresponds to what our consciousness perceives as the picture of a classical world, and to different superposition terms there corresponds different pictures. What we call a "classical (Everett's) world" is just one 'classical projection' of the quantum world. These different projections are produced by the observer's consciousness ([perceiving the quantum world subjectively]), while the quantum world itself exists independently of whatever observer ([i.e. the quantum world exists 'objectively']).[43]

The last part of this quote means that the global quantum world is not dependent on individuated consciousness. Mensky takes great pains to undermine crude understandings of MWI such as the view that the many-worlds of the MWI are fully paid up 'classical' worlds, or that "one classical world transforms into several (or even an infinite number) of worlds," or that there is "a monstrous nonconservation of energy under this 'multiplication of worlds', or 'world branching'." Mensky is not a fan of the "schizophrenia with a vengeance" view, which asserts a multitude of the same person 'branching' into differing worlds, advanced by DeWitt and others. Indeed in his article *Everett Interpretation and Quantum Consciousness* Mensky explicitly states that the DeWitt approach:

> …turned out to be misleading. The term "many worlds" evoked an image of many real ("physical") worlds which exist simultaneously (say, beside each other).[44]

Mensky indicates that the usual presentation of the MWI has the implication that an observer's consciousness must split between the alternatives and he suggests that the term 'Many-Minds' is a better description of the situation. Furthermore:

> In Everett's interpretation there appears [to be] some [ambiguity]. All alternatives are realized, and the observer's consciousness splits between all alternatives. At the same time, the individual observers subjectively perceive what is going on in such a way as if there exists a single alternative, the one he exists in. In other words consciousness as a whole splits between the alternatives but the individual consciousness chooses (selects) one alternative. … in [any one] of Everett's worlds, all observers see the same thing, their observations are consistent with each other…[45]

Here Mensky indicates a crucial feature of his Extended Everett Concept (EEC), which is the insight that consciousness not only arises as the separation of alternatives, *it also performs a selection between them.* This is an extremely clever insight which avoids the extreme views of the MWI and the Copenhagen Interpretations. Because there is a, mostly unconscious, 'choice' on the part of an individual mind of which alternative to experience, there will be an appearance of a 'collapse' of wavefunction into just one world, but in fact the quantum potentialities remain as they are, and the individual consciousness threads its way through.

Because 'quantum reality', which is the fundamental reality of our universe, consists of a multitude of alternative quantum potential 'worlds', Mensky proposes the notion of a quantum

"Alterverse" of "parallel worlds". Mensky then asks why observers are not aware of these vast numbers of 'parallel worlds'. The answer he gives is that "alternative classical realities are separated by consciousness." It is important to be aware in this context that Mensky is employing the term 'consciousness' to indicate the individuated consciousness experienced by a sentient being in waking life, during which:

> …as a result of such a separation of alternatives by consciousness, we have the illusion that only a single world exists. Such is our subjective impression, even if objectively many parallel worlds exist.[46]

According to Mensky's EEC perspective the primary and fundamental reality is 'quantum reality' which consists of the 'Alterverse' of all possibilities, all 'parallel worlds'. In this quote Mensky seems to be slightly ambiguous about the exact relationship between consciousness and the separation of alternatives. In some passages he says that consciousness should be *identified* with the separation of alternatives, whilst in other pages such as this one he seems to imply that consciousness *causes* the separation. This apparent inconsistency, however, turns out to be a result of differing points of view. Mensky gives the image shown in figure 3, to which I have added explanatory text. This shows a two-tier system, but it must be kept in mind that the 'higher' tier (which is only 'higher' in a graphical, not metaphysical, sense), wherein consciousness operates within separated alternatives, experiencing only one world, is not actually separate from the overall quantum world, it is the mode of experience which creates an 'illusion' that there is only one 'classical' world. As Mensky says:

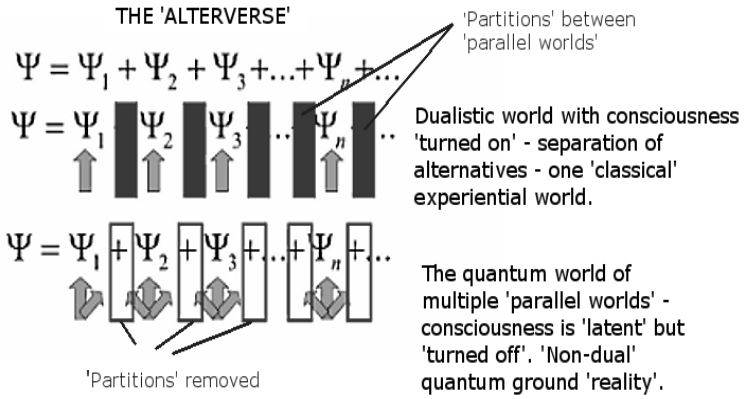

Figure 3

> …subjectively an observer has an illusion that there is only one classical world around him. The reason [for] this illusion is that classical alternatives are separated in his consciousness so that they are perceived independently from each other. *This is the classical vision of the objectively quantum world*.[47]

Furthermore, not only does individuated consciousness emerge with the separation of the alternatives, it also in some way 'selects' one of the alternatives. In everyday life ordinary people do not inhabit a multitude of 'classical' alternatives:

> The consciousness as a whole splits between alternatives, and a 'component' of consciousness lives within one classical alternative, perceives only this single alternative classical reality.[48]

An individuated consciousness "lives within one classical alternative," by selecting, mostly unconsciously, a pathway through the possible worlds. Mensky's account of the nature of consciousness in relation to the two tiers requires a little elucidation as it is not entirely clear. In the following passage he indicates that, whilst he wants to *identify* consciousness with the separation of alternatives, he also suggests that it must also be considered to be a feature of the entire quantum reality:

> In psychology, only that which is subjectively perceived is termed the consciousness, i.e., only the 'classical component' of the consciousness, according to our terminology. Therefore, to identify the notion of 'consciousness' with some notion from … quantum theory, we must broadly interpret consciousness as something capable of embracing the entire quantum world (alternative classical realities) rather than exclusively one [of] its classical projection[s].[49]

Here Mensky indicates the necessity for a notion of a global, universal consciousness, associated with all the possible worlds. This global consciousness underlies all the individuated consciousnesses. He then goes on to propound his 'identification hypothesis' that asserts the identity of "the ability of a human referred to as consciousness" and the "separation of the single quantum world into classical alternatives."[50]

The only way that such a model can be coherently construed is by requiring two 'types' of consciousness. The first, which is identified with the quantum realm of parallel worlds in a state of quantum superposition, is a nondual, undifferentiated field of a 'universal', or collective consciousness. Mensky calls this level of awareness, which resides within the quantum ground reality of 'parallel worlds', the 'super-consciousness' ('superconsciousness'). In this realm of undifferentiated awareness, which manifests when individuated consciousness, i.e. waking everyday consciousness, is "turned off" it is possible for an intuitive "super-cognition" to operate. This faculty is able to "[supply] …information that is not available in the usual (conscious) state. The explanatory text for figure 3 explains that:

> If consciousness and separation of the alternatives are identified, then dimmed consciousness (in particular, in the state of sleep or trance) means an incomplete separation of alternatives, in which consciousness looks into 'other alternatives' and can single out the most favourable one among them.[51]

This feature of the relationship between consciousness and super-consciousness, the fact that when the focused awareness of individuated consciousness is reduced, consciousness (in its 'super-consciousness' mode) is then able to gain access to information which resides within parallel worlds - even some way into the future - underlies the phenomenon of precognition. According to Mensky:

> …if consciousness is identified with the separation of the alternatives, then turning … consciousness off means [the] disappearance of the separation, i.e. [the] emergence of access to all alternative realities. The information from this enormous "database" makes feasible (in the state of unconsciousness) super-intuition, i.e. direct vision of the truth.

> Thus, extraordinary features of consciousness … should [be revealed] "*at the edge of consciousness*" when the consciousness (i.e. the separation of the alternatives) disappears or almost disappears. What appears then instead of consciousness (in the usual understanding of this word) may be called extended consciousness, or *super-consciousness*. Another very important assumption accepted in [the] EEC is that consciousness has the ability to influence the alternative to be subjectively perceived. In a sense, this means that the ability exists to "control reality".[52]

Mensky amplifies upon this by indicating that it is important to understand that quantum reality itself is not being altered, it is, rather, that the "subjectively perceived reality is controlled." In other words the subjective consciousness of a person is able to select, mostly unconsciously, more advantageous, or in some situations such as someone with a death wish less advantageous, pathways within the 'parallel worlds' of quantum reality.

This is in fact a kind of 'look-ahead' mechanism operating, again mostly unconsciously, through the quantum level where the focused 'higher' levels of conscious awareness are dampened or 'turned off', either completely or to some degree. Consciousness is thus able to "obtain information from the quantum world as a whole, i.e. to look into other alternatives, other realities." This is because in the MWI these alternative realities, 'parallel worlds' "exist objectively".[53] And when "partitions between the alternatives vanish or become penetrable", in states "at the edge of consciousness" such as sleeping, trance or meditation for example, information from other worlds becomes available.

It is important to be aware of the various, flexible, uses of the term 'consciousness' in Mensky's model. Although he speaks of consciousness being "turned off" for example he also suggests that in this state information from other parallel worlds becomes available to 'consciousness'. This would seem on the face of it to be a blatant contradiction. However, it is necessary to bear in mind that, although Mensky does seem to speak in black and white terms, consciousness being 'on or off' and so on, what we are dealing with is actually more like a continuum of states of awareness, or states of 'consciousness'. When Mensky speaks of consciousness being 'turned off' he is referring to the 'high' level focused states of *individuated* consciousness. However, even in states generally considered to be 'unconscious,' in Western terminology, the *capacity* for consciousness to function unconsciously is still present and, furthermore, any information which is accessed from 'parallel worlds' in such 'unconscious', or less conscious, states will be available to consciousness when it emerges in its more focused state. This is indicated by Mensky's use of terminology such as:

> …when the explicit consciousness is disabled (in the [sphere] of [the] unconscious), the (implicit) consciousness witnesses, instead of the usual classical world, something quite different, including particularly all classical scenarios in all time moments.[54]

And, because the "implicit consciousness" has access to "all classical scenarios *in all time moments*, it has access to future quantum states, and subsequently it can orientate itself towards quantum states that are favourable to survival and enhancement of quality of life. Mensky calls this important quantum mechanism "*postcorrection*." When focused individuated consciousness is "turned-off" or reduced, "implicit consciousness," - the deeper layers of non-

individuated consciousness - has access to all parallel worlds, and some knowledge from alternative worlds can subsequently become available to a future focused individuated consciousness. Furthermore, according to Mensky, consciousness can use this information gained through implicit consciousness in order to steer a course through parallel worlds towards more favourable situations, so to speak. According to Mensky such a process underlies the evolutionary unfolding of quantum potentialities into sentient life.

This leads to Mensky's 'Quantum Concept of Life' (QCL) which is that: "a man (and a living being generally) can influence the subjective probabilities of the alternatives, increasing [the] probability to experience those alternatives that are favourable." Mensky also refers to this concept as the 'life principle' or 'principle of life', which he also identifies as a variety of the Anthropic Principle. "The Principle of Life", says Mensky, is "the statement that only favorable scenarios (i.e. those forming the life sphere) are realized for living beings."[55] Furthermore this principle follows from the "properties of consciousness."[56] This means that Mensky's 'Quantum Concept of Life', extended into the 'life principle' tells us that, in the same way that a living being can use 'super-intuition' within the parallel worlds of 'super-consciousness' to navigate towards favourable future scenarios, so too Life, considered as a collective and global phenomenon, uses the same mechanism to drive the process of evolution: "the evolution of life may be expressed as the set of favourable scenarios instead of the wider set of all possible … scenarios."[57] This quantum metaphysical perspective leads us to the conclusion that there is a kind of primordial consciousness operating according to the quantum super-intuitive 'post-corrective' 'look-ahead' mechanism in order to unfold Life from the quantum potentialities within the 'Alterverse'.

Mensky, then, considers that Life and sentience are latent internal aspects within the quantum reality of the 'Alterverse'. One might say that there is an internal 'pressure', supplied by a primordial consciousness, to unfold life and sentience. According to Mensky:

> The life principle is in essence a version of the [anthropic] principle but with 1) Homo Sapiens as an observer replaced by the totality of living beings and 2) Multiverse (the set of many universes existing beside each other) replaced by [the] Alterverse (the set of the virtual classical worlds presenting a single quantum world existing in the sense of quantum reality.[58]

According to Mensky, Life and consciousness cannot be accounted for using the mechanistic methods appropriate for inanimate matter. This is because Life orientates itself towards goals such as survival and maximizing quality of life:

> Life is a phenomenon which is realized by living matter consisting of living organisms (living beings). Living matter differs from non-living matter in that its dynamics is determined not only by causes, but also by goals. First of all the goal of survival (prolongation of life) is important in this context. However in the context of sufficiently perfect forms of life more complicated goals are also actual. They can be formulated in terms of quality of life.[59]

These goals, within the context of evolution, can only be comprehended and elucidated within the context of a perspective like Mensky's EEC and QCL ('Extended Everett Concept' and 'Quantum Concept of Life') because, as we have seen, the EEC and QCL quite naturally provide

quantum mechanisms for the 'look-ahead' capacity that is required for such natural goal-orientated behavior. Materialist-mechanist accounts such as Neo-Darwinism are completely incapable of elucidating or accounting for the origin of life. The presence of the internal pressure for survival, or the generation and development of consciousness, all of these crucial issues, however, are elucidated and accounted for quite naturally within the EEC and QCL.

Mensky gives a detailed exposition of the mechanism of 'postcorrection', the quantum 'look-ahead' mechanism, using quantum terminology in his book, and also in his paper '*Postcorrection and mathematical model of life in Extended Everett's Concept*'[60] which is available online. I will give a less detailed overview. In his paper '*Reality in quantum mechanics: Extended Everett Concept and Consciousness*'[61] Mensky gives the following account of the phenomenon of 'free will' in the context of deciding between taking a right or left turning:

> If I wish to go to the right and actually go to the right, how (does) this happen? In fact there is no explanation of this simple ability of consciousness [in a mechanistic perspective]. In the framework of EEC, if the modification of probabilities is assumed, free will is explained quite naturally. There are two alternatives: in one [of] Everett's world[s] I go to the right, in the other I go to the left. Both alternatives have non-zero probabilities. My consciousness modifies the probabilities, increasing the probability of the first alternative. As a result, with a high probability I go to the right. This is my free will.[62]

Here Mensky indicates that there is no explanation of this phenomenon outside of the EEC model. Suppose someone is approaching a fork in the road and either alternative will do as well to reach the intended destination. At this point the traveller has not decided which fork to take; we may consider him or her to be 'in two minds' about which way to go. This view of the situation actually corresponds to Albert and Loewer's 1988 'Many-Minds' interpretation of the quantum wavefunction, according to which our traveller will actually have 'two minds' that are within the overall quantum superposition of the situation.[63] When the traveller actually makes a decision as to which route to take, this process may be considered to be an imposition of a free-willed intention, which is an internal amplification of one of the quantum potentialities to a degree that a 'decision' has been made.

In Mensky's 'postcorrection' scenario, in which decisions are made towards future possibilities, this amplificatory process occurs, generally unconsciously (i.e. not in the realm of full-blown 'focused' conscious awareness), within the realm of the super-consciousness by employing the quantum 'look-ahead mechanism'. We see here that Mensky's notion of 'super-consciousness' in some contexts can be equated with the notion of 'sub-consciousness' in other contexts, both can employ the 'super-intuition' which resides "at the edge of consciousness." The mechanism involves the 'super/sub-consciousness' quantumly exploring future potentialities and then facilitating a 'post-corrective' weighting of quantum potentialities towards favourable future scenarios by consciousness in general.

According to Mensky this fundamental mechanism also underlies the process of evolution. Mensky writes in his '*Postcorrection*' paper:

> …we shall introduce the mathematical formulism describing the principle feature of living matter (of its consciousness): the ability to correct its state making use of the information (about the efficient way of survival) obtained from the future. It will be assumed that the evolution of living matter includes a [look-ahead] correction [mechanism] providing survival at distant moments. This correction leaves in the sphere of life only those scenarios of evolution which are favorable for life. Unfavorable scenarios do not disappear from the quantum reality but are outside the sphere of life… this correction (selection of favourable scenarios) is represented by the special mathematical operator which is called *postcorrection*.[64]

Mensky presents an analysis in quantum mechanical terminology, but this is not necessary for our purposes, interested readers can access the paper online. The essential point is that living beings can, generally unconsciously (Mensky suggests this is one reason for the importance of sleep), feel out the favourable future scenarios and then amplify the quantum probabilities of the current situation in order to orientate organisms towards favourable conditions for survival and the enhancement of quality of life. Furthermore, this process of the quantum look-ahead mechanism operates on a global scale within the process of evolution. The materialist notion that there is no purpose, meaning or teleology is shown to be a mistaken dogma.

Mensky's account of how the primordial 'Life-Operator' began its business of unfolding sentient organic life is illuminating:

> If the picture of the world as it appears in consciousness were far from classical, then, due to quantum non-locality, this would be a picture of a world with 'locally unpredictable' behaviour. The future of a restricted region in such a world would depend on events even in very distant regions. No strategy of surviving could be elaborated in such a world for a localised living being. Life (of the form we know) would be impossible. On the contrary, a (close to) classical state of the world is 'locally predictable'. The evolution of a restricted region of such a world essentially depends only on the events in this region or not too far from it. Influence of distant regions is negligible. Strategy of surviving can be elaborated in such a world for a localised living being.[65]

Life unfolds from the primordial nonlocal quantum field of potentiality. The fact of quantum nonlocality means that all distant regions of the primordial quantum field are instantaneously interconnected. If Life were to remain nonlocal then events in very distant regions would instantaneously effect all other regions, and this would produce a locally unpredictable world where individuated consciousness could not predict local events in order for organisms to survive. Therefore, Life must produce predictable local, or 'classical' regions, wherein events have a degree of local predictability.

Mensky indicates that the level of consciousness at which the process begins is:

> …the most primitive, or the most deep, level of consciousness, differing perceiving from not perceiving.[66]

This indicates that the first glimmers of the separations within the nonlocal quantum field take

place through the operation of deep internal levels of the process of internal quantum perception. An important feature of this perspective is that originally the 'Alterverse' was entirely non-separated but contained all potentialities as 'possible worlds' awaiting unfoldment. In this state the field of potentiality is entirely 'nonlocal', which means that all points, irrespective of distance, are quantumly entangled. In this state, or a state close to this state of universal instantaneous interpenetration and interrelationship, an event anywhere in the field will have effects all over the field and, because of this, the world is "locally unpredictable." Classical level life could not function unless the nonlocal quantum 'Alterverse' starts to get 'local' through a separation of alternatives, which creates "locally predicable," or "locally stable," worlds of experience. Within such locally stable 'classical' regions: "the restricted region of such a world depends only on its state inside this region," rather than being determined by quantum fluctuations on the other side of the universe:

> It is only in [a] locally stable (therefore classical) world that the future can be predicted with relatively good reliability and … consciousness separates the quantum world into its classical counterparts (alternatives) because (the only known for us) local form of life is feasible only in classical worlds.[67]

So, because of this situation consciousness must create a 'stable' 'classical' world which it can inhabit. Mensky gives the following image:

> There is an image that illustrates the splitting of consciousness between alternative classical realities: the blinkers put on a horse, such that it cannot look sideward and [so] retains the direction of motion. In precisely the same way, … consciousness puts on … blinkers, places 'partitions' between different classical realities in order that each 'component' of … consciousness would only see one of them and make decisions in accordance with the information coming from only one classical (and hence relatively stable and predictable, i.e., livable) world.[68]

The Alterverse, then, separates the 'parallel worlds' in order to produce perceiving sentient beings within a classically stable world.

This process of unfoldment of potentialities begins when primordial consciousness begins a process of internal perception which starts the process of separation and thereby begins the process of the evolutionary unfoldment of organic sentient life of various forms and degrees. Mensky's account indicates how a deep internal 'pressure' due to primordial consciousness, Mensky's "Life-Principle," selects the structures conforming to a stable material world and the contained organic structures of sentience from the wealth of quantum possibility. This provides a view of evolution as an essentially quantum process which begins with the operation of the interior quantum cognition operating within the field of quantum potentialities.

The starting point, at the very base of the hierarchical cascade of what physicist David Bohm called quantum 'implicate orders' into material manifestation, is the glimmer of the division into perceiver and perceived. Subsequently this process produces increasingly 'materialized' organic structures embodying 'focused', 'separated' and individuated consciousness. This perspective is clearly suggested by Mensky's account of morphogenesis:

> There is one more unsolved problem in biology that also could obtain its explanation in EEC. This is the problem of morphogenesis. How an embryo is constructed starting from a single cell? Where is [the] plan of the process of constructing it, step by step, or how [is] constructing … controlled and directed? …consciousness (the primitive-level consciousness, or ability to somehow perceive, which is connected with a living being from the very beginning) periodically addresses to the quantum world as a whole, compare[s] various scenarios of constructing embryo (various 'building plans') and then, returning to the usual state, increase[s] probabilities of those scenarios that lead to the right construction. Of course, this is only a sketch of a possible explanation of the phenomenon, its main idea.[69]

This is a stunning insight into how the process of Life generates itself from quantum potentiality using the quantum 'look ahead' mechanism. The various possibilities for organic life 'exist' as quantum potentialities within the 'Alterverse'. The internal pressure of consciousness which is organizing the quantum potentialities into organic structures, structures capable of channelling the ground energy-awareness into the embodied individuated consciousness of sentient beings, is able to 'feel' its way ahead by addressing the "quantum world as a whole." The morphogenetic structures are already within the quantum ground as potentialities, they need to be actualised through being manifested into more 'explicate', 'solidified' or materialised versions.

Individuated consciousness, however, also maintains a fundamental connection to the universal background awareness of quantum potentialities for the future, the 'parallel worlds' of the 'Alterverse'. The brain acts as a kind of filter which sometimes allows deeper levels of consciousness to individuate into the 'separated' dualistic realm of experience:

> The brain is used by … consciousness to control the body and obtain information about its state (and, through its perception, about the state of the environment). In other words, the brain (or rather some regions in it) is the part of the body which realizes its contact with ... consciousness, it is an interface between the consciousness and the body as a whole. In particular, when it is necessary the brain forms the queries that should be answered. Sometimes these queries are answered by the brain itself with the help of the processes of the type of calculations and logical operations. Other queries cannot be solved directly in the brain and are solved by the consciousness with the help of "direct sighting of truth."[70]

In other words sometimes the brain, with individuated consciousness, can figure out solutions with its own resources, so to speak, but on other occasions it needs to tap into deeper levels of awareness:

> …unconscious [super-conscious] states of mind allows one to take information "from other alternatives" that reveals itself as unexpected insights, or direct vision of the truth.[71]

Such a mechanism underlies the phenomenon of precognitive dreams, for example.

Another dramatic consequence that Mensky derives from his analysis of quantum reality is the existence of 'probabilistic miracles':

> Probabilistic miracles essentially differ from "absolute" miracles that happen in fairy tales. The difference is that the event realized as a probabilistic miracle (i.e. "by the force of consciousness") may in principle happen in a quite natural way, although with a very small probability. This small but nonzero probability is very important. Particularly, because of the fundamental character of probabilistic predictions in quantum mechanics, it is in principle impossible to prove or disprove the unnatural (miraculous) character of the happening.[72]

In other words consciousness can in some circumstances amplify quantum potentialities which have small probabilities so that they, seemingly miraculously, become actualized. The important point that Mensky makes is that, although such events may appear to be 'supernatural', they are in fact entirely natural because they are the result of the quantum 'postcorrective' capacity of consciousness. An example of this is cases of individual or group prayer which may lead to a healing which appears miraculous. According to Mensky such events are not "unnatural" because there is a quantum probability for the apparent miracle to occur. This probability can be amplified by certain activities such as prayer.

In summary Mensky identifies the following aspects, or levels, of the functioning of the quantum postcorrection mechanism:

Life – the internal pressure of primordial consciousness acting through quantum potentialities which motivates and drives the evolution of the apparently material world and the organic beings contained within it.

Survival – the natural unconscious operation of postcorrection in the survival processes of species and individual animals. The 'postcorrection' mechanism involves the ability of consciousness employ a defocused 'super-consciousness' or 'sub-consciousness' to 'look-ahead' at future quantum potentialities and then alter current probabilities in order to steer towards favorable quantum scenarios.

Support of health – unconscious operation of postcorrection in determining the quality of health for an individual organism.

Free will – conscious operation of postcorrection in determining the quality of life and life environment for an individual organism. The use of intentionality in the decision making processes.

Control of appearing reality (probabilistic miracle) – postcorrection relating to objects external to the body. This is the ability of some people to seemingly cause events in their environments which have low, although non-zero, probabilities.

Super-intuitional insights – insights, foresights and "direct sighting of truth" from the "edge of consciousness," due to the operation of the 'super-consciousness' or 'sub-consciousness'. Which of the terms is employed depends upon context.

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(*Continued on Part II*)