

# The Quantum New Age

*Quantum Prophets, Nay-Sayers &  
Quantum Conspiracies*

# The Quantum New Age

## **Introduction**

The motivating concerns for this book are several, and the areas of concern, which lie within the field of quantum philosophy / metaphysics and implications for understanding spiritual worldviews, are interlocking. In simplest terms it is the aim of this book to expose two false intellectual agendas of deception, within the realm of quantum philosophy / spirituality, current today and, by means of distilling the truth latent in each side of the deceptive narratives and bringing truth to a middle ground which is clearly defensible on the basis of evidence and analysis, clearly present what can definitely be said concerning the ultimate nature of reality, its ultimate immaterial nature and the primacy of consciousness within the process of reality. Both of these conclusions are clearly shown by the modern discoveries in quantum physics, discoveries which map easily into spiritual worldviews such as authentic Buddhist spiritual metaphysics.

But the truth of these revelations are weakened by the two deceptive agendas, both of which seek to completely own the quantum philosophical territory for their own ego-based motives. The two deceptive worldviews are: firstly, that of the Quantum New-Age Prophets, who sometimes seem to have a side eye on lucrative profits, and secondly, that of the anti-quantum-mystical, consciousness-denying, quantum-materialist ('realist') nay-sayers, who stake academic reputation on their adoption of fraudulent modes of scientific philosophical practice, which they falsely deify as the ultimate procedures of 'real', 'hard-core', 'physical', 'science.' The latter antagonists regularly assert that what people think is 'consciousness', the internal clear, empty, luminous capacity of knowing, the foundational aspect of reality which allows life to function as life, does not exist in its own right. Whereas many Quantum New-Age Prophets seem to indicate that you will be able to walk through walls ("we are creators of our own reality"<sup>1</sup>) once you have read an adequate number of their books! As you may guess, neither of these is true.

One of the motivations for return to another bout of research and writing derives from my reading of several recent books by physicists and philosophers on the subject of quantum philosophy. It struck me that quantum physicists seem to be able to get away with quite absurd, easily debunked, claims without serious philosophical push back. Quantum New-Age Prophets generally have a harder time of it in mixed philosophical circles, so to speak. One example of an essentially unchallenged physicist presenting dubious claims as hard-core quantum metaphysics, is provided by Sean Carroll's promotion of the Many-Worlds quantum delusion, a delusion resorted to in order to attempt to uphold the equally delusional belief that consciousness does not exist. Along the way Carroll makes the claim that the idea that consciousness interacts in some way at the quantum level of reality, thereby producing a single experienced world for a sentient being, was horrifically vague, whereas his 'preferred' many-worlds vision, wherein each sentient being was constantly dividing into many copies of itself, was beautifully precise. It seemed to me that these two views both had exactly the same vagueness.

The claim that when consciousness performs a measurement it causes the quantum possibility-function ('wave function') to 'collapse', the 'collapse' referring to the way that the numerous possible outcomes which are contained in the quantum possibility-function are supposed to 'collapse' to just one experienced outcome when consciousness interacts with the quantum possibility-function (the von Neumann quantum interpretation) is, as Carroll says, not precise about exactly when the world becomes 'real' as one experienced outcome. But a similar vagueness also applies to the many-worlds view. Many worlds is imprecise about exactly when the vast field of quantum possibilities splits into different

worlds. There was absolutely no difference in physical exactitude, and any rational person should be able to see this. Shortly after musing over this, I read the book *The New Quantum Age: From Bell's Theorem to Quantum Computation and Teleportation* in which the author, the Professor of Physics Andrew Whitaker, makes exactly the same point:

...one of the main problems of Von Neumann's interpretation is that, because a 'measurement' cannot be defined in fundamental terms, it is not clear when a collapse should occur, exactly the same applies to world splitting.<sup>2</sup>

It is clear, however, that Carroll, presents his preferred many-worlds vision as being really more scientific, because, he claims, less vague, whereas the other, equally qualified physicist, sees no difference in the suitability of the two accounts.

At many points in Sean Carroll's recent book *Something Deeply Hidden* I came across deeply flawed claims, logical flaws which Carroll seems blissfully unaware of, and reviews of the book did not seem to pick them up either, although the physicist Peter Woit does call out some of the ludicrous promotion for the book<sup>3</sup>. Similar mistakes and absurdities are scattered over the various discussions on his YouTube channel *Mindscapes*, and generally they are not picked up and challenged. I use Carroll as an example here because, to be quite honest, it is a long time since I have come across someone with a serious scientific academic reputation purveying such utter nonsense with a straight face. I think the last such rampant transgressor of evidence, sense and logic was Richard Dawkins. I fully detail and defend my negative views concerning Carroll in the chapter devoted to his many-worlds of delusion, the chapter titled *MindScrapes* (as opposed to 'Mindscapes').

Such flaws, however, are by no means limited to Sean Carroll and his discussion partners. Philosophical and logical flaws (we are not referring to experimental details and mathematics here but subsequent conceptual analysis and description) are easily found more widely in the literature on quantum philosophy. And this especially applies where the subject concerns or involves consciousness. It seems that a great many physicists have a strange suspicion of, or even dislike, of consciousness, many think it is actually a non-existent illusion, some say they do not know what it is! A lot of physicists think that consciousness has no right to intrude into the matters of physics and, even though it certainly *appears to be the case* that consciousness does seem to be implicated in quantum matters, many physicists believe that stern and serious steps must be made to eliminate it. For example, Whitaker says of the attitude of the great physicist John Bell, who was determined to assassinate quantum consciousness and reinstate complete 'realism' in physics at all levels, that:

Thus Bell and Nauenberg reached the conclusion that quantum mechanics is, at best, incomplete and they looked forward to a new theory in which events may occur without requiring collapse caused by 'observation' by another system. Observation in a sense relates to the consciousness of the being carrying out the observation, and the authors raised the question of whether a consideration of consciousness may have to be dragged into physics. However, they expected that physics will have recovered a more objective description of nature long long before it begins to understand consciousness.<sup>4</sup>

There are a few worrying issues that this short passage raises: 1) there is clearly a preformed dogmatic assumption that consciousness should not be involved in quantum functioning, but what is the evidence or justification for this? 2) If consciousness is not yet understood by physics, how can there be a coherent demonstration of its lack of relevance for quantum physics? And: 3) is it actually true that no-one understands consciousness? There are many convincing reasons to question this dogma! These are the kind of issues that need to be pursued rigorously, as they will be during the course of the following explorations.

When, on the other hand, we turn to consider the works and worldview of the New Age Prophets we leave the world of stern, assumed ‘no-nonsense’, ‘hard-headed’, anti-spiritual modes of quantum materialism, to revel in the wild heady excess of exuberance of Quantum New-Age spiritual fantasies. This is not to say there is absolutely to truth to many New-Age claims. There is a great deal of truth here. But the problem is that the extent and nature of the truth revealed in quantum discoveries is often so exaggerated by New-Age pundits that the the truth can easily get obscured in a distorting cloak of overblown absurdity.

The recent book by the self appointed New Age Quantum Mystical Guru Paul Levy, *The Quantum Revelation: A Radical Synthesis of Science and Spirituality*, can be taken as a representative of the Quantum New Age worldview, as it has received such a wealth of praise form the New-Age community. This book, which has in some sections actually plagiarized my own work (actually cut and pasted - as fully documented in my chapter: *A Quantum of Plagiarism*), has been greeted by the New Age huckster Jean Houston with the praise that it is “one of the most fascinating, evocative, and important books that I have ever read.” But, as I show, in places in this book we find passages of ridiculous, perhaps childishly silly, exuberance, when Levy’s ‘creative imagination’ starts ‘running wild’. For example Levy tells us that:

When a physicist observes an elementary particle – which from the quantum point of view “causes” the particle to exist – it is as if the physicist is “dreaming up” the quantum entity in the same way that a dreamer dreams up their own dreamscape. At the same time (if we let our creative imagination run wild) it is as if the elementary particle is reciprocally dreaming, as it dreams up the physicist to observe it and hence, bestow upon it existence. The physicist and the subatomic particle are ... mutually dreaming each other up ...<sup>5</sup>

And this is written by a guy who claims that he is not one of the “New Age guru types (who) have jumped on the quantum band wagon.” It seems that anything is possible in the Quantum New Age!

But this kind of, almost infantile, intellectual indulgence, which virtually becomes a parody of itself, leads physicists with a rigorous set of mind to lose patience, with good reason. Thus the theoretical physicist Jean Bricmont writes of this kind of indulgence:

The mysterious character of quantum mechanics has led to numerous abuses, misinterpretations, speculations and extrapolations, perhaps more than any other scientific theory. It would take an encyclopedia to cover all of them ... We have seen the two “mysteries” of quantum mechanics concern the role of the observer and actions at a distance. A third alleged “novelty” supposedly introduced by quantum mechanics is the death of determinism. Almost all the abuses or invalid extrapolations of quantum mechanics rely on one or more of these ideas.<sup>6</sup>

Also, Bricmont writes that: the majority of physicists:

...do not accept the notion of a consciousness totally independent of the brain. Besides, even if one were to accept the idea that mind, independent of the body, intervenes in the collapse process, there is nothing whatsoever in quantum mechanics to suggest that our conscious choices affect the collapse of the wave function one way or another. So there is no reason to take seriously this sort of link between consciousness and quantum mechanics.<sup>7</sup>

And in this description Bricmont, who is a rabid anti-quantum-mystical activist, is being quite fair. He is not saying there is absolutely no evidence whatsoever for a connection between consciousness and quantum functioning, he is saying there is a tiny implication of connection, but, if we were to accept the efficacy of such a connection, there is no evidence

that consciousness can choose which possibility it wants to ‘collapse’ into reality, so to speak. There is no evidence that consciousness can choose at whim which quantum possibility it wants to bring into reality. And because there is not evidence of this sort, Bricmont claims that it makes no sense to take any kind of theory of a significant and deterministically-functioning consciousness interaction with quantum possibilities as a serious going concern.

In such a quantum evidential situation, Levy’s claim that physicists can be thought of, even if only metaphorically, as dreaming-up elementary particles by beaming intentional rays of consciousness at the quantum ground of possibilities, thus producing elementary particles which then in turn start dreaming-up the observing physicist is absurd, ludicrous, laughable, and destructive to serious discussion. Such ill considered Quantum New-Age absurdity is precisely why serious physicists and philosophers are unlikely to treat Quantum New Age Prophets with much in the way of credibility. And yet, a list of New-Age worthies have lauded Levy’s work as a “masterpiece,” and similar over-inflated praises. Jean Houston suggests that Levy’s book is worthy of being compared as a twentieth century Dante’s *Divine Comedy*. One can only say that in some sections it is certainly a kind of comedy, as well as plagiarism, but it is far from divine!

The reader may think that I have only arrived at such a negative view because Levy has plagiarized my work in some sections of his work. However, this is not the case, the work would certainly have these faults without the theft of my hard-won insights (which Levy has not fully understood). But, to be fair, I will say that for people with no background in this arena of science and philosophy, some of this book will be very informative, intriguing and thought provoking. If Levy had restrained his hyperbole, his fantasy, his apparent lust for New-Age fame, and tendency for intellectual fraud, it could have been a very good book.

The theft of intellectual precedence, and it is theft of significant work leading to genuine new insights on my part as I shall show later, is irritating. But, beyond this, the fact of the casual plagiarism is indicative of the deeper fact that Levy’s intentions seem to be more about intellectual showing off to the Quantum New Age community, than it is about serious research and understanding. Serious research and understanding is concerned with presenting carefully considered and carefully presented evidence and arguments, carefully marshalled evidence and arguments which can be taken seriously by intellectual opponents, rather than flinging together silly metaphors which will make serious scholars in the field simply dismiss the claims made, because of their absurdity. The fact that so many New Age Prophets and pundits think that Levy’s work is a masterpiece that must have been mystically channelled from an ascended master of the most elevated wisdom, and the fact that none of the overawed reviewers I contacted, to point out the plagiarism, thought it worth replying to me, does not paint the Quantum New-Age Movement in a very attractive aura!

So, this is the situation in this scientific-philosophic arena of research, exploration and discourse. There are two apparently widely separately worldviews, both adopting extreme positions, positions which can be shown to be based on false assumptions, false presuppositions and dogmas, faulty reasoning, misrepresentation of evidence due to personal preferences, misunderstandings of the evidence, overblown statements, and so on. But by shifting and winnowing through the evidence presented and claims made by both sides, it is possible to reach a middle ground of truth which indicates that the process of reality does have a source in an immaterial realm of potentiality, and that the material world is constructed over vast time periods, constructed by a deep level of primordial awareness operating through quantum potentialities. Each sentient being embodies, to various degrees, a glimmer of primordial awareness as individuated consciousness, and there are ‘spiritual’ techniques for aligning human consciousness with deep levels of primordial awareness.

There are, also, people, who, on the basis of limited spiritual attainment within the context of this spiritual worldview, consider themselves to be, and set themselves up as, spiritual teachers. And, it seems that often such people operate, to various degrees, more like spiritual fraudsters, using this knowledge for their own purposes and advancement!

# 1. Unmasking The Anti-Quantum Mystical Activist Agenda & Thought Police

**D**uring the course of our investigations we shall meet a few Quantum New Age Prophets. We shall also meet their opponents, the anti- ‘quantum mysticism’, pro- various forms of supposedly non-mystical, no-nonsense quantum ‘interpretations.’ As we shall discover, although it is the case that New Age Prophets are regularly, and in many cases rightly, lambasted with ridicule because of their tendency for vagueness, imprecision, and cosmic inflation of quantum evidence into infantile fantasy, seldom is it the case that the anti-quantum-mystical materialist activist naysayers are also taken to task for sometimes equally absurd, yet not so *obviously* absurd, claims and stories. The veneer of scientific and academic respectability that has always adhered to scientists has become even more protective now that quantum theory has rendered the details of scientific knowledge at this level so technical, recondite and abstruse. So much is this the case that one can find, as will be demonstrated in this book, the most absurd scientific and philosophical claims, made by anti-quantum-mystical activist nay-saying physicists, which pass unnoticed simply because very few people have the scientific or philosophical awareness to spot , uncover and reveal them.

Richard Conn Henry, is an Academy Professor of Physics and Astronomy at Johns Hopkins University, and he is not an anti-quantum-mysticism activist. In his review of a fairly recent important book on the evidence for the possible interconnection between quantum physics and consciousness - *Quantum Enigma: Physics Encounters Consciousness* by Bruce Rosenblum and Fred Kuttner - he writes the following:

In his Gifford lectures, very shortly after the 1925 discovery of quantum mechanics, Arthur Stanley Eddington (who immediately quantum mechanics was discovered realized that this meant that the universe was purely mental, and that indeed there was no such thing as “physical”) said “it is difficult for the matter-of-fact physicist to accept the view that the substratum of everything is of mental character.” What an understatement! On this fundamental topic, physicists are mostly terrified wimps. And what are these “terrors” that prevent the acceptance of the obvious? I think it is a combination of the fear of being ridiculed, plus the fear of the religious implications. Does that sound familiar?<sup>8</sup>

Here we meet the the offending quantum intruder into the scientific club that seemed, at least to hardened materialist scientists, to have arisen its ugly head, so to speak, into the pristine clean lineaments of the purely and pure material world - MIND!!!!!! Ahhhrrrrrr!!!! And such a mental viewpoint(!) was actually proposed by Arthur Stanley Eddington, an English astronomer, physicist, mathematician and Fellow of the Royal Society.

The floodgates were now open, of course, for all kinds of crackpots to jump on the quantum gravy train, and hard-core materialist counter-measures were necessary, whatever the

evidence might be! From this point on there was a deep uneasy undercurrent of distaste amongst committed materialist scientists, which led to a tendency to ridicule any attempt, even if very tentative, sober and restrained, to treat consciousness as a valid aspect of quantum discoveries. Whatever evidence emerged *must* be shoehorned into a materialist account, however implausible it might be. Anything is preferable to letting the dark spectre of consciousness, be it universal, human, bat or earthworm consciousness, into the arena of fundamental science.

The Quantum Zeno Effect is an example of a quantum phenomena which seems, without significant convoluted and distorted re-interpretation, to indicate that consciousness has some kind of causal impact at the quantum level. In this effect a quantum system which involves a manifested quantum ‘particle’ which, in the absence of some kind of conscious observing intervention would delocalize and spread out as an immaterial field of quantum potentiality, is stopped from delocalizing by a conscious decision to hold the ‘particle’ in place by continuous ‘observation’. The rapid continuous stream of observations ‘holds’ the particle in place, and prevents it fading back into the quantum field of potentiality.

In order to make this clearer, we can look, in an extremely simplified manner, at the connection between the quantum level and the everyday ‘classical’ level that we actually experience as follows. The following account is according to the version of quantum theory that takes the view that in some way consciousness interacts with the quantum world in a significant way to produce a stable experiential world (Von Neumann–Wigner interpretation). Prior to any measurement-type interaction with the underlying quantum field, there are no manifested particles within the field. The field is a field of potentiality for the existence of particles. Particles kind of semi-exist, they hover between existence and non-existence, in a quantum field of potentiality. Another way of looking at this situation is to say that the potentiality for the existence of the particle is spread out over the entire field, and each point in the field has an associated value which indicates the probability that the particle will manifest at this point. This does not mean that the particle is at this particular point but we do not know it. The particle is ‘smeared out’ as a potential existence over the entire quantum field. But, when a conscious decision is made to make a measurement, the particle will appear at some point in space. Subsequently, if a rapid series of measurements on the particle is made at that point, through a choice made by consciousness, the particle will stay fixed at the point of measurement. Thus, seen in this light, consciousness can manifest and hold in place a quantum particle, stopping it fading back into quantum semi-existence. This is the Quantum Zeno Effect.

A 2015 report on such an experiment - *‘Zeno effect verified—atoms won't move while you watch’* reported (the term ‘tunneling’ here refers to the delocalization process in this report) that:

The researchers observed the atoms under a microscope by illuminating them with a separate imaging laser. A light microscope can't see individual atoms, but the imaging laser causes them to fluoresce, and the microscope captured the flashes of light. When the imaging laser was off, or turned on only dimly, the atoms tunneled freely. But as the imaging beam was made brighter and measurements made more frequently, the tunneling reduced dramatically.<sup>9</sup>

Given the implication that consciousness directly manifests ‘particles’ from out of the quantum field of potentiality, this is dramatic stuff. In his review of the *Quantum Enigma* book Conn Henry writes that:

“Quantum Enigma” only mentions the quantum Zeno effect in passing, which surprises me. Despite their timidity, it is quite clear that our shivering authors know darned well that mind is central— and nothing shows the truth of that more clearly than does the quantum Zeno effect.<sup>10</sup>

It is indeed the case that the conclusion that consciousness is in some way intervening at the quantum level is the most natural, but, as we shall see later, there are efforts to produce convoluted accounts which remove consciousness from the picture. There are other quantum effects which have a similar consciousness-connected profile. And there are valiant efforts being made by the anti-quantum-mystical activist nay-saying physicist brigade to expunge consciousness from the picture.

As we shall see shortly, Richard Conn Henry's accusation that the authors of *Quantum Enigma* are themselves 'wimps' who are terrified of ridicule by their scientific colleagues, and who wish to avoid any association with religious implications is well founded. Indeed we shall discover several examples of physicists who have made mystical-sounding claims on the basis of quantum discoveries, *at the same time as saying they were not really saying anything mystical and anyone who did make mystical claims on the basis of quantum discoveries must be a thoroughly unscientific scoundrel!* The much admired great twentieth century physicist John Wheeler, coiner of the term 'black-hole', was a master of such quantum mystical double dealing.

Such metaphysical obfuscation and double-dealing was actually built into the very metaphysical foundations of quantum physics by the early quantum physicists, and perhaps the principle culprit in this quantum obfuscation was the great founding father of founding fathers of quantum theory Neils Bohr, who managed to cement a kind of Wittgensteinian 'Whereof one cannot speak thereof one must be silent' perspective into the foundations of quantum theory. This became known as the Copenhagen interpretation of quantum theory. In a lecture given at the 1928 International Physics Conference at Lake Como Bohr outlined this view as follows:

Now the quantum postulate implies that any observation of atomic phenomena will involve an interaction with the agency of observation not to be neglected. Accordingly, an independent reality in the ordinary physical sense can neither be ascribed to the phenomena nor to the agencies of observation.<sup>11</sup>

To cut a longer story short for the purposes of this opening chapter, by this move Bohr attempted to cover over the mental-material issue for the quantum realm by moving it into the realm of the unsayable, the realm of the inscrutable, so to speak. Furthermore, and important feature of this inscrutable formulation, it is important to note the assertion that there is no separate "independent reality in the ordinary physical sense," to either side of the interaction between observer and observed. The qualifying, and perhaps equally mystifying, phrase "in the ordinary sense," is an issue not often, if at all, noted!

However, this attempt at metaphysical placation and pacification by means of obfuscation failed. Because of the fact that 'reality', in Bohr's depiction, is conferred by measurement, and measurement, in its usual connotation requires subjectivity, Bohr's attempt to bridge over objectivity and subjectivity inevitably reeked of subjectivity. The unspeakable dark spectre of quantum mind hovered threateningly over the quantum unsayable. And, perhaps worse still, the mystical taint of the East was knocking at the back door of Bohr's quantum inscrutability. As Bohr himself wrote:

For a parallel to the lesson of atomic theory regarding the limited applicability of such customary idealisations we must in fact turn ... even to that kind of epistemological problems with which already thinkers like Buddha and Lao Tzu have been confronted, when trying to harmonize our position as spectators and actors in the great drama of existence.<sup>12</sup>

A robust response from the anti-quantum-mystical materialist activist naysayers was definitely called for!

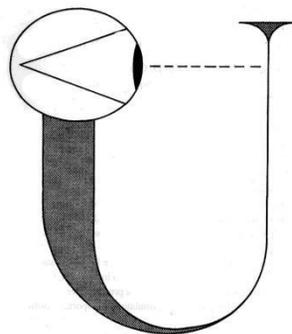
We shall look at the responses and debates in the history of quantum theory in later chapters. Suffice it to say for the moment that such an apparent subjectivist and mystical perspective, or the threat of such a perspective, involving the notion that consciousness is in some way a major and significant aspect of reality, perhaps even a creative part of reality, has been viewed in some hardened, resilient and heroically materialist quarters with contempt. And sometimes the intellectually fraudulent methods employed to achieve an intellectual assassination of one of the most crucial features of existence would be laughable if it were not for the fact that, as far as I know, there is no serious academic push-back against the intellectual fraud that is involved.

Here is a foremost anti-quantum-mystical materialist physicist activist naysayer, Sean Carroll, in magnificent consciousness-denigration intellectual fraud glory:

Consciousness, in particular, has nothing to do with it. The “observer” could be an earthworm, a microscope, or a rock.<sup>13</sup>

As we shall see, Carroll is walking in the footsteps of the famous twentieth century physicist John Wheeler here. Now the first thing one might note is that Carroll seems to think that earthworms have absolutely no glimmer of consciousness. I myself think they have a tiny, tiny, probably virtually insignificant, but still there, glimmer of consciousness, unlike a rock (I am not a supporter of panpsychism). This is a minor point. The more important point is the fact that Carroll seems quite happy to redefine words to suit his worldview, a worldview not supported by any evidence whatsoever. Carroll has simply decided as a matter of dogmatic preference that consciousness *must* be irrelevant, therefore it *is* irrelevant, and therefore it *must be the case* that rocks and microscopes automatically *observe* and perform measurements on quantum systems. Consciousness is not required for observation, because I do not want it to be. Carroll does not present any evidence or logical reasoning for his assertion. A quantum leap of intellectual fraud, and, furthermore, kind of unscientific?

This kind loose and fraudulent slipping and sliding of evidential requirements and definitions, in the arena of quantum philosophy, can be traced back to the great John Wheeler, who, in his book *Geons, Black Holes & Quantum Foam: A Life in Physics* [GBHQF], presents his ‘Wheeler U’ diagram:



The Wheeler U

My diagram of a big U (for universe) attempts to illustrate this idea. The upper right end of the U represents the Big Bang, when it all started. Moving along down the thin right and up along the thick left leg of the U symbolically traces the evolution of the universe, from small to large - time for life and mind to develop. At the upper left of the U sits, finally, the eye of the observer. By

looking back, by observing what happened in the earliest days of the universe, we give reality to those days.<sup>14</sup>

How wonderful, how poetic! Consciousness creates reality by observation backwards in time. What a beautiful mind, a quantum mystical poetic genius Wheeler must be! But in the very next paragraph Wheeler takes it all back:

The eye could as well be a piece of mica. It need not be part of an intelligent being. The point is that the universe is a grand synthesis, putting itself together all the time as a whole. Its history is not a history as we usually conceive history. It is not one thing happening after another after another. It is a totality in which what happens “now” gives reality to what happened “then,” perhaps even determines what happens then.<sup>15</sup>

These two perspectives are not equivalent. In the first depiction, a quantum psychometaphysical account reiterated later, in a chapter titled **Choosing Our Universe**, by Stephen Hawking & Leonard Mlodinow in their book *The Grand Design* (see later!), consciousness is a creative force acting backwards in time ‘choosing’ which quantum potentialities become manifest. The second, cancelling-out, account is imprecise and non-committal. One can sense the grim spectre of the anti-quantum-consciousness scientific-academic thought police weighing on Wheeler’s mind. In fact Wheeler indicates the truth of this a few pages later:

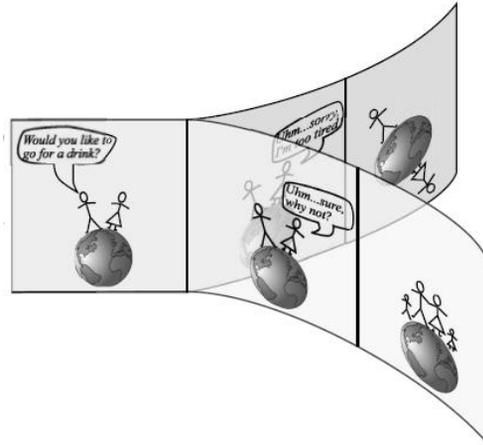
In these later years, I have dared to think about and write about and ask about the physical world in terms that some of my colleagues consider outside the scope of science - science as it is now accepted, defined, and practised. Is the universe a self-excited circuit, made real by observation?<sup>16</sup>

Wheeler’s autobiography was published in 1998, but the prevalence of the anti-quantum-mystical activist nay-saying worldview is demonstrated by the recent set of books by physicists and science writers imbued with this perspective, there are recent examples by Adam Becker, Lee Smolin, Sean Carroll and others.

The two most popular quantum worldviews embraced by the anti-quantum-mystical naysayers are:

1) The epicyclic mystical-material Bohmian Non-Local Mechanics, wherein the troubling features of the quantum world are mathematically crowbarred into the everyday world. This renders our familiar bread and butter reality troubling beyond belief. This is because any slight movement anywhere in the universe may cause parts of the universe infinite distances away to instantaneously move in cosmic sympathy. Moving our bread and butter might have cosmic consequences. I use the epithet ‘epicyclic’ to indicate that this ‘interpretation’ is analogous to Copernican epicycles in the sense that it introduces absurd complication in order to avoid a simpler more natural conclusion, a conclusion which is disliked for political, religious or fashion reasons.<sup>17</sup>

2) The infinitely dubious and absurd profligacy of the ‘Many-Worlds’ mystical fantasy, wherein at every moment in time every being is rent into infinite copies of itself, quickly, of course, becoming unrecognisable to itself, even though they cannot know this as, although they are the ‘same’ person, they have absolutely no possible way to know the infinite other unrecognisable ‘same’ persons’ in slightly or very different universes. As anyone with two brain-cells to rub together inhabiting a sane universe would figure out, this view renders the notion of ‘sameness’ highly problematic.



Max Tegmark's cartoon of the Many Worlds fantasy

The quantum joke, as my descriptions adumbrate, is that neither of these two perspectives are any less mysterious, perhaps they are much more strange, than a precise, detailed and fully elucidated quantum spiritual perspective which takes into account all the facts and performs a rigorous logical analysis of the kind of worldview those facts entail. The result, as we shall see, can only be a minimalist spiritual worldview (which may be expanded with non-scientific considerations) which is in line with a primarily Buddhist-type view that the primary driving force of the process of reality is a deep level of primordial consciousness which actualizes quantum potentialities in order to explore its own nature and qualities. This exploration of the qualities and potentialities of the ground field awareness takes place through experience in the dualistic world inhabited by 'sentient beings', embodied beings with localised fields of consciousness. The worldview we shall distil from the extraordinary discoveries of quantum physics, together with insights from philosophy both East and West, is one that can be coherently elucidated and defended on the basis of both evidence and logical analysis. In the course of our exploration we shall both avoid and deflate some the absurd excesses of the seemingly fame and profit driven quantum new age prophets, and also expose the deceits and intellectual calumnies of the quantum materialist reactionary naysayers for what they are, products of delusional defenders of an essentially intellectually corrupt anti-spiritual academic establishment. The path necessarily taken in the following exploration is a 'middle path'.

A useful jumping off point for our exploration of the polarization between enthusiastic New-Age Quantum Mystics and, at the opposite extreme, the hard-core anti- quantum-consciousness 'materialist' activist naysayers is provided by a 'debate' between, on the one side, the New Age prophets Deepak Chopra and Jean Houston, and on the other, the materialist activist-naysayers Sam Harris and Michael Shermer. The prolific author Deepak Chopra is amongst the foremost of the Quantum New Age Prophets, and the slightly less prolific Jean Houston is not far behind, both have a significant following and they regularly turn up to pontificate at conferences such as the Science and Non-Duality Conference, where their interlocutors and audience are, of course, not as problematic for them as Harris and Shermer and their followers. It seems that most of the audience in the hall for the putatively intellectual gladiatorial contest were supporters of the materialist-activist camp, they gleefully clapped, laughed and whooped as the anti-quantum-mystical thrusts drew metaphorical blood.

There is an instructive and very significant interchange between Chopra and Harris/Shermer from this debate which can be found on YouTube<sup>18</sup>. This dismal episode of intellectual jousting has been titled by the YouTube uploader, "Deepak Chopra destroyed by himself," which is a reasonable description. Sam Harris begins by attempting to set up the

parameters of what turns out to be a pugilistic and rather one-sided intellectual gladiatorial contest by indicating that he wants the discussion to only concern a rather simplistic childish fundamentalist view of God as being a Creator Being who fashions the Universe with his bare hands, so to speak, and, because of this, he will have no truck with talk of quantum physics and quantum information theory or any such stuff. Chopra refuses to comply with Harris' requirement and ill-advisedly declares that "Science is now in a process of overthrowing the climactic overthrow of the superstition of materialism." In terms of our gladiatorial metaphor, making such a ludicrous statement amounts to taking one's own sword and plunging it into one's own heart. The impact on Chopra's credibility is fatal.

This is not to say that the other side does not say some questionable things, it's just that they are not so obviously idiotic. After all, "overthrowing the climactic overthrow of the superstition" would surely leave one back with the original superstition, a completely pointless exercise. And it is quite clear that Chopra, in his impassioned and undisciplined lack of due attention to his words, has simply sabotaged his own statement; for he obviously meant to say that science was in the process of overthrowing the superstition of materialism. As we have briefly seen, there is actually a great deal of evidence for the claim that consciousness plays a significant role in the unfolding of immaterial quantum potentials into material manifestation, and, as we shall further see, *there are quite a few significant quantum physicists who present such a view*. But it is exactly the lack of care and attention to language, lack of care and attention to the extent and significance of evidence, lack of care and attention for the required and appropriate detail and careful logical exposition, it is the flouting of the necessity of adherence to these intellectual necessities, a lack of care and attention demonstrated by Chopra and others in his New Age camp in debates such as this, and their books, which seriously undermines progress and understanding in this intellectual arena of research. So much so that perhaps it might be said that they are standing in the way of serious progress in the field of the relationship between science and spirituality.

The Quantum New-Age discourse often seriously undermines its own case precisely because of the lack of serious rigour, and the often overblown, sometimes to the point of absurdity, claims made within the works of New Age Prophets. In his next sentence Chopra states that "everything we call matter comes from something that is not material; the essential nature of the physical world is that it is not physical, that the essential stuff of the universe is non-stuff." And this is an assertion that, handled with care and precision, can be easily defended. But as it stands, in the midst of quite overblown and imprecise claims, it simply sounds, for many non-scientists, non-philosophers and materialism-based science zealots, like overblown New-Age nonsense, especially if opponents decide to misrepresent what is being said. By 'stuff' Chopra means material 'stuff', of course, but it is quite possible for unscrupulous opponents to assert the universe is made of quantum 'stuff'. Indeed, Michael Shermer asserts at some point that Chopra's statements are "the very embodiment of 'woowoo', a common insult used by the anti-quantum-mystic activist brigade. 'Woowoo', Shermer states, is the:

The stringing together at a rapid patter a bunch of scientific sounding words sprinkled together with some spiritual New-Age words, which doesn't mean anything!

In other words, Shermer is saying that it is the entire string of statements taken together which produce what he calls "woowoo." And the problem is that, even to someone perhaps sympathetic to Chopra's point of view, Chopra does seem often hopelessly vague, imprecise, perhaps grandiose and out of his depth. But, to be fair, it needs to be said that Chopra, in lectures and discussions, is not always as inept as he appears to be in this particular episode, but he generally does come across as being somewhat over the top and self-inflationary.

At some point in this ill-tempered antagonistic discussion, Harris goads Chopra by saying that Chopra *is not a physicist* and therefore his views have no significance. Now, someone with in-depth knowledge and command of the facts of the issues and debates in the field of quantum physics and metaphysics should at this point should have countered Harris' intellectual low-blow and irrelevant insult (there are plenty of scientifically literate non-physicist philosophers who effectively discuss and comment on quantum metaphysics) by pointing out that many physicists have come to similar conclusions as he is proposing, rather than listing his academic attainments. The smirk on Harris' face at this point is interesting to see. Chopra has taken the bait, and Harris revels in the knowledge that he has prompted Chopra to dig his own intellectual grave. Harris is a very clever, if sometimes underhanded, intellectual gladiator!

If Chopra had been more on the ball, he might have pointed out that Max Planck, who definitely was a physicist, in fact the inadvertent founder of quantum physics, stated towards the end of his life that:

As a man who has devoted his whole life to the most clear-headed science, to the study of matter, I can tell you as a result of my research about the atoms this much: There is no matter as such! All matter originates and exists only by virtue of a force which brings the particles of an atom to vibration and holds this most minute solar system of the atom together. . . . We must assume behind this force the existence of a conscious and intelligent Mind. This Mind is the matrix of all matter.<sup>19</sup>

And Planck also stated that:

I regard consciousness as fundamental. I regard Matter as derivative from Consciousness.<sup>20</sup>

And perhaps for good measure, someone knowledgeable in the field, and knowledgeable concerning Harris' intellectual bullying tactics, might have reminded themselves, before entering the intellectual fray, of some of the semi-mystical statements made by the great twentieth century physicist John Wheeler:

The universe does not 'exist, out there,' independent of all acts of observation. Instead, it is in some strange sense a participatory universe.<sup>21</sup>

And, speaking in April 2003 to the American Physical Society, Wheeler made the following remarkable sequence of observations:

The Question is what is the Question?  
Is it all a Magic Show?  
Is Reality an Illusion?  
What is the framework of the Machine?  
Darwin's Puzzle: Natural Selection?  
Where does Space-Time come from?  
Is there any answer except that it comes from consciousness?  
What is Out There?  
T'is Ourselves?  
Or, is IT all just a Magic Show?<sup>22</sup>

These are by no means the only statements, made by fully accredited and paid up physicists, which support some kind of version of Chopra's perspective, sometimes, but not always, in a more precise fashion. There are quite a few such *physicists* (take note Sam Harris) one can point to as endorsing such a view. Physicists who have made such or similar claims, in various degrees of clarity and emphasis, include: Max Planck, Werner Heisenberg, Erwin Schrödinger, John Wheeler, Eugene Wigner, Henry Stapp, Bernard D'Espagnat, David Bohm, Roger Penrose, Andrei Linde, Vlatko Vedral, Euan J. Squires, to name a few, their views will be fully covered in this book.

Bruce Rosenblum and Fred Kuttner, are both respectable physicists who have worked in industry, and they have explicitly written their book *Quantum Enigma: Physics Encounters Consciousness* in order to counter the excesses they claim that Quantum New Age gurus promote. In their important work they write that:

... we argue that it is a social responsibility of the physics community to openly present physics' mysterious encounter with consciousness, the quantum enigma. Only by so doing can we challenge the purveyors of pseudoscience who use the mysteries of quantum mechanics to promote their quantum nonsense.<sup>23</sup>

Rosenblum and Kuttner, who, to reiterate, are both fully qualified and practising *physicists*, set out to counter and debunk “the purveyors of pseudoscience who use the mysteries of quantum mechanics to promote their quantum nonsense,” and yet they clearly state that the evidence of quantum physics requires us to accept that:

The physical reality of an object depends on how you choose to look at it. Physics had encountered consciousness but did not yet realize it.<sup>24</sup>

And:

There is no way to interpret quantum theory without in some way addressing consciousness.<sup>25</sup>

And:

...physics' encounter with consciousness, demonstrated for the small, applies to everything. And that 'everything' can include the entire Universe.<sup>26</sup>

It is important to be completely clear about the claims here. According to R&K, quantum physics has shown, experimentally, without doubt, that **consciousness has a significant role in “the entire Universe.”** Furthermore, R&K also assert that there are a bunch of pseudo-scientists, and clearly their targets are the New Age Prophets such as Chopra, who “use the mysteries of quantum mechanics to promote their quantum nonsense.” So, given these expressed views, we would surely be right to think that R&K can draw the limits correctly as to what exactly is not “quantum nonsense” when we address the issue of the significance of consciousness within quantum theory, especially as they tell us that this connection between physics and consciousness includes “the entire Universe.” It has to be said that, at least superficially, this sounds a bit similar to what Deepak Chopra was saying, although admittedly Chopra did so in a inept manner.

So perhaps we should look to R&K for a more sober and really scientific elucidation of the connection between quantum physics and consciousness, a connection which they assert does definitely exist, even to the extent of applying to “the entire Universe” (and they really are *physicists*). According to R&K quantum physics:

hints at the existence of something beyond what we usually consider physics – beyond what we usually consider the ‘physical world.’ *But that’s the extent of it!* Physics can certainly suggest directions for speculation. We should, however, be careful – in dealing with the mysteries of quantum mechanisms, we walk the edge of a slippery slope.<sup>27</sup>

And the slippery slope, R&K say, is exemplified by the excruciating New Age film *What the Bleep Do We Know*, ‘with its implication of a quantum connection with the channelling of a 35,000 year old Atlantis god named Ramtha and other such nonsense.’<sup>28</sup> So, rather than giving any kind of possible alternative ‘quantum consciousness’ viewpoint, or even a suggestion of what a starting point of for a correct ‘scientific’ connection between consciousness and quantum phenomena might be, R&K resolutely refuse to do so. Instead they simply cite a particular example of what does not match up to their expectations.

It has to be said that the film *What the Bleep Do We Know* is an embarrassingly bad film which is laced with every bad aspect of New Age hysteria in cosmic proportions. One internet reviewer characterizes it as follows:

What the Bleep Do We Know?" is a trendy new movie that combines the worst elements of a snooze-worthy PBS documentary, a "change your mind, change your life" self-help book, and a Bugs Bunny cartoon on acid. The result is an embarrassment to science, spirituality, and the craft of filmmaking itself. Those who consider themselves "spiritual but not religious" should be appalled that their name is being taken in vain by the directors. Now I don't have an automatic prejudice against 35,000-year-old warriors from Atlantis or the women who channel them. I'm always up for a good New Age flick, even one masquerading as a documentary. The film's central point--that reality is a construct of our own brains--seems rife with intriguing cinematic possibilities. But I start to choke on my \$8 popcorn when science is manipulated to make a cult leader's claims sound more plausible.

....

You may or may not believe that there's an external reality beyond what your brain creates; the topic will be a perennial and fertile source of discussion. But when animated, jive-talkin' human cells start dancing around in what appears to be the heroine's frontal lobe, all questions of spirituality pale before the sheer dreadfulness of this movie. Whether or not you buy into its "you are God in the making" philosophy, "What the Bleep Do We Know?" is god-awful.<sup>29</sup>

The indefatigable crusader for nineteenth century style materialist Darwinism, Richard Dawkins, said of the 'Bleep' film:

The authors seem undecided whether their theme is quantum theory or consciousness. Both are indeed mysterious, and their genuine mystery needs none of the hype with which this film relentlessly and noisily belabours us. Not surprisingly, we get no enlightenment on either topic, nor on the alleged connection between them. Instead, we are told that indigenous peoples were "literally" unable to see early European vessels arriving off their shores - presumably because the ships lay outside their "paradigm". We are told that "All emotion is holographically imprinted chemicals"; that "Each cell has a consciousness"; and that "God is the superposition of all the spirits from all things". What drives me to despair is not the dishonesty of the charlatans who peddle such tosh, but the dopey gullibility of the thousands of nice, well meaning people who flock to the cinema and believe it.<sup>30</sup>

And there is little one can say to counter such horrendous evaluations of the film. I watched the film with a Buddhist philosopher friend at the time I was about halfway through writing my first book *Quantum Buddhism: Dancing in Emptiness*. We both expected to watch a serious documentary about the remarkable quantum discoveries and the scientific implications for our understanding of consciousness and its relevance in the process of reality. We were both horrified at the infantile level of the docu-monstrosity and realized that this offering was a quantum leap backwards not forwards for our understanding of quantum mysteries.

So Rosenblum and Kuttner are quite justified in offering the *What the Bleep* fiasco as an example of New Age quantum-mystical excessiveness. But this leaves the issue of why they make no effort to offer some kind of more appropriate 'scientific' account of the quantum-consciousness connection. Richard Conn Henry, says of the R&K book:

Despite the fact that I am heavily criticizing this book, above all for its timidity, I do highly recommend it, ... it is about the only available book that clearly brings out the amazing, the astounding, the utterly unbelievable simple facts. Although quantum cryptography and quantum computing are gradually forcing people to stop averting their eyes, there is still an amazing amount of ignorance about these unbelievable experimentally established facts.<sup>31</sup>

Perhaps the reason that R&K are ‘timid’, even though they portray the “amazing, the astounding, the utterly unbelievable experimentally established facts,” is the continued existence, sometimes perhaps within the very quantum minds of philosophically covered quantum physicists, of the anti-quantum-consciousness scientific-academic thought police!

We have noted above that John Wheeler indicated the doleful presence of the scientific-academic anti-consciousness quantum thought-police. R&K also point out the power of the pervading quantum mind-control designed to eliminate any mention of mind:

In physics departments a conforming mind-set increasingly meant that an untenured faculty member might endanger a career by serious interest in the fundamentals of quantum physics. Even today it is best to explore the meaning of quantum mechanics while also working a ‘day job’ on a mainstream physics topic.<sup>32</sup>

Although R&K only refer to the moratorium on the pursuit of the “fundamentals of quantum physics,” this would necessarily involve prohibition of quantum consciousness infatuation, for some consideration of the possible role of consciousness is implied precisely because this is a clear implication of quantum experiments. In this context it is notable that the significant quantum physicist Anton Zeilinger, who has been at the forefront of quantum experimentation, has, in an article in the volume of cutting edge quantum theory and philosophy - *Science and Ultimate Reality* - has referred to John Wheeler’s:

...realisation that the implications of quantum physics are so far-reaching that they require a completely novel approach in our view of reality and in the way we see our role in the universe. This distinguishes him from many others who in one way or another tried to save pre-quantum viewpoints, particularly the obviously wrong notion of a reality independent of us.

In other words Zeilinger is telling us that, according to Wheeler, quantum theory requires that reality is not independent of observers - ‘us’. But what he does not point out is that Wheeler constantly felt the need to emphasise the absurd notion that observers do not need consciousness to do the ‘observing’.

It is, indeed, shocking to survey the magnificent scope of Wheeler’s celebration of the role of observers, observation and ‘participation’ in the creation of the known universe and then the sudden backtrack and disavowal of the incipient infection by New-Age views, specifically the view that consciousness might be involved. This sudden turn-around presumably prompted when the scientific-academic anti-quantum-consciousness mind-implant somehow gets activated. In a 1983 article *Law Without Law*, Wheeler described the delayed choice experiment, which demonstrates how an observation can determine the nature of reality backwards in time. In this experiment the choice of the type of experiment being made, which determines whether a wave or particle is detected, is made after the quantum wave-particle field has passed the point of choice. The effect of the choice determines the nature of reality, particle or wave, both *before* as well as after the choice. Wheeler wrote the following observations:

We are inescapably involved in bringing about that which appears to be happening.<sup>33</sup>

And:

Many investigators, believing that the greatest insights are to be won from nature’s strangest features are ... giving fresh coverage of the strange “observer-participancy” forced to our attention by the quantum.<sup>34</sup>

And:

Useful as it is under everyday circumstances to say the world exists “out there”

independent of us, that view can no longer be upheld. There is a strange sense in which this is a “participatory universe.”<sup>35</sup>

And:

Is the term “big bang” merely a shorthand way to describe the cumulative consequence of billions upon billions of elementary acts of observer-participancy reaching back into the past...<sup>36</sup>

And:

Yes, oh universe, without you I would not have been able to come into being. Yet you, great system, are made of phenomena; and every phenomena rests on an act of observation. You could never even exist without elementary acts of registration such as mine.<sup>37</sup>

And:

Beyond particles, beyond fields of force, beyond geometry, beyond space and time themselves, is the ultimate constituent the still more ethereal act of observer-participancy?<sup>38</sup>

At this point one could almost imagine Wheeler joining the hippy-trail magic-bus and heading for a Tibetan monastery. And yet, despite these repeated mystical-sounding assertions of the “observer-participatory” nature of the universe, Wheeler, presumably stiffened by a stern reminder from the quantum scientific political correctness thought police, suddenly backtracks:

We cannot speak in these terms without a caution ... The caution: “Consciousness” has nothing to do with the quantum process. We are dealing with an event which makes itself known by an irreversible act of amplification, by an indelible record, an act of registration.<sup>39</sup>

And this sudden switch from the magical-mystical notion ‘observer-participancy’ to the more prosaic and restrained ‘act of registration’ is exactly the same game of say and don’t say that Wheeler plays in his autobiography *Geons, Black Holes & Quantum Foam: A Life in Physics*. When presenting his diagram of how the universe is brought into manifestation backwards in time he refers to acts of ‘observation’, but elsewhere he switches idiom and sternly warns against being infected by any sort of consciousness-effect delusion:

Reasoning ... has made me ask whether the universe is a “self-excited circuit” - a system whose existence and whose history are determined by measurements. By “measurement” I do not mean an observation carried out by a human or a human designed instrument - or by any extraterrestrial intelligence, or even by an ant or amoeba. Life is not a necessary part of this equation. A measurement, in this context, is an irreversible act in which uncertainty collapses to certainty. ... The event I am calling a measurement is what Niels Bohr called “registration.”<sup>40</sup> [S1]

This is an extraordinary statement which directly contradicts another statement that Wheeler makes *on the very next page*, the short passage we have already looked at previously, but here it is again:

My diagram of a big U (for universe) attempts to illustrate this idea. The upper right end of the U represents the Big Bang, when it all started. Moving along down the thin right and up along the thick left leg of the U symbolically traces the evolution of the universe, from small to large - time for life and mind to develop. At the upper left of the U sits, finally, the eye of the observer. By looking back, by observing what happened in the earliest days of the universe, we give reality to those days.<sup>41</sup> [S2]

In statement S2 Wheeler clearly states that the universe develops in a kind of semi-real, presumably quantum state, and this development takes place in this semi-real state for an amount of time for “life and mind to develop.” Then, when “life and mind” have developed (still in a semi-real quantum state?) then “finally, the eye of the observer” arrives on the scene, then, and only then - when mind and life and thereby the eye of the observer are on the scene, Wheeler tells us that the eye of the observer is able to create reality backwards in time: “By looking back, by observing what happened in the earliest days of the universe, we give reality to those days.” There is no ambiguity here, Wheeler is clearly and definitely saying that once “mind and life” come on the scene, only then, does **life and mind observe** backwards in time and thereby give reality to those far-gone days.

Wheeler’s S2 claim, which is, if one is being honest, a fairly quantum New-Age sounding claim, is made by Wheeler towards the bottom of page 338 of GBHQF. But the **directly contrary** passage S1, which states that “**Life is not a necessary part of this equation,**” presumably also penned, or at least approved, by Wheeler (Wheeler has a co-writer - Kenneth Ford) occurs at the bottom of page 337 and at the top of 338. **There is one paragraph between these two completely contrary claims about how the universe manages to be a ‘self-excited circuit.’** And, as far as I know, not one quantum physicist or quantum philosopher has remarked on the remarkable, and, at least, philosophically inexcusable, if not both scientifically and philosophically inexcusable, contradiction in the quantum metaphysical pronouncements of one of the major figures in twentieth century physics. New-Age figures such as Deepak Chopra regularly get accused of being New-Age woowoo fraudsters, but, again as far as I know, no one (until now) has written a book or gone on YouTube to accuse John Wheeler of being a purveyor of contradictory woowoo quantum metaphysics!

The only explanation I can come up with to account for this extraordinary state of affairs is that Wheeler must have been in a kind of state of philosophical schizophrenia caused by the relentless pressure of the anti-quantum-consciousness scientific-academic thought police. The notion of a mere ‘registration’ taking place and producing reality backwards in time makes no sense because there is no active ingredient, so to speak. There is no kind of backward active force causing the semi-real to become real backwards in time. How the hell could a piece of ‘mica’ mutely lying around on the ground somewhere be responsible for the bringing into full existence the quantum semi-existence of the dawn of time. What is the mechanism? It makes no sense, what real-making force does mica, or any other non-conscious piece of matter, have that is capable of turning the unreal into the real backwards in time. It is an absurd unscientific proposition entirely lacking any evidence.

However, the notion that consciousness has a reality-making force backwards in time is far more comprehensible, plausible and has experimental backing in the delayed choice experiment (detailed account of this can be found later). Wheeler must have known that the mica materializing quantum possibility fields backwards in time story was ludicrous, he obviously was not an idiot, which is why he used the description of the ‘self-excitation of the universe through mind and life observation’ as his central theme, plugging in the pretence that he did not really mean it in order to keep the anti-quantum-consciousness thought police at bay. Perhaps he had internalized the pressure of the anti- quantum-consciousness thought police to some extent.

We have already seen what R&K have said about the “conforming mind-set” of physics departments. In his excellent book *How the Hippies Saved Physics* David Kaiser indicates that in the 1960’s and 70’s physics in the United States was a conservative profession not enamoured of metaphysical speculation or research. The general attitude amongst working physicists was that of “shut up and calculate,” the idea being that it was the practical results of research that mattered, and speculation about exactly what quantum theory implied about the metaphysical nature of reality was to be avoided. The ethos was very different to that

which held sway during the early development of quantum theory when discussions between Einstein, Bohr, Heisenberg, Schrödinger and the other ‘founding fathers’ were replete with puzzled philosophical speculations as to what the weird behaviour of the quantum realm might actually indicate about the nature of reality. Kaiser observes that later in the United States:

The quarter century during which this Cold War style reigned witnessed an extraordinary build-up of calculating skill. At the same time, an intellectual trade-off slipped by unnoticed, with wide-ranging implications. For every additional calculation of baroque complexity that physics students tackled during the 1950’s and 1960’s, they spent correspondingly less time puzzling through what all of those fancy equations meant, what they implied about the world of electrons and atoms. The fundamental strangeness of quantum reality had been leeched out.<sup>42</sup>

And it also seems to be the case there was, and still is, a pervasive mindset which required and requires that the fundamental strangeness of quantum reality is kept in proscribed bounds, bounds which exclude the significance of consciousness as much as possible.

In his 2016 book *Fashion, Faith and Fantasy in the New Physics of the Universe*, the noted physicist Roger Penrose reiterates that there are prejudices of ‘fashion’ built into the way academic research directions and projects are guided:

...graduate students, when in search of a problem to work on for a doctorate degree, tend to be highly constrained with regard to appropriate topics of research. Research students working in unfashionable areas, even if leading to successful doctoral degrees, may well find extreme difficulty in obtaining academic jobs afterwards, no matter how talented, knowledgeable, or original they may be.<sup>43</sup>

The power of the pressure that the academic community can have on rogue members who dare to suggest ‘politically incorrect’ possibilities is illustrated by the case of the physicist and science program TV presenter Jim Al-Khalili and the phenomenon of quantum effects in biology. In his recent book on quantum biology, *Life on the Edge* - written with co-author Johnjoe McFadden, Al-Khalili is now a champion of the importance of quantum mechanisms in some biological phenomena. However, a few years back, he retreated from such claims under criticism from dogmatically entrenched academic perspectives. In his article *Quantum Biology Comes of Age* Al-Khalili writes that:

... here was a potentially new field of research, bringing together quantum physics, organic chemistry and molecular biology, in which there were still very few active researchers. You see – and to a large extent this is still true today – physicists are reluctant to believe that the tenuous rules of quantum mechanics can play a role in the warm and complex environment of a living cell, whereas biologists... well, many biologists simply do not believe quantum mechanics and prefer their balls-and-sticks models of molecular structure. But it is fair to say that a few years ago, the field suddenly burst into life. For a number of years biologists had been conducting evermore careful and precise experiments that are allowing them to study biological processes down at the molecular level, by using spectroscopic techniques developed by physicists and chemists over many years. Add to this the recent publicity surrounding quantum phenomena that appear to play a major role in a range of biological mechanisms, from photosynthesis and olfaction to magneto-reception in the retinas of migrating birds, and suddenly it seems quantum biology has come of age. Johnjoe and I are now part of a growing community of physicists, chemists and biologists, carrying out serious research in an exciting new field. But at the back of our minds, we can’t help wonder whether we should have been more courageous a decade ago, when the field was clearer.<sup>44</sup>

The implication of this passage is clear. “A decade ago” Al-Khalili and McFadden abandoned their controversial quantum biology claims when they came under pressure from more dogmatic “ball and stick” materialist colleagues. Now that their proposals turn out to be correct they regret their lack of courage and integrity.

But, despite this experience, Al-Khalili is happy to ridicule more courageous colleagues who currently take seriously the possible connections between quantum phenomena and the realm of consciousness and psychic abilities:

I knew as well as anyone just how ready people without an understanding of quantum mechanics tend to be in ascribing to it all sorts of pseudoscientific new age nonsense, from an explanation of human consciousness or homeopathy to extra-sensory perception and psychic ability.<sup>45</sup>

It seems, then, that Al-Khalili has not learnt a lesson from his own persecution by dogmatic colleagues and is piling in to persecute other colleagues, or people in other fields, in exactly the same way that he was persecuted. Utterly amazing, and disappointing. It will be a great day when everyone in the the physics, and scientific, community acts from evidence and logic, as they tend to think they do, rather than dogmatic materialist prejudice.

The evidence for the interconnection between consciousness and the quantum realm is becoming increasingly compelling. In fact according to some of the most significant quantum metaphysical accounts, such as Stephen Hawking’s and Leonard Mlodinow’s (H&M) recent ‘Theory of Everything’ proposed in their book *The Grand Design*, the operation of consciousness within the potentialities of the quantum realm is central and crucial. In fact it corresponds exactly to Wheeler’s account. According to H&M:

Quantum physics tells us that no matter how thorough our observation of the present, the (unobserved) past, like the future, is indefinite and exists only as a spectrum of possibilities. The universe, according to quantum physics, has no single past, or history. The fact that the past takes no definite form means that observations you make on a system in the present affect its past. ... the universe doesn’t have just a single history, but every possible history, each with its own probability; and our observations of its current state affect its past and determine the different histories of the universe...<sup>46</sup>

In the H&M quantum metaphysical scenario a spontaneous universal creative act projects all possible futures into a universal possibility or potentiality space. At the point of creation everything that possibly can happen becomes potential, so at the point of creation all possible future histories of the universe come into being as potentialities:

In this view, the universe appeared spontaneously, starting off in every possible way. Most of these correspond to other universes .... Some people make a great mystery of this idea, sometimes called the multiverse concept, but these are just different expressions of the Feynman sum over histories.<sup>47</sup>

A hugely significant feature of the H&M presentation is the fact that the “observers are part of the system”<sup>48</sup> and, furthermore, “we create history by our observations, rather than history creating us.”<sup>49</sup> So the observers, or what John Wheeler called “observer-participants,” are able to weed out possible universes, and thereby select those which remain in the possibility mix, even backwards in time. Thus one of the central chapters in *The Grand Design* is entitled ‘**Choosing Our Universe**’:

The idea that the universe does not have a unique observer-independent history might seem to conflict with certain facts that we know. There might be one history in which the moon is made of Roquefort cheese. But we have observed that the moon is not made of cheese, .... Hence histories in which the moon is not made of cheese do not contribute to the current state of our universe, though

they might contribute to others. This might sound like science fiction but it isn't.<sup>50</sup>

And this observation takes us directly back to the gladiatorial showdown of worldviews at the quantum New-Age corral between Harris & Shermer versus Chopra & Houston. At a point shortly after where we left the fight above, after Chopra has indicated in his signature messy fashion, that science has shown that consciousness is somehow connected to a foundational immaterial quantum field in a creative manner, Chopra then suggests that if there are any scientists in the audience who disagree with the scientists who hold Chopra's view they should come up at some point and have their say.

Miraculously it turns out that Leonard Mlodinow is in the audience and he is brought out of the audience to tell Chopra that he is entirely deluded about the nature of quantum physics. Furthermore, Mlodinow tells the audience that he is writing a book with Stephen Hawking. Given the date, this book must have been *The Grand Design*, the book in which, as we have just seen, Hawking & Mlodinow inform their readers that the most up to date knowledge of quantum physics indicates that observations, which of course must involve consciousness, activate immaterial quantum potentialities backwards in time. This view is, at least in some degree, consistent with some aspects of what Chopra is trying, however ineptly, to say. And yet Mlodinow now suggests that Chopra *entirely* misunderstands quantum theory. Either Mlodinow does not understand his own co-authored book, or he is engaging in a degree of intellectual fraud. And, in doing so, he is deliberately misleading and lying to, under the protected cloak of his supposedly scientific superiority, thousands of people, concerning the nature of reality. If there is a quantum God, I hope he is merciful with Mlodinow in the quantum between-life state and is not too severe because of this intellectually thuggish behaviour.

A more reasonable, and more truthful response on Mlodinow's part would be to say that, whilst there is some truth, maybe a small degree of truth, in Chopra's claims, Chopra's presentation was pushing, and overstating, the ways of description to a point that a physicist like Mlodinow is not comfortable with. This is because the claims go against the grain of Mlodinow's personal preferences for metaphysical descriptions. The problem is, however, that physicists like Mlodinow often inappropriately assume that their personal metaphysical prejudices are scientifically established truth.

Furthermore, Mlodinow might have enlightened the audience about the conclusions that he endorses in the book he was so proudly co-authoring with Hawking. He might have told the audience that, as he and Hawking proclaim in their book, the universe originally hovers in an immaterial quantum superposition of possibilities - "starting off in every possible way" and that, in the very book he and Hawking are in the process of bringing into existence out of quantum potentiality (not using their consciousnesses of course), they write that "our observations of its current state affect [the universe's] past and determine the different histories of the universe." Of course, he could not have said any of this to an audience having a good time whooping, clapping and cheering at the crude materialist intellectual thuggery being carried out by Harris, Shermer and Mlodinow. If Mlodinow had started describing how observations created reality backwards in time from a primordial immaterial quantum soup, the audience might have sensed a Schrödinger rat in the quantum soup! The quantum physical / metaphysical account given in *The Grand Design* shares significantly more congruence with significant aspects of Chopra's claims than the audience could possibly guess, given the degree of intellectual deception being carried out at this event.

It is worth noting that when Chopra indicates that consciousness is a significant, perhaps primary aspect of the process of the universe, Mlodinow responds by saying that he "doesn't know what consciousness is." It does not seem to have occurred to Mlodinow that if he

does not know what consciousness is, it is difficult to understand how he could be sure that consciousness was not a significant aspect of the observations he and Hawking claimed were materializing quantum potentialities backwards in time. Being good at mathematics and writing a book with a putative genius in a wheelchair who is equipped with a Dalek computer voice does not make you the smartest philosopher in town!

The notion that observational choice (which, of course, to any rational person using language correctly implies choice by consciousness) selects some and weeds out other quantum possibilities, as described by H&M, appeared also amongst Wheeler's descriptions of the functioning of quantum reality:

Measurement, the act of turning potentiality into actuality, is an act of choice among possible outcomes. After the measurement, there are roads not taken. Before the measurement, all roads are possible - one could say that all roads are taken at once.<sup>51</sup>

This Wheeler description occurs a couple of pages on from where Wheeler tells us that it is not consciousness, but a piece of mica that ... eeeerrrrr ... chooses a measurement!

When one surveys the relevant literature, it is clear that the most significant, fully and coherently worked out quantum metaphysical accounts of the process of reality involve consciousness acting in some fashion upon quantum potentialities. Such a viewpoint is suggested by the physicist Paul Davies' notion of a "self-explaining universe" that he has written about in his book *The Goldilocks Enigma*:

...a good case can be made that life and mind *are* fundamental physical phenomena, and so must be incorporated into the overall cosmic scheme. One possible line of evidence for the central role of mind comes from the way in which an act of observation enters into quantum mechanics. It turns out that the observation process conceals a subtle form of teleology.<sup>52</sup>

We shall encounter other variations of this quantum creative consciousness worldview in later chapters. But, bearing in mind the vicious intellectual assault by Harris and Shermer on Chopra's notion that consciousness is a significant aspect in the process of quantum transitioning to the apparently material world, it is worth surveying a few more remarks by physicists on this topic. One can only wonder whether Harris and Shermer have any serious clue, any significant familiarity, any more than a very superficial knowledge of the field. Indeed, one can only wonder whether they have any intellectual integrity!

We have already noted that Planck said:

I regard consciousness as fundamental. I regard matter as derivative from consciousness.<sup>53</sup>

Planck began his scientific career as a thoroughgoing materialist, it is remarkable that later Planck came to such an opposite conclusion because it is so counter-intuitive and contrary to his starting point. In doing so he shows us that he was a true scientist, taking the experimental evidence seriously. Here is Roger Penrose:

...almost all the 'conventional' interpretations of quantum mechanics ultimately depend upon the presence of a 'perceiving being'...<sup>54</sup>

And:

As far as I can make out, the only interpretations that do *not* necessarily depend upon some notion of 'conscious observer' ... require some fundamental change in the rules of quantum mechanics...<sup>55</sup>

Wojciech Zurek, the originator of the 'Quantum Darwinism' perspective, tells us that at the quantum level the choice of which alternative of the many potential quantum worlds becomes 'real' depends upon consciousness:

...the ultimate evidence for the choice of one alternative resides in our illusive “consciousness”<sup>56</sup>

Henry Stapp is a quantum physicist who has been around long enough to have been able to discuss quantum philosophical issues with the ‘founding father’ Werner Heisenberg and he has come to uncompromising conclusions about the metaphysical implications of the quantum revolution:

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.<sup>57</sup>

Stapp indicates that this was Heisenberg’s final view. The term ‘classical’ indicates the pre-quantum, basically materialist, viewpoint of the late nineteenth century. Finally for now, physicist and philosopher Bernard d’Espagnat writes that:

The doctrine that the world is made up of objects whose existence is independent of human consciousness turns out to be in conflict with quantum mechanics and with facts established by experiment.<sup>58</sup>

The point I am trying drive home is that, in order to counteract a misleading and over-inflated worldview it is counter productive, and equally misleading, to promote an equally false worldview. So, although it is true to say that most New-Age accounts of quantum reality tend to over-inflate quantum findings, make some false claims and over romanticize quantum implications, it is also true that the crude materialist accounts, and even some of the less crude quantum ‘interpretations’, deployed in opposition, are equally misleading and false. Also, as we have seen, quantum physicists, even famous ones such as John Wheeler, made and make ludicrous, even logically contradictory claims, and are not often called out for it, in contrast to the case of New-Age quantum mystics who are consistently and sometimes mercilessly critiqued for their excesses.

2. For Whom the Bell Theorem  
Tolls?

3. The Quantum Physical  
Assassination of Consciousness

## 5-6 - at the quantum level

### 7.52 - spooky

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- <sup>1</sup> C&K 4
- <sup>2</sup> NQA 55
- <sup>3</sup> <https://www.math.columbia.edu/~woit/wordpress/?p=11128>
- <sup>4</sup> Whitaker 113
- <sup>5</sup> QR 109
- <sup>6</sup> QS&NS 209
- <sup>7</sup> QS&NS 225
- <sup>8</sup> <http://henry.pha.jhu.edu/quantum.enigma.html>
- <sup>9</sup> <https://phys.org/news/2015-10-zeno-effect-verifiedatoms-wont.html>
- <sup>10</sup> <http://henry.pha.jhu.edu/quantum.enigma.html>
- <sup>11</sup> Becker A. p39 & <https://arxiv.org/ftp/arxiv/papers/1603/1603.00353.pdf>
- <sup>12</sup> N. Bohr, Speech on quantum theory at *Celebrazionne del Secondo Centenario della Nascita di Luigi Galvani*, Bologna, Italy, October 1937.
- <sup>13</sup> Hidden 123
- <sup>14</sup> GBHQ 338
- <sup>15</sup> Ibid.
- <sup>16</sup> GBHQ 355
- <sup>17</sup> A quantum interpretation specifically designed by the physicist David Bohm to banish consciousness from significance at the quantum level. See later.
- <sup>18</sup> <https://www.youtube.com/watch?v=hU6TkfCGIX8>
- <sup>19</sup> 'Das Wesen der Materie' (The Nature of Matter), speech at Florence, Italy, 1944 (from Archiv zur Geschichte der Max-Planck-Gesellschaft, Abt. Va, Rep. 11 Planck, Nr. 1797)
- <sup>20</sup> *The Observer* (January 25th, 1931)
- <sup>21</sup> Dolling, L.M.; Gianelli, A. F. & Statile, G. N. (eds) (2003) p491 – John A. Wheeler (1978): 'The 'Past' and the 'Delayed Choice' Double-Slit Experiment.'
- <sup>22</sup> Sarfatti, Jack 'Wheeler's World: It From Bit?' - Internet Science Education Project, San Francisco, CA.
- <sup>23</sup> Rosenblum, Bruce and Kuttner, Fred (2006) website (quantumenigma.com)
- <sup>24</sup> Rosenblum, Bruce and Kuttner, Fred (2006) p67
- <sup>25</sup> Rosenblum, Bruce and Kuttner, Fred (2006) p156
- <sup>26</sup> Rosenblum, Bruce and Kuttner, Fred (2006) p201
- <sup>27</sup> Rosenblum, Bruce and Kuttner, Fred (2006) p154
- <sup>28</sup> Rosenblum, Bruce and Kuttner, Fred (2006)
- <sup>29</sup> <https://www.beliefnet.com/entertainment/movies/2004/10/weird-science.aspx>
- <sup>30</sup> <https://www.theguardian.com/science/2005/may/16/g2.science>
- <sup>31</sup> <http://henry.pha.jhu.edu/quantum.enigma.html>
- <sup>32</sup> Rosenblum, Bruce and Kuttner, Fred (2006) p139
- <sup>33</sup> Wheeler, J, A, 'Law Without Law', 185 - [http://www.forizslaszlo.com/tudomany/wheeler\\_law\\_without\\_law.pdf](http://www.forizslaszlo.com/tudomany/wheeler_law_without_law.pdf)
- <sup>34</sup> Ibid.
- <sup>35</sup> Wheeler, J., A., 'Law Without Law', 194
- <sup>36</sup> Wheeler, J., A., 'Law Without Law', 197
- <sup>37</sup> Wheeler, J., A., 'Law Without Law', 199
- <sup>38</sup> Ibid.
- <sup>39</sup> Wheeler, J., A., 'Law Without Law', 196
- <sup>40</sup> GBHQ 337-338
- <sup>41</sup> GBHQ 338
- <sup>42</sup> Kaiser, D (2011), 19-20
- <sup>43</sup> Penrose, 2016, 9
- <sup>44</sup> <http://physicsfocus.org/jim-al-khalili-quantum-biology-comes-of-age>
- <sup>45</sup> <http://physicsfocus.org/jim-al-khalili-quantum-biology-comes-of-age/>

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- 48 Hawking, Stephen & Mlodinow, Leonard (2010), 135
- 49 Hawking, Stephen & Mlodinow, Leonard (2010),140
- 50 Ibid.
- <sup>51</sup> GBHQ 339-340
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